Higher Education Facilities:
Planning, Cost, and Utilization

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Committee on Colleges and Universities
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Overall Conclusions

- Postsecondary facility planning processes are reasonable but could be improved to ensure that needs are accurately stated.

- Universities and community colleges build reasonably cost-effective facilities but can offset rising construction costs in a number of ways.

- Overall, classroom space utilization could be improved through better space management, which would help postpone the need to construct new classroom facilities.
Postsecondary Construction Projects are Funded From a Variety Sources

- In Fiscal Year 2005-06, the Legislature appropriated $744 million for postsecondary education fixed capital outlay projects.

- Public Education Capital Outlay (PECO) funds are the largest appropriation (62%) for postsecondary education fixed capital outlay projects.
PECO Funds are Projected to Drop Significantly After FY 2006-07

Actual and Projected PECO Revenue vs. State University and Community College FTE
(40 Hour)
Maximizing Use of Available Construction Funds

- Planning Process
- Construction Costs
- Space Utilization
Facility Planning Process:
Standards and Formulas Need Updating

- Comprehensive, includes multiple levels of review, and helps ensure that each institution’s facility plans are well coordinated
- Standards and formulas used to estimate space needs last updated: universities - 1994, community colleges - 1999
- Recent technology advances may have changed need for space in some programs.
  - Computer modeling and simulation used in engineering and science programs, reduce space needed for bulky equipment,
  - Greater use of electronic documents has reduced need for storage space
Revising Standards Example: Classroom Utilization

- Section 1013.03(2), F.S. - classroom minimum use 40 hrs/wk with 60% student stations filled
- If classroom utilization approaches 100% need classrooms
- Too narrow – classrooms used day/evening
- To internally assess utilization, some institutions already use more stringent standards that exceed 40/60
Increasing the Standard for Classroom Use Results in a Lower Statewide Utilization Rate

Systemwide Percent of Classroom Utilization Based on Three Different Standards

- % of 40-Hr Standard: 81%
- % of 50-Hr Standard: 65%
- % of 60-Hr Standard: 54%
### Adjusting Standards Would Lower Institutional Space Need Estimates

<table>
<thead>
<tr>
<th>Current Classroom Standard Used to Determine Needs</th>
</tr>
</thead>
</table>
| Station Size:  
  \[
  \text{Station Size} = \frac{\text{Hours Per Week} \times \text{Occupancy Rate}}{40 \text{ Hours} \times 0.60 \text{ Occupancy}} = 0.92 \text{ NASF (Space Factor)}
  \]
| OR |
| 22 Square Feet  
  \[
  22 \text{ Square Feet} \times 15.0 \text{ (Weekly Student Hours Per FTE)} = 13.8 \text{ NASF Per FTE}
  \]

<table>
<thead>
<tr>
<th>Revised Classroom Standard Used to Determine Needs</th>
</tr>
</thead>
</table>
| Space Factor =  
  \[
  \text{Space Factor} = \frac{\text{Station Size}}{50 \text{ Hours} \times 0.70 \text{ Occupancy}} = 0.57 \text{ NASF (Space Factor)}
  \]
| OR |
| 20 Square Feet  
  \[
  20 \text{ Square Feet} \times 15.0 \text{ (Weekly Student Hours Per FTE)} = 8.55 \text{ NASF Per FTE}
  \]

NASF = Net assignable square feet

Changing the Classroom Standard Could Maximize the Use of Capital Improvement Funds

Effect of Changing to a 50/70 Standard:

<table>
<thead>
<tr>
<th>10,000 FTEs</th>
<th>Classroom Space (Net Square Feet)</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current:</td>
<td>138,000</td>
<td>$21,085,020</td>
</tr>
<tr>
<td>Revised:</td>
<td>85,500</td>
<td>$13,063,545</td>
</tr>
<tr>
<td>Difference:</td>
<td>- 52,500</td>
<td>- $8,021,475</td>
</tr>
</tbody>
</table>

*Using 2004 construction costs
Construction Costs
Florida’s Postsecondary Construction Costs Are Generally Lower Than National Benchmarks

<table>
<thead>
<tr>
<th>Building Type</th>
<th>National Low Quartile Cost /Square Foot</th>
<th>National Median Cost /Square Foot</th>
<th>National High Quartile Cost /Square Foot</th>
<th>Florida Median Cost /Square Foot (2004)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>$129.09</td>
<td>$172.82</td>
<td>$221.11</td>
<td>$148.73</td>
</tr>
<tr>
<td>Library</td>
<td>191.48</td>
<td>235.29</td>
<td>326.62</td>
<td>152.58</td>
</tr>
<tr>
<td>Office</td>
<td>107.64</td>
<td>138.44</td>
<td>235.29</td>
<td>155.11</td>
</tr>
<tr>
<td>Science</td>
<td>201.83</td>
<td>240.00</td>
<td>294.05</td>
<td>183.99</td>
</tr>
</tbody>
</table>

Based on “2005 Construction Report,” *College Planning and Management*, February 2005
But Postsecondary Construction Costs Continue to Climb
Institutions Can Adopt Strategies to Address Rising Construction Costs

