Montgomery County Public Schools

Districtwide Boundary Analysis

Interim Report
March 2020

Districtwide Boundary Analysis Interim Report
March 2020

Commissioned by
Montgomery County Public Schools

Prepared by
W XY architecture + urban design
Public Engagement Associates

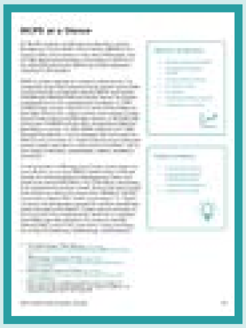
How to read this report

Do you only have a few minutes?

Read the Report Overview **(page 2)**, which explains the Districtwide Boundary Analysis and presents key findings.

Do you have 30 minutes?

Start with the Report Overview **(page 2)** then read the Introduction (page 40), which presents some important definitions and an understanding of how the county got to where it is today. Afterwards, jump to the summary pages (outlined in blue, as pictured at right) to explore key take-aways from each part of the analysis.



Example of summary page

To read the full report

Read the full interim report, including the Introduction and in-depth analyses of assignment stability, school utilization, diversity, and proximity (starting on **page 76)**. Continue with the Benchmarking section **(page 315)**. Next, continue on to Community Engagement **(page 352)**, which summarizes outreach efforts thus far. Refer to the Appendix for additional charts, graphs, extensive engagement materials, and more.

Look for the icons

Key Statistics	Insights	Dig Deeper
For highlights from the data and important statistics.	For big-picture take-aways and observations.	To learn more about key concepts, policies, and more.

Glossary on page 400

Authors & Acknowledgments

The Districtwide Boundary Analysis interim report was developed by WXY architecture + urban design, in collaboration with Public Engagement Associates. The report is based on data and geographic analysis, independent research, stakeholder interviews, and regional and targeted public meetings. The report was produced in partnership with Montgomery County Public Schools.

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Abbreviations

BOE	Board of Education
COSA	Change of School Assignment
CMS	Charlotte-Mecklenburg Schools
DCC	Downcounty Consortium
DCPS	Duval County Public Schools
ES	Elementary School
ESOL	English for Speakers of Other Languages
FCPS	Fairfax County Public Schools
GCPS	Gwinnett County Public Schools
HS	High School
HISD	Houston Independent School District
FRL	Free and Reduced-price Lunch
FARMS	Free and Reduced-price Meals System
MCPS	Montgomery County Public Schools
MS	Middle School
MSMC	Middle School Magnet Consortium
M-NCPPC	Maryland-National Capital Park and Planning Commission
NEC	Northeast Consortium
NSLP	National School Lunch Program
SSP	Subdivision Staging Policy
WCPSS	Wake County Public School System

Contents

Report Brief

Over the last decade, Montgomery County Public Schools (MCPS) has seen an increase in enrollment. The combination of continued growth and discussions regarding equity within the school district has prompted an assessment of current school boundaries to ensure that MCPS can continue to provide high-quality facilities that support the educational programming needed to reinforce MCPS's core values of Learning, Relationships, Respect, Excellence, and Equity.

MCPS has already taken several steps to adapt its educational facility planning and capital budget processes to the county's changing demographics and land use environment. These proactive measures have resulted in some of the highest educational attainment rates in the United States. However, differences in facility utilization, diversity, and proximity across the county means that students have varying experiences of school quality across the district. Over the course of the last decade, MCPS has seen an increase in enrollment due to shifting demographic trends. This demographic growth has presented challenges to maintaining an equitable school system. Additionally, as highlighted by the most recent enrollment projections, Montgomery County expects a steady increase in public school enrollment by 2027, with much of the growth projected to take place between 2019 and 2024. Due to efforts to address increasing enrollment, as well as promote equity and diversity within the school system, the Board of Education (BOE) adopted a resolution in January 2019 and directed the Superintendent to review the existing school boundaries.

This Interim Report has been shaped through the data analysis, benchmarking, and community engagement conducted since Fall 2019. **Section I: Introduction, Context, and Analysis of Existing Conditions** of the report opens with introductory context about MCPS as a school system, underlying conditions in Montgomery County, and the current conditions out of which this report arises. From there, the report covers the range of data analysis conducted thus far, structured around the four factors laid out in Policy FAA, which guide long-range facilities planning in MCPS: assignment stability, utilization, diversity, and proximity. Along with data analysis, the report outlines the approach to and key findings from benchmarking as a part of this process. **Section II: Community Engagement** details the community engagement process and shares insights from the first stage of engagement activities. This section will be expanded upon in the final report to reflect engagement activities from Phase 2.

A third section, **Section III: Deeper Analysis**—How do the Lenses Intersect? will be added to the final report at the conclusion of the Districtwide Boundary Analysis. This will focus on the intersections between the four lenses at the core of this analysis.

This study will become a foundational document and critical data resource for future work as MCPS continues its facility planning and capital budget processes going forward.

Report Overview

The Districtwide Boundary Analysis seeks to understand the degree to which current school boundaries in Montgomery County further MCPS's objectives to facilitate equitable and optimal outcomes in facility use, student diversity within schools, student proximity to schools, and stability of student assignments. The study builds upon MCPS's engagement efforts from Spring 2019 and continues to involve community members to further understand the spectrum of challenges towards creating more meaningfully integrated, diverse, accessible, and culturally responsive schools within the district.

Goals of the Districtwide Boundary Analysis

This boundary analysis seeks to understand the degree to which the current school boundaries:

- facilitate equitable use of facilities
- support optimal facility utilization in terms of program capacity and enrollment in schools
- optimize student diversity
- further the four factors in Policy FAA for consideration in educational facility planning: student demographics, geography, stability of assignments over time, and facility utilization.

This study will provide an analytical assessment and a summary of the community engagement process. It will not make recommendations on potential boundary revisions.

Analytical Lenses

The study’s focus areas serve as lenses through which a comprehensive understanding of existing school boundaries will be defined. They include:

In addition to these four analytical lenses, this study will consider the interrelatedness of the above factors in the Final Report.

Section Overview

The two major components of the study are guided by the key principles identified below:

1. **Data Analysis:**

- Contextualize analyses to issues raised through engagement activities
- Eliminate data and research bias by comparing findings to other relevant school districts
- Understand trade-offs through comprehensive modeling

2. **Community Engagement:**

- Utilize innovative communication and outreach strategies to maximize participation from all corners of the county
- Foster an inclusive environment at all engagement activities to ensure that people from diverse racial, ethnic, cultural, and economic backgrounds feel welcomed
- Encourage participation through carefully crafted workshop-style activities
- Share analytical findings through various mediums that demystify data analyses and ensure tangible outcomes from engagement activities
- Create a feedback loop through reporting and online input

Districtwide Boundary Analysis Process

This document represents the Interim Report for the MCPS Districtwide Boundary Analysis, which concludes Phase 1.

Fall and Winter 2019	Winter and Spring 2020	May - June 2020
Phase 1 Data Analysis, Community Awareness, Ideas Gatherings	**Phase 2** Testing Ideas and Metrics	**Phase 3** Final Report and Presentation
Data Analysis & Benchmarking Community Engagement	**Data Analysis** **Community Engagement**	

Phase 1 began in Fall 2019. Its focus has been to analyze the existing conditions, increase community awareness, and further understand stakeholders' perspectives on MCPS school utilization, diversity, proximity and assignment stability. Activities have included:

- Establishing existing conditions analysis to fully understand school boundaries through the focus area lenses
- Benchmarking MCPS against other school districts to contextualize data and research findings
- Engaging community members and capturing feedback through public workshops, focus groups, interviews, and online comments
- Reporting back on data analysis and community engagement through the Interim Report

The public workshops and targeted outreach informed and shaped the data analysis process (see Section II, Community Engagement starting on **page 354** for more detail).

Phase 2 begins in March 2020 and will conclude by the end of May 2020. Activities will include:

- Data analysis that addresses the inter-relatedness of the focus area lenses and considers the opportunities and trade-offs when considering the optimization of each lens.
- Continued engagement through public workshops, focus groups, interviews, and online comments, particularly through the use of an interactive tool that allows users to understand the interrelatedness of the focus area lenses and to test ideas

Phase 3 concludes the Districtwide Boundary Analysis at the end of June 2020 and will provide a final Report to the Board of Education that considers the findings of Phase 1 and Phase 2.

Interim Report Structure

This Interim Report has been shaped through the data analysis, benchmarking, and community engagement conducted since Fall 2019. The structure of the interim report is as follows:

Section I: Introduction, Context, and Analysis of Existing Conditions: This first section covers a range of analysis about the existing conditions of school boundaries in MCPS, adapting the four key considerations from Policy FAA as our four major lenses of inquiry (utilization, diversity, proximity, and assignment stability). It also covers benchmarking, comparing MCPS to six other school districts around the country.

Section II: Community Engagement: The second section explains our approach to community engagement, its impact on our data analysis, and the insights we have drawn from the engagement process through regional meetings, small group meetings, interviews, and virtual engagement. This section will be expanded in the final report to reflect phase 2 community engagement insights.

Section III: Deeper Analysis—How do the Lenses Intersect?: The final report, Section III will brings all the lenses into conversation with one another, in a deeper analysis of the interrelatedness of utilization, diversity, proximity, and assignment stability. This section will be added as part of the final report to the BOE.

An extensive amount of data is analyzed in this report –both from data sets and written and verbal feedback from community and stakeholder engagement. While this report offers general context related to the history of MCPS and the growth of Montgomery County, this is only a small piece of the scope of this work. The consultant team has made efforts to reach stakeholders and community members who reflect the diversity of Montgomery County, and this work will continue in Phase 2 of the analysis. See the **Community Engagement Overview on page 352** for more on the engagement strategies in Phase 1 of this analysis.

For Further Exploration

The Interim Report presents an initial analysis of both data and community engagement. However, due to the limitations of the project scope, there are areas that are not covered at length in this report but may be of interest to many readers. The table below provides a breakdown of topics that fall beyond the scope of this analysis, but may provide helpful context, along with a selection of resources for further exploration. See the **Further Reading on page 406** for a more extensive list of resources to deepen your exploration of these and other areas of interest.

Topics	Resources
Student performance and achievement	• Maryland State Report Card (link: https://reportcard.msde.maryland.gov/) • MCPS Annual Report (https://www.montgomeryschoolsmd.org/info/annualreport/) • MCPS Equity Accountability Model (https://www.montgomeryschoolsmd.org/data/LAR-charts/Equity-Accountability-Model-Achievement.html)
School choice, magnet, and consortia programs	• Montgomery County Public Schools: Study of Choice and Special Academic Programs, 2016. (Link: https://www.montgomeryschoolsmd.org/uploadedFiles/info/choice/ChoiceStudyReport-Version2-20160307.pdf)
Education policy	• For information about federal education policies, see U.S. Department of Education (link: https://www.ed.gov/) • For information about state-level education policies, see Maryland Department of Education (link: http://www.marylandpublicschools.org)
Educational facilities planning (including capital budgets, planned renovations and additions, and more)	• Board of Education Requested FY 2021 Capital Budget and FY 2021-2026 Capital Improvements Program (CIP) • Present and past budgets and CIP plans archived at: https://www.montgomeryschoolsmd.org/departments/planning/cipmaster.aspx • Educational Key Facilities Indicator (KFI): https://www.montgomeryschoolsmd.org/departments/facilities/kfi/
Montgomery County Planning	• Montgomery County Planning –inventory of master plans • Montgomery County Trends (January 2019) • Safe Routes to School Program (SRTS)
Boundary Studies	• Current and past MCPS boundary studies: https://www.montgomeryschoolsmd.org/departments/planning/boundary.aspx

Phase One: Overview of Insights

Each section of the Interim Report begins with a series of insights from the data analysis. Below are the compiled insights from each of the report's data analysis sections, as well as an overview of insights from community engagement.

As part of this analysis, MCPS was benchmarked with six other school districts. While benchmarking is treated as a separate analysis in this report, insights from benchmarking are incorporated here to provide additional context.[1]

1 The six districts benchmarked are: Charlotte-Mecklenburg Schools (CMS), Duval County Public Schools (DCPS), Fairfax County Public Schools (FCPS), Gwinnett County Public Schools (GCPS), Houston Independent School District (HISD), and Wake County Public Schools (WCPSS). See the Benchmarking section (starting on **page 315)** for more details about the process of selecting and analyzing benchmarks.

Assignment Stability

Assignment stability refers to how often students in MCPS are impacted by changes in school assignment. MCPS strives to limit the number of times a student, school, or part of the county is impacted by changes of school assignment. Policy FAA names assignment stability as one of the four key considerations in educational facilities planning and emphasizes that the BOE should:

- Keep student assignments stable for as long a period as possible
- Consider recent changes to assignment that may have impacted the same students or geographic areas[1]

As part of their regular work, MCPS and the BOE analyze potential changes to student assignment for specific schools and clusters. Boundary studies involve geographically specific research of boundary options, within a certain scope recommended by the superintendent of schools before approval by the Board of Education. This research includes an analysis of factors such as travel time and traffic patterns, current and projected enrollment, and the articulation patterns of affected schools. Through a boundary study, MCPS staff develop boundary options to be considered by the BOE for deliberation and approval.[2]

In this analysis, we examine assignment stability in terms of past boundary studies and the number of changes in assignment across school levels. This analysis does not include boundary studies or changes completed after the start of the 2019-20 school year. This analysis does not take into account historical student level data or grandfathering and choice policies and uses current enrollment numbers as a proxy for historical enrollment. As such, we might expect the actual number of reassigned students to be smaller.

1. Assignment Stability in Depth

MCPS has changed school boundaries 131 times since 1984 as part of 92 boundary studies.

Boundary changes have become less frequent since 2010.

- Between 1984 and 2006, there were 107 boundary changes in total, or roughly four and a half boundary changes per year on average.
- Since 2010 the number of boundary changes has slowed, with 16 boundary changes implemented (or under two a year on average).

1 "Policy FAA: Educational Facilities Planning." 2018. Board of Education of Montgomery County. https://www.montgomeryschoolsmd.org/departments/policy/pdf/faa.pdf.

2 For more discussion of boundary studies vs. boundary changes, see **School Boundaries on page 61**.

While Downcounty and Northeast Consortia (DCC, NEC) have seen the largest number of boundary changes since 1984, clusters in the northern part of the district have seen the greatest number of boundary changes on a per school basis.

During the last nine years, middle school (MS) students were most likely to be redistricted, followed by elementary and then high school (HS) students.[1]

- 4.5% of elementary school students live in areas that experienced redistricting. In a given year, roughly 0.5 % of ES students were redistricted.
- 6.5% of middle school students live in areas that experienced redistricting, the most of any school level. In a given year, approximately 0.7% of MS students were redistricted.
- There was no major HS level redistricting in the study period.[2] Only 0.2% of high school students live in areas that experienced redistricting. In a given year, roughly 0.02% of HS students were redistricted.

There were known boundary changes within the last five years in all six benchmark districts.

- Some districts, like MCPS, GCPS, and DCPS regularly review school boundaries to determine the need for boundary studies and changes.
- Charlotte-Mecklenburg School Board completes a comprehensive student assignment review every six years.

1 To get a rough estimate of assignment stability on a yearly basis, we take the proportion of students living in areas redistricted between 2010 and 2019, and divide that figure by nine for the nine-year study period. These numbers use current enrollment numbers as a proxy for historical enrollment. As such, we might expect the actual number of reassigned students to be smaller.

2 This analysis does not include boundary studies or changes completed after the start of the 2019-20 school year. Recent changes affecting high school students in Seneca Valley, Clarksburg, and Northwest clusters are not included.

Utilization

Maintaining a reasonable utilization rate is one of MCPS's major priorities in educational facilities planning. It is important for accommodating growth in the county and school system. Given the high number of overutilized schools, wide variation between school utilization rates, and continued growth of the county, facility utilization presents pressing challenges for MCPS.

In short, utilization measures the capacity of school facilities in relation to the number of students they accommodate. Facility utilization is calculated by dividing student enrollment by program capacity. Program capacity is a measurement based on classroom ratios, which are standards set by MCPS for the number of students per classroom, by school level (with variations for special programs, such as reduced class size elementary classrooms). To arrive at program capacity, MCPS adjusts the student to classroom ratio at the middle and high school levels to account for variations in scheduling.

MCPS defines schools that are 80 to 100% utilized as within the target range. In this report, schools that are utilized below 80% are characterized as "underutilized," schools between 100 and 120% as "somewhat overutilized," and schools above 120% as "highly overutilized."

Definitions of what constitutes a target utilization range vary by school district. For example, one of the districts that this report uses as a benchmark, Charlotte-Mecklenburg Schools in North Carolina, considers 90 to 105% to be the target range. Another benchmark, Duval County Public Schools in Atlanta, uses 90 to 110% as their target range, whereas Fairfax County Public Schools in Virginia uses 85 to 95%.

1. Utilization Across School Attendance Areas

The first set of utilization insights considers the district as a whole. These insights simply characterize the current school utilization conditions across MCPS elementary, middle, and high schools. Key insights include:

In terms of overall utilization rates, MCPS elementary schools are 102% utilized, middle schools are 97% utilized and high schools are 103% utilized.

Elementary schools tend to be more overutilized than middle and high schools. At present there are 72 elementary schools, 24 middle schools and 13 high schools that are overutilized.

At present, there are no underutilized high schools, meaning that all high schools are operating either within the MCPS identified utilization range (80-100%) or are overutilized to some degree (>100%).

Enrollment projections in the 2021-26 CIP show that increasing enrollment and development across the district will continue to affect utilization in the years to come.[1] By 2025-2026:

- The projections forecast a slight decrease in the number of elementary schools that are highly overutilized (17, as compared to 22 today) and somewhat overutilized (47 compared to 52 today).
- At the middle school level, three additional schools are projected to be somewhat overutilized (15, as compared to 12 today), while there is one less school projected to be highly overutilized (one, as compared to two today).
- High schools see the most dramatic increase in overutilization, with an additional five schools projected to become highly overutilized by school year 2025 (seven schools, as compared to two today).

Considering utilization across the district, there is some clustering of overutilization in areas of recent growth and higher population densities:

- Elementary schools that are along and south of US 370 and along I-270 are generally more overutilized.
- Middle schools that are south of US 370 and I-29 are generally more overutilized.
- Areas south of US 370 and east of I-270 seem to show some concentrations of overutilization at the high school level.

1 Note that any recent or in process actions by BOE are not accounted in the 2021-26 CIP.

As part of benchmarking, we compare the average utilization rates across selected districts. MCPS has higher average utilization rates, on average, than all benchmarks aside from Charlotte-Mecklenburg Schools (CMS):

- The highest utilization rate of any school level (ES, MS, HS) across benchmarked districts are middle schools in CMS, which have an average utilization rate of 114%.
- Duval County and Houston ISD have considerably lower average utilization rates across all school levels than MCPS and Charlotte-Mecklenburg.
- Fairfax County and Wake County each have two school levels below 100% utilization, and one school level above.[1]

2. Utilization and School Facilities

This section addresses utilization with respect to different aspects of school facilities themselves, such as when they cross the minimum threshold for temporary or long-term interventions to add capacity. We also examine the relationship between a school's program capacity (in total number of seats) and utilization rate. Finally, we analyze relocatable classrooms as a temporary measure to address overutilization. Key insights include:

The minimum threshold identifies schools that qualify for capital expansion (i.e. an addition to expand capacity on site or at a nearby school). Currently, 27 elementary schools, 3 middle schools, and 8 high schools are above the minimum threshold set by MCPS.

Since 2009, the percentage of elementary schools over the minimum threshold has remained the same while the percentage of high schools has increased fourfold.

- At the elementary school level, 20% of schools are over the minimum threshold (defined as overutilized by more than 92 students) -- the same percentage as there were 10 years ago.
- The number of middle schools over the minimum threshold (150 students) has grown from one to three schools in the last ten years. Today, eight percent of middle schools are overutilized by more than 150 students.

1 Utilization data was not available for Gwinnett County Public Schools.

- In 2009, only two out of 25 high schools (or eight percent) were over the minimum threshold (or, overutilized by more than 200 students). In 2020, eight out of 25 are. This means 32% of MCPS high schools are overutilized by more than 200 students.

Elementary schools tend to be more overutilized the smaller the program capacity they have.

- Elementary schools with fewer than 400 seats tend to be more overutilized than those with more than 400 seats.
- There are no discernible patterns between utilization and school program capacity for middle and high schools.

As of the 2019-2020 school year, there are 434 relocatable classrooms in use in MCPS for the purposes of addressing utilization. Schools with higher utilization rates tend to have higher numbers of relocatable classrooms.

- Relocatable classrooms are a temporary measure used to address overutilization, and do not factor into a school's program capacity for calculating utilization.
- Greater challenges with overutilization are associated with schools that have a greater number of relocatable classrooms – schools with large numbers of relocatable classroom do not have lower utilization rates.
- Gaithersburg, Northwest, Blair, and Clarksburg have the most relocatable classrooms of all clusters.

3. Utilization and Adjacency

The third set of utilization insights looks at schools' utilization rates relative to their nearby schools. This analysis was conducted to gain insights as to whether utilization is well-balanced across adjacent attendance areas. The work conducted two analyses of adjacency: one study examined a school's utilization as compared to its nearest school, and another study examined a school's utilization relative to the five nearest schools (comparing elementary schools to other nearby elementary schools, middle schools to nearby middle schools and high schools to nearby high schools). This analysis included schools across cluster boundary lines. In this section, we also look at utilization rates across articulation patterns, with a focus on elementary schools that feed into middle schools. Key insights include:

Many schools in the district have very different utilization rates from their nearest schools. One way to understand the disparities between nearby schools is to compare the utilization rate of each school in the district with that of its closest school:

- At the elementary school level, the widest gap (or, differential) in utilization rates between two nearest schools is 77 percentage points. In this case, a 156.9% overutilized school is nearest to a 79.5% underutilized school.
- At the middle school level, the largest utilization differential between two nearest schools is 43 percentage points. In this case, a 119.4% overutilized school is nearest to a 73.1% underutilized school.
- The largest utilization differential between two nearest high schools is 29 percentage points. In this case, a 121.5% overutilized school is nearest to a 92.6% utilized school.

Elementary schools tend to be more dissimilar from their nearest five neighbors than middle and high schools.

- There are 26 elementary schools, out of 135 in total, whose utilization rates are very dissimilar from their five nearest elementary schools (20 percentage points or more).
- There are 6 middle schools, out of 40 in total, whose utilization rates are very dissimilar from their five nearest middle schools (20 percentage points or more).
- There are only 2 high schools, out of 25 in total, whose utilization rates are very dissimilar from their five nearest high schools (20 percentage points or more).

There are only three underutilized middle schools in MCPS. The attendance areas of these three schools are all adjacent to the attendance areas of somewhat overutilized middle schools.

4. Utilization Over Time

While this study represents a snapshot in time, it is informative to look at how utilization has changed over the course of the last decade in MCPS. This set of analyses looks at how utilization rates have changed over the last 10 years to understand whether utilization issues across the district are improving or getting worse. One way MCPS accommodates for increases in utilization is by constructing new schools. This analysis examines how often new schools have been built in the last decade, and whether this has addressed utilization challenges. All of these analyses use the 2009-10 school year to the 2019-20 school year to study changes in utilization over time. Key insights include:

Change in utilization rates in the last ten years varies by cluster and across school levels:

- Eight clusters have experienced a decrease in total elementary utilization between the 2009-10 school year and 2019- 20 school year.
- Thirteen clusters or consortia have seen an increase in total middle school utilization. Five of these clusters saw an increase of 20 percentage points or more.
- Total high school utilization rates increased in well over half of all clusters or consortia. Three clusters saw increases of 20 percentage points or more.

Since 2009, all new school construction has been at the elementary and middle school levels.

- Five new elementary schools were constructed, all in the Richard Montgomery cluster and the Downcounty Consortium.
- Three middle schools were constructed in the last decade, serving three clusters.
- Comparatively, no new high schools were constructed in the last decade.

5. Special Conditions

This set of findings relates to particular analyses that were done related to MCPS unique assignment conditions and program offerings. School choice, magnet and other special programs, and the consortia create unique utilization conditions that require their own study. In addition, MCPS attendance areas include particular features, such as "island assignments" and "paired schools."

This set of analyses related to MCPS's unique assignment conditions and program offerings. School choice, magnet programs, and the consortia create unique utilization conditions that require special consideration. In addition, some MCPS attendance areas include particular features, such as island assignments and paired schools. Island assignments are non-contiguous service areas, where students may cross through another attendance area to get to their base school. Some attendance areas separate kindergarten through second grade into one school building and third to fifth grade into another school building – this is referred to as paired schools. Finally, Title I schools receive additional supports due to their large concentration of low-income students, which makes an understanding of utilization challenge at these schools important. In this section, we consider how these kinds of conditions may impact school utilization rates.

Schools with island assignments face the same utilization challenges as non-island assignment schools.

- Some island assignments may have historically helped to resolve utilization issues. However, today they are not yielding better utilization rates than other typical attendance areas.

The average utilization rate of paired schools is slightly below the typical elementary school average utilization rate.

- Counting each paired school individually, the average utilization rate is within the target utilization range, at 98.79%.
- This is somewhat lower than the average elementary school utilization rate of 102%.

Special program schools are utilized at comparatively similar rates to non-special program schools, with the exception of schools with Spanish Immersion (SI) programs, which tend to be overutilized.

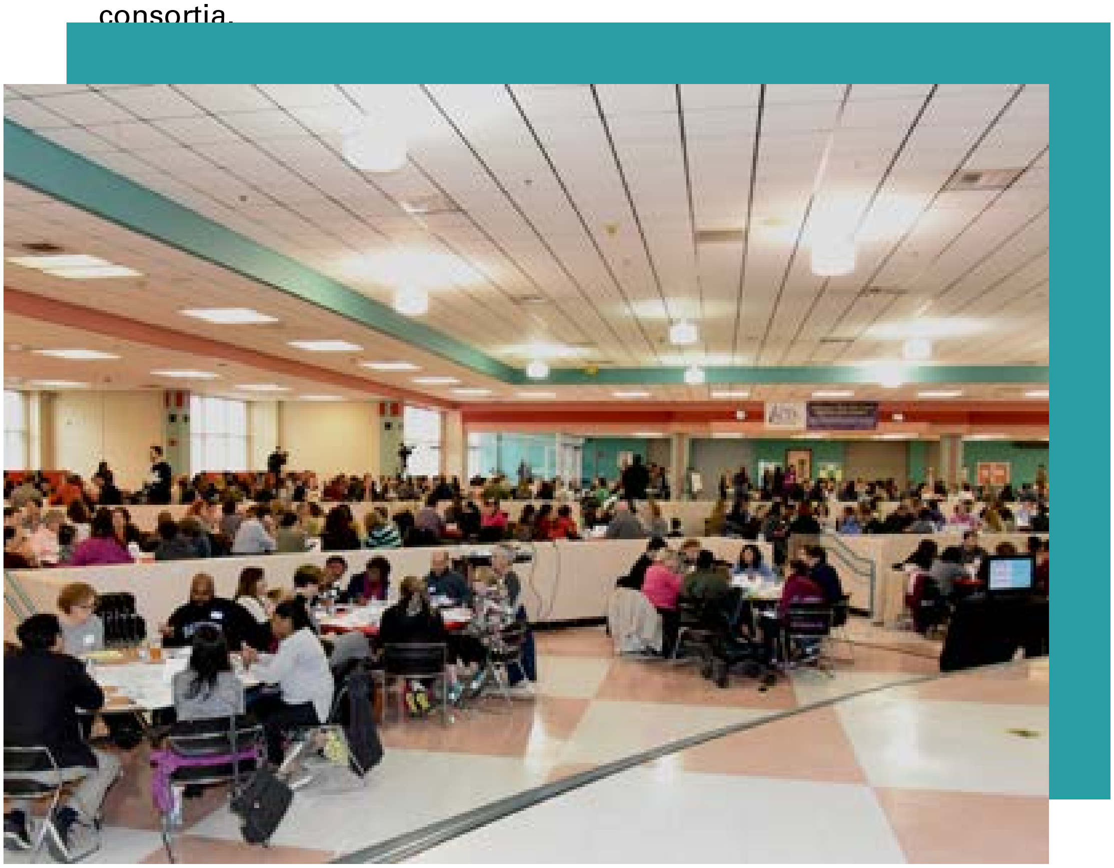
- All three Spanish Immersion (SI) elementary schools are overutilized, with two of them highly overutilized.

Title I schools are on average more overutilized than other elementary schools.

- There are 23 Title I elementary schools in MCPS. The average utilization rate of Title I schools is 108%, compared to about 102% for non-Title I schools.

The Downcounty Consortium (DCC) and Northeast Consortium (NEC) face greater issues of overutilization across all levels, as compared to clusters across the district.

- At the elementary school level, schools in the consortia have an average utilization rate of 107%, as compared to an average of 101% among ES outside of consortia.
- Total utilization rate for middle schools within the DCC and NEC is 102%, compared to an average of 94% among MS outside of the consortia.
- Consortia high schools have an average utilization rate of roughly 103%, as compared to an average of 102% among high schools outside of the consortia.



Participants in a table discussion at a regional public meeting at Blair High School on January 11, 2020 (photo credit: C.D. Boykin)

Diversity

Diversity is one of MCPS's considerations for educational facilities planning and boundary alignment. Diversity in a student body refers to differences between students. MCPS values diversity in schools and seeks to support schools that reflect the diversity of the communities they are in.

While diversity is complex and carries many meanings, for the purposes of this analysis, we focus on three primary markers of diversity that MCPS draws upon in facilities planning: race and ethnicity, socio-economic background, and English language proficiency. For discussion of race and ethnicity, the groups used in this report are based on available data that MCPS uses to categorize MCPS students, which includes, *Asian, Black, Hispanic, White, and Other*. For discussions of income, this report considers both FARMS (free and reduced-price meals) and Ever-FARMS as the key metrics. For English language proficiency, the report relies on MCPS data on ESOL (English for Speakers of Other Languages) program enrollment.

