

# Student Mobility Rates in Massachusetts Public Schools

## Introduction

The Massachusetts Department of Elementary and Secondary Education (ESE) calculates and reports mobility rates as part of its overall efforts to improve educational outcomes for all students. Mobility is defined here as those students transferring into or out of public schools, districts or the state.

As part of these efforts the ESE has developed three different measures to capture mobility:

- Intake (Transfer-in) rate
- Churn rate
- Stability rate

Each of these rates varies slightly from state to district to school levels, so please refer to the following explanations for calculating each rate at each of these three levels. All of the information presented in this report were developed using data submitted by school districts through the Student Information Management System (SIMS). Additional information on the data elements contained in SIMS can be found at:

<http://www.doe.mass.edu/infoservices/data/sims/DataHandbook.pdf>.

## Intake (Transfer-In) Rate

The *intake rate* measures the number of students that enroll in the state, a district, or school after the beginning of the school year. Enrollment is determined by either days in membership or enrollment status as reported in the October 1st SIMS of a given school year.

Intake for a period is calculated by dividing the number of students who enroll in the state, a district, or school after the start of the school year by all students reported as enrolled in any SIMS period at that level.

$$\frac{\text{Number of incoming students after the start of the school year}}{\text{All students enrolled at any point in time during the school year}}$$

*State-level Intake* is the number of students not reported in SIMS as enrolled at the beginning of the year. The state numerator includes each student who transferred into the Massachusetts public education system after the start of the school year, as reported in SIMS. The state denominator includes each student reported as enrolled in a public school district in any of the three SIMS data collections. Each student is included in the state denominator only once.

*District-level Intake* is the number of students entering a school district after the beginning of the school year. A student may enter the district from another district, private school, home schooling, or out of state. A student moving from one school to another within the same district is not included in district intake. The district *numerator* includes each student who transferred into the district after the beginning of the school year, as reported by districts in the October 1 SIMS data collection. The district *denominator* includes each student reported as enrolled in the district at any point in time during the school year. Each student is included in the district's denominator only once.

*School-level Intake* is the number of students entering a school from another public school within the same district, another district, out-of-state, home schooling, or private education. The school *numerator* includes each student who transferred into the school after the beginning of the school year, as reported in SIMS. The school *denominator* includes each student reported as enrolled in the school in any of the three SIMS data collections. Each student is included in the school's denominator only once.

The distinctions between the three rates means that cumulative school intakes will not roll-up into the district intake rate (e.g., if a student starts in School A in the district, then moves to School B in the same district, the student is an intake in School B but not in the district). Also, district intakes do not roll up into the state intake for similar reasons.

## **Churn Rate**

The *churn rate* measures the number students transferring into or out of a public school or district throughout the course of a school year. Churn represents the sum of all students who were mobile divided by all students reported as enrolled at any point in time during the school year. Enrollment at the start of the school year is based on a combination of enrollment status and days in membership. Each student is counted only once in the churn rate, regardless of the number of times during the year the student transfers in or out.

$\frac{\text{Number of incoming or outgoing students after the start of the school year}}{\text{All students enrolled at any point in time during the school year}}$
--

*State-level churn* is calculated using the number of students enrolled in public schools that are not reported as enrolled in the same school throughout the year, as reported by districts in any of the three SIMS data collections. The state *numerator* includes each student who transferred into or out of a public school in the state at any time, as reported in SIMS. The student is counted in the state numerator only once, regardless the number of transfers. The state *denominator* includes each student reported as enrolled in a public school district in any of the three SIMS data collections. Each student is included only once in the denominator.

*District-level churn* is based on the students enrolled in a district, as reported by districts in any of the three SIMS data collections, who are not reported as enrolled in the same school throughout the year. The district *numerator* includes each student who transferred into or out of

a school in the district at any time, as reported in SIMS. However, each student is counted only once in the numerator regardless of the number of transfers. The district *denominator* includes each student reported as enrolled in the district in any of the three SIMS data collections. Each student is included only once in the denominator.

3. *School-level churn* is based on the students enrolled in a school who are not reported as enrolled in the same school throughout the year, as reported by districts in any of the three SIMS data collections. The school *numerator* includes each student who transferred into or out of the school at any time, as reported in SIMS. Each student is counted only once regardless of the number of transfers. The school *denominator* includes each student reported as enrolled in the school in any of the three SIMS data collections. Each student is counted only once in the denominator.

### **Stability Rate**

The *stability rate* measures how many students remain in a district or school throughout the school year.

