



Analysis of Full-time Equivalent Enrollment Estimates For Funding Formulae

Prepared By:

Maryland Higher Education Commission
Division of Finance Policy

As Requested by
The Senate Budget and Taxation Committee,
The House Committee on Appropriations, and
The House Committee on Ways and Means

2005 Session of
The Maryland General Assembly

Kevin O'Keefe
Chairman

Calvin W. Burnett
Secretary

September 2005

Table of Contents

Background.....	3
Analysis.....	4
Recommendation	5
Tables	
Table I. Comparison of Full-Time Equivalent Enrollment Options	6
Table II. Impact of Full-Time Equivalent Enrollment Options on Funding Formulae	7
Appendix A.	8
Letter from the Maryland Association of Community Colleges (MACC).....	9

The Budget and Reconciliation Act of 2005 requires the Maryland Higher Education Commission to report the results of a study by the Commission on the accuracy of full-time equivalent student enrollment figures to be used in calculating State general fund formulae for community colleges and private four-year colleges and universities. The language is as follows:

SECTION 30. AND BE IT FURTHER ENACTED, That it is the intent of the General Assembly that the most accurate full-time equivalent enrollment figures be used in calculating the State general funds per full-time equivalent student for determining State aid under the Senator John A. Cade Funding Formula, the Joseph A. Sellinger Program, and the Baltimore City Community College Funding Formula. The Maryland Higher Education Commission shall study the accuracy of the enrollment figures used presently and any alternatives that would improve accuracy and report the results of the study and recommendations to the Senate Budget and Taxation Committee, the House Committee on Appropriations, and the House Committee on Ways and Means, in accordance with § 2-1246 of the State Government Article, by October 1, 2005.

This report addresses the committees' concerns by examining the accuracy of different enrollment data and providing recommendations to the committees on the most accurate methodology for calculating State general funds per full-time equivalent student enrollment.

Background

During the 2005 session, the Maryland General Assembly expressed concern over the accuracy of the current full-time equivalent student (FTES) enrollment methodology used to calculate the State general funds per student at the four-year public colleges and universities. State general funds per student are a key factor used to determine State aid under the Senator John A. Cade funding formula, the Baltimore City Community College funding formula, and the Joseph A. Sellinger Program.

Historically, the Commission has used budgeted FTES to derive the State general fund per student; a method recommended by the 1973 Committee to Study Private Higher Education in Maryland (e.g., the Pear Commission). Maryland's public four-year colleges and universities provide these data in their annual operating budget requests to the Governor and the General Assembly. These FTES are calculated using credit hour enrollment data.¹ Furthermore, these data are not audited. Although the institutions try to calculate estimates accurately, these estimates are often adjusted through the budget process.

In addition to budgeted FTES enrollment, there are several other methods of calculating full-time equivalent student enrollment. These methods include the projected FTES

¹ Budget full-time equivalent student enrollment are calculated by adding the total number of credit hours for each student level and dividing this number by the following: 30 for undergraduate level; 24 for masters level; 20 for post-masters and doctoral 20; and 18 for masters/doctoral/research/supervisory level.

enrollment and headcount based FTES enrollment. The Maryland Higher Education Commission uses the following methodology to calculate FTES enrollment projections and headcount based FTES enrollment:

FTES Enrollment Projections: The Commission projects the number of full-time equivalent student enrollment at each public four-year institution from headcount enrollment data. This calculation is made by: 1) computing headcount-driven FTE figures for each campus for each year (the total number of full-time students plus one-third of the part-time), and 2) multiplying these figures by the average ratio of headcount- to credit hour-driven FTE over the past three years. A separate ratio is obtained for each institution and these ratios are applied to each year. These enrollment projections are used for statewide planning purposes by higher education officials and other State agencies.

Headcount FTES: Maryland colleges and universities report to the Commission headcount data for the fall semester of the prior academic year. Data are reported by November 15th. Adding the total number of full-time students and one-third of the part-time students derives an FTE enrollment. These data are not available until mid-November, which is late in the budget submission cycle.

As a result of the Budget Reconciliation Act of 2005 request, the Commission met with representatives from the independent colleges and universities and the community colleges to review and assess the accuracy of these various FTES enrollment methodologies. The Commission and higher education representatives compared budgeted FTES enrollment, the Maryland Higher Education Commission's annual FTES enrollment projections, and headcount based FTES enrollment to actual fall enrollment data (Table I). Table II illustrates the impact of these enrollment options on the funding formulae.

Analysis

The Commission assessed the accuracy of budgeted FTES enrollment by comparing this current methodology to actual fall enrollment data. As shown on Table I, between fiscal 1997 and fiscal 2005, this method was 98.9 percent accurate when compared to the actual FTES enrollment resulting in a shortfall of 7,347 FTES. Table I also shows the accuracy of the Commission's FTES enrollment projections when compared to actual fall enrollment data. This method is slightly more accurate than budgeted FTES enrollment. Between fiscal 1997 and fiscal 2005, this method was 99.3 percent accurate or only 4,783 short of the actual FTE enrollment. Lastly, the Commission assessed the accuracy of headcount FTES enrollment when compared to actual fall enrollment data. Comparing this method to the actual fall enrollment data provides only a 94.5 percent accuracy rate; the lowest accuracy rate among the options considered. Furthermore, this method overstates actual FTES enrollment by 39,517 full-time equivalent students for the period between fiscal 1997 and fiscal 2005.