Selecting meaningful scales of analysis is an important methodological decision for considering diversity. Whereas in the case of utilization, there is a "target" utilization of 80 to 100%, for diversity the best way to make comparisons is to consider how a school compares to its nearest schools or to cluster averages.

Today, the student body of MCPS is very diverse. No single racial or ethnic group represents a majority of students. MCPS has grown increasingly diverse in recent decades as the county's overall population has diversified,[1] and this portion of the report seeks to understand to what degree that diversity is reflected across the school system.

This report uses a measure called the **dissimilarity index**. The dissimilarity index allows us to look at how different the overall demographic make-up of one school is to other schools, or to a shared standard such as a cluster-wide average. On the most basic level, high dissimilarity shows a greater difference between the two subjects being compared (a school or group of schools, for example). A low dissimilarity shows a lesser difference between the two subjects being compared. Conceptually, one can think of a dissimilarity index representing the total change in a school necessary for that school to look exactly like other schools.[2]

MCPS has various policies and programs in place to advance socio-economic and racial equity in the school system. In some cases, these programs follow state standards and funding (as in Title I schools). In other cases, these programs are particular to MCPS, such as the district's Equity Initiatives Unit.[3]

1 See **Introduction on page 38**, for more detail on demographic changes in student enrollment.

2 See an in-depth discussion of the dissimilarity index in **Introduction to Dissimilarity on page 207**

3 See https://www.montgomeryschoolsmd.org/departments/clusteradmin/equity/

Key insights include:

1. Distribution: Diversity Across the District

The first set of analyses the report considered was the distribution of different diversity indicators across the school system. This work laid the context for deeper understanding of the key measures of diversity, by understanding their overall distribution across MCPS. It presents general findings about the distribution of racial and ethnic demographics, FARMS/Ever-FARMS rates, and ESOL rates across the district.

Overall, the student body in MCPS is approximately 33% Hispanic, 27% White, 21% Black, 14% Asian, and a combined 5% "Other" (Pacific Islander, Native American, or multi-racial).

No single racial/ethnic group represents a majority of students in MCPS. Three of the four major racial/ethnic groups in MCPS make up over 20% of the student population.

- 42% of all MCPS schools have a student body where one racial or ethnic group makes up an absolute majority (50% or more) of students.
- The large majority of schools in MCPS (79%) are diverse, with two or three racial groups representing more than 15% of those schools' students.
- On the other hand, 26 schools (13%) have only one racial or ethnic group representing more than 15% of the student body, with all other groups each representing less than 15%.

Approximately one in three students in MCPS is currently enrolled in the Free and Reduced-price Meals System (FARMS).

- An additional 12% of the student body (or, 46% total) has previously been FARMS eligible (Ever-FARMS).

25% of elementary school students are enrolled in ESOL. This decreases to 11% at the middle and high school levels.

Both FARMS and ESOL rates correlate strongly with racial and ethnic demographics:

- Black and Hispanic students make up a combined 88% of FARMS students, despite making up only 54% of the total student population. Hispanic students account for the majority of this group, at 57%.
- 73% of students enrolled in the ESOL program are Hispanic.

Similar to MCPS, all of the benchmark districts are diverse places at the district level. MCPS is among the benchmarked districts with lower enrollment in Free and Reduced Lunch (FRL):[1]

- At the elementary school level, the Free and Reduced-price Lunch (FRL) enrollment rate is highest in Houston ISD (80%), while MCPS, Fairfax County, and Wake County have enrollment rates below 40%.
- At the high school level, FRL enrollment in MCPS is the second-lowest enrollment rate for any level across all benchmark districts. High schools in Fairfax County have the lowest overall FRL enrollment at 27%.

2. Diversity by School Adjacencies

The next analysis considered the **adjacency** of schools and students of similar or different socio-economic, racial, and language backgrounds. This report examines the three nearest schools, including schools across cluster boundaries, as a measure of how dissimilar or similar a school is from its nearby schools. This section highlights two types of adjacencies:

- Clustering of like with like: In some parts of the district we see a relatively homogeneous distribution of racial and ethnic groups and wealth relative to the district overall.
- Adjacency of unlike with unlike: In other parts of the district we see neighboring communities with very different demographic and socio-economic make-up.

Key insights in this set of analyses include:

1 Based on Free and Reduced Lunch (FRL) programs as defined by the National Center for Education Statistics for the most recent available school year (2017-2018). National FRL guidelines align with the income brackets used by MCPS for FARMS (Free and Reduced Meals System). FRL is a useful means for comparing economic disparities within student populations across districts. See more information about FRL and benchmarks in the **Benchmark** section of this report.

This set of analyses looks at both racial/ethnic dissimilarity, and socio-economic dissimilarity. At the district level, there are two general conditions that are important to understand:

- Schools near to one another are often very dissimilar from one another in terms of racial, ethnic, and socio-economic composition.
- At the scale of the district, patterns in dissimilarity vary widely. This reflects the heterogeneity of local communities.

When compared to the three nearest schools by school level, elementary schools within the midcounty region tend to be more dissimilar racially and socio-economically. Conversely, midcounty middle and high schools tend to be more racially similar.

Elementary schools in the Downcounty Consortium (DCC) have among the highest rates of racial and socio-economic dissimilarity when compared to their nearest schools.

- However, none of the top five highly dissimilar middle and high schools are within the DCC.

Elementary and middle schools in clusters in the southwest have very low racial and economic dissimilarity from their nearest schools in most cases.

- In other words, these schools are more similar to their neighboring schools. This reflects the high degree of racial and socio-economic homogeneity in these areas of the county.

Socio-economic and racially dissimilarity are correlated in most cases, but there are exceptions to this.

- Some notable examples of clusters where elementary schools have very different rates of socio-economic and racial dissimilarity from their nearest schools include Poolesville, Watkins Mill, and Northeast Consortium.

Racial groups in MCPS tend to be somewhat more evenly distributed than the benchmarked districts, aside from Wake County, whose average dissimilarity score is the lowest across all benchmarks:

- Among the benchmarked districts at the ES level, there are three districts that have higher racial dissimilarity scores than MCPS and one that has a lower score. MCPS has the same score as WCPSS and DCPS.
- For benchmarked districts at the MS level, there are four districts that have higher racial dissimilarity scores than MCPS and one that has a lower score (WCPSS). MCPS has the same score as GCPS
- For benchmarked districts at the HS level, there are five districts that have higher racial dissimilarity scores than MCPS and one that has a lower score (WCPSS). Racial dissimilarity scores are highest at the HS level for MCPS and all but one of the benchmarked districts (CMS).

Although the benchmarked districts have relatively low average dissimilarity scores at the scale of the district, we see a different story at the level of individual schools. In each district, there is extreme variation in racial dissimilarity scores between schools.

- The minimum dissimilarity value compared to three closest elementary schools in MCPS is 1.9% while the maximum is 42.6% There is a 40 percentage point difference between the minimum dissimilarity and the maximum dissimilarity at the middle school level, and a 35 percentage point difference at the high school level.
- Across all benchmarks, the greatest variation at the elementary school level is 66% in Fairfax.
- Across all benchmarks, the greatest variation at the middle school level is in Charlotte-Mecklenburg, at 67%.
- Across all benchmarks, the greatest variation at the high school level is in Houston, at 68%.

3. The Effect of Feeder Patterns on Diversity

This section of the report addresses feeder patterns and diversity through different analyses. First, an analysis considers whether cluster boundaries, which have been established to simplify feeder patterns from elementary to middle and high schools, affect the levels of dissimilarity of elementary schools on either side of a cluster boundary. Second, an analysis considers how dissimilarity varies at different levels of schools as students progress from elementary, to middle, to high school. This set of analyses compares schools to their closest schools by roadway distance, including schools across cluster boundaries.

This analysis suggests that the cluster boundaries in MCPS may contribute to racial and/or socio-economic isolation to some degree.

- In many cases across the district, cluster boundaries isolate schools from one another that might otherwise look more socio-economically or racially similar. For example, elementary schools whose nearest schools are in different clusters are more likely to be racially dissimilar from their nearest schools than if their nearest schools are located in the same cluster.

In addition to adjacent schools on the other side of cluster boundaries, the shape of these boundaries themselves seems to have a relationship with racial and socio-economic dissimilarity. Schools with high dissimilarities when compared to their nearest schools can often be found in school clusters with boundaries that have highly irregular shapes.

- Clusters in midcounty, including the Wootton, Quince Orchard, Northwest, Seneca Valley, Clarksburg, and Gaithersburg have some of the most irregularly shaped cluster boundaries. Elementary schools in these clusters, in particular, are most likely to be racially and socio-economically dissimilar from their nearest neighbors, which often fall in different clusters

Ever-FARMS rates by school are more evenly distributed at the high school level than at the middle school level, and more evenly distributed at the middle school level than at the elementary school level.

- Seven out of 25 high schools (31%) have Ever-FARMS rates between 40% and 60%, near the MCPS average of 46%.
- By contrast, only 18 of 135 elementary schools (13%) fall in that same middle category.

4. Special Conditions

This final set of analyses considers how special conditions in MCPS may impact the three measures of diversity we are looking at in this report. First, we analyze non-contiguous school attendance areas (or island assignments) with relation to diversity. Then we look at school choice programs to see if these impact diversity across school levels. Historically, school choice programs have been one strategy for voluntary integration of schools in MCPS. So, it is instructive to ask the question of how diversity may be impacted by these programs, and how these programs may impact diversity across MCPS.

On the whole, schools with island assignments are more racially and socio-economically diverse than schools without island assignments.

- Many island assignments significantly change the overall socio-economic and racial/ethnic background of their schools' student bodies. There are numerous examples of "islands" that are highly dissimilar from one another and their attendance area bodies (the part of the attendance area where the school is located).

The overall populations at schools with island assignments tend to be more socio-economically and racially/ethnically dissimilar to the students residing in their own islands than to their nearest schools.

At the middle school level, regional choice programs (special programs accessible to students across multiple attendance areas) correspond with lower dissimilarity.

- Middle schools with regional choice programs have significantly lower socio-economic and racial/ethnic dissimilarity to their nearest schools. In other words, special programs at the middle school level are associated with less difference (or diversity) between that school and its nearby schools.
- There are no significant patterns—positive or negative—at the elementary and high school levels.

Proximity

Covering over 500 square miles, Montgomery County is both large and varied. The county includes rural, suburban, metropolitan, and urban areas.[1] While the population density of MCPS as a whole is over 2,000 persons/square mile, densities vary widely between the rural areas upcounty and the highly urbanized areas downcounty and along I-270.[2] Across the county, mobility and modes of travel vary widely. While 37% of elementary school students, 25% of middle school students, and 28% of high school students live in walk zones—meaning MCPS has determined they have a safe and accessible route to school-- most students depend on car and bus trips of varying distances.

In addition to the county's size and varied density, recent and continued growth plays into the school system's proximity challenges. In the last decade, MCPS student enrollment increased by about 15%.[3] During that same time, the population of Montgomery County has grown from around 972,000 to over 1.05 million, amounting to an 8% increase overall. With 15% more students traveling to school now than 10 years ago, in a more dense and congested county, proximity to schools is of great concern to MCPS and many of its families. While this study cannot account for the varied times of student trips to school or the variable of traffic (see **What About Traffic?** on **page 258**), proximity is a crucial planning question for MCPS: how does the number of road-miles traveled vary for students across the county each day?

MCPS strives to create neighborhood schools, where students live as close as possible to school. The county also strives to maximize the number of students who walk to school. Student proximity to schools is an important planning consideration for MCPS, as laid out in Policy FAA, which names geography as a key factor in educational facilities planning. As cited in this policy, the school system has an ongoing commitment to "community involvement in schools."[4]

Proximity to school is not only important for students, families, and communities, but also for the school district's resources. MCPS transports about 100,000 students every day, in nearly 1,200 buses.[5] As enrollment in the school system has grown, so too has the amount of resources needed to transport this growing student body each day.

Throughout this series of analyses, students who attend a school other than their base (or assigned) school are not included. This includes choice, magnet, and COSA transfer students. For students residing in a consortium, their current school

1 See **Montgomery County Context on page 63**, for more discussion of density in Montgomery County.

2 Population density data via U.S. Census Bureau.

3 Three major drivers of student population trends—resident live births, aging of the student population, and migration patterns-- are discussed in depth in the FY 2021-2026 CIP Plan.

4 "Policy FAA: Educational Facilities Planning." 2018. Board of Education of Montgomery County. https://www.montgomeryschoolsmd.org/departments/policy/pdf/faa.pdf.

5 "Supporting Our Students—Investing in Our Future." n.d. MCPS Budget 101. https://www.montgomeryschoolsmd.org/budget-101/index.html.

is counted as their base school, so long as it is within the consortium. Section 3: Special Cases looks more closely at how proximity is impacted by these and other special conditions.

Proximity to Schools

The first analysis considered the average distance of students to school by school level, based on current school boundaries, and examined how this average distance varies across the county, including factors such as attendance area size and population density. It looks at miles traveled to school (using road network distances), and also examines the proportion of students per school who attend the school located closest to their home. Finally, to provide greater context to these understandings of proximity, this analysis looks at the average distance between current school and closest school to better understand how the density of schools impacts proximity. Key insights include:

Generally, students living in larger school attendance areas travel greater distances to school. This is true for schools at the same school level, and corresponds to the trend of students traveling farther to school as they advance through school levels.

- The average distance to school for all elementary schools is 1.2 mi, with a school minimum and maximum of 0.4 mi and 3.5 mi, respectively.
- The average distance to school for all middle schools is 2.1 mi, with a school minimum and maximum of 1mi and 4.2 mi, respectively.
- The average distance traveled to school for high schools is 2.5 mi, with a school minimum and maximum of 1.5 mi and 4.9 mi, respectively.

Middle school students are less likely than elementary and high school students to attend the school closest to their home.

- At the elementary school level, about 69% of students attend the school closest to their home.
- At the middle school level, only about 60% of students attend the school closest to their home
- At the high school level, about 68% of students attend the school closest to their home.

The proportion of students who attend their closest schools varies widely by cluster.

- This value ranges from 54% in the Magruder cluster up to nearly 95% in the Poolesville cluster. This variation may be due to land use distribution and density, as well as where schools are sited relative to population densities.

In terms of the proportion of students who attend their closest schools, there are also disparities between schools within the same clusters. The widest disparities are at the middle school level.

- At the elementary school level, cluster averages range from approximately 56% to approximately 86% of students who attend their closest school (a range of about 30 percentage points).
- At the middle school level, the cluster averages range from 29% to 100% of students who attend their closest school. At over 70 percentage points, this is by far the widest range of any school level.
- At the high school level, cluster averages range from roughly 49% to 95% of students who attend their closest school. This range of over 40 percentage points is wider than the ES level, but still much smaller than the middle school level.

In general, where a higher proportion of students attend their closest schools, these students also tend to travel shorter distances.

- This trend is most pronounced at the middle and high school levels, although there are significant exceptions at each level.

Students in more densely populated areas live closer to school than those in less densely populated parts of the county.

- Students who attend school closer to the I-270 corridor tend to have shorter average distances to/from school than their peers closer to the edge of the county.

Island assignment attendance areas have an impact on average distance to school at all levels. Students living in island assignment attendance areas tend to travel farther distances to school.

Proximity and Walk Zones

MCPS aims for as many students to walk to school as possible and designates particular areas around schools as walk zones. In this set of analyses, we examine these geographies, as well as other factors related to walkability to schools in MCPS. This set of analyses considered **walkability** to school, by looking at the average walk distance from school by school level. This analysis also differentiates between the walk radius and the walk zone, to better understand the relationships between walkability and proximity. Key insights include:

Elementary school students are most likely to live within their school's walk zone, followed by high school students.

- At the elementary school level, 38% of students live within their school's walk zone.
- At the middle school level, 25% of students live within their school's walk zone.
- At the high school level, 29% of students live within their school's walk zone.

On average, students living in walk zones tend to live at least a half mile away from school. This increases across school levels.

- Elementary school students who live within their school's walk zone live 0.51 miles away from school on average.
- Middle school students in the walk zone live 0.86 miles away on average.
- High school students in the walk zone live about 1.2 miles away on average.

More than half of all the elementary schools have less than 50% of students within the walk zone.

- This increases at the middle school and high school levels: more than three-quarters of all the middle schools and high schools have less than 50% of the students within the walk zone.

Students who live in the I-270 corridor area are more likely to live within their school's walk zone than in other parts of the count.

- This suggests a correlation between population density and the likelihood of students living within their school's walk zones.

Not all schools have walk zones.

- Due to factors such as traffic hazards and roadway conditions around schools, not all schools have walk zones. 12 of 135 elementary schools, two of 40 middle schools and two of 25 high schools do not have walk zones.

At each school level, MCPS sets a maximum distance that student walkers can reasonably walk, or walk-radius, and a walk-zone, which accounts for the actual walkable routes within this radius. There is often a considerable difference between the percentage of students who live within the walk-radius and the MCPS-defined walk zone, suggesting that walkability is not simply a matter of proximity to school.

- About 46% of students overall (across all grade levels) are within the MCPS defined walk-radius polygon (one mile for elementary students, 1.5 miles for middle school students, and two miles for high school students). But only 32% are within MCPS-designated walk zones for their school. That means that 14% of students (46%-32%) who theoretically live close enough to school to walk, do not actually have a viable walking route to school.

Special Conditions

There are a number of special conditions that may impact our understanding of proximity in MCPS. This includes split and cross-cluster articulation patterns, in which primary students feed into multiple different secondary schools or articulate across cluster lines. Next, many MCPS students choose not to attend their base school as part of MCPS's school choice programs. Additionally, 30% of students districtwide reside within high school consortia and attend consortia schools, in which articulation patterns operate differently than the rest of the county. This section looks at these special conditions in MCPS, through the lens of proximity.

There are 19 instances in which elementary school students do not all simply articulate to a single middle school within their cluster. And there are six cases of split articulation between middle and high schools.

Among the 25 instances mentioned above, we can observe three types of articulation patterns in the school system today:

- Inter-cluster articulation: where all primary school (ES or MS) students at a school articulate to a secondary (MS or HS) school located in a different cluster. Ten elementary schools articulate to a middle school in a different cluster, and six middle schools have this kind of articulation pattern.

- Intra-cluster split articulation: where primary students (ES or MS) articulate to multiple secondary schools but within the same cluster. Five elementary schools in the district articulate this way (at the MS level, this only happens in consortia).

- Inter-cluster split articulation: where primary students articulate to multiple secondary schools – both in the same and different clusters than that of the primary school itself. Four elementary schools have this kind of articulation pattern, and no middle schools do.

In cases where elementary students travel across cluster boundaries to attend a middle school in a different cluster (inter-cluster articulation), the average travel distance is slightly greater than the district average.

Oftentimes, inter-cluster split articulation (where 100% of elementary students at a school articulate to a middle school in another cluster) occurs where elementary school attendance areas are quite large.

Choice students travel the farthest to attend the choice program at Poolesville HS. This is the only school where over half of students are choice students from outside the school's attendance area.

The Northeast Consortium (NEC) seems to experience greater challenges with proximity than many other areas of the district—consortia or not.

- Some factors that underlie this include a high number of island assignment attendance areas, and areas of lower density within the consortia. The Downcounty Consortium (DCC) experiences fewer proximity related challenges, based on factors in this analysis.

39.8% of NEC students, and 30.6% of DCC students do not attend the school closest to where they live.

- This places NEC above, and places the DCC below the districtwide average of 33.5% students who do not attend their closest school.

The school with the highest average distance to school in both consortia is Blake HS, which also has the highest average travel distance in the district.

- The average student travels 4.9 miles to Blake HS, which is in the NEC. On the other hand, the lowest average distance to school in both consortia is Wheaton HS in the DCC, where the average student travels only 1.5 miles. This is well under the average of 2.5 miles for high school students across the district.

Participants at a regional public meeting at Gaithersburg High School on December 4, 2019 (photo credit: Rodrick Campbell)

Community Engagement

In the Districtwide Boundary Analysis process, data intelligence and community intelligence operate in tandem: community engagement provides integral context, insight, and complexity to the data, while data analysis adds depth and clarity to community narratives. Community engagement in this Boundary Analysis is intended to serve as a two-way process that both enables participants to gain knowledge and awareness about central issues, key data points, and the Boundary Analysis process, and enables MCPS to gather critical insights about the specific needs and challenges that the community foresees, as well as their insights about the factors that guide their decision-making regarding school boundaries: utilization, diversity, proximity, and assignment stability.

After each public meeting, our team transcribed the feedback from the facilitator worksheets and created six reports for each meeting. Across the six meetings, nearly 4,000 comments were transcribed. **Community Engagement Overview on page 352 and Appendix 8.2. on page 530** of this report provides more in-depth information on the community engagement process and how it has impacted this analysis so far. Please note that this qualitative analysis attempts to capture the ideas, opinions, and perspectives shared by participants without looking to explain, validate, or justify any of them.

In addition to larger public meetings. As of the publishing of this report, 12 small group meetings have been conducted. We will continue to conduct small group meetings in the coming months to learn from and hear the concerns of various groups around the county, and the insights from these meetings will be analyzed and included in the final report.

The summary of comments that follows reflects the comments of participants at regional public meetings in Phase 1.

Utilization

Participants raised several key challenges. Many observed not only how much the county's population has grown, but also how this growth impacts the school utilization. Thus, an important theme was to urge the school system to coordinate effectively with County planning officials to stay on top of growth, including where development is occurring, and how much development is upcoming.

Population growth directly affects enrollment and enrollment projections. Participants emphasized the need to ensure that MCPS's enrollment projections are as accurate as possible.

Many participants urged that--given the volume of growth the County has experienced and will continue to experience – school constructions and additions will need to continue, if not accelerate.

Many participants expressed concern about the frequent use of relocatables (portables) at schools, even schools that were recently constructed. Participants were particularly concerned about the perceived overutilization of many elementary schools.

Participants raised questions about how magnet, specialized, and choice schools impact utilization across the county, and whether moving and/or expanding those programs might have a positive impact on currently underutilized schools. Participants also expressed concern about how consortia schools impact MCPS utilization data.

Participants also wondered how utilization is linked to student academic performance or the quality of the academic programs at schools, how utilization intersects with student-teacher ratios across the school system, and, how it intersects with students' and schools' access to resources.

Diversity

Many participants had concern with the use of Ever-FARMS as a metric for analyzing student body diversity. In general, many participants expressed confusion about how diversity was being defined for this analysis and many indicated a need for a broad range of variables to measure diversity be incorporated into this analysis including racial diversity, cultural diversity, country of origin, English for Speakers of Other Languages (ESOL), etc.

There was also a clear acknowledgment across meetings that students who are Ever-FARMS and schools with high Ever-FARMS rates require more support and resources than other students and schools.

Some participants raised concerns around the possibility FARMS students might be moved in future boundary changes to schools with lower FARMS rates, or that non-FARMS students might move to schools with higher FARMS rates and asked what impact this would have on student performance--both for those who moved and on overall school performance.

Participants also expressed a need to better understand the interplay between student body diversity and proximity as well as diversity and school utilization. There were a range of comments focused on how diversity intersects with new housing construction, home values, school location, and future school construction.

Finally, there was a concern, given the 2018 update to Policy FAA, that diversity would be weighed most heavily in this analysis, above utilization and proximity.

Proximity

In the majority of public meetings, proximity to schools was emphasized frequently as the most important lens to participants. However, some participants expressed the opposite perspective. Many participants expressed concerns that the analysis would not incorporate travel time or traffic patterns and emphasized the need for the analysis to include both.

Participants underscored that long and/or increased travel times have numerous consequences, impacting before-school care, after-school care, extracurricular activities, sleep time, and work commutes for parents. Parents shared concerns about longer bus rides to schools much further away than their children's current schools and highlighted concerns about safety on buses, environmental impacts and cost consequences.

Participants also observed population growth and the location of new development as drivers of potential changes to proximity. Participants expressed confusion about the relationship in this analysis between proximity calculations and magnet, choice, and consortia. Finally, many attendees wanted to remind MCPS that families choose where they live based on where schools are located.

Participants in a table discussion at a regional public meeting at Gaithersburg High School on December 4, 2019 (photo credit: Rodrick Campbell)

Conclusion

The insights above provide a window into the wide range of issues facing MCPS today. In order to grapple with the complexity of each of these issues, it is important that data analysis continues to be informed by community input. This initial set of insights provides a jumping off point for the continued work of this Districtwide Boundary Analysis, and future efforts by MCPS to address challenges related to utilization, diversity, proximity and assignment stability.

1. Introduction

1. **Introduction** Figures

Introduction

Through data analysis, benchmarking, and community engagement, this boundary analysis seeks to understand the degree to which current school boundaries in Montgomery county further MCPS's objectives to facilitate equitable and optimal outcomes in facility use, student diversity within schools, student proximity to schools, and stability of student assignments. This study draws its analytical framework from the four factors outlined in Policy FAA, which guide all long-range educational facilities planning in MCPS: student demographics, geography, stability of assignments over time, and facility utilization. This report begins with an exploration of some of the contextual and historical factors that underly the analyses and insights shared in Chapter 2: Data Analysis.

MCPS at a Glance

At 165,267 students and 200 general education schools, Montgomery County Public School System (MCPS) is the largest public school system in the state of Maryland, and the 14th largest school system in the nation in 2019. As of the 2018-2019 school year, MCPS had 23,587 employees, including 13,142 teachers.[1]

MCPS is widely regarded for academic achievement. It is recognized as an award-winning school system and includes several nationally recognized schools. MCPS received the 2010 Malcolm Baldrige National Quality Award, the highest presidential honor for organizational excellence. In 2016, 13 MCPS high schools reached U.S. News & World Report's Best High Schools list—eight of which received gold medals as part of the nation's top 500 high schools. In the 2018-2019 school year, 41 MCPS schools were recognized as National Blue Ribbon schools. [2] In 2018, MCPS released its FY 2018 Strategic Framework, a set of strategies that recommits the district to its core vision to "inspire learning by providing the greatest public education to each and every student" and its core values of learning, relationships, respect, excellence, and equity.[3]

As the population of Montgomery County grows larger and more diverse, so too does MCPS' student body. In the last decade, the total population of Montgomery County has grown from around 972,000 to over 1.05 million, amounting to an eight percent increase overall. During this same period, total student enrollment increased from 144,064 to 165,267, an increase of about 15%.[4] As the maps (**Figure 1.2 - Figure 1.3**) show, the last decade's growth has not been distributed evenly throughout the district. Certain schools and parts of the county are more impacted than others by in-migration and shifting age demographics. For instance, between 2010 and 2020, areas in the north of the county (including the vicinity of Clarksburg, Gaithersburg, and Damascus) experienced the greatest amount of net population gain, with increases of 30% or more in total population.

MCPS by the Numbers

- 165,267 students (fall 2019)
- 200 general education schools
- 135 elementary schools
- 40 middle schools
- 25 clusters
- 8 special/continuing schools
- 2 high school consortia

Today's Conditions

- Overcrowded schools
- Changing educational programming needs
- Changing demographics
- Proximity to schools

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1 "Our School System." 2018. 2019 2018. https://www.montgomeryschoolsmd.org/uploadedFiles/about/MCPS-At-A-Glance.pdf.

2 MCPS Strategic Framework. FY2018. https://www.montgomeryschoolsmd.org/campaigns/Strategic-Planning-2017/index.html#Board.

3 MCPS Strategic Framework. FY2018. https://www.montgomeryschoolsmd.org/campaigns/Strategic-Planning-2017/index.html#Board.

4 Three major drivers of student population trends—resident live births, aging of the student population, and migration patterns-- are discussed in depth in the FY 2021-2026 CIP.

