Operations and Maintenance Under Cornell University's New Budget Model

Presented by:
Davina Desnoes, Assistant Vice President and Budget Director
Tom Cole, Director of Capital Budget
David Howe, Senior Director Facilities Services Administration & Finance
Maria Cimilluca, Senior Director Facilities Management
Kellie Page, Associate Vice President Student and Academic Services Finance & Administration
Agenda

• Cornell University and Budget Model History Overview

• Capital Planning and Project Approval Processes Overview

• Operations and Maintenance Budget Model Overview

• Campus Partnerships: A Reflection on Impact from Student and Academic Services
Cornell University Profile

- Operating Budget $3.64 Billion
- 5 Year Capital Plan $1.76 Billion
- 16,000 employees
- 21,400 students
- 3 Historically Defined Groups & Medical College
  - Statutory Colleges (4)
  - Endowed Colleges (3)
  - Designated Schools (3)
  - Medical College (1)
Old Budget Model
Budget Model Task Force Timeline

- Early 2009 – Launched Reimaging Cornell and engaged in administrative streamlining program

- December 24, 2009 the Task Force completed its final report.

- 2010 campus feedback was provided.

- 2011 notebook of issues was complied and committees assembled.

- Summer of 2012 – six committees were formed to address key areas of the model.

- Spring of 2013 – launched the new budget model.
8 Principles: How they were handled in the old and new budget models

- Undergraduate Tuition
- Financial Aid
- Graduate Tuition
- Allocated Costs
- Facilities and Administrative Recovery
- New York State Appropriations
- Debt Service
- Operations and Maintenance
Capital Planning

- A project is required to be in the approved capital budget before design/construction can commence

- Approved funding plan with no reliance on uncertain sources of funding
  
  One-time costs and incremental cost of ongoing O&M

- Ongoing O&M included in operating budget
Capital Planning

• Capital Plan Project Submission – O&M Input:
  
  o Incremental Annual O&M (ongoing, routine; plus or minus)
  
  o Incremental Planned Maintenance
  
  o Deferred Maintenance Addressed
  
  o Source(s) of Funding
Capital Planning

• Maintenance Prioritization
  o “Criteria of importance – health, life safety, compliance, asset protection and critical maintenance, cost savings/avoidance, and select strategic “mission critical” programmatic and infrastructure improvements”
  o Priority rankings: Program Priority, Facility Criticality, Likelihood of Failure, Impact of Failure
  o Central funding of Extraordinary Maintenance, accessibility, campus needs
  o SUNY focus on critical maintenance projects
Capital Project Approval

• Project Approval Request – O&M Input:
  o Incremental Annual O&M (plus or minus)
    - Custodial
    - Utilities
    - Planned Maintenance
    - Routine & Preventive Maintenance
    - Grounds
    - Safety & Compliance
  o Deferred Maintenance Addressed
    - Unit responsibility vs. central funding
Capital Project Approval (cont.)

• Project Approval Request – O&M Input:
  o Estimated impacts and rationale
  o Refined as project progresses through phases
  o Source(s) of Funding

• Project Approval – Facilities Management, Energy & Sustainability
Facilities and Utilities
Budget Model Overview

Office of Budget and Planning

• Budget Model Principles and Decisions for Implementation
  o Operations and Maintenance expenses will be paid by units
  o Costs will be spread using a Common Space Factor (CSF method)
  o This charge will reflect averaged costs for the entire campus
Space Costing Model Overview

• Foundation data set
  o FY 2012 Facilities Inventory Data
  o Data is maintained by colleges and division as part of their compliance with University Policy 2.7, Reporting the Use of Facilities.

- Audit and process management by the :
  • Office of Cost and Capital Assets
  • Facilities Inventory Office
  • Space Planning Office
Common Space Factor (CSF) Method

- Common Space
  - Areas in a facility not attributable to any department, e.g. restrooms, hallways, stairwells
Common Space Factor (CSF) Method

• Develop Common Space Factor for each facility code
  o Determine total space for each facility code
  o Subtract common space area
  o Apply that factor to net area in each assignable room
    - Sum of factored net area = total area in facility
Space Costing Model Overview

• All Models Use Common Space Factor (CSF) Method
• Models
  o Preventive and Corrective Maintenance
  o Building Care
  o Utilities
Maintenance Model Overview

