

Tables and Figures for the 2007 Condition of Teacher Supply and Demand in Ohio

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Prepared by

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Brief Description of Data Preparation and Analysis

Driscoll & Fleeter performed much of the analysis summarized in this report by utilizing teacher data provided by the Ohio Department of Education (ODE). Teacher data was provided in 3 main files:

- 1) a “**demographic**” file containing information on teacher age, gender, race/ethnicity, educational level, and years of experience teaching;
- 2) a “**job**” file containing information on teacher job location, position type, full time equivalent status, and other related data;
- 3) a “**course**” file containing information about courses taught by subject area

In addition, ODE provided data about historical and projected student enrollment.

Because of the way that this data is organized, it was necessary for Driscoll & Fleeter to perform some preliminary “cleanup” and manipulation of the data provided by ODE before analysis could begin. Once this was done, it was possible to analyze teacher distribution patterns, project future teacher needs, and analyze patterns of teacher mobility and attrition.

The final portion of this report utilized data obtained from the 2006 CAFR for the State Teachers Retirement System of Ohio (STRS) to project teacher retirements based on the demographic characteristics of Ohio teachers. These projections were then compared with the actual departure rates of teachers to assess the accuracy and usefulness of this approach. Driscoll & Fleeter wish to thank Gary Russell of the STRS staff for pointing us to the relevant retirement information in the agency’s CAFR.

In contrast to other reports by Driscoll & Fleeter, the following pages do not provide a continuous narrative presentation. Rather, they present a series of modules containing data and analysis for incorporation by ODE into a more comprehensive document.

Student Enrollment and Projections of Need

Ohio's total K-12 enrollment in regular districts declined by roughly 59,000 students, or 3.35% percent, between 2002 and 2007, reaching a level of approximately 1,715,000 million in 2007.

Overall Declines

Assuming that changes in population patterns are consistent, total enrollment will continue to decline through 2017.

- Some of the loss of enrollment in regular districts is attributable to the growth of community schools; that enrollment has grown from fewer than 10,000 students in 2000 to over 73,000 in 2007.
- Enrollments have declined most rapidly in medium-sized urban districts with very high poverty and major (large) urban districts with high poverty. The decline in these areas was 6.1 percent and 18 percent, respectively.

Enrollment increases

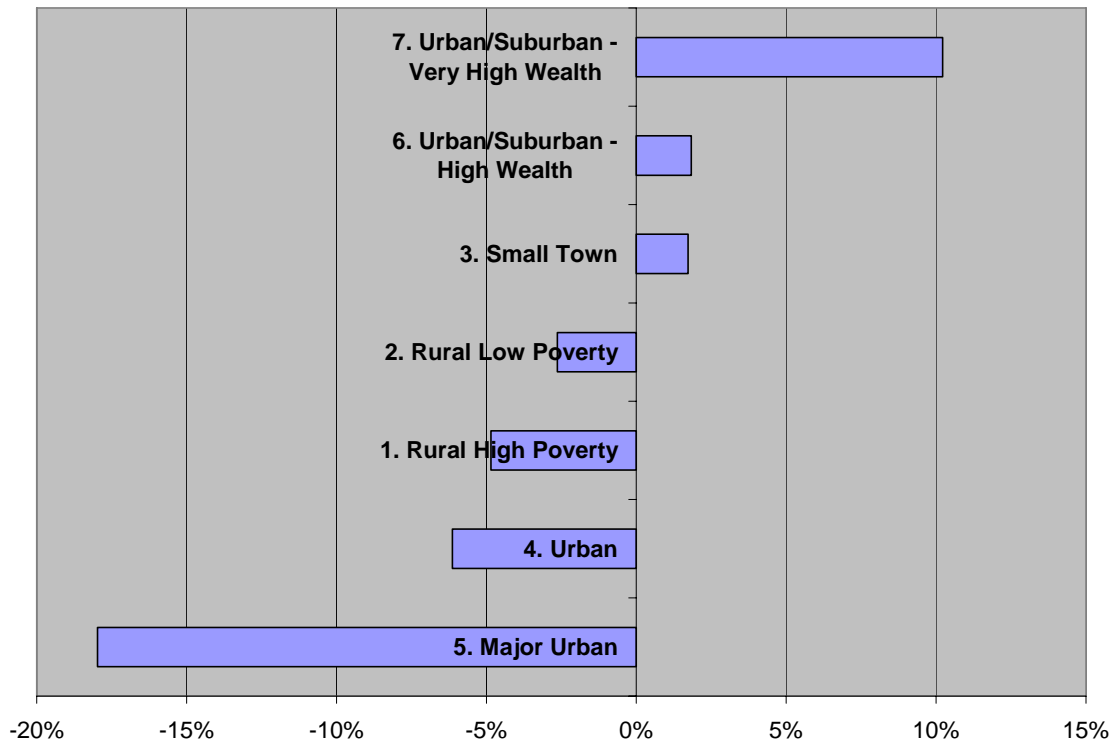
At the same time, enrollments increased by 10 percent in very wealthy suburban districts, by less than two percent in small town districts with moderate to high income, and by less than two percent in suburban districts.

- Significant enrollment growth is expected by 2017 in small town districts (15%) and in very high wealth suburban districts (13%).

Chart 1 shows the cumulative change in enrollment from the 2002 school year through the 2007 school year by school district typology. As used in this report, a school year has the designation of the calendar year in which it ends. Thus, the school year covering the period from Fall 2001 through Spring 2002 receives the designation of "2002 school year."

The chart shows the percentage change in enrollment for school districts ranked in order of largest percentage increase to largest percentage decrease. For purposes of this ranking, school districts are grouped according to the Department of Education school district typology. The names of each group have been abbreviated in the table because the names are quite long. A detailed description of the characteristics of each group in the typology appears in an appendix. The island districts, College Corner, and unassigned districts do not appear on the table.

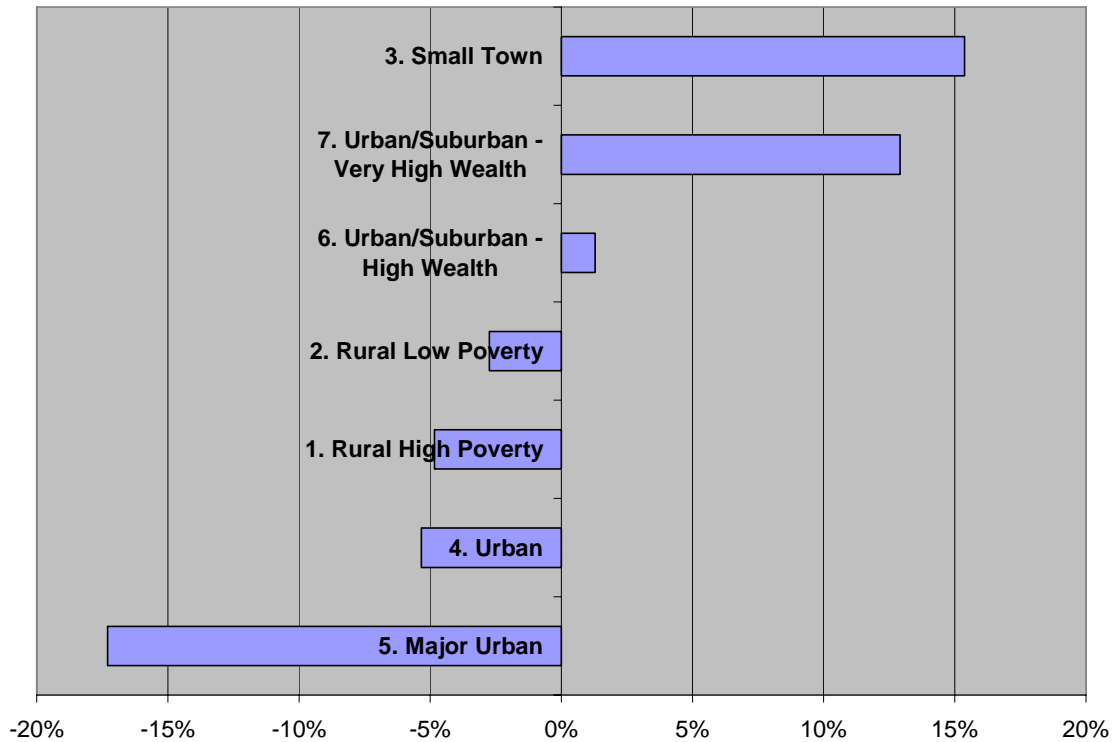
Chart 1: Historical Percentage Change in Enrollment by District Typology, 2002-2007



Source: ODE – Microstrategy enrollment data

Chart 2 shows a projection of cumulative enrollment changes over the period from the 2007 school year through the 2017 school year. Again, the percentage changes appear by district typology ranked from the largest projected increase in enrollment to the largest projected decrease.

