

State of Tennessee – Department of Education

# Standards Setting “Cut Scores” and AMOs

Confidential Draft

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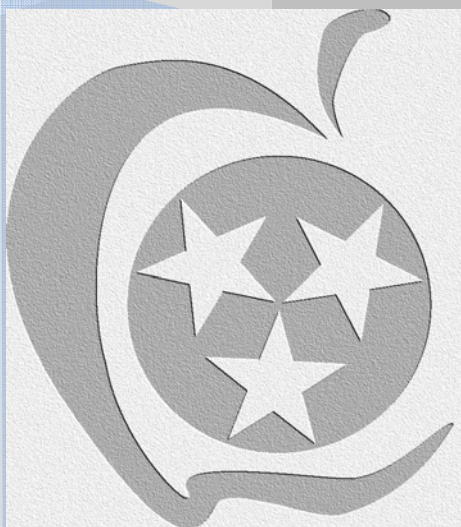
**State of Tennessee – Department of Education**

# **AMOs and Standard Settings 2009–10**

**Re-setting AMOs and “Cuts”**

**Office of Assessment, Evaluation, and Research**

DRAFT



**[July - 2010]**

Tennessee's Targets for Reading/Language Arts and Math *were* determined by the Percent of Students at the Proficient or Above Levels as approved and applied beginning with the 2002-03 school year (Exhibits 1a-1b). These Annual Measurable Objectives were intended to be Tennessee's targets through 2013-14 school year. Adequate Yearly Progress (AYP) is achieved by meeting or exceeding the required AMO percentage (%). However, changes in the curriculum standards, achievement levels, achievement level descriptors, and assessments have required a resetting of the achievement standards (student performance) and AMO targets (school/district performance) beginning with the 2009-10 school year.

Exhibit 1a

<b>Old Elementary/Middle School Level Benchmarks AMOs</b>			
<b>School Year</b>	<b>Reading Language Arts Target</b>	<b>Math Target</b>	<b>Attendance Rate</b>
2002-2003 through 2003-2004	77%	72%	93%
2004-2005 through 2006-2007	83%	79%	93%
2007-2008 through 2009-2010	89%	86%	93%
2010-2011 through 2012-2013	94%	93%	93%
2013-2014	100%	100%	93%

Exhibit 1b

<b>Old High School Level Benchmarks AMOs</b>			
<b>School Year</b>	<b>Reading Language Arts Target</b>	<b>Math Target</b>	<b>Graduation Rate</b>
2002-2003 through 2003-2004	86%	65%	90%
2004-2005 through 2006-2007	90%	75%	90%
2007-2008 through 2009-2010	93%	83%	90%
2010-2011 through 2012-2013	97%	91%	90%
2013-2014	100%	100%	90%

**Standards Setting/AMO:** The following exhibits indicate the performance standards for schools/districts and students as references for discussion of setting new achievement “cuts” and target AMOs.

**Schools (Grades 3-8)**

In Exhibit 2a, grades 3-8 reading/language arts and math impact data are shown for schools relative to the newly calculated AMOs. The number (#) and percentage (%) of schools are shown with the new standard applied (new AMO).

The new AMOs were calculated using the mandated USED methodology for resetting the target/goal at the 20<sup>th</sup> percentile for schools or subgroups within schools at the highest level of the two. The AMO for grades 3-8 reading/language arts will be reset at 32% and math at 20%. Meaning that student performance in any school must meet or exceed 32% for R/LA and 20% for math at proficient or above to make the AYP goal for the 2009-10 school year. Additionally, exhibit 2a contains data relevant to the previous AMO that would show the number and percentage of schools that would have met the old AMO if it were still in place based on the new test results from 2009-10.

Exhibit 2a

<b>*Grades 3 – 8 Reading/Language Arts and Math 2009 – 10 Schools Impact</b>							
<b>Subject (Schools)</b>	<b>Total Schools Tested</b>	<b>Met/Not Met New AMO</b>	<b>New Standard # schools - % schools</b>		<b>Met/Not Met Old AMO</b>	<b>Old AMO # schools – % schools</b>	
<b>3 - 8 R/LA</b>	1352	<b>Met at 32%</b>	1041	77%	<b>Met at 89%</b>	4	0.3%
<b>3 - 8 R/LA</b>	1352	<b>Not Met At 32%</b>	311	23%	<b>Not Met at 89%</b>	1348	99.7%
<b>3 – 8 Math</b>	1352	<b>Met at 20%</b>	1093	81%	<b>Met at 86%</b>	4	0.3%
<b>3 – 8 Math</b>	1352	<b>Not Met At 20%</b>	259	19%	<b>Not Met at 86%</b>	1348	99.7%
*The Technical Advisory Committee (TAC) recommended vertical articulation rules were applied for grades 3-8 student data. TAC recommendations were used in the following subjects and grades. ACH – R/LA grades 5 and 6, MAAS – R/LA grade 5, and MAAS – Math grades 7 and 8							

**Schools (Grades 3-8)**

In Exhibit 2b (next page), End of Course assessments representing high school R/LA (English II) and math (Algebra I) impact data are shown for schools relative to the newly calculated AMOs. The number (#) and percentage (%) of schools are shown with the new standard applied (new AMO).

