

Elementary Location Analysis

Phase 1 of the Elementary Planning Initiative
Draft Analysis Round 2
April 30, 2018

Introduction

Arlington Public Schools has reached a historic point in efforts to manage rapidly growing enrollment while maintaining academic excellence for students at all levels. Over the past five years, our school division has had an average growth rate of 3.6%, adding about 1,000 students annually and preparing to welcome more than 30,000 students by 2021. Since September 2000, elementary enrollment has grown 44%, from 9,166 students to 13,174 (Sept. 2017). Capacity has been foremost in mind for the School Board, Superintendent Dr. Murphy, staff, parents, teachers, and other community members, as we ensure students continue to flourish in learning environments that remain healthy, safe and academically challenging.

The commitment to APS core values in educating our students remains firmly in place throughout our school division. Today's realities, however, do require a fresh approach to managing enrollment growth and maximizing resources. We have a rare opportunity right now to rethink our elementary school strategy in its entirety since we must define boundaries for all neighborhood elementary schools to create attendance zones for three new schools and balance enrollment across the county.

There is some urgency to advancing APS from taking an approach that worked years ago when we were a 19,000-student school division to one that can meet the vision being defined in the 2018-24 Strategic Plan for an increasingly urban and multicultural student body that will soon exceed 30,000. Currently, we manage growth through boundary adjustments and relocatable classrooms since this is not a problem we can "build our way" out of as a solution. Arlington's option programs—including the five elementary ones (Montessori, Traditional, Expeditionary Learning, and two Immersion)—are key in balancing enrollment and offering a variety of instructional models.

APS must embrace the opportunity to strategically place the five option programs at elementary school sites that will best serve students throughout the County, and this updated draft analysis outlines a path to developing recommendations that will be presented to the School Board in Fall 2018. Many—if not all—current neighborhood elementary school attendance zones will change by 2021 after the School Board acts in Fall 2018 to adopt a proposal: Change A will leave all schools in their current locations but will change boundaries to adjust for the opening of new schools; and Change B will adjust boundaries and include recommendations for moving one or more option programs to another location. The second proposal, if adopted, will result in one or more neighborhood elementary school sites becoming option schools, and vice versa.

Consider some crossroads we have reached as a school division that support a long-term and strategic approach for the future:

- **We have more students in relocatable classrooms than ever before.** In 2018-19, APS expects to have the highest number of students in relocatable classrooms; at the elementary level, 400 more students will be in relocatables than during the 2017-18 school year. Relocatables have been—and will continue to be—critical in creating capacity for students but we must seek to balance enrollment using all permanent seats available across schools as well.
- **Our transportation needs are competing with classroom needs at a time of fiscal constraints.** The Department of Facilities and Operations needs more bus drivers and more land to park school buses, both resources in limited availability in Arlington. As four new schools open over the next three years, transportation costs continue to climb and compete for classroom funding. (The annual operating cost for one school bus is estimated at \$70,000, while the average teacher salary is \$79,055.)
- **Our community has expressed strong support for students walking to schools.** Currently, about 66% of elementary students are eligible for busing; staff expects that the process to assess walk zones and school locations could increase the number of elementary students in walk zones so that only about 50% of them need busing. An important factor in reducing the need for busing is to address overlapping walk zones so that capacity is maximized in schools that are within close proximity of each other without subjecting any students at neighborhood schools to long bus rides.
- **Our community seeks to reduce the proportion of economically disadvantaged students concentrated in some schools, a measure supported by research into student outcomes.** Across all school levels, 30% of Arlington students are identified as economically disadvantaged. At the elementary level during the 2017-18 school year, the number of students who receive Free and Reduced Lunch ranges from 2% at Tuckahoe to 83% at Carlin Springs. Staff will work closely with instructional leaders to explore whether moving any option programs to new sites can improve this dynamic.
- **While all programs can work effectively at all elementary school locations in Arlington, it is important to locate Immersion programs near where Spanish-speaking students reside.** When the first Immersion program was established 30 years ago, it was in an attractive location for Spanish-speaking students, however, demographic shifts within the county have resulted in a far higher concentration of our Spanish-speaking students in the Columbia Pike/Carlin Springs area today. These programs may be able to quickly fill all slots for Spanish-speaking students if located closer to where they live, while still appealing to English-speaking students.

This document provides data and the considerations that staff is taking into account in developing recommendations for the School Board’s consideration in Fall 2018 that go

beyond the points made in this introduction. Staff cautions community members that this is an adaptive process and is labeled as a “draft analysis” because it reflects the data being used and the considerations applied to the analysis in an effort to be transparent. There are no recommendations presented in this document. Everything in this document is subject to change, given the possibility that more data and considerations may be incorporated into the analysis in the future.

Also, it is important to note that any changes in school locations will not take effect until the summer of 2020 or 2021, which will allow ample time for community engagement and information. If a decision is made to change a current option school site into a neighborhood school site, community members will be involved as that new neighborhood school community takes shape. If an option program moves to a current neighborhood school site, that would mean the program’s administration, teachers and any special amenities could be moved to the new site.

The instructional needs of our schools and students are always the top priority, and APS families can continue to count on the school division’s deep commitment to academic excellence. As the planning team goes forward with this process, we will continue collaborating with the Dept. of Teaching and Learning, the Dept. of Facilities and Operations, the Dept. of School and Community Relations, and elementary school principals, among others.

The School Board, Superintendent, and staff appreciate that APS families value their school communities and we understand that change is hard. We are committed to positioning all schools to thrive.

April 30 Analysis

In Round 2, this analysis does the following:

- *Builds on the initial analysis posted on April 12 at www.apsva.us/engage*
 - *Adds new considerations for assessing neighborhood and option school locations*
 - *Updates information points based on stakeholder input*
 - *Notes information that is no longer being considered for further analysis as staff continues working to develop a proposal for the School Board to adopt by November 2018*
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In Phase I of the Elementary School Planning Initiative, staff is using a variety of considerations to review elementary school walk zones and develop recommendations on the strategic location of neighborhood and option elementary school sites.