Chart 2: Projected Percentage Change in Enrollment by District Typology, 2007-2017



Source: ODE – Microstrategy enrollment data

Increases in Community School Enrollment

Community schools have had a very rapid increase – the 2007 enrollment is more than seven times the 2000 enrollment. However, the rate of growth in community schools has begun to slow. For example, community school enrollment grew by more than 13,000 from 2004 to 2005, an increase of over 29%. From 2006 to 2007, community schools grew by about 7,500 pupils, an increase of about 11%.

Table 1: Community School Enrollment and Annual Percentage Change in Community School Enrollment, 2002-2007

School Year	2002	2003	2004	2005	2006	2007
Enrollment	24,034	34,039	46,016	59,443	65,754	73,235
Percent Change		42%	35%	29%	11%	11%

Changes in community school enrollment do not appear on Chart 1, and no projection of community school enrollment appears on Chart 2. The enrollment growth from 2002 to 2007 of 200% is not comparable on the same scale as the growth rate for regular school districts. Mathematically, a relatively small increase in absolute numbers can appear enormous when expressed as a percentage. Because community schools started the period with a small base, they experienced very high percentage growth.

Nevertheless, community schools' increase of about 49,000 in enrollment from 2002 to 2007 exceeded by almost one and one-half times the 20,000 increase in the number of pupils enrolled in type 7 – Urban/Suburban Very High Wealth – school districts. Type 7 school districts had the largest increase in enrollment among regular K-12 districts.

Because community school increases have followed growth patterns typical of any new and popular item, projections of future growth are especially difficult. The projection problem is compounded by the necessity to forecast not only how many pupils will enroll in community schools, but also how many community schools will exist in future years.

Future Teacher Requirements

Table 2 projects the number of teachers needed by each type of school district by 2017. The table assumes that schools maintain a constant pupil to teacher ratio so that the projections of enrollment as illustrated in Chart 1 translate into equivalent percentage changes in the number of teachers, at least over the long run.

Table 2: Estimated Change in the Number of Teachers by Type of K-12 School District, 2007-2017

District Type	Actual # of Teachers 2007	Estimated Percentage Change	Estimated Change in # of Teachers	Estimated # of Teachers 2017
1. Rural High Poverty	8,493	-5%	(411)	8,082
2. Rural Low Poverty	11,052	-3%	(304)	10,748
3. Small Town	6,669	15%	1,025	7,695
4. Urban	14,565	-5%	(777)	13,788
5. Major Urban	15,839	-17%	(2,740)	13,099
6. Urban/Suburban - High Wealth	20,966	1%	269	21,235
7. Urban/Suburban - Very High Wealth	13,112	13%	1,694	14,806
All Districts	90,697		(1,244)	89,453

Chart 3 presents the projections from Table 2 in graphical form.

Chart 3: Comparison of Teachers in 2007 and 2017 by Type of K-12 School District

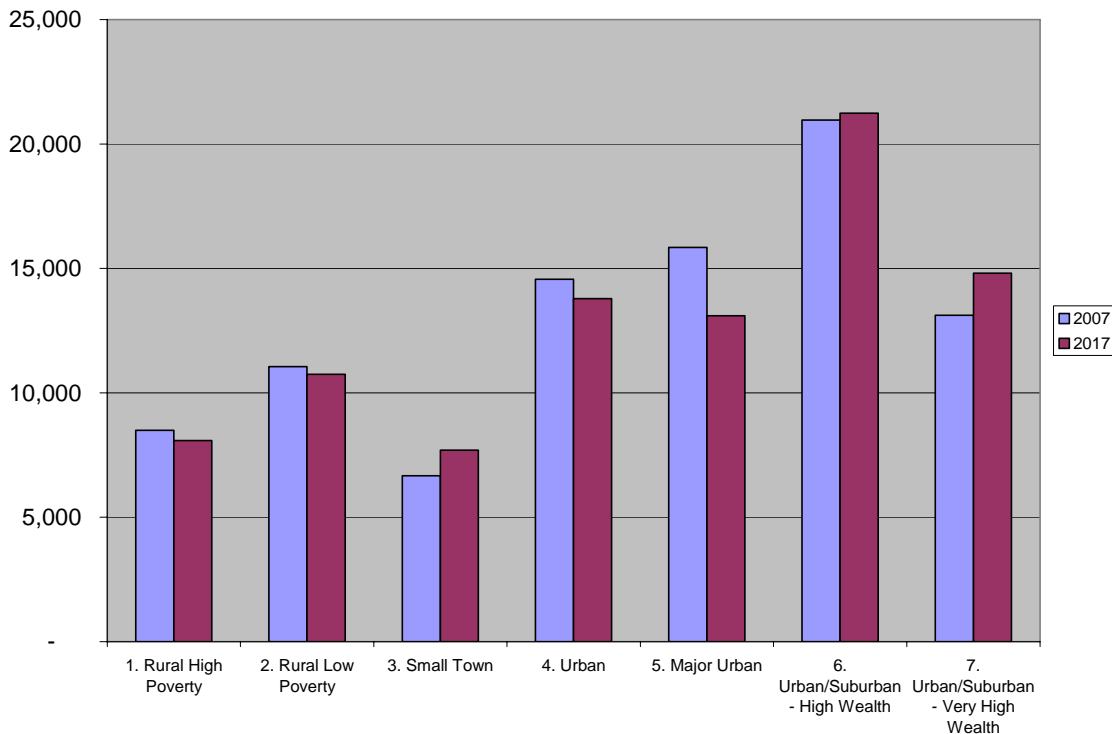


Table 4 offers a comparison of the racial distribution of teachers and students according to the school district typology.

Table 4: Percentage of Teachers in Each District Type by Race Compared to Percentage of Students in that District Type, By Race, 2007

District Type	Percent Black Teachers	Percent Black Students	Percent White Teachers	Percent White Students	Percent Other Teachers	Percent Other Students
0 – Island etc.	0%	0%	100%	99%	0%	1%
1 – Rural – high poverty	0%	1%	100%	96%	0%	3%
2 – Rural Low Poverty	0%	1%	100%	96%	0%	3%
3 – Rural Small Town	0%	1%	100%	96%	0%	3%
4 – Urban High Poverty	3%	14%	96%	77%	1%	8%
5 – Major Urban	20%	58%	77%	31%	3%	11%
6 – Urban/Suburban High Wealth	1%	8%	98%	86%	1%	6%
7 – Urban/Suburban V. High Wealth	2%	7%	97%	83%	1%	10%
All Districts	5%	15%	94%	78%	1%	7%

The table shows the percentage of teachers in each type of school district who are black, white, or of some other ethnic background (American Indian, Asian, Hispanic, Mixed Race). It also shows the percentage of students enrolled in the districts of that typology in each ethnic category. For example, Type 4 districts are characterized as “urban high poverty.” Three percent of the teachers in those districts are black, but black students account for 14% of the enrollment in those Type 4 districts. White teachers account for 96% of the Type 4 teachers, although white students make up only 77% of enrollment there. Teachers from other racial/ethnic groups equal 1% of the teachers in Type 4 districts, but students from such racial/ethnic backgrounds account for 8% of the student body there.

