

May 2011

A Growing Trend:

Average Class Size Rises Despite Little Growth in School Enrollment

Summary

MANY NEW YORKERS ARE CONCERNED that the Mayor's proposal to eliminate 6,100 teaching positions will lead to a big jump in class sizes across the city. IBO's comparison of enrollment data for this school year with last school year for kindergarten through eighth grade finds that average class sizes are already on the rise. The average number of K-8 students in general education, gifted and talented, and collaborative team teaching classes grew from 24.0 last year to 24.6 this year.

Last year the State Education Department allowed the Department of Education to suspend its plan to reduce class sizes over five years. IBO uses the benchmarks that had been part of that plan to compare current K-8 class sizes with the abandoned goals. In grades K-3, for example, where the benchmark was 20.1 students, each grade has more than 2,200 classes exceeding the goal.

IBO's review of class-level data finds that the citywide increase in class sizes occurred despite a relatively small uptick in enrollment of 0.4 percent. The main reason for the increase in class sizes was a 2.0 percent decline in the number of K-8 classes, which fell from 25,065 in 2009-2010 to 24,552 this year. Average class sizes increased in all but one of the grades reviewed. Among other key findings:

- In general, the biggest rise in class sizes occurred in first through third grades, with increases averaging about one student per class.
- Third grade had the largest increase in average class size, growing from 22.5 students per class in 2009-2010 to 23.7 students this school year, driven by a 3.3 percent decline in the number of classes and a 1.9 percent increase in enrollment.
- Eighth grade is the only grade among those reviewed to experience a decrease in average class size, which inched down from 27.5 students to 27.4 students.
- Citywide in 2010-2011, nearly 75 percent of all kindergarten through eighth grade classes are above their grade-specific benchmarks, an increase of 4.8 percentage points over the past year. The only grade in which the share of classes exceeding the benchmark did not increase was grade eight.
- There is a higher concentration of classes over the grade-specific benchmarks in central Queens and southwest Brooklyn. In Community School Districts 24 (covering neighborhoods such as Corona and Elmhurst) and 20 (Bensonhurst and Bay Ridge) 90 percent of classes are over the benchmarks.

Average class sizes in K-8 have grown for three consecutive years, rising from 23.0 in 2007-2008 to 24.6 this year.

Also Available: [Class Size Information by Grade and District](http://www.ibo.nyc.ny.us) @ www.ibo.nyc.ny.us



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Introduction

With the Mayor's budget proposing to eliminate more than 6,100 teaching positions for the 2011–2012 school year, many people have concerns about the impact that a large reduction in the teaching workforce would have on class sizes. In fact, class sizes in the elementary and middle school grades have already been rising in many areas of the city. Citywide, the average size of general education classes in each grade from kindergarten through seventh grades in the 2010–2011 school year is higher than in 2009–2010; average class size in eighth grade fell slightly. Although general education enrollment in K–8 remained relatively constant (0.4 percent increase) from last year to this year, there was a larger decline in the number of classes, which fell by 2.0 percent, as state and city fiscal difficulties put pressure on school budgets.

The Department of Education (DOE) provides IBO with class-level data for individual public schools (excluding charter schools). For grades kindergarten through eight, the official class registers are provided at the grade level; for high schools the data are provided for classes in individual subject areas. Using the audited register data for 2009–2010 and 2010–2011, IBO reviewed class sizes for general education, gifted and talented, and collaborative team teaching (CTT) classes for grades kindergarten through eight at the citywide and district levels.¹

Metrics

Class size data are separately provided for general education, gifted and talented, and collaborative team teaching classes.² We report data on these three types of classes together. In addition, classes with fewer than five or more than 50 students were excluded from the analysis.

We use two metrics to describe class sizes citywide within each grade. First, we look at the average class size. Second, we look at the share of classes above grade-specific benchmarks for each year. These metrics are also reviewed at the district level.

