



Capacity White Paper

What is capacity?

Capacity is the number of students that can be accommodated in a building for instruction in a maximally efficient manner. APS capacity numbers are based on a series of variables including room use, planning factors, class size and utilization rate (secondary schools). Planning factors determine a ratio for teaching staff to students (i.e., 5th grade teachers are generated at a ratio of 1 teacher for every 23 students in a school).

Capacity numbers are governed by state standards, but also reflect a school system's values and the resources the district has available. Class size policy, as determined by the School Board, directly affects a building's capacity total.

How is it determined?

Historically, capacity numbers have been calculated differently for elementary and secondary schools. Elementary schools' capacity is generated by multiplying the number of classrooms by a planning factor (23.33 students) and then adding in PreK and Special Education programs which have a particular capacity number (VPI: 16, Montessori: 23, PreK Special Education: 8). At APS, we calculate capacity only for rooms that hold full classes of students all day. We do not calculate capacity for art, music, PE, ESOL/HILT, or pull-out special education rooms.

Secondary schools' capacity is generated by multiplying the number of rooms of a certain use by the capacity assigned to that room use (21 for core classes, higher for electives) times a 6/7th utilization factor (to account for the one period a day that a room would not have students in it).

Why does it change?

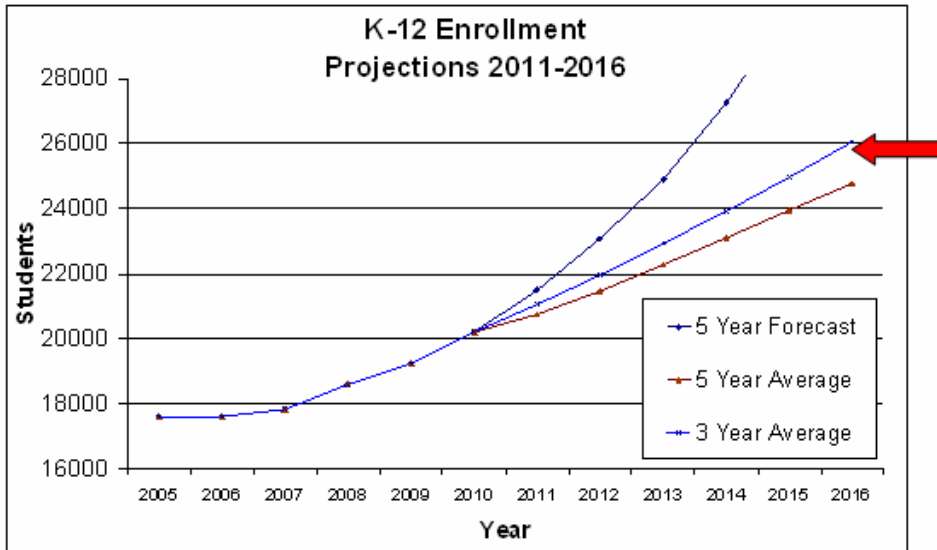
As populations grow and change, APS may determine, based on staffing needs, a need for changing a room's use. If a room is converted from a non-capacity bearing function (e.g., a computer lab) to a K-5 instructional space, a new classroom's worth of capacity is added to the total building calculation.

APS Enrollment and Projected Growth

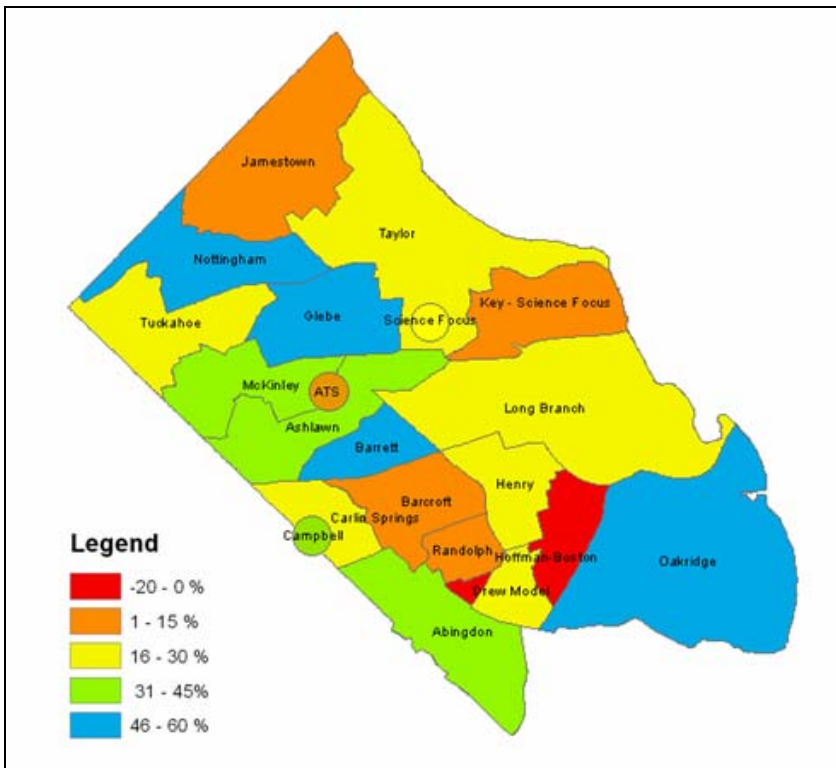
Since 2006, APS' enrollment has grown by 3,394 students, or 18% in five years.