Teacher Experience Patterns

Figure 1 – Percentage of Regular Teachers in Regular School Districts by Number of Years of Total Experience, 1999–2007

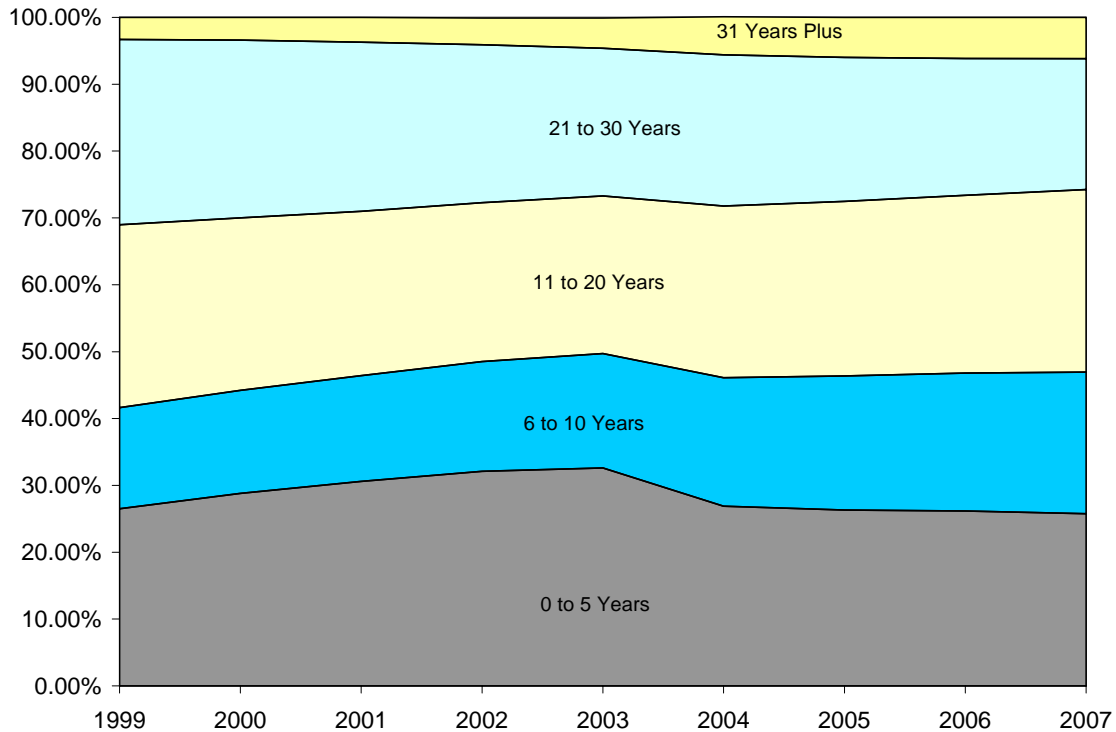


Figure 1 compares the total experience of teachers in regular K-12 school districts over time. The width of each band indicates the portion of the total number of teachers for which each range of experience accounts. The chart shows that a reduction occurred from 2003 to 2004 in the number of teachers in the first two experience groups of zero to five and six to ten years of experience. This indication from the chart confirms what other information suggests. After 2003, a number of school districts imposed teacher layoffs. In a system based on seniority, an expectation would exist that employees with less experience would receive a layoff notice before employees with more experience. The graph conforms to that expectation.

The chart suggests two reasons for concern. First, the share occupied by teachers with more than 30 years of experience has widened since 2003. These teachers must be considered as the most likely to retire. In turn, this consideration suggests that the entire system's vulnerability to teacher departures for retirement reasons has increased in the last few years.

A second reason for concern appears in the most inexperienced band of teachers. The teachers with zero to five years of experience now appear at the lowest percentage share

since 1999. Since the existence of a veteran cadre of teachers in ten years depends on the progression of these teachers through increasing levels of experience, and since attrition data suggest that some of these teachers will depart teaching in the next ten years, some danger exists that the education system will not have an appropriate balance of experienced and inexperienced teachers by 2017.

Table 5: Number and Percentage of Teachers Ranked by Years of Experience – Positions 205, 206, and 207 in Regular School Districts, 1999–2007

Years of Experience	1999	2000	2001	2002	2003	2004	2005	2006	2007
New*	5,604	6,358	7,214	7,720	7,851	4,025	3,594	4,504	5,062
1 to 5	19,927	21,977	22,824	24,762	25,268	21,717	20,566	19,676	18,301
6 to 10	14,555	15,157	15,722	16,824	17,816	18,438	18,401	19,057	19,239
11 to 15	13,202	13,168	12,732	12,895	13,229	13,410	13,182	13,846	14,144
16 to 20	13,311	12,419	11,740	11,554	11,430	11,188	10,785	10,717	10,659
21 to 25	15,405	14,820	13,908	13,121	12,120	10,867	9,771	9,493	9,063
26 to 30	11,817	11,958	11,663	11,537	11,259	10,760	9,990	9,440	8,698
31 Plus	3,278	3,477	3,759	4,176	4,810	5,423	5,508	5,678	5,603
Total	97,099	99,335	99,561	102,588	103,784	95,828	91,796	92,409	90,769
Percentage									
New*	5.77%	6.40%	7.25%	7.52%	7.56%	4.20%	3.91%	4.87%	5.58%
1 to 5	20.52%	22.12%	22.92%	24.14%	24.35%	22.66%	22.40%	21.29%	20.16%
6 to 10	14.99%	15.26%	15.79%	16.40%	17.17%	19.24%	20.05%	20.62%	21.20%
11 to 15	13.60%	13.26%	12.79%	12.57%	12.75%	13.99%	14.36%	14.98%	15.58%
16 to 20	13.71%	12.50%	11.79%	11.26%	11.01%	11.68%	11.75%	11.60%	11.74%
21 to 25	15.87%	14.92%	13.97%	12.79%	11.68%	11.34%	10.64%	10.27%	9.98%
26 to 30	12.17%	12.04%	11.71%	11.25%	10.85%	11.23%	10.88%	10.21%	9.58%
31 Plus	3.38%	3.50%	3.78%	4.07%	4.63%	5.66%	6.00%	6.14%	6.17%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

*“New” teachers are teachers whose total experience equals zero.

The table shows that the number of teachers reached a high water mark in 2003. The total number of teachers has declined each year since then, except for a small increase from 2005 to 2006. The smaller number of “New” teachers in 2004 through 2007 reflects slower rates of hiring by school districts over the period.

Teachers by Age

Table 6: Number and Percentage of Teachers in Regular School Districts by Selected Age Groups, 2007

Age	Number of Teachers	Percentage of Teachers
22 to 25	2,858	3%
26 to 30	12,088	13%
31 to 35	12,607	14%
36 to 40	12,509	14%
41 to 45	10,094	11%
46 to 50	10,688	12%
51 to 55	13,698	15%
56 to 60	12,234	13%
60 Plus	3,993	4%
Total	90,769	100%

The number of teachers age 52 or older equals 27,285. Age 52 is significant because it defines the earliest likely age that a teacher would accumulate 30 years of experience. Assuming that most college graduations occur at age 22 or later, new teachers would begin teaching no earlier than that age, except in very rare instances. The number of teachers age 52 or older translates into 30% of the 90,769 teachers in regular school districts. Not every 52 year old teacher has accumulated 30 years in the teacher retirement system. However, the 52 plus age group provides an upward limit on the number of teachers who possibly could qualify for full retirement now. These data do not suggest that 30% of the teaching workforce *will* retire soon. The data do provide an indicator of the maximum exposure of the system to teacher departures via retirement.

While 30% exposure to retirement sounds distressing, it also appears that no extreme imbalance exists among the different age cohorts shown on the table. For example, while the 51 to 55 age group accounts for 15% of the total number of teachers, the groups from 31 to 35 and from 36 to 40 each account for 14%. The difference of 1% does not seem exceptionally dramatic. The relatively small percentage in the 22 to 25 group appears to reflect the depressed condition of teacher hiring from 2004 through 2007.