Our second metric relies on benchmarks for specific grades that are based on the targets that were originally set by DOE's Five Year Class Size Reduction Plan in November 2007, following the resolution of the Campaign for Fiscal Equity case. The class size reduction plan was created based on the assumption that both city and state funding would increase substantially for the next five years.

The targets under the plan were as follows:

- For kindergarten through third grades, the target class size was 20.3 students in 2009–2010 and 20.1 students in 2010–2011;
- For fourth through eighth grades, the target class size was 23.8 students in 2009–2010 and 23.3 students in 2010–2011.³

While city funding has increased over the years, state funding decreased in 2010–2011 and will decrease further in 2011–2012. Given the state's inability to meet funding expectations of the Campaign for Fiscal Equity settlement, DOE's Class Size Reduction Plan was deferred under an agreement reached between New York State Education Department Commissioner David Steiner and then-Chancellor Joel Klein on February 23, 2010.⁴ Although DOE has been relieved of its obligation to meet these targets in the current year, we use them as benchmarks to compare current class sizes against what average class sizes theoretically could have been if the reduction plan was still in effect. In addition to comparing the citywide average class size with the benchmarks, we have also computed the share of classes larger than the benchmark. Because the targets were averages rather than caps we would expect that a significant number of classes would be above and below the benchmarks.

Kindergarten Through Third Grade. Average class sizes in first through third grades increased by about one student this year, while average kindergarten class size increased by 0.3 students. The largest increase was in third grade, where the average class in 2010–2011 grew to 23.7 students, 1.2 students more than in 2009–2010. The increase in third grade class size was driven by a 1.9 percent increase in enrollment and a 3.3 percent decrease in the number of classes, the largest changes among the four grades. Enrollment remained flat or increased in kindergarten through second grades, and average class sizes increased by 0.3 to 1.0 students as budget strains led to fewer classes—enrollment grew while the number of classes shrank. Kindergarten classes have the smallest average class size, 22.0 students, while third grade classes have the largest among the early grades, 23.7 students. All four grades have average class sizes that exceed the benchmark of 20.1 students in 2010–2011.

A greater share of kindergarten, first, second, and third grade classes are above the average class size benchmark in 2010–2011, compared with 2009–2010. Citywide

in 2010–2011, 75.8 percent of classes are above the benchmark of 20.1 students, a larger share than the 68.7 percent that were above in 2009–2010. More than 9,100 of this year’s 12,100 kindergarten through third grade classes have more than 20 students in the class. First through third grade classes have among the largest increases in the share of classes above the benchmark from 2009–2010 to 2010–2011, with 8 percentage point to 9 percentage point increases.

Fourth through Eighth Grade. Increases in average class sizes in fourth through eighth grades were more modest compared with the early grades. From last year to this year, average class sizes increased by 0.3 students to 0.6 students in fourth through seventh grades. The average class size in eighth grade decreased slightly, by 0.1 students. Of these five grades, fifth was the only grade to experience an increase in enrollment, by 2.7 percent; the other four grades experienced declines in enrollment ranging from 0.2 percent to 1.9 percent. All grades except for fifth experienced decreases in the number of classes ranging from 1.5 percent in eighth grade to 2.4 percent in fourth grade. The number of fifth grade classes increased slightly by 0.4 percent.

Fourth grade classes currently average 25.0 students per class. Class size increases with grade level and reaches an average of 27.4 students in eighth grade. As in the early grades, average class size in each of the five grades exceeds the 2010–2011 benchmark of 23.3 students.

The share of classes above the benchmark of 23.3 students in 2010–2011 increases in each subsequent grade and is consistently above half of the classes, ranging

from 65 percent in fourth grade to 84 percent in eighth. Of the 12,400 fourth through eighth grade classes in 2010–2011, about three quarters of classes—more than 9,300 classes—have at least 24 students. Over the past year, the share of classes above the benchmark increased by 2 percentage points to 4 percentage points in grades four through seven, but remained constant in grade eight.