The new AMOs were calculated using the mandated USED methodology for resetting the target or goal at the 20<sup>th</sup> percentile for schools or subgroups within schools at the highest level of the two. The AMO for reading/language arts (English II) will be reset at 49% and math (Algebra I) at 25%. Meaning that student performance in any school must meet or exceed 49% for R/LA (English II) and 25% for math (Algebra I) at proficient or above to make the AYP goal for the 2009-10 school year. Additionally, exhibit 2b contains data relevant to the previous AMO that would show the number and percentage of schools that would have met the old AMO if it were still in place based on the new test results from 2009-10.

Exhibit 2b

English II and Algebra I 2009 – 10 Schools Impact							
Subject (Schools)	Total Schools Tested	Met/Not Met New AMO	New Standard # schools - % schools		Met/Not Met Old AMO	Old AMO # schools - % schools	
E2	345	Met at 49%	258	75%	Met at 93%	8	2%
E2	345	Not Met At 49%	87	25%	Not Met at 93%	337	98%
A1	348	Met at 25%	253	73%	Met at 83%	9	2%
A1	348	Not Met At 25%	95	27%	Not Met at 83%	339	98%

### Students (Grades 3-8)

In Exhibit 3a (next page), grades 3-8 reading/language arts and math impact data are shown for students relative to the newly calculated achievement levels (cuts). The number (#) and percentage (%) of students are shown with the new achievement standards applied (new cut). Additionally, 2008-09 data are shown in exhibit 3a that provide a comparable point for consideration. These data reveal a significantly more rigorous assessment and achievement standard (cut) as anticipated based on the new curriculum standards and achievement level definitions. The 2008-09 student achievement data for grades 3-8 R/LA revealed that 92% of students met the proficient or above level. The 2009-10 student achievement impact data for grades 3-8 R/LA revealed that 44% of students met the educator recommended and TAC positively reviewed starting point for the “new cut” for proficient and above.

<b>*Grades 3 – 8 Math and Reading/Language Arts 2009 – 10 Students</b>						
<b>Subject (Students)</b>	<b>2009-10 AVG Total Students Tested</b>	<b>Met/Not Met at New Cut</b>	<b>New Standard Cut # and % of students</b>		<b>2008-09 at Old Cut %</b>	<b>2008-09 Total Students</b>
<b>3 - 8 R/LA</b>	435813	<b>Met</b>	191758	44%	92%	433052
<b>3 - 8 R/LA</b>		<b>Not Met</b>	244055	56%	8%	
<b>3 – 8 Math</b>	436238	<b>Met</b>	143959	33%	91%	433503
<b>3 – 8 Math</b>		<b>Not Met</b>	292279	67%	9%	
<p>*The Technical Advisory Committee (TAC) recommended vertical articulation rules were applied for grades 3-8 student data. TAC recommendations were used in the following subjects and grades. Data includes ACH and MAAS students. ACH – R/LA grades 5 and 6, MAAS – R/LA grade 5, and MAAS – Math grades 7 and 8</p>						

### **Students (High School)**

In Exhibit 3b (next page), high school reading/language arts (English II) and math (Algebra I) impact data are shown for students relative to the newly calculated achievement levels (cuts). The number (#) and percentage (%) of students are shown with the new achievement level applied (new cut).

Additionally, 2008-09 data are shown in exhibit 3b that provide a comparable point for consideration. These data reveal a significantly more rigorous assessment and achievement standard (cut) as anticipated based on the new curriculum standards and achievement level definitions. The 2008-09 student achievement data for high school R/LA (English II) revealed that 96% of students met the proficient or above level. The 2009-10 student achievement impact data for high school R/LA (English II) revealed that 59% of students met the educator recommended and TAC positively reviewed starting point for the “new cut” for proficient and above. Middle school students were not included in this graphic as these students are not included in the AMO considerations for high school students.