Recommendation

Based on the results of this analysis, the Commission staff and higher education representatives agreed that using the Commission's FTES enrollment projections provides the most accurate estimate of FTES enrollment. Therefore, the Maryland Higher Education Commission recommends that the State use the Maryland Higher Education Commission's projected FTES enrollment method to calculate the State general funds per full-time equivalent student enrollment for determining State aid under the Joseph A. Sellinger program, the Senator John A. Cade funding formula, and the Baltimore City Community College funding formula. When compared to actual FTE enrollment data, this is the most accurate methodology and is consistent with the use of the Commission's enrollment projections for other higher education policy issues.

It should be noted however, that during the Commission's deliberations with the community college and independent institution representatives, broader issues were raised regarding formula funding that were beyond the scope of this study. The concerns of the community colleges are expressed in a letter found at the end of this report in Appendix A.

Table II. Impact of Full-Time Equivalent Enrollment Options on Funding Formulas: FY 1998-FY 2005

	FY 1998		FY 1999		FY 2000		FY 2001	
	Budgeted	Enrollment Projections						
Selling								
Selling Aid	\$ 30,754,930	\$ 30,565,422	\$ 32,415,579	\$ 32,067,195	\$ 36,568,710	\$ 38,468,595	\$ 41,614,916	\$ 41,510,139
Difference from Budgeted	-	(189,508)	-	(348,384)	-	1,899,885	-	(104,777)
		(1,648,213)		(1,666,815)		(2,466,000)		(4,086,188)
		29,106,717		30,748,764		34,102,710		37,528,728
		(4,063,477)		(4,055,092)		(6,491,652)		(11,859,533)
Cade								
Cade Aid	\$ 94,560,050	\$ 93,977,385	\$ 99,453,658	\$ 98,384,788	\$ 113,944,906	\$ 119,864,781	\$ 134,667,269	\$ 134,328,208
Difference from Budgeted	-	(582,666)	-	(1,068,870)	-	5,919,875	-	(339,061)
		7,083,908		18,614,682		21,242,271		23,770,634
		(318,082)		(791,260)		(1,283,399)		(1,110,755)
Baltimore City CC								
BCCC Aid	\$ 7,401,990	\$ 7,356,380	\$ 19,405,942	\$ 19,197,378	\$ 22,525,670	\$ 23,695,965	\$ 24,881,389	\$ 24,818,743
Difference from Budgeted	-	(45,610)	-	(208,564)	-	1,170,295	-	(62,646)
		43,038,513		39,312,400		28,824,947		32,151,752
		(2,935,319)		(3,666,541)		(2,650,448)		(2,397,538)
Selling								
Selling Aid	\$ 45,973,832	\$ 46,827,261	\$ 42,978,941	\$ 42,111,829	\$ 31,475,395	\$ 31,020,857	\$ 34,549,290	\$ 33,415,672
Difference from Budgeted	-	853,429	-	(867,112)	-	(454,538)	-	(1,133,618)
		142,754,173		144,364,273		136,929,677		130,705,096
		(8,288,983)		(13,468,480)		(12,762,979)		(9,859,529)
Cade								
Cade Aid	\$ 151,043,156	\$ 153,597,905	\$ 157,832,753	\$ 154,644,207	\$ 149,692,656	\$ 147,361,320	\$ 140,564,625	\$ 135,895,909
Difference from Budgeted	-	2,554,749	-	(3,188,545)	-	(2,331,336)	-	(4,668,716)
		27,794,037		29,648,213		28,295,680		27,074,296
		(277,088)		(2,766,071)		(2,637,397)		(2,031,052)
Baltimore City CC								
BCCC Aid	\$ 28,071,125	\$ 28,545,960	\$ 32,414,284	\$ 31,759,428	\$ 30,933,077	\$ 30,451,344	\$ 29,105,348	\$ 28,138,572
Difference from Budgeted	-	474,836	-	(654,856)	-	(481,732)	-	(966,776)
		183,523,721		183,523,721		183,523,721		183,523,721
		(11,215,104)		(11,215,104)		(11,215,104)		(11,215,104)
Total								
Difference from Budgeted	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		(4,824,245)		(103,581,891)		(103,581,891)		(103,581,891)

Appendix A.

September 14, 2005

Ms. Janice B. Doyle
Assistant Secretary for Finance Policy
Maryland Higher Education Commission
839 **Bestgate** Road, Suite 400
Annapolis, Maryland 21401

Dear Ms. Doyle:

The Budget Reconciliation and Finance Act of 2005 (BRFA) directed that the Maryland Higher Education Commission (MHEC) study the accuracy of the full-time equivalent student enrollment (FTE) used in calculating State general **fund** formulas for community colleges and private four-year colleges and universities, and recommend any alternatives to the current practice that would improve accuracy.