The [April 12 staff analysis](#) presented considerations that continue to be used and referenced in this document. That initial review focused on the following objectives:

- Reducing the growth in transportation costs to keep more resources available for services provided within schools
- Aligning with community preferences for walkability

- Siting option schools in smaller buildings that can grow through the use of relocatables
- Considering the relative proximity of other elementary schools near a potential option school site

In Round 2, staff began with the April 12 draft analysis and incorporated more detailed information on every elementary school. We worked with Elementary Instructional Leaders from across APS to ensure that the analysis aligns with core values in the APS Strategic Plan, including:

- **Excellence** - fostering excellence in our students and staff
- **Integrity** - We expect our students and staff to act in an honest, ethical and respectful manner.
- **Diversity** - valuing all students, staff and families in our diverse, inclusive school community
- **Collaboration** - supporting relationships among students, staff, families and the community that ensure effective communication and promote opportunities to benefit our students
- **Accountability** - take responsibility for our progress through transparent evaluation of student success, staff quality, and management of the community's resources
- **Sustainability** – practicing stewardship of economic and environmental resources, meeting our current needs without compromising the ability of future generations to meet their needs

The proposal to the School Board in Fall 2018 will do the following:

- Ensure that any proposed changes to/from a neighborhood or option school site are suitable from an instructional perspective. (**Teaching & Learning consideration**)
- Prioritize neighborhood school sites in locations where there are large numbers of current and future students in the potential walk zones. (**Potential Walkers consideration and Future Residential Development considerations**)
- Locate option programs in areas that require a large number of buses. (**Number of Buses consideration**)
- Across the county, distribute neighborhood schools, so that students have access to schools that are relatively close to where they live. (**Geography and the Proximity to Other Elementary School Sites considerations**)

The analysis includes new information that will help us consider opportunities, including:

- **Reducing the proportion of economically disadvantaged students concentrated in some schools.** Arlington's housing patterns make it difficult to balance demographics via a boundary process. The proposal will explore ways to locate more options in places that are accessible to economically disadvantaged students, while ensuring they remain attractive to families across Arlington.
- **Reviewing APS transfer rates by school to better understand current patterns.**
- **Locating Spanish immersion programs closer to large populations of Spanish-speaking students.**

The goal of Arlington's Spanish immersion program is to

- develop high levels of proficiency in the native language and in a second language through content instruction;
- develop high levels of literacy in Spanish and English;
- promote academic achievement in the content areas in both languages; and
- instill cross-cultural competence.

The program was established to build upon the native language skills of Spanish-speaking students. Arlington's census data and APS' student data indicate that the majority of Spanish speakers live in the area of Columbia Pike and Carlin Springs Road. Based on past patterns of admission and applications for 2018, the program will continue to attract families from other parts of Arlington.

- **Exploring possible efficiencies among different combinations of potential sites.** Over the coming weeks, the analysis will dig deeper into some of the ideas suggested from our meetings with Elementary Instructional Leaders. These suggestions include:
 - Locating immersion schools closer together to allow for shared professional development and balanced admissions
 - Aligning option school start times, and implementing bus pick-ups at neighborhood school hubs
 - Addressing the challenges posed by a modified school-year calendar at one neighborhood school
 - Clustering option sites to potentially share—and make better use of—county-wide transportation resources

In Phase 2, during the Fall of 2018, staff will present draft recommendations on neighborhood and option school locations, including potential boundaries. The School Board will take action on both elementary school location and boundary recommendations in November 2018.

Considerations

1. Teaching and Learning

Ensure that school sites are suitable from an instructional perspective for any proposed changes to/from a neighborhood or option school.

The Department of Teaching and Learning has determined that all APS elementary school buildings can support all elementary option schools and neighborhood schools. Any program can thrive in any of the buildings.

The Department of Teaching and Learning and the Department of Facilities and Operations provided the following statement about what our elementary schools need:

Adaptable, Agile Learning Environments

All APS elementary school buildings can support all elementary option schools and neighborhood schools. Any program can thrive in any of the buildings.

*As APS enrollment continues to grow and our understanding of teaching and learning continues to evolve, our school facilities must be **adaptable** to frequent changes in teaching and learning over time, and the spaces within them must be **agile** to seamlessly accommodate frequent changes of individual, small group, and whole class learning through the course of each school day. As we build new schools, and re-use and renovate existing schools to address our growing enrollment, the educational specifications that define the spaces within them continue to evolve along with our understanding of how to make each space a learning space that is as **adaptable** and **agile** as possible. Our understanding grows as we observe all our schools in use as dynamic learning environments, and as we gather and process feedback from the students, teachers and administrators who teach and learn in and around them every day.*

Summary - Teaching and Learning

Any proposed changes are feasible and will support teaching and learning.

2. Potential Walkers

And Future Residential Development

[Boundaries Policy \(30-2.2\)](#) includes six considerations, one on proximity. It calls for “Encouraging the relationship between schools and the community by keeping students close to the schools that they attend so that they can walk safely to school or, if they are eligible for bus service, so that bus ride times are minimized.”

APS’s Whole Child framework promotes and supports the health and well-being of each member of the school community. In 2017-18, 66% of the 13,174 APS elementary students in grades Kindergarten to grade 5 are eligible for transportation. Initial estimates show that by changing the location of some neighborhood and option sites and using the expanding the walk zones, APS could reduce the percentage of students eligible for transportation to approximately 50%.

In recent boundary processes, the community has made it clear that Arlington promotes and is recognized as a Walk Friendly Community. The [Walk Friendly Communities](#) program recognizes communities working to improve a wide range of conditions related to walking: including safety, mobility, access and comfort. [Read more](#). As APS and Arlington County look for ways to increase collaboration, it would be remiss not to consider walkability in our decisions.

The analysis of potential walkers identifies opportunities to create neighborhood schools by examining the number of students in the expanded walk zone around each elementary site.

During Phase 1 of this process, APS worked with the community in and around each elementary school to identify safe ways to potentially expand walk zones. Task groups were created for each school and were directed to look beyond the schools’ current attendance boundary.

To determine the walk zones around each elementary school to be used for this analysis, APS transportation staff reviewed community input gathered with the assistance of School Task Groups in March 2018 as part of the Elementary School Walk Zone Review process. These groups included representatives from 24 PTAs and the 23 civic associations near elementary schools, as well as APS school ambassadors. The School Task Groups shared information, held neighborhood walking tours, and provided detailed feedback about each school walk zone.

APS transportation staff reviewed nearly 2,300 responses to community questionnaires for each school, identifying which planning units received the greatest levels of interest for possible expansion as well as the desired safety infrastructure improvements for those planning units. Staff reviewed planning units within a half-mile radius (a benchmark for a practical walk distance per APSGO! survey data that shows walking tends to drop off after that point) for safety. The planning units that presented the greatest opportunities for expansion were then reviewed with the task group teams using a working map to help visually inform the conversations. After the final round of task group conversations, recommendations for walk zone expansions that could be made **at this time** were provided as inputs to the location review analysis.

Results of the Walk Zone Review process vary from school to school. Some schools have no revisions to their current walk zones, and some schools have had planning units moved into a walk zone. In some school areas, the process identified planning units generally proximate to the school but challenged by safety issues. Because APS does not control the decision-making on safety mitigations (e.g., crossing guards, signals, signage), these areas require longer-term review and coordination with Arlington County

Dept. of Transportation (DOT) and will be pursued with DOT in a process likely to occur past the timeframe for this elementary school planning initiative.

