University System of Maryland
Response to the 2004 Joint Chairmen's Report

Efficiency Studies

October 22, 2004

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EXECUTIVE SUMMARY

The enclosed report is in response to the Maryland General Assembly's Joint Chairmen's Report (JCR) language R30B – Efficiency Studies.

Since June 2003, the University System of Maryland's Board of Regents has been actively engaged in an initiative to assess and improve the effectiveness and efficiency of the University System of Maryland (USM) and its institutions. The following summary reports on the status of that initiative, which is known as the Effectiveness and Efficiency (E&E) project. As with the full report that follows, it provides a context for the actions taken by the board—including the goal of the initiative, its scope, and its rationale—and concludes with a discussion of progress to date, including the items that the board has identified as ready for immediate action.

The Goal: What Is the USM Trying to Achieve?

With this project, the USM Board of Regents seeks transformational changes to the public higher education enterprise, changes that will advance the University System's academic excellence while substantially reducing the overall cost of the educational model. This is the board's larger vision for the project.

At a more practical and immediate level, the purpose of the project is to allow the USM to continue to address the issues that are important to it:

USM students and their families. The board wants to contain tuition increases. Although the cost containment efforts and service reductions implemented by USM institutions have resulted in significant spending reductions, the savings achieved so far have not been sufficient to balance campus budgets and maintain quality, thereby creating the need for tuition increases.

Future Maryland students. Reducing the cost also will help USM institutions meet a major USM and state goal of serving the growing number of Marylanders who will seek higher education.

The quality of USM institutions and their value to Maryland. USM institutions have made great strides in the past ten years. The quality of USM institutions and students contributes to the production of an educated workforce in Maryland that is envied by states across the country and helps to make Maryland very competitive in the new knowledge economy.

The E&E project is designed to make sure that the USM is doing its part to meet these goals. The board is confident that the outputs of this project will provide students, their families, and state policymakers with reassurances that an investment in the USM is still a wise investment and funds invested in the USM will continue to be spent prudently to meet its goals.

The Context: Why Is the Initiative Vital to the USM?

The E&E initiative is comprehensive. The E&E project is an effort by the board and the USM to conduct a top-to-bottom review of the operations of the University System and its institutions, first, to assess the level of performance and then, where necessary, to improve that performance. This initiative has involved the regents, the chancellor and vice chancellors, the institutional presidents and vice presidents, campus-based specialists, and an international management consulting firm (Accenture). The results to date are impressive. Sixteen action items, each detailed in the attached report, will be evaluated and implemented as appropriate over the next 21 months. By the end of FY 2006 there will be savings, already incorporated in the USM state-supported budget, as a result of efficiencies or cost avoidance initiatives valued at $26.6 million. These savings will be in addition to those listed in the annual USM efficiency efforts report, which identifies cost savings, revenue attainment and/or cost avoidance achieved by each institution. In FY 2004 these efficiencies were valued at $65 million.

Importantly, the E&E project also coincides with and benefits from other actions that the USM and its institutions have engaged in over the last two years, including:

- the development and implementation of a new tuition policy;
- a study and report to the Maryland General Assembly, carried out jointly with the Maryland Higher Education Commission and the Maryland Association of Community Colleges, on the ability of higher education in Maryland to meet enrollment growth and workforce demands;
- an ongoing study of institutional financial aid models across the country;
- the revision and updating of the USM strategic plan; and
- the development of a program to strengthen the USM audit function.

The E&E initiative is timely. Perhaps never before have Maryland's public institutions faced such challenges to their core mission of providing high quality, accessible, and affordable educational opportunities to the state's citizenry. These challenges are great, but they also result, at least partially, from the success of the USM and the state. The challenges reflect the fact that Maryland and the USM have raised the quality bar in higher education, creating a nationally eminent public higher education system to which ever-growing numbers of talented adults are applying. They reflect the fact that Maryland and the USM have helped to create a new economy–a knowledge economy–that demands and rewards workers who have the high quality skills needed for high tech jobs. Finally, they reflect the fact that the future success of the USM, and ultimately the state, is inextricably linked to Maryland's students and their families, who struggle in their own way with the issues of need and resources as they seek to balance the cost of attendance and tuition with the availability of financial aid.

The E&E initiative is necessary. As the state's public system of higher education, the USM must do everything possible to control costs and promote quality if it is to succeed in meeting its core obligations and goals. Students and their families want and deserve a quality, affordable education. At the same time, Maryland's elected officials face unprecedented demands for financial support in many areas including health care, elementary education, secondary education, and higher education. To be able to respond to each of these demands with the resources available, the state's leadership expects the USM to provide high quality services in

the most cost-efficient manner possible. The E&E initiative was created to meet these mandates and expectations.

The E&E initiative is about transformation. The unprecedented challenges facing Maryland's students, the state, its elected leaders, and its higher education institutions mean that the USM cannot continue to use old models to provide higher education and still expect to succeed in the environment it currently faces or will face in the future. The ultimate purpose of the E&E effort, therefore, is to transform the way in which the USM and its institutions deliver public higher education to Maryland.

Progress to Date: What Has the USM Achieved?

The regents' E&E project began 15 months ago, but it builds upon a long-standing organizational commitment to continuous improvement. A successful program for improving organizational performance is built upon this commitment and a fact-based, persistent effort to plan and implement change.

Annual efficiency reports. For the past seven years, the USM has reported to the Maryland General Assembly annually on its efforts to reduce costs, identify alternative revenue sources, and reallocate resources within the USM budget. This response to the JCR incorporates the USM Efficiency Report for FY 04, which records institutional actions valued at $65 million. These actions have already been implemented and have helped the USM meet the needs of its students.

Budget actions. The budget realities that the USM institutions have faced in recent years have also prompted efficiency gains. Today, the USM has 700 fewer *filled positions* in the state-supported budget than it had in FY 2002. From fall 2002 through fall 2004, institutional enrollments grew by more than 5,000 FTES (full time equivalent students). This growth occurred as net resources to the institutions declined. Serving more students with fewer staff positions and fewer resources indicates a significant productivity gain, fueled by increased reliance on online technology, as well as institutional course management services.

The regents' E&E project is not just more of the same. The E&E project goes beyond the intra-institutional initiatives. It examines the System *as a whole,* both academically and administratively. The report that follows summarizes actions that the USM will take to reduce further the costs of the University System and its constituent institutions without reducing the quality of the education, research, and services which they provide. These additional reductions are based upon the findings and recommendations of regents' work groups and the opportunities identified by a consulting firm hired by the University System to review administrative functions. In all, 50 topics from faculty course load through administrative staffing levels and tuition remission were examined. For example, over the last year the work groups reviewed and evaluated USM personnel policies and practices, including administrative and executive staffing levels, in relation to institutional peers. The work groups found that USM institutions operate with about 70% of the workforce found at comparable institutions. Salary levels of USM administrators and staff were also reviewed and the findings, in general, showed that average

salaries were in the third quartile, which is the board's stated goal. Other studies are listed in appendix C.

Action Items: What Will the USM Achieve?

On the academic side, the project has focused particular attention on academic policies and enrollment management practices that will allow the USM to increase the number of students served, while also enhancing opportunities for degree completion. The objective is to accommodate an additional 2,100 FTE students during the next three years at *no cost to the state* by fully utilizing faculty and facility resources. This will be accomplished primarily by increasing faculty course load by approximately 10% to help accommodate more students. In addition, several initiatives will be implemented to reduce students' time to degree, moving students through institutions more quickly and helping to make room for additional students. Similarly, an enhanced focus on online learning and out-of-the-classroom experiences for students will also help relieve pressure on facilities. The USM also plans to better manage enrollment increases in order to exploit the cost differentials between institutions.

On the administrative side, the project has focused on ways to exploit the System's advantages of size, technological advancement, and core competencies in administration and support services in order to economize on business practices. This follows from already completed analyses of administrative staffing levels and salaries, analyses that indicated the USM institutions to be very competitive and consistent with public institutions nationally.

Importantly, the USM considers this initiative to be long-term and multi-phased. The action items summarized below represent only Phase I in implementing the ongoing E&E project. The regents will continue to examine the findings of the various work groups and the consultant as the transformation of the USM through the E&E project continues.

Listed below are action items, a number of which have multiple subitems, that the regents and the USM have identified through the Accenture report and internal studies. These present numerous opportunities for immediate action. Ranging from maximizing online educational opportunities through containing energy costs to cooperative purchasing, these items are ready to move toward implementation, and in some cases, are already being implemented. Although additional planning or business case development may be needed for a few items, the USM anticipates substantial implementation on all identified action items within two years.

Action items:

- ✓ Manage enrollment to maximize capacity and reduce costs
- ✓ Ensure average faculty course loads achieve the midpoint of the range set by the regents
- ✓ Utilize academic policies to enhance capacity and time to degree
- ✓ Maximize opportunities for online learning
- ✓ Streamline enrollment services
- ✓ Gain efficiencies through the strategic deployment of information technologies
- ✓ Leverage the buying power of the USM to promote procurement efficiencies

- ✓ Contain energy costs through cooperative purchasing
- ✓ Contain energy costs through demand-side energy management
- ✓ Manage real property assets more effectively through strategic planning
- ✓ Expand effective systems of personal property disposal management
- ✓ Reengineer human resources administrative processes
- ✓ Promote institutional collaboration on employee training & development
- ✓ Promote economies of scale through shared services in such areas as accounts payable and travel and evaluate in-house disbursement opportunities
- ✓ Expand and improve technology commercialization
- ✓ Review the University System of Maryland's organizational structure
- ✓ Report performance

Over the next 21 months, the board and the USM chancellor will work with the institutional presidents to implement these actions, monitor progress, and report on outcomes. These efforts will be integrated with the USM's existing systems for financial and operational management. In addition, the regents' E&E project will continue to examine additional opportunities for improving effectiveness and efficiency as identified by the various USM and institutional work groups and outside consultants.

Financial Summary

The overall FY 2006 fiscal impact of the action items is estimated at $26.6 million as displayed in the table that follows. The estimate is based upon values assigned to academic, student support, and administrative action items. *It is important to note that these cost savings and cost avoidance measures will not be, and should not be, taken out of the USM budget. They have been reprogrammed to help accommodate additional students, mitigate cost increases to students, and maintain and enhance academic quality.*

FY 2006 Fiscal Impact Summary

Program Areas	($ millions)
Academic and Student Support	$9.5
Administrative & Institutional Initiatives	$17.1
Estimated E&E Value	$26.6

In broad terms, the academic and student support actions are valued at $9.5 million. This amount is derived by assigning dollar values to several policy and resource allocation categories. As mentioned above, these include USM-wide decisions to allocate a portion of enrollment growth to lower cost institutions and to utilize existing resources to the fullest extent possible.