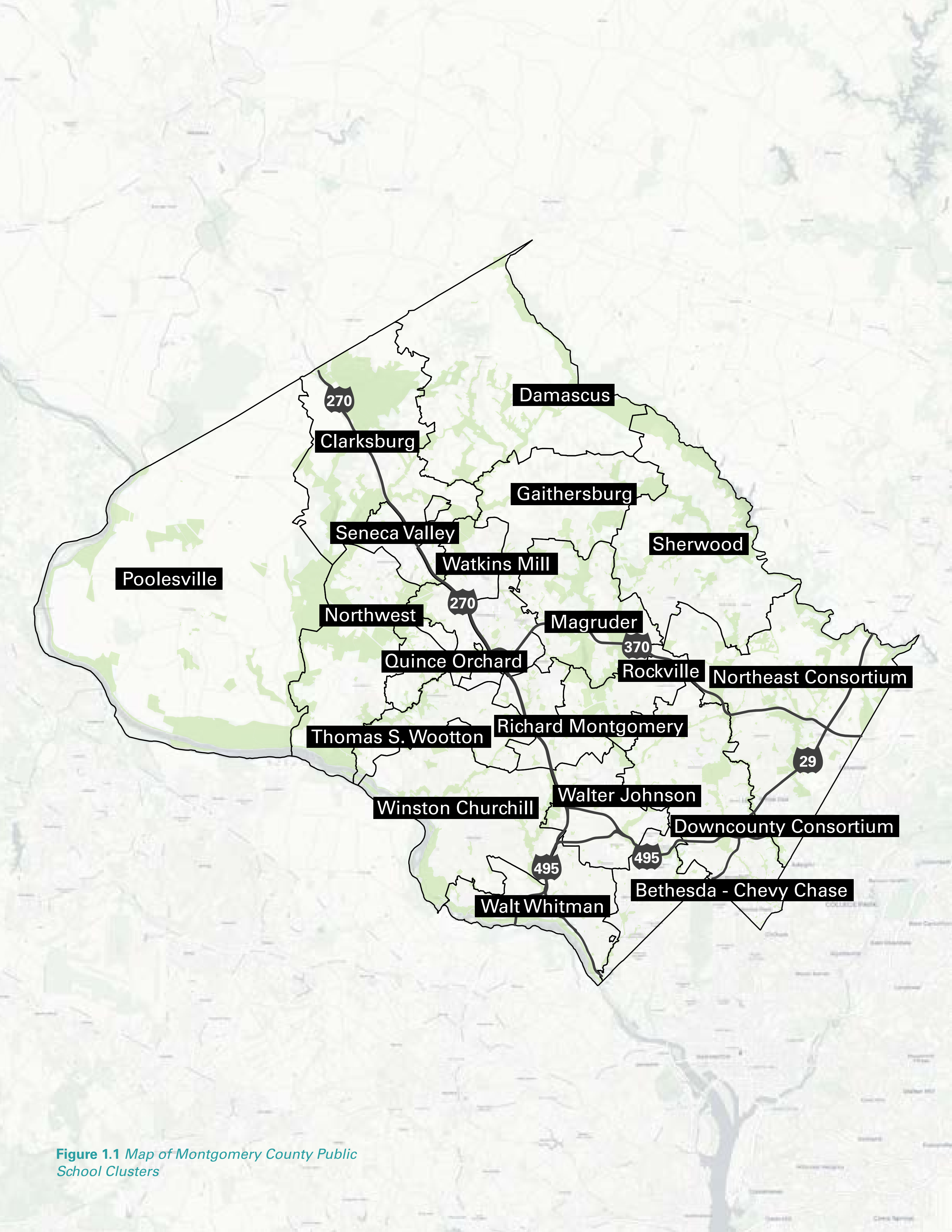


Figure 1.1 *Map of Montgomery County Public School Clusters*

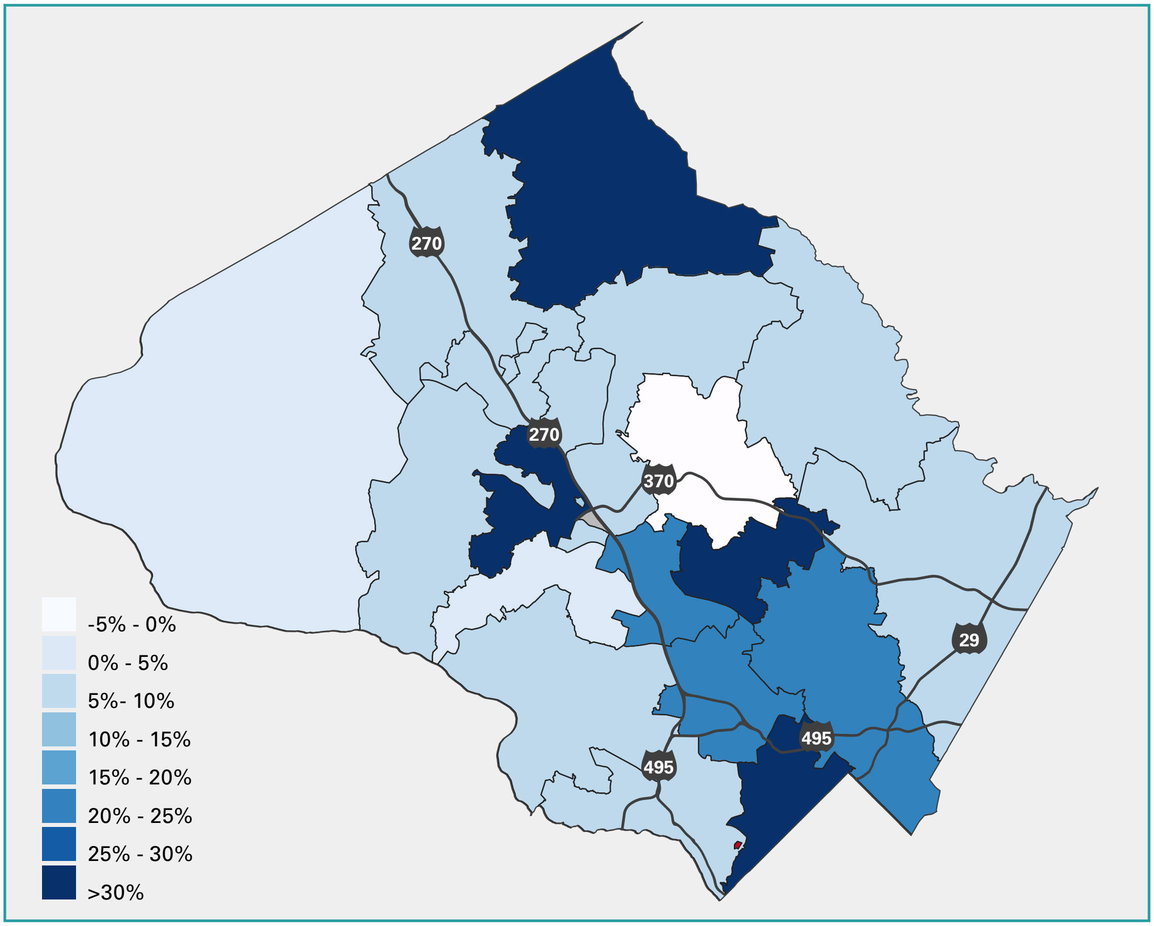


Figure 1.2 *Change in Student Enrollment by Cluster, 2010-2018 (source: U.S. Census Bureau)*

As in other pivotal moments in the school system's long history, MCPS is faced with the need to respond to changing conditions and address the diverse needs of students and families across the county. These changing conditions underpin the BOE's call for a districtwide analysis of school boundaries, and provide critical context for the analyses in this report:

- **Overcrowded schools**: Over half of all MCPS schools are overutilized (in other words, student enrollment exceeds the school's programming capacity), in some cases, so severely that the county has placed a moratorium on residential development in particular areas.[1] As the county works to accommodate this overcrowding through new construction and additions, many students attend class in relocatable classrooms. As total school enrollment grows, some MCPS schools bear a greater burden than others. Nineteen schools in the district is under-utilized (meaning enrollment numbers are below 80% of the school's program capacity).

1 See discussion of Subdivision Staging Policy on page 69.

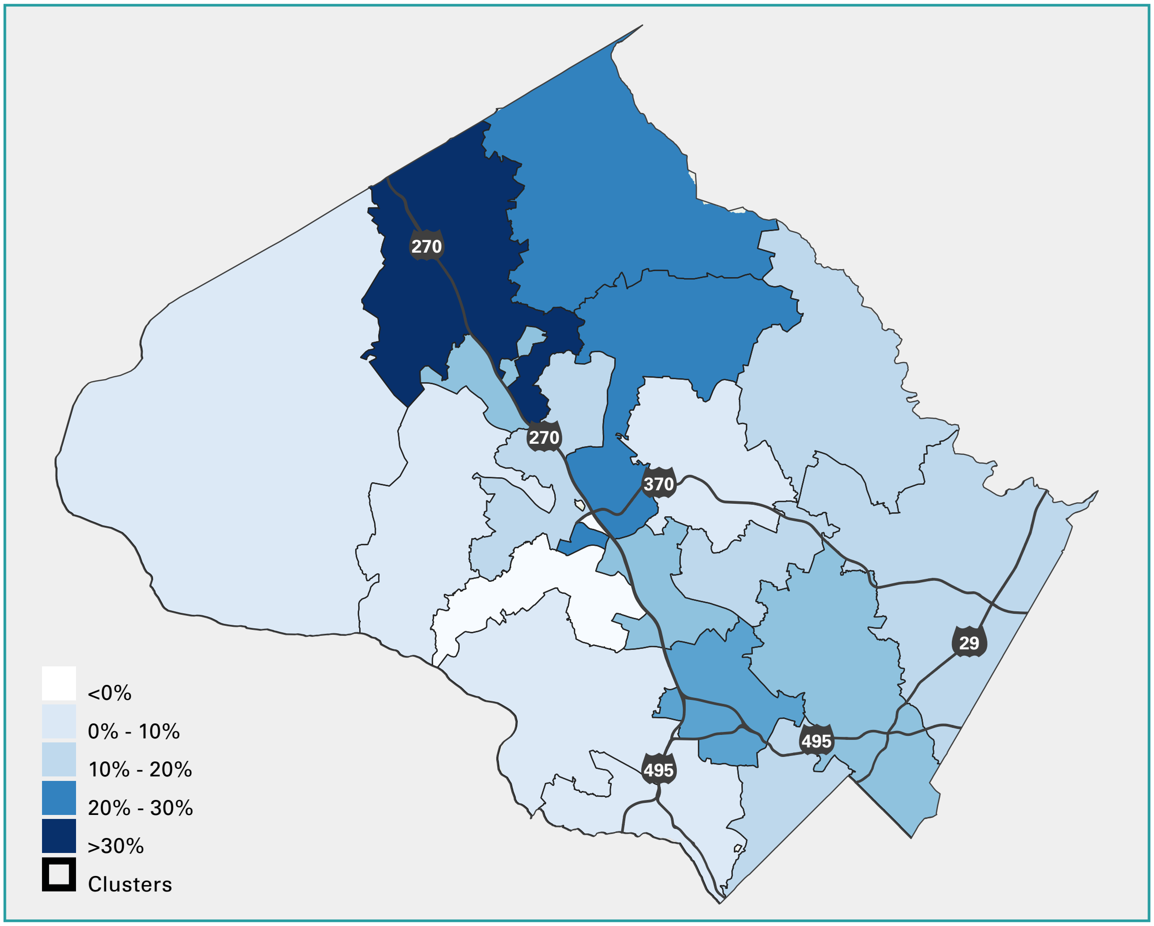


Figure 1.3 *Change in Total Population by Cluster, 2010-2018 (source: U.S. Census Bureau)*

- **Changing programming needs:** As demographics change and total enrollment grows, the district's programmatic needs also change and grow. For example, a growing number of enrolled students whose first language is not English raises the need for ESOL (English for Speakers of Other Languages) programming. Other programming impacted by changes in enrollment includes Special Education services, Pre-K/Head Start programs, and Class-size Reduction (CSR) elementary schools, including both Title I and Focus schools.

- **Changing demographics:** MCPS's student body is increasingly diverse. The school system has seen a particular increase in the proportion of Hispanic, Asian American, and African American students in the last couple of decades. However, neither racial/ethnic nor socio-economic diversity are evenly distributed across the district.

- **Challenges related to school proximity:** The county's varied geography and transportation networks creates complex conditions with regards to school proximity. The average distance between students' homes and school ranges greatly across the urban, suburban, and rural areas of the county. Districtwide, approximately 45% of students do not attend the school closest to them. This excludes students who do not attend their home school, including for magnet and choice programs. The travel time and safety of students' trips to school is of great concern to many families across the district.

Snapshot in Time

Although MCPS is growing and changing, this report focuses on existing conditions and should be seen as a snapshot in time. The recent and ongoing growth of MCPS provides important context, however this report does not attempt to project future growth, enrollment, or other trends.

Participants in a table discussion at a regional public meeting at Gaithersburg High School, December 5, 2019 (photo credit: Rodrick Campbell)

MCPS: School System Context

To understand the conditions impacting MCPS school boundaries today, it is important to understand certain key characteristics of the school system's geographic boundaries and assignment patterns.

MCPS is comprised of **25 clusters**, some of which are grouped as part of the county's two high school **consortia**.

A cluster is a geographic grouping of **school attendance areas**. Each cluster contains one high school, and the elementary and middle school(s) which send students to that high school. Each elementary school and middle school within a cluster has its own attendance area, which defines the geography for student assignment to that school.

Geographic Assignment Models

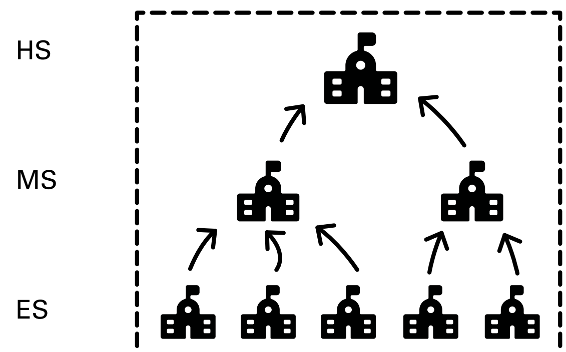
Most MCPS students attend the school they are assigned, based on their residential address and the school district's attendance areas. This school is referred to as the student's **base school**, or home school.

MCPS uses a feeder system. Most elementary school students are likely to attend the same middle school as their elementary school classmates, and the same high school as their middle school classmates. However, 26 elementary schools and 6 middle schools in the county have "**split articulations.**" In these cases, students at an elementary school or middle school do not all attend the same secondary school.

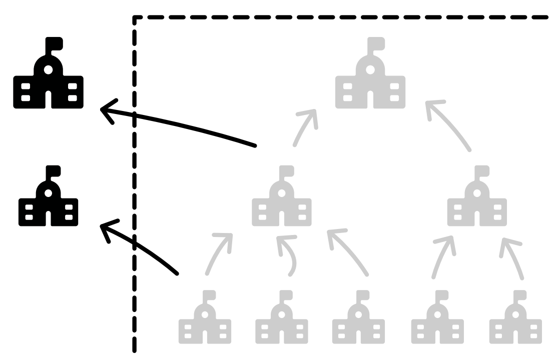
Most schools in MCPS are elementary schools (kindergarten-5th grade), middle schools (6th-8th grade), or high schools (9th-12th grade). One exception to this is paired schools. In the case of **paired schools**, the feeder pattern includes two different elementary schools: one for kindergarten through 2nd grades, and one for 3rd-5th grades. Six clusters in MCPS contain paired schools.

Eight of the county's clusters are a part of one of the district's two high school consortia: the Northeast Consortium (NEC) and Downcounty Consortium (DCC). A consortium contains multiple high schools, and the elementary and middle

Feeder Pattern



Split Articulation



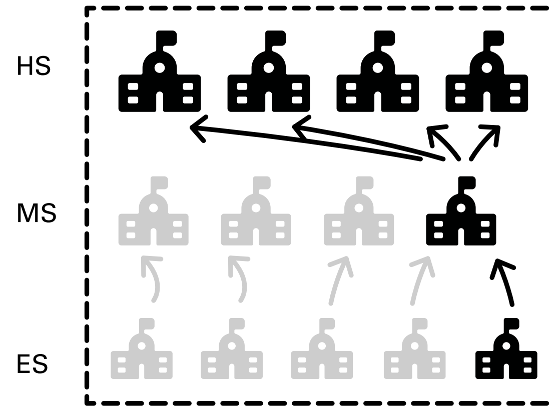
schools that feed into these high schools. Students residing within the geographic boundaries of the consortia enroll in a lottery to attend a school other than their base school, at all school levels. Assignment in the consortia lottery is based on student choice, sibling link, school capacity, and socio-economic factors. Students living outside of the geographic boundaries of the consortia may also enroll in a lottery to attend a school within the consortia, but they are not guaranteed a spot at any consortia school.

MCPS also has one consortium at the middle school level, the Middle School Magnet Consortium (MSMC). The MSMC is a group of three magnet schools, each with a particular academic specialty.

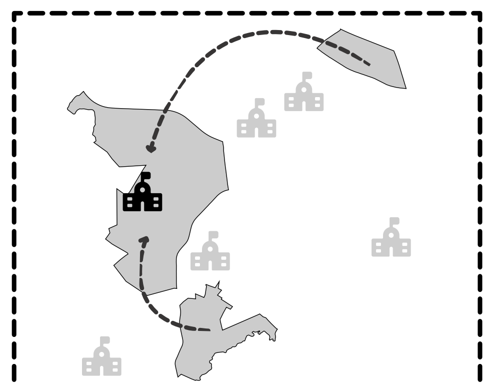
See **Appendix B1: Geographic Zones on page 428** for a detailed map and table of MCPS clusters and consortia.

While school assignment areas generally consist of geographically contiguous (or uninterrupted) areas, MCPS also contains "island assignments." An island assignment is a geographically non-contiguous school attendance area. MCPS has drawn non-contiguous school attendance areas for a variety of reasons over the course of its history. Recent boundary studies have strived to minimize island assignments and create contiguous boundaries. However, a significant number of schools in MCPS have non-contiguous school attendance areas. As of the start of the 2019-2020 school year, 58 MCPS schools have non-contiguous school attendance areas, or island assignments. This equates to about 29% of schools.[1]

Consortium



Island Assignments



1 2019-2020 Student-Level Data, via MCPS.

Alternative Student Assignment Models

This Districtwide Boundary Analysis focuses on MCPS' geographic boundaries—in other words, the school a student is assigned to attend based on their home address (also known as a student's **base school**, or home school). Not all students in MCPS attend their base school, due in part to the district's **choice programs.** Through school choice programs, students may apply to be a part of specialized programs -- either within their base school or at a school other than their base school. Choice programs are offered at the elementary, middle, and high school levels, and they may be local (available only to students assigned to the local school), regional (available to students living in a certain geographic region of the county), or districtwide. Choice programs are offered at the elementary, middle, and high school levels. They include competitive academic magnet programs, specialized academic programs (arts, science, communications, etc.), language immersion programs, the International Baccalaureate (IB), and others. Depending on the program, students may be admitted through a lottery process, an application process, and/or based on past academic achievement.

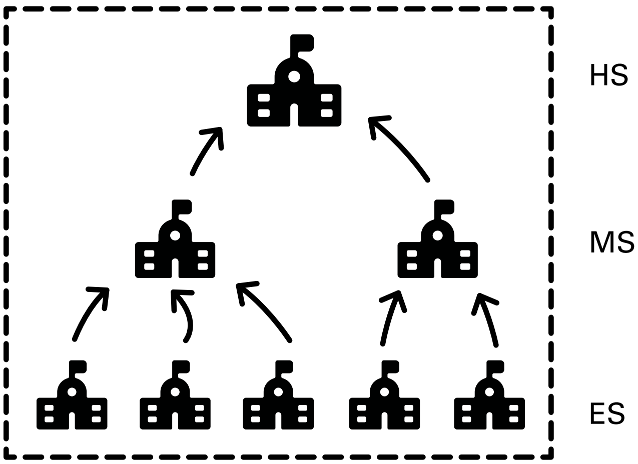
Another way in which students in MCPS may attend a school other than their base school is through **COSA (Change of School Assignment)**. A student may apply for a school transfer through COSA due to unique hardship, a family move (valid for the remainder of the current school year), or siblings (i.e. to attend the same school as an older sibling).

As of the 2019-2020 school year, approximately **9.48%** of students attend a school other than their base school.[1] This number excludes students who reside within a consortia, as well as students enrolled in Special Education programs outside of their home schools.

1 2019-2020 Student-level Data, via MCPS.

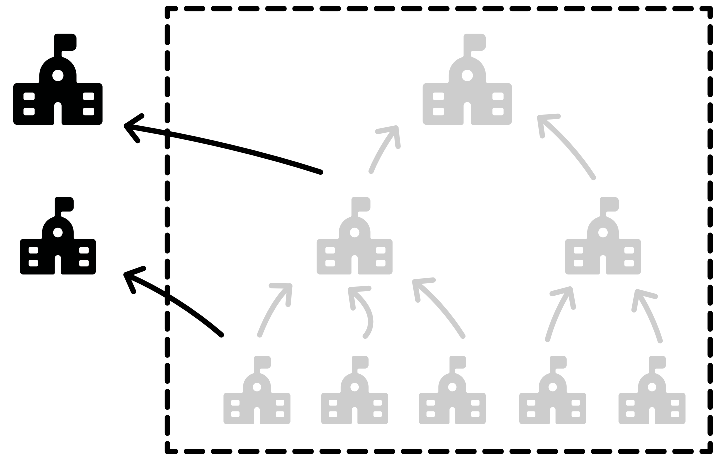
Student Assignment

Feeder Pattern



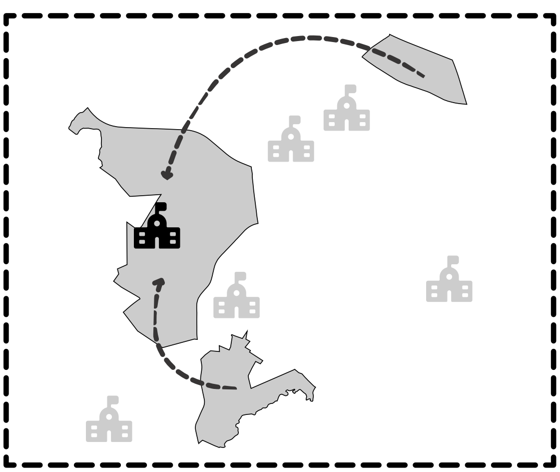
Most elementary school students are likely to attend the same middle school as their elementary school classmates, and the same high school as their middle school classmates.

Split Articulation



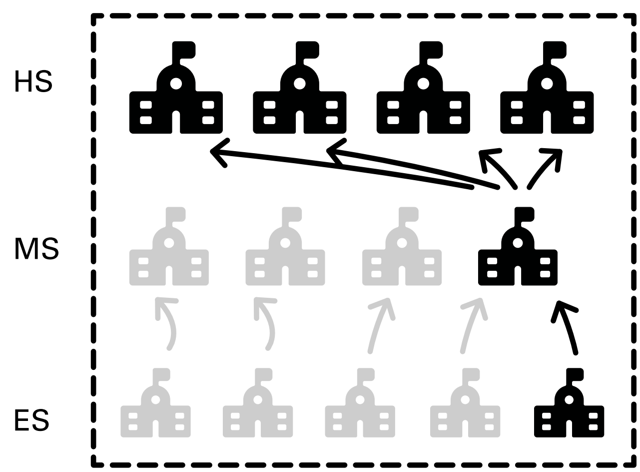
In these cases, students at an elementary school or middle school do not all attend the same secondary school.

Island Assignments



An island assignment is a geographically non-contiguous school service area.

Consortium



Students living within the geographic boundaries of a consortium are guaranteed a seat at their assigned home school and may enroll in the lottery to attend a school other than their base school.

The Need for a Districtwide Assessment: Why Now?

Over the last 20 years, MCPS student enrollment has increased by more than 30,000 students. This growth has helped MCPS become one of the largest and most diverse districts in the nation. Unfortunately, facility construction has not been able to keep pace with this significant growth. The strain on capacity at many schools, paired with the school system's continued commitment to equity and excellence, prompted the Board of Education to initiate an assessment of current school boundaries to ensure that MCPS can continue to provide high-quality facilities that support the educational programming needed to maintain an equitable, culturally responsive, and high-performing school district.

This action from the BOE began in part due to the concerns and actions of MCPS students . In January of 2019, the BOE approved a resolution proposed by then-student member of the BOE Ananya Tadikonda calling for a districtwide boundary analysis. Tadikonda has said that this resolution grew out of conversations with students around the county concerned about the issues of school utilization and diversity in a growing school system.

The intersecting conditions of overutilized schools and a growing county are at the core of MCPS's present need to analyze school boundaries on a districtwide level. The Subdivision Staging Policy (SSP) annual school test presents an example of the nexus of school overcrowding, population growth, and county development. The SSP annual school test looks to school enrollment data to ensure that school capacity is keeping up with county growth. Due to severe overutilization, four clusters and 13 elementary school attendance areas are currently under residential development moratoria, effective July 2019 in response to school conditions in these areas.[1]

In response to the ongoing challenge of addressing racial and socioeconomic equity, MCPS has implemented various strategies over the years to improve equitable outcomes and integrate the school system, including magnet and choice programs, and class-size reduction policies for elementary Focus Schools.[2]

However recent reports find that disparities persist across such factors as race/ethnicity, socioeconomic advantage, and ESOL (English for Speakers of Other Languages) status. In 2019 ERS, a national non-profit that works with school districts to improve equitable outcomes through resource use, conducted a report about equity in MCPS through the lens of resource use (including the distribution and quality of staff, time, and money). The report pointed to inequities seen in MCPS, including achievement gaps between FARMS and non-FARMS

1 FY2020 Annual School Test (https://montgomeryplanning.org/wp-content/uploads/2019/06/20190620-PB-Presentation-Annual-School-Test-FINAL.pdf).

2 See **page 60** of this Introduction ("Policy-Based Strategies") for more discussion of choice and class-size reduction programs. For more information about Title I school programs in MCPS, see: https://www.montgomeryschoolsmd.org/departments/dtecps/title1/.

students, and inequities related to teacher experience level.[1] A 2016 report by Metis Associates on school choice in MCPS found that, despite the progress the county has made historically in desegregating schools through school choice and consortia, this set of voluntary integration strategies falls short of MCPS's current objectives regarding equity. MCPS continues to experience isolation (including by race/ethnicity and class)—including within schools with specialized programs—, and access to specialized programs such as magnet programs may not be equitable.[2]

A districtwide assessment of school boundaries is an important step as MCPS continues to plan for growth and pursue its core values of **Learning, Relationships, Respect, Excellence,** and **Equity**. This analysis looks comprehensively at the four core issues at the heart of facilities planning--utilization, diversity, proximity, and assignment stability. By synthesizing findings from community engagement, data analysis, and benchmarking, this process will equip the BOE with meaningful insights to guide future decision-making.

Participants in a table discussion at a regional public meeting at Gaithersburg High School, December 4, 2019 (photo credit: Rodrick Campbell)

1 ERS, *Achieving Excellence and Equity Through Resource Use* (2019) (https://www.montgomeryschoolsmd.org/uploadedFiles/learning-journey/Board%20Report%20-%20All%20sections%20v28%209%2030.pdf).

2 Metis Associates. (2016). Montgomery County Public Schools: Study of Choice and Special Academic Programs.

History of MCPS

Enrollment History

Enrollment in Montgomery County Public Schools has changed over time, following regional and national trends in economic growth and population change. During the "Baby Boom" of the 1950s and 60s, the school system saw enormous growth, expanding from 48 schools in 1950, to 203 schools in 1972. During this period of growth, student enrollment more than quadrupled from 27,587 in 1950, to 126,912 at the peak of the population boom in 1972[1]. During the "Baby Bust" that followed, enrollment decreased sharply, leading to the closure of 60 schools. Student enrollment dipped to its lowest point at 91,030 in 1983.[2] Even as overall enrollment dropped during this period, enrollment increased for African American and Hispanic students. As net enrollment has risen in the decades that followed, the proportion of African American, Hispanic, and Asian American students continues to increase.