Exhibit 3b

English II and Algebra I 2009 – 10 High School Students						
Subject (Students)	2009-10 Total Students Tested	Met/Not Met at New Cut	New Standard Cut # and % of students		2008-09 at Old Cut %	2008-09 Total Students
E2	70110	Met	41365	59%	96%	77935
E2		Not Met	28745	41%	4%	
A1	76686	Met	30674	40%	77%	85465
A1		Not Met	46012	60%	23%	

**AMO:** The TN Diploma Project work that led to changes in SBE policy and rule has provided for changes in the curriculum standards, achievement levels, achievement level descriptors, and assessments. These changes have required a resetting of the achievement standards (student performance) and targets (school performance) beginning with the 2009-10 school year. These two performance standards work together “hand and glove” as the basic components of the TN accountability system for students, teachers, schools, and districts. The previously mentioned Benchmarks/Targets (AMOs) for schools/districts are shown below in Exhibits 4a 1 and 4a 2. These tables are titled “Old” Elementary/Middle School Level Benchmarks (AMOs) and “Old” High School Level Benchmarks (AMOs) as a reference for comparability as the new models are introduced as Models 1-3 following. Exhibits 4a 1 and 4a 2 represents the transitional trajectory selected for 2002-03 through 2013-14. Four benchmarks were set for a three year cycle to provide a “step-up” transition every three years until the 2013-14 NCLB mandated year for 100% proficiency. Models 1-3 (Exhibits 5a-b, 6a-b, 7a-b) depict transition options that may be considered that begin with a resetting of the AMOs in 2009-10 and culminating with 100% proficiency in 2013-14.

Exhibit 4a 1

Old Elementary/Middle School Level Benchmarks (AMOs)			
School Year	Reading Language Arts Target	Math Target	Attendance Rate
2002-2003 through 2003-2004	77%	72%	93%
2004-2005 through 2006-2007	83%	79%	93%
2007-2008 through 2009-2010	89%	86%	93%
2010-2011 through 2012-2013	94%	93%	93%
2013-2014	100%	100%	93%

Exhibit 4a 2

<b>Old High School Level Benchmarks AMOs</b>			
<b>School Year</b>	<b>Reading Language Arts Target</b>	<b>Math Target</b>	<b>Graduation Rate</b>
2002-2003 through 2003-2004	86%	65%	90%
2004-2005 through 2006-2007	90%	75%	90%
2007-2008 through 2009-2010	93%	83%	90%
2010-2011 through 2012-2013	97%	91%	90%
2013-2014	100%	100%	90%

**Model 1 Elementary/Middle School – Two Year Progression**

Exhibit 5a

<b>New Elementary/Middle School Level Benchmarks Reset 2009-10 (AMOs) Model 1</b>			
<b>School Year</b>	<b>R/LA Target</b>	<b>Math Target</b>	<b>Attendance Rate</b>
2002-2003 through 2003-2004	77%	72%	93%
2004-2005 through 2006-2007	83%	79%	93%
2007-2008 through <b>2008-2009</b>	89%	86%	93%
<b>2009-2010</b> through 2010-2011	<b>32%</b>	<b>20%</b>	93%
2011-2012 through 2012-2013	<b>66%</b>	<b>60%</b>	93%
2013-2014	100%	100%	93%

## Model 1 High School – Two Year Progression

Exhibit 5b

<b>New</b> High School Level Benchmarks Reset 2009-10 (AMOs) Model 1			
School Year	R/LA Target	Math Target	Graduation Rate
2002-2003 through 2003-2004	86%	65%	90%
2004-2005 through 2006-2007	90%	75%	90%
2007-2008 through <b>2008-2009</b>	93%	83%	90%
<b>2009-2010</b> through 2010-2011	<b>49%</b>	<b>25%</b>	90%
2011-2012 through 2012-2013	<b>74%</b>	<b>63%</b>	90%
2013-2014	100%	100%	90%

## Model 2 Elementary/Middle School – Two Year and One Year Progression

Exhibit 6a

<b>New</b> Elementary/Middle School Level Benchmarks Reset 2009-10 (AMOs) Model 2			
School Year	R/LA Target	Math Target	Attendance Rate
2002-2003 through 2003-2004	77%	72%	93%
2004-2005 through 2006-2007	83%	79%	93%
2007-2008 through <b>2008-2009</b>	89%	86%	93%
<b>2009-2010</b> through 2010-2011	<b>32%</b>	<b>20%</b>	93%
<b>2011-2012</b>	<b>49%</b>	<b>40%</b>	93%
<b>2012-2013</b>	<b>66%</b>	<b>60%</b>	93%
2013-2014	100%	100%	93%