Under the rubric of administration, the savings are part of actions that derive from regents' work group studies, the work of Accenture, and the existing institutional efficiency programs. The goal is $17 million in FY 2006. The $17 million for FY 2006 is already incorporated within the state-supported budget request; that is to say, the expenditures in the FY 2006 budget include the estimated efficiencies. In fact, without these efficiencies additional tuition revenue would have been required.

Such actions may be characterized as collaborations (and consolidations), purchasing arrangements under the broad topic of procurement, technology applications including those associated with enrollment services, and institution-specific items.

The table below provides the multi-year value for the action items per the functional categories used by Accenture and by the regents' work groups. It is important to recognize that the distribution of the $26.6 million goal is the System's best estimate based on the implementation status of various action items. For example, the USM expects to make the policy changes necessary to execute changes in strategic sourcing (e.g., procurement contracts). The termination date of existing contracts is a variable that will affect values realized.

FY 2006 Fiscal Impact Summary
($ millions)

Functional categories	Accenture Multi-year value range		Accenture FY 2006 impact	
Accenture Classifications				
- Shared Services	$15.4	$29.1	$2.1	(a)
- Strategic Sourcing	5.5	22.6	3.1	
- Academic & Student Support—Enrollment Management	4.4	7.4	5.1	(b)
- Energy Management	3.5	9.6	2.2	
- Technology Commercialization	5.1	7.5	tbd	
Subtotal	$33.9	$76.2	$12.5	
Regent Workgroup Classifications				
- Academic & Student Support—Non-Enrollment Management	n.a.	n.a.	4.4	
- Intra--institutional efficiency program	n.a.	n.a.	9.7	(c)
Total Value			$26.6	

(a) includes inter-institutional PeopleSoft activities
(b) portion of Academic action item related to enrollment redirection
(c) cost savings and cost avoidance only

The final fiscal summary, which follows below, attempts to characterize the types of "dollar values" that will accrue from each of the action items. The definitions for assigning values are most important.

- *Hard-dollar cost savings.* These savings are achieved when the cost of doing business is reduced below current costs and the service level is maintained or improved. The consolidation of like services on a campus or between institutions is an example.
- *Cost avoidance from policy changes, productivity gains, or changes to business processes*. Cost avoidance is achieved if the need is demonstrable and if the need is met at no cost or lower cost. A good example relates to energy expenditures. A national buying cooperative acquires heating oil at costs lower than what the System as a whole would pay.
- *Revenue equivalents.* These occur when additional revenue is realized or the price (typically charges to students) is reduced. An online summer program is an example of this value under the E&E project.
- *Productivity improvements.* These occur when resources are redirected to benefit service. Improving retention rates through improved advising services is an E&E focus.

FY 2006 Fiscal Impact Summary
(by type of dollar impact value)

Action item	Cost saving	Cost avoidance	Revenue equivalent	Productivity improvement
Enrollment Management		X		
Faculty Course Load	X	X		X
Capacity/Time to Degree	X	X		X
OnLine Learning			X	X
Enrollment Services	X		X	X
Information Technology Deployment				X
Procurement		X		
Cooperative Energy Procurement	X			
Demand-Side Energy Management	X			X
Real Property Management			X	
Personal Property Management			X	
HR Services and Support		X		X
HR Training	X			
Shared Services in Accounts Payable		X		X
In-house Disbursement Services				X
Technology Commercialization			X	
Organizational Review				X

Actual values will appear as implementation occurs. The USM's intent is to continue the practice of documenting all dollar values as part of the reporting process.

REPORT ON EFFICIENCY STUDIES

During the 2004 legislative session, the University System of Maryland's (USM) testimony before the two budget committees of the Maryland General Assembly included a description of the System's efforts to examine the overall effectiveness and efficiency of the academic and administrative operations of our constituent institutions. Subsequently, the committees included the following language on page 163 of the Joint Chairmen's Report (JCR):

> **R30B – Efficiency Studies: The University System of Maryland Board of Regents has a work group studying effectiveness and efficiency, and the board has indicated it intends to retain one or more consultants to assist in its study of opportunities for efficiency at USM institutions. The committees request that the Board of Regents submits a report detailing the findings of the board work group and any efficiency consultants. The report should indicate which findings or suggestions the board intends to implement, and the amount of savings to be realized. The report shall be provided by October 1, 2004. If final efficiency findings are not complete by that date, the Board of Regents shall at least provide a report describing the progress of the work group and consultants. The final report shall be provided as soon as all findings are complete.**

The following report is submitted in accordance with this request.

INTRODUCTION AND BACKGROUND

In response to the economic dynamics currently affecting state budgets, and funding for public higher education institutions in particular, the USM has engaged in significant efforts to increase its quality, effectiveness, and ability to serve more students through the identification and promotion of greater efficiencies in its operations. As testament to the priority it places on these efforts, the USM recently revised its strategic plan to include a new, System-wide goal dedicated to the effective and efficient stewardship of its resources. In support of that goal, the USM and its institutions have pledged to seek new and innovative ways to effectively expand and leverage the resources available to them.

To help meet this goal, the USM Board of Regents—under the leadership of Chairman Clifford Kendall—established the Effectiveness and Efficiency (E&E) project in June 2003. The purpose of this ongoing effort is to undertake a top-to-bottom review of the System's operations, policies, and practices—both academic and administrative—in order to determine if the USM and its institutions are operating with a high degree of effectiveness and efficiency. Where it finds areas for improvement, the board is empowered to change USM operations, policies, and practices as appropriate.

Goals

With this project, the USM Board of Regents seeks transformational changes to the public higher education enterprise, changes that will advance the University System of Maryland's academic excellence while substantially reducing the overall cost of the educational model. This is the board's larger vision for the project.

At a more practical and immediate level, the purpose of the project is to allow the USM to continue to address the issues that are important to it:

- USM students and their families – The board wants to contain tuition increases. Although the cost containment efforts and service reductions implemented by the USM institutions have resulted in significant spending reductions, the savings achieved so far have not been sufficient to balance campus budgets and maintain quality, thereby creating the need for tuition increases.

- Future Maryland students – Reducing the cost also will help USM institutions meet a major USM and state goal of serving the growing number of Marylanders who will seek higher education.

- The quality of USM institutions and their value to Maryland – USM institutions have made great strides in the past ten years. The quality of USM institutions and students contributes to the production of an educated workforce in Maryland that is envied by states across the country and that helps to make Maryland very competitive in the new knowledge economy.

The E&E project is designed to make sure that the USM is doing its part to meet these goals. The board is confident that the outputs of this project will provide students, their families, and state policymakers with reassurances that an investment in the USM is still a wise investment and funds invested in the USM will continue to be spent prudently to meet its goals.

Building on the Existing Strengths in Financial and Enrollment Management

Annual efficiency reports

In the initial stages of the regents' E&E project, existing efforts to contain costs were examined. The regents found that a strong program of cost containment and entrepreneurial activity was already in place on an intra-institutional basis. This finding was supported by the Accenture report, which noted the USM's efforts to apply leading practices and cited specific examples of strong financial stewardship. Currently, the USM is required to submit to the Maryland General Assembly, as well as the Department of Budget & Management (DBM) and the Maryland Higher Education Commission (MHEC), an annual itemized report showing the results of its existing efficiency program. The FY 2004 Efficiency Report (see appendices E) indicated a combination of savings and cost avoidance, entrepreneurial revenue, and internal reallocations totaling $65 million. Such figures represent actions taken that generally go beyond the budget reductions and tuition increases. In this way, the USM has been able to rebuild its fund balance

and maintain its credit rating largely on the strength of its performance in the *non-state support* side of the budget. The results ultimately appear in the USM's audited financial statements.

Academic and administrative practices

To a large extent, the action items that are adopted by the regents' E&E project will build upon and reinforce the USM's existing system of financial management. What the USM and its institutions have understood, and something the Accenture report has stressed, is the need to examine opportunities that may be achieved by operating "… *as a System*" in order to achieve performance improvements. Simply put, many of the possible efficiencies and cost savings will be achieved through inter-institutional activities on the support and administrative side of the enterprise. The existing strategies used to form a System-wide library resource network or a single telecommunications platform or higher education-wide software should be applied to back-office operations as practical.

In a similar vein, the USM will continue to stretch its academic and support resources to accommodate new students. From fall 2002 through fall 2004, institutional enrollments grew by more than 5,000 FTES. This growth occurred as net resources to the institutions declined, and as filled state-supported staff positions were reduced by 700. This indicates a significant productivity gain, fueled by increased reliance on online technology, as well as institutional course management services. Moving forward, there will be greater focus upon System-wide enrollment management.

Process and Structure of E&E Efforts

The current E&E project began with a regents' leadership committee consisting of eight board members. Much of the initial effort of the committee was focused on defining the scope of the project and developing an agenda. One year later this committee continues to meet regularly to direct the project. In addition to eight regents, the USM chancellor and a campus president now represent the various USM institutions on the committee.

To help advance the work of the committee, additional work groups involving senior campus officials were formed to study issues related to inter-institutional collaborations, academic policy changes, online learning, and information technology. Paralleling these efforts at several USM institutions were internal committees which were set up to explore campus-specific opportunities for improvements. Finally, in April 2004 the USM engaged the consulting firm Accenture to review all major administrative processes.

In the course of the E&E project, over 50 issues were reviewed by one or more of the working groups and the USM consultant. (See appendices C and D for a list of the major studies conducted.) While no items were "rejected," the board did judge that certain current practices were not fertile ground for significant improvement. The board focused on improvements that could be achieved in the near future (within two years) with the intention of continuously evaluating administrative and academic practices.

About Accenture's "Effectiveness and Efficiency Value Targeting Project"

A key request of the Maryland General Assembly's budget committees, as detailed in the JCR, is for the USM to report on the findings of the consultant's review. In response to this request, the USM reports that the review of the University System's administrative processes carried out by Accenture's "Value Targeting Project" (VTP) is now complete. The Accenture team gathered and analyzed data from each institution in the areas of human resources, finance and accounting, information technology, procurement, energy management, and select aspects of student services. The team interviewed select USM personnel and conducted follow-up meetings with stakeholders to discuss the data and preliminary observations. Accenture presented its initial findings to the E&E project steering committee on July 15, 2004. Based upon the feedback it received at that meeting combined with further analysis, Accenture submitted a draft report to the steering committee in July 2004 and a final report on August 25, 2004. The full Accenture report is attached in appendix D. Its recommendations and observations are addressed in subsequent sections of this report.

The Accenture findings primarily focused on the cost savings and cost avoidance that could be achieved through the following: 1) centralization of administrative functions; 2) a strategic approach to procurements; 3) streamlining functions related to enrollment management; and 4) application of best practices in energy management. General themes that emerged from the Accenture report are highlighted below.

