



# Too Much of a Good Thing

Staffing and Students  
in Virginia's School Districts

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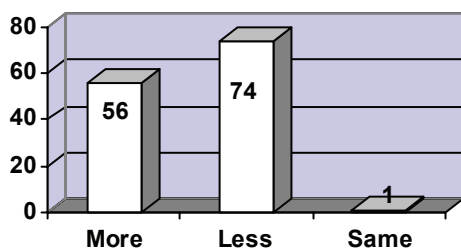
## Too Much of A Good Thing

Virginia's local property taxes are soaring, homeowners are angry, and gubernatorial candidates in both political parties are proposing remedies. State intervention may be necessary to resolve the conflict between tax payers and tax collectors, particularly in the area of public school staffing.

The number of staff employed by school boards has a direct impact on property, business, and state income taxes. Spending for public schools is a significant portion of both state and local budgets, and about 80 percent of all public school funding goes directly to staff wages and benefits.

In an efficient budgeting process, taxpayers would expect school staff positions to increase when student enrollment goes up and the district has more students to educate. Conversely, taxpayers would expect school staff positions to decline when student enrollment goes down and there are fewer students to educate. Taxpayers' expectations would be particularly applicable to *instructional staff* positions, which are most closely linked to the day-to-day teaching of students.<sup>1</sup>

**Changes in Student Enrollment  
Virginia Districts, FY97-FY04**



That is not the trend in Virginia's public school districts, however.

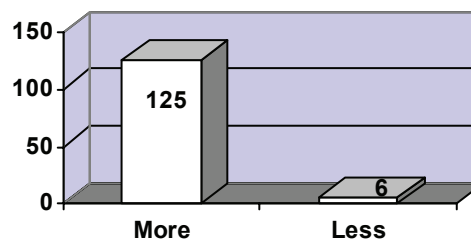
In the eight school years from 1996-97 to 2003-04, 74 school districts (56.5%) posted a net student enrollment loss, 56 school districts (42.7%) posted a net student enrollment gain, and one district's student enrollment remained virtually unchanged, according to state Department of Education data.

During that same period, only six school districts (4.5%) reduced instructional staff positions. The remaining 125 school districts (95.4%) increased instructional staff positions.

### 'Fewer Students, More Staff' Districts

More than half of the state's school districts—68 in all—added instructional staff over the eight years although the number of students they had to educate declined (Table 1).

**Changes in Instruction Staff  
Virginia Districts, FY97-FY04**



A handful of districts posted relatively minor changes in enrollment and staffing. Charlottesville, for example, had a 2.6% decline in enrollment and a 1.7% increase in instructional staff.

Many other school districts posted a considerably larger disparity in enrollment and staffing. Amelia County, for example, had 8.1% fewer students and 43.5% more instructional staff positions at the end of the eight years. Virginia Beach lost 425 students but added 470 new instructional staff.

<sup>1</sup> Note: Department of Education defines instructional staff as principals, assistant principals, teachers, teacher aides, guidance counselors, librarians, and district-wide instructors.

