Facilities Operations
Issues 2013

PRBC Presentation

April 12, 2013
Willem van der Pol
Agenda

- Summary
- Why Building Conditions Matter
- Historical Context
- 2012/13 Budget Request
- Chargeback
- True Budget Needs
- Deferred Maintenance
- Capital Renewal
- Utility Budget
- Sustainability
- Long Term Plan
Summary

- Significant Budget Cuts for over 30 Years
- Lowest Funded Facilities Operation
- Successful Energy Program
- $3,500,000 to Restore Basic Service Levels
- Add $2,500,000 to Raise the Bar
- Fund Deferred Maintenance
- Push for Capital Renewal
- Support Sustainability Efforts
Facilities Budget Needs

- Make Budget Whole $600,000
- Custodial Plus 44 $1,800,000
- Trades add 5 Positions $320,000
- Grounds add 4 $180,000
- Logistical Services 2 $100,000
- Office Staff 4 $200,000
- Supplies and Services $300,000

Total (Incl. Benefits) $3,500,000
Impact of Inadequate Facilities on Learning

- “A growing body of research has linked student achievement and behavior to the physical building conditions and overcrowding.”
- “Decaying environmental conditions can affect the learning as well as the health and the morale of staff and students.”

DOE Report
Building Conditions Matter

- Maintain Learning Environment
  - From Cleanliness to Usefulness
- Health & Safety
- Recruitment & Retention
  - Students, Faculty, Staff
- Donor Opportunities
- Aesthetics
- Titan Pride
Additionally...

- Increasing Regulations
  - State Fire Marshal, DGS, etc.
- Executive Orders/Assembly Bills
  - 847 and 987/AB32
- Facilities & Beautification Committee
  - Recommends Budget Restoration
- Sophisticated Work Force
  - Training, Certification, Salaries
- Business Continuity

*See Attachment 1*
Budget History

- Falling Behind for over 30 Years
- Campus Aged from Adolescence to Middle Age
- Additional Responsibilities:
  - Campus Doubled in Size
  - More Complex Buildings
  - Technologically Advanced Systems
  - Logistical Services
  - Non-Maintenance Services
Custodial Services

- **1978**
  - 102 Custodians (incl. 3 managers)
  - 14,400 GSF per Custodian

- **1991**
  - 67.5 Custodians (incl. 4 managers)
  - 23,500 GSF per Custodian

- **2013**
  - 55.5 Custodians (incl. 3 managers)
  - Eliminated Contracted Work at 400,000 GSF in 2008
  - 43,200 GSF per Custodian
  - Aging Facilities/No Capital Renewal

- Average GSF per Custodian increased by 84% since 1991 and by 200% compared with 1978!
National Custodial Standards
Gross Square Feet (GSF) per Custodian

Cal State Fullerton 43,200 Sq. Ft.

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level I</td>
<td>Orderly Spotlessness</td>
<td>8,500 GSF</td>
</tr>
<tr>
<td>Level II</td>
<td>Ordinary Tidiness</td>
<td>16,700 GSF</td>
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<tr>
<td>Level III</td>
<td>Casual Inattention</td>
<td>26,500 GSF</td>
</tr>
<tr>
<td>Level IV</td>
<td>Moderate Dinginess</td>
<td>39,500 GSF</td>
</tr>
<tr>
<td>Level V</td>
<td>Unkempt Neglect</td>
<td>45,600 GSF</td>
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</tbody>
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An additional 44 FTE ($1,800,000/yr) would be required to bring Cal State Fullerton to Level III Cleanliness

Source: National Association of Higher Education Facilities Officers
Landscape Services

- General Maintenance
  - 18 Positions (Down from 21 in 1991)
  - Irrigation; Tree Trimming; Pest & Weed Control; Gardening; and Trash Pick Up
  - 3 Ground Workers for Main Campus to Sports Complex

- Sports Complex
  - Staying Competitive

- Parking Lots/Structures
  - Added 1.6 M sqft. Parking Structures

- Waste Management
Trades

- **Operation & Maintenance**
  - 39 Employees (down from 40 in 1991)
  - Service Engineers; Plumbers, Electricians; Carpenters; Painters; Lock Smiths; Auto Mechanics
  - Double Gross Square Feet
  - 24/7 Coverage

- **Preventive Maintenance**
  - 20,000 pieces of equipment

- **Aging Facilities/Work Force**
  - Fifty Plus
  - More Specialization
Trades

- Complex Building Components/Systems
  - 40,000 System Nodes
  - Enterprise Energy Management
  - LEED EBOM

- Fleet Management

- IT Infrastructure
  - Public Works

- Compliance
  - Group 1 Equipment
  - Health & Safety
Logistical Services

- Facilities Operations Funds OE&E
  - Unit Moved From Budget, Finance & Accounting to Physical Plant in 1997 with 15 Employees.
  - Currently Down by 3 Employees