Only those planning units that could safely be moved into a school’s walk zone and were deemed practical from a distance standpoint were added to current walk zones and taken into consideration in this planning process.

Future Residential Development

Using data from the Arlington County, Community Planning, Housing, and Development, Planning Division, Forecast Round 9.1 (as of July 1, 2017) this document states if there is approved residential development within each school’s expanded walk zone. If a development has been approved by Arlington County, the estimated number of students generated are included in APS enrollment projections.

To analyze proximity, APS used the expanded walk zone for each school, regardless of 2017-18 boundaries or option school designations. Table 1 orders schools from highest to lowest based on the proportion of current resident K-5 students in the expanded walk zone as a percent of building capacity. It also notes if APS’ projections estimate future students in the walk zone based on Arlington County Government’s assumptions of when approved residential developments will be completed and habitable.

Table 1. Potential Walkers

	Current resident K-5 students in expanded walk zone	Current resident K-5 students in expanded walk zone as a percent of building capacity	Expected residential development in existing or expanded walk zone?
Glebe	592	116%	No
Randolph	532	110%	No
Campbell	442	101%	Yes
Henry (Montessori)	443	96%	Yes
Nottingham	423	82%	No
Barrett	463	80%	No
Barcroft	315	68%	Yes
Oakridge	439	65%	No
Tuckahoe	356	65%	Yes
Reed	433	60%	No
Drew Model	326	48%	Yes
Key	303	46%	Yes
Fleet	322	43%	Yes
Discovery	258	41%	No
Abingdon	274	38%	No
Ashlawn	253	37%	No
McKinley	236	35%	No
Claremont	178	30%	No
Hoffman-Boston	166	29%	Yes

	Current resident K-5 students in expanded walk zone	Current resident K-5 students in expanded walk zone as a percent of building capacity	Expected residential development in existing or expanded walk zone?
Taylor	166	25%	No
Long Branch	125	23%	No
Arl. Science Focus	101	18%	No
Jamestown	100	17%	No
Carlin Springs	81	14%	No
Arlington Traditional	48	10%	No

Appendix A has a map that shows the **2017-18 Elementary Attendance Zones with the Expanded Walk Zones** used in the analysis.

Summary - Potential Walkers

Based on the number of potential walkers, using proximity, several sites are candidates for option schools

Option Site Candidates based on Potential Walkers

- **Arlington Traditional:** 10% of the school’s capacity can be filled by current K-5 residents who live in the walk zone.
- **Carlin Springs:** 14% of the school’s capacity can be filled by current K-5 residents who live in the walk zone.
- **Jamestown:** 17% of the school’s capacity can be filled by current K-5 students who live in the walk zone. Jamestown was not identified as an option site candidate in the April 12 analysis since the school is located in the northernmost corner of Arlington County, limiting neighborhood school boundary adjustment possibilities in this area.
- **Arlington Science Focus:** 18% of the school’s capacity can be filled by current K-5 residents who live in the walk zone.

Current Option Site Candidates for Neighborhood Schools based on Potential Walkers

- **Campbell:** 101% of the school’s capacity can be filled by current K-5 residents who live in the expanded walk zone. Arlington County has approved residential development in Campbell’s expanded walk zone.
- **Key:** 46% of the school’s capacity can be filled by current K-5 residents who live in the walk zone. Arlington County has approved residential development in Key’s walk zone.
- **Claremont:** 30% of the school’s capacity can be filled by current K-5 residents who live in the walk zone.

Option Site Candidate based on Potential Walkers in Overlapping Walk Zones

- **Nottingham:** While 82% of the school’s capacity can be filled by current K-5 residents who live in the walk zone, it’s important to note the following:
 - The expanded walk zones for Tuckahoe and Discovery overlap with Nottingham’s walk zone.
 - Nottingham sits centrally among the three schools.

- More than 100 students who live in Nottingham’s walk zone are also in Discovery’s or Tuckahoe’s expanded walk zone and could walk to two schools.
- If all schools in this area remain neighborhood schools, it would be difficult to fill these schools to capacity with students from the immediate surrounding neighborhoods.

Additional information on Nottingham as an option site candidate is provided below in the section on “Geography and the Proximity to Other Elementary School Sites.”

3. Number of Buses per School

School Board [Boundaries Policy \(30-2.2\)](#) includes six considerations, including one on efficiency that calls for “minimizing future capital and operating costs.” As it pertains to busing, APS is seeking to maximize its existing transportation resources, and strive to reduce growth in the bus fleet. In addition, APS faces operational challenges in bus service delivery due to an on-going shortage of bus drivers and difficulty in recruiting for the positions. By increasing the number of students who could potentially walk to a school, APS could reduce the overall demand on bus service and meet this Board policy goal.

- APS provides countywide transportation to the options schools, ensuring equitable access.
- There is an opportunity to reduce the number of buses if walk zones are used in the process to identify where we site neighborhood and option schools.
- Elementary boundaries have not been reviewed from a county-wide perspective in at least the last two decades. Since Sept. 2000, elementary enrollment has grown by 44% from 9,166 to 13,174 (Sept. 2017).

Table 2 estimates the number of buses needed for each school when filling the school to 100% capacity with students who live outside of the walk zone. An assumption is made that all sites are neighborhood schools and boundaries fill schools to 100% of permanent capacity. The estimate is based on permanent building capacity minus the number of students in the expanded walk zone, and the difference is divided by 60 (students per bus) and rounded up to the next whole number.

Example. **Capacity = 500**
 Students in Expanded Walk Zone = 250
 500-250 = 250
 250/60 = 4.1, rounded up to 5 buses

Table 2. Estimated number of buses needed to fill elementary schools to 100% capacity

	Estimated number of buses needed for students residing outside expanded walk zone to fill school to 100% capacity, assuming 60 students per bus.	Candidate for school type based on buses
Glebe	0	Neighborhood
Campbell	0	Neighborhood
Randolph	0	Neighborhood
Henry (Montessori)	1	n/a
Barrett	2	Neighborhood

	Estimated number of buses needed for students residing outside expanded walk zone to fill school to 100% capacity, assuming 60 students per bus.	Candidate for school type based on buses
Nottingham	2	Neighborhood
Barcroft	3	Neighborhood
Oakridge	4	
Tuckahoe	4	
Reed	5	n/a
Drew Model	6	n/a
Key	6	
Arlington Traditional	7	
Discovery	7	
Hoffman-Boston	7	
Long Branch	7	
Abingdon	8	
Arl. Science Focus	8	
Ashlawn	8	
Claremont	8	
Fleet	8	n/a
McKinley	8	
Carlin Springs	9	Option
Jamestown	9	Option
Taylor	9	Option

Summary - Number of Buses Per School

Based on the number of buses needed per school, Taylor, Jamestown and Carlin Springs need the most buses. Glebe, Campbell, Randolph, Barrett, Nottingham and Barcroft need the fewest number of buses.