## Too Much of A Good Thing

**Table 1. DISTRICTS WITH FEWER STUDENTS, MORE STAFF, FY97-FY04**  
ENROLLMENT LOSS STAFFING INCREASE

District	Number   Percentage Change		Number   Percentage Change	
Accomack	-215	-4.0%	35	6.4%
Allegheny Highlands	-108	-3.6%	2	0.7%
Amelia	-147	-8.1%	70	43.5%
Amherst	-169	-3.6%	88	22.6%
Appomattox	-62	-2.7%	52	26.4%
Augusta	-162	-1.5%	117	12.8%
Bath	-73	-8.5%	18	20.2%
Bedford	-384	-3.8%	188	22.2%
Bland	-80	-8.1%	10	10.8%
Bristol City	-152	-6.1%	22	9.1%
Brunswick	-282	-11.0%	21	8.4%
Buckingham	-38	-1.7%	11	4.7%
Caroline	-181	-4.9%	39	11.4%
Charlotte	-20	-0.9%	25	13.4%
Charlottesville City	-111	-2.6%	10	1.7%
Colonial Beach	-100	-14.8%	8	12.9%
Covington City	-63	-6.7%	3	2.9%
Craig	-16	-2.2%	10	14.3%
Danville City	-1,039	-12.8%	79	11.0%
Giles	-2	-0.1%	21	8.6%
Gloucester	-390	-6.0%	51	9.1%
Grayson	-64	-2.8%	34	14.8%
Greensville-Emporia	-180	-6.8%	26	10.1%
Halifax	-438	-6.9%	65	9.6%
Hampton City	-1,250	-5.2%	332	15.9%
Henry	-911	-10.1%	21	2.5%
Highland	-76	-20.5%	2	4.8%
Hopewell City	-221	-5.4%	28	7.3%
King & Queen	-45	-5.1%	13	13.1%
Lancaster	-237	-14.8%	23	16.5%
Lexington City	-9	-1.4%	5	10.9%
Lunenburg	-390	-18.7%	2	1.0%
Lynchburg City	-625	-6.7%	176	19.4%
Madison	-38	-2.0%	28	16.1%
Mathews	-15	-1.2%	28	22.0%
Mecklenburg	-244	-4.9%	46	9.5%
Middlesex	-39	-2.9%	22	16.7%
Nelson	-62	-3.0%	15	7.7%
Newport News City	-176	-0.6%	467	18.7%
Norfolk City	-1,539	-4.3%	704	22.7%
Northampton	-426	-17.6%	11	4.4%
Norton City	-92	-11.9%	7	9.3%
Nottoway	-188	-7.5%	34	15.7%
Patrick	-29	-1.1%	45	18.5%
Petersburg City	-903	-14.8%	9	1.6%
Pittsylvania	-211	-2.3%	135	17.2%
Portsmouth City	-2,205	-12.4%	180	10.8%
Pulaski	-237	-4.6%	101	21.4%
Radford City	-13	-0.8%	18	13.2%
Rappahannock	-19	-1.8%	19	18.8%
Richmond City	-1,669	-6.5%	184	7.1%
Richmond County	-71	-5.5%	5	4.5%
Roanoke City	-412	-3.1%	206	15.4%
Rockbridge	-444	-13.8%	53	18.2%
Russell	-497	-10.9%	4	1.0%
Scott	-117	-3.1%	3	0.9%
Smyth	-350	-6.6%	97	21.1%
Southampton	-94	-3.3%	30	11.4%
Staunton City	-232	-8.0%	62	20.9%
Surry	-155	-12.5%	11	7.5%
Sussex	-168	-11.0%	7	4.5%
Tazewell	-904	-11.5%	18	2.8%
Virginia Beach City	-425	-0.6%	470	7.3%
Washington	-340	-4.5%	103	16.8%
Waynesboro City	-30	-1.0%	45	17.2%
Westmoreland	-117	-5.7%	30	17.8%
Wise	-1,048	-13.7%	87	13.4%
Wythe	-95	-2.2%	36	8.8%

## Too Much of A Good Thing

### 'Equal Students, More Staff' District

One locality had virtually no change in student enrollment over the eight year period, yet it also increased instructional staff positions.

**Table 2. DISTRICTS WITH EQUAL STUDENTS, MORE STAFF, FY97-FY04**

District	<u>ENROLLMENT</u>		<u>STAFFING INCREASE</u>	
	Number	Percentage Change	Number	Percentage Change
Carroll	+1	0.0%	39	10.3%

### 'Fewer Students, Fewer Staff' Districts

Six districts posted a net decrease in both student enrollment and instructional staff positions over the eight-year period (Table 3). Of the six, however, only Northumberland County's reduction in staff (-15.2%) closely paralleled its decline in enrollment (-17.6%).

**Table 3. DISTRICTS WITH FEWER STUDENTS, FEWER STAFF, FY97-FY04**

District	<u>ENROLLMENT LOSS</u>		<u>STAFFING DECREASE</u>	
	Number	Percentage Change	Number	Percentage Change
Buchanan	-1,252	-25.7%	-76	-15.3%
Charles City	-168	-16.2%	-1	-0.8%
Dickenson	-503	-16.3%	-9	-3.3%
Franklin City	-392	-21.9%	-5	-3.0%
Lee	-447	-10.8%	-7	-1.5%
Northumberland	-125	-17.6%	-27	-15.2%

### 'More Students, More Staff' Districts

Fifty-six localities posted a net increase in both student enrollment and instructional staff positions between 1996-97 and 2003-04. Enrollment grew by less than 10 percent in 36 localities and by more than 10 percent in 20 localities.

Loudoun County nearly doubled its student enrollment, adding 18,780 students for a net increase of 86.7%. Enrollment in Stafford County and Manassas Park grew by 42.3% and 40.2%, respectively.

All localities increased instructional staff positions at rates greater than enrollment with two exceptions. Fluvanna and Prince William counties had enrollment growth of 28.9% and 28%, respectively, and instructional staff growth of 26.3% and 26.1%, respectively.

In 38 localities, instructional staff grew at two or more times the rate of enrollment. Arlington and Clarke County, for example, had enrollment growth of 4.3% and 7.6%, respectively, but their instructional staff rose eight times the rate of enrollment growth: 35.9% and 63%, respectively.