Teacher Attrition and Mobility

Table 7: Number and Percentage of Teachers in Regular K-12 School Districts Who Departed Teaching or Moved to a Different School District, 1999–2007

Departure Cause	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total Teachers	97,100	99,337	99,562	102,588	103,784	95,828	91,796	92,409	90,769
Teachers Departing	9,182	9,900	8,963	8,922	13,498	10,202	9,295	8,341	NA
Attrition	7,066	7,647	6,748	7,057	11,922	8,904	7,522	6,944	NA
Mobility	2,115	2,253	2,215	1,866	1,575	1,298	1,773	1,397	NA
Percentage									
Departure Rate	9.50%	10.00%	9.00%	8.70%	13.01%	10.65%	10.13%	9.03%	
Attrition Rate	7.30%	7.70%	6.80%	6.90%	11.49%	9.29%	8.19%	7.51%	
Mobility Rate	2.20%	2.30%	2.20%	1.80%	1.52%	1.35%	1.93%	1.51%	

The table shows the number of teachers in regular K-12 school districts holding positions 205, 206, and 207 for each year between 1999 and 2007. The “departing teachers” equal the number of teachers who did not appear in the same school district in the following year. For example, 92,409 teachers taught in the regular public school districts in 2006. By 2007, 8,341 of those teachers no longer taught in the same school district as the district in which they taught in 2006. Teacher who moved to a different position number in the 200 series were *not* counted as a departure. For example, if a teacher held a position 205 in 2006 and a 212 in 2007, that teacher would not be among the 8,341 “departures.”

Some of the teachers listed as 2006 departures simply do not appear at all among the 2007 school employees listed in the 200 series for regular K-12 school districts and for community school districts. These departed teachers left teaching entirely, at least for 2007, and the analysis here calls these departures “attrition.” Of the 8,341 departures of 2006 teachers, attrition accounted for 6,944 of the total departures. Attrition can occur for all of the reasons that a person might have employment terminated – death, disability, retirement, involuntary termination through firing or layoffs, or simply quitting a teaching job to pursue a different vocation.

Some teachers move from one school district to another or from a K-12 school district to a community school district. These teachers are still teaching in 2007, but they work for a different employer compared to their 2006 employment status. These “departures” are called “mobility” because the teacher who departed from one school district moved to another one. Mobility of 2006 teachers accounted for 1,397 of the teacher departures from that year to 2007.

The bottom three rows of Table 7 express total departures, attrition, and mobility as a simple percentage. The number of teachers who departed, left teaching, or moved is divided by the total number of teachers for each year to derive the rates of departure, attrition, and mobility.

Tables 7a-7f provide more detail about the teachers who taught in 2006, and who did not remain employed in the public schools in 2007. These are the teachers defined in Table 7 as “attrition” (though a slight discrepancy in the total attrition figure is evident as result of a difference in how the data was aggregated in these tables).

Table 7a: Teacher Attrition in 2006 by Job Position

Position	Teacher FTEs	Percent
205	5,597	81%
206	953	14%
207	384	6%
Total	6,934	100%

Table 7b: Teacher Attrition in 2006 by Gender

Gender	Teacher FTEs	Percent
Female	5,018	72%
Male	1,916	28%
Total	6,934	100%

Table 7c: Teacher Attrition in 2006 by Ethnicity of Teacher

Ethnicity	Teacher FTEs	Percent
Asian	41	1%
Black	641	9%
Hispanic	51	1%
Indian	9	0%
White	6,192	89%
Total	6,934	100%

Table 7d: Teacher Attrition in 2006 by Highest Degree Attained by Teacher

Degree	Teacher FTEs	Percent
Non-degree	170	2%
Associate	10	0%
BA	3,036	44%
MA	3,657	53%
Ed. Specialist	13	0%
Ph.D.	35	0%
Other	15	0%
Total	6,934	100%

Table 7e: Teacher Attrition in 2006 by Approximate Age of Teacher

Age	Teacher FTEs	Percent
22 to 30	1,105	16%
31 to 40	1,384	20%
41 to 50	771	11%
51 to 60	2,809	41%
61 to 70	841	12%
71 plus	25	0%
Total	6,934	100%

Note: The age of the teacher was computed by subtracting the teacher's year of birth from "2006."

Table 7f: Teacher Attrition in 2006 by Total Experience of Departed Teacher

Experience	Teacher FTEs	Percent
0 to 3 years	1,253	18%
4 or 5	550	8%
6 to 10	1,078	16%
11 to 15	616	9%
16 to 20	428	6%
21 to 25	626	9%
26 to 30	1,160	17%
31 plus	1,223	18%
Total	6,934	100%

Long Term Teacher Attrition

Tables 8a and 8b provide a long term view of attrition by showing the percentage and number of teachers in each year who are still employed after one to ten years. This table can appear confusing at first, but it provides useful information. The table shows how many teachers who began teaching in a given base year remain in the public schools after one to ten years have elapsed. The data on the table take the form of a percentage, which represents a kind of retention rate.

Reading down the columns of the table shows the percentage of teachers who began teaching in each base year and who are still employed after one to ten years. For example, after two years the percentage of teachers employed in 1998 still employed in public schools equaled 87.56 percent. Of the next three base years, the comparable percentage still employed after two years did not differ by more than 1.1 percent. Similar results appear for different periods shown on the table.

Reading across the tables enables a comparison of retention trends. For example, of the teachers who taught in 1998, the public schools retained 93.12 percent after one year (i.e., the end of the 1999 school year. By moving four column to the right on the same row, it is possible to see that the percentage of teachers who remained from the 2002 cohort equaled the same percentage. In other words, one year after 1998 and one year after 2002, the identical percentage of teachers remained from the preceding year.

Absolutely critical note: the table does not show the teachers with one year of experience in the first row, two years of experience in the second row, and so on. Rather, it shows what remained of the entire teaching cohort in the base year shown at the head of each column. Thus, the first column of data shows that of all teachers who taught in 1997, 95.05% remained in the public schools in 1998. By 2007, i.e., after 10 years, 55.29% of that original 1997 teacher roster remained on active duty.

Reference to later base years shows some deterioration in the retention rate. For example, after four years 80 percent of the 1997 base year cohort remained in the public schools while only 76.6 percent of the 2000 base year and 76.07 percent of the 2001 base year cohort remained after the same number of years. Of course, the ability to compare attrition rates by base years becomes less as the table approaches the current year. For the 2006 base year, only the retention experience as of the end of 2007 is available to show on the table.

Consistent with other data shown in this report, the retention rate for 2003 after one year shows a significantly lower percentage at 88.5 percent compared to all other base years whose one year retention rate always exceeded 90 percent. The one year retention rate improved in each of the last three years.

With the exception of 1997 with its higher retention rates and the effects of 2003 layoffs, the table shows considerable consistency in retention patterns over time.

Base Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
After 1 year	95.05%	93.12%	92.72%	92.30%	93.22%	93.12%	88.51%	90.71%	91.81%	92.49%
After 2 years	90.86%	87.56%	86.96%	87.50%	88.14%	84.29%	82.93%	86.51%	85.60%	
After 3 years	85.41%	82.29%	82.45%	82.95%	80.89%	79.18%	79.39%	81.59%		
After 4 years	80.27%	78.15%	78.18%	76.60%	76.07%	75.94%	75.08%			
After 5 years	76.20%	74.06%	72.85%	71.55%	73.03%	71.73%				
After 6 years	72.14%	68.95%	67.51%	68.70%	68.87%					
After 7 years	67.04%	63.84%	64.78%	64.71%						
After 8 years	62.00%	61.07%	60.89%							
After 9 years	59.17%	57.27%								
After 10 years	55.29%									

Table 8b: Number of Teachers Employed in a Base Year and the Number of Departures after One to Ten Years