Consideration on Relocatables Dropped from Round 2

Site Growth Potential Using Relocatable Classrooms

The initial analysis included site growth potential using relocatable classrooms. Based on our work with APS instructional leaders and input from the community, this consideration is not being used in the Round 2 review.

4. Geography and the Proximity to Other Elementary School Sites

Arlington is a densely populated county. In many areas, there are multiple schools in close proximity to each other. In some areas of the county, where there are multiple elementary schools close to one another, it will be challenging to create reasonable boundaries if all schools remain as neighborhood schools. Ideally, neighborhood schools would be distributed spatially across the county, so that most students have access to schools that are relatively close to their neighborhoods.

This analysis examines the number of elementary sites within a one-mile radius of each elementary school site and areas where there are currently no neighborhood schools. It addresses other geography considerations that will come into play as APS develops potential boundaries for new school attendance zones. It is anticipated that many—if not every—neighborhood elementary school will have new boundaries that will take effect either in September 2019 or, for some schools, in September 2021.

Table 3. Proximity to other elementary sites in 1-mile radius, overlapping walk zones, and concerns about potential boundaries

	No. of schools within 1-mile radius	Schools in 1-mile radius	Overlapping walk zones	Location that allows potential boundaries to extend in multiple directions
Abingdon	2	Claremont (option) Drew (neighborhood 2019)	No	Limited due to corner location
Arl. Science Focus	1	Key (option)	No	Yes
Arlington Traditional	3	Ashlawn (neighborhood) Barrett (neighborhood) Glebe (neighborhood)	No	Yes
Ashlawn	3	ATS (option) McKinley (neighborhood) Carlin Springs (neighborhood)	No	Yes
Barcroft	5	Barrett (neighborhood) Campbell (option) Claremont (option) Fleet (neighborhood 2019) Randolph (neighborhood)	No	Yes
Barrett	3	ATS (option) Barcroft (neighborhood) Fleet (neighborhood 2019)	No	Yes
Campbell	2	Carlin Springs (neighborhood) Barcroft (neighborhood)	No	Yes
Carlin Springs	2	Ashlawn (neighborhood) Campbell (option)	No	Yes
Claremont	3	Abingdon (neighborhood) Barcroft (neighborhood) Randolph (neighborhood)	No	Yes
Discovery	2	Jamestown (neighborhood) Nottingham (neighborhood)	Yes, with Nottingham	Yes
Drew Model	3	Abingdon (neighborhood) Oakridge (neighborhood) Randolph (neighborhood)	No	Yes

	No. of schools within 1-mile radius	Schools in 1-mile radius	Overlapping walk zones	Location that allows potential boundaries to extend in multiple directions
Fleet	5	Barcroft (neighborhood) Barrett (neighborhood) Henry (option 2019) Long Branch (neighborhood) Randolph (neighborhood)	Yes, with Henry	Yes
Glebe	1	ATS (option)	No	Yes
Henry (Montessori)	4	Fleet (neighborhood 2019) Hoffman-Boston (neighborhood) Long Branch (neighborhood) Randolph (neighborhood)	Yes, with Fleet	Yes
Hoffman-Boston	1	Oakridge (neighborhood)	No	Yes
Jamestown	1	Discovery (neighborhood)	No	Limited due to corner location
Key	1	ASF (neighborhood)	No	Contiguity is limited
Long Branch	2	Fleet (neighborhood 2019) Henry (option 2019)	No	Yes
McKinley	2	Ashlawn (neighborhood) Reed (neighborhood 2021)	No	Yes
Nottingham	2	Discovery (neighborhood) Tuckahoe (neighborhood)	Yes, with Discovery and Tuckahoe	Yes
Oakridge	2	Drew (neighborhood 2019) Hoffman-Boston (neighborhood)	No	Limited due to corner location
Randolph	5	Barcroft (neighborhood) Claremont (option) Drew (neighborhood 2019) Fleet (neighborhood) Henry (option 2019)	No	Yes
Reed	1	McKinley (neighborhood)	No	Yes
Taylor	0	n/a	No	Yes
Tuckahoe	1	Nottingham (neighborhood)	Yes, with Nottingham	Limited due to corner location

Summary - Geography and the Proximity to Other Elementary School Sites

All sites are relatively close together. Based on this review:

- Potential candidates for neighborhood schools include:
 - Taylor, the only school that does not have another school within a one-mile radius
 - Seven schools that are in the 1-mile radius of one other school including Arlington Science Focus, Glebe, Hoffman-Boston, Jamestown, Key, Reed and Tuckahoe
- Barcroft and Randolph both sit within a 1-mile distance of five other schools. This makes those sites potential candidates for an option school.
- Schools in proximity to three or more schools are also candidates for options school sites and include Arlington Traditional, Ashlawn, Barrett and Claremont.

5. The proportion of economically disadvantaged students concentrated in some schools

Analysis in Round 2 adds information that is designed to help APS leaders consider if this process provides an opportunity to address some of our most pressing challenges for teaching and learning.

During each boundary process, APS is reminded about the wealth of research and opinion articles on the income divide that exists across the United States. A number of schools in Arlington have high proportions of students who are eligible for Free or Reduced Cost Lunch, often identified on reports as economically disadvantaged students.

Arlington's housing patterns make it difficult to balance demographics via a boundary process, without busing some children long distances away from their neighborhoods to change the demographic mix at another neighborhood. Instead, in the 3rd Round Analysis, APS will explore if moving highly desirable option programs to sites in areas with concentrated numbers of economically disadvantaged students could decrease the extreme differences in proportion of economically disadvantaged students at some sites. The idea is to locate option programs in schools that are easily accessible to economically disadvantaged students, making them more likely to access programs in their neighborhood, while ensuring the option programs remain attractive to families across Arlington.

Across all school levels, 30% of APS students are identified as economically disadvantaged.¹ This analysis looks at the percentage of students receiving free or reduced lunch at each elementary school according to current attendance zones or option programs. A future analysis will also include the number of students receiving free or reduced lunch within each school's expanded walk zone.

It is important to note that all families identify proximity as a priority. This is true at schools with high proportions of economically disadvantaged students.

