Executive Summary
July 2003

Prepared for
The Commonwealth of Massachusetts
Board of Higher Education
and
Division of Capital Asset Management

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Matching Facilities to Mission: Strategic Capital Program

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July 2003

This is the Executive Summary of the Study entitled Matching Facilities to Missions: Strategic Capital Programs for the Massachusetts State and Community Colleges that Eva Klein & Associates (EKA) conducted for the Board of Higher Education (BHE) and the Department of Capital Asset Management (DCAM). Volumes 1 through 4 of the Report provide extensive details of purposes, process, methods, findings, and outcomes.

STATE OF THE SYSTEM AND THE COLLEGES

∇ Year 2001 Mission Statements and Mission Implementation Plans provided the mission/program platform. The 24 colleges are quite diverse in mission, size, age, programs, and student demographics.

∇ Like other states, Massachusetts has a substantial accumulation of maintenance requirements, ADA compliance needs, and the challenge of upgrading and modernizing a large and aging asset base.

∇ An ADA study of public agencies in 1994 revealed $35 million in ADA-related needs among the 24 State and Community Colleges.

∇ In 2001, the CAMIS study undertaken by DCAM identified $215 million in condition deficiencies, and code and ADA compliance needs for these 24 colleges.

∇ These colleges acquire the majority of their capital funding from State appropriations.

∇ It is currently BHE practice to require colleges to match state funding with other funding: 50 % match for non-academic facilities and 25% match for academic facilities.

∇ Beginning in 1988 (during the last 15 years) under the two most recent bond bill authorizations, the 24 colleges have had $400 million in state capital funding appropriations, or an average of $26.7 million per year—for all 24 institutions.

∇ Actual capital expenditures from 1994 to 2002, from all funding sources, was $225 million, or about $25 million per year for all 24 State and Community Colleges.

∇ In Massachusetts, as in other states, capital investments made in college campuses are influenced heavily by changing conditions in state finances and allocations of debt capacity to other state priorities. In general, funding has not been based on an “investment model.”
Accumulated maintenance, ADA, and other needs, combined with the need to prepare a bond bill for new authorizations, and many other factors, formed the context for this Study.

**STUDY OVERVIEW**

**Objectives.** Study objectives were to:

- Identify all capital needs of the colleges
- Synthesize these into a coherent and balanced Strategic Capital Program for each college
- Develop a prioritized Systemwide Strategic Capital Program.

**Philosophy/Policy.** Four important strategic philosophies guided Study methods.

- Balance systemwide analyses and policy with attention to specific college missions and differences
- Develop a comprehensive statement of needs—not just a list of bond bill projects
- Sustain the highest priority on asset modernization and preservation
- Give adequate consideration to infrastructure and general campus features (including Health/Safety/ADA).

**Process and Participants.** To support the BHE-DCAM collaboration, EKA deployed a 12-person multidisciplinary team and well more than 100 people from the colleges contributed to shaping this Study. Despite a challenging project schedule, communications were a high priority and took a variety of forms.

**Phases.** This complicated Study was organized into five phases:

- Phase 1—Project Contract Organization, Initiation, and Methods Refinement
- Phase 2—Data Collection and Needs Assessments
- Phase 3—Strategic Capital Programs and Campus Visits
- Phase 4—Systemwide Prioritization
- Phase 5—Deliverables

**Capital Needs Assessments.** In Phase 2, four separate analyses addressed four categories of capital needs:

- Capacity Analysis
- Condition/Quality Assessment
- Special Purpose Needs
- Infrastructure and General Campus Needs.

Also, an Enrollment Analysis Study was done, as input for the Capacity Analysis, to project enrollments for 2006 and 2011. There were detailed, defined methods for each of these analyses.

**College Strategic Capital Programs.** The critical Phase 3 work was to compile, analyze, and integrate findings from the above analyses into balanced and coherent Strategic Capital Programs, to review them with the colleges, and to produce the final versions.

**Systemwide Strategic Capital Program.** The Phase 4 work was to define a process for systemwide prioritization and to use that process to derive a first version of the Systemwide Strategic Capital Program.