- Prototypes can help to reduce postsecondary construction costs
  - repeating designs – lower architectural fees and time savings in design and construction phases
  - use of prototypes not widespread among postsecondary institutions
  - in 2004, four community colleges saved 12% to 15% in design costs on nursing/science building

- Evaluate potential savings of partnering with energy companies to share costs of replacing or upgrading expensive equipment such as HVAC
Space Utilization
Community College Space Allocation Is Reasonable

Total Net Assignable Square Feet = 17,056,510
State University System Space Allocation Is Consistent with National Benchmarks

<table>
<thead>
<tr>
<th>Use</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom</td>
<td>5%</td>
</tr>
<tr>
<td>Teaching Laboratory</td>
<td>6%</td>
</tr>
<tr>
<td>Study/Library</td>
<td>5%</td>
</tr>
<tr>
<td>Research Laboratory</td>
<td>9%</td>
</tr>
<tr>
<td>Office/Computer</td>
<td>20%</td>
</tr>
<tr>
<td>Auditorium/Exhibition</td>
<td>3%</td>
</tr>
<tr>
<td>Residential</td>
<td>18%</td>
</tr>
<tr>
<td>Support Services</td>
<td>18%</td>
</tr>
<tr>
<td>Student Academic Support</td>
<td>0%</td>
</tr>
<tr>
<td>Instructional Media</td>
<td>1%</td>
</tr>
<tr>
<td>Gymnasium</td>
<td>3%</td>
</tr>
<tr>
<td>Other Assignable</td>
<td>12%</td>
</tr>
</tbody>
</table>

Total Net Assignable Square Feet = 43,749,318
Classroom Utilization in Both Systems

State University System Average Room Schedule Utilization on Mondays Through Fridays from 8 AM to 8 PM
Spring 2005 - Average Room Use - 54%

- From 9 AM to 1 PM: 58.8%
- From 6 PM to 8 PM: 44.1%

Community College Classroom Utilization
Monday Through Friday from 8 AM to 8 PM
Spring 2005 - Average Room Use - 41.4%

- From 9 AM to 1 PM: 58.8%
- From 6 PM to 8 PM: 46.1%
Classroom Utilization Varies Considerably by Day of the Week and Hour of the Day

Average State University System Classroom Utilization
Spring 2005

- Overall Utilization (M thru F): 54.0%
- From 9 AM to 1 PM: 64.9%
- From 6 PM to 8 PM: 44.1%
- On Fridays: 31.1%
- On Saturdays: 5.1%

Average Community College Classroom Utilization
Spring 2005

- Overall Utilization (M thru F): 41.4%
- From 9 AM to 1 PM: 58.8%
- From 6 PM to 8 PM: 46.1%
- On Fridays: 20.3%
- On Saturdays: 10.7%
Utilization and the 40/60 Standard

- Classroom utilization rates - 8:00 AM to 8:00 PM Monday to Friday were 54% for universities and 41% for community colleges.

- Significantly lower than the rates reported by the institutions using the current 40/60 standard.

- Example
  - One university had 60% classroom utilization rate (relatively high among the state universities) from 8 to 8 M-F
  - Using the current 40/60 standard the institution reported average classroom utilization of 111%

- Using the 40/60 standard suggests that this university has a critical need for additional classroom space while our analysis would suggest that this need may be considerably less critical.

- Similar patterns for other universities and community colleges.
Update Space Needs Formulas

Formulas need to be updated and revised to accurately reflect when and how classrooms are used today

- Legislature consider amending Section 1013.03(2), F.S., which currently establishes 40 hours per week and 60% occupancy as minimum utilization rates for classroom facilities. To better reflect how institutions currently use classroom space, we recommend changing the standard to at least 50 hours per week and 70% occupancy as the minimum utilization rates.

- Department of Education and Board of Governor’s should review and revise needs generation formulas used in the plant survey with input from all relevant stakeholders from the various disciplines.
Space Needs Standard

Increasing the standard from 40 to 50 hours per week classroom usage

- Current standard does not consider that classrooms are available for use from 8 a.m. to 8 p.m., Monday through Friday (60 hours per week)
- Current standard does not account for 30% of the time classrooms could be used
- Increasing to 50 hours more accurately captures the availability to use existing classroom space
- Institutions such as Florida State University and the University of Central Florida, use internal measures that exceed the current statutory standard (FSU uses 56 hours per week and UCF uses 69 hours per week)
Space Needs Standard

Increasing the standard from 60% to 70% station occupancy

- Several states have classroom occupancy standards that now exceed that of Florida. These include Arizona (65%), California (71.4%), Kentucky (67%), Nebraska (65%), New York (80% for the CUNY system), and Ohio (67%).

- Florida State University and the University of Central currently evaluate their utilization using internal station occupancy standards of 75% and 70%, respectively.
Increasing Classroom Utilization

- Require institutions requesting classrooms provide more data and show strategies implemented to maximize use of existing classrooms.

- Given the uncertainty regarding the effects of variable tuition, the Legislature may wish to pilot a variable tuition program to determine the impact on classroom utilization, student enrollment patterns, and tuition revenue prior to granting tuition flexibility to the universities.

- Require institutions to demonstrate how efficiently they use other major categories of space.
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Questions?