

APS Must Reduce Class Sizes: A Critical factor to the Success of our Students

Research shows that smaller class sizes are one of the few reforms proven to improve student achievement, and is particularly important in the earliest grades and for those from less advantaged backgrounds. Despite this research, APS class sizes are larger than the average of our regional and state peers, and APS has been consistently increasing class sizes over the past two years. APS should reverse the decisions of the past two years regarding class sizes and take steps to reduce class sizes to, and below, the levels of our regional and state peers. APS' own data confirms that this can be done with a modest investment, consistent with also making the necessary investments in our teachers compensation.

1. **Class Sizes are a critical success factor**

Research [shows](#) that smaller class sizes are one of the few reforms proven through rigorous evidence to [increase student achievement](#) and to [improve equity outcomes](#). The Student Teacher Achievement Ratio study conducted in Tennessee during the late 1980s compared student performance in classes with an average of 22 students per class with class sizes of 15 students. The smaller classes increased student achievement by an amount equivalent to 3 additional months of schooling four years later. See [Brookings Research](#). Brookings concludes that very large class-size reductions, on the order of 7-10 fewer students per class, can have significant long-term effects on student achievement and other meaningful outcomes, and that these effects are largest when introduced in the earliest grades, and for students from less advantaged family backgrounds. A meta-analysis from 1979 showed that once class sizes fall to 15 students per class, learning accelerates progressively. [Effectiveness of Class Size Reductions \(2016\)](#). Other research confirms that class size reduction helps even if class sizes cannot ultimately be reduced by large magnitudes. [Five Facts to Know on Class Size](#). A study from 2016 concluded that “the ‘overwhelming majority’ of peer-reviewed papers finds class size reduction to be an effective strategy. [Effectiveness of Class Size Reductions \(2016\)](#)

Small class size is a value shared by parents and teachers alike, and in countries around the globe. In the UK, a survey of 4,360 teachers in 2015 found that class sizes were the single most important factor thought to improve student learning; and more important than better teacher pay, better professional development, and any other factor. [Rethinking-Class-Size \(2020\)](#) at 12. Other countries, such as China, have adopted initiatives such as “small class teaching” and

“small class education.” Hong Kong and Taiwan have similarly taken a lead in class size reductions. [Rethinking-Class-Size \(2020\)](#) at 15.

In fact, class sizes have been deemed so important to student achievement, they are one of the few factors in education where many states have passed legislation. California passed a law in 1996 reducing class sizes to 20 or less. [State Class Size Regulation](#). Florida in 2002 set constitutional maximums for class sizes of 18 (K-3), 22 (4-8), and 25 (9-12). *Id.* Georgia set maximum class sizes at 18 for Kindergarten, and 21 for grades 1-3. Virginia likewise has adopted laws addressing both the average class sizes and the maximum class sizes. Virginia requires the average Kindergarten class size to be no larger than 24, and the maximum no larger than 29. For grades 1-3, the average must be no larger than 24, with no class larger than 30. For grades four through six, the average may not exceed 25, and no class may be larger than 35 students. And for English classes in grades 6 through 12, the average may not exceed 24. [DOE Guidance on Class Size](#).

To be clear, some have argued that class sizes may not be the most critical factor in affecting student outcomes, and may not be the most effective use of educational dollars. The leading proponent of that view is Erik Hanushek of the Hoover Institute. [Hanushek \(1999\)](#). He viewed the data on the benefits of small class sizes in 1999 as inconclusive, and believed that the push for small class size could result in recruiting less talented teachers and/or in foregoing other investments in order to fund those smaller classes. We agree that teacher quality, like class sizes, is important to delivering quality education, but well-funded school districts like Arlington should not force a choice between smaller class sizes and high quality teachers. We believe Arlington is capable of delivering both.¹