Base Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total in Base Year	90,310	95,119	97,100	99,337	99,562	102,588	103,784	95,828	91,796	92,409
After 1 year	4,473	6,547	7,066	7,647	6,748	7,057	11,922	8,904	7,522	6,944
After 2 years	8,256	11,831	12,662	12,419	11,808	16,117	17,712	12,926	13,221	
After 3 years	13,172	16,848	17,040	16,937	19,022	21,360	21,390	17,643		
After 4 years	17,822	20,780	21,192	23,244	23,828	24,683	25,866			
After 5 years	21,496	24,674	26,362	28,258	26,849	28,999				
After 6 years	25,161	29,534	31,549	31,094	30,998					
After 7 years	29,764	34,400	34,194	35,052						
After 8 years	34,316	37,028	37,974							
After 9 years	36,878	40,648								
After 10 years	40,377									

Teacher Mobility by Subject Area

Table 9: Changes in the Number of Teachers in Selected Subject Areas, 2001-2007 (In FTEs)

Subject Area	2001 FTE	2007 FTE	Change
English	13,289	39,455	26,166
Foreign Language	2,728	2,802	74
Mathematics	8,265	12,505	4,240
Science	7,715	10,894	3,178
Social Studies	7,515	10,521	3,006
General Education	30,298	273	(30,025)
Special Education	7,308	922	(6,386)
All Others	22,443	13,396	(9,047)
Total Number of Teachers	99,562	90,769	(8,793)

Table 9 shows the number of teacher FTEs for teachers in regular school districts matched with the primary subject area for each teacher. The table reflects the policy decision to change the identification of general education teachers and special education teachers to specific subject area categories.

This table matches individual teachers within each school year. It does not match or follow specific teachers over the period from the earlier school year to the later school year.

Table 9a: Changes in the Number of Teachers in Selected Subject Areas, 2005-2007 (In FTEs)

Subject Area	2005 FTE	2007 FTE	Change
English	30,400	39,455	9,055
Foreign Language	2,823	2,802	(21)
Mathematics	11,589	12,505	916
Science	10,555	10,894	339
Social Studies	10,131	10,521	390
General Education	10,916	273	(10,643)
Special Education	2,219	922	(1,298)
All Others	13,162	13,396	234
Total Number of Teachers	91,796	90,769	(1,027)

Table 9a may provide a more useful comparison because by 2005 most of the reassignment of general education to substantive subject categories had occurred. However, the reductions in general and special education exceed the cumulative increases in English, Mathematics, Science, and Social Studies. Until the restructuring of the subject assignments has finished, it will be difficult to know whether increases in specific subjects such as mathematics represent real increases in teachers or only reassignment of existing classroom subjects.

Table 10: Number and Percentage of Teachers in 2001 by Subject Area and the Number and Percentage of Teachers in 2001 Who Left Teaching (Leavers) or Who Moved to a Different School District (Movers) by 2007

Subject Area	Total 2001 Teachers	Percent Of Total Teachers	2001 Leavers by 2007	Percent Of Leavers	2001 Movers by 2007	Percent Of Movers
No Subject	10,692	10.74%	4,632	14.94%	644	11.15%
English	13,289	13.35%	4,238	13.67%	757	13.10%
Foreign Language	2,728	2.74%	893	2.88%	229	3.96%
Mathematics	8,265	8.30%	2,316	7.47%	656	11.35%
Science	7,715	7.75%	2,207	7.12%	529	9.15%
Social Studies	7,515	7.55%	2,309	7.45%	414	7.17%
General Education	30,298	30.43%	8,407	27.12%	1,123	19.43%
Special Education	7,308	7.34%	1,894	6.11%	658	11.38%
All Others	11,751	11.80%	4,102	13.23%	770	13.32%
Total Teachers	99,562		30,998		5,779	

(This table combines Tables 32 and 33 from the 2005 report)

Table 10 shows the number and percentage of teachers by subject matter for total teachers, teachers who left teaching between 2001 and 2007, and teachers who moved to a new school district between 2001 and 2007.

A “Leaver” is a teacher who appeared in the 2001 data with a position assignment of 205, 206, or 207, but who does not appear in the 2007 database in any position in 200 position assignment series.

A mover is a teacher who appeared in the 2001 data with a position assignment of 205, 206, or 207, and who appears in the 2007 data with a position assignment anywhere in the 200 series, but who does not have the same District IRN in 2007.

The table shows the total number of teachers by subject in the first column of data. This column presents the same information as Table 30, but it separates the teachers with no subject match from the “All Others” category. The second column of data shows the percentage of the total number of teachers accounted for by each category. The third column of data shows the number Leavers by subject. The fourth column of data shows the percentage of Leavers in each category. For example, 14% of the Leavers were English teachers. Seven percent were math teachers and so on. The fifth and sixth columns of data show the number of Movers by subject and by the percentage of Movers in each subject. Thus, 757 English teachers moved to a different school district between 2001 and 2007. These English teachers accounted for 13% of all Movers.

A comparison of the percentage columns provides the best way to interpret the table. For example, 13% of all teachers were English teachers in 2001. Fourteen percent of the Leavers were English teachers. This means that English teachers appeared only very slightly more frequently among Leavers than they appeared in the total universe of all

teachers in 2001. The 13% of Movers who were English teachers shows that English teachers were no more likely to move between districts than their share of all English teachers would predict. Math, Science, and Social Studies teachers were just slightly less likely to leave than their share of total teachers would predict. And, the teachers in these subjects were just slightly more likely to move. For example, Math teachers accounted for 11% of Movers but only 8% of all teachers.

Since Table 10 does *not* look at the subject taught by teachers in 2007, the restructuring of course code assignments does not figure in its results.

Table 10 also does not track movement by teachers within the 200 position assignment series. For example, a regular classroom teacher (205) in 2001 might have become a 208 small group instructor or a 226 teacher mentor by 2007. The table would not reflect such a change.

Table 10a provides a summary of the data presented in Table 10.

Table 10a: Summary of What Happened to 2001 Teachers by 2007

Teacher Outcome in 2007	Teacher FTE	Percent of FTE
Teaching Positions (205, 206, 207)	57,608	58%
Teaching Related (Other 200 series)	5,176	5%
Leavers	30,998	31%
Movers	5,779	6%
Total	99,562	100%

Table 11 shows the same data as Table 10 from a different perspective.

Table 11: 2001 Departures from Teaching and Movement between School Districts by Number of Teachers and by Percentage of Teachers in Each Subject Area

Subject Area	Total Number of Teachers	Number of Leavers	Percent Leavers	Number of Movers	Percent Movers	Percent Leavers & Movers
No Subject	10,692	4,632	43.32%	644	6.03%	49.35%
English	13,289	4,238	31.89%	757	5.69%	37.58%
Foreign Language	2,728	893	32.72%	229	8.38%	41.11%
Mathematics	8,265	2,316	28.02%	656	7.94%	35.96%
Science	7,715	2,207	28.61%	529	6.85%	35.46%
Social Studies	7,515	2,309	30.73%	414	5.51%	36.24%
General Education	30,298	8,407	27.75%	1,123	3.71%	31.46%
Special Education	7,308	1,894	25.92%	658	9.00%	34.92%
All Others	11,751	4,102	34.91%	770	6.55%	41.45%
Total	99,562	30,998	31.13%	5,779	5.80%	36.94%

In Table 11, the number of leavers or movers is related to the number of teachers within each subject rather than to the total of leavers or movers. Thus, the “English” row of Table 11 shows that in 2001, there were 13,289 English teachers. Of that total 4,238 had departed teaching entirely by 2007, and these departures accounted for 31.89% of the 2001 English teachers. Another 757 English teachers moved to a different district, and these teachers accounted for 5.69% of all 2001 English teachers. The final column shows that 37.58% of all 2001 English teachers had either moved to a new district or quit teaching by 2007.

A comparison of the percentage associated with each subject to the percentage of leavers or movers as a whole shows whether teachers in a specific subject are more likely than average to leave or move. For example, 28% of Math teachers left teaching. About 31% of all teachers left teaching. Therefore, Math teachers are less likely than average to quit teaching by a small percentage. However, almost 8% of Math teachers moved to a different school district. On average, less than 6% of all teachers move. Therefore, Math teachers moved more frequently than average. After combining the leavers and movers, Math teacher turnover remained about 1% less than the turnover for all subjects as shown in the last column on the table. (“Turnover” equals the sum of the percentage who leave and the percentage who move.)

