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Performance Oversight Committee
Columbia Association, Inc.
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June 1, 2007

REGARDING NON-FINANCIAL PERFORMANCE METRICS

Madam Chair & Members of the Committee,

On May 10, Rafia Siddiqui requested I provide to the Performance Oversight Committee a discussion of non-financial performance metrics provided to the Planning and Strategy Committee at their regular meeting of May 10, 2007.

I. INTRODUCTION

Managing for results or management by objectives is a management process that ties a goals program to a regular review cycle. Rausch recommends asking eight key questions at the beginning of the of the goal-setting process:¹

1. How many goals per responsible individual?
2. How can quality of goals be judged?
3. How should a manager be involved in directing subordinates toward goals?
4. How frequently should progress be reviewed?
5. How does performance relate to goal achievement?
6. How do subordinates influence goal setting?
7. What role for performance appraisals?
8. Where does personal and career development fit in?

These questions provide the framework around which a strategic plan should be developed by confining the expectations around a reasonable premise. That premise gives participants in management and staff reason to expect equitable treatment in the performance management process.

The State of Maryland is a leader in the application of managing for results to the budgeting process, and I use it as an example.

II. APPLIED TO THE STATE OF MARYLAND

The State of Maryland uses extensive metrics for each budgetary cost center. These metrics, along with goals and historical figures, are presented as part of the State's annual budget process. The starting points for each agency in the State are the mission statement and the vision statement, which provide focus and clarity to the goals for each agency.

¹ Erwin Rausch, "How to Make a Goals Program Successful," *Training & Development Journal* 34 (March 1980): 24-29.

For a relatively simple example, please consider the budget for the University System of Maryland.² On the first page, there is a goal of "[C]reating and maintaining a well-educated citizenry." From there, they derive an objective (1.1), "[I]ncrease the estimated percent of USM graduates employed in Maryland to 70% or greater in survey year 2008." That is measured by counting the total enrollment, the total graduation rate, and how and where they are employed.

Following that, there is a second objective (1.2), of increasing the number of teacher education graduates employed in Maryland's public schools, and performance measures are created for that objective.

The agency creates a second high level goal, and the process repeats. After treating the USM as one entity with goals and mission, for each individual component of USM (College Park, Baltimore, UMBC, &c.), the process repeats, and the goals for each are institution-specific.

Behind the scenes, the goals and objectives are critical in the funding process. Each submission goes to the Department of Legislative Services, which writes a brief analysis of each budgetary request based on how this it affect performance. This includes an overview of significant budget changes (significance, in this case, is determined by the financial analyst writing the report) and a tracking of performance with respect to goals.

The entire process is thusly handled for the entire state government.

III. AN EXERCISE

Suppose that the Board of Directors establishes a goal, "The Columbia Association shall provide an accessible, safe, and natural open space environment to residents." There should be a number of objectives that might naturally flow from this goal:

1. Repave 15% of open space pathways every year by 2014.
2. All tot-lots shall receive an annual safety inspection by 2010.
3. Increase the number of new non-invasive tree plantings to 150% of 2006 levels by 2012.

(The objective and goals contained herein are illustrative and should not be used as the basis of any planning document without first reviewing their correctness.)

The long-term desire is that objectives are met and maintained by their deadlines and result in their corresponding unquantifiable goal being met. This should be handled for each major budgetary cost center of the corporation with increasing degree of detail for lower level cost centers.

IV. RECOMMENDATIONS

I recommend developing goals and objectives in a two-part process. The high-level goals should be developed by the Planning and Strategy Committee in consultation with the remainder of the Board of Directors, the Village Boards, and the general public. The staff should play no role in the development of goals.

Following the development of a comprehensive set of goals, the senior staff should develop a set of measurable objectives that should, with variance, track the attainment of the goals. These objectives should be measurable for a number of years into the future and ideally should be measurable using historical data. The staff should adopt a reasonable number of

² Maryland Department of Budget & Management, *FY 2008 Proposed Operating Budget Detail vol. III* (Annapolis: DBM, 2007), 117-120, 130-131, 156-159.

objectives for each goal.