• FY 2012 Facilities Inventory Data
  o Only facility codes maintained by current central allocation
    • Common Space Factor (CSF) Method

• Buildings that were not maintained by allocation
  o We used the rates developed above by technical rating and
    applied them using the CSF method to the buildings not
    previously covered by the central allocation
Maintenance Model Overview

- Premium for age technical complexity
  - Review of CU Data by Sightlines
    - Weighted average of CU endowed preventive and corrective maintenance costs
## Maintenance Model Overview (Continued)

<table>
<thead>
<tr>
<th>Allocation</th>
<th>FY 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrective State</td>
<td>$3,483,755</td>
</tr>
<tr>
<td>Corrective Endowed</td>
<td>$5,757,746</td>
</tr>
<tr>
<td>Preventive State</td>
<td>$1,014,800</td>
</tr>
<tr>
<td>Preventive Endowed</td>
<td>$2,247,553</td>
</tr>
<tr>
<td><strong>Total Budget</strong></td>
<td><strong>$12,503,834</strong></td>
</tr>
</tbody>
</table>

| Total CSF Base          | 8,518,241   |
# Technical Ratings

## Building Technical Rating Guidelines

Typical Rating Criteria by Complexity

<table>
<thead>
<tr>
<th>Tech Rating</th>
<th>System</th>
<th>System Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Heating</td>
<td>No Heat</td>
</tr>
<tr>
<td></td>
<td>Cooling</td>
<td>Small &quot;Household&quot; Independent System</td>
</tr>
<tr>
<td>2</td>
<td>Heating</td>
<td>Low Pressure Steam (&lt;12 lbs)</td>
</tr>
<tr>
<td></td>
<td>Cooling</td>
<td>Local Cooling (Window unit / small dx)</td>
</tr>
<tr>
<td></td>
<td>Building Air Movement</td>
<td>Air Changes per hour (&lt;7)</td>
</tr>
<tr>
<td>3</td>
<td>Heating</td>
<td>Medium Pressure Steam Needs (13 to 75 lbs)</td>
</tr>
<tr>
<td></td>
<td>Cooling</td>
<td>Central Cooling - air handling system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reheats - No Winter Cooling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seasonal Cooling</td>
</tr>
<tr>
<td></td>
<td>HVAC Controls</td>
<td>Pneumatic Controls</td>
</tr>
<tr>
<td></td>
<td>Use Intensity</td>
<td>Fume Hoods (&lt;10)</td>
</tr>
<tr>
<td>4</td>
<td>Heating</td>
<td>High Pressure Steam Needs (&gt;75 lbs)</td>
</tr>
<tr>
<td></td>
<td>Cooling</td>
<td>Central Cooling - VAV system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chiller &amp; Cooling Tower</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off Central CW Loop</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hot Deck / Cold Deck - Heat recovery system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cooling Coils - glycol system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reheats - 365 heating and cooling</td>
</tr>
<tr>
<td></td>
<td>Building Air Movement</td>
<td>Air Changes per hour (7 to 12)</td>
</tr>
<tr>
<td></td>
<td>HVAC Controls</td>
<td>DDC Controls throughout building</td>
</tr>
<tr>
<td></td>
<td>Use Intensity</td>
<td>HVAC System 1990 or later</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fume Hoods (10 to 25)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fume Hoods (&gt;25)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rare Book or Museum Quality Space</td>
</tr>
<tr>
<td>5</td>
<td>Building Air Movement</td>
<td>100% Outside Air</td>
</tr>
<tr>
<td></td>
<td>Use Intensity</td>
<td>Air Changes per hour (&gt;12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BL2 Lab (Biocontainment level 2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BL3 Lab (Biocontainment level 3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Animal Care</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operating Suite</td>
</tr>
</tbody>
</table>
Data Metrics and Sources

- Building technical complexity rating (scale of 1 to 5) – Source: Sightlines, via Facilities Services – largely focused on heating and cooling, building air movement, and use intensity.