- Support and administration - One major theme of the Accenture report was centralization of common institutional support and administrative functions, such as finance and human resources management. The consultant's recommendation regarding these functions, referred to in the report as *shared services*, was to invest in information technology in order to consolidate operational processes and processing at one location. This strategy would also apply to the information technology function itself.

- Procurement - A second major theme of the Accenture report related to procurement. Referred to as *strategic sourcing*, the consultant's recommendation was to fully leverage the USM institutions' aggregate buying power to drive down the price of commodities. In other words, where possible the USM should buy commodities on a System-wide basis (or under State of Maryland contracts). Further, the consultant suggested that there was real value to be gained by developing staff expertise in select procurement or commodity sectors, such as energy or office products in order to obtain best prices.

- Enrollment management services – Characterized as *streamlining,* the thrust of the third major theme was the need to review the student record, application and registration, advising, financial aid and bursar functions, with an eye toward reengineering processes and maximizing new software applications (*e.g., PeopleSoft*). This would eliminate unnecessary replication of functions on an intra-institutional and/or inter-institutional basis.

Finally, recommendations as diverse as energy management and technology commercialization were also included in the Accenture report.

NEXT STEPS

Action Items

The USM is now at the stage in the E&E process where the various findings from System-wide work groups, campus-based work groups, and the Accenture consultant may be classified as action items (meaning that Phase I implementations are to be completed within a two-year time frame) or subjects for future action (meaning items for Phase II of the E&E project).

This report identifies action items. These items, it must be emphasized, are not "low hanging fruit." They cover very different functional areas, ranging from academic service delivery to back-office operations, which face difficult implementations; however, the items may be characterized as achievable in a relatively short time frame. Typically, the action items are promising opportunities requiring low investment but yielding moderate returns. Change may be managed incrementally and/or may be implemented with changes in board policy (as opposed to future opportunities requiring investment or legal changes).

Subjects for Future Action

In addition to the action items, a significant number of opportunities remain to be addressed. Identified through the various work groups and the consultant's report, these opportunities are classified as subjects for future action. This means that additional business case building and preliminary cost/benefit analyses are deemed necessary prior to converting opportunities into action items. They will be prioritized and examined on an incremental basis as the E&E project moves into Phase II of the process.

Ensuring Accountability

The penultimate section of the Accenture report recommends two ways of reporting performance:

- *An E&E scorecard* which is a way of periodically monitoring the savings achieved in the cost savings initiatives and, as such, focuses on efficiency.

- *A Public Sector Value report card* which focuses on outcomes that are primarily based upon quality.

Accountability reporting is by no means new to the USM institutions. For the last five years, two well-established and large-scale accountability reports have been submitted annually to MHEC and DBM by the USM's principal units. The first of these reports, Managing for Results (MFR), compares an institution's performance on a series of mission-based goals and objectives over time. The second, Peer Performance Measures, compares an institution's performance on

an established set of indicators, some of which are specific to the institution and its special mission, to that of an approved set of peers.

Building upon the existing reporting mechanisms, the accountability reports recommended by Accenture can be linked by evaluating whether the amount of progress achieved in cost savings is accompanied by similar progress in improving quality. Presumably, many of the savings, in fact, would be used either directly or indirectly to improve institutional performance on one or more of the quality indicators, so that some ratio between dollars saved and quality improvement could be calculated. Over time, that would measure how effectively the savings are being utilized.

ACTION ITEM:	**MANAGE ENROLLMENT TO MAXIMIZE CAPACITY AND REDUCE COSTS** **OBJECTIVE:** *The USM and its institutions will increase undergraduate enrollments and reduce costs associated with that increase by strategically managing its enrollment policies.*
Action Steps	Implement an undergraduate enrollment policy that exploits the capacity and cost structure differentials existing among USM institutions in order to expand System-wide enrollment at a reduced cost.
Source(s)	Board of Regents' E&E work group, USM studies, and institutional leadership
Analyses	The USM has modeled the impact of an enrollment management policy that seeks to optimally distribute undergraduate enrollments based upon institutional capacity and cost structure. Implementation of this enrollment management model will allow substantial cost avoidance for the System as the cost per student is reduced.
Critical Success Factors	Success of these initiatives will rely on the following factors: 1. Development of infrastructure and programs sufficient to accommodate students at targeted institutions; and 2. An operating budget commensurate with enrollment increase.
Anticipated Outcomes	Increased capacity and reduction in the cost per student will be realized.
Accountability Measures	The average cost per undergraduate student, adjusted for inflation, to the state will be reduced. Short term measures exist to determine whether this has been successful. These include: 1. Increased total USM undergraduate enrollment capacity; 2. Greater proportionate growth at those institutions with excess capacity.
Time Frame	Implementation of new/revised policies will begin in fall 2005. The impact of the policy changes is expected to increase rapidly through fall 2007, with growth leveling thereafter.

Cost-Benefit Analysis	Additional cost-benefit analyses will be carried out as part of the policy review as appropriate.
Future Actions	The System will continue to optimize distribution of enrollment based on changing demographic and cost-structure conditions. This will create additional capacity and suggest additional enhancements to the efficiency of the System.

ACTION ITEM:	**ENSURE AVERAGE FACULTY COURSE LOADS ACHIEVE THE MIDPOINT OF THE RANGE SET BY THE REGENTS** **OBJECTIVE:** *To help provide greater course availability, the USM and its institutions will review academic policy and procedures to ensure that faculty course loads achieve the midpoint of the prescribed policy range.*
Action Steps	Review and implement all academic policies and procedures necessary to ensure that faculty course loads achieve the midpoint of the USM's prescribed policy range (in general, this will result in an increase in faculty course load of approximately 10%). This action will help ensure that sufficient courses are available to allow more rapid degree completion by students, and to maximize the ability of the University System to expand enrollment.
Source(s)	Board of Regents' E&E work group, USM studies, and institutional leadership
Analyses	As part of the E&E project, the USM has undertaken a series of capacity-related studies, such as faculty course load, enrollment demand and distribution, and facilities. These studies show that this action, in combination with other actions outlined in this report, will increase the total number of courses available and enable students to complete degree requirements more expeditiously. More rapid degree completion will effectively increase the capacity of USM institutions to absorb additional students without increased cost as students move through their educational programs more quickly. See the tables in Appendix A for breakdown of impact of individual action items on enrollment capacity with an explanatory note on methodology.
Critical Success Factors	Success of these initiatives will rely on the following factors: 1) The commensurate development of space and support resources; 2) Development of infrastructure and programs sufficient to accommodate students at comprehensive institutions; and 3) An operating budget commensurate with enrollment increase.
Anticipated Outcomes	Over the next three years, this action, in combination with other academic policy actions laid out in this report, will contribute to an additional capacity of 2100 FTE students (increase of 700 per year) will be realized, or nearly 20% of the expected excess demand, while avoiding substantial costs.

Accountability Measures	The success of this action can be measured by the average faculty course load at individual USM institutions, which should rise to the prescribed level.
Time Frame	Implementation of new/revised policies will begin in fall 2005. The impact of this action, in combination with the other academic initiatives, should result in a rapid increase in enrollment through fall 2007, with growth leveling thereafter.
Cost-Benefit Analysis	Additional cost-benefit analyses will be carried out as part of the policy review as appropriate.
Future Actions	The System will continue to monitor faculty workload to ensure adequate availability.

ACTION ITEM:	**UTILIZE ACADEMIC POLICIES TO ENHANCE CAPACITY AND TIME TO DEGREE** **OBJECTIVE:** *The USM and its institutions will ensure that sufficient availability of space and other campus resources exist to allow more rapid degree completion by students, maximize the ability of the University System to expand enrollment, and improve the quality of the education experience offered to students at USM institutions.*
Action Steps	The USM and its institutions will undertake the following academic policy initiatives: 1) Develop a policy that limits all undergraduate degree requirements to 120 credits, except in cases where program accreditation requirements mandate otherwise. 2) Develop a policy that provides a financial disincentive for completing an excessive number of credits beyond degree requirements. 3) Enhance student advising systems. 4) Enhance students' educational experience by requiring institutions to ensure that, on average, students complete at least 12 credits required for graduation outside of the traditional classroom experience. (Options available to accomplish this standard will include: online courses; independent study; study abroad; service learning; internships; credit by exam; and advanced placement credits. In addition, students admitted to institutions as first-time students in the spring semester will be strongly encouraged to earn at least 12 credits in the prior fall semester by taking courses at a community college or UMUC). 5) Eliminate any low productivity program that does not meet MHEC standards or obtain BOR approval. 6) Develop room utilization plans to maximize capacity, including the use of facilities in time periods that are currently underutilized.
Source(s)	Board of Regents' E&E work group, USM studies, and institutional leadership
Analyses	All initiatives are designed to enhance institutional ability to deliver services, encourage students to complete their degrees in a timely manner, eliminate issues that could potentially slow student progress, and reduce overall cost. More rapid degree completion will effectively increase the capacity of USM institutions to absorb additional students without increased cost as students move through their educational programs more quickly. See Tables 1 and 2 in appendix A for detail on impact and description of methodology.
Critical Success Factors	The success of these initiatives will rely on the following factors: 1) The commensurate development of faculty resources; 2) Availability of financial aid;

	3) Development of infrastructure and programs for non-traditional credit attainment; 4) Successful implementation of the PeopleSoft student module for advising; and 5) An operating budget commensurate with enrollment increase.
Anticipated Outcomes	Over the next three years, this action, in combination with other academic policy actions laid out in this report, will contribute to an additional capacity of 2100 FTE students (increase of 700 per year) will be realized, or nearly 20% of the expected excess demand, while avoiding substantial costs.
Accountability Measures	The most important measure of success of these initiatives will be the reduction in time to degree for undergraduate students. This will take several years to be conclusively demonstrated and a number of shorter term measures exist. These include: 1) Increased total USM undergraduate capacity; 2) Greater rates of instructional space utilization; and 3) Higher utilization of non-traditional credit options.
Time Frame	Implementation of new/revised policies will begin in fall 2005. The impact of this action, in combination with the other academic actions outlined in this report, should result in a rapid increase in enrollment through fall 2007, with growth leveling thereafter.
Cost-Benefit Analysis	Additional cost-benefit analyses will be carried out as part of the policy review as appropriate.
Future Actions	The System will continue to explore academic policy initiatives that expand capacity, enhance the quality of the educational experience students receive, and promote improved time to degree.