$\frac{\text{Number of students who remain at the educational setting for the entire year}}{\text{Total number of students enrolled as of October 1 SIMS}}$
---

*State-level stability* compares student enrollment in public schools from the October SIMS data collection, to student enrollment throughout the full school year, as reported in the March and End of Year SIMS data collections. The state *numerator* includes each student who was enrolled in any public school in the state in all three SIMS data collections (though not necessarily the same school in all three SIMS data collections). Each student is counted only once. The state *denominator* includes each student reported as enrolled in a public school in the October 1 SIMS data collection. Each student is counted only once.

*District-level stability* compares the number of students who were enrolled in the district throughout the year to the total district enrollment as reported by school districts in the October 1 SIMS data collection. The district *numerator* includes each student enrolled in a school in the district in all three SIMS data collections, as reported by districts in the March and End of Year SIMS data collections (though not necessarily the same school in all three SIMS data collections). Each student is counted only once in the numerator. The district *denominator* includes each student reported as enrolled in the district in the October 1 SIMS data collection. Each student is counted only once in the denominator.

*School-level stability* is based on the students enrolled in a public school, as reported by districts in the October SIMS data collection, who are enrolled in the school throughout the year, as reported by districts in the March and End of Year SIMS data collections. The school *numerator* includes each student who was enrolled in the same school in all three SIMS data collections. Each student is counted only once in the numerator. The school *denominator* includes each

student reported as enrolled in the school in the October 1 SIMS data collection. Each student is counted only once in the denominator.

### Student Mobility Scenarios

It is important to recognize the relationship between each of the different mobility rates that have been calculated. The intake and churn rates are related in that all students included in the intake rate numerator are always included in the churn rate numerator, but the opposite is not true. Therefore, the churn rate for a public school or district will always be greater than or equal to the intake rate for that school or district.

The numerator for the stability rate only looks at the mobility for students that were enrolled on October 1st. Both the intake and churn rates use the total number of students that were part of a district or school as the denominator while the stability rate uses the enrollment as of October 1<sup>st</sup> as the denominator.

The following tables provide examples of student mobility. Each scenario shows a student transferring from a school or district and indicates whether or not the student is included in the intake, churn, and/ or stability *numerator*.

**Table 1.0: Student transfers from High School A to High School B within the same district**

		Intake	Churn	Stability
<b>School</b>	High School A		Y	
	High School B	Y	Y	
<b>District</b>	District One		Y	Y
<b>State</b>	Massachusetts		Y	Y

**Table 1.1: Student transfers from High School A (in District One) to High School C (in District Two)**

		Intake	Churn	Stability
<b>School</b>	High School A		Y	
	High School C	Y	Y	
<b>District</b>	District One		Y	
	District Two	Y	Y	
<b>State</b>	Massachusetts		Y	Y

**Table 1.2: Student transfers from High School C (District Two) to High School A (District One) to High School B (District One).**

		<b>Intake</b>	<b>Churn</b>	<b>Stability</b>
<b>School</b>	High School C		Y	
	High School A	Y	Y	
	High School B	Y	Y	
<b>District</b>	District Two		Y	
	District One	Y	Y	
<b>State</b>	Massachusetts		Y	Y

## Mobility Rate Data

### State-level Mobility

The state-level intake rate and churn rates decreased slightly from the 2008-2009 school year, with the churn rate decreasing more measurably. In the 2009-10 school year, 43,262 students entered the Massachusetts public education system after October 1, 2009, representing an intake rate of 4.4%. During the same 2009-10 school year, 95,280 students either transferred into or out of a public school in the state, as reported in SIMS. This represents a churn rate of 9.7% of all students enrolled in Massachusetts public schools at any point in the school year. Student mobility resulted in a state stability rate of 95.3% in SY 2009-10, a slight increase from the previous year.

The following tables present state-level data for different groups. School and district level mobility data can be found at: <http://profiles.doe.mass.edu/> in the Statewide Reports section under “Mobility.”

**Table 2.0: State-level churn, intake and stability rates for recent school years.**

<b>Year</b>	<b># Intake</b>	<b>% Intake</b>	<b># Churn</b>	<b>% Churn</b>	<b># Stability</b>	<b>% Stability</b>
2009-10	43,262	4.4	95,280	9.7	915,278	95.3
2008-09	44,074	4.5	100,994	10.3	914,601	95.0
2007-08	42,540	4.3	101,389	10.3	919,253	95.1

### State-level Mobility Rates by Special Population

A student is considered to be in a special population if the student is reported as being in any special population, in any school, in any SIMS period. A student may be reported in different special populations in different SIMS periods. For example, if a student is reported as limited English proficient (LEP) in a district in October and not as LEP in March, that student is considered LEP at the state level for that school year.