<table>
<thead>
<tr>
<th>Tech Level</th>
<th>Cost/Sq Ft</th>
<th>% Differential</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$0.57</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>$0.64</td>
<td>113%</td>
</tr>
<tr>
<td>3</td>
<td>$0.74</td>
<td>131%</td>
</tr>
<tr>
<td>4</td>
<td>$0.87</td>
<td>155%</td>
</tr>
<tr>
<td>5</td>
<td>$0.99</td>
<td>175%</td>
</tr>
</tbody>
</table>
Building Care Model Overview

- FY 2012 Facilities Inventory Data
  - Only facility codes and room types that Building Care cleans out of the appropriations
    - No fee for service activity is included
    - List supplied by Building Care
Building Care Model Overview (Continued)

- Common Space Factor Method with FTE Effort
  - Points based method
  - Use actual FTEs assigned to each facility code by Building Care
    - Apply FTE factor for each facility to the CSF area for each room

- Allocate costs based on total points
Utilities Model Overview

- Utilities FY 2013 Forecast Consumption Data by Facility
  - Steam
  - Chilled Water
  - Electric
  - Potable Water
  - Waste Water
Behavior Change

• Proper and equitable use of space
• Stewardship Over Utilities Facility
Campus Partnership

Central Facilities and Student and Academic Services
Topics to Cover

- Student and Academic Services Background
- Reimagining Cornell Changes
- Challenges Encountered and Mitigation Strategies
- Continuing Work
Cornell University
Student and Academic Services

- $225M Division
- Enterprise Units
  - Campus Life (Housing, Dining, Conference Services)
- Hybrid Units
  - University Health Services
  - Athletics and Physical Education
- Administrative Units
  - Dean of Students
  - Registrar
  - Public Service Center
  - Career Services
Campus Partnership

- Reimagining Cornell:
  - 2+ Years of Changes/Transitions
  - Change in approach to service
    - Centralization of all administrative functions (ASP)
    - Zone implementation (ASP)
    - Consolidation of building care staff
  - Change in budget model
Centralization of SAS
Administrative Functions

• Consolidated facilities, finance, IT, and HR
• Operate as one division and eliminate silos
• Leverage existing resources
• Prioritize and manage funding sources across division
• Prioritize facilities and information technology projects across division
Zone Implementation

• Campus wide facilities governance structure

• Overall goals:
  o Create partnership between central facilities and unit facilities staff
  o Create accountability for work
  o Create efficient and effective methods of maintenance and project delivery
Zone Implementation

Central Facilities

• VP Facilities Services
• Campus Manager
• Zone Facilities Director
• Zone Building Care
• Zone Trades Crews

SAS Unit Facilities

• AVP Finance & Admin
• Unit Facilities Director
• Unit Facilities Managers
• Unit Assistant Facilities Managers
Building Care Consolidation

- Realignment of residential housekeeping staff into zone structure
- Focus on efficient and effective delivery of services
Challenges Encountered – Service Changes

- Unit’s perceived loss of control of resources (human and financial)
- Lack of trust
- Concerns about accountability
- Residential requirements different than academic requirements
- Workflow and communications
Mitigation Strategies

- Strong partnerships required with senior leadership of central budget, facilities, division & unit (financial leaders and operational leaders)
- Service Level Agreements
- Monthly Executive Zone Meetings
- Organizational development – change management process
- Seamless integration of central and unit facilities teams
- Lean sigma workflow evaluation process
- Consistent systems for tracking work order tickets (Maximo)
Budget Model Challenges

• Space Inventory
  o Critical to get spaces assigned to appropriate units
  o Units need to pay attention to it

  o Dining spaces - concern on the enterprise side
    • Double-charged for space – existing contracts need to be re-written
Budget Model Challenges

• Confusion as to what is included in baseline covered by central versus what should be budgeted and paid for at unit level
  o Is baseline different for residential facilities, dining facilities or health centers?
  o Should we establish tiers of service?

• Overall funding levels of maintenance are now shared at zone level
  o Unit has sense that their project will never be a priority
  o Concerns for units that had maintained facilities at higher level
Budget Model Challenges

• Ownership of Annual Utilities Risk
  o Rate differentials – risk and benefit falls to central facilities – adjustments to take place in next year’s rates
  o Consumption differentials – risk and benefit falls to units
Budget Model Positives

• Institution wide view and approach to deferred maintenance

• Transparency and awareness of facilities charges leads to behavioral changes
  o Sustainability and energy savings projects
On-going Areas to Address

- Continuous refinement of service level agreements
- Definition of baselines for maintenance and building care
- Change management and team building within organizations
- Review and monitoring of expenses
- Review of dining spaces – revision of contracts or space reassignment
- Governance Structure for Overall Budget Model
Questions