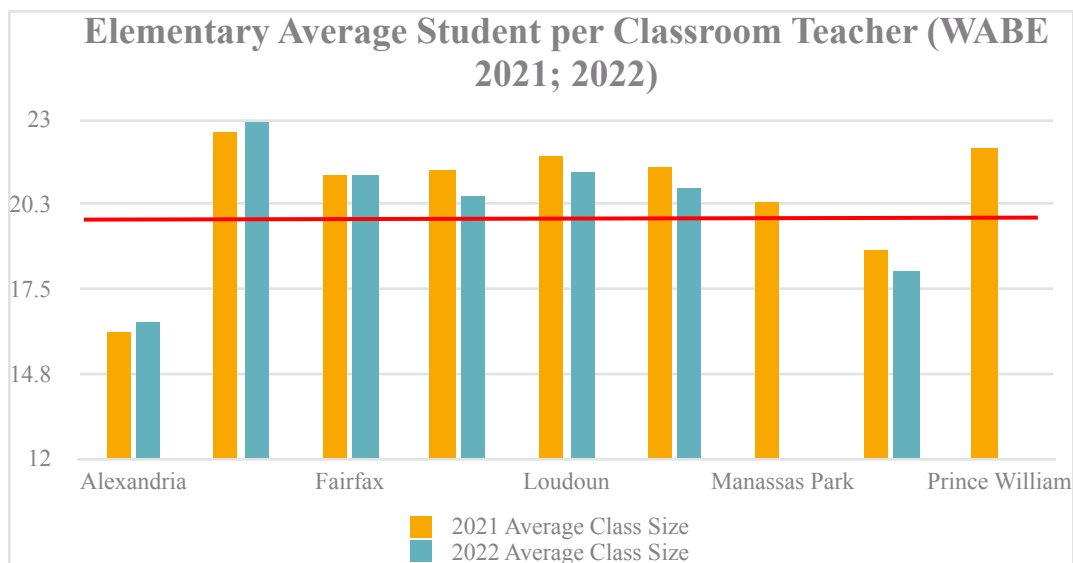
2. APS Class Sizes are Larger than Average and Increasing

Despite the evidence on the importance of small class sizes, APS class sizes, particularly at the elementary level (where class sizes are shown to matter most), are larger than average. With the recent increase in planning factors, those class sizes are increasing and are likely to become even larger still and further away from our regional and state peers. At the secondary level, average class sizes in middle school SOL classes are steadily increasing. And the number of classes with more than 27 students per class have significantly increased over the last two years.

¹ We would also note that the recent 2020 study on class sizes identifies benefits to smaller class sizes that are not easily captured by student testing outcomes alone. [Rethinking-Class-Size \(2020\)](#) Further, that study notes that for smaller class sizes to be truly beneficial, instruction methodology must be modified to take advantage of the smaller class sizes. In addition to urging APS to focus on adopting smaller class sizes, we would also urge it to consider how to use those smaller class sizes to better target and personalize its instruction.

A. Elementary School Class Sizes

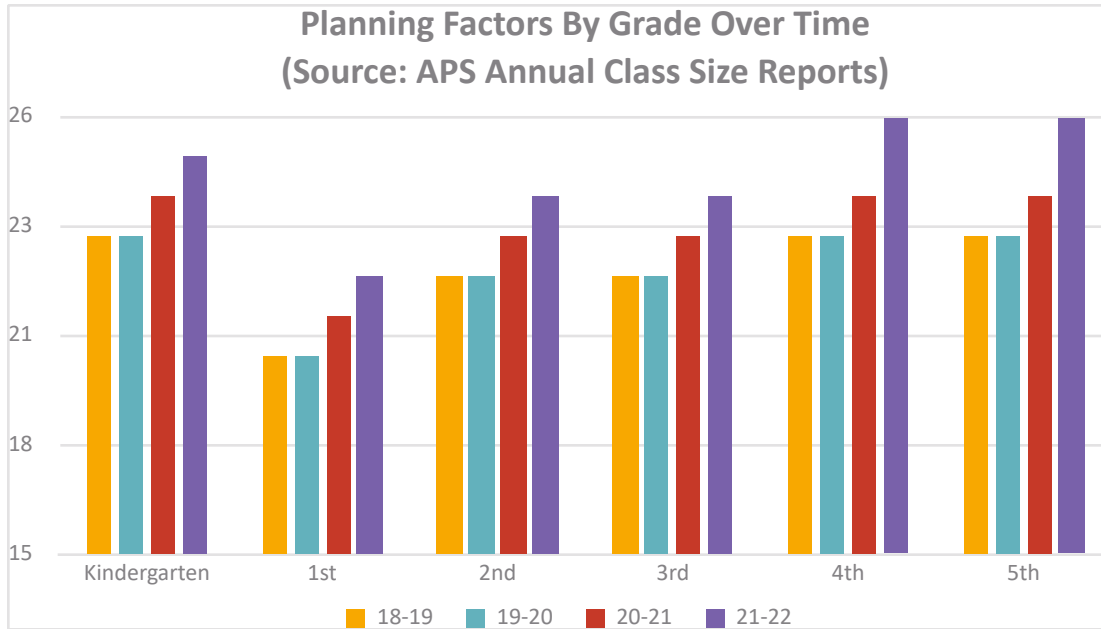
According to the Washington Area Boards of Education (WABE) 2021 Guide, Arlington’s average elementary class size of 22.6 was the largest in the region, and fully two students per class more than the average class size for the region of 20.6. The recently released WABE 2022 Guide shows an even greater disparity. APS was one of only two districts in the region for which class sizes increased (several districts reduced class sizes), and our elementary average class sizes of 22.9 are now 2.7 students greater than the average of 20.2.