The state-level intake and churn rates were lower for special populations in SY 2009-2010 than state-wide rates for 2008-09. Intake rates decreased or stayed the same for all three subgroups from SY 2008-09 to SY 2009-10. Stability also increased slightly. Stability and churn can both increase, as the stability rate includes only students who began the school year in the state.

Students who are churners because they came into the state after the beginning of the year are not included in the stability rate.

**Table 2.1: State-level churn, intake and stability rates for special populations**

Group	Year	# Intake	% Intake	# Churn	% Churn	# Stability	% Stability
Limited English Proficiency	2009-10	10,607	14.8	17,275	24.1	58,120	88.9
Low Income	2009-10	24,327	7.0	55,653	16.1	309,309	92.4
Special Education	2009-10	10,050	5.8	23,383	13.4	158,486	93.8
Limited English Proficiency	2008-09	9,545	14.8	16,489	25.5	51,776	87.2
Low Income	2008-09	23,602	7.2	55,898	17.2	289,592	91.6
Special Education	2008-09	10,741	6.1	24,940	14.2	158,611	93.3
Limited English Proficiency	2007-08	8,985	14.3	15,962	25.4	50,482	87.2
Low Income	2007-08	21,286	6.8	53,715	17.2	278,339	91.7
Special Education	2007-08	10,623	6.0	25,608	14.5	158,796	93.2

**State-level Mobility Rates by Race**

A student may be reported in one race group in one SIMS period and in a different race group in a different SIMS period. However, each student is included in only one race group in the state race totals.

**Table 2.2: State-level churn, intake and stability rates by race**

Group	Year	# Intake	% Intake	# Churn	% Churn	# Stability	% Stability
American Indian	2009-10	143	5.4	375	14.2	2,378	92.3
Asian	2009-10	3,102	5.8	6,108	11.5	48,527	94.8
Black	2009-10	7,853	9.6	14,424	17.6	71,407	91.4
Hawaiian or Pacific Islander	2009-10	55	4.8	156	13.5	1,055	93.9
Hispanic	2009-10	14,227	9.4	29,695	19.7	129,734	90.2
Multi-Race, Non-Hispanic	2009-10	1,003	4.5	2,692	12.0	20,871	95.0
White	2009-10	16,879	2.5	41,830	6.2	641,306	97.0
American Indian	2008-09	175	6.4	460	16.7	2,455	91.8
Asian	2008-09	2,781	5.4	5,768	11.3	46,925	94.7
Black	2008-09	7,924	9.7	15,277	18.7	71,004	90.5
Hawaiian or Pacific Islander	2008-09	74	6.1	203	16.7	1,075	91.9
Hispanic	2008-09	14,621	10.0	30,307	20.8	124,433	89.1
Multi-Race, Non-Hispanic	2008-09	1,057	5.1	2,777	13.4	19,117	94.4
White	2008-09	17,442	2.6	46,202	6.8	649,592	96.9
American Indian	2007-08	185	6.7	523	18.8	2,460	91.5
Asian	2007-08	2,639	5.3	5,688	11.5	45,192	94.7
Black	2007-08	8,072	9.8	15,347	18.7	71,113	90.2
Hawaiian or Pacific Islander	2007-08	107	8.4	239	18.7	1,121	92.4
Hispanic	2007-08	13,572	9.6	29,607	20.8	121,186	89.3
Multi-Race, Non-Hispanic	2007-08	966	5.1	2,678	14.0	17,570	94.6
White	2007-08	16,999	2.5	47,307	6.8	660,611	96.9

## District-level Mobility

The tables in this section provide summary data for district churn and intake rates. Stability distribution information is not included because the overwhelming majority of districts and schools fall into the “Greater than 50%” category.

The tables list the number and percent of districts that fall into a particular distribution.

**Table 3.0: Distribution of Intake Rate for School Districts**

<b>Year</b>	<b>Intake Distribution</b>	<b>Number of Districts</b>	<b>Percent of Districts</b>
2009-10	Greater than 50%	2	.5
2009-10	30 to 50%	1	.3
2009-10	20 to 30%	4	1
2009-10	10 to 20%	39	9.9
2009-10	5 to 10%	117	29.8
2009-10	Less than 5%	229	58.4
<b>Total</b>		<b>392</b>	<b>100</b>

<b>Year</b>	<b>Intake Distribution</b>	<b>Number of Districts</b>	<b>Percent of Districts</b>
2008-09	Greater than 50%	0	0.0
2008-09	30 to 50%	3	0.8
2008-09	20 to 30%	7	1.8
2008-09	10 to 20%	46	11.8
2008-09	5 to 10%	121	30.9
2008-09	Less than 5%	214	54.7
<b>Total</b>		<b>391</b>	<b>100</b>