ACTION ITEM: **MAXIMIZE OPPORTUNITIES FOR ONLINE LEARNING** **OBJECTIVE:** *The USM and its institutions will create both inter-System and intra-System working groups dedicated to identifying, developing, and implementing strategies for the increased use of online learning.*	
Action Steps	In order to maximize opportunities available through online learning, the USM and its institutions will carry out the following: 1) Create a System-wide steering committee to oversee identification of opportunities for online learning as well as implementation of those opportunities across the USM. 2) Develop, at the System level, associated working groups tasked with identifying, developing, and implementing online learning strategies across the USM. 3) Develop, at each USM institution, associated working groups dedicated to identifying, developing, and implementing online learning strategies as appropriate to the particular campus.
Source(s)	Regents' E&E work group, presidents' subgroup recommendations, presidents' retreat, Academic Affairs Advisory Council retreat, USM Information Technology Coordinating Council work groups.
Analyses	Significant discussions have occurred at both the level of the regents and the USM institutions regarding the most effective uses of online learning in addressing the major issues facing the USM. These issues include improving access to public higher education, aiding students to achieve their degrees in a timely manner, and providing flexible responses to differing learning styles. In addition, it has become increasingly clear that many of today's students have grown up in a world where technology is pervasive; therefore, the USM must offer learning opportunities in ways that meet student expectations. Finally, every USM institution has invested heavily in networking, applications, support, and services. These provide a basis for technology-enabled teaching, learning, research, and interaction with the institution. Online learning is but a natural, next step in taking advantage of these investments. For many USM institutions, fully online learning is a new "line of business" that will take some investment if it is to be successful. The USM is fortunate to have in UMUC, a world leader in online education, among its institutions, and several institutions already have started offering fully online courses. The USM strategy will be to build upon the knowledge base created by these efforts and to explore the possibility of consolidating the delivery of online learning where possible.

Critical Success Factors	The USM must engage all of the stakeholders—faculty, academic and financial administration, student services, and technology professionals—early in this process. Training faculty and staff in designing online courses is a particularly critical component as is some resetting of faculty priorities. Although some agreements are already in place regarding courses taken at one institution being accepted at and meeting requirements of another institution, significantly more articulation work needs to be done. Since there is a connection between student credit hours and campus budgets, any program that encourages students to take courses from sister institutions needs to correlate with USM financial models. Better ways to develop courses and share content across sections must be identified and implemented. Finally, many services are subsidiary to the delivery of online courses. Some of these could be developed and delivered System-wide rather than campus-by-campus.
Anticipated Outcomes	The USM expects that the outcomes will support all of the objectives established by the USM Board of Regents: 1) Improved access to higher education, particularly for students who cannot attend traditional classes. 2) Added capacity through the increased availability of classroom space. 3) Improved time to degree. 4) Increased efficiencies in course delivery
Accountability Measures	Relevant quantitative measures of success with this initiative would be 1) growth in the number of fully online courses, 2) growth in the enrollment in fully online courses, 3) growth in the number of hybrid courses (i.e., courses with some time spent online and some in class), and 4) growth in the enrollment in hybrid courses. These measures will be assessed in correlation with each USM institution's mission and strategic plan in this area.
Time Frame	Planning will commence immediately with the appointment of the System-wide steering committee and creation of institutional strategies. Institutions will report to the chancellor regarding institutional online educational strategies by January 1, 2005. The chancellor will report to the board regarding the System's overarching strategy by the end of January 2005. In most instances, initial implementation will take place starting in the last half of 2005.
Cost-Benefit Analysis	Although some data regarding fully online learning currently exist for UMUC and Frostburg State University, little comparable data currently exist for other USM institutions, which have not yet made large investments in

	fully online education. In addition, the offering of hybrid courses, anticipated in this initiative, is less developed in the USM. A cost-benefit analysis must be part of each institution's planning process.
Future Actions	Future actions will be guided by the System-wide steering committee and institutional work groups and developed as appropriate.

ACTION ITEM: STREAMLINE ENROLLMENT SERVICES **OBJECTIVE**: *The USM institutions will provide more effective services to students, and realize cost savings, through the use of streamlined enrollment services identified through best practice models.*	
Action Steps	Implement, as appropriate to the campus, the following initiatives: 1) consolidating undergraduate and graduate admissions processing; 2) developing, or acquiring, a means to automatically load common USM applications completed on the Web in institutional admissions systems; 3) encouraging applicants' use of the Web to check their applications or correspond with the institutions; 4) streamlining and further automating the interface between ARTSYS and PeopleSoft; 5) improving guidance given to prospects, applicants, and students regarding residency, and clarifying the policy as required; 6) restricting faculty grade submissions to use of the Web or similar automated means; 7) eliminating mailing of grade reports to students except for certain populations; 8) implementing eBilling as a replacement for paper-based printing and mailing of invoices; 9) making 1098-T forms available over the Web and eliminating hardcopy mailing of the forms (students to "opt in" or "opt out" of this approach); 10) establishing with the state a zero-balance working fund to process student aid refund checks at the institution; and 11) encouraging student utilization of direct deposit for student aid refund checks.
Source(s)	Accenture report, PeopleSoft, USM Financial Aid Task Force.
Analyses	USM's operations have been reviewed with regard to benchmarks and leading practices, both nationally and within the USM. Opportunities for effectiveness and efficiency through streamlining of enrollment services have been identified.
Critical Success Factors	Identification of the fiscal, human, and technology resources to implement many of the recommendations is a critical factor. Institutions are at different stages of implementing many of the technologies as recommended above.
Anticipated Outcomes	USM institutions' enrollment services will move towards a high performing, integrated, and paperless

	environment. USM institutions will become more efficient in response to student informational inquiries. Significant fiscal resources will become available for reallocation or significant cost avoidance will be realized.
Accountability Measures	Implementation of the enrollment services recommendation can be measured through student satisfaction with the enhanced quality and timeliness of services and the fiscal resources saved through efficiencies.
Time Frame	6-24 months for the action items described above.
Cost-Benefit Analysis	Cost versus benefit will vary by institution, depending on required process changes.
Future Actions	The institutions must further explore the efficacy of moving to consistent document imaging and work flow across enrollment services to significantly reduce paper storage costs, minimize data entry and improve customer service. In addition, leading practices across the USM should be shared and discussed at regular meetings of the Inter-Institutional Committee and USM PeopleSoft workshops and conferences.

ACTION ITEM:	**GAIN EFFICIENCIES THROUGH THE STRATEGIC DEPLOYMENT OF INFORMATION TECHNOLOGIES** **OBJECTIVE:** *The USM and its institutions will evaluate and prioritize additional opportunities for gaining efficiencies by deploying information technology (IT) services strategically. Implement initiatives that are deemed the most viable and cost effective.*
Action Step(s)	The following actions will be taken: 1) Finalize the inventory of potential IT initiatives for enhancing efficiencies within and across USM institutions. 2) Evaluate initiatives based upon cost/benefit analysis, with the strategy of focusing on low to medium complexity and risk initiatives that offer the best returns (see chart in appendix B). 3) Move forward on efficiency initiatives identified as appropriate for action through the analyses.
Source(s)	Accenture report, institutional CIO recommendations, presidents' sub-group recommendations
Analyses	Senior USM IT executives developed an inventory of IT initiatives that offer the best potential for gains in efficiency. The group carried out a strategic grid analysis of the initiatives (see attached chart), evaluating risks and rewards along three dimensions: 1) complexity, time-to-effect, and risk; 2) potential operating savings; and 3) initial investment. Based on the grid analysis, the USM's strategy for enhancing efficiencies in the use of resources is to select those IT initiatives that minimize risk and complexity, as well as require a lower one-time investment, but potentially offer moderate to high returns. These IT initiatives, including shared services, will be implemented both across the USM and within institutions.
Critical Success Factors	Several critical success factors exist for managing risk and achieving efficiencies from these IT initiatives. They include the initial investment in human and financial resources, a System-wide governance model, a finance model that meets the needs of all USM institutions, selective standardization of business and technology processes, and a commonly accepted technology framework. Some facilitative technology infrastructure components, such as the network, are already in place, while other recent technology enhancements enable the implementation of collaborative IT services.
Anticipated Outcomes	An immediate, critical outcome will be the prioritization of IT initiatives and identification of projects that offer greatest potential for improving efficiencies. Anticipated benefits from implementing these initiatives include: cost avoidance (to be calculated initiative by initiative), opportunities to exploit discounts for early payment by improving state interfaces, and opportunities for revenue enhancement.

Accountability Measures	Measures of efficiencies gained through the implementation of the IT initiatives include: 1) Increased leverage for procurement, as measured by negotiated prices compared with normal academic discounts. 2) More efficient use of staff, as measured by projected staffing changes to meet increased demand compared with actual. 3) Hardware and software savings achieved from shared services. 4) Leveraging technology for enhancing the efficiency of business operations.
Time Frame	Planning for implementation of IT initiatives to enhance efficiencies in the use of resources has begun. The USM will implement the most cost-beneficial IT initiatives expeditiously.
Cost -Benefit Analysis	USM IT leadership will perform a cost-benefit analysis for each high priority initiative as part of an ongoing planning process.
Future Actions	The USM will investigate the more complex, higher risk opportunities once less complex opportunities are achieved.

ACTION ITEM:	**LEVERAGE THE BUYING POWER OF THE USM TO PROMOTE PROCUREMENT EFFICIENCIES** **OBJECTIVE:** *The USM and its institutions will develop a formal, articulated "strategic sourcing" plan that allows them to leverage their combined buying power in securing goods and services.*
Action Steps	The USM and its institutions will develop and implement an articulated plan for achieving efficiencies through strategic sourcing (i.e., leveraging the USM's combined buying power in order to reduce costs of certain categories of goods and services). This plan may address shared resources, bundled procurements (office supplies), and streamlined processes as appropriate.
Source(s)	Legislative Task Force on Efficiency in Procurement, Accenture report, USM studies, and institutional studies.
Analyses	The USM and its institutions spent nearly $500 million (excluding construction) in FY 03 on various procurement categories including: office and lab equipment and supplies, services, and utilities. Past studies, such as the Legislative Task Force on Efficiency in Procurement, have identified strategic sourcing as a mechanism for reducing a portion of the overall System-wide procurement spending. Accenture has projected savings ranging from 5% to 20% on approximately $110 million over an undefined multi-year period. USM institutions, in the past, have successfully leveraged buying power for the procurement of certain commodities—in particular, office supplies and printing contracts. However, these contracts have been regional in nature. To the extent regulations, policies and procedures, and best business practices permit, the USM should find ways in which these and other eligible commodities contracts are "right-sized" to take advantage of the USM's combined buying power. As part of its findings, the Accenture report has advised that "the Board of Regents needs to communicate the expectation that it is in USM's best interest to not deviate from established contracts and policies." This refers to certain commodity purchase order contracts and procurement card policies that are in place and contribute highly to strategic sourcing effectiveness and efficiency. At present, in addition to regular USM-wide procurement director meetings, the institutional procurement officers and USM administrators engage in continuous "informal" interactions designed to identify opportunities for sharing information, identify opportunities for leveraging System-wide resources, and establish collective purchasing agreements. These efficiencies are represented by such collaborations as regional on-call contracts, Maryland Education Enterprise Consortium (MEEC) IT equipment and software contracts, and office supply contracts. This initiative will build upon these efforts to create a more formal, articulated approach to identifying opportunities for strategic sourcing.