Projections of student enrollment are produced twice a year, after examining a wide range of projection models (see chart, below). Fall projections of the upcoming six school years are published every November, based on the membership report of September 30th.

These numbers are used to create the Superintendent's Budget for the next fiscal year. Spring updates to the projections are then produced every February, and use the January 31st enrollment counts to fine-tune the fall projections. It is from the spring projections that staffing decisions for the next fiscal year are made.



The map below shows percentage change by elementary school over the past five years (2005-2010). Growth is occurring throughout APS and is not specific to a certain part of the County.



Projected Growth

Based on 2010 projections (updated projections will be available in Nov, 2011), APS is expecting a system-wide shortage of 3,387 seats by 2016. Those shortages are broken down as elementary school: 1,608, middle school: 921, and high school: 857. This implies a need for over 140 classrooms.

How has APS' capacity changed in response to enrollment growth?

In order to meet the demand for more seats, APS has implemented several strategies over the past several years.

Reconfiguration of space inside of buildings

First, space inside of school buildings has been examined and classrooms have been added by reconfiguring space (for example, office spaces have been converted to small classrooms). Second, APS has begun converting many computer labs to classrooms, and instituting wireless, laptop labs. Internal conversions of over 20 classrooms have added approximately 460 seats in the last several years.

Class size and utilization rates

Class size has been increased at both the elementary and secondary levels resulting in 798 additional seats during the last two years. Furthermore, utilization rates (at the secondary level) have been increased from 5/7 to 6/7 to gain 1,170 seats in middle and high school.

These strategies, in conjunction with seats gained through recent construction projects, have resulted in the addition of 2,531 seats from 2005 to 2010. These seat break down as 929 in elementary schools, 684 in middle schools and 918 seats in high schools.

Relocatables

Outside of buildings, maintenance staff has installed relocatable classrooms (trailers) to house a greater number of students. This year, for example, 28 classrooms have been installed in relocatables around the County, bringing the APS total to 83 classrooms, or space for over 1800 students. In 2011, 50% of APS schools have relocatable classrooms outside of buildings serving 8% of our population.

While these options are useful tools for APS, their use must be considered in the context of each school's needs and educational program. Because core spaces (libraries, cafeterias, gymnasiums, etc.) are subject to limits in terms of capacity and scheduling, each capacity option has its limitations and must be evaluated in terms of impact on the school-wide community.

How does APS intend to house the projected increased population over the next many years?

In 2009, the School Board adopted the Progressive Planning Model (PPM) framework, a step-wise approach to developing additional capacity throughout the system. The PPM framework was developed after much community input and through a study with MGT of America, planning consultants. Through a series of community meetings, summer chats and a web survey, staff engaged the public in a dialogue about pros and cons of capacity solutions and determined an initial focus of achieving capacity without immediate boundary changes.