Finally, the Board of Directors and senior staff must remember that meeting the goals should be a long-term project, taking several years to complete. Because the members of the Board of Directors are effectively elected to one or two year terms, this is beyond the time horizon for the Board. As a result, the Board of Directors should be cognizant of appropriate goals and corresponding objectives and adopt goals and objectives without regard to their inherent time horizon.

V. DISCLAIMER

This overview has not been reviewed by, nor does it have approval of, the Budget Committee or any of its members. The opinions contained herein represent the views of the author alone. I submit this letter,

Respectfully,



James P. Howard, II

cc: Budget Committee
Rafia Siddiqui, Vice President
Maggie Brown, President

encl: Maryland Department of Budget & Management. *FY 2008 Proposed Operating Budget Detail vol. III*. Annapolis: DBM, 2007, pp. 117-120, 130-131, 156-159.

UNIVERSITY SYSTEM OF MARYLAND

R30B00.00 UNIVERSITY SYSTEM OF MARYLAND

PROGRAM DESCRIPTION

The University System of Maryland (USM) was established July 1, 1988 under Subtitle 12-10 of the Education Article and is comprised of the former University of Maryland and the State Universities and Colleges. The eleven institutions and two research institutes along with its headquarters provide a continuum of education, research and public services.

MISSION

The University System of Maryland seeks to improve the quality of life for the people of Maryland by providing a comprehensive range of high quality, accessible, and affordable educational opportunities; engaging in research and creative scholarship that expand the boundaries of current knowledge; and providing knowledge-based programs and services that are responsive to the needs of the citizens of Maryland and the nation. The University System of Maryland fulfills its mission through the effective and efficient management of its resources and the focused missions and activities of each of its component institutions.

VISION

The University System of Maryland strives to be a pre-eminent system of public higher education, admired around the world for its leadership in promoting and supporting education at all levels, fostering the discovery and dissemination of knowledge for the benefit of the state and the nation, and instilling in all members of its community a respect for learning, diversity, and services to others.

KEY GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

(taken from the Maryland Annotated Code, §10-209)

Goal 1. Create and maintain a well-educated citizenry (*§10-209(c)(5)*).

Objective 1.1 Increase the estimated percent of USM graduates employed in Maryland to 70% or greater in survey year 2008.

	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Performance Measures				
Input: Total undergraduate enrollment at USM institutions	93,590	92,977	97,575	101,350
Output: Total number bachelor's degree recipients produced by USM institutions	17,783	18,030	18,350	18,764
	2000 Survey	2002 Survey	2005 Survey	2008 Estimated
Outcome: Employment rate of USM graduates ¹	96%	95%	94%	≥90%
Percent of USM graduates employed in Maryland ¹	63%	57%	65%	≥70%

Objective 1.2 Increase the number of USM teacher education graduates hired by Maryland public schools from 1,082 in fiscal year 2005 to 1,400 or greater by fiscal year 2009.⁹

	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Performance Measures				
Input: Number of students in teacher training programs (undergraduate and postbaccalaureate)	6,310	6,383	6,485	6,614
Output: Number of students completing teaching training programs (undergraduate and post-baccalaureate)	1,802 ³	1,689	1,833	1,839
Quality: Percent of students who completed teacher training and passed Praxis II (undergraduate and postbaccalaureate)	96%	96%	97%	97%
Outcome: Number of USM students who completed all teacher education requirements and who are employed in Maryland public schools (refers to new hires only) ⁹	1,082	1,139	1,218	1,232

UNIVERSITY SYSTEM OF MARYLAND

R30B00.00 UNIVERSITY SYSTEM OF MARYLAND (Continued)

Objective 1.3 Aggressively move to address the State's need for more graduates in STEM fields (science, technology, engineering, and mathematics—areas that are key to success in the knowledge economy) by increasing the number of graduates produced in these fields by 10 percent by 2010, from 5,051 in 2005 to 5,556 in 2010.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Input: Number of students enrolled in STEM programs ¹³	26,174	25,189	26,224	27,219
Output: Number of graduates of STEM programs ¹⁴	5,051	5,193	5,335	5,476
	2000	2002	2005	2008
	Survey	Survey	Survey	Estimated
Outcome: Estimated number of recent graduates of USM information technology programs employed in Maryland ²	945	1,318	1,303	≥1,300