Critical Success Factors	Any strategic sourcing plan must be balanced with State of Maryland's socio-economic initiatives (e.g., MBE and SBE programs) and preference programs (e.g., Blind Industries and SUI). In addition, any plan that includes broad-based participation as a strategy for reducing cost, must anticipate when market and pricing availability is regionally sensitive (e.g., energy as it applies to a supply side model, or commodities having discreet users such as research scientists). Finally, the success with which the USM and its institutions initiate a strategic sourcing plan depends significantly on the degree to which that plan provides sufficient flexibility to meet both System-wide and institution-specific needs/goals.
Anticipated Outcomes	A comprehensive, articulated "strategic sourcing" plan will be developed and implemented that identifies specific initiatives, both short-term and long-term, that will result in efficiencies and cost savings. Key elements of that plan—including the goals, objectives, and benchmarks—must be developed in a way that reflects the need for prudent and thoughtful expenditures, sound business decisions, and responsiveness to external policy and legislative mandates.
Accountability Measures	The most transparent measure of success will be reduction in annual procurement spending. However, success must also be measured by the capacity of the USM and its institutions to balance state policy and procedural mandates (which USM supports) while finding and implementing efficiency strategies that reduce costs and improve the delivery of services to users. Specific outcomes-based measures that fairly represent strategic sourcing initiatives must be tailored to the expected outcome of the specific initiative.
Time Frame	Certain initiatives can be implemented in a short period of time dependant upon when existing contracts expire and new contracts are procured. As mentioned above, strategic sourcing opportunities must be tempered by external requirements that affect procurement methodologies and processes. Meeting the range of savings reported by Accenture may take several years. The USM and its institutions will begin the simultaneous development of a long-term strategic sourcing plan, projected to take twelve months, along with the immediate exploitation of opportunities currently available.
Cost-Benefit Analysis	Cost-benefit must be considered in the context of hard dollars saved through cost avoidance by the implementation of the aforementioned recommendations and in the delivery of services to clients served by the strategic sourcing organization. As the USM looks to broad-based procurements that generate economies and a reduction in total System-wide spending, the USM also must look strategically at processes that reduce the demand on resources and concurrently improve the delivery of service.
Future Actions	The USM will look to expand what has been accomplished on a regional basis by 1) investigating opportunities for leveraging its buying power to develop more broad-based System-wide procurements,

	2) creating procurement consortia beyond IT to include other segments of higher education and local and state government, and 3) identifying shared resource models that take advantage of institutional sourcing expertise (commodity-based purchasing). Process efficiencies may be found in streamlining policies and procedures, maximizing the use of online vendor information, and full implementation of automated processes that have already begun at several of the USM institutions.

ACTION ITEM: **CONTAIN ENERGY COSTS THROUGH COOPERATIVE PURCHASING** **OBJECTIVE:** *The USM and its institutions will actively purse cooperative purchasing as a means of reducing energy costs.*	
Action Steps	The procurement and cost of energy in a deregulated energy market will be reviewed and mechanisms will be developed by which consumption and costs can be reduced. Actions will include: 1) Through collaborative working groups among higher education segments, look at alternative methods (e.g., consortia) to leverage buying power to reduce energy procurement costs. 2) Through inter-institutional efforts, collaborate in acquiring energy and energy services (e.g., energy consultant/advisor) 3) Develop collaborative strategies and resource sharing (e.g., expertise). Although most USM institutions have done energy performance contracting over the last 10 years, this form of contracting will be considered for the current initiative. Existing energy and procurement policies and statutes will be examined for possible revision or amendment. The USM and its institutions should also reach out to other agencies and institutions that have developed successful energy management programs.
Source(s)	Accenture report, presidents' subgroup recommendations, and institutional analysis of energy consumption and cost data.
Analyses	Energy audits will evaluate consumption (peak demands, daily load profiles, etc.), spend data, and existing contractual relationships with local utilities or other providers. Current energy related policies, procedures, and statutory requirements will be evaluated.
Critical Success Factors	The major critical success factor is inter-institutional cooperation among procurement and energy professionals and availability of energy management expertise. It is important to be aware that needs may vary from one institution to another. Although some institutions have already implemented energy consumption and cost-saving measures, there is not a silver bullet or a "one-size-fits-all" solution.
Anticipated Outcomes	The single most important outcome would be the reduction of institutional energy costs. Setting a fixed benchmark is a challenge given market fluctuations. Other outcomes include a flexible strategy that responds to the market, that considers alternative methodologies for new building construction and renovation, and that creates shared information resources which could benefit institutional energy performance. Collaborations can

	also result in reductions in staff time devoted to energy procurement and management, allowing for redistribution of resources.
Accountability Measures	Success may be measured through two primary indicators: 1) an absolute reduction in energy costs above a set base year, or 2) reduction in consumption through the implementation of energy savings measures. Given the unpredictable nature of the deregulated marketplace and environmental factors that can impact the cost of energy, the former indicator, an absolute reduction in costs measured against a set base, may not be the best indicator of a successful energy management program. Though procurement at the best available price will remain a significant factor in selecting any energy provider, the success of this initiative must be considered in the context of the factors influencing the marketplace at the time of a given purchase rather than by a comparison to historical cost data. In today's market place it is more likely that opportunities to reduce energy costs will be found by managing the consumption side of the equation.
Time Frame	Energy management will be an ongoing initiative to find savings opportunities in a volatile marketplace. Depending on contractual relationships already in place, this strategy will be implemented as new contracts are pursued. USM institutions have already begun taking steps toward proactive supply-side energy management. In September 2004, energy management representatives, along with professional energy advisors, formed a work group to critically evaluate electrical commodity spend data for the past 18 months. This work group determined that consolidation of institutional electrical energy purchases was a feasible and financially attractive opportunity. Although individual institutions will continue to evaluate how consolidation will affect them, several USM institutions agreed to test the marketplace by issuing a request for proposals (RFP) for electrical services by the end of this year. Concurrently, a System-wide and institution-by-institution strategic sourcing plan will be developed over the next 12 months.
Cost-Benefit Analysis	Purchasing energy in a competitive, deregulated market requires engaging professional services that can advise and provide guidance in developing a strategic sourcing plan, as well as navigating a rather unpredictable marketplace. Like other commodities, best energy pricing may be found regionally, moderating savings that might be found through a System-wide consolidated procurement. Whether institutional energy costs are reduced will be known when the new Standard Offer Services (SOS) rates from current suppliers are made available for review for the periods in question. New SOS rates and

	agreed-upon consortium prices will be compared and evaluated to assess final outcomes. It will be necessary to continually measure institutional demand requirements and evaluate the marketplace.
Future Actions	The energy management work group will explore consolidation of natural gas as a strategic sourcing opportunity. Natural gas is a primary fuel source for many of the institutions' heating production units, including electrical production units. Later this fall, the USM and its institutions will meet with other higher education segments to consider developing a Maryland higher education energy consortium.

ACTION ITEM: **CONTAIN ENERGY COSTS THROUGH DEMAND-SIDE ENERGY MANAGEMENT** **OBJECTIVE:** *The USM and its institutions will reduce energy consumption and implement strategies for more cost-effective energy management.*	
Action Steps	To implement demand-side energy management the USM will do the following: 1) Appoint a lead "energy manager" at each USM institution to create a forum for sharing leading practices across institutions. 2) Agree on a common set of energy performance metrics and building analysis techniques so that the energy managers have comparable data on building performance and "speak the same language." 3) Organize an energy management training program, including conservation measures and energy management objectives. 4) Conduct energy audits of buildings at all institutions, focusing on greatest opportunities for reducing consumption. 5) Implement mechanisms to enable institutions to leverage savings performance contracts offered by most energy services companies. 6) Implement a System-wide energy awareness program, targeted to facility managers, maintenance and operations personnel, faculty, and students to promote everyday conservation measures such as "lights off when not in use." 7) Establish a System-wide work group that focuses on demand-side energy management that can, among other functions, serve as a resource for information, develop best practices and provide an avenue for shared services. 8) Develop a System-wide and institution-by-institution strategic plan. 9) Reach out to other agencies and institutions that have developed successful energy management programs.
Source(s)	Accenture report, presidents' subgroup recommendations, and institutional analysis of energy consumption and cost data.
Analyses	Analysis necessary to implement this process include: 1) Evaluation of consumption through energy audits. 2) Evaluation of current energy-related policies, procedures, and statutory requirements. 3) Sampling of campus buildings to audit their current inventory and system capabilities.

Critical Success Factors	Inter-institutional cooperation among energy professionals and the effectiveness of existing and proposed new energy management controls in existing infrastructure will be significant contributing factors in the success of a demand-side energy management plan. It is important to be aware that needs may vary from one institution to another. Although some institutions have already implemented energy consumption and cost saving measures, there is not a silver bullet or a "one-size-fits-all" solution.
Anticipated Outcomes	The single most important outcome would be the reduction of institutional energy consumption and costs. Other outcomes include a flexible strategy that considers alternative methodologies for new building construction and renovation and that creates shared information resources which could benefit institutional energy performance.
Accountability Measures	Success will be measured by two primary factors: an absolute reduction in energy costs above a set base year and reduction in consumption through the implementation of energy-saving measures.
Time Frame	This will be an ongoing initiative to find energy-saving opportunities. Depending on the facilities and infrastructure that institutions already have in place, a strategic plan could be developed and implemented over the next 24 months.
Cost-Benefit Analysis	Cost of improved monitoring of energy consumption and improvements to the existing physical plant (e.g., system retrofits and upgrades, energy consumption monitoring) need to be calculated. The latter will likely require up front costs associated with implementation. The development of strategic plans to combat demand-side energy costs will not only have to take into account best practices and policies and procedures that could be implemented at low cost, but will need to consider any necessary capital investments that will lead to long-term energy savings. This will require a strategy that seeks out creative mechanisms for capital investment. For many years, USM institutions have provided in new building and renovation programs specifications that provide for high performance systems and energy management infrastructure in order to minimize energy consumption and energy costs. Costs of better managing energy demand will be balanced against anticipated savings from such management.
Future Actions	After developing the strategy focusing on demand-side energy management (DSEM) efforts for each individual institution, the work group will explore whether an electrical load-shedding initiative through a consortium is feasible. This might require the analysis of System-wide energy loads. Such an analysis may lead to further evaluation of how DSEM may improve electricity load profiles for the consortium. Improved profiles can increase the attractiveness of a consortium as a customer, and thereby further reduce energy costs.