In response to the legislative **concerns**, you convened a meeting on August 11, which included representatives of the community colleges and the Maryland Independent College and University Association. At this meeting you shared with us the results of your review which compared the accuracy over several years of the budgeted **FTE** as reported by the four year institutions whose enrollments are used in the formulas with the FTE for those same institutions as estimated by MHEC. It was clear **from** the data that the MHEC projections are slightly more accurate than the FTE estimates used by the institutions for budget purposes. We have no objection to the use of the more **accurate** MHEC projected FTE **in the** Cade Funding **Formula** and the Baltimore City Community College formula.

We also call to your attention an important additional accuracy issue. In the course of our independent review of the four-year institution FTE numbers, we discovered an additional inaccuracy that we believe is critically important to the legislative intent, as expressed in the BRFA: "That it is the intent of the General Assembly that the most accurate full-time equivalent enrollment figures be used in calculating the State general funds per full-time equivalent student for determining State aid under the Senator John A. Cade Funding Formula, the Joseph A. Sellinger Program, and the Baltimore City Community College Funding Formula."

Each of these formulas is tied to a certain percentage (25% for the Cade Formula) of the State appropriation per FTE of certain selected four year institutions. As you know, the State does not **appropriate** any funding for out-of-state students, either to the public four year institutions or to

Ms. Janice B. Doyle
September 14, 2005
Page 2

the community colleges. Only Maryland resident students are included in State FTE funding **through** the Cade Formula and the Baltimore City Community College funding formula. The reason for this is that out-of-state students in public colleges and universities are not, as a matter of policy, supported by the taxpayers of Maryland; their tuition (plus applicable fees) is intended to cover the full cost of education. Therefore, the appropriation per FTE to selected four year institutions referred to in the Cade Funding Formula must mean the appropriation per full-time equivalent Maryland student and must, by definition, exclude out-of-state students, because there is no appropriation for out-of-state students.

We were somewhat surprised to learn that, in fact, **MHEC** includes out-of-state students in calculating the State appropriation per **FTE** at the four year institutions for purposes of the Cade Funding Formula and the formula for Baltimore City Community College. The use of out-of-state students in these formulas artificially and inappropriately increases the number of students who are counted, thereby inaccurately decreasing the four-year institutions' appropriation per FTE. This, in turn, decreases the formula amount appropriated to community colleges.

Maryland's community colleges are the first choice of over half the undergraduates attending college in this State. We are facing a real crisis brought on by increasing enrollments and decreasing State support, which has led to rising tuition. The State's appropriation per FTE has gone down since fiscal 2001 from \$2,378 to \$2,333 in fiscal 2006. Although this may seem like a trivial decline, the net effect is to significantly decrease state support as a percentage of the total college budget, so that students (through tuition) are, on average, paying about 40% of the cost of their education, when they should be paying no more than one third. The increasing tuition levels threaten the mission of community colleges to provide high quality education at the lowest cost possible in order to provide maximum access for Maryland residents. In this regard, note that well over 90% of community college students are residents of Maryland. As you are aware, only Maryland resident students are included in State FTE funding through the Cade Funding Formula and the Baltimore City Community College funding formula.

The State has invested hundreds of millions of dollars in the **Thornton** initiative to improve student success in preschool through **12th** grade. If that investment pays off, many more high school students will be attending college in the years ahead, and community colleges will be the **first** choice for many first generation college students. The promise of Thornton will not be realized unless there is space available at a reasonable cost for these students.

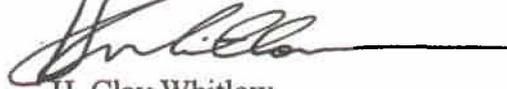
Maryland takes justifiable pride in its status as the State with the most highly educated workforce in the nation. But, if we do not address the growing crisis in our community colleges and the urgent need for increased State support, this educated workforce statistic will be driven by people who move here **from** other states to take the high skill jobs, while Maryland residents are left behind.

Ms. Janice B. Doyle
September 14, 2005
Page 3

It is vitally important that MHEC correct the inaccurate calculation of the Cade Funding Formula as part of the fiscal 2007 budget process by ceasing the use of out-of-state students in the calculation of the four year institution FTE. This change in the formula will address the legislative intent of the Cade Funding **Formula** to allocate funding to the community colleges at an amount equal to not less than 25% of the State's General Fund appropriation per FTE to the selected four year public institutions. It will also go a long way toward providing community colleges with the essential resources to provide the access and opportunity Maryland residents need to participate in the knowledge-based economy.

We request that a copy of this letter accompany the Commission's report on the accuracy of enrollment figures to the Senate Budget and Taxation Committee, the House Committee on Appropriations, and the House Committee on Ways and Means.

Sincerely,

A handwritten signature in black ink, appearing to read "H. Clay Whitlow", with a long horizontal line extending to the right.

H. Clay Whitlow
Executive Director