Teacher Mobility by District Typology

The movement of teachers between districts can be analyzed from two fundamental perspectives:
 1) Where did the teachers who moved come from? 2) Where did the teachers who moved go?

Analysis of the Origin of Teachers who Moved Between Districts

Table 12 is similar to Table 11, except it shows the “mobility rate” between 2001 and 2007 rather than the “attrition rate.” “Mobility” means the movement of teachers from a school district in 2001 to another school district by 2007. Table 12 shows the district type *from* which teachers moved.

Table 12: Mobility Rate *from* Each Type of School District by Subject Area, 2001-2007

District Type*	Poor Rural	Rural	Small Town	Medium Size Urban	Major Urban	Suburb	Wealthy Suburb	Total
Subject Area								
No subject match	8.92%	11.14%	5.98%	7.45%	4.73%	6.26%	6.46%	6.03%
English	6.64%	6.97%	7.85%	6.85%	4.19%	5.48%	3.40%	5.69%
Foreign Language	11.73%	10.77%	9.53%	10.42%	7.71%	8.32%	4.81%	8.38%
Mathematics	10.43%	9.99%	10.77%	10.60%	6.20%	6.76%	3.96%	7.94%
Science	7.78%	7.59%	9.53%	9.35%	4.67%	6.54%	3.96%	6.85%
Social Studies	6.65%	7.59%	6.82%	6.56%	3.48%	5.69%	2.97%	5.51%
General Education	3.93%	4.39%	4.43%	4.67%	3.82%	2.88%	2.24%	3.71%
Special Education	11.62%	11.22%	13.97%	10.31%	6.12%	9.66%	4.68%	9.00%
Other	7.72%	9.29%	9.42%	7.41%	4.69%	5.46%	4.62%	6.55%
Total	6.88%	7.36%	7.68%	7.10%	4.63%	5.35%	3.60%	5.80%

* Table 12 retrofits the 2007 district typology to 2001 data

The first four district types on the table generally show higher rates of movement compared to the last three district types. The last three types include: urban very high poverty; suburban high SES; and suburban very high SES. The lowest rate of mobility appears in the last column – very high SES districts. It appears that once a teacher reaches a wealthy suburban school district, they show little tendency to move to a different kind of district. In addition, it appears that teachers in very high poverty urban districts do not move as frequently as teachers in rural or small town districts.

With respect to subject areas, across all district types a low mobility rate characterizes teachers in general education. As in the case of attrition, it appears that teachers with a specialization show a greater tendency to move than the generalist.

Analysis of the Destination of Teachers Who Moved Between Districts

Table 13 presents information about teacher mobility from a second perspective. It shows the destinations to which teachers moved. This table matches the teachers who moved between 2001 and 2007 with the data about those teachers as it appears in the 2007 records. It should be noted that some teachers in 2001 no longer staffed position assignments 205, 206, or 207 in 2007.

Table 13 details the placement of the movers according to the subject area in which they teach in 2007.

Table 13: Destination of Teachers Who Moved Between School Districts, By Subject Area, 2001-2007

District Type*	Poor Rural	Rural	Small Town	Medium Size Urban	Major Urban	Suburb	Wealthy Suburb	Community	ESC	JVS	Outlier Or Not Assigned	Total
Subject Area	1	2	3	4	5	6	7					
No subject match	61	62	42	120	43	150	138	98	42	19	4	780
English	165	193	141	228	122	398	352	80	30	33	8	1,750
Foreign Language	21	20	23	26	11	63	49	6	1	3	-	223
Mathematics	83	100	68	96	54	208	150	46	14	38	7	863
Science	63	76	52	92	69	158	123	39	4	26	7	709
Social Studies	50	68	42	55	36	121	105	26	10	18	11	542
General Education	1	-	-	-	2	1	-	-	1	-	-	4
Special Education	-	4	2	4	8	19	14	-	16	-	-	66
Other	91	124	64	111	38	177	162	37	7	169	7	988
Total	534	647	434	732	383	1,296	1,092	332	125	306	44	5,925

* Table 13 retrofits the 2007 district typology to 2001 data

The table shows that the FTE of the moving teachers equals 5,925 in 2007. These same teachers accounted for FTE of 5,779 in 2001. Therefore, some increase in the FTE commitment of the same individuals occurred between 2001 and 2007.

Table 14 shows the information in Table 13 in percentage terms.

Table 14: Percentage of Teachers by Subject Area Who Moved to Each District Type, 2001-2007

District Type*	Poor Rural	Rural	Small Town	Medium Size Urban	Major Urban	Suburb	Wealthy Suburb	Community	ESC	JVS	Outlier Or Not Assigned	Total
Subject Area	1	2	3	4	5	6	7					
No subject match	7.85%	7.97%	5.33%	15.44%	5.51%	19.28%	17.72%	12.56%	5.42%	2.37%	0.54%	100.00%
English	9.40%	11.04%	8.06%	13.06%	6.97%	22.72%	20.12%	4.55%	1.74%	1.89%	0.46%	100.00%
Foreign Language	9.27%	8.99%	10.47%	11.70%	4.92%	28.16%	21.82%	2.69%	0.63%	1.34%	0.00%	100.00%
Mathematics	9.66%	11.54%	7.82%	11.12%	6.26%	24.14%	17.35%	5.30%	1.63%	4.35%	0.81%	100.00%
Science	8.82%	10.68%	7.39%	12.97%	9.73%	22.29%	17.39%	5.51%	0.56%	3.68%	0.99%	100.00%
Social Studies	9.16%	12.63%	7.67%	10.09%	6.64%	22.39%	19.39%	4.88%	1.81%	3.32%	2.03%	100.00%
General Education	25.00%	0.00%	0.00%	0.00%	37.50%	25.00%	0.00%	0.00%	12.50%	0.00%	0.00%	100.00%
Special Education	0.00%	6.07%	3.71%	5.31%	12.13%	28.81%	20.47%	0.00%	23.50%	0.00%	0.00%	100.00%
Other	9.20%	12.53%	6.44%	11.26%	3.85%	17.97%	16.37%	3.79%	0.76%	17.16%	0.67%	100.00%
Total	9.01%	10.92%	7.32%	12.36%	6.46%	21.88%	18.44%	5.61%	2.12%	5.16%	0.74%	100.00%

* Table 14 retrofits the 2007 district typology to 2001 data

Specifically, the table shows the percentage of teachers in each subject area who moved to each type of school district. For example, the first column of data shows that 9.40% of the English teachers who moved, moved to a Type 1 rural high poverty school district. The combination of percentages in Type 6 and Type 7 shows that a plurality of movers in each subject moved to suburban high SES or Very High SES school districts. Cumulatively, movement to these districts accounted for almost 40% of all moves.

It is important to note that Tables 12 and 14 show different kinds of information. Table 12 shows the percentage of teachers in a district who moved during the 2001 to 2007 period. This percentage is shown subject-by-subject. In contrast, Table 14 shows the percentage of teachers who moved according to their destination.

Together, Tables 12 and 14 show the following picture: If a teacher works in a rural or small town district, a relatively greater likelihood exists that the teacher will move to another school district. This likelihood increases if the teacher teaches in a specialized subject area, as middle school or high school teachers tend to do, rather than in the general education field. Once a teacher moves, the destination reached by that moving teacher tends to exist in an urban or suburban school district with a very high SES profile.

Teachers Who Remain in the Same School District

The final discussion presents some information about teachers who remained in the same school district from 2001 to 2007. These teachers all filled position assignments of 205 (regular classroom), 206 (special education classroom) or 207 (vocational education classroom) in 2001. By 2007, about 5,400 of these teachers had moved to a different position assignment, although they remained within the same school district in 2007 as the district in which they taught in 2001.

Table 15 shows the distribution of these teachers by position assignment and subject area in 2001. The table does not show all 2001 teachers. It shows only the 2001 teachers who remained on the employment rolls of the same school district in 2007.