Objective 1.4 Increase the estimated number of recent USM graduates of nursing programs employed in Maryland, from 427 reported in survey year 2005 to greater than 500 in survey year 2008.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Input: Number of undergraduates enrolled in nursing programs	2,365	2,102	2,260	2,421
Output: Number of graduates of nursing programs	558 ¹¹	649 ¹¹	643	629
Quality: Percent of nursing program graduates passing the licensure examination	86%	86%	88%	90%
	2000	2002	2005	2008
	Survey	Survey	Survey	Estimated
Outcome: Estimated number of recent graduates of USM nursing programs employed in Maryland ¹¹	431 ¹¹	313 ¹¹	427 ¹¹	>500

Objective 1.5 Increase enrollments in USM programs delivered off campus or through distance education from 115,101 in fiscal year 2005 to 150,000 or greater by fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Output: Number of enrollments in off campus or distance education courses	115,101	121,607	129,670	135,674

Goal 2. Promote economic development (§10-209(c)(5))

Objective 2.1 Increase the proportion of State residents who have a bachelor's degree to 40% or greater in fiscal year 2010.⁴

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Input: Total undergraduate enrollment at USM institutions	93,590	92,977	97,575	101,350
Output: Total number bachelor's degree recipients produced by USM institutions	17,783	18,030	18,350	18,764
Outcome: Percent of State residents who have a bachelor's degree ⁴	34.8%	34.5%	35%	35%

Objective 2.2 Maintain the ratio of median annual salary of USM graduates to the median annual salary of civilian work force with a bachelor's degree at .86 or greater through 2008.

	2000	2002	2005	2008
Performance Measure	Survey	Survey	Survey	Estimated
Output: Median salary of USM graduates ¹	\$32,200	\$33,457	\$38,120	\$41,000
Outcome: Ratio of median salary of USM graduates to median salary of U.S. civilian work force with a bachelor's degree ⁵	.88	.88	.91	.90

UNIVERSITY SYSTEM OF MARYLAND

R30B00.00 UNIVERSITY SYSTEM OF MARYLAND (Continued)

Objective 2.3 Through 2008 continue to graduate at least five companies annually from USM incubator programs.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Output: Number of companies graduating annually from USM institutional incubator programs (five year average) ⁶	5	3	4	4

Goal 3. Increase access for economically disadvantaged and minority students. (§10-209(c)(6))

Objective 3.1 By 2009 increase the percentage of economically disadvantaged students attending USM institutions to 45%.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Output: Percent of economically disadvantaged students attending USM institutions (undergraduate only)	42% ¹²	41% ¹²	42% ¹²	43% ¹²

Objective 3.2 Increase the percentage of minority undergraduate students to over 40% by 2009.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Output: Percentage of minority undergraduate students enrolled in USM institutions	38%	38%	39%	39%

Objective 3.3 Increase the percentage of African-American undergraduate students to 27% by fiscal year 2009.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Output: Percent of African-American undergraduate students enrolled in USM institutions	25%	26%	26%	26%

Objective 3.4 Increase the second-year retention rate of minority students, system wide to 85% in fiscal year 2009.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Output: Second-year retention rate of minority students ¹⁰	82%	81%	82%	83%

Objective 3.5 Increase the second-year retention rate of African-American students, system wide to 81% in fiscal year 2009.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Output: Second-year retention rate of African-American students ¹⁰	78%	76%	78%	79%

Objective 3.6 Increase the six-year graduation rate of minority students, system-wide to 58% in fiscal year 2009.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Output: Six-year graduation rate of minority students ¹⁰	54%	56%	57%	58%

Objective 3.7 Increase the six-year graduation rate of African-American students, system-wide, to 52% in fiscal year 2009.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Output: Six-year graduation rate of African-American students ¹⁰	47%	50%	51%	52%

UNIVERSITY SYSTEM OF MARYLAND

R30B00.00 UNIVERSITY SYSTEM OF MARYLAND (Continued)

Goal 4. Achieve and sustain national eminence in providing quality education, research and public service (§10-209(b))

Objective 4.1 Increase the retention rate of USM undergraduates, system-wide to 89% by fiscal year 2009.

Performance Measures	2005	2006	2007	2008
	Actual	Actual	Estimated	Estimated
Output: Second-year retention rate for USM undergraduates	85%	85%	86%	87%

Objective 4.2 Increase the graduation rate of USM undergraduates, system-wide to 67% by fiscal year 2009.