¹ APS Food Services, October 31,2017 <https://www.apsva.us/wp-content/uploads/2017/12/FREE-REDUCED-OCTOBER-31-2017.pdf>

Table 4 Proportion of Economically Disadvantaged Student, 2017-18, sorted from highest to lowest percentage by Elementary School

	School Type 2018-19	Percentage of students within current attendance zones receiving Free or Reduced Lunch for the 2017-18 school year	Number of students receiving Free/ Reduced Lunch who live within each school's expanded walk zone
Carlin Springs	Neighborhood	83%	16
Randolph	Neighborhood	74%	357
Barrett	Neighborhood	62%	320
Barcroft	Neighborhood	60%	158
Campbell	Option	54%	355
Drew Model	Neighborhood & Option (Neighborhood 2019)	52%	218
Hoffman-Boston	Neighborhood	49%	98
Abingdon	Neighborhood	47%	98
Key	Option	41%	48
Claremont	Option	37%	58
Long Branch	Neighborhood	35%	<10
Henry (Montessori)	Neighborhood (Option 2019)	32%	121
Arlington Traditional	Option	26%	<10
Oakridge	Neighborhood	25%	111
Arl. Science Focus	Neighborhood	23%	<10
Ashlawn	Neighborhood	19%	11
Glebe	Neighborhood	18%	115
McKinley	Neighborhood	9%	<10
Discovery	Neighborhood	4%	<10
Jamestown	Neighborhood	4%	<10
Taylor	Neighborhood	4%	<10
Nottingham	Neighborhood	3%	<10
Tuckahoe	Neighborhood	2%	<10
Fleet	(Neighborhood 2019)	n/a	
Reed	(Neighborhood 2021)	n/a	

Summary - Reducing the proportion of economically disadvantaged students concentrated in some schools

APS will not be able to balance the proportion of economically disadvantaged students at every school with a proportion above the APS 30% average. Instead, staff will continue to explore the potential of siting options at some of our neighborhood school sites with the highest proportion of economically disadvantaged students. These include Carlin Springs, Randolph, Barrett and Barcroft. Three of the schools—Randolph, Barrett and Barcroft—are currently highly walkable neighborhood schools. Recommendations addressing this consideration will need to consider that Proximity is a priority for most families.

6. APS transfer rates and demand for options to better understand current patterns

Transfers

Every APS student is guaranteed a seat at the neighborhood school in the attendance zone in which they live, and the majority of APS families send their children to their neighborhood schools. APS families can enter a county-wide lottery application to send their children to an option school. Option schools provide a unique type of instruction (Spanish Immersion, Montessori, etc.) which some families may choose for their students.

In June 2017, the SB adopted a revised Options & Transfer policy that extended access to all option schools to all students in the county. The revision did the following:

- Removed neighborhood preferences for option schools
- Required families to submit an application to participate in the lottery, managed by a centralized APS office; APS uses this double-blind lottery to fill all seats available in option schools.
- Maintained four option programs at five elementary school sites; the number of option programs offered at the elementary level will remain the same. Currently, these include:

Program	Currently Housed at this School Site
Expeditionary Learning	Campbell
Immersion	Claremont and Key
Montessori	At Drew today, but moving to Henry for 2019-20
Traditional	Arlington Traditional School

Data from the 2016-17 Student Transfer Report is the most recent data published. It shows how students moved among schools under the existing transfer policy.

Table 5 shows the information used to calculate the number of students who transfer out, by percentage by school. It is calculated by:

- Adding September 30, 2016 K-5 enrollment (A)
- Adding students in attendance zone transferring to another school (B),
- Subtracting students in another attendance zone transferring into the schools (C)
- Total (D) equals (A) plus (B) minus (C)
- Transfer out rate (E) = (B) divided by (D)
- A note is added about some of the preferences affecting the transfer rates

The average elementary student transfer rate across all sites is 27%.

Table 5. 2016-17 Transfers, Following Policy 25-2.2 “Enrollment and Transfers for Schools and Programs”. June 2017 revisions apply for 2018-19 and subsequent school years.

	(A) Sept. 30 2016 Enrollment, K- 5	2016-17 Transfers			(E) Transfer out rate = (B) divided by (D)	Notes about Transfer options in 2016-17
		(B) Students in attendance zone transferring to another school	(C) Students in another attendance zone transferring into the schools	(D) Students in Attendance Zone = Enrollment (A) plus transfers out (B) minus transfers in (C)		
Abingdon	591	413	9	995	42%	Preference to Claremont and Campbell
Arl. Science Focus	644	Key's boundary	653	n/a	n/a	Key is neighborhood school, Team preference for Taylor and Jamestown
Arlington Traditional	497	No boundary	495	n/a	n/a	County-wide option
Ashlawn	631	122	17	736	17%	
Barcroft	413	297	20	690	43%	Year round school calendar, preference to Randolph and Campbell
Barrett	490	108	56	542	20%	
Campbell	362	No boundary	349	n/a	n/a	Option for S. Arlington
Carlin Springs	510	352	10	852	41%	Preference to Campbell
Claremont	726	No boundary	707	n/a	n/a	Option for portion of county
Discovery	561	70	18	613	11%	
Drew Model	530	107	306	331	32%	Preference for Campbell, home to Montessori
Glebe	566	109	15	660	17%	
Henry	578	115	61	632	18%	Preference for Campbell
Hoffman- Boston	358	100	80	378	26%	Preference for Campbell, Claremont, shared boundaries with Drew
Jamestown	525	70	29	566	12%	Team Preference to ASF, Taylor, Key

	(A) Sept. 30 2016 Enrollment, K- 5	2016-17 Transfers			(E) Transfer out rate = (B) divided by (D)	Notes about Transfer options in 2016-17
		(B) Students in attendance zone transferring to another school	(C) Students in another attendance zone transferring into the schools	(D) Students in Attendance Zone = Enrollment (A) plus transfers out (B) minus transfers in (C)		
Key	673	569	390	852	67%	Neighborhood immersion, ASF is non-immersion choice, team preference for Jamestown and Taylor
Long Branch	536	169	86	619	27%	
McKinley	712	106	11	807	13%	
Nottingham	469	54	5	518	10%	
Oakridge	781	204	4	981	21%	Preference for Campbell, Claremont
Randolph	399	160	59	500	32%	Preference for Campbell, alternate for Barcroft (calendar)
Taylor	678	225	18	885	25%	Team preference to ASF, Key and Jamestown Many transfers live near ASF building in Taylors attendance zone
Tuckahoe	563	39	12	590	7%	

Demand for Option Programs

Elementary option programs are essential in helping APS balance capacity across schools. Applications for entry at Kindergarten are high. The recommendations for siting option schools will take into account current demand demonstrated by applications and waitlists.