## Model 2 High School – Two Year and One Year Progression

Exhibit 6b

<b>New</b> High School Level Benchmarks Reset 2009-10 (AMOs) Model 2			
School Year	R/LA Target	Math Target	Graduation Rate
2002-2003 through 2003-2004	86%	65%	90%
2004-2005 through 2006-2007	90%	75%	90%
2007-2008 through <b>2008-2009</b>	93%	83%	90%
<b>2009-2010</b> through 2010-2011	<b>49%</b>	<b>25%</b>	90%
<b>2011-2012</b>	<b>61%</b>	<b>44%</b>	90%
<b>2012-2013</b>	<b>74%</b>	<b>63%</b>	90%
2013-2014	100%	100%	90%

## Model 3 Elementary/Middle School – One Year Progression

Exhibit 7a

<b>New</b> Elementary/Middle School Level Benchmarks Reset 2009-10 (AMOs) Model 3			
School Year	R/LA Target	Math Target	Attendance Rate
2002-2003 through 2003-2004	77%	72%	93%
2004-2005 through 2006-2007	83%	79%	93%
2007-2008 through <b>2008-2009</b>	89%	86%	93%
<b>2009-2010</b>	<b>32%</b>	<b>20%</b>	93%
<b>2010-2011</b>	<b>49%</b>	<b>40%</b>	93%
<b>2011-2012</b>	<b>66%</b>	<b>60%</b>	93%
<b>2012-2013</b>	<b>83%</b>	<b>80%</b>	93%
2013-2014	100%	100%	93%

## Model 3 High School – One Year Progression

Exhibit 7b

<b>New</b> High School Level Benchmarks Reset 2009-10 <b>(AMOs) Model 3</b>			
<b>School Year</b>	<b>R/LA Target</b>	<b>Math Target</b>	<b>Graduation Rate</b>
2002-2003 through 2003-2004	86%	65%	90%
2004-2005 through 2006-2007	90%	75%	90%
2007-2008 through <b>2008-2009</b>	93%	83%	90%
<b>2009-2010</b>	<b>49%</b>	<b>25%</b>	90%
<b>2010-2011</b>	<b>61%</b>	<b>44%</b>	90%
<b>2011-2012</b>	<b>74%</b>	<b>63%</b>	90%
<b>2012-2013</b>	<b>87%</b>	<b>81%</b>	90%
2013-2014	100%	100%	90%

### Additional Information for Comparability

The following table provides ACT based information that provides a concordance using scale scores from the EPASS series. The Explore test given in grade 8, the PLAN test given in grade 10, and the ACT test given in grade 11 are compared for English, math, reading, and science.

<b>ACT Subject Area Test</b>	<b>College Course(s)</b>	<b>College Readiness Benchmark Score</b>		
		<b>Explore</b>	<b>PLAN</b>	<b>ACT</b>
English	English Composition	13	15	18
Math	Algebra	17	19	22
Reading	Social Sciences	15	17	21
Science	Biology	20	21	24

The following information has been compared from the new TCAP Achievement 8<sup>th</sup> grade Reading/Language and math subtests and the EOC English II and Algebra I tests. This information was compared based on the ACH 8<sup>th</sup> grade and English II and Algebra I scale scores at the Basic, Advanced and Proficient achievement levels.

<b>Concordance Between TCAP Achievement and EXPLORE</b>					
<b>Achievement</b>	<b>Ach</b>	<b>EXPLORE</b>	<b>Achievement</b>	<b>Ach</b>	<b>EXPLORE</b>
Level	RLA	English	Level	Math	Math
Advanced	799	21	Advanced	798	20
<b>Proficient</b>	<b>760</b>	<b>15</b>	<b>Proficient</b>	<b>775</b>	<b>18</b>
<b>C Readiness</b>	<b>*738-746</b>	<b>13</b>	<b>C Readiness</b>	<b>*764-774</b>	<b>17</b>

\*College Readiness falls in the Basic level for both R/LA and math.

<b>Concordance Between TCAP EOC and PLAN</b>					
<b>Achievement</b>	<b>EOC</b>	<b>PLAN</b>	<b>Achievement</b>	<b>EOC</b>	<b>PLAN</b>
Level	English II	English	Level	Algebra I	Math
Advanced	742	20	Advanced	751	26
<b>Proficient</b>	<b>701</b>	<b>15</b>	<b>Proficient</b>	<b>712</b>	<b>19</b>
<b>C Readiness</b>	<b>*696-702</b>	<b>15</b>	<b>C Readiness</b>	<b>*711-715</b>	<b>19</b>

\*College Readiness falls in the Basic/Proficient level for both English II and Algebra I.