Table 15: Number and Percentage of Teachers in 2001 Who Remained Employed in the Same School District in 2007, by Position Assignment and Subject in 2001

Subject Area (#)	205	206	207	Total Retained	Leavers	Movers	Beginning Total 2001
No subject	3,708	1,671	36	5,415	4,632	644	10,692
English	7,321	945	29	8,295	4,238	757	13,289
Foreign Language	1,598	7	0	1,606	893	229	2,728
Mathematics	4,991	291	11	5,293	2,316	656	8,265
Science	4,832	133	13	4,979	2,207	529	7,715
Social Studies	4,565	203	23	4,790	2,309	414	7,515
General Education	20,331	431	4	20,766	8,407	1,123	30,298
Special Education	155	4,598	3	4,756	1,894	658	7,308
Other	4,997	79	1,803	6,879	4,102	770	11,751
Total	52,498	8,359	1,922	62,778	30,998	5,779	99,562
Subject Area (%)	205	206	207	Total Retained	Leavers	Movers	
No subject match	34.68%	15.63%	0.34%	50.65%	43.32%	6.03%	
English	55.09%	7.11%	0.22%	62.42%	31.89%	5.69%	
Foreign Language	58.59%	0.26%	0.01%	58.86%	32.72%	8.38%	
Mathematics	60.39%	3.52%	0.14%	64.04%	28.02%	7.94%	
Science	62.63%	1.73%	0.17%	64.53%	28.61%	6.85%	
Social Studies	60.74%	2.70%	0.30%	63.74%	30.73%	5.51%	
General Education	67.10%	1.42%	0.01%	68.54%	27.75%	3.71%	
Special Education	2.12%	62.92%	0.04%	65.08%	25.92%	9.00%	
Other	42.52%	0.67%	15.34%	58.54%	34.91%	6.55%	
Total	52.73%	8.40%	1.93%	63.05%	31.13%	5.80%	

Table 15 shows the number and percentage of teachers by position and assignment and by subject area as shown in 2001 data who remained in the same school district as of 2007. For example, 7,321 of 13,289 or 55.09% of regular classroom English teachers (205s) remained in the same school district in 2007 compared to 2001. Overall, school

districts retained 8,295 or 64.42% of the 13,289 teachers who taught English under position assignments of 205, 206, or 207 in 2001.

The fact that a school district retained an English teacher with a 205 position assignment in 2001 does not necessarily mean that the teacher continued in a regular classroom teaching role with a 205 position assignment in 2007. Either the teacher's position assignment could have changed to another number in the 200 series, and/or the teacher could have changed his/her primary subject area.

Table 15 repeats information from Table 11 about the number and percentage of leavers and movers obtained from a comparison of 2001 with 2007.

Table 16 shows what happened to the 62,778 teachers (FTEs) from 2001 as shown by the 2007 records. The top of the table shows the number of teacher FTEs according to 2007 position assignment. This table shows only the teachers who remained within the same school district in 2007 as compared to 2001.

Table 16: Number of 2001 Retained Teachers According to Position Assignment and School Type in 2007

Position Assignment	Regular K-12 Districts	JVS Districts	ESC	Community Schools	Dropout Recovery School	Total
201	309	-	-	-	-	309
202	426	-	-	-	-	426
204	1,377	-	1	0	-	1,378
205	49,707	-	2	13	-	49,722
206	6,438	1	-	1	1	6,440
207	1,863	1	-	-	-	1,864
208	509	-	1	1	-	510
211	1,006	-	-	-	-	1,006
212	1,580	-	-	-	-	1,580
225	18	-	-	-	-	18
226	68	-	-	-	-	68
Total	63,301	2	3	15	1	63,322

These teachers accounted for 63,322 FTEs in 2007. For example, the retained teachers from 2001 held 309 FTEs with a 201 position assignment (curriculum specialist) in 2007.

Table 17 shows the information from Table 16 in percentage terms.

Table 17: Percentage of 2001 Retained Teachers According to Position Assignment and School Type in 2007

Position Assignment	Regular K-12 Districts	JVS Districts	ESC	Community Schools	Dropout Recovery School	Total
201	0.49%	0.00%	0.00%	0.00%	0.00%	0.49%
202	0.67%	0.00%	0.00%	0.00%	0.00%	0.67%
204	2.17%	0.00%	0.00%	0.00%	0.00%	2.18%
205	78.50%	0.00%	0.00%	0.02%	0.00%	78.52%
206	10.17%	0.00%	0.00%	0.00%	0.00%	10.17%
207	2.94%	0.00%	0.00%	0.00%	0.00%	2.94%
208	0.80%	0.00%	0.00%	0.00%	0.00%	0.81%
211	1.59%	0.00%	0.00%	0.00%	0.00%	1.59%
212	2.50%	0.00%	0.00%	0.00%	0.00%	2.50%
225	0.03%	0.00%	0.00%	0.00%	0.00%	0.03%
226	0.11%	0.00%	0.00%	0.00%	0.00%	0.11%
Total	99.97%	0.00%	0.01%	0.02%	0.00%	100.00%

The table shows that most retained teachers (91.64%) remain in the regular classroom assignments 205, 206, and 207. The appearance of a small number of FTEs in other kinds of school districts suggests that some teachers divide their time between the regular school district in which their services were retained since 2001 and one of the other district types.

STRS Actuarial Assumptions for Teacher Retirement Forecasting

Table 18 shows the actuarial assumptions used by the State Teachers Retirement System (STRS) to anticipate retirements. These tables are based on actual experience. STRS updates them regularly (although not necessarily annually) to reflect the patterns of retirements actually occurring in the teacher workforce. These assumptions include the experience of the entire STRS membership. STRS provides retirement pensions for both K-12 teachers and for teachers in Ohio’s public institutions of higher education.

Table 18a: Percentage of Male Teachers Who Retire Based on Age and Years of Experience, Death or Disability

Age	Death + Disability	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience
50-54	0.37%	25.00%	NA	NA
55-59	0.50%	15.00%	20.00%	NA
60-64	0.68%	20.00%	9.00%	15.00%
65-69	1.00%	40.00%	25.00%	18.00%
70 Plus	1.50%	25.00%	15.00%	14.00%

Source: STRS CAFR 2006, NA = Not Allowed

The percentage on the table shows the rate at which male teachers with a given combination of age and experience decided to retire as predicted by STRS actuarial analysis.

Table 18b: Percentage of Female Teachers Who Retire Based on Age and Years of Experience, Death or Disability

Age	Death + Disability	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience
50-54	0.33%	22.00%	NA	NA
55-59	0.42%	15.00%	20.00%	NA
60-64	0.56%	30.00%	13.00%	25.00%
65-69	0.80%	35.00%	35.00%	23.00%
70 Plus	1.19%	35.00%	20.00%	13.00%

Source: STRS CAFR 2006, NA = Not Allowed

Table 18b shows the same information as Table 18a for female teachers.

STRS data provide separate retirement rates for death and for disability. However, since the percentages of retirements for each of these causes is quite small for both male and female teachers, the tables combined them.

The application of these retirement percentages to EMIS data grouped by age and experience yields the following predictions about the number of teachers on the 2007 roster who will retire by 2008. As in the case of other data about teachers presented in

this report, the data in Tables 18c, 18d, 18e, and 18f all show numbers of teachers in terms of FTEs obtained from the EMIS teacher database.

Table 18c: Total Number of Male Teachers By Age and Years of Experience, 2007

Age	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience	Total
50-54	511	NA	NA	511
55-59	1,699	520	NA	2,219
60-64	521	91	353	965
65-69	88	17	69	174
70 Plus	13	1	14	28
Total	2,833	630	436	3,898

NA – Not applicable because these teachers are not eligible for retirement

Table 18c shows that 511 male teachers between the ages of 50 and 54 had accumulated 30 years of experience or more based on 2007 data. Theoretically, all of these teachers could retire at the end of 2007.