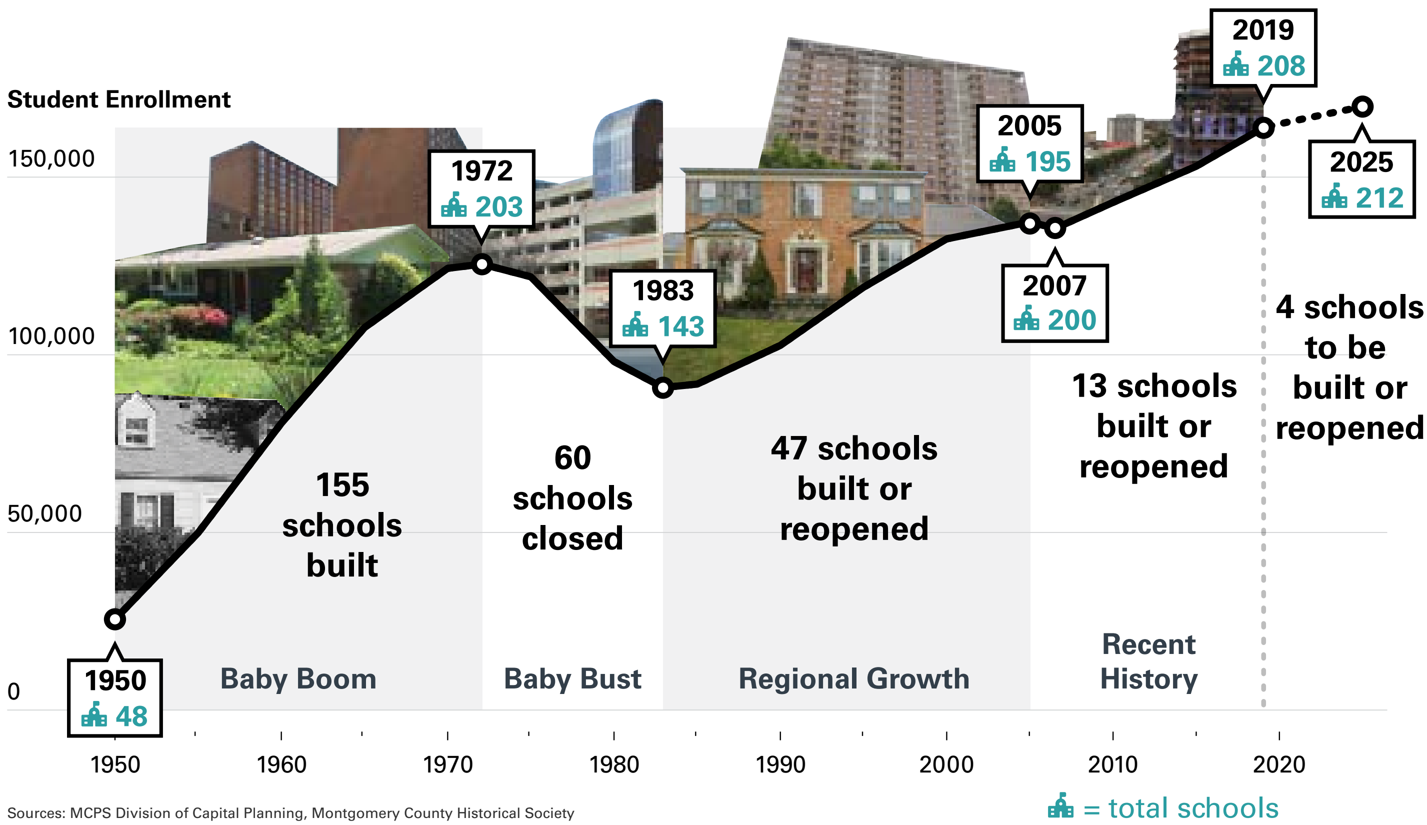


Figure 1.4 *Student Enrollment History Since 1950*

1 Montgomery County Public Schools Division of Long-range Planning (2010).

2 Ibid.

Enrollment has grown continuously ever since, with 47 schools built or reopened during a period of regional growth starting in the mid-1980s which brought total student enrollment to 139,387 by 2005 . This growth can be attributed both to increased birth rates (also known as the "Baby Boom Echo"), as well as to increased levels of immigration to the region. This in-migration to the region was aided by a growing economy and a period of sustained job growth and development.[1] According to the Montgomery County Historical Society, almost half of the population growth in the Greater Washington, D.C. region since the 1980s is due to immigration.[2]

After a plateau in enrollment growth from 2005 to 2007 due to changes in kindergarten age requirements and out-migration due to rising housing costs, MCPS once again saw an increase in enrollment around the time of the Great Recession, between 2007 and 2009. While this economic crisis caused a decline in the housing and job markets, MCPS enrollment grew for various reasons, including both in-migration (international and regional) and the phenomenon of households removing their school-aged children from private schools and enrolling them in the public school system.[3 4]

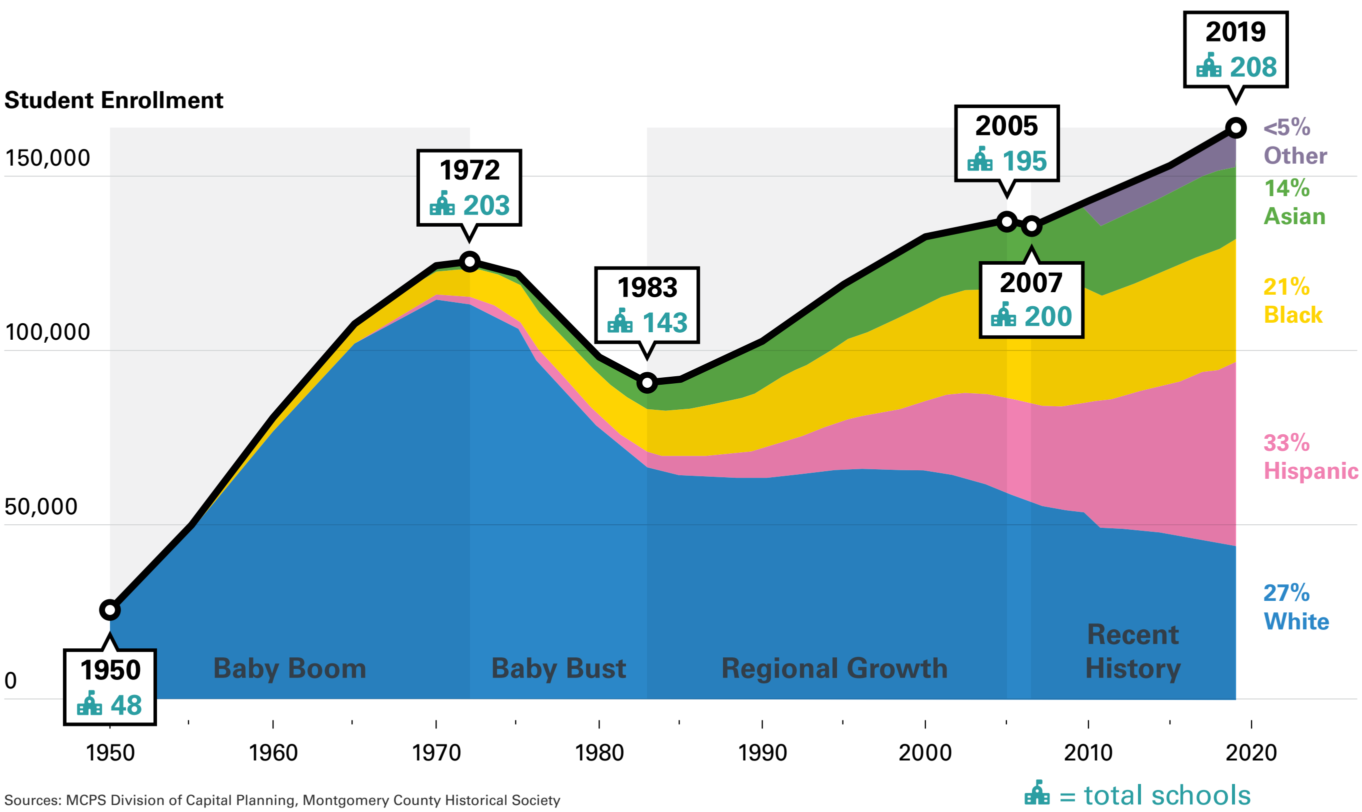


Figure 1.5 *Student Demographic Change Since 1950*

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1 Montgomery County Public Schools Division of Long-range Planning (2010).

2 Ibid.

3 Ibid.

4 Office of the Superintendent, MCPS. 2013. "Memorandum: Long-Range Facilities Planning Process." Memorandum. Rockville, MD.

MCPS has seen sustained growth in student enrollment in the last decade. In response, the district has continued to open previously closed schools and plan for new construction to accommodate county growth and development patterns. As of the 2019-2020 school year, 165,267 students are enrolled in MCPS. The district expects to reopen or build four schools by 2025, and enrollment projections estimate that MCPS will grow by upwards of 6,000 students over the next five years, with a projected enrollment total of 171, 319 by 2025.[1]

Policy History

MCPS has been shaped over time by policies and programs that reflect both wider historical trends and distinct local conditions. The timeline (**Figure 1.6**) offers snapshots of key moments in time that help to set the scene for the conditions impacting school boundaries in MCPS today.

After the Brown vs. Board of Education Supreme Court decision in 1954, Montgomery County began the process of voluntarily desegregating its schools from 1955 and 1961—leading the way as the first county in Maryland to integrate its public schools.[2] In 1954, the BOE established an Advisory Committee on Integration tasked with establishing a plan for integrating MCPS schools in accordance with the new federal mandate. By April 1955, the committee approved an integration plan to be put into effect at the start of the school year that September, including the closing of Black elementary schools deemed "sub-standard" elementary schools, and the reassignment of students across the county

Policy FAA

Policy FAA is the **Educational Facilities Planning** policy of the Montgomery County Board of Education adopted in 1986, during a period of growing student enrollment. The policy seeks to establish standards and procedures for long range educational facilities planning, and to this day it governs the Board's planning and decision-making related to school facilities, including school construction, boundary changes, and assignment patterns. Policy FAA outlines the Board's approach to educational facilities planning, including the purpose, procedures, and Key Facility Indicators for such planning. FAA establishes the four factors to be considered when developing facility and assignment recommendations, including school boundaries: **demographic characteristics** of the student population, **geography, stability of school assignments** over time, and **facility utilization**.

Note: No, FAA is not an acronym! All BOE policies are titled with a series of letters (i.e. ABA, ECM-RA, JEE-RA). The first letter of a policy refers to the section it falls within. Policy FAA falls under Section F ("Facilities Development"), sub-section FA ("Facility Development Goals").

Policy FAA can be accessed online at: https://www.montgomeryschoolsmd.org/departments/policy/pdf/faa.pdf

1 See: CIP Master Plan FY2021-2026 at https://www.montgomeryschoolsmd.org/departments/planning/cipmaster.aspx.

2 Montgomery County Historical Society. n.d. "The Decree Had Been Handed Down:" The Experience of Public School Desegregation in Montgomery County as Told by Six Women Who Were There." https://montgomeryhistory.org/online-exhibit-desegregation/after-the-verdict/.

based on proximity, and not on race.[1 2 3] In 1967, long after the initial launch of integration efforts, MCPS implemented its first busing program to racially integrate the school system.[4] While integration marked the beginning of an important era of racial progress, local historians and longtime county residents recall this period of time as a challenging one—with racial tensions throughout the county as many White families resisted integrated schools.

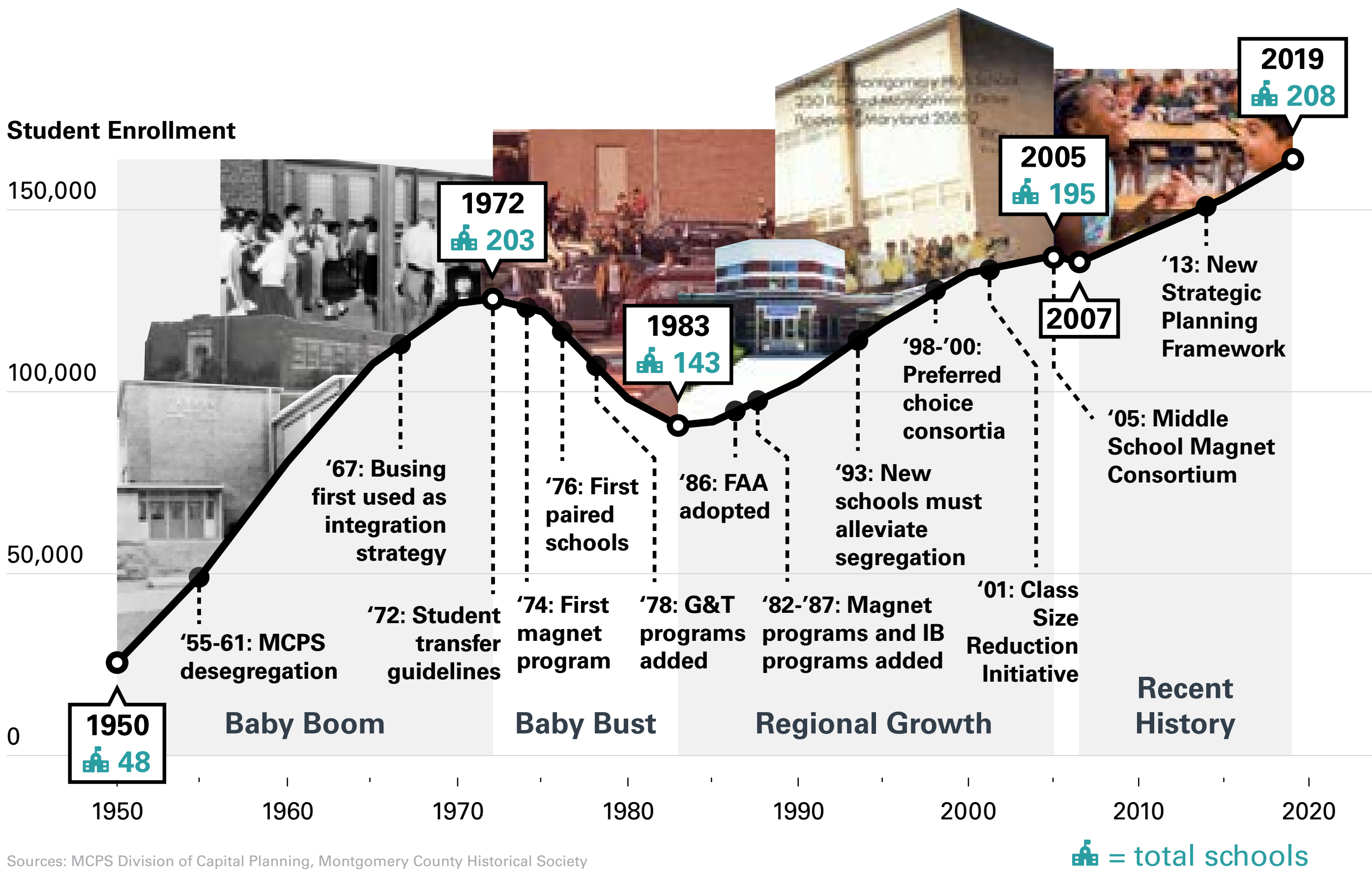

Figure 1.6 *MCPS Policy History Since 1950*

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1 Montgomery County Historical Society. n.d. ""The Decree Had Been Handed Down": The Experience of Public School Desegregation in Montgomery County as Told by Six Women Who Were There." https://montgomeryhistory.org/online-exhibit-desegregation/after-the-verdict/.

2 Note: local historians report that the BOE established a threshold that integrated schools be comprised of no more than about a third of African American students (See "The Decree Had Been Handed Down").

3 See also, "Desegregation Timeline: Montgomery County Public Schools": https://montgomeryhistory.org/wp-content/uploads/2017/10/Integration-timeline.pdf.

4 See Montgomery County Historical Society for more resources on school integration in MCPS.

Early integration programs focused on relocating Black students, which placed a greater burden on Black families.[1] Additionally the closing and integration of historically Black schools was disruptive to the Black community, including detrimental effects on the employment of Black educators.[2]

In 1975, in light of the continued challenges of racial inequity and segregation, the Board of Education adopted Policy ACD, Quality Integrated Education, an attempt to maintain diversity and avoid racial isolation in the school system. This policy also called for additional support and resources to be allocated to underperforming schools "to ensure all students have the opportunity to reach their potential."[3] As part of the implementation of Policy ACD, the county's first elementary magnet programs were developed. These early magnet programs would go on to become three programs in effect today: elementary and middle school language immersion, elementary centers for highly gifted students, and magnet and application programs at the middle and high school level.

In the late 1970s, a newly elected Board of Education reconsidered some of the school system's integration strategies and created a plan to close schools due to low enrollment (a plan later rejected by the Maryland State Board of Education). The BOE adopted Policy IOA in 1978, placing an emphasis on the needs of high-achieving students, and launching the county's first gifted and talented programs. In 1982, Board of Education elections ushered in a Board that turned its attention back to magnet school programs. In 1985, the Math, Science, and Computer Science magnet program opened at Montgomery Blair High School to address de facto segregation and attract high performing students to Blair. In 1986, in the wake of increasing student enrollment, the Board adopted Policy FAA, Educational Facilities Planning. The Board passed this policy to have a formal and consistent plan for utilizing and planning schools in accordance with the county's educational objectives and

Regulation FAA-RA

Regulation FAA-RA established the processes to implement Policy FAA. This includes the development of the Capital Improvement Program (CIP), Educational Facilities Master Plan (EFP), and non-capital strategies including school site selection, boundaries, geographic student choice assignment plans, and school closures/consolidations. This regulation offers guidelines for developing and considering both capital and non-capital strategies, as well as for the implementation of the four key considerations outlined in Policy FAA.

Regulation FAA-RA can be accessed online at: https://www.montgomeryschoolsmd.org/departments/policy/pdf/faara.pdf

1 See, for example: Franklin, Ben A., and Special To the New York Times. 1982. "Minority Parents Fight Maryland School Panel." The New York Times, March 1, 1982, sec. U.S. https://www.nytimes.com/1982/03/01/us/minority-parents-fight-maryland-school-panel.html.

2 "From Segregation to Integration: Two Black Teachers Look Back." 2005. Connection Newspaper. February 14, 2005. http://www.connectionnewspapers.com/news/2005/feb/14/from-segregation-to-integration-two-black/.

3 MCPS Policy ACD, accessed at: https://www.montgomeryschoolsmd.org/departments/policy/pdf/acd.pdf.

establish guidelines for decision making and planning processes. Updated and amended many times since its passage, Policy FAA continues to guide MCPS school facilities planning. Through the remainder of the 1980s, MCPS continued to add new magnet programs, and established the county's first International Baccalaureate (IB) program at Richard Montgomery High School in 1987.

In 1990, MCPS evaluated its Minority Student Achievement Plan, and to address inadequacies of this program as determined by the study, the Board of Education adopted the Success for Every Student Plan in 1992. Following this, in 1993, the Board amended Policy FAA to include consider options more likely to produce racial diversity in long range facilities planning. At the end of the decade, MCPS established its two high school consortia. The Northeast Consortium was formed in 1998, replacing the controlled choice model with a preferred choice model. In 2000, the county began a three-year initiative to reduce class sizes in primary grades, focusing on schools most heavily impacted by poverty and English language learners. The Downcounty Consortium was approved in 2000 and opened in 2004 with the support of a federal Small Learning Communities (SLC) grant. Shortly thereafter, in 2005, the Middle School Magnet Consortium (MSMC) opened.

In the 2010s, MCPS continued to plan for enrollment growth with an eye on equity and closing achievement gaps between students of different races, ethnicities, and socioeconomic statuses. In 2013, the Board approved a new Strategic Planning Framework, which defines equity as a core value in strategic planning.

Participants in a table discussion at a regional public meeting at White Oak Middle School December 14, 2019 (photo credit: C.D. Boykin)

MCPS Strategies: Adapting To Change

During its history, MCPS has employed a number of strategies to keep up with changing enrollment, including both infrastructure-based strategies, and policy-based strategies.

Infrastructure-based strategies:

- School construction and additions
- Land management
- Facility improvements
- Relocatable Classrooms
- Repurposed Facilities

Policy-based strategies:

- Articulation patterns
- Consortia
- School choice programs
- Reduced class sizes
- Paired schools
- Boundary changes

Infrastructure-Based Strategies

School construction and additions

New school construction increased at the most rapid rate in the 1950s and 60s, but the county continues to increase capacity by building more schools and classrooms.

Land management

Part of the work of MCPS's Division of Capital Planning is to represent the interests of the school system in countywide land use planning. This includes site selection for school construction and assessing school capacity for residential development.

Relocatable classrooms

(commonly called portables)

This is a short-term strategy that MCPS uses to accommodate overcrowding in schools, while necessary capital improvements are taking place. In 2019, there were 434 relocatable classrooms in use in MCPS schools.[1]

Facility improvements

This strategy includes capital projects to update aging infrastructure, make facilities more sustainable, and renovate spaces to meet programming needs. Often, facility improvements simultaneously address the need for greater capacity and updated infrastructure.

Repurposed facilities

MCPS may repurpose public facilities to accommodate enrollment needs. Within schools, facilities may be repurposed to create more classroom space (for instance, MCPS has repurposed computer laboratories as classrooms at some schools, given access to wireless computers and a decreased need for computer laboratories).

1 "Superintendent's Recommended FY2021 Capital Budget and the FY 2021-2026 Capital Improvements Program." 2019. Montgomery County Public Schools. http://gis.mcpsmd.org/cipmasterpdfs/CIP21_EntireBook.pdf.

Policy-Based Strategies

Articulation patterns

Articulation patterns have been adjusted without changing larger cluster boundaries. For instance, through a split articulation pattern, a portion of elementary students attend a different middle school from their peers to relieve overcrowding but rejoin those peers for high school.

Consortia

Consortia serve as a strategy to better integrate schools in relatively close proximity based on a student's preferences. The lottery-based admission system for consortia schools takes school capacity into account.

School choice programs

School choice programs allow students to enroll in schools, regardless of geographic proximity, based on entry into special programs, such as academic magnet programs, language immersion, or the IB program. School choice—dating back to the first magnet programs in the 1970s-- was developed as a strategy to integrate schools across the county.

Boundary Changes

Boundary changes are another non-capital strategy MCPS has used throughout its history to address enrollment and programming priorities and needs. This is discussed in greater detail on **page 61**.

Paired schools

In some cases, MCPS has created paired schools to address shifting enrollment needs and better integrate communities at the elementary level. In paired schools, students attend a primary (kindergarten-2nd grade) and secondary (3rd-5th grade) elementary school in two separate facilities, allowing for adjustments to enrollment across more schools.

Reduced class sizes and utilization benchmarks

MCPS uses utilization benchmarks from state- and county-level policies, including utilization rate, school site size, and enrollment ranges. Elementary schools with high FARMS and ESOL rates (called Focus Schools) are designated as class size reduction schools and allocated greater support to maintain lower class sizes and support educational programming. MCPS has also instituted districtwide class size reduction programs, such as the 2000-2003 Early Success Performance Plan which reduced focus schools to an average of 17 students per class, and an initiative in 2017 which allocated funding to new teachers and adjusted standards to reduce class sizes districtwide.[1] [2]

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1 "Investing to Reduce Class Size and Close the Achievement Gap." 2016. Montgomery County Public Schools. May 25, 2016. https://news.montgomeryschoolsmd.org/mcps-board-of-education/investing-to-reduce-class-size-and-close-the-achievement-gap/.

2 See FY 2014 CIP (https://www.montgomeryschoolsmd.org/uploadedFiles/departments/planning/Archive_MP14_Complete.pdf).

School Boundaries

As Montgomery County has grown and changed, the Board of Education has conducted regular boundary studies to determine whether school attendance areas should be redrawn in particular areas of the county. Since 1984, the MCPS Board of Education has made changes to school boundaries a total of 131 times.[1] Approximately two in three of these changes were related to new school construction and additions.

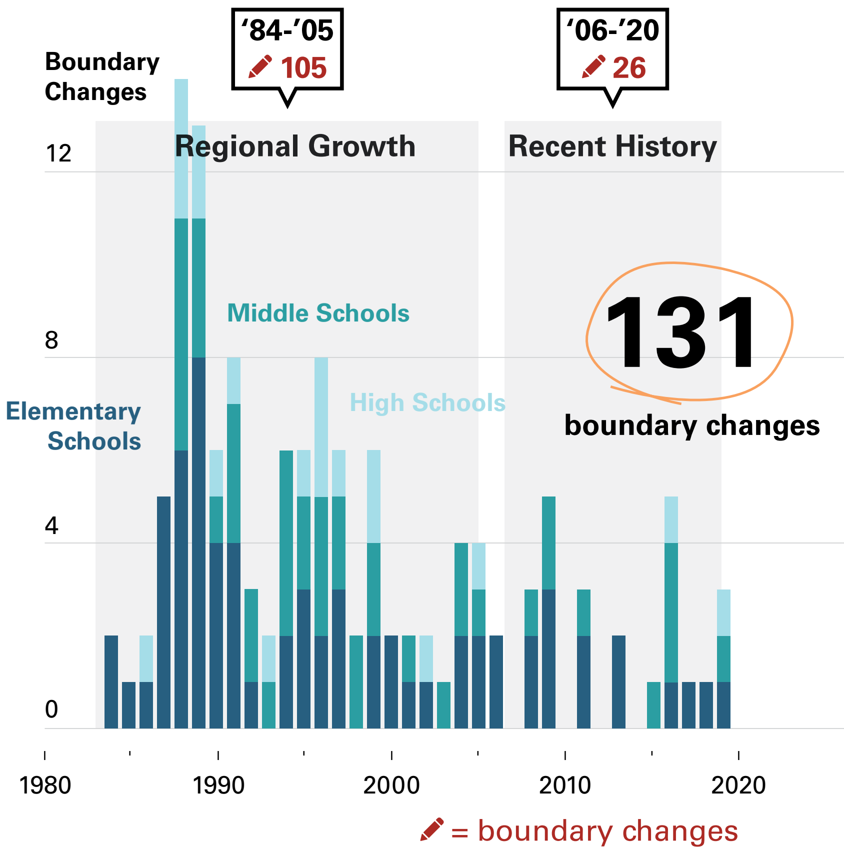

Figure 1.7 *Boundary Change History, 1980 to present*

Boundary Study

This comprehensive **boundary analysis** is distinct from a **boundary study**, which is the BOE's process for studying specific boundaries and considering a formal change, and will not recommend specific **boundary changes,** which must be issued by the Board of Education.

Boundary studies involve geographically specific research of boundary options, within a certain scope set by the superintendent of schools. This research includes an analysis of factors such as travel time and traffic patterns, current and projected enrollment, and the articulation patterns of affected schools. Through a boundary study, MCPS staff develop boundary options to be considered by the BOE. Read more about boundary studies and the development of boundary options in Policy FAA-RA.

1 Data on past school boundary changes, via MCPS Office of Shared Accountability.

Policy FAA, authorized by the BOE in 1986 and last updated in 2018, outlines four factors to be considered when developing facility and assignment recommendations, including school boundaries:

- **demographic characteristics** of the student population
- **geography**
- **stability of school assignments** over time
- **facility utilization**

As these key factors guide the county's decision-making in facilities planning and student assignment, they, in turn, form the backbone of this comprehensive boundary analysis.

Boundary changes are the result of Board of Education-mandated resolutions. Typically, the superintendent charges MCPS to conduct a boundary study and develop options to present to the Board of Education. MCPS conducts the boundary study and issues potential recommendations to the board and superintendent. Following this, the superintendent issues their preferred recommendation and provides a presentation detailing this recommendation to the board. The Board ultimately votes to enact a boundary change, after a process including both internal work sessions and public hearings.[1]

1 A more detailed explanation of the policies and procedures related to boundary recommendations and changes can be found in Policy FAA-EFP (Educational Facilities Planning). This document can be found online at https://www.montgomeryschoolsmd.org/departments/policy/pdf/faara.pdf.

Capital Improvements Program (CIP) Master Plan

The MCPS Capital Improvements Program is a six-year master plan for capital improvements in Montgomery County Public Schools. This plan is the mechanism through which the Board of Education requests funding from the County Council and the State of Maryland for countywide and major planning projects, and is submitted for full review by the County Council every other year (odd years). On "off-years" (even years), the County Council considers amendments to the CIP master plan. The most recent CIP plan (FY2021-2026) includes:

- The superintendent's recommended capital budget and recommended projects for fiscal year 2021.
- An overview of enrollment, demographic, and development trends in MCPS and Montgomery County.
- Facility Planning Objectives to guide the school system in accommodating enrollment growth and program changes.
- Recommended Actions and Planning Issues, organized by high school clusters and consortia. A summary of Countywide Projects proposed to meet the needs of schools throughout the district.

The plan contains useful information about the MCPS planning environment, as well as data on school utilization, demographics, enrollment projections, facility information, and recommended capital improvements.

The CIP Master Plan for FY 2021-2026 can be accessed online at: **https://www.montgomeryschoolsmd.org/departments/planning/cipmaster.aspx.**

Montgomery County Context

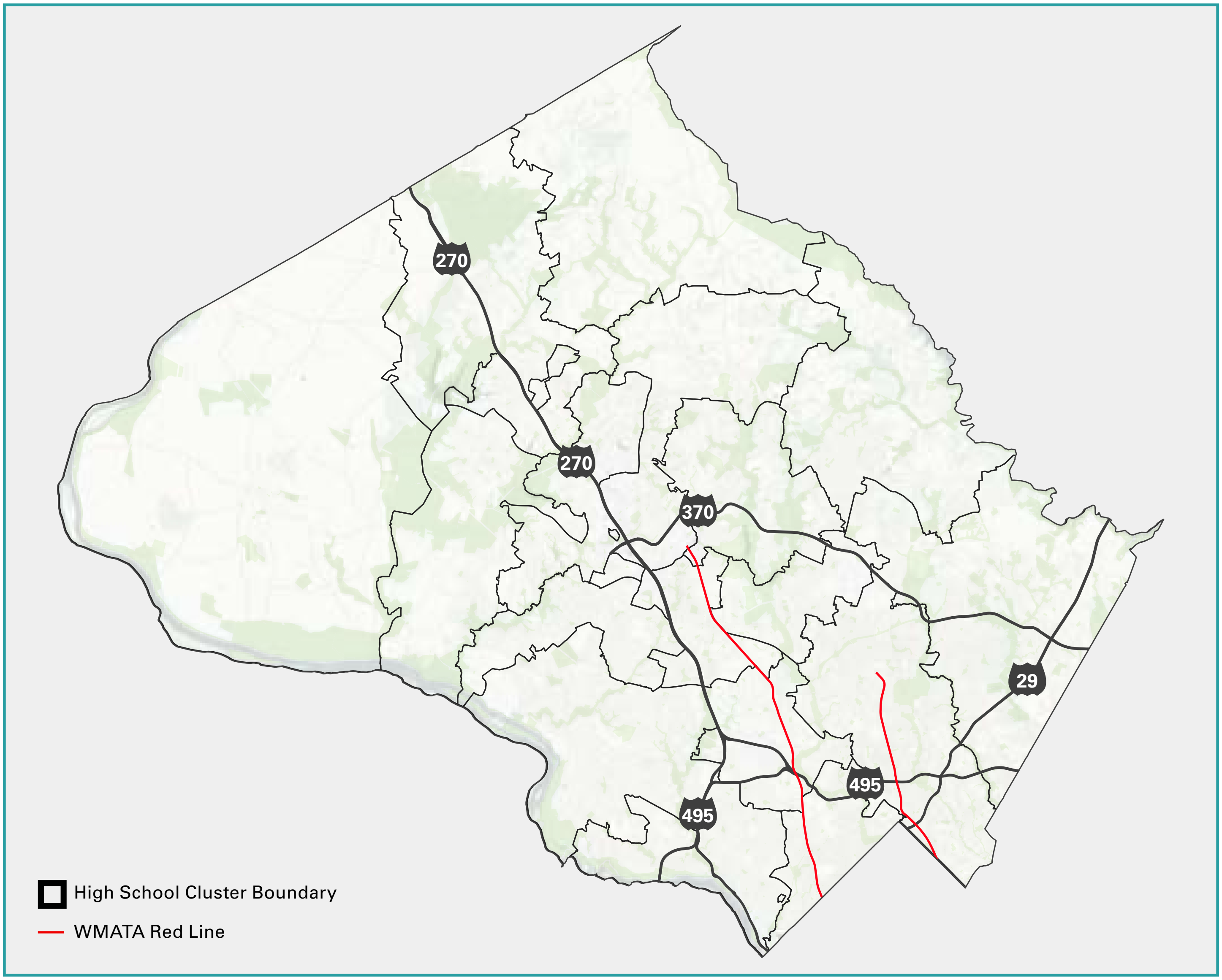

Figure 1.8 *Map of County Context*

Located outside of Washington, D.C., Montgomery County is home to over 1,050,000 residents, making the county the most populous in Maryland. Montgomery County's approximately 500 square miles contains a range of urban, suburban, and rural areas—including three incorporated cities (Gaithersburg, Rockville, and Takoma Park), 12 towns, and a 93,000-acre agricultural reserve. In order to understand the planning challenges and opportunities facing MCPS, it is critical to understand the wider context of Montgomery County. The county today is marked by population growth and diversification, and evolving land use and development patterns.

Diversity and Population Growth

Montgomery County has grown increasingly diverse in the last two decades. The fastest growing segment of the population is the Hispanic population, which grew by 258% between 1990 and 2016 (to a total of 199,402, or about 19% of the total population)[1]. The Asian and African American populations have also each grown substantially, growing by 153% and 108% respectively during that same time period. As these ethnic and racial groups grew, the non-Hispanic White population in Montgomery County declined, from 59.5% of the population in 2000, to 44.5% in 2016. According to the Montgomery County Planning office, the increasing diversity of the county can be attributed in large part to a rise in international immigration. Foreign-born residents make up approximately a third of the countywide population today (as compared to 19% in 1990).