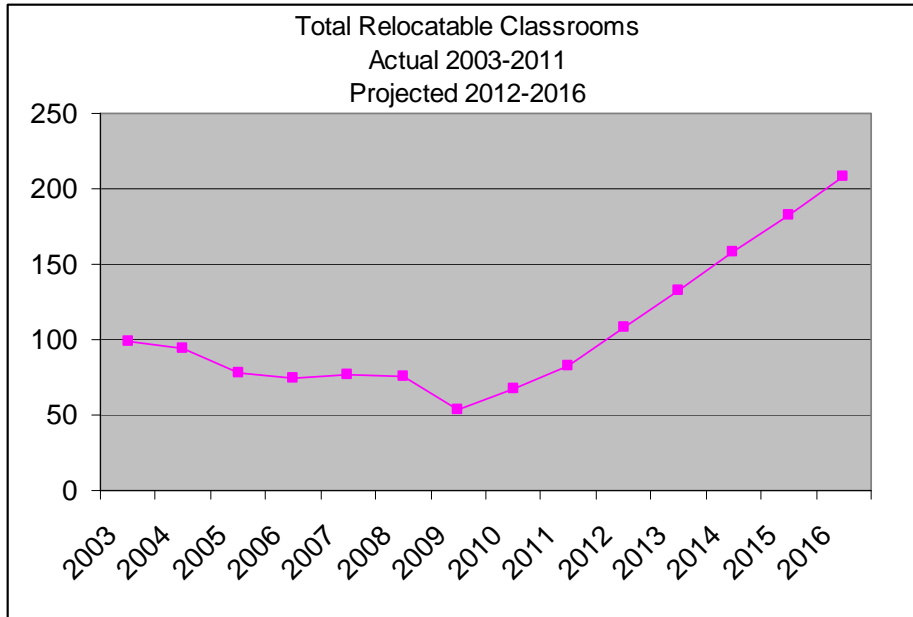
The PPM framework outlined three methods for achieving greater capacity and balancing the utilization of that capacity across the system:

1. Better using capacity throughout the system
 - a. Boundary moves
 - b. Relocation of programs
2. Changing internal space use within schools
 - a. Scheduling changes (6/7 model and longer high school days)
 - b. Increasing class size
 - c. Moving “specials” (i.e., art and music) to carts
3. Adding physical space
 - a. Relocatables
 - b. Additions
 - c. Reconstruction
 - d. New buildings
 - e. Leased space

Using the Progressive Planning Model framework adopted by the School Board in 2009, APS has already implemented many options for increasing capacity. Those strategies, described above, have included:

- Class size increases
- Increased utilization rate at secondary schools (6/7 scheduling and longer school day)
- Conversion of non-capacity classrooms into capacity-bearing rooms and putting programs on carts
- Relocatable (trailer) classrooms

Relocatables will continue to be relied on heavily for additional classroom needs in the future. Current projections indicate that APS will install 25 relocatable classrooms a year for the foreseeable future in order to manage demand. This can add up to 575 seats per year, but many sites are reaching their limits in terms of available space for relocatables. Due to the expected length of time of use of relocatables, APS now purchases (rather than leases) these units.



Additionally, to better balance enrollment between schools, APS has increased admissions to countywide schools including ATS, Campbell, Claremont, Drew, Key, and HB Woodlawn for the 2011-12 school year and beyond.

Decision Lens Process

APS has exhausted many of the initial steps of the PPM which involve converting internal space into capacity-bearing classrooms, changing scheduling practices, and adding relocatable classrooms. The next steps for adding system-wide capacity will be to build additional space on current APS sites or acquire (through lease or purchase) new sites and/or facilities to build or rent space for instruction.

To assist the School Board in developing a Capital Improvement Plan which includes capacity-building projects, APS has engaged Decision Lens. The Decision Lens software and process will help evaluate capital solutions based on criteria developed by the School Board. The goals of using Decision Lens include:

- Create a transparent framework around a very complicated decision making process
- Enable clear articulation of strategy and alignment of solutions to objectives
- Provide decision makers with options around different funding strategies
- Rapidly adapt to changes in priorities and funding circumstances should they arise.

The Decision Lens process is taking place in several steps:

1. Work with the School Board to develop criteria model by which solutions will be evaluated (completed July 2011).

2. Develop a solutions catalog (all potential capacity planning solutions, including potential County-owned sites) with input from CCPTA surveys to all schools. The list of solutions will be refined in conjunction with a community and staff Evaluation Committee (September and October).
3. Engage the larger Arlington community in a conversation about the process and let them know which APS sites will undergo further feasibility analysis (October 5 community meeting).
4. Conduct feasibility studies with outside architectural consultants to provide site data and cost estimates (October and November).
5. Board ranks solutions using the Decision Lens model in November.
6. Superintendent presents CIP to the School Board in May, 2012, using results of ranking and analysis, and includes funding from APS reserves for this purpose as well as bond funding.

In completing this prioritization process, staff will be analyzing and quantifying the impact of each option in order to compare the effect against the values determined by the School Board. During this process, APS will continue its ongoing discussions with the Arlington County Government to ensure a collaborative approach to the challenge of increasing enrollment.

Summary

To meet the demands of increasing enrollment, APS has added 2,531 permanent building seats for our students since 2005 through a variety of measures as well as space for an additional 1,800 students in relocatables. Because enrollment is projected to continue to increase, we project that by 2016, APS will need an additional 3,400 seats for our students. Even with the processes and steps outlined above, APS will continue to require creative solutions to the ever-growing demand for space in our schools.