**HIGHLIGHTS OF STUDY RESULTS**

**Enrollment Analysis Study**

- Overall, the System’s college enrollment is projected to grow moderately from about 80,000 in 2001 to 87,000 students in 2011.
- Taking into account service areas and historical market penetration rates, the colleges will experience quite varied levels of enrollment change, from stable to increasing enrollments.
Capacity Analysis

This analysis was essential to ensure that new facilities/space only will be added where demonstrable shortages of space exist. The analysis applied to core academic space—classrooms, labs, offices, and library. In defining capital needs, the consultants used the endpoint numbers—projected capacity for 2011.

As in any system where quantitative analyses of capacity typically have not been done and where there have been varied historical growth patterns, it is inevitable that one finds a wide variation in surpluses and deficits of space capacity among the colleges.

- The six State Colleges and Massachusetts College of Liberal Arts vary considerably in capacity—from surpluses to deficits.
- The large apparent calculated space surpluses for Massachusetts College of Arts and Massachusetts Maritime Academy arise from a methods issue and are substantially overstated and not meaningful.
- The Community College campuses also were found to vary considerably, from surplus capacities to deficits.
- In the Strategic Capital Program, there are only 18 capacity-driven projects, amounting to $226 million, or only 19% of total capital needs of the colleges.

Facility Condition/Quality Assessment

To address Study philosophy regarding emphasis on asset preservation, use, and modernization, this critical analysis was conducted based on EKA's unique methodology, to evaluate not only condition deficits, per se, but also the costs to modernize obsolete facilities. This assessment was based on Baseline Facility Quality Criteria EKA developed for the Study and was accomplished via on-site evaluations.

- Based on this FCQA, a Facility Condition and Quality Index (FCQI) was calculated for each modernization project.
- This FCQI is useful in prioritization: The higher the FCQI, the more extensive the condition and obsolescence deficiencies and the more urgent the need to modernize the facility.
- An FCQI at or greater than 1.0 may indicate that it is uneconomic to renovate the facility for its current use, and other alternatives, such as demolition, replacement, and use conversion, are explored.
- Overall campus FCQIs also were calculated. They enable relative comparisons of overall qualitative needs among the colleges.
  - The average FCQI for State colleges and Massachusetts College of Liberal Arts is 0.36
  - The average FCQI for Massachusetts College of Art and Massachusetts Maritime Academy is 0.17
  - Excluding Springfield Technical Community College, the community colleges’ average campus FCQI is 0.183.
  - The state colleges, with an average FCQI that is double those of other colleges, are, overall, in far worse qualitative condition than the community colleges.
- In the Strategic Capital Program, there are 247 projects to address condition and quality of existing facilities, amounting to about $700 million, or 60% of total needs of the System.

Special Purpose Needs

Special Purpose needs are those in non-academic space categories, usually program-specific, student life, or related to campus support and functionality. The needs identified included a wide range of facilities, including special facilities to support academic programs, student/campus life facilities, and a variety of maintenance and operations facilities required for campus functionality.

- Where special purpose proposals from the colleges included basic academic space types, they were evaluated with capacity findings. Integrated projects were recommended.
- There are 38 special purpose projects, totaling $96 million, and representing 8% of total System capital requirements.
Infrastructure and General Campus Needs

This is a wide-ranging category of needs that often is overlooked in capital plan priorities, including such needs as renovation or new elements for utilities, parking, roads, walks, security, lighting, safety systems, wayfinding, and grounds features. These were evaluated in two ways—by EKA team visits to the campuses and by campus project proposals.

There are 211 infrastructure projects, totaling $146 million, and representing 13% of total System capital requirements.

College Strategic Capital Programs

The next challenge was to organize, synthesize, and integrate the findings into coherent, balanced Strategic Capital Programs, representing all identifiable, justifiable capital needs of the colleges.

Each college’s Strategic Capital Program is prioritized initially into two parts—Phase 1 and Phase 2—to reflect generally more urgent and generally less urgent needs for that college.