The growth and diversification of Montgomery County's population must also be understood in the context of a growing region and state. While Montgomery County is the most populous county in Maryland, it is not the fastest growing. Likely due to its already large population, and decreasing amounts of developable land and transportation capacity, Montgomery County is growing less rapidly than many of its neighbors in the region.[2] Between 2000-2016, eight other counties in Maryland surpassed Montgomery County's overall population growth rate, including nearby Howard and Frederick Counties.[3] It should be noted that, despite being outpaced by these counties in terms of population growth, MCPS has grown more rapidly in public school student enrollment.[4]

1 Montgomery County Trends Report 2019 (Montgomery Planning, MNCPPC)

2 Ibid.

3 See: http://www.usa.com/rank/maryland-state--population-growth-rate--county-rank.html

4 Enrollment data via National Center for Education Statistics (NCES)

Housing

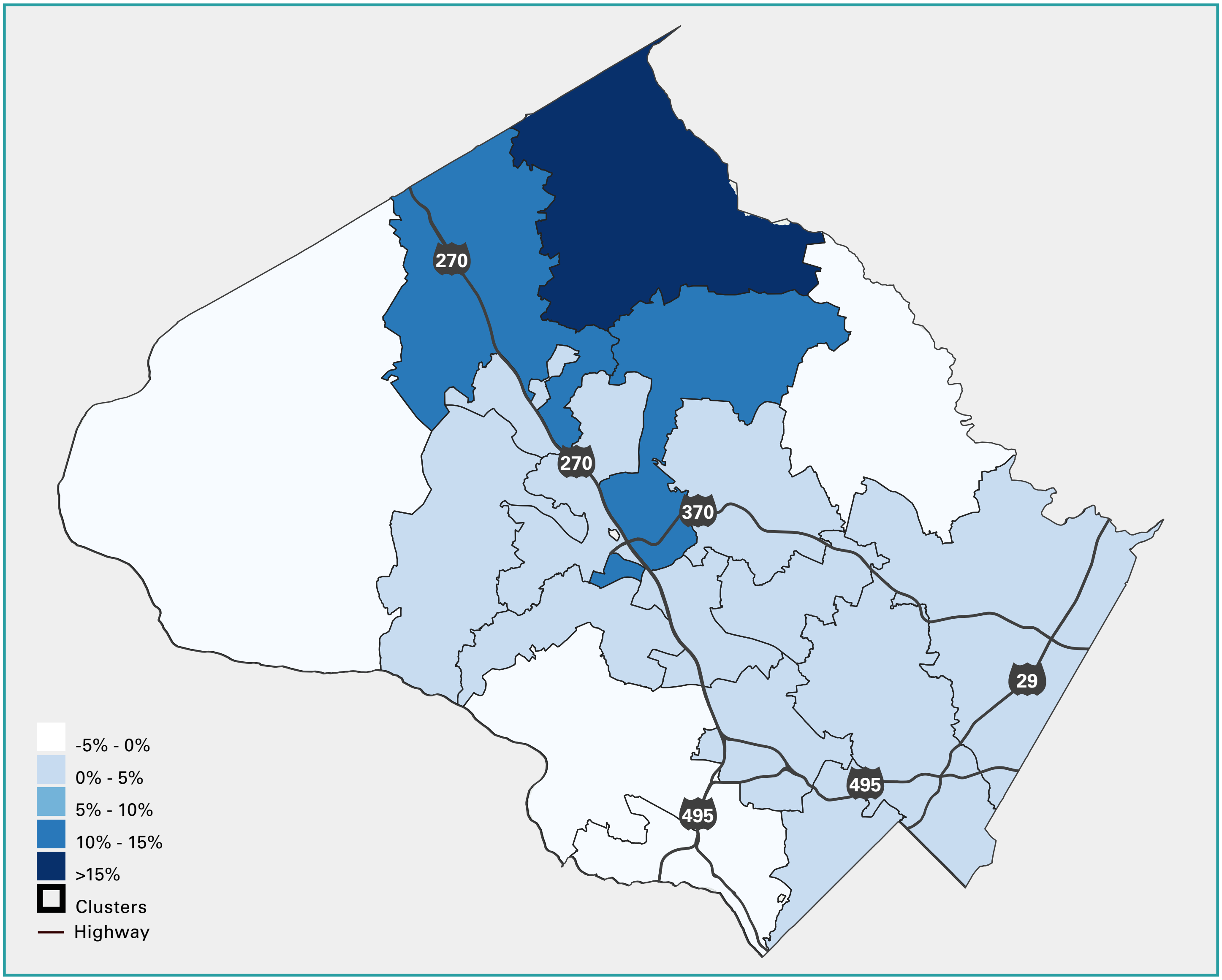

Figure 1.9 *Map of Percentage of Change in Total Housing Units, 2010-2018*

As the population of Montgomery County has grown and diversified in recent years, the housing supply has also grown and changed. While overall housing supply has expanded to meet the needs of a growing population, planners note the significant growth of multi-family housing. The number of units in large multi-family developments (50 or more total units) more than doubled between 1990 and 2016. As of 2016, renters comprised over 35% of households.[1]

The county's single-family housing market has remained strong since the 1990s,

1 Montgomery County Trends Report 2019 (Montgomery Planning, MNCPPC).

despite the Great Recession in 2008. Yet--consistent with the county's development trends toward more multi-family housing--, the overall home ownership rate has fallen in recent decades. This is particularly true among households under age 35, whose homeownership rates have fallen to nearly half of what they were in 1990 (from 45% to 28%). Households aged 75 and above represent the only age group with increased homeownership rates since the 1990s, which points to a trend of increased aging in place, and decreased opportunity and means for single-family home ownership among younger residents[1].

Producing and preserving affordable housing grows increasingly important as the county grows. In 1973, Montgomery County adopted the Moderately Priced Dwelling Unit (MPDU) program, with the goal of expanding affordable housing options in the county. This program is recognized as a model nationwide for its effective dispersal of affordable housing throughout the county.[2] Between 1976 and 2016, 15,415 affordable housing units (both for sale and rent) were produced under this program, with an average annual production of about 367 units a year.[3]

In 2004, the County Council published a 30-year review of the MPDU program, which issued a number of recommendations for updates to accommodate changing needs and conditions in Montgomery County. One of the findings in this report was that, as developable land becomes scarcer in Montgomery County, so too will the availability of affordable housing.[4] Recent projections on County growth and housing needs have echoed these concerns. As of 2019, it is projected that Montgomery County needs an additional 48,700 homes to accommodate population and job growth by 2030.

Affordable housing continues to be a challenge for the county today. In 2019, around 43% of households in the county are low-to-moderate-income (LMI) households, and over a third of these households experience housing cost burden (in other words, their housing costs exceed what they can afford).[5]

1 Ibid.

2 Montgomery County Department of Housing and Community Affairs (DHCA) (https://www.montgomerycountymd.gov/DHCA/housing/singlefamily/mpdu/produced.html).

3 Ibid.

4 MPDU 30 Year Review https://www.montgomerycountymd.gov/DHCA/Resources/Files/housing/singlefamily/mpdu/report_mpdu30yearreview.pdf.

5 Meeting the Washington Region's Future Housing Needs (http://www.urban.org/sites/default/files/publication/100946/meeting_the_washington_regions_future_housing_needs_2.pdf).

Development Trends

Land use planning and development patterns in Montgomery County reveal a county that is growing and densifying, with an emphasis on the urbanization of transportation corridors. The county represents a large and diverse land area with a variety of densities and characters—including urban, suburban, rural, and agricultural areas. The density ranges seen in the map in **Figure 1.10** are based on categories used by the Montgomery County planning department to classify regions of the county from most to least dense (in persons per square miles).

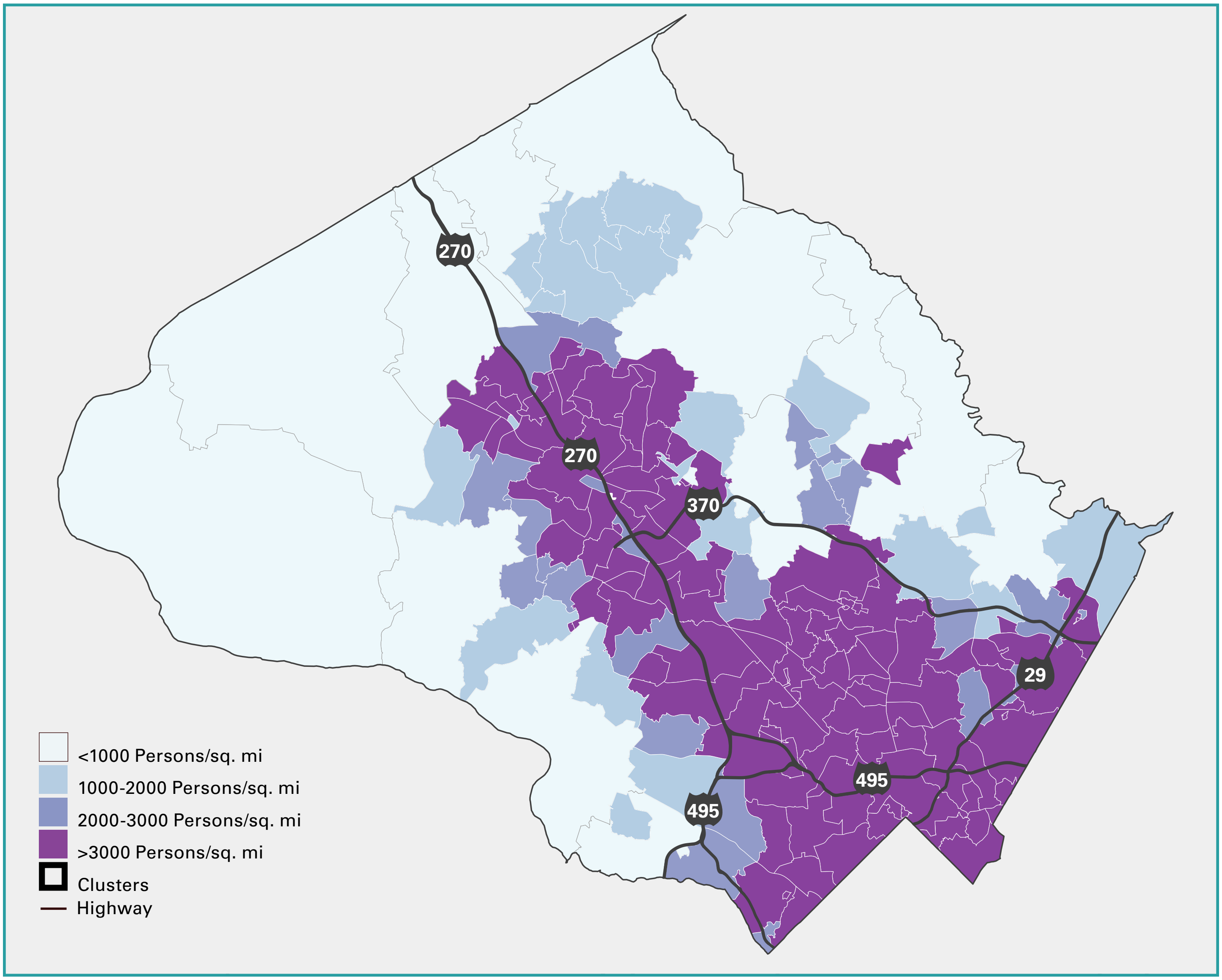

Figure 1.10 *Population Density in Montgomery County, Shown in Terms of Elementary School Zones (Source: U.S. Census Bureau)*

The patterns of density seen in this map can be traced back to historical land use planning. The MNCPPC regional general plan *…On Wedges and Corridors*, adopted in 1964, lays out a vision for regional growth along urbanized corridors, following major highways and transit lines, with growth in Montgomery County concentrated along Interstate 270. In this vision, corridor cities along Interstate-270 are flanked by "wedges" of medium density, low density, farmland, and open space.[1]

I-270 has been the focal point of the county's development since the 1960s and remains an important geography of growth in the county. Stretching from Bethesda to Clarksburg, I-270 is lined with dense hubs envisioned in master planning as "corridor cities," including Rockville, Gaithersburg, Germantown, and Clarksburg. As the most highly trafficked corridor in the county, 355/I-270 continues to provide the footprint for a considerable amount of population growth and density.

About a third of the county—or 93,000 acres-- is covered by agricultural and rural land. According to *Thrive Montgomery 2050*, residential land uses comprise more than 32% of the county's total acreage, with the vast majority of this acreage (92%) occupied by single-family housing. About 18% of land in the county is undeveloped and available for development.[2]

While population density follows a clear pattern throughout the county, most MCPS clusters contain a range of densities. Twelve out of nineteen clusters contain a mix of densities, including eight clusters that range from rural to metropolitan.

Many master and sector plans recently approved by the county emphasize developing a mix of commercial (stores, restaurants, offices, etc.) and residential uses (houses and apartments) around existing transportation infrastructure. For example, the Marc Rails Communities Sector Plan, approved in 2019, proposes revitalizing areas within walking distance of the Boyds and Germantown MARC stations. New transportation infrastructure is also reshaping the development landscape in Montgomery County. The Purple Line, a light rail transit line connecting Bethesda to New Carrollton, with 10 stops within Montgomery County limits, is in development and expected to begin service in 2022.[3] Over the last decade, communities along the planned transit line have updated their sector plans to accommodate greater density, a mixture of uses, and new development around planned Purple Line stations.

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1 The *…On Wedges and Corridors* general plan can be accessed online at: https://montgomeryplanning.org/wp-content/uploads/2017/10/GeneralPlanWedgesandCorridors1964colorocr.pdf.

2 Montgomery Planning. "Thrive Montgomery 2050." https://montgomeryplanning.org/planning/master-plan-list/general-plans/thrive-montgomery-2050/.

3 See: Montgomery County Office of Planning (https://montgomeryplanning.org/planning/transportation/transit-planning/purple-line/purple-line-related-projects/).

In the last five years, the county has seen residential development "hot spots," where a great majority of new single-family and multi-family (i.e. apartments and condominiums) construction has taken place. These areas are shown in the map in **Figure 1.11**. Key new single-family construction residential permit hot spots include the Clarksburg and Northwest cluster. Key new multi-family residential building hot spots include Downcounty Consortium, Damascus, and Clarksburg.

Subdivision Staging Policy (SSP)

The SSP is a policy put in place to ensure that public facilities and infrastructure in Montgomery County systems are keeping pace with county growth and development. The SSP assesses whether there are adequate public facilities present to support new residential subdivisions, including schools. The SSP calls for annual tests of school capacity and utilization. As a result of the **annual school test**, parts of the county may be placed on a **development moratorium** (or, a temporary halt on residential development) to prevent further school overcrowding. The SSP is updated every four years, with the next review and update due in 2020.

Participants at a Public Meeting at White Oak Middle School on December 14, 2019 (Photo credit: C.D. Boykin)

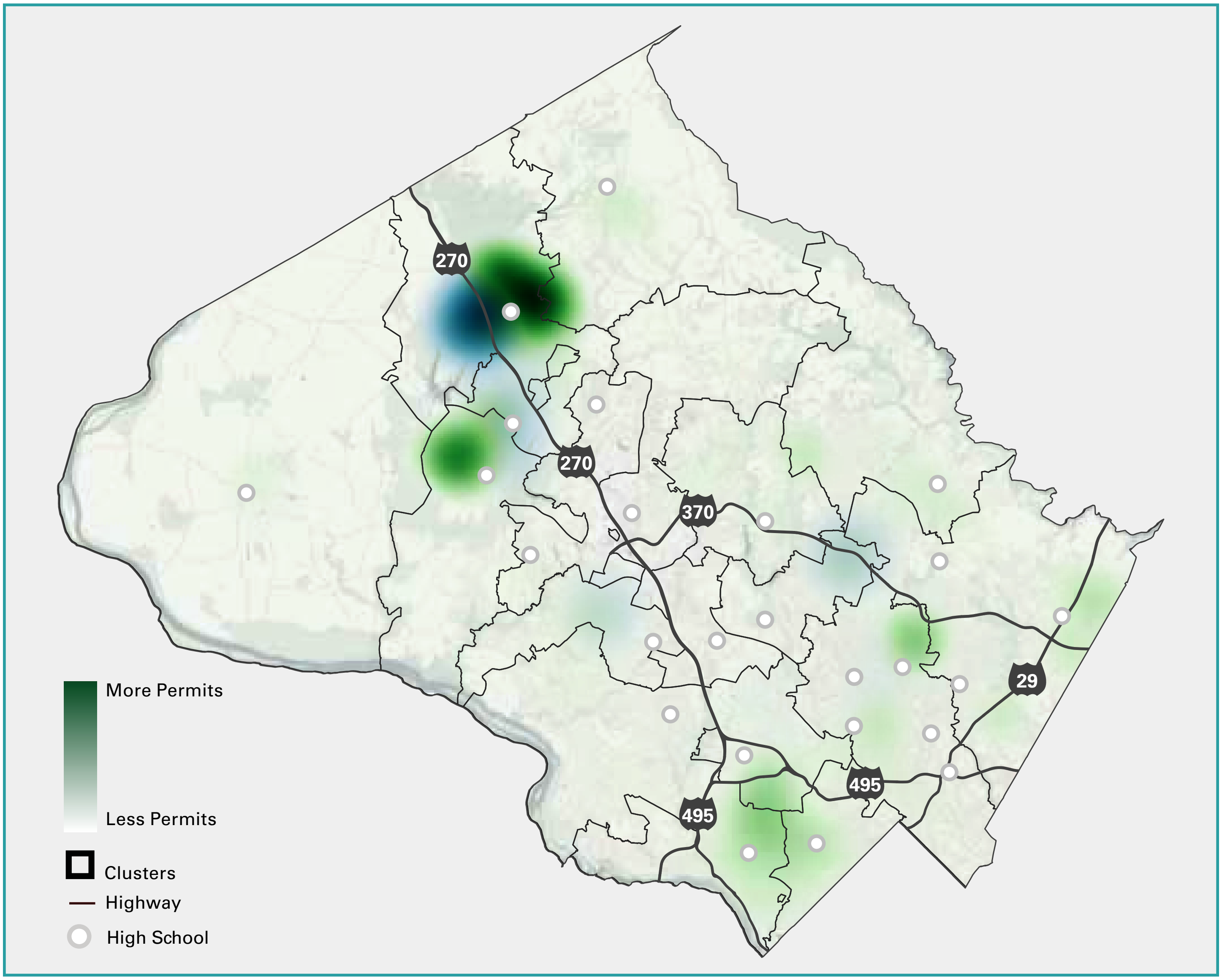


Figure 1.11 *Residential Permit Heat Map, 2015-Present (source: Montgomery County Parks and Planning)*

In the map above, green indicates single-family residential permits issued since 2015 and blue indicates multi-family residential permits issued since 2015. Grey points indicate MCPS high school locations.

Process Overview

Fall and Winter 2019	Winter and Spring 2020	May - June 2020
Phase 1 Data Analysis, Community Awareness, Ideas Gatherings	**Phase 2** Testing Ideas and Metrics	**Phase 3** Final Report and Presentation
Data Analysis & Benchmarking Community Engagement	**Data Analysis** **Community Engagement**	

Project Objectives

This Districtwide Boundary Analysis aims to understand Montgomery County's school boundaries by analyzing a range of data, guided by criteria, standards, and values outlined in MCPS and state-level policy. The study builds upon MCPS's engagement efforts from Spring 2019 and continues to involve community members through a variety of forums to fully understand the spectrum of challenges towards creating more meaningfully integrated, diverse, accessible, and culturally responsive schools within the county.

This Comprehensive Boundary Analysis seeks to understand the degree to which the current school boundaries in Montgomery County:

- facilitate equitable use of facilities
- support optimal facility utilization in terms of program capacity and enrollment in schools
- optimize student diversity
- further the four factors in Policy FAA for consideration in educational facility planning, including school boundaries: facility utilization, student demographics, geographic proximity, and stability of assignments over time

The report will not make recommendations on potential boundary revisions. Rather, this analysis aims to produce a critical data resource for MCPS, that can inform future decision-making related to the school system's ongoing work of evaluating existing school boundaries and considering options for boundary changes.

Integral to this analysis of current school boundaries is an analytical assessment and summary of the community engagement process.

Analysis Framework: The Four Lenses

This first section, **Introduction, Context, and Existing Conditions** covers a range of analysis about the existing conditions of school boundaries in MCPS, adapting the four key considerations from Policy FAA as our four major lenses of inquiry:

Assignment Stability

Stability of school assignments over time is one of four factors outlined by Policy FAA to be considered in educational facility planning. MCPS attempts to minimize the number of times the same student(s) are impacted by reassignments leading to changing schools within a particular school level. The policy states: "student reassignments should consider recent boundary or geographic student choice assignment plan changes, and/or school closings and consolidations that may have affected the same students." Assignment stability is an outcome of boundary changes, and this analysis is not recommending any boundary changes. As such, the analysis around assignment stability is limited to a data review focused on historical boundary changes.

See **Assignment Stability** section, starting on p**age 77**.

Utilization

Through this lens, we aim to better understand the degree to which schools are operating above or below their **program capacity**. Policy FAA states that schools should operate between 80-100% utilization rate. In this section, we seek to better understand the landscape of school utilization across different school levels, throughout school articulation/feeder patterns, and in relation to student enrollment projections.

See **Utilization** section, starting on **page 93.**

Diversity

The diversity lens corresponds to Policy FAA key consideration of demographic characteristics of the student population. Under Policy FAA, the BOE strives to encourage student diversity, in accordance with **Policy ACD**, Quality Integrated Education. To analyze diversity, we look at **FARMS** and **Ever-FARMS** rates, **racial/ethnic dissimilarity**, and **ESOL** (English for Speakers of Other Languages) to gain a better understanding of how diversity is distributed across schools and clusters.

See **Diversity** section, starting on **page 173.**

Proximity

The proximity lens corresponds to the key consideration under Policy FAA of geography. Under this consideration, the BOE policy encourages a continued commitment to community schools, with an emphasis on students attending schools close to their place of residence. Under Policy FAA, school boundaries should emphasize adjacency, both within existing high school clusters, and to include other nearby geographies. In this report, our analysis of proximity includes an analysis of school walksheds, and distance analyses that consider students' distance between home and school.

See **Proximity** section, starting on **page 253**.

Project Approach and Phases

At the core of this boundary analysis process is both data analysis and community engagement. As the consultant team analyzes data, the insights and feedback of community members are crucial to form a more complete picture of the current conditions of MCPS school boundaries. The intertwined processes of data analysis and community engagement are planned across three phases, beginning in Fall 2019 and concluding in June 2020.

Phase 1: Data Analysis, Community Awareness, and Ideas Gathering

In this phase, we began analyzing data and benchmarking MCPS with comparable districts around the country. Alongside this analysis, we began a process of community awareness and information gathering aimed to increase county residents' awareness around central challenges and opportunities within the current boundaries and provide a platform for discussion. This included hosting six regional public meetings, and conducting targeted outreach through interviews, small group meetings, virtual engagement, and more. Regional meetings and targeted outreach informed and shaped the data analysis process (see **Section II: Community Engagement,** starting on **page 352** for more detail).

Phase 2: Testing Ideas and Metrics

In this phase, we will continue to conduct data analysis, making use of the insights from both community engagement and data analysis in Phase 1. This stage of engagement will highlight intersections and trade-offs between the four lenses at the heart of this analysis (utilization, diversity, proximity, and assignment stability). In this phase, community members will be invited to explore the data in this report using an interactive tool. The resulting feedback from the public will continue to inform our ongoing analysis.

Phase 3: Final Report and Presentation

In this phase, we will synthesize key insights from Phases 1 and 2 into a comprehensive report to be presented to the Board of Education. Altogether, this report will consist of an executive summary and three sections, covering existing conditions of boundaries in MCPS (Section I), feedback from community engagement (Section II), and the interconnectedness of the four lenses (Section III).

A Report in Three Sections

The publication of this interim report represents the culmination of Phase 1 of data analysis. Phase 2 of data analysis and community engagement will culminate in the presentation of a final report to the Board of Education in June of 2020, which will be added to this analysis as Section III.

Section I: Introduction, Context, and Existing Conditions

This first section covers a range of analysis about the existing conditions of school boundaries in MCPS, adapting the four key considerations from Policy FAA as our four major lenses of inquiry (utilization, diversity, proximity, and assignment stability). It also covers benchmarking, comparing MCPS to six other school districts around the country.

Section II: Community Engagement

The second section explains our approach to community engagement, its impact on our data analysis, and the insights we have drawn from the engagement process through regional meetings, small group meetings, interviews, and virtual engagement. This section will be expanded in the final report to reflect phase 2 community engagement insights.

Section III: Deeper Analysis - How do the Lenses Intersect

The final section brings the four lenses into conversation with one another, in a deeper analysis of the interrelatedness of utilization, diversity, proximity, and assignment stability. It will be added as part of the final report to the BOE.

Supplementary Materials and Further Exploration

This interim report presents an initial analysis of both data and community engagement as a part of this Districtwide Boundary Analysis. However, due to the limitations of the project scope, there are areas that are not covered at length in this report but may be of interest to many readers. The table below provides a breakdown of resources that can supplement this report. See the **Further Reading on page 406** for a more extensive list of resources to deepen your exploration of these and other areas of interest.

For further exploration of…	See:
Student performance and achievement	• Maryland State Report Card (link: https://reportcard.msde.maryland.gov/) • MCPS Annual Report (https://www.montgomeryschoolsmd.org/info/annualreport/) • MCPS Equity Accountability Model (https://www.montgomeryschoolsmd.org/data/LAR-charts/Equity-Accountability-Model-Achievement.html)
School choice, magnet, and consortia programs	• Montgomery County Public Schools: Study of Choice and Special Academic Programs, 2016. (Link: https://www.montgomeryschoolsmd.org/uploadedFiles/info/choice/ChoiceStudyReport-Version2-20160307.pdf)
Education policy	• For information about federal education policies, see U.S. Department of Education (link: https://www.ed.gov/) • For information about state-level education policies, see Maryland Department of Education (link: http://www.marylandpublicschools.org)
Educational facilities planning (including capital budgets, planned renovations and additions, and more)	• Board of Education Requested FY 2021 Capital Budget and FY 2021-2026 Capital Improvements Program (CIP) • Present and past budgets and CIP plans archived at: https://www.montgomeryschoolsmd.org/departments/planning/cipmaster.aspx • Educational Key Facilities Indicator (KFI): https://www.montgomeryschoolsmd.org/departments/facilities/kfi/
Montgomery County planning (including affordable housing, development, transportation and traffic, and more)	• Montgomery County Planning –inventory of master plans • Montgomery County Trends (January 2019) • Safe Routes to School Program (SRTS)
Boundary Studies	• Current and past MCPS boundary studies: https://www.montgomeryschoolsmd.org/departments/planning/boundary.aspx

2. Data Analysis

2.1 Data Analysis Assignment Stability

2.1 **Data Analysis** Assignment Stability Figures

What does assignment stability mean in this analysis?

Assignment stability refers to the number of times a student, school, or geographic area is impacted by changes to student assignment over time.

In this analysis, we analyze assignment stability in terms of past boundary studies and the number of changes in assignment across school levels.

Section Overview

This section includes one set of analyses, ***Assignment Stability In-Depth.*** This subsection opens with a set of key insights.

Assignment Stability by the Numbers

- MCPS has changed school boundaries 131 times since 1984 as part of 92 boundary studies.
- Approximately two in three of these changes were related to new school construction and additions.
- Since 2010, there have been 16 boundary changes implemented (or an average of less than two a year).

Assignment Stability at a Glance

What does assignment stability mean in this analysis?

All students in MCPS have a school (or group of schools, in the case of consortia) where they are assigned based on their home address. These assignments may change over time as MCPS adjusts to shifts in student enrollment and programmatic needs and works to create equity in the school system. Since MCPS began to track annual boundary changes in 1984, the Board of Education has made changes to school boundaries a total of 131 times. Approximately two in three of these changes were related to new school construction and additions.

Assignment stability refers to how often students in MCPS are impacted by changes in school assignment. MCPS strives to limit the number of times a student, school, or part of the county is impacted by changes of school assignment. Policy FAA names assignment stability as one of the four key considerations in educational facilities planning, and emphasizes that the BOE should:

- Keep student assignments stable for as long a period as possible
- Consider recent changes to assignment that may have impacted the same students or geographic areas

As part of their regular work, MCPS and the BOE study and consider changes to student assignment at specific schools and clusters. Boundary studies involve geographically specific research of boundary options, within a certain scope recommended by the superintendent of schools before approval by the Board of Education. This research includes an analysis of factors such as travel time and traffic patterns, current and projected enrollment, and the articulation patterns of affected schools. Through a boundary study, MCPS staff develop boundary options to be considered by the BOE for deliberation and approval.

Capital and Non-Capital Changes

School boundaries may change as a part of either capital or non-capital strategies to address the needs of the school system. Capital strategies may include new school construction, addition, or closures, which then necessitate a change in student assignment to adjust to changes in facilities. Non-capital strategies may include changing boundaries to balance utilization at existing schools or introducing a split articulation to balance the number of elementary school students feeding into a middle school (or middle school students feeding into a high school).

For more on capital and non-capital ratios, see **page 58**.

However, to maximize assignment stability in the ways mandated by Policy FAA, it is important to have a comprehensive and districtwide understanding of past boundary changes, including which parts of the district have been impacted by these changes. The analyses in this chapter seek to contribute to a more comprehensive understanding of the stability of student assignment in MCPS, both over time and across the district.

Assignment Stability in Context

This analysis represents a snapshot in time of assignment stability. The cohorts analyzed, for instance, represent a case study of the many cohorts that have moved through the school system in recent years. For a discussion of the various capital and non-capital strategies MCPS has used over time to adapt to changing challenges and needs, and the policies that guide this decision-making, see the **MCPS Strategies: Adapting To Change on page 58**.