Table 6. Spring 2018 Enrollment, Capacity and Applications for Options Schools as of April 6

Option Program	By Grade Level							Total
	K	1	2	3	4	5		
Traditional @ATS	419	59	43	43	31	13	608	
Expeditionary Learning @Campbell	188	32	14	17	10	6	267	

Option Program	By Grade Level						
	K	1	2	3	4	5	Total
Immersion Total	461	60	31	24	21	7	604
@ Claremont	243	25	18	13	9	3	311
@Key	218	35	13	11	12	4	293
Montessori @Drew	74	50	12	12	9	6	163
Options Total	1142	201	100	96	71	32	1642

Summary - Reviewing APS transfer rates and demand for options to better understand current patterns

Seven schools have student transfer-out rates at or above the 27% average for APS elementary schools, including:

- Abingdon
- Barcroft
- Carlin Springs
- Drew
- Key
- Long Branch
- Randolph

Each of these schools will experience changes in 2018-19 as the revised Options & Transfer policy is implemented.

The options program applicants for September 2018 included 276 applications identifying multiple option programs, suggesting that some families either view multiple option schools as possibilities for their child or seek an alternative to their neighborhood school.

Due to the nature of the applications, APS may not know the student’s home neighborhood until the student is registered (this must happen prior to enrollment). In May, families will need to accept or lose their slot or waitlist position. With the central application process, families can no longer hold waitlist positions for other option programs if they enroll in a specific option school.

The changes make it difficult to get clear direction from this information at this point in time, but it does suggest the following:

- Reconsider the modified school-year calendar at Barcroft, where 43% of the students in the attendance zone opt out of the school.
- Supports the idea that Carlin Springs is a potential site for an option school with 41% of the students in the attendance zone opting out of the school.

7. Location of Spanish immersion schools close to large populations of native Spanish-speaking students

The goal of Arlington’s Spanish Immersion Program is to do the following:

- develop high levels of proficiency in the native language and in a second language through content instruction;
- develop high levels of literacy in Spanish and English;
- promote academic achievement in the content areas in both languages; and
- instill cross-cultural competence.

The program was established to build upon the native language skills of students who speak Spanish at home. Appendix B & C are maps that look at students who speak Spanish at home by where they live in Arlington. Appendix B maps the U.S. Census data from 2012-2016 on the Population Ages 5 to 17, who speak Spanish at home. Data in this table are from the American Community Survey 5-Year Estimates. Appendix C maps 2017-18 data for the Number of Kindergarten through Grade 5 students who speak Spanish at home.

Arlington’s census data and APS’ student data indicate that the majority of Spanish speakers live in the area of Columbia Pike and Carlin Springs Road. There is a smaller number of Spanish speakers near Key.

Applications for 2018-19 require that students apply by native language. This is new under the revised Options and Transfer policy (25-2.2) and maintains half of the spots in the lottery for native Spanish speakers, and half for non-Spanish speakers. Research suggests that linguistically integrated dual-immersion programs work best for English Learners. The lottery is designed to support the Two-Way Spanish-English Immersion Instructional Model. Half of the classes are taught in Spanish and the other half are in English. Students use each other as language models, and, by the fifth grade, are able to communicate effectively in two languages.

Language skills are self-reported and will be reviewed with language staff at registration. Table 7 shows the applicants for 144 Kindergarten spots at each of the immersion schools. Of those, 72 slots are reserved for each group of speakers. There are more than enough applicants to fill the 77 non-Spanish speaker spots. Neither school had enough applicants to fill the native Spanish speaker spots. These slots will remain open for native Spanish speakers.

Table 7. Spring 2018 Applicants for Elementary Spanish Immersion Programs by Site and Native Language.

School		K	1	2	3	4	5	Total
Claremont	Native Spanish Speaker	66	3	3	4	2	0	78
	Non Spanish Speaker	177	21	15	9	7	3	232
	Total Applicants	243	24	18	13	9	3	310
Key	Native Spanish Speaker	66	6	5	1	2	2	82
	Non Spanish Speaker	152	29	8	10	10	2	211
	Total Applicants	218	35	13	11	12	4	293

The Dept. of Planning and Evaluation regularly seeks input from Spanish speaking parents. Many have conveyed that proximity is important and many prefer to attend a school nearby. Based on past patterns of admission and applications for 2018, APS believes that the program will continue to attract families from other parts of Arlington.

Table 8 shows the current elementary schools that feed to the two immersion program. The feeders started with a balance of students heading to the East School - Key, and the West School - Claremont. Over time, the feeders have changed at different paces. Today, more students feed to Claremont, and there are more Spanish speakers in that feeder area. APS considered adjusting the feeder pattern for 2018-19, but it raised questions about siblings and transportation, and a change was delayed to align with the boundary changes that will apply in 2019. For the coming school year, Key will continue to take students who apply to Claremont, if there is room.

Table 8 Immersion Feeders to Option Schools.

School	Current Feeder Schools
Claremont	Abingdon, Ashlawn, Barcroft, Carlin Springs, Hoffman Boston, McKinley, Nottingham, Oakridge, Tuckahoe, Randolph
Key	Arlington Science Focus, Barrett, Discovery, Glebe, Patrick Henry, Jamestown, Long Branch, Taylor

A suggestion that came out of the community input, and in discussion with Elementary Instructional Leaders, was moving the immersion programs physically closer together and realigning the schedules to begin school at the same time. Some of the potential benefits include:

- Removing the feeder school groupings: instead, schools could coordinate to balance enrollment while sharing the same county-wide transportation resources.
- Locating both immersion schools near where Spanish-speaking students live, to help fill slots for these students in both schools to capacity.
- Coordinating professional development among the elementary immersion staff at both sites.

Summary - Locating Spanish immersion schools closer to large populations of students who speak Spanish at home.

Census and enrollment data suggest that the majority of Arlington’s native-Spanish speaking population lives on the west end of Columbia Pike. This makes Carlin Springs, Campbell and Barcroft potential locations for APS’s Spanish Immersion programs. In the next round of analysis, staff will explore the impact of locating two immersion programs in this area of the community.

Other Considerations Based on School Board Discussion

Round 3 of this analysis will explore potential efficiencies among different combinations of potential neighborhood and option elementary school sites. Over the coming weeks, the analysis will dig deeper into some of the ideas suggested below. We will continue to compile information on additional considerations in assessing the locations of neighborhood and option elementary schools, as well, including those outlined below.

Access to a Major Road – Coming Soon

APS Department of Transportation is providing an analysis for each school site based on the site’s accessibility to a major road.

Transit Score

Each school’s transit score is provided by www.walkscore.com. Transit Score is a patented measure of how well a location is served by public transit on a scale from 0 to 100. The Transit Score algorithm calculates a score for a specific point by summing the relative "usefulness" of nearby routes. We define usefulness as the distance to the nearest stop on the route, frequency of the route, and type of route. Additional methodology is available [here](#).

