

## 2011-12 Methodology for Identifying Schools & Districts as Level 3 and Level 4

### Legal Context

M.G.L. Ch. 69 (1)(J)(a) "Schools that score in the lowest 20 percent statewide among schools serving common grade levels on a single measure developed by the department that takes into account student performance data and, beginning on July 1, 2011, improvement in student academic performance, shall be deemed eligible for designation as underperforming or chronically underperforming. Not more than 4 per cent of the total number of public schools may be designated as underperforming or chronically underperforming at any given time."

603 CMR 2.04 (2) "Placement of schools and districts in Level 3. A school shall be placed in Level 3 of the framework for district accountability and assistance if it scores in the lowest 20% statewide of schools serving common grade levels pursuant to 603 CMR 2.05(2)(a). A district shall be placed in Level 3 of the framework for district accountability and assistance if it has a school that has been placed in Level 3."

603 CMR 2.05 (2) "Placement of schools in Level 4. (a) A school shall be eligible for placement in Level 4 if it scores in the lowest 20% statewide of schools serving common grade levels on a single measure developed by the Department that takes into account: school MCAS performance over a four-year period based on Composite Performance Index (CPI) in English language arts; CPI in mathematics; and percentages of students scoring in the "warning" or "failing" category on MCAS; and, beginning on July 1, 2011, improvement in student academic performance. [Subsection (b) excluded.]

(c) Not more than 4% of the total number of public schools may be in Levels 4 and 5, taken together, at any given time.

(d) Any school designated by the Board as chronically underperforming prior to 2010 may be placed in Level 4."

### Methodology

#### 1. Identify the number of schools representing the lowest 20 percent

In general, the Department of Elementary and Secondary Education (ESE) includes a school in the calculations if it could be eligible for designation as a Level 3 or 4 school. Charter schools, schools ending in grade PK, K, 1, or 2, and schools without four full years of data are excluded.

1825 schools open in 2010-11 minus 63 charter schools	=	1762
1762 minus 149 early elementary schools	=	1613
1613 minus 94 schools that were too small (n < 20) or too new to have four full years of data	=	1519
<b>1519 multiplied by 20 percent</b>	=	<b>304</b>

#### 2. Group schools by common grade levels

ESE assigns schools to one of five grade span categories (elementary, elementary/middle, middle, middle/high, high) and uses counts within each grade span to establish a number representing the lowest 20 percent of schools in each category. Not more than 4 percent of schools may be identified as Level 4 or 5 at any given time:

Grade Span	# Schools	Percent	20 Percent	4 Percent
Elementary (ES)	839	55	168	34
Elementary/Middle (ESMS)	102	7	20	4
Middle (MS)	268	18	54	11
Middle/High (MSHS; includes K-12 schools)	47	3	9	2
High (HS)	263	17	53	11
<b>Total</b>	<b>1519</b>	<b>100</b>	<b>304</b>	<b>61</b>

### 3. Establish rankings for all eligible schools based on four years of achievement and improvement data

ESE then ranks eligible schools (n = 1,519 in 2011-12) by grade span category on the following achievement and improvement (movement) indicators:

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#### Achievement Indicators

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2008, 2009, 2010, 2011 Composite Performance Index (CPI) for English language arts (ELA) and mathematics

2008, 2009, 2010, 2011 MCAS Warning/Failing Percentage for ELA and Mathematics

2007, 2008, 2009, 2010 Annual dropout rate

2007, 2008, 2009 5-Year graduation rate

2010 4-Year graduation rate

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**NOTE:** Annual dropout and annual graduation rates are only incorporated into achievement calculations for schools ending in grade 12.

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#### Improvement (Movement) Indicators

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2008, 2009, 2010, 2011 Median Student Growth Percentile (SGP) for ELA and Mathematics

The mean of the 2010 and 2011 CPI minus the mean of the 2008 and 2009 CPI for ELA and Mathematics

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**NOTE:** CPI change indicators are only incorporated into improvement calculations for schools ending in grade 3.

### 4. Establish average rankings across all achievement and improvement indicators

ESE calculates a weighted average across all achievement and improvement indicators by grade span category that places progressively more weight on data from more recent years. Lastly, ESE calculates a mean (average) rank across all indicators that standardizes the relative value of achievement and improvement indicators across grade spans. Overall, the weight of achievement as compared to improvement is four to one.

### 5. Assign Level 3 status

Schools that have a mean rank within the lowest 20 percent of schools within a grade span category are considered Level 3 schools. Districts with one or more Level 3 schools are considered Level 3 districts.

### 6. Identify the lowest performing schools that were not previously identified as Level 4.

Using the methodology above, ESE then identifies the lowest performing schools within grade spans that have not previously been identified for Level 4 status as new candidates for identification as Level 4 schools.

## Changes from 2010-11

In 2011-12 ESE implemented three substantial changes to the methodology used to identify Level 3 schools in 2010-11:

1. In accordance with state law, the improvement (movement) indicators noted above were incorporated into the calculations for all schools. The dropout and graduation rate indicators noted above were also incorporated into the calculations for schools ending in grade twelve.
2. The number representing the lowest 20 percent of schools is based only on those schools that could be eligible for placement in Level 3 or Level 4. As such, the overall number of Level 3 schools in 2011-12 will be smaller than in 2010-11 (lowest 20% in 2011-12 = 304 schools; lowest 20% in 2010-11 = 354 schools).
3. When calculating average rankings, more weight is placed on data from recent years as compared to prior years.

Further, in identifying schools as candidates for Level 4 status in 2011-12, ESE used the ranking and weighted average methodology described above to determine the lowest performing schools within grade spans that were not already identified as Level 4. This differs from the methodology ESE used when first identifying Level 4 schools prior to 2010-11. At that time, ESE first ranked all schools on achievement indicators, and then, within the lowest 20 percent of schools, ranked schools on improvement indicators to identify the least improving schools amongst that group.