For a wider context, **Benchmarking Data Analysis on page 315** includes an overview of student assignment policies and history in six other comparable districts around the country.

Assignment Stability Methodology

This section examines assignment stability in MCPS using historic boundary change data, current and past MCPS boundary maps, and historic and current enrollment data. MCPS has documented boundary studies and changes since 1984, and these analyses use this documentation, cross-referenced with historic and current school boundary maps. Throughout these analyses we primarily use school year 2019-20 data when examining recent boundary changes, at times using 2010-2011 to 2019-2020 as a reference point for recent historical changes. Analysis 5 uses historical student data from school year 2018-19.

Key Data Sources

- Historical Boundary Change Data, via MCPS Office of Shared Accountability
- School boundary maps (MCPS Division of Capital Planning)

Analyses Conducted

A. Assignment Stability In-Depth

1. Analysis 1: Historical Boundary Changes
2. Analysis 2: Boundary Changes Since 2010
3. Analysis 3: Context for Recent Boundary Changes
4. Analysis 4: The Geography of Boundary Changes Since 2010

2.1 Data Analysis Assignment Stability In-Depth

Now that we have introduced the concept of assignment stability, we examine the effects of boundary changes on students in greater detail. First, we examine the boundary changes implemented in MCPS since 1984, before taking a closer look at those implemented since 2010. Then, we look at the geography of boundary changes since 2010. We close by dissecting a boundary change in the Clarksburg and Damascus Clusters to better understand the impacts of boundary changes.

Questions:

How frequent are boundary changes in MCPS?
What conditions spur boundary changes in MCPS?
How likely is my student to live in an area that will be redistricted?
Are boundary changes more likely to occur as a result of new school construction or for other reasons?
What kinds of boundary changes are most likely to reassign a large number of students?

Analyses:

1. Historical Boundary Changes
2. Boundary Changes Since 2010
3. Context for Recent Boundary Changes
4. The Geography of Boundary Changes Since 2010

Insights

1. In these analyses, we examine historic boundary changes from 1984 to present. Boundary changes have become less frequent since 2010.

Boundary changes were frequent between 1984 and 2006, numbering 107 in total or about four and a half per year. Since 2010 the number of boundary changes has slowed, with sixteen boundary changes implemented (or under two a year).

2. While Downcounty and Northeast Consortia (DCC, NEC) have seen the largest number of boundary changes since 1984, clusters in the northern part of the district have seen the greatest number of boundary changes on a per school basis.

On a per high schools basis, the Clarksburg cluster has seen the largest number of boundary changes, across school levels, since 1984, most in recent years. The Seneca Valley, Damascus, Gaithersburg, and Sherwood Clusters all have had eight boundary changes since 1994.

3. During the last nine years, middle school students were most likely to be redistricted, followed by elementary and then high school students.

To get a rough estimate of assignment stability on a yearly basis, we take the proportion of students living in areas redistricted between 2010 and 2019, and divide that figure by nine for the nine-year study period. These numbers use current enrollment numbers as a proxy for historical enrollment. As such, we might expect the actual number of reassigned students to be smaller. We find:

- 4.5% of elementary school students live in areas that experienced redistricting. In a given year, roughly 0.5 % of ES students were redistricted.
- 6.5% of middle school students live in areas that experienced redistricting, the most of any school level. In a given year, approximately 0.7% of MS students were redistricted.
- There was no major HS level redistricting in the study period. Only 0.2% of high school students live in areas that experienced redistricting. In a given year, roughly 0.02% of HS students were redistricted.

Analysis 1. Historical Boundary Changes

Since 1984 MCPS has made 131 boundary changes across the district, across school levels. These boundary changes were implemented as part of 92 boundary studies, each of which often includes multiple boundary changes. About two-thirds of these changes were carried out because of additional capacity being added, whether as school additions or new schools.

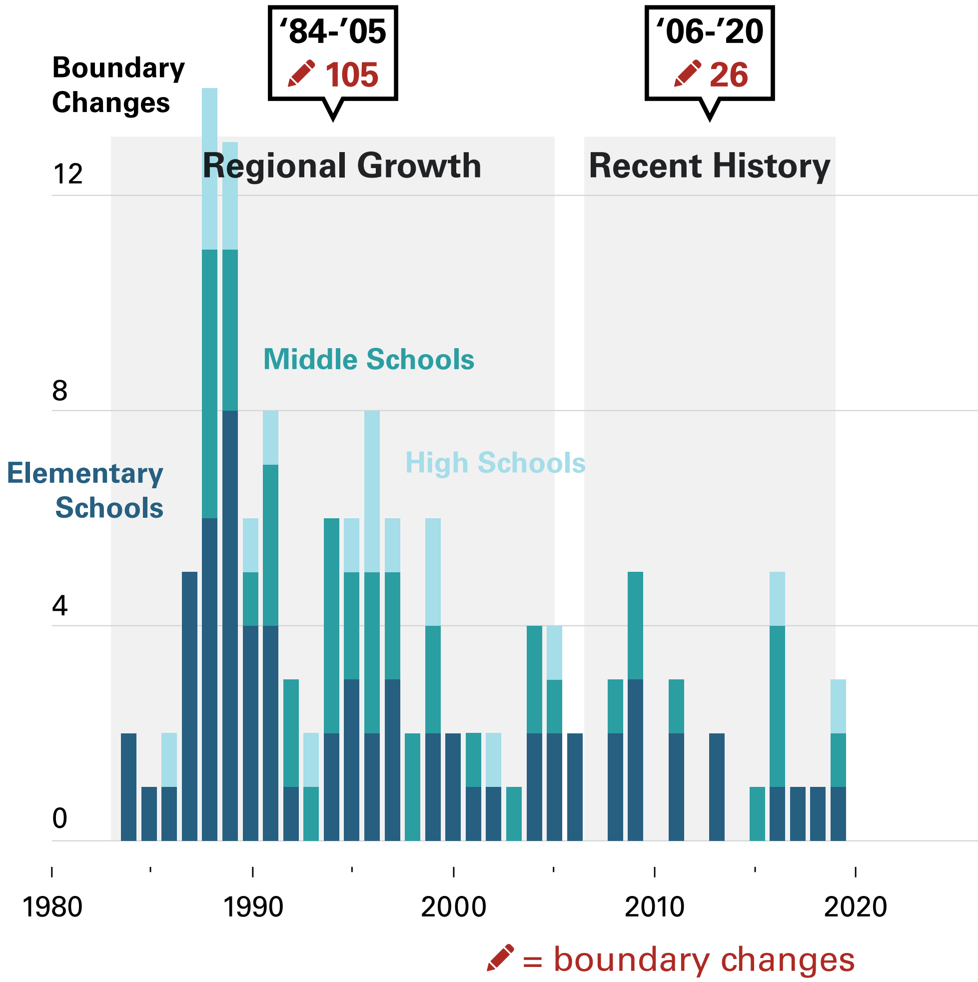


Figure 2.1.1 *Historical Boundary Changes Since 1984*

Boundary changes were frequent between 1984 and 2006, numbering 107 in total or about four and a half per year. Since 2010 the number of boundary changes has slowed, with sixteen boundary changes implemented. In the following analysis we examine these in detail.

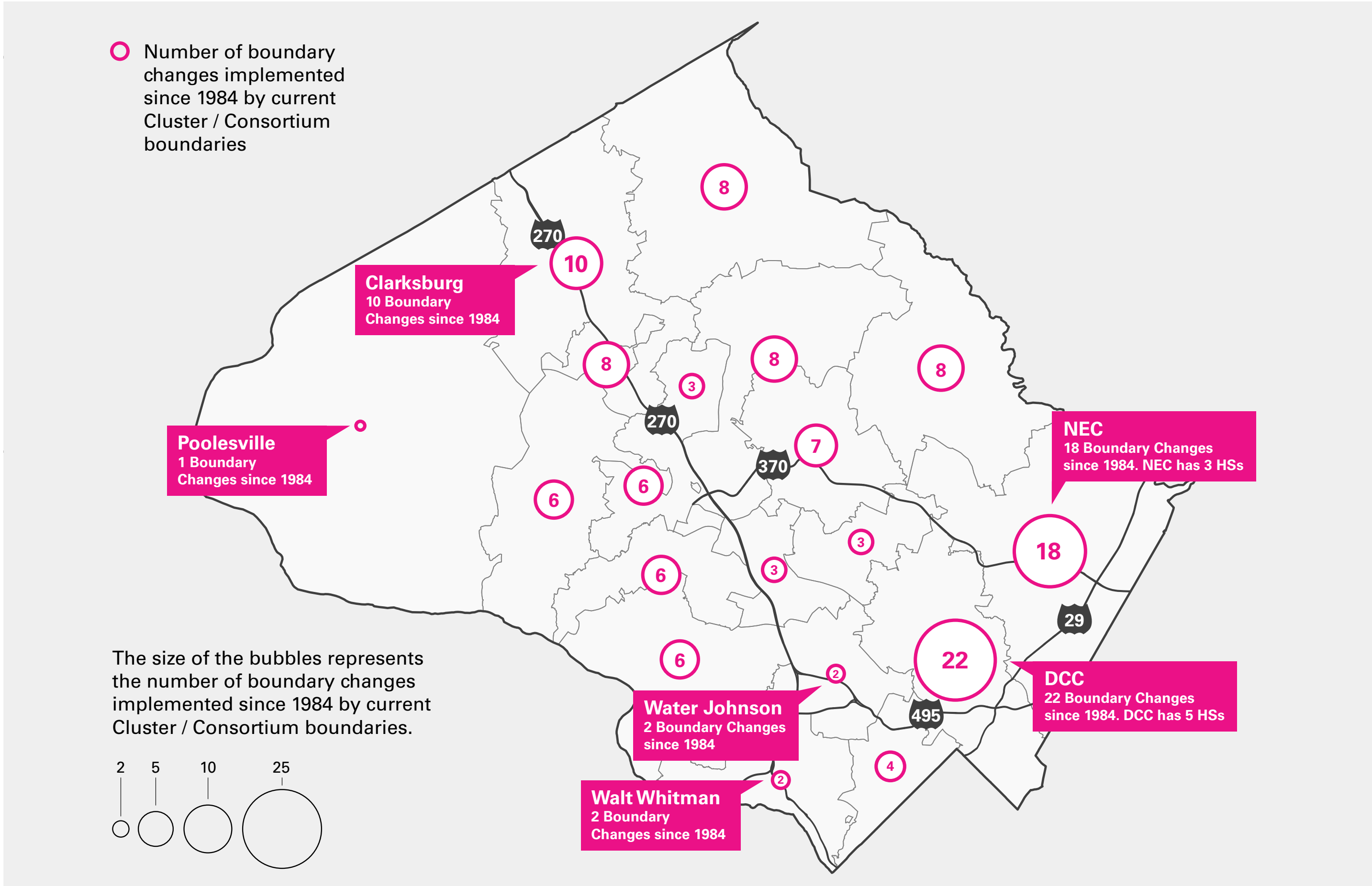


Figure 2.1.2 *Historical Boundary Changes Since 1984 by Current Clusters*

Boundary changes since 1984 have been spread relatively evenly throughout District, with the exception of certain clusters. The three clusters / consortia with the greatest and fewest number of boundary changes since 1984 are indicated on Figure 2.1.2 with a label.

The Downcounty and Northeast Consortia (DCC, NEC) have seen the largest number of boundary changes since 1984. However, the DCC and NEC are densely populated and have a large number of schools: the DCC has five high schools; the NEC as three high schools. On a per high schools basis, the Clarksburg Cluster has seen the largest number of boundary changes since 1984, most in recent years. The Seneca Valley, Damascus, Gaithersburg, and Sherwood Clusters all have had eight boundary changes since 1994. As such, clusters in the northern region of the district have seen the greatest number of boundary changes.

The clusters with the fewest number of boundary changes since 1984 are the Poolesville (1), Walter Johnson (2), and Walt Whitman Clusters (2).

Analysis 2. Boundary Changes Since 2010

Figure 2.1.3 below indicates the number of current MCPS students living in areas redistricted between 2010 and 2019, separated by school level. As in the rest of this document, this analysis does not include the recent Clarksburg, Northwest, and Seneca Valley High School Boundary Study.

Here, we examine the number of current students living in redistricted areas as a proxy for the number of students that might have been assigned to a new school at the time of the redistricting. The exact number of students that changed schools as a result of the boundary changes varies from case to case due to differences in grandfathering policies used in different boundary studies and program types by school (such as magnet programs).

School Year Implemented	Because of New School	Reassigned Students			Share of Total Students		
		ES	MS	HS	ES	MS	HS
2012-13	No	0	215	0	0.0%	0.6%	0.0%
	Yes	640	0	0	0.9%	0.0%	0.0%
2013-14	No	91	0	0	0.1%	0.0%	0.0%
2014-15	No	250	162	0	0.4%	0.4%	0.0%
2016-17	Yes	0	908	0	0.0%	2.5%	0.0%
2017-18	No	14	91	19	0.0%	0.2%	0.0%
	Yes	0	927	0	0.0%	2.5%	0.0%
2018-19	No	81	0	0	0.1%	0.0%	0.0%
	Yes	546	0	0	0.8%	0.0%	0.0%
2019-20	No	113	54	75	0.2%	0.1%	0.2%
	Yes	1413	0	0	2.0%	0.0%	0.0%
Total, 2010-19		3148	2357	94	4.5%	6.4%	0.2%

Figure 2.1.3 *School Year 2019-20 Students Living in Areas Redistricted Between 2010 and 2019*

In sum, we find that, as of the start of school year 2019-20, there were a total of 5,599 school year 2019-20 students living in areas redistricted between school years 2010-11 and 2019-20. The majority of students affected by these boundary changes were elementary school students, though middle schoolers were more likely on average to be assigned to a new school.

The total number of school year 2019-20 middle school students living in areas redistricted between 2010 and 2019 is 2,357, or 6.4% of middle school students overall. Dividing that figure by nine for the nine-year study period, we find the share of middle schoolers likely to be rezoned in any given year to be about 0.7% overall. For elementary schoolers, that number is 0.5%. These numbers provide a rough sense of assignment stability on a year-to-year basis.

A better lens than the year-to-year likelihood of a student being redistricted is to examine the number of students reassigned by boundary change and what type of boundary change. Between 2010 and 2019, the average boundary change affected about 390 elementary school students, based on the number of school year 2019-20 students living in redistricted areas. These numbers vary widely; Section 2 that follows explores these numbers in greater detail.

Finally, boundary changes resulting from the construction of a new school result on average in a large number of students reassigned. In school year 2019-20, 1,413 elementary school students lived in newly redistricted areas, representing about 2% of the elementary school student body county-wide. New middle schools opened in school years 2016-17 and 2017-18 – Hallie Wells MS and Silver Creek MS – each boundary change redistricted areas home to about 2.5% of school year 2019-20 middle schoolers. By contrast, the largest share of 2019-20 middle or elementary schoolers living in areas redistricted not as a result of a new school being built was 0.6%, in school year 2012-13.

Analysis 3. Context for Recent Boundary Changes

Since 2010, MCPS has added more than 23,000 students. According to U.S. Census figures and MCPS data the majority of new students are living along the I-495 and I-270 corridors and throughout the Downcounty Consortium. Census figures indicate slight declines in the number of students living in lower-density clusters outside of this core, though MCPS figures indicate growth in student enrollment across nearly all clusters.

As a result of these shifting enrollment patterns, MCPS has made sixteen boundary changes since 2010 and opened six new schools. Further capital action is underway in MCPS, with the construction of two new schools currently underway: an elementary school in the Clarksburg Cluster and a high school in the Walter Johnson Cluster.

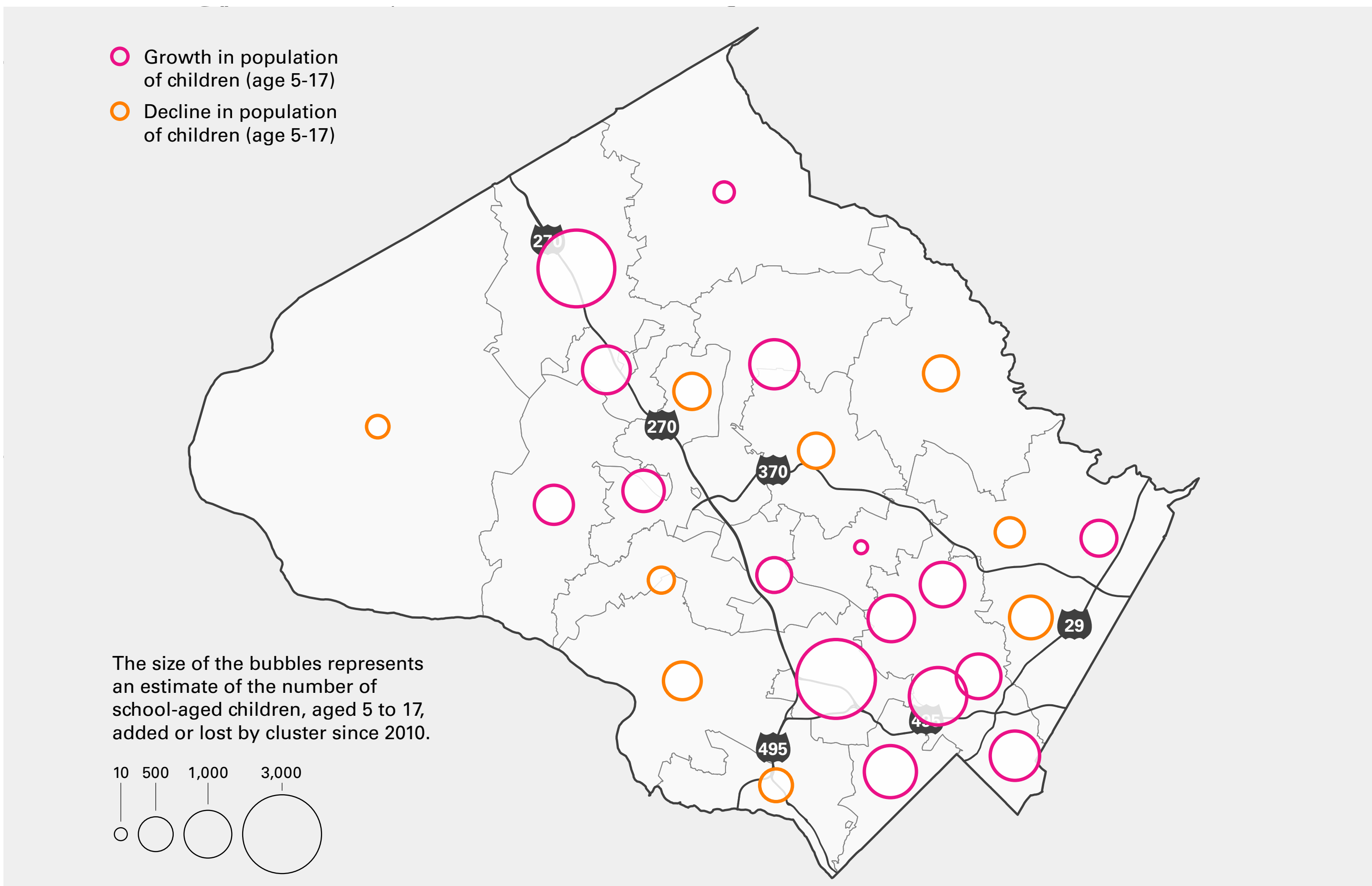


Figure 2.1.4 *Increase in School-aged Children by High School Attendance Area, 2010-2018*

In the following analysis we examine the boundary changes made between the 2010 and 2019 school years, motivated by this growth in student enrollment.

Analysis 4. The Geography of Boundary Changes Since 2010

Redistricting has focused on areas of high enrollment growth since 2010. This analysis examines the number of students currently living in recently redistricted areas as a proxy for the impacts of school redistricting on communities.

The map below indicates the number of school year 2019-20 students in grades K-5 living in elementary school areas redistricted since 2010. Boundary changes resulting from the addition of a new school are indicated in magenta. Other boundary changes, including those made as a result of school additions, are indicated in orange. The bubbles on the map indicate the number of K-5 students currently living in redistricted areas. We make this simplifying assumption to provide a sense of magnitude, in the absence of mapped student data for all school years between 2010 and 2019.

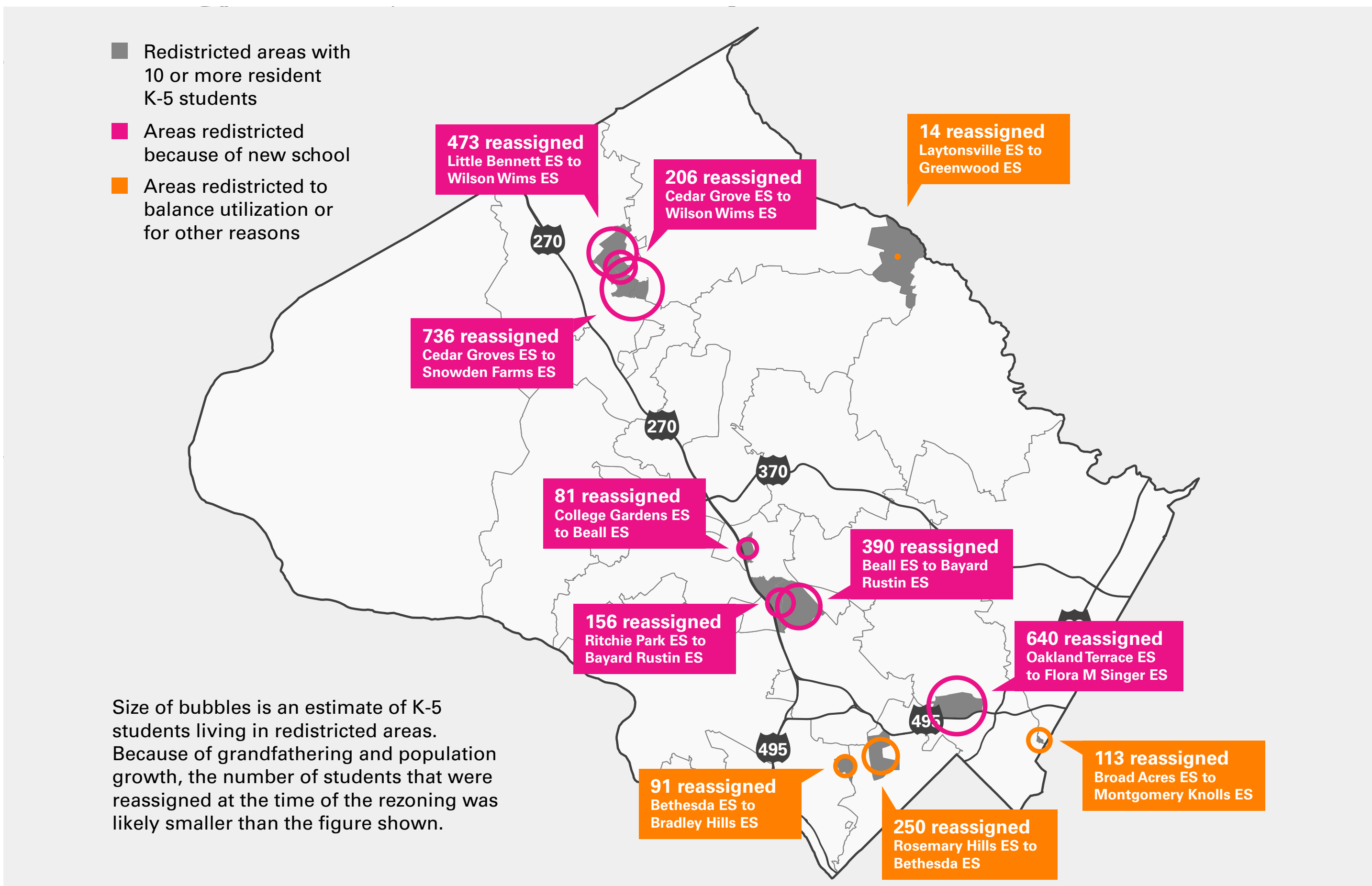


Figure 2.1.5 *Current K-5 Students Living in Elementary School Attendance Areas Redistricted Since 2010*

The map above illustrates that most school year 2019-20 students living in areas redistricted between 2019 and 2020 are living in areas redistricted as a result of the construction of a new school. The boundary changes occurring as a result of the construction of Wilson Wims Elementary School and Snowden Farm

Elementary School reassigned the largest number of students. Altogether, 1,413 current K-5 students live in areas redistricted as a result of the introduction of these new schools.

The boundary change that reassigned the largest number of students not motivated by a new school construction was between Rosemary Hills ES and Bethesda ES. About 250 current K-5 students currently reside in this redistricted area. Even in cases where boundary changes are not a result of a new school, they typically still relate to construction in the form of an addition to expand capacity.

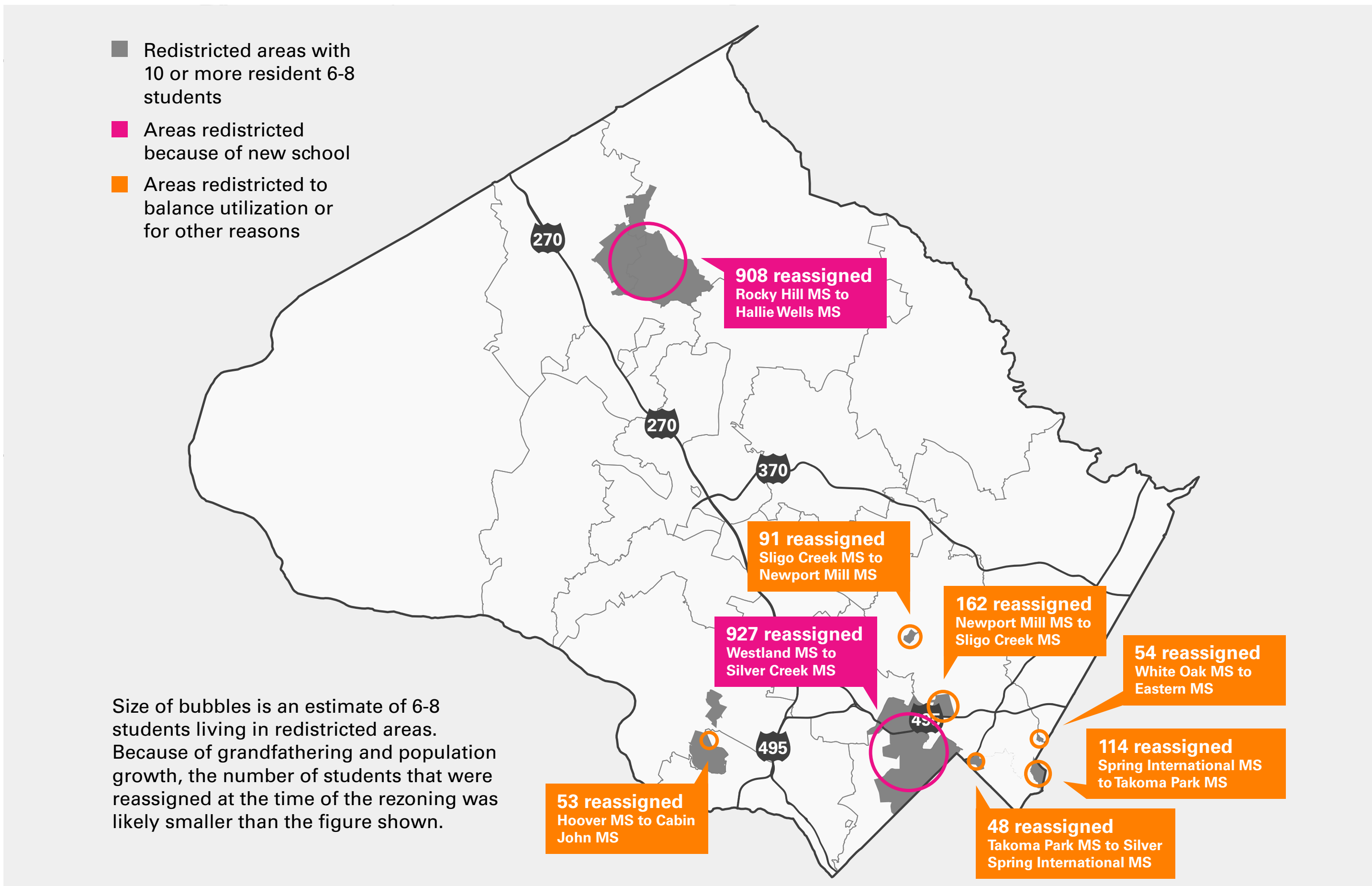


Figure 2.1.6 *Current K-5 Students Living in Elementary School Attendance Areas Redistricted Since 2010*

We find similar patterns at the middle school level as at the elementary school level. Boundary changes resulting from the construction of new schools are responsible for the large majority of student reassignments between 2010 and 2019. In total, 1,835 school year 2019-20 middle schoolers live in areas redistricted as a result of the construction of two new middle schools between 2010 and 2019, Silver Creek MS and Hallie Wells MS.

In comparison to elementary schools, where only 4 boundary changes not directly resulting from the construction of a new school were implemented, six such boundary changes occurred at the middle school level. These minor boundary changes are usually made in response to school expansions or are the indirect result of a school opening nearby or at a different school level. For example, the boundary change between Newport Mill MS and Sligo Creek MS occurred as a result of the boundary change between Oakland Terrace ES and Flora M. Singer ES, a new school. As such, the boundary change made at the MS level was likely made to preserve feedering patterns across school levels.

2.2 Data Analysis
Utilization

2.2 Data Analysis Utilization Figures

What is Utilization?

Facility utilization is determined by the space requirements of the educational programs in the facility and the student-to-classroom ratios.

Utilization is important for maintaining reasonable class sizes and accommodating growth

MCPS aims for schools to be utilized between 80-100% of school capacity.