ACTION ITEM:	**EVALUATE AND MANAGE REAL PROPERTY ASSETS MORE EFFECTIVELY THROUGH STRATEGIC PLANNING** **OBJECTIVE:** *The USM and its institutions will critically review real property inventories against academic and facilities master plans and extra-institutional development plans (i.e., public-private partnerships) in order to develop real property strategic plans for their short- and long-term development needs.*
Action Steps	Based upon its ongoing evaluation of System-wide and institutional real property inventories, and taking into account appropriate environmental and community concerns, the USM will carry out the following: 1) Develop clear working definitions for the terms "underutilized" and "unutilized" real property. 2) Update institutional real property inventories and MDProperty View. 3) Develop strategies for the most effective management of the System's real property assets including property disposition, acquisition, and partnerships with private sector to encourage development beneficial to the community. 4) Evaluate the efficacy of property ownership in the context of future proposed development to include existing holdings and the need for future acquisitions. 5) Develop real property strategic plans reflecting institutional missions and visions regarding short-term and long-term development needs including use of existing holdings, properties that might be disposed of and/or leveraged to support future development, and the acquisition of additional real property assets.
Source(s)	USM and institutional property inventories, MDProperty View, and institutional surveys of underutilized properties.
Analyses	USM real property holdings are valuable to institutional missions, goals, and objectives and represent assets that are important to continued institutional growth, development, and vitality. Among these assets several might be regarded as underutilized or unused, including unimproved parcels of land or other property not associated with specific development plans. However, such parcels represent opportunities for investment in the continued success of the USM and its institutions. In an effort to better integrate these assets into the business decision-making process and improve management of these assets, the USM and its institutions will critically review real property inventories against academic and facilities master plans, extra-institutional development plans (e.g., public-private partnerships) and develop real property strategic plans for their short-term and long-term development needs.

Critical Success Factors	The critical factor in success will be institutional awareness that real property is an asset that can be managed to the benefit of the institution. Greater priority must be given to long-term strategic planning for the use and management of this asset as business decisions affecting the growth and health of the institution are made.
Anticipated Outcomes	An updated property inventory at the institutional level that identifies underutilized real property will be developed, along with strategic plans for the management of real property assets at USM institutions that will also help guide business decisions associated with future development of the institutions and position them to be responsive to development opportunities.
Accountability Measures	Accountability will be measured by the development and application of a real property strategic management plan that results in attaining goals and objectives established to meet a given institution's mission. Success should be measured in the application of best business practices to the management of assets over an extended period of time.
Time Frame	Property management is an ongoing enterprise. Evaluations have already begun and changes are being made to processes and practices. Over the next twelve months each institution will complete the required analyses, identify underutilized properties, and develop a real property strategic plan. Strategic plans will focus on a defined period (i.e., a 5-year period), providing guidance for future development, but also containing sufficient flexibility to be responsive to change in priorities or unanticipated opportunities. Plans should include proposed future development and initiatives currently underway.
Cost-Benefit Analysis	Strategic management of real property resources may contribute to institutional facilities improvements, access to alternative opportunities, increases to the real property inventory, increases to the local tax base, and job creation through public-private partnerships and other property development initiatives.
Future Actions	Strategic real property management is an ongoing activity. Future actions will include maintenance of the inventory and maturing the real property management program.

ACTION ITEM: EXPAND EFFECTIVE SYSTEMS OF PERSONAL PROPERTY DISPOSAL MANAGEMENT **OBJECTIVE**: *UMCP will expand the operations of Terrapin Trader, which sells, recycles, or makes available for reuse such surplus personal property as office furniture and computers.*	
Action Steps	The University of Maryland, College Park will expand the operations and client base of Terrapin Trader, a successful operation that allows the institution to recover the residual value of surplus personal property (e.g., office furniture and computers) through its resale, reuse, or recycling.
Source(s)	Presidents' subgroup recommendations, University of Maryland, College Park data.
Analyses	Terrapin Trader is an unqualified success, with UMCP estimating cost avoidance of approximately $400,000 annually through the reuse of used personal property (in lieu of purchasing new property) and recovery of over $375,000 annually through the resale of surplus property. The proceeds realized by the operation are returned to the surplus property "owners": UMCP departments, USM institutions, USM centers, etc. Surplus property not suitable for reuse or resale is documented and recycled to the maximum extent possible. The services provided through Terrapin Trader are available to all USM institutions, other state agencies and local governments.
Critical Success Factors	The benefits realized by participating institutions, government agencies, or other customers will be in proportion to the level of business routed through Terrapin Trader. There are geographic limitations that may require continued disposal or Web-based auction/sale of certain items, which would be more cost-effective than transporting that personal property to College Park.
Anticipated Outcomes	Cost avoidance will be realized through reuse or resale of existing personal property. Savings realized through resale will be returned to the owner of the sold personal property.
Accountability Measures	Documented increase in the reuse and resale of surplus personal property.
Time Frame	Immediate. The Terrapin Trader operation is available immediately for receiving surplus personal property and its disposal through reuse, resale, and/or recycling.
Cost-Benefit Analysis	The Terrapin Trader is an existing operation located at the Physical Distribution Center at the University of Maryland, College Park. The operation is staffed by University employees and augmented with student employees. Any additional investment in facilities or staff that would be required to support an increase in

	business volume would be recovered through sales of surplus personal property. Operating expenses for the Terrapin Trader are recovered through the revenue-generating activities associated with sales of surplus personal property, with the net revenue being returned to the departments or other USM Institutions providing the personal property for disposal.
Future Actions	Accounts should be established for customer institutions. Cost avoidance and savings should be monitored. An annual report should be issued to customers.

ACTION ITEM:	**REENGINEER HUMAN RESOURCES ADMINISTRATIVE PROCESSES** **OBJECTIVE:** *The USM and its institutions will collaboratively develop seamless Human Resources (HR) processes for multiple functions (including employee recruitment, timekeeping, health benefits information, employee training and development, etc.) with the strategic goal of improving services and skills while increasing efficiency.*
Action Steps	Evaluate current HR processes in order to establish fully integrated, Web-based processes that eliminate or greatly reduce data entry, storage, and hard-copy requirements. Process evaluations will focus on the following areas: 1) Developing a seamless employee recruitment and applicant tracking process; 2) Eliminating Form 310/Form 311 paper transaction procedures; 3) Providing online access to health benefits information and interactive ability to effect changes; 4) Automating timekeeping processes; and 5) Creating employee training and development programs for System-wide use.
Source(s)	Accenture report, presidents' subgroup, vice-presidents' subgroup, and institutional analysis of current training programs and proposed initiatives.
Analyses	A committee will be formed to gather data on institutional data processes, develop an HR work plan, and direct implementation strategies that are both consistent with PeopleSoft (where applicable) and Web-based for all institutions. Employee training and development activities will build upon the review of institutional training programs already undertaken (spring 2004) by the USM inter-institution collaboration task force.
Critical Success Factors	Institutions must implement more efficient HR processes than presently exist through work flow analysis and information systems applications (e.g., PeopleSoft). It is critical that the systems be integrated, easy to use for both campus users and applicants, and meet all state and federal regulatory requirements.
Anticipated Outcomes	The most important outcome is a fully integrated Web-based HR system that operates seamlessly. This outcome would result in the elimination of duplicate data entry; routing of hard copy forms, requests, and storage; faster resolution of HR problems; and a general reduction of paper-based transactions. Employee training and development will reduce training costs and increase both employer and employee satisfaction.
Accountability Measures	Measures include demonstrable reduction of data entry and hard copy administration and lower personnel costs; reduction of training costs; and increased employee participation and satisfaction as measured by evaluations conducted at the conclusion of training sessions.

Time Frame	While some institutions may begin implementing selected processes within the next two years, other institutions will need a time frame of two to four years after the analysis is completed. The employee training and development process is already in the implementation phase using SkillSoft, a prepackaged interactive Web-based training system.
Cost-Benefit Analysis	Additional cost-benefit analyses will be necessary to ensure that potential savings under the various elements of the initiative are greater than the anticipated costs of implementing them.
Future Actions	In the future, USM will take the following actions: 1) Move to shared services operations to provide leading HR/payroll processes for all USM institutions. 2) Evaluate efficacy of conducting end-to-end payroll processes in-house through extensive analysis of processes, implementation strategies, and costs. 3) Explore permitting institutions to send gross pay file directly to the Central Payroll Bureau. CPB would continue to do the gross-to-net calculations and process payroll (i.e., paychecks and direct deposits). 4) Investigate whether the State of Maryland/CPB would be willing to permit institutions to communicate human resource/payroll actions directly and electronically (above and beyond those currently accepted). One USM institution is currently working on this issue as a part of its PeopleSoft implementation. Implementation is estimated at 1-3 years. The analysis must show that institutions would achieve a more efficient process as well as reduced costs. 5) Continue implementation of SkillSoft. As new business processes and technologies emerge, staff retraining will be necessary periodically, along with updating and replacement of training tools.

ACTION ITEM:	**PROMOTE ECONOMIES OF SCALE THROUGH SHARED SERVICES IN SUCH AREAS AS ACCOUNTS PAYABLE AND TRAVEL AND EVALUATE IN-HOUSE DISBURSEMENT OPPORTUNITIES**
OBJECTIVE:	*The USM and its institutions will develop a case for adopting a cost-effective and responsive shared services model to provide accounts payable, travel and entertainment, and other transaction processing and evaluate a case for processing its own disbursement transaction (accounts payable, payroll etc.) from end-to-end in-house.*
Action Steps	Develop a business case that would seek to take advantage of economies of scale in such areas as: 1. Accounts Payable, including having all invoices scanned at a central location, sent electronically to the appropriate institution and department for approval, entering them into an AP system, matching them against purchase orders and receiving records, and preparing them for payment; 2. Travel and Entertainment (T&E), which might have the leading practices currently used at UMCP implemented across all USM institutions. Separately, evaluate the cost effectiveness of conducting end-to-end disbursement processes in-house.
Source(s)	Accenture report.
Analyses	The decision to adopt shared services strategies must result from comparing per-transaction costs of current processes with the costs of shared services. Both shared services and extension of leading practices to other institutions would include fully integrating applications to the general ledger and built-in audit features and workflow capabilities that allow enforcement of T&E policies and electronic approval of expense reports. To evaluate the benefits of the shared services recommendation for USM, the following analyses are needed: 1) Identify start-up costs and risks associated with adopting the recommendation; 2) Analyze necessary changes in business processes and core educational and research activities; 3) Identify information technology requirements; 4) Analyze legal and labor issues associated with outsourcing models; 5) Examine alternative organizational models, including possible creation of an external business entity; 6) Develop internal control processes, necessary institutional interfaces, funds transfer or accounting interfaces, and document flow; and 7) Analyze institutional operating and service issues and risks that may arise from remotely processing transactions.