- Shipping & Receiving
  - Package Delivery up by 20%

- Mail Center
  - Staffing Decreased From 6 to 4
  - Campus Population Almost Doubled
  - Pitney Bowes Equipment

- Fixed Assets, Moving Services, Archives
  - Built Storage Facility
  - Added Shredding Services @ $25,000
  - Bar-Coding Equipment
Facilities Operations O&M Staffing
Comparisons 1991-2013

<table>
<thead>
<tr>
<th></th>
<th>1991/92</th>
<th>2012/13</th>
<th>% Change</th>
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</thead>
<tbody>
<tr>
<td>Building Trades</td>
<td>28</td>
<td>24</td>
<td>-14%</td>
</tr>
<tr>
<td>Landscape Services</td>
<td>21</td>
<td>18</td>
<td>-14%</td>
</tr>
<tr>
<td>Building Engineers</td>
<td>12</td>
<td>15</td>
<td>+25%</td>
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<tr>
<td>Custodial Services</td>
<td>63.5</td>
<td>53</td>
<td>-17%</td>
</tr>
<tr>
<td>Management</td>
<td>12</td>
<td>12</td>
<td>0%</td>
</tr>
<tr>
<td>Admin. Staff</td>
<td>10</td>
<td>10</td>
<td>0%</td>
</tr>
<tr>
<td>Physical Plant</td>
<td>146.5</td>
<td>132</td>
<td>-10%</td>
</tr>
</tbody>
</table>

Additionally, Capital Project Management went from 6 to 0 funded employees.
### Facilities Operations O&M Funding

**Comparisons 1991-2013**

<table>
<thead>
<tr>
<th></th>
<th>1991/92</th>
<th>2012/13</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSUF General Fund</td>
<td>$113M</td>
<td>$315M</td>
<td>+179%</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>100</td>
<td>170</td>
<td>+70%</td>
</tr>
<tr>
<td>Student FTE</td>
<td>17K</td>
<td>28K</td>
<td>+65%</td>
</tr>
<tr>
<td>Gross Square Footage</td>
<td>1.5M</td>
<td>2.4M</td>
<td>+60%</td>
</tr>
<tr>
<td>FO Budget</td>
<td>$5.6M</td>
<td>$8.6M</td>
<td>+54%</td>
</tr>
<tr>
<td>FO Budget/GSF</td>
<td>$3.56</td>
<td>$3.58</td>
<td>0%</td>
</tr>
<tr>
<td>FO Budget/GF</td>
<td>5%</td>
<td>2.7%</td>
<td>-46%</td>
</tr>
<tr>
<td>FO Positions</td>
<td>146.5</td>
<td>132</td>
<td>-10%</td>
</tr>
<tr>
<td>GSF/Position</td>
<td>10,733</td>
<td>18,182</td>
<td>+69%</td>
</tr>
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</table>

69% more complex and older space to maintain per employee
Facilities Operations
Budget 02/03-12/13

- $7,583,500 - $8,617,101 +14%
- GF from $226M to $315M +39%
- Added Facilities: SHC, KHS, CPAC, SGMH, UPD. (400K GSF) +20%
- Consumer Price Index +27%
- DM Backlog $88M - $124M +40%
  - Does not include Utility Infrastructure
  - $1M Annual Budget
- 2005 Presidential 3-Year Commitment
  - $1.8M Baseline O&M Budget Increase
  - $3M DM Baseline Increase
Three-Year Commitment

- 2005/6 Budget Request
  - Based on a 2004 Presentation to the President and Anticipated Growth

- Five-Year Projection (2005 $$) Actual
  - O&M Budget $10,408,500 $8.6M
  - DM Budget $3,450,000 $1.0M
  - Utility Budget $8,250,000 $6.8M

- Employees
  - Projected to Grow to 199 132
Operating Expenditures per Gross Institutional Expenditures

*See Attachment 2*
Operating Expenses per Student (Not Including Utilities)
Changing Demands

- Building Management Technology
- Fire & Life Safety Systems
- Control Systems
- Energy Conservation
- Code Requirements
- Business Continuation
- Customer Service
- Aging, Congested Campus
- Extended Travel Times
"Facility managers today are expected to understand their company’s core business and contribute to the bottom line – not only by reducing facility costs but also by improving the productivity, revenue generating capacity and image of their organizations."