Utilization by the Numbers

- Overall facility utilization in MCPS is **97%**.
- Overall elementary school utilization is **102%**. Overall middle school utilization is **97%**. And overall high school utilization is **103%**.
- While utilization at the ES and MS level is expected to decrease or stay flat through the 2025-26 school year, HS utilization is expected to increase to **108% by 2025-26**.

Section Overview

There are five Utilization Analyses subsections in this section:

- Utilization Across School Attendance Areas
- Utilization and School Facilities
- Utilization and Adjacency
- Utilization Over Time
- Special Conditions Each subsection opens with a set of key insights.

Each subsection opens with a set of key insights.

Utilization at a Glance

What is utilization?

Maintaining a reasonable utilization rate is one of MCPS's major priorities in educational facilities planning. In short, utilization measures the program capacity of school facilities in relation to the number of students they accommodate.

Facility utilization is calculated by dividing student enrollment by program capacity. Program capacity is a measurement based on classroom ratios, which are standards set by MCPS for the number of students per classroom, by school level (with variations for special programs, such as reduced class size elementary classrooms). To arrive at program capacity, MCPS adjusts the student to classroom ratio at the middle and high school levels to account for variations in scheduling.[1]

MCPS standards for calculating utilization vary from Maryland state standards, in which capacity is based on square footage and different classroom ratios. MCPS views program capacity as a more robust measure, as it allows the district to respond to core capacity issues influenced by changes in enrollment and is adaptive to changing needs and different classroom ratios.

Classroom Type	**Classroom Ratio** (students:classroom)
Head Start and prekindergarten—2 sessions	40:1
Head Start and prekindergarten—1 session	20:1
Grade K—full-day	22:1
Grade K—reduced class size	18:1
Grades 1–2—reduced class size	18:1
Grades 1–5 Elementary	23:1
Grades 6–8 Middle	25:1*
Grades 9–12 High	25:1*

*Middle school and high school classroom ratios are adjusted according to scheduling constraints, to 21.25 and 22.5, respectively.

Figure 2.2.1 *Classroom Ratios by Classroom Type*

Facility Utilization vs. Staffing Ratios

Staffing ratios (i.e. student-teacher ratio) is a separate measure, not to be confused with program capacity, and not factored into the calculation of school utilization. Staffing ratios are determined through MCPS's annual operating budget process. Staffing needs vary by school level, and according to programmatic needs (including reduced class size elementary schools, special education programs, etc.). While student-teacher ratio is an important measure with regards to educational quality and MCPS budgeting, it is not a factor used to determine existing or future school boundaries or facility planning, and thus is not a focus of this analysis.

For more on staffing ratios, see: MCPS Budget 101: https://www.montgomeryschoolsmd.org/budget-101/index.html

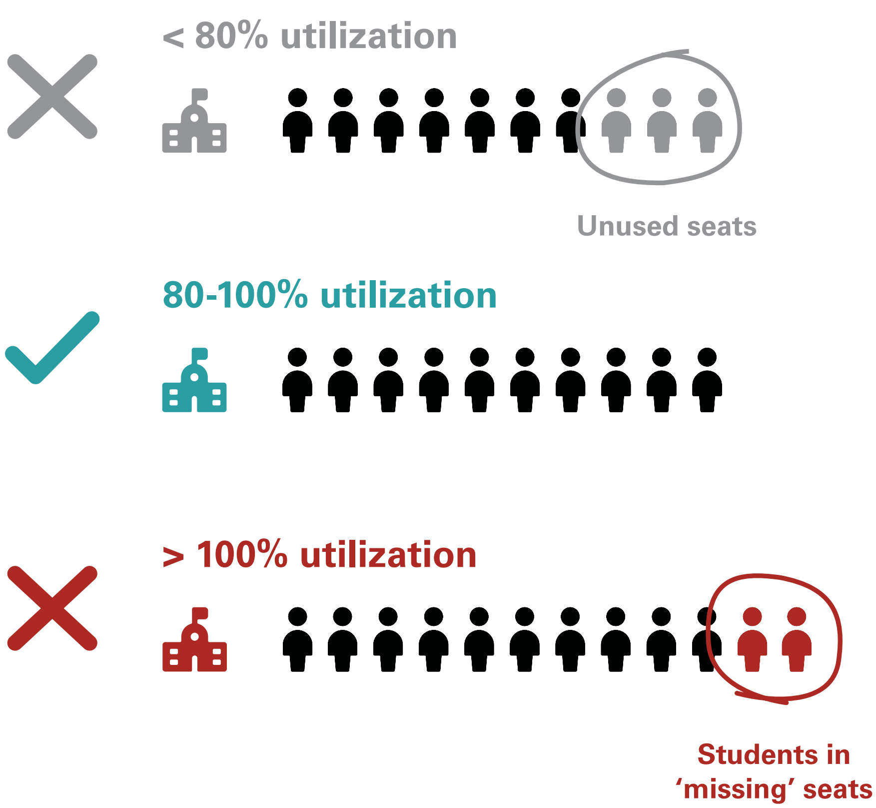
1 See 'School Capacity Calculations.' CIP FY2021-2026. https://www.montgomeryschoolsmd.org/budget-101/index.html

Why is utilization important?

Facility utilization is important for accommodating growth in the county and school system. Given the high number of overutilized schools, wide variation between school utilization rates, and continued growth of the county, facility utilization presents pressing challenges for MCPS.

With over half of all MCPS schools overutilized in the 2019-2020 school year, overutilization is a pervasive challenge for MCPS. In some cases, individual schools or entire clusters are so severely overutilized that the county has placed a moratorium on residential development in particular areas, via the Subdivision Staging Policy.[1] As MCPS works to accommodate this overcrowding through new construction and additions, many students attend class in relocatable classrooms — a temporary strategy to alleviate overcrowding. As total school enrollment grows, some MCPS schools face greater challenges than others. Approximately 19 schools out of 200 general education schools in the district are underutilized (meaning student enrollment is below 80% of the school's program capacity).

See the **Introduction on page 38** for more context about past and present enrollment in MCPS, as well as growth and development in Montgomery County.



1 See: Montgomery Planning. "Subdivision Staging Policy." https://montgomeryplanning.org/planning/functional-planning/subdivision-staging-policy/.

Utilization Methodology

To calculate utilization rates for MCPS schools, we used the enrollment and capacity statistics made available in the 2021-2026 CIP. These statistics reflect the total enrollment for the 2019-2020 school year for all students that attend programming at an MCPS facility, **and are not reflective of current or planned boundary changes for school year 2019-2020.** These numbers include general education students, as well as students in special and continuing education programs and pre-kindergarten students. The entirety of each school's student body was included to reflect the actual utilization of each school. A complete listing of school-level capacity, enrollment, and utilization data for the 2009-2010, 2015-2016, and 2019-2020 school years can be found in **Appendix B2: Utilization Rate for all Schools, 2019-2020 on page 435**.

Relocatable classrooms, which are used as a short-term measure to address overutilization, are treated separately in this analysis. Relocatable classrooms are not included in each school's program capacity. Relocatable classrooms are a temporary measure that often fluctuates based on enrollment. In the case of schools with utilization rates over 100%, it can be assumed that there are students in relocatable classrooms to accommodate the number of students (which outnumbers the school's seats without relocatable classrooms).

A complete list of relocatable classrooms for each school in MCPS can be found in the CIP.[1]

To understand utilization in MCPS we mapped utilization at each school in relation to MCPS facility goals, categorizing schools as follows:

- **within the target range** (80-100% utilization)
- **underutilized** (<80% utilization)
- **somewhat overutilized** (100-120% utilization)
- **highly overutilized** (>120% utilization)

We then analyzed utilization in relation to MCPS minimum thresholds for non-capital or capital expansion of school capacity, based on the number of students enrolled at a school in excess of program capacity. Along with these thresholds, we considered school program capacity in relation to utilization, as well as the relationship between relocatable classrooms and utilization.

1 "Superintendent's Recommended FY2021 Capital Budget and the FY 2021-2026 Capital Improvements Program - Appendix H." 2019. Montgomery County Public Schools. http://gis.mcpsmd.org/cipmasterpdfs/CIP21_AppendixH.pdf.

Next, we compared the utilization rates of schools compared to the nearest five schools (based on road network) of the same level (ES, MS, HS), regardless of cluster boundaries. The goal of this portion of the analysis is to determine imbalances in utilization for schools relative to their neighbors, to understand how adjacency between schools may affect overall utilization, and to understand how adjacent schools might vary in utilization.

Finally, we analyzed a range of special conditions in MCPS, to see how they may or may not impact utilization at the scale of the school, cluster, or district.

To facilitate closer inspection of schools across MCPS, we have included detailed maps of school locations by geographic zone in **Appendix B1: Geographic Zones on page 428**.

Key Data Sources

2021-2026 CIP Plan (Superintendent's Recommended FY2021 Capital Budget and the FY 2021-2026 Capital Improvements Program)

Fiscal Year 2016 Educational Facilities Mater Plan and Amendments to the FY 2015-2020 Capital Improvements Program

Superintendent's Recommended FY 2011 Capital Budget and the FY 2011- 2016 Capital Improvements Program

Analyses Conducted

A. Utilization Across School Attendance Areas

- Utilization by school Attendance Area (by school level)

B. Utilization and School Facilities

- School Utilization and Thresholds for Adding Capacity
- Utilization by School Program Capacity
- Relocatable Classrooms

C. Utilization and Adjacency

- Utilization Disparities Between Nearest Schools
- Utilization Disparities: Five Closest Schools
- Utilization and Articulation Patterns

D. Utilization Over Time

- Change in Utilization by Cluster, 2010-2020
- Change in Capacity by Cluster, 2010-2020

E. Special Conditions

2.2 **Data Analysis** Utilization

A. Utilization Across School Attendance Areas

This set of analyses provides a basic snapshot of utilization by school attendance area, at each school level.

Questions:

Which school level(s) experience the greatest challenges with utilization?
What do utilization rates look like across the district today?

Analyses:

A.1 Utilization by School Attendance Area

Insights

1. In terms of overall utilization rates, MCPS elementary schools are 102% utilized, middle schools are 97% utilized and high schools are 103% utilized.

MCPS considers 80-100% to be the target range for utilization. Schools that are less than 80% utilized are considered underutilized. Schools that are more than 100% utilized are considered overutilized.

In this report, we classify schools that are 100-120% overutilized as somewhat overutilized, and schools over 120% utilized as highly overutilized. MCPS relies on information about school utilization to understand where schools are over- or undercrowded and may be in need of interventions to address these challenges (such as relocatable classrooms or school additions).

2. Elementary schools tend to be more overutilized than middle and high schools. At present, 72 elementary schools, 24 middle schools and 13 high schools are overutilized.

Elementary schools are most affected by overutilization. Out of 135 elementary schools, 52 (38%) are somewhat overutilized and 22 (16%) are highly overutilized. Elementary schools that are along and south of US 370 and along I-270 are generally more overutilized.

3. Fewer middle schools are overutilized as compared to elementary and high schools.

Out of 40 middle schools, 12 (30%) are somewhat overutilized and two (5%) are highly overutilized. Middle schools that are south of US 370 and Route 29 are generally more overutilized.

4. At present, there are no underutilized high schools, meaning that all high schools are operating either within the target utilization range (80-100%) or are overutilized to some degree (>100%).

Out of the 25 high schools, 11 (44%) are somewhat overutilized and two (4%) are highly overutilized. Areas south of US 370 and east of I-270 seem to show some concentrations of overutilization.

5. Increasing enrollment and development across the district will continue to affect utilization in the years to come.

The Capital Improvements Program (CIP) includes enrollment projections for each year until the 2025-2026 school year. Although these projections do not account for approved new school construction or recent boundary changes, they rely on available demographic data to estimate future school utilization.

- The projections forecast a slight decrease in the number of elementary schools that are highly overutilized (17, compared to 22 today) and somewhat overutilized (47, compared to 52 today).
- At the middle school level, three additional schools are projected to be somewhat overutilized (15, compared to 12 today), while there is one less school projected to be highly overutilized (one, compared to two today).
- High schools see the most dramatic increase in overutilization, with an additional five schools projected to become highly overutilized by school year 2025 (seven schools, compared to two today).

A.1 Utilization by School Attendance Area

This set of analyses uses school utilization rates, which are calculated by dividing student enrollment by program capacity. The resulting number is the utilization rate, expressed as a percentage. In each map and table, utilization rates are color-coded in relation to MCPS's target utilization range of 80-100%. Attendance areas marked in blue indicate schools **in the target utilization range** (80-100%). Those marked in gray indicate schools that are **underutilized** (below 80%). Those marked in red indicate schools that are **somewhat overutilized** (above 100%), or **highly overutilized** (above 120%). While various capital projects are highlighted, nearly ever cluster in the district has capital projects planned or underway. This utilization data does not account for the anticipated increases in capacity from these projects.

Elementary School Utilization

There are large disparities in school utilization rates across elementary schools.

More than 50% of all elementary schools are overutilized.

Elementary Schools	2019-20	2025-26 Projected*
Districtwide	**102%**	**98%**
Maximum	201%	232%
Minimum	62%	41%
Schools in 80-100% utilization range	45 of 135	48 of 135

*Enrollment projections are based on the 2021-26 CIP Plan and approved capital projects. **Note that enrollment statistics do not account for recent BOE actions to alleviate issues of overutilization at certain school, and are only reflective of the published FY 2021-26 Capital Improvements Program document.**

Figure 2.2.2 *Number of Elementary Schools by Utilization Rate and School Level*

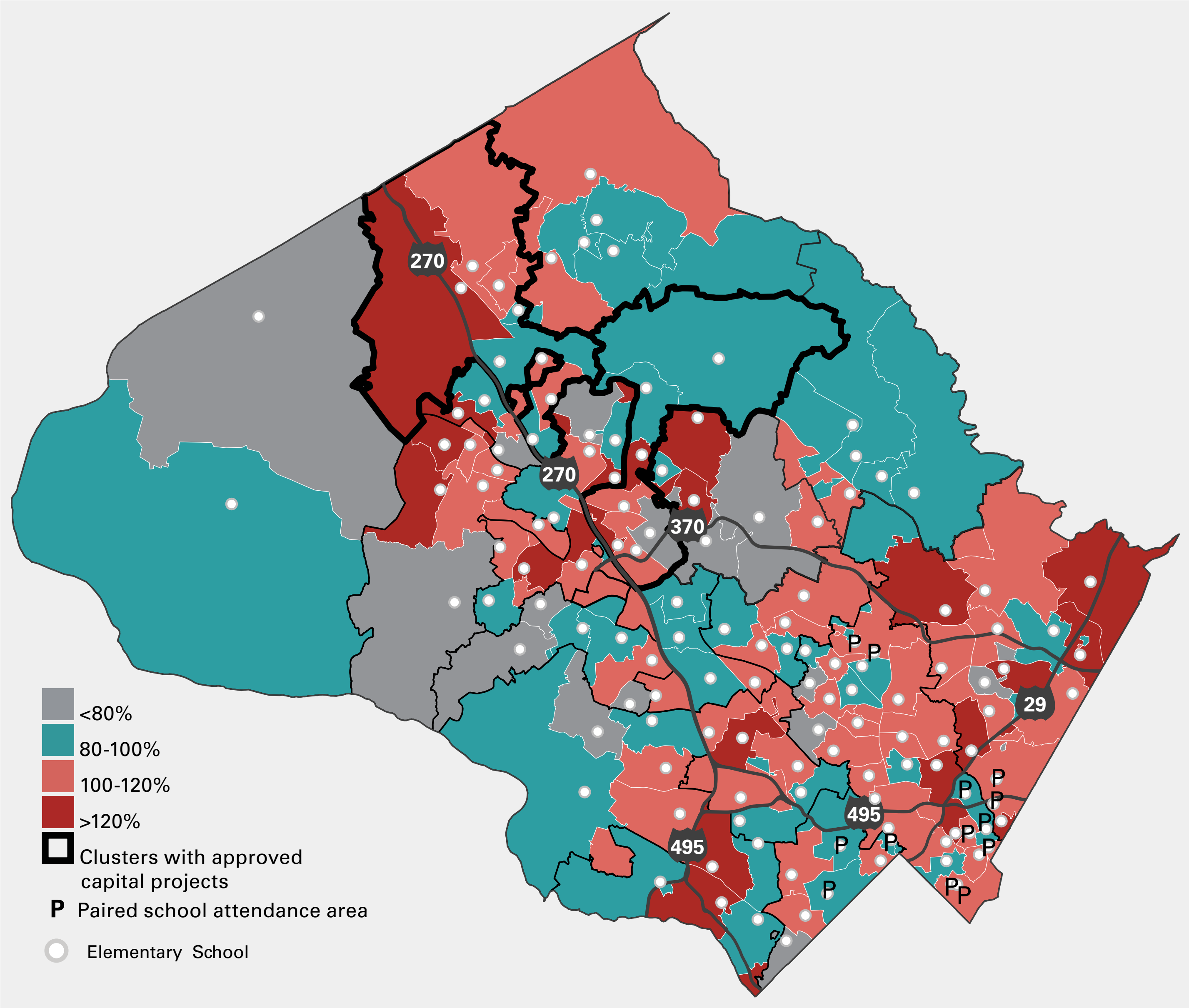


Figure 2.2.3 *Map of Elementary Attendance Areas and Elementary School Utilization Rates*

The Clarksburg and Gaithersburg clusters will each be adding one new elementary school to accommodate growth, with planned openings in September 2022. In addition, the 2021-2026 CIP calls for capital and/or expansion projects at 12 elementary schools throughout the district, which will amount to approximately 125 new classrooms added at the elementary school level by 2025.

Elementary schools are still projected to experience utilization challenges across the district in 2025, with the gap expected to widen between the most overutilized and underutilized schools. Only about 36% of elementary schools are expected to be within the target utilization range in 2025.

Detailed maps for utilization of elementary schools can be found in **Appendix B3: Detailed Maps of Utilization (Elementary Schools) on page 440**.

Middle School Utilization

Middle schools have the highest percentage of schools in the target range.

Middle Schools	2019-20	2025-26 Projected*
Districtwide	**97%**	**97%**
Maximum	124%	122%
Minimum	67%	77%
Schools in 80-100% utilization range	23 of 40	22 of 40

* Enrollment projections are based on the 2021-26 CIP Plan and approved capital projects. **Note that enrollment statistics do not account for recent BOE actions to alleviate issues of overutilization at certain school, and are only reflective of the published FY 2021-26 Capital Improvements Program document.**

Almost 60% of middle schools are within the target utilization range

Figure 2.2.4 *Number of Middle Schools by Utilization Rate and School Level*

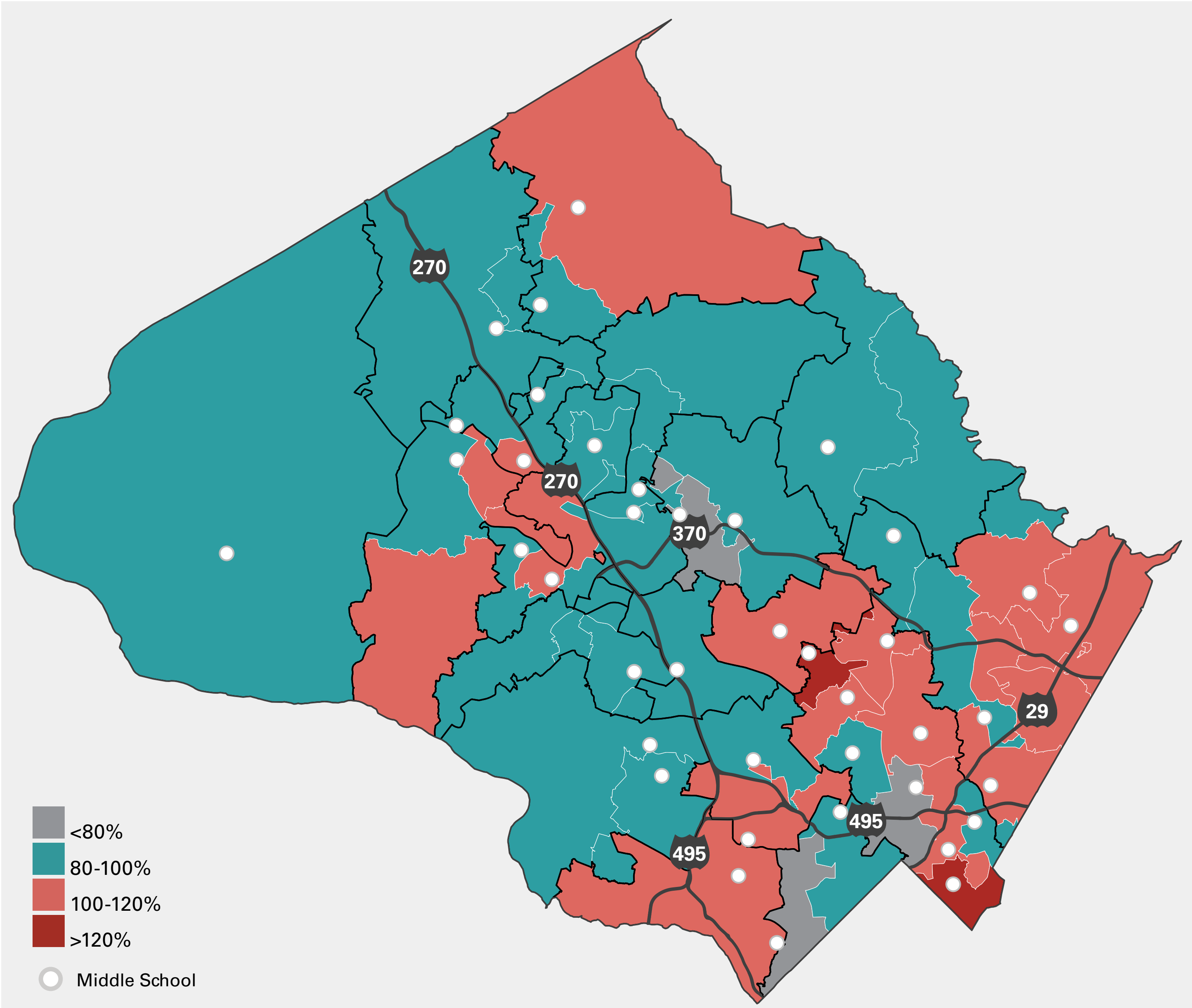


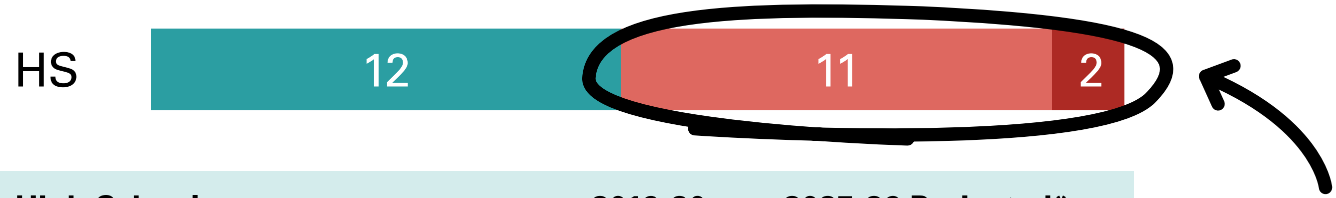
Figure 2.2.5 *Map of Middle School Attendance Areas and Middle School Utilization Rates*

Of the three school levels, middle schools have the highest percentage of schools within the target utilization range. Yet there are still disparities at this level, including instances of underutilized attendance areas directly adjacent to somewhat overutilized ones, as seen in the map above.

Detailed maps for utilization of middle schools can be found in **Appendix B4: Detailed Maps of Utilization (Middle Schools) on page 444**

High School Utilization

Current plans to reopen schools are geared toward alleviating current utilization issues.



Over half of all high schools are overutilized

High Schools	**2019-20**	**2025-26 Projected***
Districtwide	**103%**	**108%**
Maximum	121%	146%
Minimum	82%	50%
Schools in 80-100% utilization range	12 of 25	9 of 25

* Enrollment projections are based on the 2021-26 CIP Plan and approved capital projects. **Note that enrollment statistics do not account for recent BOE actions to alleviate issues of overutilization at certain school, and are only reflective of the published FY 2021-26 Capital Improvements Program document.**

Figure 2.2.6 *Number of High Schools by Utilization Rate and School Level*

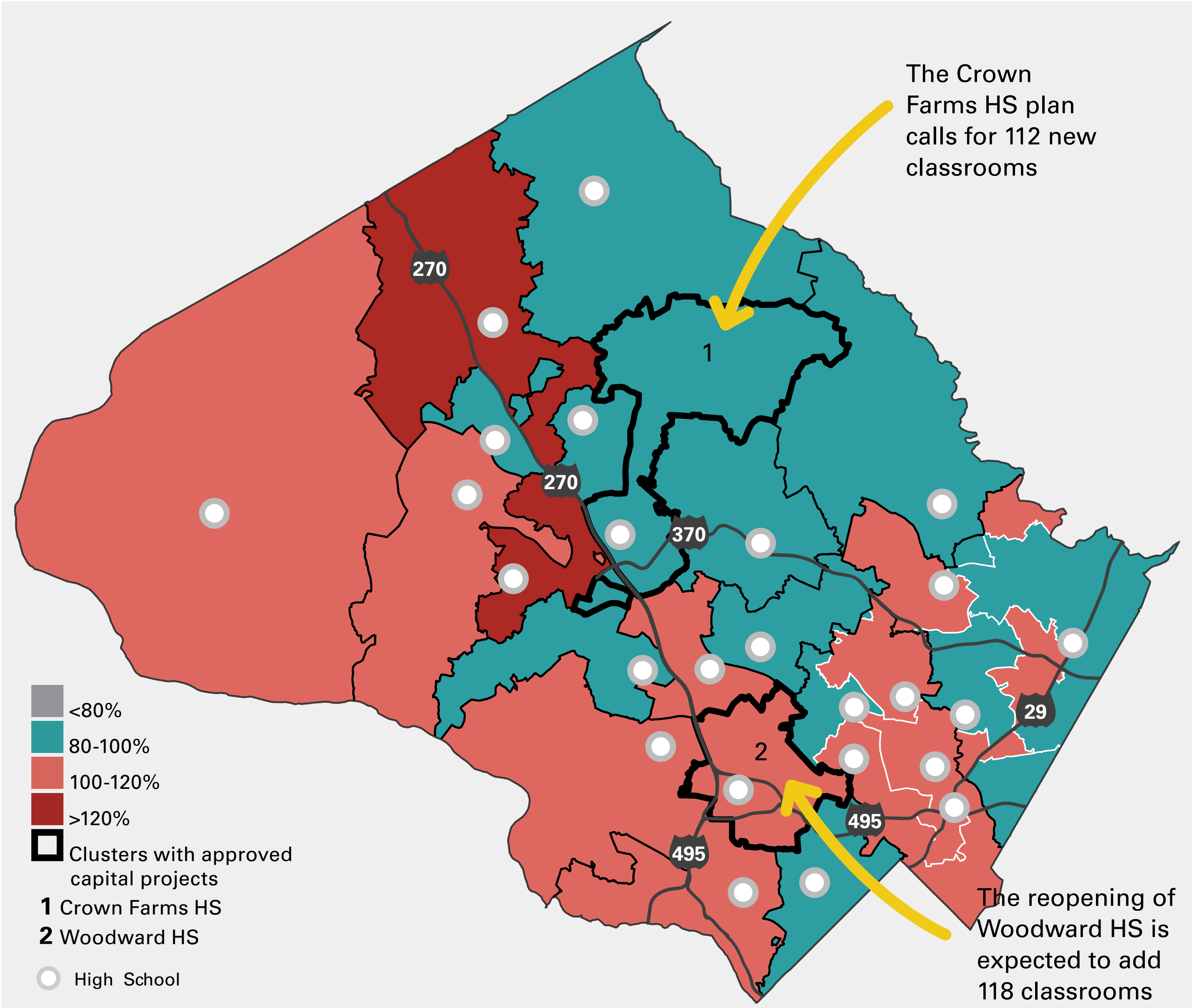


Figure 2.2.7 *Map of High School Attendance Areas and High School Utilization Rates*

The map in Figure 2.2.7 shows the utilization rates of high schools throughout the district. Capital projects are planned to alleviate overcrowding in some clusters (outlined in bold). The opening of Crown Farms (planned for 2025) will serve five clusters (including Gaithersburg, Richard Montgomery, Northwest, Thomas S. Wootton, and Quince Orchard clusters) and is expected to alleviate overcrowding at Quince Orchard (current utilization rate of 108%) by at least 150 students, and at Richard Montgomery (current utilization rate of 120%) by at least 120 students.[1]

The approved reopening of Woodward HS will serve the Walter Johnson cluster and Downcounty Consortium. Woodward HS is expected to add 118 classrooms.[2]

Detailed maps for utilization of high schools can be found in **Appendix B5: Detailed Maps of Utilization (High Schools) on page 448**.

1 "Crown HS (New) (P651909)." n.d. Montgomery County MD Capital Budget. Accessed February 6, 2020. https://apps.montgomerycountymd.gov/BASISCAPITAL/Common/Project.aspx?ID=P651909.

2 CIP Plan 2021-2026: http://gis.mcpsmd.org/cipmasterpdfs/Archive_MP20_EntireBook.pdf.

2.2 **Data Analysis** Utilization

B. Utilization and School Facilities

This section addresses utilization with respect to different aspects of school facilities themselves, such as when they cross the minimum threshold for temporary or long-term interventions to add capacity. We also examine the relationship between a school's program capacity (in total number of seats) and utilization rate. Finally, we analyze relocatable classrooms as a temporary measure to address overutilization.

Questions:

What are the relationships between school program capacity and utilization?
How do relocatable classrooms relate to utilization, and where are most of the relocatable classrooms?

Analyses:

B.1 School Utilization and Thresholds for Adding Capacity
B.2 School Utilization by School Program Capacity
B.3 Relocatable Classrooms

Insights

1. The *minimum threshold* identifies schools that qualify for capital expansion (i.e. an addition to expand capacity on site or at a nearby school). Currently, 27 elementary schools, 3 middle schools, and 8 high schools are above the minimum threshold set by MCPS.