Table 18d shows the same information for female teachers. The greater presence of females in the classroom clearly shows in a comparison with the previous table. While 511 men ages 50 to 54 with 30+ years of experience taught in 2007, the comparable number for women with the same age and experience profile equaled 1,216.

Table 18d: Total Number of Female Teachers By Age and Years of Experience, 2007

Age	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience	Total
50-54	1,216	NA	NA	1,216
55-59	3,355	1,885	NA	5,240
60-64	1,003	902	1,968	3,873
65-69	237	153	269	659
70 Plus	53	18	37	108
Total	5,864	2,958	2,274	11,096

NA – Not applicable because these teachers are not eligible for retirement

Overall, about two and one-half times as many women as men appear in the ranks of those eligible for retirement as of the 2007 school year.

Tables 18e and 18f combine the retirement percentages in Tables 18a and 18b with the age and experience data in Tables 18c and 18d to project the number of eligible teachers who will retire by 2008.

Table 18e: Estimated Number of Male Teachers Who Will Retire Based on Age and Years of Experience, Death or Disability, 2007

Age	Death + Disability	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience	Total
50-54	2	128	NA	NA	128
55-59	11	255	104	NA	359
60-64	7	104	8	53	165
65-69	2	35	4	12	52
70 Plus	0	3	0	2	5
Total	22	525	117	67	709

NA – Not applicable because these teachers are not eligible for retirement

Table 18e anticipates that 709 male teachers will retire.

Table 18f: Estimated Number of Female Teachers Who Will Retire Based on Age and Years of Experience, Death or Disability, 2007

Age	Death + Disability	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience	Total
50-54	4	268	NA	NA	268
55-59	22	503	377	NA	880
60-64	22	301	117	492	910
65-69	5	83	54	62	198
70 Plus	1	18	4	5	27
Total	54	1,173	552	559	2,283

NA – Not applicable because these teachers are not eligible for retirement

Table 18f projects that 2,283 female teachers will retire from the 2007 teacher labor force by 2008.

Certain combinations of age and experience on the tables contain an entry of “NA.” These combinations are not applicable to a retirement analysis because the STRS system does not permit a teacher to retire with those age and experience relationships. Therefore, the tables focus specifically on teachers who can *retire*. Because they isolate retirement as a basis for departing from teaching, other withdrawals from the STRS system are not included in these data.

When the estimated retirements for male and female teachers are combined, the result is just under 3,000. The consistency in the age and experience tables suggests that this amount should provide a reasonably accurate projection of the number of teachers who retire each year under current STRS retirement standards. Since 6,944 teachers left between 2006 and 2007, the retirement analysis supports the conclusion that about 3,950 teachers left teaching for some reason other than retirement.

The 2007 data show that about 26,000 teachers of both genders fell between the ages of 50 and 59. Within eight years, the current age profile suggests that most of these 26,000 teachers will have retired. The 3,000 retirements predicted by 2007 data based on STRS actuarial percentages provide a reasonable projection of future retirement activity in light of the age profile of the teaching workforce.

Test of the Predicted Retirement Rate

How accurate is the prediction based on STRS actuarial tables? An accuracy test was possible. First, an analysis of the 2006 teacher data yielded an estimate of the number of retirements likely to occur after 2006 based on the age and experience of teachers in the system during that year.

Table 19: Predicted Retirements of 2006 Teachers

Women	Death + Disability	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience	Total
50-54	3	168			171
55-59	21	436	411		868
60-64	19	222	97	470	808
65-69	5	66	49	59	179
70 Plus	1	18	4	4	27
Total	48	910	561	533	2,053
Men	Death + Disability	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience	Total
50-54	1	80			81
55-59	12	252	138		402
60-64	6	87	9	46	148
65-69	1	29	3	11	45
70 Plus	0	3	1	2	6
Total	21	451	151	59	682
Total	Death + Disability	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience	Total
Women	48	910	561	533	2,053
Men	21	451	151	59	682
Total	69	1,361	712	592	2,734

Table 19 shows the results of the analysis of 2006 teacher data. It projects how many retirements should occur given the age and experience profile provided by the demographic information about teachers. To put these estimates in context, Table 20 shows the total number of male and female teachers in 2006 and the total number of male and female teachers within the age and experience combinations eligible for retirement.

Table 20: Total Number of 2006 Teachers and the Number of 2006 Teachers Eligible for Retirement by Gender

Gender	Total Number of Teachers	Number of Teachers Eligible for Retirement	Percentage of Teachers Eligible for Retirement
Female	68,777	9,782	14.2%
Male	23,632	3,708	15.7%
Total	92,409	13,490	14.6%

The number of teachers eligible for retirement totaled 13,490. The STRS actuarial tables predicted that about 1 in 5 or 20% of those eligible to retire actually would do so.

To test this hypothesis, a comparison of the 2006 teacher workforce to the 2007 teacher workforce identified 5,026 female teachers and 1,918 male teachers who left teaching after 2006, a total of 6,944 departures. An analysis of these “leavers” according to age and experience enabled a comparison of the actuarial predictions to the number of actual departures among the teachers whose age and experience combination qualified them for retirement.

Table 21 groups the actual leavers according to retirement eligible age and experience combinations. These combinations show that 2,711 teachers who were eligible for retirement actually departed teaching after 2006. This total compares to a prediction that the age and experience profile of 2006 teachers would yield 2,734 retirements. The difference between the projected retirements and actual departures equals less than 1% of the projected number of retirements.

Table 21: Actual Departures Among 2006 Teachers Eligible for Retirement

Women	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience	Total
50-54	74			74
55-59	532	278		810
60-64	214	165	425	804
65-69	60	49	108	217
70 Plus	16	9	15	40
Total	897	500	547	1,944
Men	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience	Total
50-54	39			39
55-59	349	106		455
60-64	126	31	69	225
65-69	19	5	13	37
70 Plus	3	1	6	9
Total	537	143	87	767
	30 Yrs or more Experience	25 to 29 Yrs Experience	24 Yrs or Less Experience	Total
Women	897	500	547	1,944
Men	537	143	87	767
Total	1,433	643	634	2,711

Table 22 summarizes the comparison between predicted retirements and actual departures from 2006 employment rosters by retirement eligible teachers.

Table 22: Comparison of Predicted Retirements to Actual Departures from Teaching - 2006

	Predicted Retirements	Actual Departures	Ratio Actual to Prediction
Women	2,053	1,944	0.95
Men	682	767	1.12
Total	2,734	2,711	0.99

Conclusion

The actual departures confirm the validity of the predictions to a remarkable degree. The EMIS data do not line up exactly with the retirement eligibility variables. For example, the age of teachers in 2006 is based on a simple calculation by which each teacher's year of birth was subtracted from 2006. Using this approximate method, a teacher with a December birth date would appear 50 at the end of the 2006 school year although he or she would not actually reach 50 until almost halfway through the 2007 school year. Such a person could not actually retire in June of 2006 at the end of the 2006 school year.

The experience data may have similar discrepancies. For example, experience amounts in the EMIS data were assumed to reflect the accumulated experience of a teacher through the end of the 2006 school year. In fact, if the experience in the "Total Experience" field of the EMIS data indicates a teacher's experience in October of the school year, then a more accurate estimate of retirement eligibility would add "1" to each teacher's experience before identifying eligibility for retirement.

Thus, additional adjustments to the EMIS data might fine-tune the projections by a small amount. However, the necessity for such fine-tuning may not exist. A method that projects retirements with 99% accuracy should provide a useful tool for estimating future teacher retirements.

Appendix

ODE School District Typology

0 – Kelly’s Island LSD, North Bass Island LSD, Middle Bass Island LSD, Put-in-Bay Island LSD, College Corner LSD (plus unassigned districts – Manchester)

1 – Rural/agricultural – high poverty, low median income

2 – Rural/agricultural – small student population, low poverty, low to moderate median income

3 – Rural/Small Town – moderate to high median income

4 – Urban – low median income, high poverty

5 – Major Urban – very high poverty

6 – Urban/Suburban – high median income

7 – Urban/Suburban – very high median income, very low poverty