Transit Score®	Description
90–100	Rider's Paradise World-class public transportation.
70–89	Excellent Transit Transit is convenient for most trips.
50–69	Good Transit Many nearby public transportation options.
25–49	Some Transit A few nearby public transportation options.
0–24	Minimal Transit It is possible to get on a bus.

Cost to Move Schools

APS received a rough order of magnitude (ROM) estimate on the costs of moving a school if the School Board chose to do so. The estimate was based on moving 30 classrooms at 10 boxes per room, approximately 20,000 volumes and 3,000 linear feet of shelving for a library, storage and records rooms, electronic equipment, music room, and a contingency. The ROM estimate is \$44,150.

It is important to note:

- Moving programs is a one-time cost
- Transportation is an annual recurring cost that is built into APS’ operating budget

Timing

In November 2018, the School Board will take action on proposals for school location recommendations and boundaries. If the School Board decides that any school will move to a new location these moves will take place during the summers of 2020 and 2021. New elementary boundaries go into effect in 2019 and 2021. In the fall, boundary proposals will identify a draft schedule for boundary changes and school moves.

Recent School Board Action

Data for all schools is included in this analysis and the following tables. However, the School Board has made several recent decisions for some schools about their designation as neighborhood or option sites:

- Drew – neighborhood school
- Fleet – neighborhood school
- Henry – option school
- Reed – neighborhood school

Round 2 Analysis - Comparing the Considerations

Narrowing the List of Schools

This round of analysis includes data for all schools. Our recommendations are beginning to take shape around the APS core values of Excellence, Integrity, Diversity, Collaboration and Sustainability. We are looking to do the following:

- Maintain our commitment to academic excellence and continue to instill a love of learning in our students with equitable access and multiple pathways where learners connect, create, and innovate.
- Ensure that neighborhood schools are distributed across the county, so that all students have access to schools that are in their neighborhoods OR are relatively close to where they live.
- Reduce the proportion of economically disadvantaged students concentrated in some schools. Arlington's housing patterns make it difficult to balance demographics via a boundary process. The proposal will explore ways to locate more options in places that are easily accessible to economically disadvantaged students, while making sure they remain attractive to families across Arlington.
- Locate Spanish immersion schools closer to large populations of students who speak Spanish at home. Arlington's immersion program was designed to teach Spanish-speaking students in their native language. Arlington's census data and APS' student data indicate that the majority of Spanish speakers live around the area of Columbia Pike and Carlin Springs Road. Based on past patterns of admission and current applications, English-speaking families from other parts of Arlington will continue to participate in the immersion program.
- Explore efficiencies among the potential sites. Over the coming weeks, the analysis will dig deeper into some of the ideas suggested from our meetings with the community and Elementary Instructional Leaders. The suggestions include the following:
 - Locating immersion schools closer together to allow for shared professional development and removing the feeder zones
 - Aligning option school start times and implementing student pick-ups at neighborhood schools
 - Addressing the year-round calendar, where Barcroft experiences a 43% transfer-out rate
 - Clustering sites to potentially share county-wide transportation to options schools

Potential Neighborhood sites at this stage include:

- Key – needed for growth in Ballston-Rosslyn Corridor
Note: ASFS continues to be a neighborhood school

Potential Option sites:

- Expeditionary Learning at Campbell (no change from current designation)
- Immersion at Carlin Springs (students in the Carlin Springs neighborhoods may have neighborhood boundaries that expand to the north (Ashlawn), and to the south or southeast (school TBD))
- Montessori at Henry (due to SB decision)

Potential Sites that Remain Under Review for the remaining 2 of 5 Option Sites

The following sites are under close review for potential change, but note that all schools remain on the table. This may change as staff continues to gather additional data.

Barcroft

- As a potential immersion program site, Barcroft would allow the immersion sites to align schedules and create operating efficiencies.
- It may be possible to coordinate county-wide option school transportation for Barcroft, Carlin Springs and Claremont, achieving greater transportation efficiency.
- Barcroft also plays a key role as a potential option school site as we explore the possibility of reducing the proportion of economically disadvantaged students.
- The main concern with Barcroft is placing four option programs in South Arlington. Currently two options programs, Key and ATS are located in North Arlington. If North Arlington families continue to access option programs, then it may stress capacity in South Arlington schools.

ATS

- ATS may stay in place or may be needed for an immersion program depending on what happens in our analysis of other sites.

Nottingham

- The designation of Nottingham depends upon the designations of Barcroft and ATS, and the impact any changes at these schools may have in those parts of the county.
- As Reed opens as a neighborhood school in 2021, we'll be moving students from this area of the county. If Key becomes a neighborhood school and ASFS remains a neighborhood school, we expect the new boundaries may move students from Long Branch, Glebe and Taylor. Taylor's new boundaries are likely to include students from Discovery and Jamestown (both schools are currently home to Pre-K classrooms due to space availability).
- We need to further explore the potential impact of concentrating most or all option schools in South Arlington. The potential demand from North Arlington students could negatively impact South Arlington neighborhood schools.
- The immersion program would not seem to be a good fit for Nottingham given the limited number of Spanish speaking students residing in the surrounding area.