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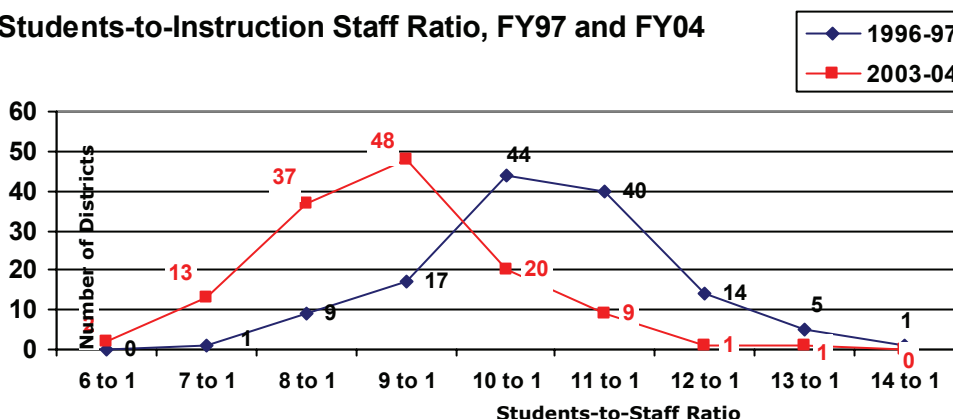
In two localities, the number of instructional staff positions added to the payroll exceeded the net increase in student enrollment. Page County had a net increase of 9 students and 50 instructional staff positions. The town of West Point gained 6 students and 19 instructional staff.

**Table 4. Districts with More Students, More Staff, FY97-FY04**

District	<u>ENROLLMENT INCREASE</u>		<u>STAFFING INCREASE</u>	
	Number	Percentage Change	Number	Percentage Change
Albemarle	962	8.5%	226	20.6%
Alexandria City	573	5.6%	330	28.1%
Arlington	748	4.3%	625	35.9%
Botetourt	169	3.7%	58	14.1%
Buena Vista City	18	1.7%	17	16.8%
Campbell	244	2.9%	126	17.9%
Chesapeake City	4,237	12.0%	828	27.9%
Chesterfield	5,366	10.9%	794	18.8%
Clarke	144	7.6%	87	63.0%
Colonial Heights City	32	1.2%	38	14.8%
Culpeper	935	17.9%	162	31.9%
Cumberland	129	10.7%	50	44.2%
Dinwiddie	367	9.0%	80	24.3%
Essex	60	3.9%	18	11.1%
Fairfax	17,760	12.6%	3,643	29.1%
Falls Church City	397	27.1%	77	45.8%
Fauquier	1,282	14.2%	178	19.8%
Floyd	178	9.3%	56	33.3%
Fluvanna	781	28.9%	65	26.1%
Franklin	360	5.3%	157	27.5%
Frederick	1,371	13.8%	312	35.9%
Fredericksburg City	266	12.6%	46	19.1%
Galax City	84	6.8%	27	26.5%
Goochland	157	8.1%	42	22.3%
Greene	165	6.7%	62	20.5%
Hanover	3,260	22.2%	663	59.2%
Harrisonburg City	494	13.9%	141	37.9%
Henrico	6,608	17.3%	874	30.3%
Isle of Wight	273	5.8%	58	14.8%
King George	354	12.6%	54	21.5%
King William	213	12.9%	51	31.3%
Loudoun	18,780	86.7%	2,185	124.7%
Louisa	289	7.3%	84	22.8%
Manassas City	812	13.8%	113	22.9%
Manassas Park City	647	40.2%	80	59.7%
Martinsville City	64	2.6%	43	17.6%
Montgomery	243	2.7%	166	18.2%
New Kent	360	16.7%	59	29.5%
Orange	335	8.9%	49	13.3%
Page	9	0.3%	50	14.7%
Poquoson City	69	2.8%	51	26.7%
Powhatan	1,034	34.9%	184	70.5%
Prince Edward	141	5.4%	56	25.1%
Prince George	541	9.9%	103	24.6%
Prince William	13,703	28.0%	962	26.3%
Roanoke County	446	3.2%	139	10.4%
Rockingham	454	4.4%	211	23.0%
Shenandoah	459	8.6%	90	17.8%
Spotsylvania	5,934	37.2%	731	53.6%
Stafford	7,330	42.3%	733	49.0%
Suffolk City	2,488	23.7%	373	39.3%
Warren	449	9.7%	113	29.4%
Williamsburg-James City Co	1,502	20.1%	226	32.5%
Winchester City	284	8.7%	76	21.1%
West Point Town	6	0.8%	19	27.9%
York	1,438	13.1%	227	25.3%

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**Students-to-Instructional Staff Ratio, FY97 and FY04**



### **Student-to-Instructional Staff Ratio and Its Implications**

The ratio of students-to-instructional staff (S-IS) steadily declined throughout the state over the eight years. In 1996-97, only 20% of Virginia's school districts (27) employed one instructional staff person for 9 or fewer students, while 80% (104 districts) employed one staff person for 10 to 14 students.