Externally Driven

- Sustainability
- Complex Building Systems
- Aging Building Stock
- Business Continuity

*See Attachment 3*
Internally Driven
- Quantity and Complexity of Data
- Finding Top Talent
- Improve the Organization’s Mission, Vision and Values

Organizationally Driven
- Technical and Business Acumen
- Health and Well-Being of Building Occupants
- Changing Occupant Behavior

“These trends do not stand alone as solitary influences on the profession, but rather bear strong interconnections.”
Facilities Operations
2012/13 Budget Request

- Modest Baseline Increase
  - From $8,617,100 To $9,000,000

- Stronger Focus on Operation & Maintenance
  - Develop Preventive Maintenance Programs
  - Maintain/Increase Staffing Levels

- Align Shop Budgets with Responsibilities
  - Focus Available Funds on O&M Commitments

- Limit Non-Maintenance Commitments
  - Chargeback Work Not to Interfere with O&M

- Enhance Use of P Cards, DB Cards, Vendor Cards and Service PO’s
  - Limit Blanket Purchase Orders

*See Attachment 4
Budget Considerations

- Chronically Underfunded
  - Funding Cut in Half Over Last 20 Years Per Gross Institutional Expenditures (GIE)
  - Lowest Funded Campus Per Student: Students Suffer
  - Need $6,000,000 to Get Back to Par
  - CO 2012 O&M Standard $10/GSF

- Structural Deficit
  - $600,000

- Rising Costs
  - S&W $300,000
  - OE&E $100,000

- Inadequate Refund Mechanism
  - 15% Overhead is Too Low
Chargeback Considerations

- Requirement To Fully Recharge For Non-Maintenance Services Per EO847.
- 15% Overhead Rate Not Realistic.
- No Changes For 25 Years
- It Takes Almost Twice The Number Of Employees To Pay For One.
- JOC More Expensive For Smaller Jobs
- Maintenance Services Suffer Significantly.
- Departments Compete for Resources
O&M Budget Request

- $11,200,000 (not incl. benefits)
- 3.6% of General Fund
- Still Below State Averages
- Level 3 Cleanliness
- Enhanced Service Levels
- Improved Customer Services
- Need $13,000,000 for Level 2
Deferred Maintenance

- Pacific Partner/Sightlines Reports
  - Study Started in 2000 by CO
  - Calculations Based on Industry Averages
  - Verified by ISES Studies
  - Life Cycle Costing
- Building Components, Systems, Types
- ADA issues not included
- University Responsibility

*See Attachment 5*
Deferred Maintenance

*Future Critical Needs: Inevitabilities*

- **Building Exteriors/Envelopes**
  Walls, roofs, window systems. Critical to keeping the integrity of the buildings intact & ensuring water does not penetrate building interiors.

- **Mechanical Systems**
  Leaking Air Handlers, Coils, Pans, Fans, Declining Efficiency, Elevators, Controls

- **Electrical Systems**
  Electrical panels are up to 50 years old with deteriorated wiring.

- **Plumbing Systems**
  Water pumps, sewer connections and restrooms.

- **Campus Infrastructure**
  Utilities, roads, plazas
Deferred Maintenance

Current Estimated Backlog: $150,000,000

Estimated Backlog by 2022: $225,000,000

CSUF 2012/13 DM Budget $1,000,000
Capital Renewal
(Not the same as Deferred Maintenance)

- Functionality
  - Efficiencies Decrease

- Usefulness
  - Many Spaces are Under Utilized

- Aesthetics
  - Facilities Look Dated and Tired

- The Price of Doing Nothing:
  - Average Annual Backlog Increase: $ 18,000,000
  - No Offset of Maintenance Backlog
  - Current Replacement Value $1,000,000,000 @ Capital Renewal Index 1.8%
Original 1959 Campus:
- Temporary Classrooms and Offices
- Run-Down Facilities Not Suited for Shops

Capital Outlay Project $30,000,000
- Has Been on List for 25 Years
- Candidate For Lease Revenue Bond Funding

Home Grown Alternative $12,000,000
- Multi-Year Plan
- Combination of In-House Labor and Contracting Out
- Funding: Carry-Forward Funds; Deferred Maintenance; One-Time Funds; Set Aside Plant Funds to Borrow; Parking Funds; Divisional Contributions (e.g. UPD)
Other Capital Renewal Urgencies

- McCarthy Hall $100,000,000
  - Underutilization of Laboratory Space
  - Vertical Transportation

- Library South $ 50,000,000
  - Underutilization of Many Spaces

- Ruby Gerontology $ 10,000,000
  - Ready for Major HVAC Overhaul

Need a true assessment of space use on campus to identify inefficiencies. Establish proper storage policies and facilities.
Capital Project Management

- CPM Responsibilities
  - Capital Outlay Projects
  - Minor Construction
  - Capital Renewal
- Unfunded Staff
  - From Six to Zero
  - Employees and Consultants
## 2004 – 2012 Electrical Consumption