<b>Year</b>	<b>Intake Distribution</b>	<b>Number of Districts</b>	<b>Percent of Districts</b>
2007-08	Greater than 50%	0	0.0
2007-08	30 to 50%	4	1.0
2007-08	20 to 30%	4	1.0
2007-08	10 to 20%	45	11.5
2007-08	5 to 10%	128	32.7
2007-08	Less than 5%	210	53.7
<b>Total</b>		<b>391</b>	<b>100</b>

**Table 3.1: Distribution of Churn Rate for School Districts**

<b>Year</b>	<b>Churn Distribution</b>	<b>Number of Districts</b>	<b>Percent of Districts</b>
2009-10	Greater than 50%	3	.8
2009-10	30 to 50%	2	.5
2009-10	20 to 30%	17	4.3
2009-10	10 to 20%	92	23.5
2009-10	5 to 10%	175	44.6
2009-10	Less than 5%	103	26.3
<b>Total</b>		<b>392</b>	<b>100</b>

<b>Year</b>	<b>Churn Distribution</b>	<b>Number of Districts</b>	<b>Percent of Districts</b>
2008-09	Greater than 50%	4	1.0
2008-09	30 to 50%	4	1.0
2008-09	20 to 30%	24	6.1
2008-09	10 to 20%	90	23.0
2008-09	5 to 10%	178	45.5
2008-09	Less than 5%	91	23.3
<b>Total</b>		<b>391</b>	<b>100</b>

<b>Year</b>	<b>Churn Distribution</b>	<b>Number of Districts</b>	<b>Percent of Districts</b>
2007-08	Greater than 50%	4	1.0
2007-08	30 to 50%	4	1.0
2007-08	20 to 30%	19	4.9
2007-08	10 to 20%	112	28.6
2007-08	5 to 10%	176	45.0
2007-08	Less than 5%	76	19.4
<b>Total</b>		<b>391</b>	<b>100</b>

### School Mobility

The following tables show intake and churn rates by listing the number and percent of schools that fall into each distribution.

**Table 4.0: Distribution of Intake Rate for Schools**

<b>Year</b>	<b>Intake Distribution</b>	<b>Number of Schools</b>	<b>Percent of Schools</b>
2009-10	Greater than 50%	36	2
2009-10	30 to 50%	45	2.5
2009-10	20 to 30%	91	5
2009-10	10 to 20%	321	17.5
2009-10	5 to 10%	469	25.6
2009-10	Less than 5%	870	47.5
<b>Total</b>		<b>1,832</b>	<b>100</b>

Year	Intake Distribution	Number of Schools	Percent of Schools
2008-09	Greater than 50%	39	2.1
2008-09	30 to 50%	53	2.9
2008-09	20 to 30%	104	5.6
2008-09	10 to 20%	355	19.2
2008-09	5 to 10%	440	23.8
2008-09	Less than 5%	859	46.4
<b>Total</b>		<b>1,850</b>	<b>100</b>

Year	Intake Distribution	Number of Schools	Percent of Schools
2007-08	Greater than 50%	34	1.8
2007-08	30 to 50%	59	3.2
2007-08	20 to 30%	99	5.3
2007-08	10 to 20%	355	19.0
2007-08	5 to 10%	498	26.6
2007-08	Less than 5%	826	44.1
<b>Total</b>		<b>1,871</b>	<b>100</b>

**Table 4.1: Distribution of Churn Rates for Schools**

Year	Churn Distribution	Number of Schools	Percent of Schools
2009-10	Greater than 50%	55	3
2009-10	30 to 50%	91	5
2009-10	20 to 30%	205	11.2
2009-10	10 to 20%	486	26.5
2009-10	5 to 10%	548	29.9
2009-10	Less than 5%	447	24.4
<b>Total</b>	<b>100%</b>	<b>1,832</b>	<b>100</b>

Year	Churn Distribution	Number of Schools	Percent of Schools
2008-09	Greater than 50%	67	3.6
2008-09	30 to 50%	101	5.5
2008-09	20 to 30%	223	12.1
2008-09	10 to 20%	488	26.4
2008-09	5 to 10%	507	27.4
2008-09	Less than 5%	464	25.1
<b>Total</b>	<b>100%</b>	<b>1,850</b>	<b>100</b>

Year	Churn Distribution	Number of Schools	Percent of Schools
2007-08	Greater than 50%	57	3
2007-08	30 to 50%	104	5.6
2007-08	20 to 30%	239	12.8
2007-08	10 to 20%	522	27.9
2007-08	5 to 10%	531	28.4
2007-08	Less than 5%	418	22.3
<b>Total</b>		<b>1,871</b>	<b>100</b>