- Then, within Phases 1 and 2, prioritization is in Strategic Priority Levels 1 through 6.
- Strategic Priority Levels 1 and 4 (Major Renovations and Modernization) are higher priorities than Strategic Priority Levels 2 and 5 (Major New Construction)

Springfield Technical Community College (STCC) was a special case and addressed accordingly. STCC needs 289,000 ASF to meet 2011 enrollment levels. This equates to 491,000 GSF of space to be renovated. An additional 580,000 GSF of Springfield Arsenal space is planned for decommissioning. A detailed planning study is needed—to determine which buildings will be used and which will be decommissioned and stabilized. STCC’s projects are expressed differently than those of the other colleges.

Altogether, there are 514 capital needs/projects, ranging from major building modernizations and new construction to minor renovation needs.

The entire estimated cost (expressed in $ Total Project Cost) for meeting these needs is $1.17 billion.

- This figure excludes projects in the current BHE 5-Year Capital Spending Plan that would need to be accomplished prior to these Strategic Capital Program projects.
- This figure excludes approximately $200 million in proposed projects that were reviewed but not deemed to be needs at this time.

Systemwide Strategic Capital Program

To address systemwide prioritization, the team developed a series of 21 premises, principles and secondary factors and used them in a prioritization process, with two steps:

- First, all projects were sorted in matrices of facility essentiality and project urgency, and assigned to System Priority Levels based on this sort.
- Then, the team reviewed the results and made adjustments based on the 21 premises, principles and secondary factors.

The Systemwide Strategic Capital Program thus is expressed as groups of projects sorted into 11 System Priority Levels derived from the prioritization methodology.
### Figure 1
**Systemwide Prioritization: Summary Results**

<table>
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<tr>
<th>System Priority Level</th>
<th>$ Phase 1</th>
<th>$ Phase 2 + 2A</th>
<th>$ Grand Total</th>
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Note: System Priority Levels 1-5 are for Phase 1 needs and System Priority Levels 6-10 are for Phase 2 needs. Phase 2-A and System Priority Level 11 are a special category for the potential library/office space capacity need at Holyoke Community College.

- Sorted by System Priority Levels, there is a group of projects totaling $193 million that collectively constitute the highest priority needs, and representing 16% of the $1.17 billion total.
- There is no single project type that is highest priority; i.e., System Priority Level 1 includes projects of several types.
- Sorted by the four capital need categories, $700 million, or 60% of the total $1.17 billion, represents needs for major modernization or other renovations to existing capital assets.
- When two of the four categories, the FCQA (modernization) needs and the Infrastructure/General Campus (functionality and safety) needs, are added together, they represent 73% of total needs in the Strategic Capital Program.
- When sorted by use types, $767 million, or 66% of the total $1.17 billion, are for core academic facilities.
- Very importantly, campus support uses, which are essential to functionality, represent another 18% or $216 million.
- All these distributions of the results are consistent with philosophical premises of the Study—to focus attention on existing assets and campus functionality—not on new space.
### FIGURE 2
MASSACHUSETTS STATE AND COMMUNITY COLLEGES
STRATEGIC CAPITAL PROGRAM SUMMARY
BY COLLEGE, PHASES 1 AND 2, AND STRATEGIC PRIORITY LEVELS* WITHIN PHASES

<table>
<thead>
<tr>
<th>COLLEGE</th>
<th>PHASE I (YEARS 1 THROUGH 5)</th>
<th>PHASE II (YEARS 6 THROUGH 10)</th>
<th>PHASE II- A TOTAL</th>
<th>STRATEGIC CAPITAL PROGRAM TOTAL</th>
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<td></td>
<td>Strategic Priority Level 1</td>
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<td>Strategic Priority Level 3</td>
<td>Strategic Priority Level 4</td>
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</table>
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<th>STRATEGIC CAPITAL PROGRAM TOTAL</th>
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Note: The term “Strategic Priority Level” in this presentation indicates the recommended prioritization of needs within an individual institution’s Strategic Capital Program. This is not the same as the term “System Priority Level” which is applied (in Volume 3) to indicate levels of priorities on a systemwide basis.
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