Trends Across Grade Groupings. Among the nine grades, there are three distinct groupings based on the share of classes that are above the grade benchmarks: kindergarten through third grade, fourth and fifth grade, and sixth through eighth grade.

In 2010–2011, for kindergarten through third grade, the share of classes with more than 20 students is high—ranging from 71 percent to 79 percent, accounting for about 2,200 classes to 2,400 classes in each grade. The drop off in the share of classes above the benchmark in fourth and fifth grade is largely due to the jump in the class size benchmark, so the share declines to 65 percent and 68 percent, respectively (roughly 1,700 classes in each grade). In the middle school grades, however, class sizes increase again and the share of classes with more than 23 students ranges from 77 percent up to 84 percent, accounting for roughly 1,900 to 2,000 classes in each grade.

Class Size at the School District Level

Changes in Enrollment and Number of Classes. Average kindergarten through eighth grade class sizes rose in all 32 school districts from 2009–2010 to 2010–2011. Every district experienced one of three scenarios: (1) the number

**Average Class Sizes Increase as Enrollment Rises, Number of Classes Declines:
School Years 2009-2010 and 2010-2011**

	Enrollment			Number of Classes			Average Class Size		
	2009-2010	2010-2011	Percent Change	2009-2010	2010-2011	Percent Change	2009-2010	2010-2011	Percent Change
Kindergarten	69,353	69,304	-0.1%	3,194	3,147	-1.5%	21.7	22.0	1.4%
First	71,391	71,840	0.6%	3,238	3,137	-3.1%	22.0	22.9	3.9%
Second	68,502	69,320	1.2%	3,083	2,986	-3.1%	22.2	23.2	4.5%
Third	66,077	67,360	1.9%	2,936	2,838	-3.3%	22.5	23.7	5.5%
Fourth	66,364	66,202	-0.2%	2,717	2,653	-2.4%	24.4	25.0	2.2%
Fifth	63,551	65,259	2.7%	2,559	2,570	0.4%	24.8	25.4	2.2%
Sixth	64,231	63,920	-0.5%	2,465	2,426	-1.6%	26.1	26.3	1.1%
Seventh	64,886	64,770	-0.2%	2,423	2,382	-1.7%	26.8	27.2	1.5%
Eighth	67,418	66,157	-1.9%	2,450	2,413	-1.5%	27.5	27.4	-0.4%
Kindergarten - Eighth	601,773	604,132	0.4%	25,065	24,552	-2.0%	24.0	24.6	2.5%

SOURCES: IBO; Department of Education audited register data

Share of Classes Over the Grade-Specific Benchmark Increased				
Grade	2009-2010		2010-2011	
	Share of Classes Over Benchmark	Number of Classes Over Benchmark	Share of Classes Over Benchmark	Number of Classes Over Benchmark
Kindergarten	67%	2,148	71%	2,247
First	68%	2,195	75%	2,362
Second	70%	2,144	77%	2,314
Third	70%	2,065	79%	2,255
Fourth	61%	1,663	65%	1,725
Fifth	64%	1,635	68%	1,756
Sixth	74%	1,825	77%	1,869
Seventh	79%	1,925	81%	1,937
Eighth	84%	2,067	84%	2,024

SOURCES: IBO; Department of Education audited register data

of classes decreased while enrollment increased; (2) decreases in the number of classes outpaced decreases in enrollment; or (3) increases in the number of classes did not keep up with increases in enrollment.

Twenty-seven of the 32 school districts reduced the number of classes offered in 2010-2011. About half (13) of these districts offered fewer classes despite enrollment increases that ranged from 0.2 percent (district 26, which covers Bayside/Auburndale) to 2.6 percent (district 28, covering Rego Park, Forest Hills, Kew Gardens, and Jamaica). In the other 14 districts, declines in the number of classes outpaced declines in enrollment. The largest decrease in enrollment was in district 16 (covering Bedford-Stuyvesant), which saw a 6.9 percent drop coupled with an even larger drop in the number of classes—7.1 percent.