<table>
<thead>
<tr>
<th></th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
<th>10/11</th>
<th>11/12</th>
</tr>
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<tbody>
<tr>
<td>KWH</td>
<td>50</td>
<td>53.8</td>
<td>51.4</td>
<td>55.5</td>
<td>52.7</td>
<td>50</td>
<td>48.5</td>
<td>48</td>
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<tr>
<td>Campus GSF</td>
<td>3.87</td>
<td>3.98</td>
<td>4.44</td>
<td>4.54</td>
<td>4.74</td>
<td>4.75</td>
<td>5.22</td>
<td>5.57</td>
</tr>
<tr>
<td>Added Facilities</td>
<td>PA</td>
<td>PS2</td>
<td>SRC</td>
<td>SGMH</td>
<td>PD</td>
<td>CCC/PS4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTES</td>
<td>24.4</td>
<td>27.2</td>
<td>28.3</td>
<td>29.6</td>
<td>30.3</td>
<td>27.8</td>
<td>27</td>
<td>27.8</td>
</tr>
<tr>
<td>Annual $$</td>
<td>5.4</td>
<td>6.6</td>
<td>6.0</td>
<td>5.8</td>
<td>5.6</td>
<td>4.6</td>
<td>4.7</td>
<td>5.2</td>
</tr>
</tbody>
</table>

Price of Doing Nothing: 8.5

Lower costs due to higher efficiency buildings as well as energy conservation initiatives: 68/78 Degrees; Demand Response Program; Big Fix; Network Thermostats; Upgraded HVAC Systems; Tri-Gen; Photo-Voltaic; DBH Pre-Cooler; Lighting Retrofit; Building Commissioning.
Utility Management Systems

- Energy Management Systems
- Energy Information Systems
- Enterprise Energy Management
- Computers are the new Wrenches
- Online with Utilities and Customers
- TriGen and PV Power Generation

Technology has become a driving force for change in our industry as well as a tool for significant savings.
Operating Expenses per Student – with Purchased Utilities

Cal Poly S. Univ/Pomona: $1,013
Cal St Univ/Bakersfield: $783.37
Cal St Univ/Dominguez Hills: $863.79
Cal St Univ/Eastbay: $979.32
Cal St Univ/Fresno: $842.29
Cal St Univ/Fullerton: $820.13
Cal St Univ/Long Beach: $536.03
Cal St Univ/Monterey Bay: $702.8
Cal St Univ/Northridge: $790.79
Cal St Univ/San Bernardino: $889.02
Cal St Univ/San Marcos: $991.11
Cal St Univ/Sacramento: $959.67
Sonoma St Univ: $895.02
San Diego St Univ: $905.3
San Jose St Univ: $1,162
CALSTATE Overall: $3,870
Private: $1,920
Public: $923.69
Utility Budget

- $7.2M
- Anticipate Rate Increases
- Continually Invest
  - Billion Dollars Green Challenge
- More Stringent Regulations
- Aging Equipment
- Sustainability
- LEED EBOM
- Master Plan

*See Attachment 6*
Sustainability

- President’s Climate Commitment
  - Climate Action Plan
  - Task Force to Advise President

- Bills, Laws and Executive Orders
  - Global Warming Solutions Act AB32
  - Governor’s Executive Order B-18-12
  - Chancellor’s Executive Order 987

- Establish Campus Responsibilities
  - Operation

*See Attachment 7*
LEED-EBOM
Existing Buildings Operation & Maintenance

- Building Technology
- Commissioning
- Cleaning Products
- Capital Renewal
  - From Building Envelope to Showers
  - Water Efficiency
  - Indoor Environment Quality
  - Materials & Resources

*See Attachment 8
Utilities Master Plan

- Energy Conservation Strategies
- Campus Long Term Growth
  - Build Capacity
  - Reduce Carbon Footprint
- Storm Water Management
- Alternative Power Generation Strategies
- Upgrade Distribution Infrastructure
- Equipment Replacement
- Address Deferred Maintenance Issues

*See Attachment 9*
In Summary

- Significant Budget Cuts for over 30 Years
- Lowest Funded Facilities Operation
- Maintain Successful Energy Program
- $3,500,000 to Restore Basic Service Levels
- Add $2,500,000 to Raise the Bar
- Fund Deferred Maintenance
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- Supplies and Services $ 300,000

Total (Incl. Benefits) $3,500,000
Invest in our Students

- Invest in Instructional Facilities
- Invest in our Employees
- Invest in Customer Service
- Invest in Efficiency
- Eliminate Budget Shortfall
- Restore Budget Commitment
- Implement Executive Orders
- Adapt Chargeback Program
- Set Performance Targets
- Require Accountability
Thank You