Claremont

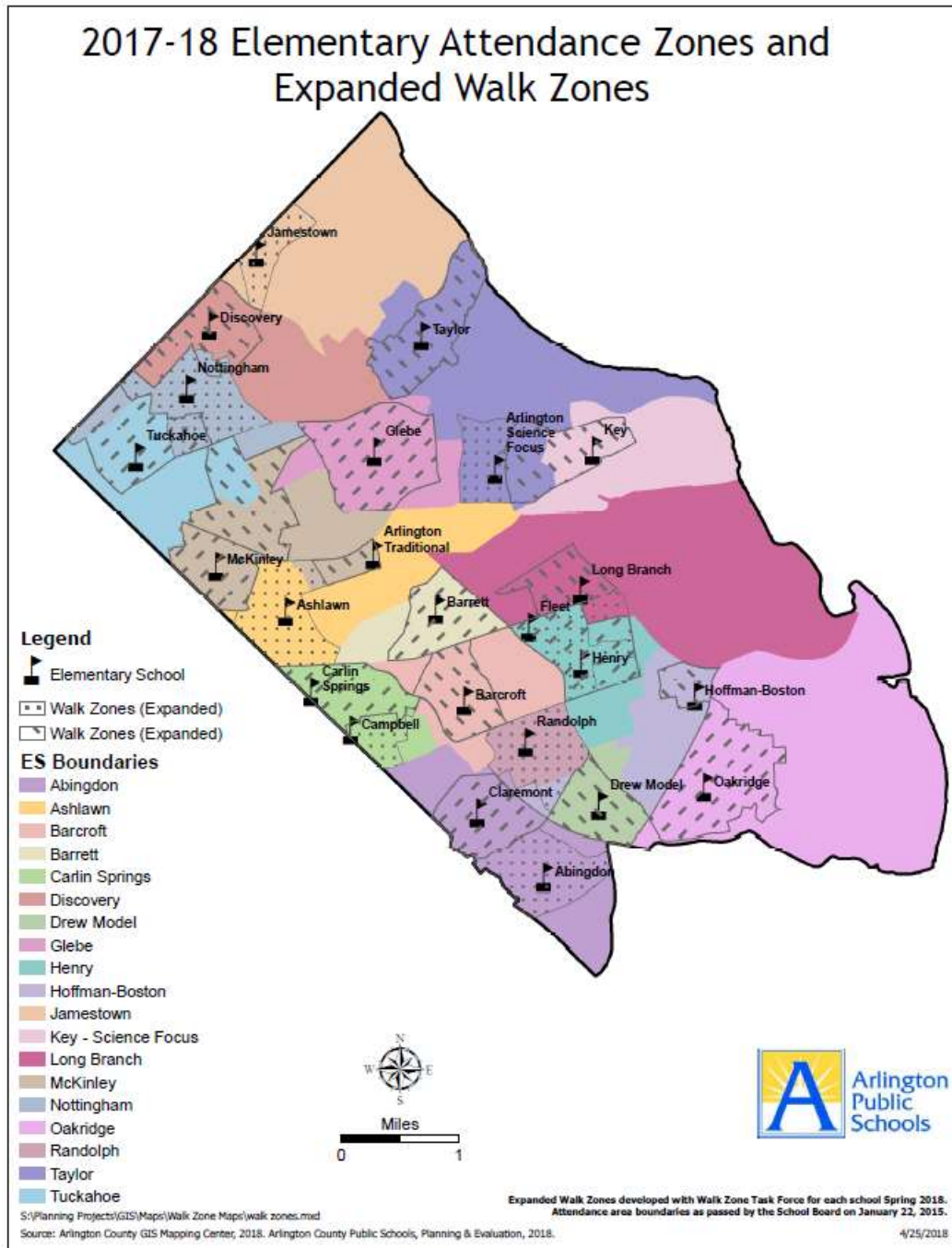
- As potential neighborhood schools, Claremont could serve students currently in the Carlin Springs area.

Round 3 of the staff analysis will begin to draft boundaries and look at projected enrollment, comparing different combinations of the schools identified above.

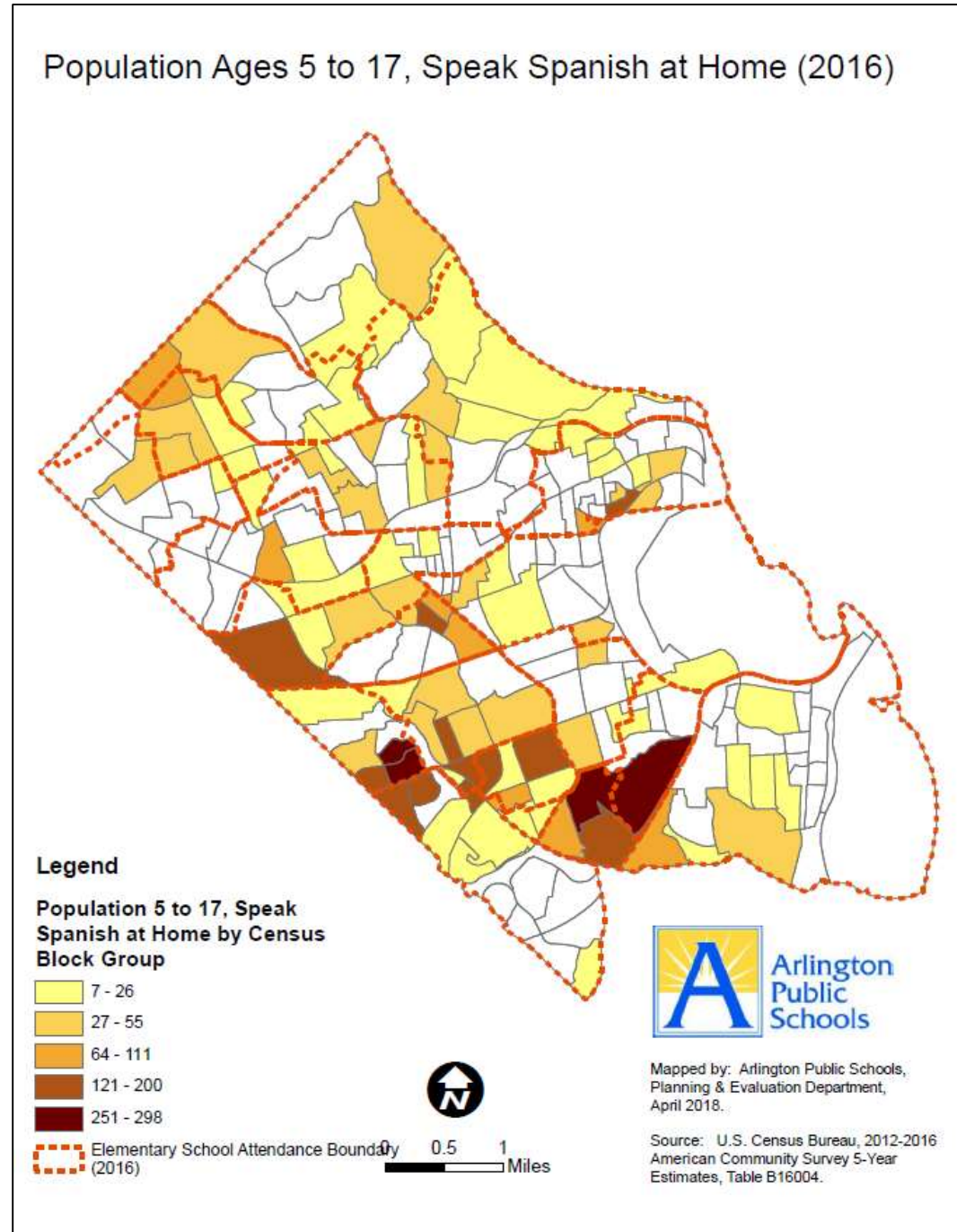
Comparing the Options

As part of the Elementary Planning Initiative, the School Board directed staff to develop two proposals for the location of neighborhood and option school sites. One proposal will leave elementary schools in their current locations and change boundaries. The second proposal could result in changing the location of some option and neighborhood schools, while maintaining the same number of elementary option and neighborhood schools and changing boundaries.

Appendix A



Appendix B



Appendix C

Number of K-5 Students that Speak Spanish at Home by Planning Unit School Year 2017-2018