There were only five districts in which the number of classes increased from last year to this year. But in each case increases in the number of classes failed to keep pace with increases in enrollment. The biggest increase in enrollment of any district occurred in district 20 (covering Bensonhurst, Bay Ridge, and Dyker Heights), which added 1,226 students and eight classrooms over the past year.

Share of Classes over the Benchmark.

The districts that have the highest shares of kindergarten through eighth grade classes above the grade-specific benchmarks are concentrated in central Queens and southwest Brooklyn. The five districts with the highest shares both

last year and this year were districts 20, 24, 25, 26, and 28. Four of these districts (all except district 26) were the districts that experienced the largest increases in kindergarten through eighth grade enrollment in 2010–2011—year-over-year increases of at least 2.6 percent. Taken together, these five districts account for more than 4,200 classes exceeding the 2010–2011 benchmarks, about 23 percent of the city’s K–8 classes above the class size benchmarks. The two districts with the largest share of classes above the benchmarks, districts 20 and 24, each had 90 percent of classes exceeding the benchmarks.

In addition to the district trends for kindergarten through eighth grades, a few other districts stand out in 2010–2011 for having a narrower range of grades with a large share of classes over the benchmark levels. District 11 has one of the five highest shares for kindergarten through third grades. District 29 has among the five highest shares for fourth and fifth grades. In the sixth through eighth grade group, districts 22 and 31 have among the five highest shares.

Larger Classes Next Year?

Important determinants of class size at a school include the school’s budget, how the principal chooses to use that pool of funds, and space constraints of the existing school building(s). Citywide, enrollment in general education, gifted and talented, and CTT classes remained relatively unchanged from 2009–2010 to 2010-2011 while the number of classes declined. The resulting increase in class size occurred despite an 8.5 percent rise in spending for general education (including gifted and talented) and CTT classroom instruction in elementary and middle schools, which reached \$3.9 billion in 2010–2011. Given that the

Districts with the Highest Concentrations of Classes Over the Benchmark: 2010-2011		
District	Neighborhoods	Share of Classes Over the Benchmark
24	Corona, Elmhurst, Maspeth, Woodside, Glendale, Ridgewood	90%
20	Bensonhurst, Bay Ridge, Dyker Heights	90%
28	Rego Park, Forest Hills, Kew Gardens, Jamaica	85%
25	Beechhurst, College Point, Whitestone, Flushing, Murray Hill, Willets Point	85%
26	Bayside/Auburndale	84%

SOURCES: IBO; Department of Education audited register data

Mayor is proposing to decrease funding by 9.5 percent to \$3.5 billion, including reductions in the number of teachers, New York City is likely to see further increases in class sizes in the upcoming school year.

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Endnotes

¹There is a growing body of literature on the impact of class size on academic performance. Tennessee's Project STAR (Student-Teacher Achievement Ratio) in 1985 was the first and only large-scale randomized experiment on class size, where teachers and students in kindergarten through third grades were randomly assigned to classes and students' academic performance was observed for four years. A few key studies on class size effects in early grades include Krueger (1999, "Experimental Estimates of Education Production Functions"), Hoxby (2000, "The Effects of Class Size on Student Achievement: New Evidence from Population Variation"), and Rivkin, Hanushek, and Kain (2005, "Teachers, Schools, and Academic Achievement").

²In the typical model, a CTT classroom has two sections and two teachers; a general education section and a special education section. We treat a CTT classroom as containing one class.

³These targets are lower than the UFT contractual class size limits: 25 students for kindergarten; 32 students for first through sixth grades (when funding is available, 28 students for first and second grades); and 33 students for non-Title I middle schools and 30 students for Title I middle schools.

⁴Juan Gonzalez, "City took money for nothing as it got aid to cut class sizes, OK'ed packing more students together," *New York Daily News*, September 22, 2010.

**[Class Size Information
by Grade and District](#)**

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