Performance Measures	2005	2006	2007	2008
	Actual	Actual	Estimated	Estimated
Output: Six-year graduation rate for USM undergraduates	64%	65%	66%	67%

Objective 4.3 Increase the number of nationally-ranked academic programs at USM institutions to 83 by fiscal year 2009.

Performance Measures	2005	2006	2007	2008
	Actual	Actual	Estimated	Estimated
Output: Number of graduate level USM colleges, schools, programs, or specialty areas ranked among the top 25 in the nation ⁷	76	90 ⁷	≥90	≥90

Objective 4.4 Increase the number of prestigious awards and national academy memberships held by USM faculty to 90 in 2009.

Performance Measures	2005	2006	2007	2008
	Actual	Actual	Estimated	Estimated
Outcome: Number of prestigious awards or national academy memberships held by USM faculty ⁸	69	69	72	75

Objective 4.5 Increase the level of student satisfaction with education received for employment to 90% or greater by the 2008 survey year.

Performance Measure	2000	2002	2005	2008
	Survey	Survey	Survey	Estimated
Quality: Percent of students satisfied with education received for employment (undergraduate level only) ¹	88%	88%	87%	>90%

Objective 4.6 Maintain the level of student satisfaction with education received for graduate/professional school at the 2005 survey year level of 98% or higher through 2008.

Performance Measure	2000	2002	2005	2008
	Survey	Survey	Survey	Estimated
Quality: Percent of students satisfied with education received for graduate/professional school (undergraduate level only) ¹	98%	98%	98%	98%

Note:

¹ All data for this indicator are taken from the triennial Maryland Higher Education Commission (MHEC) Follow Up Survey of Graduates. Beginning in 2005 the USM-sponsored Schaefer Center Survey of Alumni and Their Employers, which had been reported in past MFRs under the 2001 survey actual column, was no longer used in order to make all data comparable across all reported years. Beginning in fiscal year 2004 the MHEC Follow Up Survey was moved to a three year cycle, so the next due date for data will be fiscal year 2008.

² Data presented represent estimates based on percentage of alumni (baccalaureate recipients only) responding to the triennial MHEC Follow Up Survey of Graduates who graduated with a MAITI-defined IT degree, and who indicated they were working in Maryland. Because these surveys are not conducted on an annual basis, the most recent data available are presented, with three years of actual survey data and one year of estimated data presented. The column headings indicate the actual or estimated survey year in which the data were reported. For the 2005 report only data from the triennial MHEC Follow Up Survey of Graduates, carried out in 1998, 2000, 2002, and 2005, were used in order to provide consistency across reporting years. Beginning in 2005 the USM-sponsored Schaefer Center Survey of Alumni and Their Employers, which had been reported in past MFRs under the 2001 survey actual column, was no longer used in order to make all data comparable across all reported years.

UNIVERSITY SYSTEM OF MARYLAND

R30B23.00 BOWIE STATE UNIVERSITY

PROGRAM DESCRIPTION

Established in 1865 as Maryland's first Historically Black Institution, Bowie State University (BSU) has become a regional university offering broad undergraduate and selected professionally-oriented graduate programs, including the doctorate in educational leadership.

MISSION

Bowie State University, through the effective and efficient management of its resources, provides high-quality and affordable educational opportunities at the baccalaureate, master's and doctoral levels for a diverse student population of Maryland citizens and the global community. The educational programs are designed to broaden the knowledge base and skill set of students across disciplines and to enable students to think critically, value diversity, become effective leaders, function competently in a highly technical world, and pursue advanced graduate study. The University is committed to increasing the number of students from under-represented minorities who earn advanced degrees in computer science, mathematics, information technology, and education. Constituent needs, market demands, and emerging challenges confronting socioeconomic cultures serve as important bases in the University's efforts to develop educational programs and improve student access to programs of instruction.

VISION

Building on its image as a student-centered institution, Bowie State University will provide its diverse student population with a course of study that ensures a broad scope of knowledge and understanding that is deeply rooted in expanded research activities. The University excels in teacher education and will become the premier teacher of teachers. Through the integration of internal business processes, technology, and the teamwork of administrators, faculty, and staff, the University will be recognized statewide as a model of excellence in higher education for the effective and efficient use of human, fiscal, and physical resources.