Notably, in 2017 (the last year data was available), the NCES reported that the average class size for teachers in self-contained classes in elementary schools in Virginia was 19.3 students per class. [NCES 2017 Class Size data](#). That same year, APS reported average class sizes in its elementary classes of approximately 21.7 (averaging across all elementary classes). In other words, even in 2017, APS averaged more than 2 students per class more than the Virginia average.

Arlington manages class sizes through the use of three tools: (1) a “Planning Factor Guideline,” which serves as the basis for planning teachers and classrooms; (2) a “County Planning Factor” number, which APS treats as the “Max” Factor, and (3) a Traffic Light Report, where APS tracks on a school-by-school and class-by-class basis the number of classes that approach or exceed the Planning Factor and the “Max” factor. In May 2021, the Arlington School Board approved an increase in the “planning factors” and the County Planning Factor,

which resulted in at least a 2 student per class increase in those factors, based on [APS Annual Class Size Reports](#).² The planning factors have increased as follows:



Notably, the APS planning factors in Kindergarten (25), and in 4th (26) and 5th (26) grades exceed the Virginia requirements for average class sizes in those class years.³ The second and third grade class size planning factors are set at the Virginia state levels.

Some have recently noted (based on the 2021-2022 Class size report) that despite this increase in planning factors, the average class sizes reported by APS (ranging from 20.7 in 2nd grade to 22.54 in fifth grade) for the 2021-22 school year had not materially increased over historic averages. There are at least three problems with that conclusion. First, as noted above, based on WABE data, APS class sizes were greater than the Virginia and local averages by at least two students per class even before the recent planning factor increases, and are now greater

² Note: The APS class size reports reflect an increase of two in the planning factor between the 2020-2021 school year report and the 2021-2022 school year report. It is not clear if the stated timing of that increase is accurate. The 2020-2021 school year class size report reflects that the FY 2021 Adopted Budget increased the classroom planning factor and recommended maximum by 1 student in K-12. In May 2021, APS increased the planning factor for grades K-5 by 1 additional student. Our chart reflects what we believe to be the actual planning increases over time (with one increase in the FY 2021 budget and one increase in FY 2022 budget) even though that is inconsistent with the reported planning factors from the 2020-2021 class size report. Regardless, the FY 2022 class size report reflects planning factors that are two students higher than the planning factors from the FY 2020 class size report.

³ We are not suggesting that APS is violating Virginia law, because the law governs average class sizes and the average class sizes are typically lower than the planning factors because of the way classes are actually staffed. Nonetheless, the fact that APS's planning factors exceed the expected statewide average class size highlights that APS is already at the high end of state expectations.

than the average by 2.7 students. Second, the 2021-2022 APS-reported average is higher by at least one student per class over the 2020-2021 class year averages. Third, the principal reason the average class sizes did not increase more is that APS was planning on 28,500 students for FY 2022, rather than the 27,000 students who actually enrolled, leaving APS with more teachers per students than the planning factors would have dictated. As APS sets its 2022-23 budget with a goal of recognizing savings from the reduced enrollment, if current planning factors are maintained, then those increased factors are likely to result in larger average class sizes in the future.

Average class sizes also do not adequately reflect the actual experience in our schools. More than ten kindergarten classes have 25 students in them and four 1st grade classes have 26 students. Four 2nd grade classes have 27 students in them—substantially higher than the 20.7 student average for 2nd grade. For students recovering from extended school closures and teachers confronting emotional and behavioral issues, not to mention extensive learning losses, these large classes are a particular disservice.

