

## Methodology

### Population

The dropout calculations were derived from the population of students enrolled in grades nine through twelve in Massachusetts public schools. High school enrollment was based on the October 1, 2005 SIMS submission, while the dropout count was collected via the end-of-year SIMS submission and the Missing Student Collection. The Missing Student Collection was used to collect information from school districts on those students who failed to enroll in any Massachusetts public school in the 2005-06 school year, but were reported as enrolled within their district at the end of the 2004-05 school year. All students coded as a dropout were included in the state dropout count as a Summer Dropout.

### Definitions and Calculations

The Department applied a dropout measure that was developed by the U.S. Department of Education. A dropout is defined as a student in grades nine through twelve who leaves school prior to graduation for reasons other than transfer to another school, and does not re-enroll before the following October 1.

The dropout count was based on two groups of students:

1. **Summer Dropouts.** For the 2005-06 school year, Summer Dropouts were reported as enrolled in grades nine through twelve at the end of the 2004-05 school year, but were not included in the October 2005 SIMS in any district in Massachusetts. All districts with missing students were provided with the opportunity to explain the situations of each of the students (i.e. transferred, graduated, dropped out) via the Missing Student Collection.
2. **School Year Dropouts.** School Year Dropouts were reported as a dropout in any of the three 2005-06 school year SIMS submissions. These students were then checked against data submitted by all other districts. If a student was reported as a dropout by one district and enrolled by another district, the student was not considered a dropout.

Beginning in the 2003-04 school year, in compliance with the National Center for Education Statistics (NCES) reporting guidelines, Summer Dropouts were applied to the grade in which they failed to enroll. For example, a student who was reported as enrolled in grade ten at the end of the 2004-05 school year, but fails to enroll in the 2005-06 school year, was counted as a grade eleven dropout because the student completed grade ten. Although the revised 2002-03 dropout by grade figures were used in this report, previous school years' dropout by grade figures have not been modified in accordance with the guidelines.

According to the U.S. Department of Education dropout measure, students who dropped out during a particular reporting year, but return to school, graduate or receive a GED by October 1 of the following year were not counted in the final dropout count; these students are referred to as Returned Dropouts. The final dropout count equals the Summer Dropouts plus the School Year Dropouts minus all Returned Dropouts.

### Figure 1: Final Dropout Count Calculation

$$\text{Final dropout count} = (\text{Summer Dropouts} + \text{School Year Dropouts}) - \text{Returned Dropouts}$$

*Example for the 2005-06 school year:*

$$\text{State final dropout count for 2005-06} = (1,919 + 10,890) - 2,899 = 9,910$$

A dropout rate is the frequency that a dropout occurs within a defined population. The Department calculates the annual dropout rate as the number of students who drop out of school over a one-year period, minus the number of returned dropouts, divided by the October 1 grade 9-12 enrollment, and multiplied by 100. For the 2005-06 school year, the one-year period was from July 1, 2005 to June 30, 2006.

### Figure 2: Annual Dropout Rate Calculation

$$\text{Annual dropout rate} = \frac{\text{Final dropout count}}{\text{October 2005 Grade 9-12 enrollment}} * 100$$

*Example:*

$$\text{State annual dropout rate for 2005-06} = \frac{9,910}{296,511} * 100 = 3.3 \%$$

The projected four-year rate, is an estimation of the cumulative effect of four years of students dropping out of school for the class of 2009. In other words, it is a projection of the four-year dropout rate for students who were in grade nine in the 2005-06 school year based on the dropout rates for each grade in that year.

### Figure 3: Projected Four-Year Rate Calculation

$$\text{Projected four-year dropout rate} = [1 - (1 - W)(1 - X)(1 - Y)(1 - Z)] * 100$$

W = Annual dropout rate in grade 9

X = Annual dropout rate in grade 10

Y = Annual dropout rate in grade 11

Z = Annual dropout rate in grade 12

*Example:*

$$\text{Projected four-year dropout rate for class of 2009} = [1 - (1 - .030)(1 - .033)(1 - .033)(1 - .039)] = 12.8\%$$