	Currently, the State of Maryland requires, through statute, that all state agencies use the state's banking services. The state also performs a significant portion of the payroll processing for all state agencies, including the System. The ability to perform these functions at the institutional level would enable banking relationships that could bring significant benefits to institutions not currently available through the state, as well as the flexibility to develop processes that reflect the needs and situation of the institution. To evaluate the benefits of end-to-end in-house disbursement the USM will need to analyze and benchmark current processes, review state law and policies that affect change in these areas, create a cost benefit analysis of each and prioritize proposals that are recommended for change.
Critical Success Factors	Success requires identifying a transactional processing model that responds to the institutions' varying needs while achieving a per-transaction cost reduction. Providing a competitive alternative to current processes is critical to institutions' acceptance. A critical issue will be defining an organizational structure that provides institutions with the necessary level of accountability and responsiveness. The success of in-house disbursement would require increased use of technology and innovative and collaborative business relationship. Enhanced control over institutional resources would result in cost savings and potential new sources of revenue. State accountability and financial management compliance will be a significant concern.
Anticipated Outcomes	Expected outcomes are reduced institutional support expenditures and increased efficiency and accuracy in processing transactions.
Accountability Measures	Success of the shared services objective would be measured by costs per transaction processed and levels of client service satisfaction. The in-house disbursement analysis would have to provide a net, ideally quantifiable, benefit to the institutions.
Time Frame	Completion of the necessary analyses may take as long as 12-18 months. Arriving at an appropriate organizational model, governing structure, and implementation plan may require an additional 3-4 months. Identifying and acquiring appropriate staffing will require an additional 2-3 months.
Cost-Benefit Analysis	Both objectives would require a significant investment in information technology infrastructure and organizational setup. A critical mass of participating institutions would be needed. The expected cost per transaction, which must lower the current cost for institutions, would need to be sufficiently low to recover whatever initial investments are required.

Future Actions	A group of vice presidents for administration or designees must be identified to develop a structure of a scalable shared services center. The required investment must be quantified and a source of funds identified. Projections of estimated per transaction cost must be developed. The in-house disbursement objective will require a detailed analysis of additional effort, costs and infrastructure requirement for each process. When appropriate, discuss with state officials regarding process changes and possible regulatory or statutory changes that may be needed.

ACTION ITEM:	**EXPAND AND IMPROVE TECHNOLOGY COMMERCIALIZATION** **OBJECTIVE:** *The USM and its institutions will contribute significantly to Maryland's economic development by taking targeted steps to improve the process of technology commercialization through increased R&D funding and the movement of intellectual property into successful commercial ventures.*
Action Steps	In FY 2002, technology commercialization activity at USM research institutions resulted in the formation of 12 companies. The total number of new companies generated through commercialization activity and still operating in Maryland that year was 36. In addition, technology commercialization activity brought in $1.6 million in revenue to USM institutions. Enhancement of this effort would increase both the number of inventions disclosed and licensing agreements executed, and would substantially increase the opportunities for additional revenue. Funding for this action item would allow the USM institutions to expand upon or initiate the following actions 1) Seek patenting of key technologies; 2) Improve management of intellectual property by increasing disclosure of intellectual property from faculty; 3) Improve protection of intellectual property; 4) Create a "culture of entrepreneurship" among faculty and administrators; 5) Incorporate international strategies in R&D markets and with potential funding sponsors; 6) Increase the number of start-up companies based on USM technologies; 7) Identify and cultivate better sources of seed capital, including USM foundation and alumni/angel investments, in equity to support start-ups to bridge the "valley of death" between basic research and venture capital interest; 8) Use the New Markets Fund at the University of Maryland's Smith School of Business as a financing model and work in coordination with the New Technology Ventures coordinator at the University of Maryland's Clark School of Engineering in order to increase the number of start up companies emerging from university-developed technology; 9) Provide legal advice from attorneys, either in house or from the attorney general's office, experienced in creating start-ups; 10) Improve coordination among technology transfer offices, incubators, engineering schools, and business schools; 11) Improve information to potential corporate research sponsors/venture capitalists/businesses about USM faculty areas of expertise, labs/equipment/unique facilities, and technologies available for licensing; and 12) Identify additional funding for technology transfer offices and for USM Nano-Bio Center.

Source(s)	Accenture report, *Report of the Governor's Commission on Development of Advanced Technology Business* (Pappas Commission Report), September 2004 Pappas Commission Update, and MHEC's draft *State Plan for Postsecondary Education 2004* (Goal 2: Promote economic growth and vitality through the advancement of research and the development of a highly qualified workforce).
Analyses	Additional analyses will identify a current baseline for anticipated outcomes and measure progress from that point.
Critical Success Factors	Success requires institutional commitment to expanding technology commercialization, including the willingness to reinvest savings in this endeavor. Careful coordination and communication are also prerequisites to success. Increased technology entrepreneurial training of faculty across the USM, such as the Technology Boot Camp at the Clark School of Engineering, will be necessary.
Anticipated Outcomes	Anticipated outcomes include: 1) Increased R&D expenditures from non-federal sources. 2) Increased income from university-owned technology royalties. 3) Increased numbers of patents applied for and granted. 4) Increased numbers of licenses and options executed, including those to start-ups. 5) Greater number of start-up companies. 6) More seed capital for university start-ups. 7) New research funding related to licenses and options. 8) Increased license income received and licenses/options yielding license income. 9) More venture capital secured. 10) Increased funding for technology transfer offices.
Accountability Measures	Identify a current baseline for anticipated outcomes (see section above) and measure progress from that point for these measures.
Time Frame	This is a long-term effort, rather than a short-term effort or one-time investment, that will require ongoing commitment. However, some measures should start to show progress within 2 years.
Cost-Benefit Analysis	Outcomes will have to be measured periodically against the costs of enhanced technology offices and intensified communication efforts to determine whether an adequate return on investment is being realized.
Future Actions	Implementation of the actions outlined in action item(s) section above. Continued monitoring and improvement will be required.

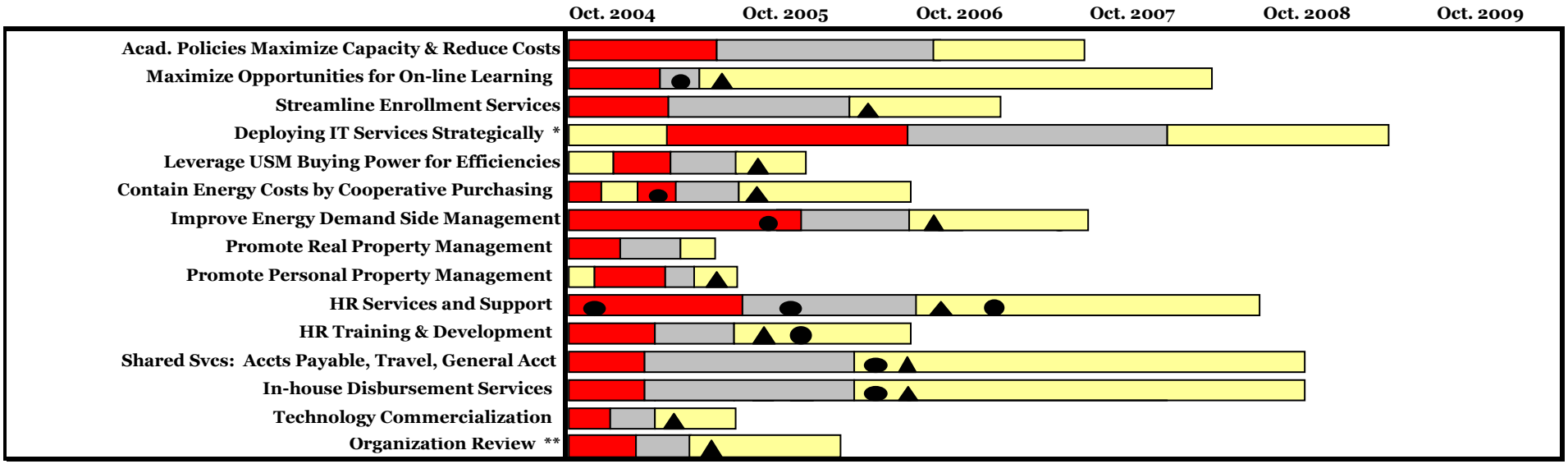
ACTION ITEM: REVIEW THE UNIVERSITY SYSTEM OF MARYLAND'S ORGANIZATIONAL STRUCTURE **OBJECTIVE:** *The USM Board of Regents will undertake an organizational review of the System and develop recommendations regarding the most effective and efficient structure for USM and its constituent institutions.*	
Action Steps	In order to accomplish the initiative, the USM will need to: 1) Review the USM's current structure. 2) Evaluate whether realignments of institutions would increase effectiveness and efficiency. 3) Examine whether different kinds of arrangements with state government would be beneficial. 4) Using a board group, review the four special purpose institutions (those with unique structures): UMBI, UMCES, UB, and UMUC. Initial analysis will determine if there are ways to enhance their abilities to serve the needs of the state and the overall performance of the USM. The issues to be reviewed vary among these institutions and include the following: How can UMUC achieve the administrative flexibility necessary to realize its potential for non-state revenues and, thereby, better serve the needs of the state? In a time of heightened enrollment demand, how can USM better use the physical capacity of UB? Given their revenue structure, how do we best preserve the vital work of UMBI and UMCES? Further study will be accompanied by consultations with involved parties. If interest in pursuing organizational changes remains, an outside consultant may be retained to study and report on the restructuring being considered. Open hearings and consultations with state leadership will follow before the board acts on recommendations.
Source(s)	Regents' E&E work group.
Analyses	These will be carried out during the action phase. Analysis will include the overall cost of any restructuring and the savings and/or cost avoidance and non-financial benefits achieved.
Critical Success Factors	Because these issues will have a tendency to divert the attention of affected institutions from their central work, it is important that the discussions take place within a relatively short period of time, consistent with thoughtful and careful analysis. Cooperation of all involved parties is paramount to the success of the undertaking.
Anticipated Outcomes	If successful, any actions taken should result in: 1) Maximized use of operating and capital resources.

	2) Minimized duplication of effort. 3) Increased efficiency in organizational operations.
Accountability Measures	Accountability measures will depend upon recommendations and subsequent implementations.
Time Frame	Given the importance and sensitivity of the issues, the review should be concluded by the end of FY 2005.
Cost-Benefit Analysis	Cost-benefit analysis is part of the comprehensive review.
Future Actions	Future action would include the implementation of any new organizational structure(s) that might be recommended to and adopted by the board. May require statutory changes in 2005 and/or 2006.