B. Secondary Level Class Sizes

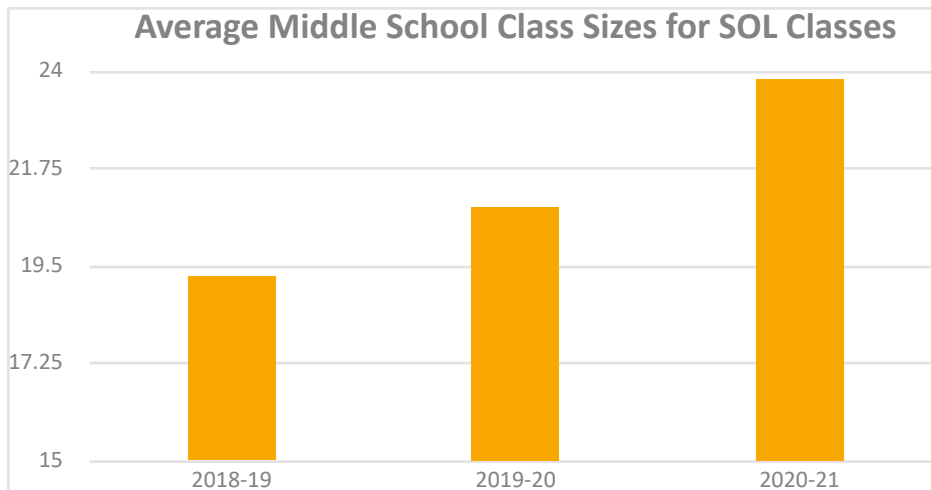
At the secondary level, data is more difficult to assess. Classrooms are more fragmented with different topics (math, English, social studies) each having different classes. APS does not track average class size by grade, but instead tracks sizes by subject matter, with dramatically different average class sizes by subject matter. In the 2020-21 school year, for example, high school average class size by subject ranged from 12 students per class to 25 students per class. APS does, however, track the average class sizes for “SOL courses” (the courses for which SOL exams are administered, which are typically geography, geometry and algebra). It also tracks the number of classes where the total number of students exceed 27.

WABE reports the average class sizes for local districts at the middle and high school levels. Those reports reflect APS as having the smallest average class sizes among middle and high schools of the local districts in each of the last two years.⁴ These average class size numbers, however, must be caveated because they depend significantly on the number of subjects offered at each district, and they weight niche classes (CTE classes, Chinese foreign language, chorus) equally with more core classes (Algebra, English, History). Thus, districts such as Arlington that may be able to offer a broader array of classes may have lower average class sizes than other districts, even if core classes are still somewhat crowded. WABE also reports the “staffing ratios” for each local district in middle and high school. On that measure,

⁴ On the other hand, the APS reported average in WABE for high schools (20.1) is far higher than the reported average in Virginia (13.5) and the Country (16.3) as of 2017 in the [NCES](#).

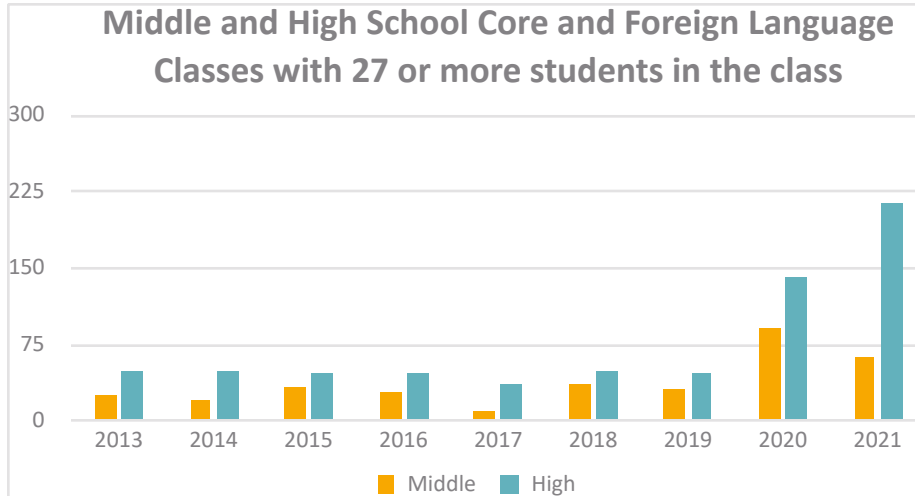
APS' staffing ratio in middle school is 0.5 students higher than the average of local districts, and APS staffing ratio in high school is 1.5 students higher than the average.⁵