KEY GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

- Goal 1.** Maintain and strengthen academic excellence and effectiveness in achieving the educational needs of students and the State.
Objective 1.1 The percent of core faculty with terminal degrees will increase from 74.6% in fiscal year 2004 to 86% by fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Quality: Percent of faculty with terminal degrees	74%	74%	78%	82%

- Objective 1.2** By fiscal year 2009 the faculty teaching load will be reduced from the fiscal year 2004 level of 8.4 to be within the Regents' goal of 7 to 8 courses per academic year for comprehensive institution.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Quality: Course units taught by Full Time Equivalent core faculty	8.6	8.2	8.2	8.1

- Objective 1.3** Increase the second-year student retention rate to reach or exceed 80% by fiscal year 2009, from fiscal year 2004 baseline of 70%.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Quality: Second-year student retention rate	70% ¹	74% ¹	75%	78%

- Objective 1.4** Increase the graduation rate for students graduating within six years to 51% by fiscal year 2009, from the baseline of 40% in fiscal year 2004.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Quality: Six-year student graduation rate	37.5% ²	40.8% ²	45%	47%

UNIVERSITY SYSTEM OF MARYLAND

R30B23.00 BOWIE STATE UNIVERSITY (Continued)

Goal 2. Increase the State's supply of qualified graduates in the high-demand fields and workforce shortage areas.

Objective 2.1 By fiscal year 2009 increase the number of undergraduate teacher education, nursing, and information technology graduates by 25% over the number of graduates in fiscal year 2004.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Input: Number of undergraduates enrolled in teacher education	322	340	360	360
Number of undergraduates enrolled in nursing program	441	455	475	494
Number of undergraduates enrolled in IT programs	551	574	580	480
Outcome: Number of graduates from teacher education employed in Maryland public schools (annually)	31	40	50	50
Number of graduates from undergraduate nursing	53	55	60	65
Number of graduates from IT programs (annually)	90	95	100	100

Objective 2.2 At least 80% of teacher education program completers will pass Praxis II by fiscal year 2009, from 73% in 2004.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Quality: Pass rates for undergraduate teacher education program completers on Praxis II	100%	100%	100%	100%

Objective 2.3 By fiscal year 2009 at least 70% of the graduates in the generic nursing program will pass the state licensing exam on the first attempt.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Quality: Pass rates for graduates of the generic (BSN) nursing program ³	NA ³	0	0	0

Goal 3. Increase and sustain access to higher education for Maryland's diverse citizenry.

Objective 3.1 Increase the yield rate of applicants who enroll from 43% in fiscal year 2004 to 50% by fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Output: Percentage of all applicants accepted who enroll	45%	48%	50%	52%

Objective 3.2 Begin to offer at least one online program by fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Output: Number of online programs	0	0	1	2

Goal 4. Produce graduates that continually cultivate a well-educated workforce.

Objective 4.1 Maintain student levels of satisfaction with their academic preparation at a range of 80% minimum to 99.5%.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Quality: Percent of students satisfied with education received for employment	85%	88%	95%	95%
Quality: Percent of students satisfied with education received for graduate/professional school	NA	88%	95%	95%

Note: ¹ 2005 Actual = 2003 cohort. 2006 Actual = 2004 cohort.
² 2005 Actual = 1998 cohort. 2006 Actual = 1999 cohort.
³ New program.

UNIVERSITY SYSTEM OF MARYLAND

R30B31.00 UNIVERSITY OF MARYLAND BALTIMORE COUNTY

PROGRAM DESCRIPTION

The University of Maryland Baltimore County (UMBC) offers undergraduate, master's and doctoral programs in the arts and sciences and engineering. Within a strong interdisciplinary framework, UMBC programs link the cultures of the sciences, social sciences, visual and performing arts and humanities, and the professions.

MISSION

UMBC is a dynamic public research university integrating teaching, research, and service to benefit the citizens of Maryland. As an Honors University, the campus offers academically talented students a strong undergraduate liberal arts foundation that prepares them for graduate and professional study, entry into the workforce, and community service and leadership. UMBC emphasizes science, engineering, information technology, human services, and public policy at the graduate level. UMBC contributes to the economic development of the State and the region through entrepreneurial initiatives, workforce training, K-16 partnerships, and technology commercialization in collaboration with public agencies and the corporate community. UMBC is dedicated to cultural and ethnic diversity, social responsibility, and lifelong learning.