By 2003-04, that trend had reversed. Only 31 Virginia school districts (23.6%) employed one instructional staff person for 10 to 14 students, while 100 districts (76.3%) employed one staff person for 9 or fewer students. Highland and Surry counties posted the fewest students per instructional staff position at 6.7 and 6.9, respectively. Prince William County had the most at one instructional staff position for 13.6 students.

**Productivity.** While many see lower student-to-staff ratios as a good thing, it is possible to have too much of a good thing if it causes a decline in public school productivity.

In simple terms, productivity is the ratio between what is put in to an activity (i.e., its cost) and what is produced by an activity (i.e., its benefit). Schools are activities that exist to 'produce' educated young people. A school that does so at a low cost has high productivity, while a school that does so at a high cost (or fails at any cost to produce desired benefits) has low productivity.

American schools have been in a "productivity crisis" for several decades. Dr. Caroline Minter Hoxby, a Harvard University economist and the daughter of an undersecretary of education in the Carter administration, explains why:

The main symptom of the productivity crisis is the fact that productivity has fallen almost 50 percent in the past 30 years. We measure productivity by dividing a measure of student achievement by per-pupil spending in inflation-adjusted dollars. Regardless of which achievement measure we use, we find a decline in productivity of 40 to 50 percent. This is because achievement has been flat or slightly declining, while costs have been escalating rapidly.<sup>2</sup>

Economists Herbert J. Walbert and Joseph L. Bast point to three developments in the past three decades that contributed to this decline in American school productivity: the growth of non-teaching personnel, reduction in average class sizes, and a high school drop-out rate that has not improved since the 1970s.<sup>3</sup>

<sup>2</sup> "How Best to Improve School Productivity?" *School Reform News*, [www.heartland.org/Article.cfm?artID=10212](http://www.heartland.org/Article.cfm?artID=10212)

<sup>3</sup> Herbert J. Walbert and Joseph L. Bast, *Education and Capitalism*, Hoover Institution Press, 2003 (p 12-14) Available online at <http://www-hoover.stanford.edu/publications/books/edcap.html>

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Significantly lowering the student-to-instruction staff ratio—as Virginia school boards have done in recent years—increases the taxpayer cost of public schools. If the increased cost does not produce an equivalent boost in benefits (i.e., more and better educated high school graduates and measurable student achievement gains), school productivity falls even further. The result is that taxpayers get an even smaller return on their tax dollar investment.

**Class Size.** A lower student-to-instructional staff ratio can mean smaller class sizes for teachers, but that is not always the case. As defined by the state Department of Education, *instructional staff* includes principals, assistant principals, teachers, teachers aides, guidance counselors, librarians, and district-wide instructors. Thus, if a school board added large numbers of administrative (principals and assistant principals) or support staff (teachers aides, guidance counselors, and librarians) rather than classroom teachers, the district's student-to-instruction staff ratio would decrease but its class size would remain unchanged.

It is also questionable whether the benefit of smaller class sizes justifies the cost. Hoxby notes that reducing class size by 10% costs an average of \$850 per child per year. And while it reduces each teacher's workload, Hoxby points out that "there are literally hundreds of studies of class size, which have been very effectively reviewed by Eric Hanushek, that suggest that reducing class size does not raise [student] achievement."

**Teacher Pay Raises.** Reducing student-to-instructional staff ratios can also diminish the amount of annual pay raises awarded to classroom teachers since the funds available for that purpose must be divided among more school employees.

### State Staffing Mandates and Incremental Budgeting

Some will argue that state Standards of Quality staffing mandates are inflating local school employment, budgets, and taxpayer costs. While there is truth in that argument, the disparity in localities' school staffing patterns suggests that staffing mandates are only part of the problem.

Another more fundamental problem, suggests Jon Fullerton in an article entitled "Mounting Debt," is *incremental budgeting*, a process in which school districts determine their next annual budget by adding or subtracting incremental spending to each major item in their last annual budget:

The downsides of the incremental approach are obvious ... Making piecemeal changes to district priorities through a fragmented series of increments based on last year's budget will not ensure that the organization is carrying out the strategically correct activities or that it is executing them in a cost-effective manner ... This method in fact provides an incentive for inefficiency: the fatter a department gets, the better it can survive the inevitable budget cycles.<sup>4</sup>

Taxpayers in many localities will no doubt welcome any relief that gubernatorial candidates care to offer, but it will take more than has been proposed thus far to bring school staffing in line with student enrollment and improve productivity of Virginia public schools.

*Note: District data tables for school years 1996-97 through 2003-04 are available online at [www.choices-k12.org](http://www.choices-k12.org)*

<sup>4</sup> Jon Fullerton, "Mounting Debt," Education Next, Winter 2004 [www.educationnext.org/20041/11.html](http://www.educationnext.org/20041/11.html)