The data tracked by APS, however, paints a picture of increasing class sizes at the secondary level. At the middle school level, the class sizes of those classes that administer SOLs (Geometry, Geography, and Algebra) have been steadily increasing from 2018 through 2021, as reflected below (that data is not available for the 2021-22 school year). At the high school level, the average class size for SOL classes has increased to a lesser degree, from 19.64 in 2018-19 to 19.88 in 2020-21.



⁵ The staffing ratios are based on the 2021 WABE Report; the 2022 WABE report showed almost no changes from any districts on their staffing ratios, but omitted data for Prince William and Manassas Park.

APS also tracks the number of classes in middle and high school with class sizes of 27 or greater. For the last two years, this data reflects a dramatic increase in the number of middle and high school classes with 27 or more students per class.⁶



3. APS Needs to Substantially Reduce Class Sizes

Over the past two years, APS has turned to increasing the class size planning factors as one of its core methods of balancing the APS budget. Based on the research highlighted above, this is precisely the wrong lever for APS to pull if it wants to improve student outcomes. Parents and teachers alike generally agree that smaller classes are better for students, and also improve the teaching conditions and effectiveness of our teachers. While we recognize that APS, like every other school system in the country, faces budgetary constraints, our school system has far more resources than most. Given that our revenue and our spend per student are already among the highest in the country, we should have classroom results that reflect that substantial investment.

Consistent with the research, Arlington should, over the long term, target a reduction in its average elementary classroom size of at least 2-3 students per grade. This would put us in line (and perhaps a small step ahead) of our local peers and the Virginia average. Given that the average class size is only indirectly linked to the planning factors, a 2-3 student reduction in

⁶ We would caveat the 2020-21 data by noting that there is an internal inconsistency in the APS 2020-21 class size report. The detailed charts identifying class sizes over 27 identify 91 and 141 classes at middle and high school respectively with class sizes over 27. The summary data included at the top of the report uses the numbers of 50 and 43 respectively. As the detailed reports are consistently reported year to year (including for the 2021-22 school year), and provide more detailed data, we have used that data presuming it to be more accurate.

average class size will likely require a reduction in planning factors at the elementary level of at least 5-6 students per class (a reduction of two students in the planning factors would reverse the increases from prior years, and a reduction of an additional 3-4 students would be needed to move our average class sizes down by 2-3 students).

At the secondary level, APS should reverse the planning factor increase that was made in the 2020-21 budget cycle, and should supplement its class offerings in those subjects (and at those schools) where class sizes regularly exceed 27 students.

Based on last year’s budget process, we already have a pretty good estimate for what such reductions would cost. In assessing the savings to be gained from reducing planning factors by 1, 2 and 3 students, APS generated the below data on projected savings. Assuming that those numbers are equally applicable to increasing class sizes by 1, 2 and 3 students respectively, APS can already estimate the potential cost of reducing its planning factors.

Increase Class size	Increase 1 (\$M)	Increase 2 (\$M)	Increase 3 (\$M)
Kindergarten	(0.15)	(0.45)	(1.06)
Elementary	(1.22)	(1.94)	(3.28)
Middle	(1.09)	(2.12)	(3.06)
High	(1.16)	(2.25)	(3.28)
Total	(3.63)	(6.77)	(10.67)



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As a first step this year, APS should decrease class size planning factors for Kindergarten and Elementary schools by 3, for a total cost of \$4.34 million, and should reverse the class size planning factor increases in middle and high school from 2020-21 (of one student each), for a cost of \$2.25 million. In total, this proposal would cost about \$6.59 million in the 2022-2023 budget, which is less than 1% of APS' total budget. APS should plan a similar reduction in planning factors for the 2023-24 budget. These steps should be taken together with the proposed increases in teacher compensation, and we disagree with any framing that proposes to sacrifice this goal in favor of smaller class sizes or vice versa. APS can and should achieve both.

Arlington Parents for Education is a volunteer-led, non-partisan coalition of parents, teachers, students and citizens dedicated to accountability, transparency and education excellence at Arlington Public Schools. Follow us **@ArlParentsForEd**