VISION

An Honors University in Maryland, UMBC will be one of the nation's best public research universities of its size as it combines the traditions of the liberal arts academy, the creative intensity of the research university, and the social responsibility of the public university. UMBC will be known for integrating research, teaching and learning, and civic engagement so that each advances the others for the benefit of society.

KEY GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

Goal 1. Prepare students for work and/or graduate/professional school.

Objective 1.1 Increase the employment rate of UMBC graduates from 81% in Survey Year 2002 to 85% in Survey Year 2008.

	2000	2002	2005	2008
Performance Measures	Survey	Survey	Survey	Estimated
Outcome: Employment rate of graduates	85%	81%	84%	85%

Objective 1.2 Increase the percentage of bachelor's degree recipients satisfied with the preparation for employment from 89% in Survey Year 2002 to 90% in Survey Year 2008.

	2000	2002	2005	2008
Performance Measures	Survey	Survey	Survey	Estimated
Quality: Percent of bachelor's degree recipients satisfied with education received for employment	97%	89%	83%	90%

Objective 1.3 Increase graduate/professional school-going rate for bachelor's degree recipients from 39% in Survey Year 2002 to 40% in Survey Year 2008.

	2000	2002	2005	2008
Performance Measures	Survey	Survey	Survey	Estimated
Outcome: Graduate/professional school-going rate of bachelor's degree recipients within one year of graduation	35%	39%	40%	40%
Graduate/professional school-going rate of African-American bachelor's degree recipients within one year of graduation	49%	35%	50%	40%

UNIVERSITY SYSTEM OF MARYLAND

R30B31.00 UNIVERSITY OF MARYLAND BALTIMORE COUNTY (Continued)

Objective 1.4 Maintain the percentage of bachelor's degree recipients satisfied with preparation for graduate/ professional school at 95% or higher.

Performance Measures	2000 Survey	2002 Survey	2005 Survey	2008 Estimated
Quality: Percent of bachelor's degree recipients satisfied with education received for graduate/professional school	99%	99%	97%	98%

Objective 1.5 Increase the percent of UMBC's bachelor's degree recipients employed and/or going to graduate/professional school from 91.3% in Survey Year 2002 to 93% in Survey Year 2008.

Performance Measures	2000 Survey	2002 Survey	2005 Survey	2008 Estimated
Outcome: Percent of bachelor's degree recipients employed and/or going to graduate/professional school within one year of graduation	95%	91%	94%	93%
Percent of African-American bachelor's degree recipients employed and/or going to graduate/professional school within one year of graduation	98%	92%	94%	93%

Goal 2. Increase the estimated number of UMBC graduates in key State workforce areas.

Objective 2.1 Increase the number of UMBC graduates hired by Maryland public schools from 48 in fiscal year 2004 to 95 in fiscal year 2009.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Input: Number of undergraduates in teacher training programs	278	353	360	370
Number of post-bachelor's students in teacher training programs	325	383	390	400
Quality: Percent of undergraduate teacher candidates passing Praxis II or NTE ¹	100%	100%	100%	100%
Percent of post-bachelor's teacher candidates passing Praxis II or NTE ²	100%	100%	100%	100%
Outcome: Number of students who completed all teacher education requirements and who are employed in Maryland public schools	93	51	75	80

Objective 2.2 Increase the estimated number of UMBC bachelor's degree recipients in information technology (IT) programs employed in Maryland from 351 in Survey Year 2002 to 375 in Survey Year 2008.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Input: Number of undergraduates enrolled in IT programs	1,933	1,703	1,550	1,575
Output: Number of baccalaureate graduates of IT programs	483	383	350	350
Quality: Rank in IT bachelor's degrees awarded compared to peers ³	1 st	1 st	1 st	1 st
Performance Measures	2000 Survey	2002 Survey	2005 Survey	2008 Estimated
Outcome: Number of IT graduates employed in Maryland	283	351	396	350

Goal 3. Promote economic development.

Objective 3.1 Maintain through fiscal year 2009 the number of companies graduating from UMBC incubator programs each year at three.