ACTION ITEM: **REPORT PERFORMANCE** **OBJECTIVE:** *The USM will compare institutional performance on quality measures with savings achieved through the other initiatives.*	
Action Steps	Cost savings and cost avoidance will need to be calculated for each initiative. Using accountability mechanisms that have long been in place, performance on selected indicators will be measured against a base year.
Source(s)	Accenture report, Managing for Results (MFR), and Peer Performance Measures.
Analyses	The relative success of efficiency initiatives will be measured by comparing cost savings with performance on selected indicators of quality using a selected base year. Initiatives should lead to increased quality as measured by these indicators.
Critical Success Factors	Success depends on the institutions' willingness and ability to achieve savings and to apply them to efforts that will improve quality.
Anticipated Outcomes	The successful application of savings achieved through the other initiatives should lead to: 1) Increased percentages of students graduating within 4 years. 2) Increased percentages of first-year freshmen returning to the same institution the following fall. 3) Increased numbers of USM graduates employed in Maryland. 4) Increased percentages of students passing professional licensure exams (teaching/PRAXIS II, nursing, dental, medical, law, pharmacy, social work). 5) Increased percentages of state residents with at least a bachelor's degree. 6) Increased numbers of students enrolled in distance education or off-campus courses. 7) Increased undergraduate applications filed online. 8) Increased R&D expenditures per full-time faculty member. 9) Increased numbers of prestigious faculty awards per full-time faculty member. 10) Increased numbers of prestigious national academy memberships held by the faculty. 11) Tuition increases will be low to moderate across the USM.
Accountability Measures	See Anticipated Outcomes section (above).

Time Frame	This will be an annual evaluation. The quality measures are already part of accountability processes that have been in place for 5 years.
Cost-Benefit Analysis	Savings should lead to improved quality as reflected in the proposed measures.
Future Actions	Databases will need to be updated as new data become available.

Effectiveness & Efficiency
USM Action Items
Implementation Timeline
Phase I



Legend
Study/Planning Period
Business Case Development
Implementation
Strategic Plan/Report Completion
Investment (e.g. capital, financial, services)

*There are concurrent initiatives on-going where activities overlap

**Implementation will require Board of Regents action

Appendix A: Notes on Methodology for Calculating Returns on Academic Policies

The academic policy initiatives to maximize capacity and reduce costs are a diverse group of changes that will impact a wide variety of areas affecting the core teaching mission of the institutions. Because of this, and because some of the recommendations (e.g., enhanced student advising systems) do not translate to immediate monetary returns in obvious ways, the recommendations were analyzed for their part in more effectively utilizing campus resources to meet the expected surge in enrollment demand. Each group of related initiatives was analyzed in terms of how many additional students could be served with the additional resources made available by the new policy.

Resources were divided into two types: 1) personnel resources, and 2) equipment and facilities resources. The former is mainly faculty, while the latter includes everything from classroom space to library resources. It was assumed that both types of resources are needed to maximize capacity without some additional cost. In instances where one resource is exhausted before another we indicate a "partial resource match," which is a savings that can be realized at a discounted rate with some investment in the area where resources were exhausted.

These initiatives achieve their major impact with the institutions' high-service course work and with full-time undergraduate students. Put simply, these courses and students are where change can most effectively "ramp-up" capacity. The resource improvements were measured against their impact on this "core" of courses and students.

The resulting increase of student capacity was then translated into cost avoidance, expressed in dollars, by comparison with the existing funding guidelines for each institution.

Table 1. Academic policies to maximize capacity and reduce costs

Summary of capacity increases

Institution	Full Productivity Match	Partial Resource Match
BSU	0	197
CSU	0	106
FSU	43	303
SU	255	150
TU	936	49
UB	27	3
UMB	n/a	n/a
UMBC	273	104
UMCP	410	242
UMES	183	115
UMUC	n/a	n/a
Total	2,127	1,268

Methodology: The matched resources (expressed in additional FTE capacity) are multiplied by the implementation modifiers to achieve the Full Productivity Match. The Partial Resource Deficit (also expressed in additional FTE capacity) is multiplied by the implementation modifiers to achieve the Partial Resource Match, which require additional resources to realize.

Table 2. Academic policies to maximize capacity and reduce costs

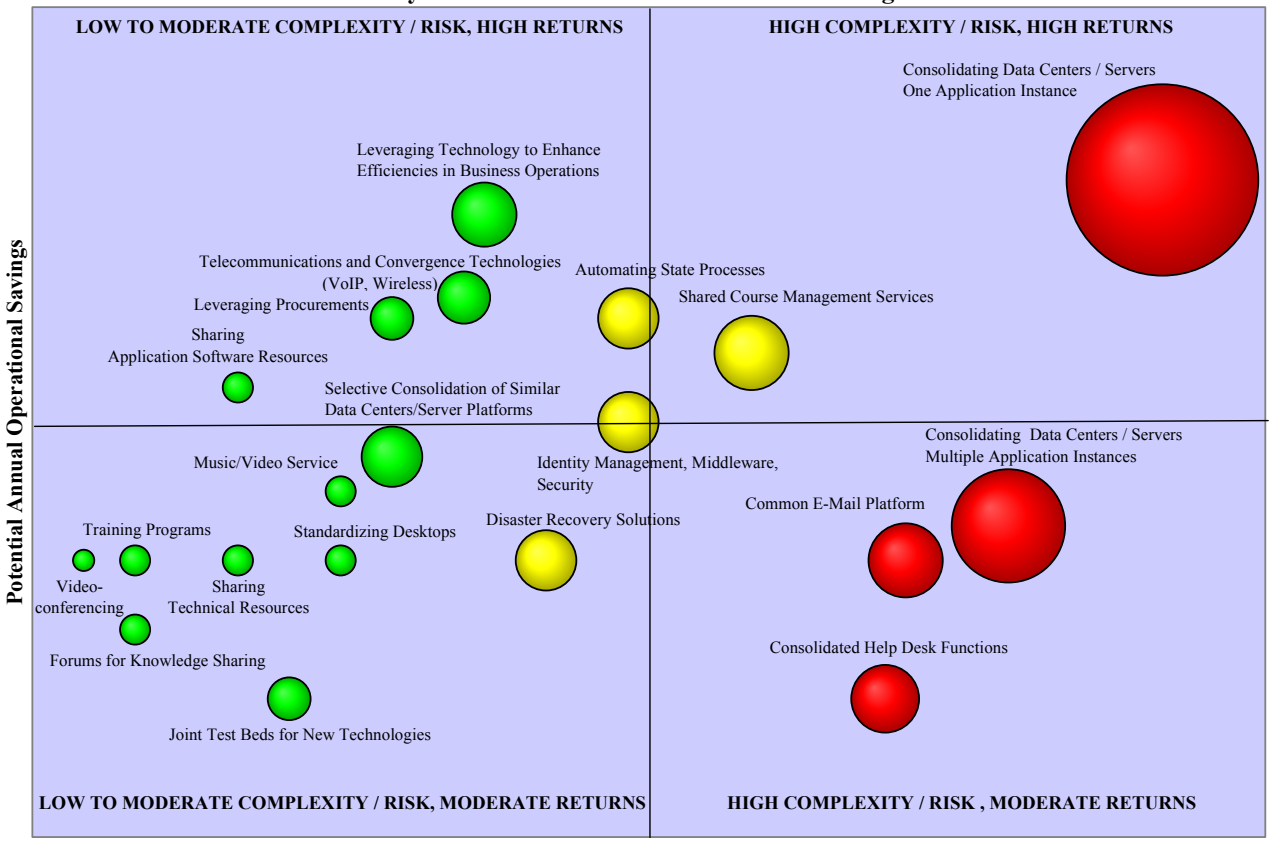
Summary of capacity increases with modifiers

Institution	Matched Resources	Partial Resource Deficit	Course Ratio Potential*	Core Impact Target**		Full Productivity Match	Partial Resource Match***
BSU	0	547	60%	60.2%		0	197
CSU	0	273	60%	64.7%		0	106
FSU	91	644	60%	78.4%		43	303
SU	530	311	60%	80.2%		255	150
TU	2,207	115	60%	70.7%		936	49
UB	199	22	60%	22.8%		27	3
UMB	n/a	n/a	n/a	n/a	n/a		
UMBC	824	313	49%	67.6%	273	104	
UMCP	1,249	737	49%	67.0%	410	242	
UMES	376	236	60%	80.9%	183	115	
UMUC	n/a	n/a	n/a	n/a	n/a	n/a	
Total	5,476	3,198			2,127	1,268	

Notes:
*** Course Ratio Potential** is based on the percentage of classes taught in high demand areas which can be broadly expanded to take advantage of efficiency measures.
**** Core Impact Target** is the percentage of full-time undergraduate students present when full demand is met. These students are the main focus of the E&E measures particularly with regard to enhanced "thru-put." Overall, this constitutes 50% of headcount.
***** Partial Resource Match** are resources which will require additional faculty or other resources to realize increased capacity.

Methodology: The matched resources (expressed in additional FTE capacity) are multiplied by the implementation modifiers to achieve the Full Productivity Match. The Partial Resource Deficit (also expressed in additional FTE capacity) is multiplied by the implementation modifiers to achieve the Partial Resource Match, which require additional resources to realize.

IT E & E - Analysis of Potential Collaborative and Leveraged Initiatives



Legend

One-Time Project Investment (Relative) = Size of the Bubble
Red = High Complexity, Time to Effect, Risk
Yellow = Moderate Complexity, Time to Effect, Risk
Green = Low Complexity, Time to Effect, Risk

Appendix C: List of Work Group Analyses

Analyses completed:

Provosts' subgroup review of:

- Faculty course load
- The credit requirements for undergraduate degrees
- Review of low enrollment programs
- Advising
- Campus utilization
- Incentives to increase through-put resulting in a tuition surcharge
- The requirement to earn 12 degree credits in a non-traditional mode

E&E work group analysis of online education opportunities

Accenture & presidents' subgroup analysis of administrative operations

Accenture & presidents' subgroup analysis of institutional collaboration opportunities

E&E work group analysis of real property disposal

Accenture analysis of student reimbursement (in-house) for financial aid

Information Technology Campus Committee review of IT operations

Accenture and presidents' subgroup analysis of training and development opportunities for employees

Accenture analysis of human resource processes and analysis

Accenture analysis of general accounting/travel & entertainment/accounts payable administrative operations

Accenture recommendation regarding technology commercialization

E&E work group review of current USM Annual Efficiency Effort reports

E&E work group review of the tuition remission program

E&E Work group review of USM executive and administrative salaries

E&E Work group analysis of management positions