Performance Measures	2005 Actual	2006 Actual	2007 Estimated	2008 Estimated
Outcome: Number of companies graduating from UMBC incubator programs	3	2	3	3

UNIVERSITY SYSTEM OF MARYLAND

R30B31.00 UNIVERSITY OF MARYLAND BALTIMORE COUNTY (Continued)

Objective 3.2 Increase the number of jobs created via UMBC's Technology Center and Research Park from 520 in fiscal year 2004 to 950 in fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Outcome: Number of jobs created by UMBC's Technology Center and Research Park	600	650	700	800

Objective 3.3 Maintain through fiscal year 2009 UMBC's rank of top 20% among public research peer institutions in the ratio of number of invention disclosures per \$million in research and development (R&D) expenditures.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Quality: Rank in ratio of invention disclosures to millions of dollars in R&D expenditures ⁴	Top 20%	Top 20%	Top 20%	Top 20%

Goal 4. Enhance access and success of minority students.

Objective 4.1 Increase the percent of African-American undergraduate students from 15.0% in fiscal year 2004 to 16.0% in fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Input: Percent African-American of undergraduate students enrolled	14.5%	14.3%	15.0%	15.5%
Percent minority of undergraduate students enrolled	37.9%	38.0%	40.0%	40.0%

Objective 4.2 Increase the retention rate of African-American students from 89% in fiscal year 2004 to 90% or greater in fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Output: Second-year retention rate of African-American students	93.0%	89.3%	90.0%	90.0%

Objective 4.3 Increase the graduation rate of African-American students from 61% in fiscal year 2004 to 63% in fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Output: Six-year graduation rate of African-American students	64.3%	62.7%	63.0%	63.0%

Goal 5. Enhance success of all students.

Objective 5.1 Increase retention rate of UMBC undergraduates from 88.9% in fiscal year 2004 to 90% or greater in fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Input: Ratio of full-time equivalent students to full-time instructional faculty	21.9	21.4	20.8	20.5
Output: Second-year retention rate of students	88.7%	87.5%	89.0%	89.5%
Quality: Rank among peers in ratio of full-time equivalent students to full-time instructional faculty	7th	8th	8th	8th

Objective 5.2 Increase the graduation rate of UMBC undergraduates from 61.2% in fiscal year 2004 to 63.0% in fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Output: Six-year graduation rate of students	61.9%	63.3%	63.0%	63.0%

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Objective 5.3 Increase the number of Ph.D. degrees awarded from 65 in fiscal year 2004 to 75 in fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Output: Number of Ph.D. degrees awarded	77	89	89	90

Goal 6. Provide quality research.

Objective 6.1 Increase the dollars in total Federal research and development (R&D) expenditures per full-time faculty from \$88,500 in fiscal year 2004 to \$100,000 in fiscal year 2009.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Output: Total Federal R&D expenditures per full-time faculty ⁵	\$96,800	\$110,900	\$111,000	\$111,250

Objective 6.2 Rank among the top three public research peer institutions in average annual growth rate (5-year) in Federal research and development (R&D) expenditures.

	2005	2006	2007	2008
Performance Measures	Actual	Actual	Estimated	Estimated
Output: Rank among public research peer institutions in five-year average growth rate in Federal R&D expenditures ⁶	1st	1st	1st	1st

Notes:

- ¹ Data are based on exams taken in the previous fiscal year; fiscal year 2005 data reflects fiscal year 2004 exams.
- ² Starting in fiscal year 2003 UMBC's teacher preparation program required passing grades on appropriate Praxis I and II exams to be considered program completers.
- ³ Data are based on the availability of IPEDS Peer Completion data and degrees awarded during the previous fiscal year.
- ⁴ Data are based on the latest available NSF peer data so that fiscal year 2005 reflects data from fiscal year 2003; fiscal year 2006 reflects data from fiscal year 2004.
- ⁵ Data are based on previous year's fiscal year NSF data and the corresponding Fall faculty data. Fiscal year 2005 reflects Fall 2003 faculty and fiscal year 2004 expenditures.
- ⁶ Data are based on the latest available NSF peer data; fiscal year 2005 actual reflects data for fiscal years 1998 – 2003; 2006 is data from 1999 – 2004.