The CIP identifies thresholds for addressing overutilization, based on number of students enrolled in excess of a school's capacity. This threshold is one way to understand how imbalances in utilization affect the school system.

When an elementary school is more than 92 students overutilized, the school is considered for an addition. The threshold for middle schools is 150 students. For high schools, the threshold is 200 students.

2. Since 2009, the percentage of elementary schools over the minimum threshold has remained the same while the percentage of high schools has increased fourfold.

- At the elementary school level, there are the same percentage of schools over the minimum threshold today as there were 10 years ago. 20% of elementary schools are overutilized by more than 92 students, which is the same percentage as in 2009-2010.
- The number of middle schools over the minimum threshold has grown from one to three schools in the last ten years. Today, eight percent of middle schools are overutilized by more than 150 students.
- In 2009, only two out of 25 high schools (or eight percent) were over the minimum threshold. In 2020, eight out of 25 are. This means 32% of MCPS high schools are overutilized by more than 200 students.

3. Elementary schools tend to be more overutilized the smaller their program capacity.

Elementary schools with fewer than 400 seats tend to be more overutilized than those with more than 400 seats. There are no discernible patterns between utilization and school program capacity for middle and high schools.

4. As of the 2019-2020 school year, there are 434 relocatable classrooms in use in MCPS for the purposes of addressing utilization. Schools with higher utilization rates tend to have higher numbers of relocatable classrooms.

Greater challenges with overutilization are associated with greater number of relocatable classrooms. This implies that utilization is being addressed with more relocatables as overutilization increases. Relocatable classrooms are a temporary measure used to address overutilization, and do not factor into a school's program capacity for calculating utilization.

5. Gaithersburg, Northwest, Blair, and Clarksburg have the most relocatable classrooms of all high school clusters.

All of the relocatable classrooms in the Gaithersburg cluster serve elementary schools. The relocatable classrooms in the Northwest and Clarksburg clusters serve elementary schools as well as the high school. Clarksburg HS has 16 relocatable classrooms, the second highest number of any single school in the district. Relocatable classrooms in the Blaire cluster serve schools at the elementary and middle school levels, as well as Blaire HS.

B.1 School Utilization and Thresholds for Adding Capacity

In MCPS, larger elementary schools are less likely to experience utilization challenges. The smallest elementary schools in the district, on the other hand (those with a capacity of 400 or fewer seats) are considerably more likely to experience overutilization, and much less likely to fall within MCPS's target utilization range.

The CIP identifies thresholds for addressing overutilization, based on number of students enrolled in excess of the school's capacity.[1] When an elementary school is overutilized by fewer than 92 students, MCPS considers non-capital strategies for balancing utilization, including relocatable classrooms. When an elementary school is more than 92 students overutilized, the school is considered for an addition on-site or at nearby schools. When, within a cluster, elementary schools are overutilized by a total of 500 students or more, MCPS considers construction of a new school. MCPS uses similar thresholds scaled to middle school and high school utilization rates to evaluate the need for expanded capacity.[2]

Figure below demonstrates the proportion of MCPS elementary schools above and below the 92 student utilization threshold, by year. Since the 2009-2019 school year, MCPS has constructed five new elementary schools. Yet there are still 27 elementary schools over the utilization threshold as of the 2019-2020 school year. This amounts to five fewer elementary schools over the threshold than there were in 2014-2015. See **Appendix B6: Table: Over and Under the Minimum Threshold, by School on page 452** for a list of schools in each of the categories presented in the table below.

Summary Statistics for Adding Capacity	ES			MS			HS		
	09-10	14-15	**19-20**	09-10	14-15	**19-20**	09-10	14-15	**19-20**
# Over Threshold	26	32	**27**	1	2	**3**	2	2	**8**
# Under Threshold	104	101	**108**	37	36	**37**	23	23	**17**
Total # of Schools	130	133	**135**	38	38	**40**	25	25	**25**
Percentage Over Threshold	20%	24%	**20%**	3%	5%	**8%**	8%	8%	**32%**
Percentage Under Threshold	80%	76%	**80%**	97%	95%	**93%**	92%	92%	**68%**

Figure 2.2.8 *Table: Over and Under the Minimum Threshold, by School Level*

1 See: "Superintendent's Recommended FY2021 Capital Budget and the FY 2021-2026 Capital Improvements Program." 2019. Montgomery County Public Schools. http://gis.mcpsmd.org/cipmasterpdfs/CIP21_EntireBook.pdf.

2 Middle schools (150 seats); High schools (200 seats)

At the middle school level, the number of schools above the minimum threshold has remained low compared to the elementary and high school levels. As of the 2019-2020 school year, only three middle schools are above the 150 seat middle school threshold.

At the high school level, the district has seen a sharp increase in schools over the utilization threshold since 2014-2015, with nearly a third of high schools now overutilized to the point of being eligible for capital expansion. Each of the eight high schools that exceed the 200 seat threshold currently experiences a deficit of greater than 250 seats. There are currently four planned addition or renovation projects that address overutilization at the high school level.

School Level	FY2021-2026 Planned Projects*
Districtwide	**25**
Elementary School	15
Middle School	6
High School	4

*Includes classroom additions and renovations, as cited in FY2021-2026 CIP.

Figure 2.2.9 *Table of Planned Projects by School Level*

B.2 School Utilization by School Program Capacity

This analysis considers the relationships between school utilization and school program capacity (in other words, the size of the school in terms of total number of seats) at the elementary, middle, and high school level. For detailed school level data on utilization and program capacity, please see **Appendix B2: Utilization Rate for all Schools, 2019-2020 on page 435**

Elementary Schools

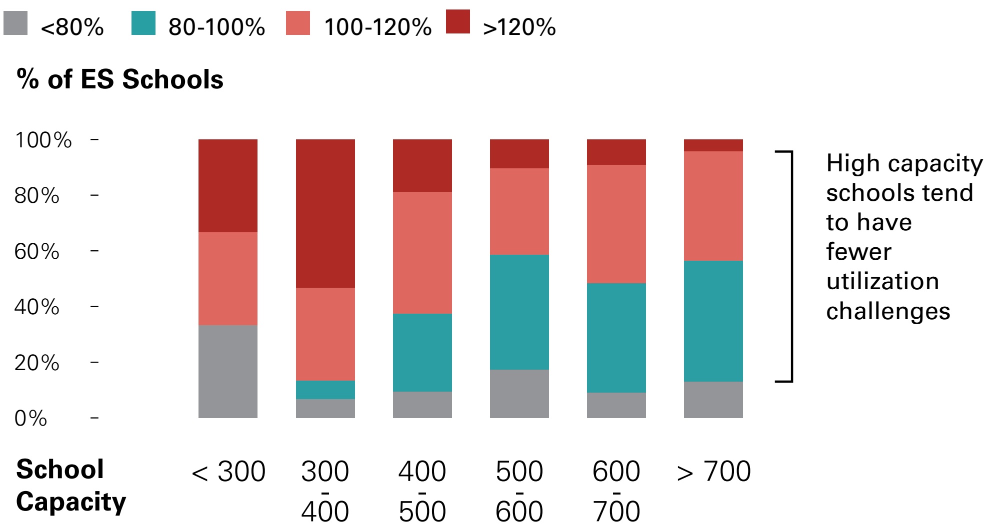


Figure 2.2.10 *Proportion of Elementary Schools by Utilization Rate and Capacity Elementary Schools*

At the elementary school level, schools with higher program capacity tend to have fewer utilization challenges: a smaller proportion of large schools are somewhat or highly overutilized compared to schools with smaller program capacities. However, figure below illustrates that there are relatively few elementary schools with fewer than 400 seats compared with schools with over 400 seats, signifying that school size is only one factor to consider when discussing overutilization at the elementary school level.

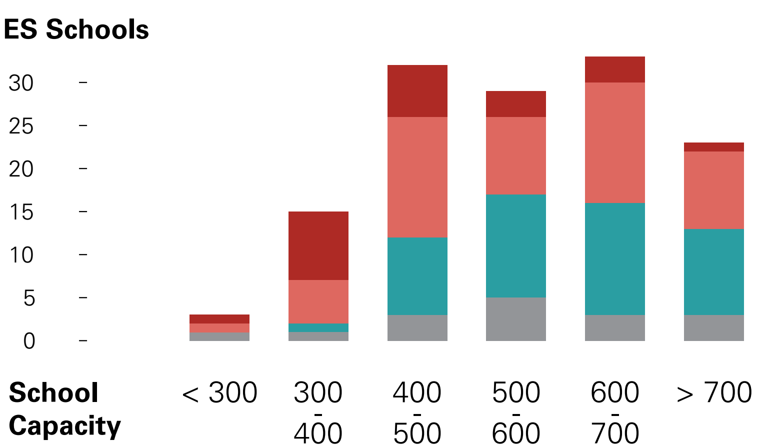


Figure 2.2.11 *Number of Elementary Schools By Utilization Rate and Capacity*

Middle Schools

At the middle school level, utilization is not as concentrated in either larger or smaller schools. In fact, highly overutilized schools only fall within the middle size category of 900-1000 total capacity (shown in figure below). The middle schools with the largest and smallest program capacities across the district are within the target utilization range, again suggesting that the total capacity of a school is only one factor to consider to understand utilization. Figure below shows that the majority of middle schools fall within the average program capacity range of 900-1000 seats.

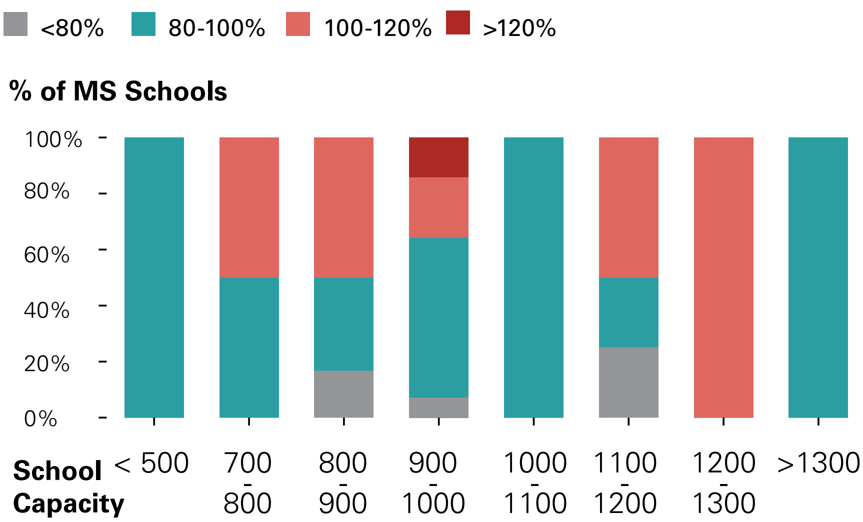


Figure 2.2.12 *Proportion of Middle Schools by Utilization Rate and Capacity*

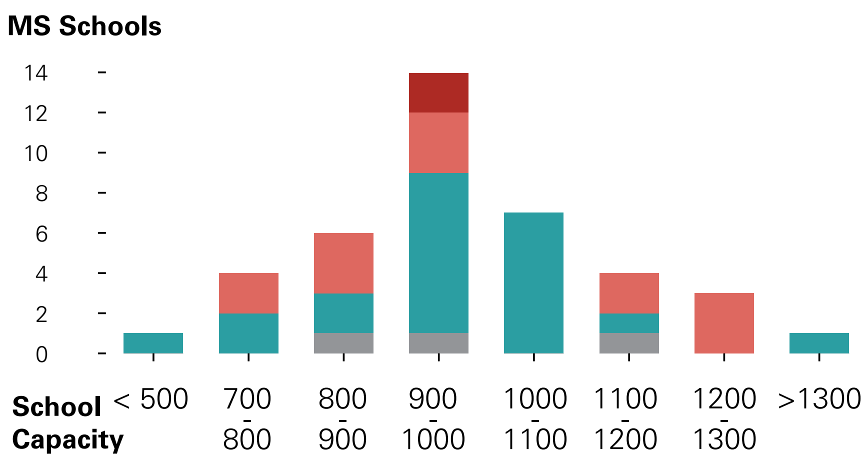


Figure 2.2.13 *Number of Middle Schools by Utilization Rate and Capacity*

High Schools

At the high school level, there is no clear relationship between utilization challenges and school program capacity: some of both the largest and the smallest schools in the district are somewhat overutilized. Larger schools (between 1,750-2,000 and 2,000-2,250 capacity) are the only cases in which schools are highly overutilized. Just over half (13 of 25) high schools fall within this category of program capacity, as shown in **Figure 2.2.15** below.

> At each school level in MCPS, there is a correlation between school program capacity (number of seats) and population density in the attendance area: bigger schools are in general located in denser areas. This relationship is strongest at the elementary school level, but remains true at the middle school and high school level.

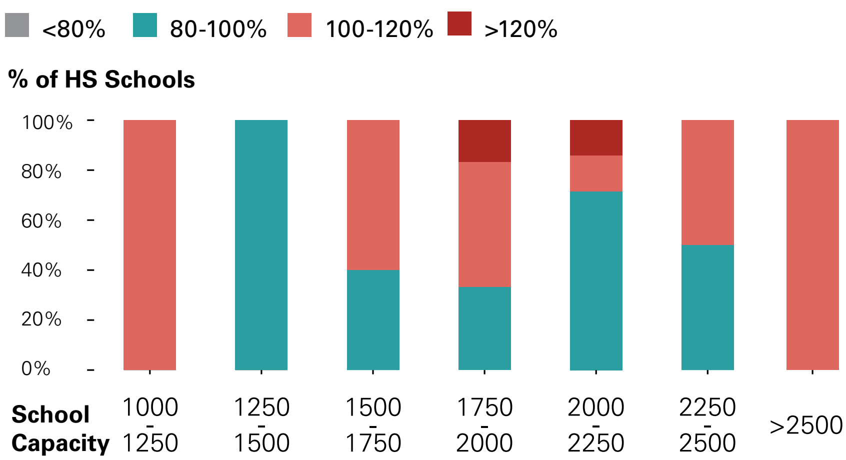


Figure 2.2.14 *Proportion of High Schools by Utilization Rate and Capacity*

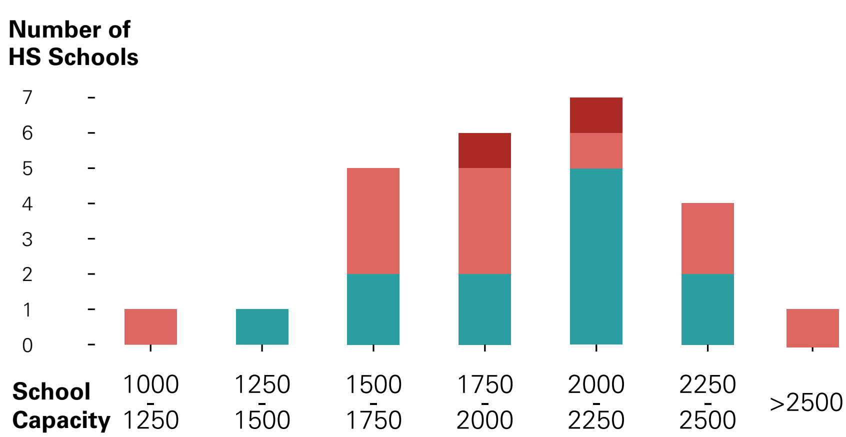


Figure 2.2.15 *Number of High Schools by Utilization Rate and Capacity*

B.3 Relocatable Classrooms and Utilization Rates

Relocatable classrooms are a temporary measure to alleviate utilization issues that are too minor to qualify for school expansion or construction, or on a short-term basis while MCPS determines the feasibility of capital expansion.

As of the 2019-2020 school year, there are 434 relocatables in use in MCPS for the purposes of addressing overutilization. The majority of relocatables—328 total-- are in use at the elementary school level. 24 relocatable classrooms are in use at the middle school level, and 80 are in use at the high school level. When calculating a school's utilization rate, MCPS does not factor in relocatable classrooms as part of a school's program capacity, yet MCPS must provide a seat for each student. Therefore, in the case of schools with a utilization rate of over 100%, it is very likely that there are students in relocatable classrooms.

Figure 2.2.16 shows the total number of relocatables in use across MCPS, compared to the utilization rates at the schools at which they are located. There is a clear positive correlation between the number of relocatable classrooms and the rate of overutilization, illustrating the use of reloctables to address utilization. More information about relocatable classrooms can be found in the 2021-26 CIP.[1]

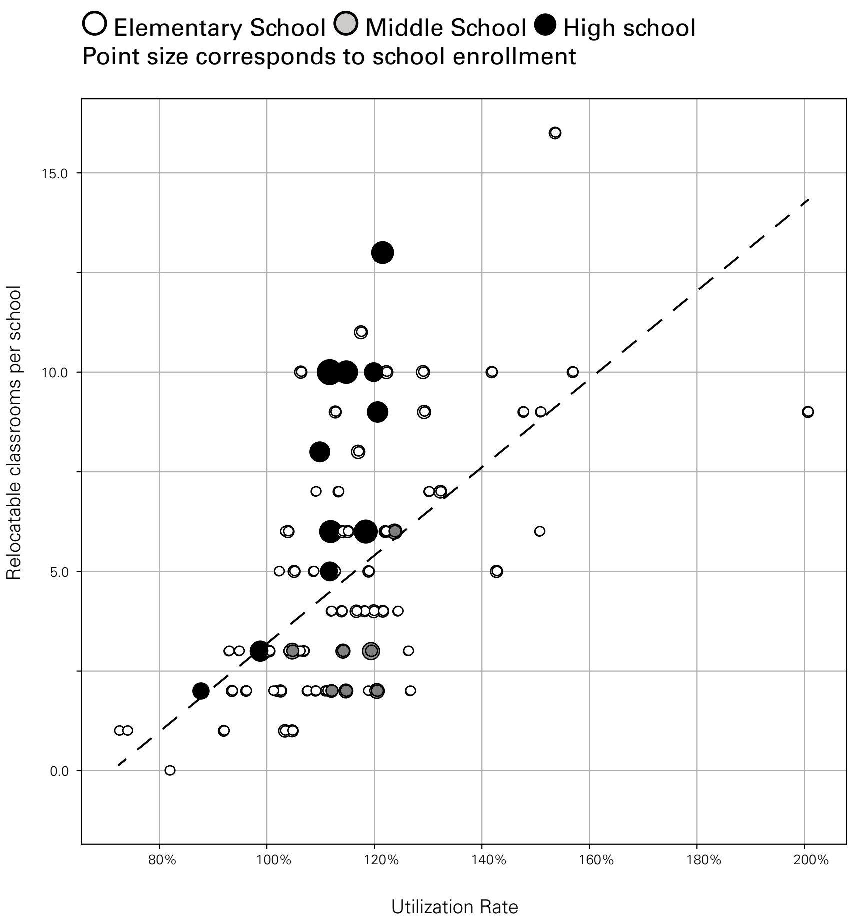


Figure 2.2.16 *Number of Relocatable Classrooms and Utilization Rates*

1 See 2021-26 CIP, Appendix H at http://gis.mcpsmd.org/cipmasterpdfs/CIP21_AppendixH.pdf

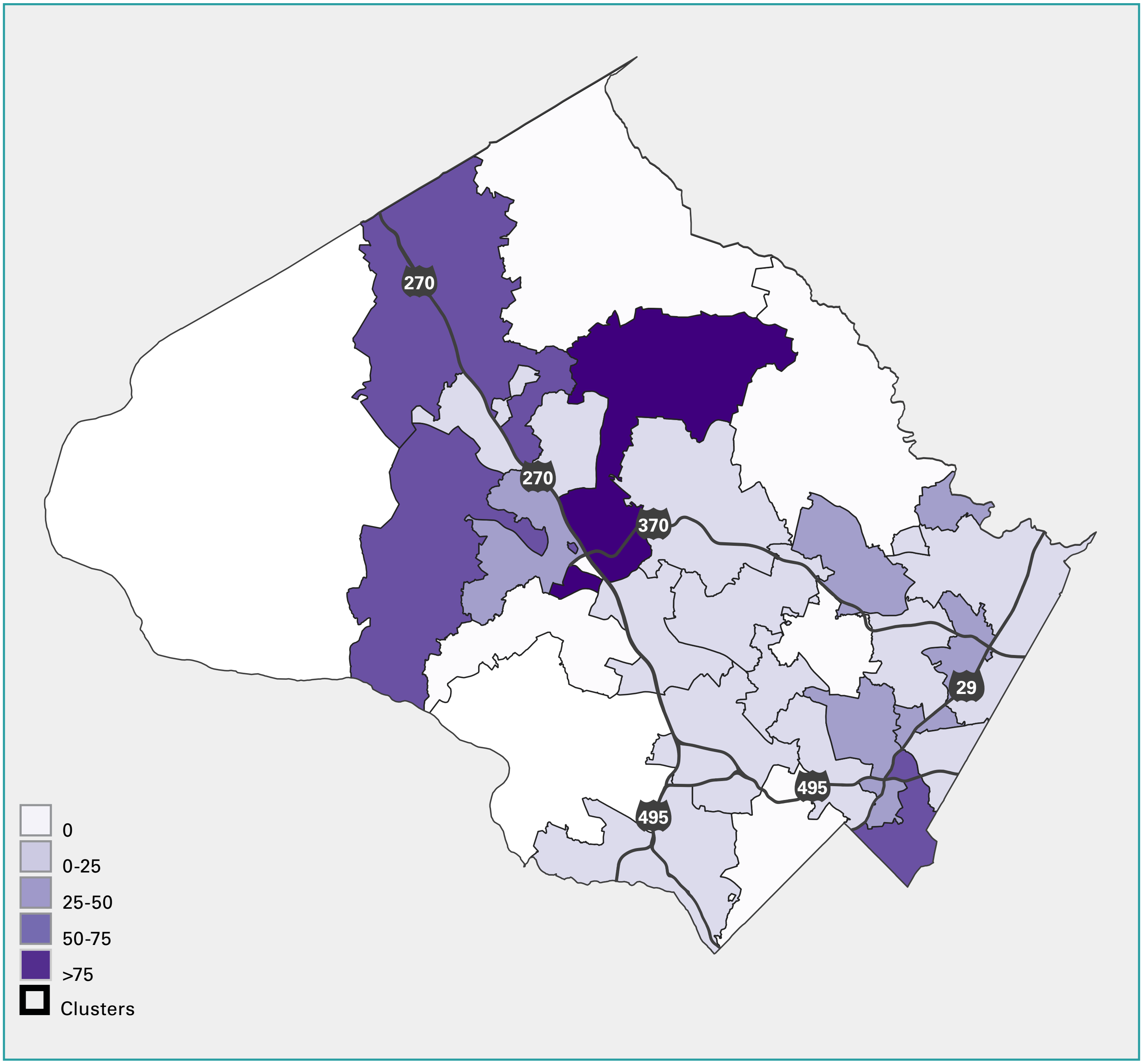


Figure 2.2.17 *Map of Relocatable Classrooms by Cluster*

The map above illustrates the total number of relocatable classrooms at all school levels, by high school cluster. Gaithersburg, Northwest, Blair, and Clarksburg have the most relocatable classrooms of all high school clusters. All the relocatable classrooms in the Gaithersburg cluster serve elementary schools.The relocatable classrooms in the Northwest and Clarksburg clusters serve elementary schools as well as the high school. Clarksburg HS has 16 relocatable classrooms, the second highest number of any single school across the district. Relocatable classrooms in the Blaire cluster serve schools at the elementary and middle school levels, as well as Blaire HS.

2.2 Data Analysis
Utilization

C. Utilization and Adjacency

The section considers the utilization rates of schools relative to their neighboring schools. These analyses were conducted to gain insights as to whether utilization is well-balanced across adjacent attendance areas. We look at utilization disparities between nearby schools—including schools across cluster boundary lines.

Questions:

How similar are the utilization rates of neighboring schools?
To what degree are the current disparities in utilization across the district localized within adjacencies (or schools located near each other)?

Analyses:

C.1 Comparing Utilization at Nearest Schools
C.2 Utilization Disparities Across Five Nearest Schools
C.3 Utilization Across Articulation Patterns

Insights

1. Throughout the district, there are many instances where highly overutilized schools are in close proximity to schools that are either underutilized or within the target utilization range.

This suggests that there may be cases where there is enough capacity among relatively nearby schools to address utilization challenges.

2. Many schools in the district have very different utilization rates from their nearest schools. One way to understand the disparities between nearby schools is to compare the utilization rate of each school in the district with that of its closest school:

- **Elementary schools**: at the elementary level, the widest gap (or, differential) in utilization rates between two nearest schools is 77 percentage points. In this case, a 156.9% overutilized school is nearest to a 79.5% underutilized school.
- **Middle schools**: at the middle school level, the largest utilization differential between two nearest schools is 43 percentage points. In this case, a 119.4% overutilized school is nearest to a 73.1% underutilized school.
- **High schools**: the largest utilization differential between two nearest high schools is 29 percentage points. In this case, a 121.5% overutilized school is nearest to a 92.6% utilized school.

3. Comparing the difference of only two schools may give us an incomplete picture of the utilization conditions around a school. It is informative to look at disparities among groups of closest schools. In this report, we compare each school's utilization rate to the utilization rates of its five nearest schools, to better understand the disparities in utilization between neighboring schools. This kind of analysis is called dissimilarity.

Dissimilarity is a way to measure, statistically, how different one factor is from a group of its peers within a particular geographic area. In this case, dissimilarity provides a way to rate how unlike the utilization rate of one school is from the average of that school and its five nearest neighbors. Looking at the five nearest schools to each school can be instructive to show whether a given school is an outlier in terms of utilization relative to its neighbors, or whether utilization rates are high in a given area. Dissimilarity is expressed as a value between 0 and 1 – where 1 is the most dissimilar.

4. Elementary schools tend to be more dissimilar from their nearest neighbors than middle and high schools.

Across the district, adjacent elementary schools are more likely to have very dissimilar utilization rates than their five nearest neighbors. At the middle and high school levels, there is much less variation between neighboring schools

There are 26 elementary schools, out of 135 in total, whose utilization rates are very dissimilar from their five nearest elementary schools (20 percentage points or more).

- Among these 26 elementary schools, all are overutilized and none of their nearest schools are overutilized. These 26 schools represent about 20% of all MCPS elementary schools.

There are 6 middle schools, out of 40 in total, whose utilization rates are very dissimilar from their five nearest middle schools (20 percentage points or more).

- Among these six middle schools, all are somewhat overutilized and all of their nearest schools either underutilized or within the target range. These six middle schools represent 15% of all MCPS middle schools.

There are only 2 high schools, out of 25 in total, whose utilization rates are very dissimilar from their five nearest high schools (20 percentage points or more).

- Only 8% of MCPS high schools are dissimilar from their nearest five schools by 20 percentage points or more.

5. There are three underutilized middle schools in MCPS. All three of them are adjacent to middle schools that are somewhat overutilized.

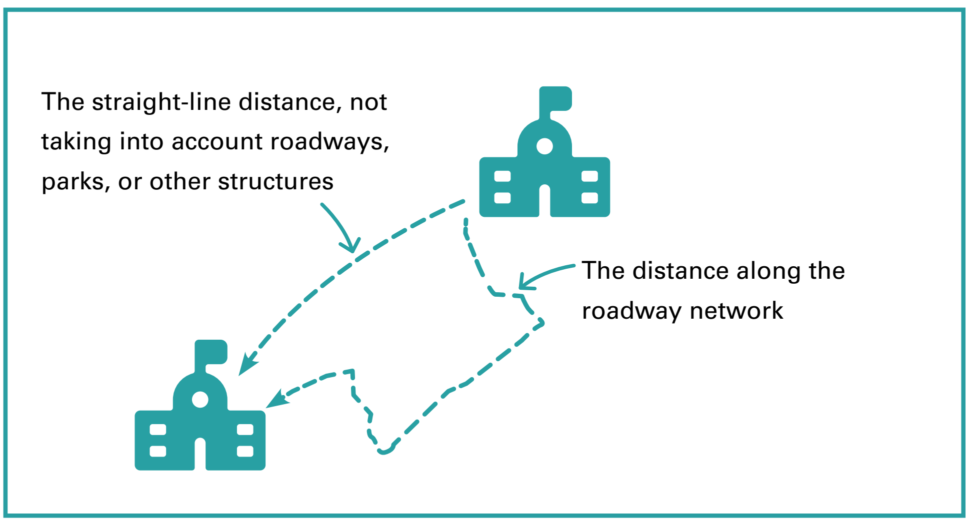
Utilization varies across and between school attendance area boundaries. Adjacent schools often have considerably different utilization rates. This section includes three analyses:

Analysis 3.1 compares the utilization rates of each school's nearest school. The nearest school has been identified based on roadway distance, regardless of what cluster each school is in.

Analysis 3.2 compares the difference in utilization rates between each school and its five nearest schools based on roadway distance, regardless of what cluster each school is in. It is important to consider a wider number of schools than just the nearest school for several reasons, including the understanding that any boundary revisions may affect multiple attendance areas and factors such as "island assignments" that complicate the idea of the "nearest" school.

Analysis 3.3 focuses on the feeder pattern of elementary to middle schools. This section compares the utilization rates and capacity at underutilized middle schools with adjacent middle schools to identify groups of schools where total shared capacities may be sufficient to alleviate utilization issues.

C.1 Comparing Utilization at Nearest Schools



The scatter plot on **page 127** locates every elementary, middle, and high schools in MCPS, with the x-axis representing a school's utilization rate and the y-axis representing the utilization rate of the nearest school. A full list of schools, utilization rates, and roadway distance to the nearest school can be found in **Appendix B7: Table: Schools, Utilization Rates, and Roadway Distances to Nearest School on page 454.**

Certain patterns emerge in this analysis across the district, some of which are identified with notes on the scatter plot. It is also important to remember the four utilization categories:

- Underutilized: > 80%
- Within the target range: 80 – 100%
- Somewhat overutilized: 100 – 120%
- Highly overutilized: < 120%

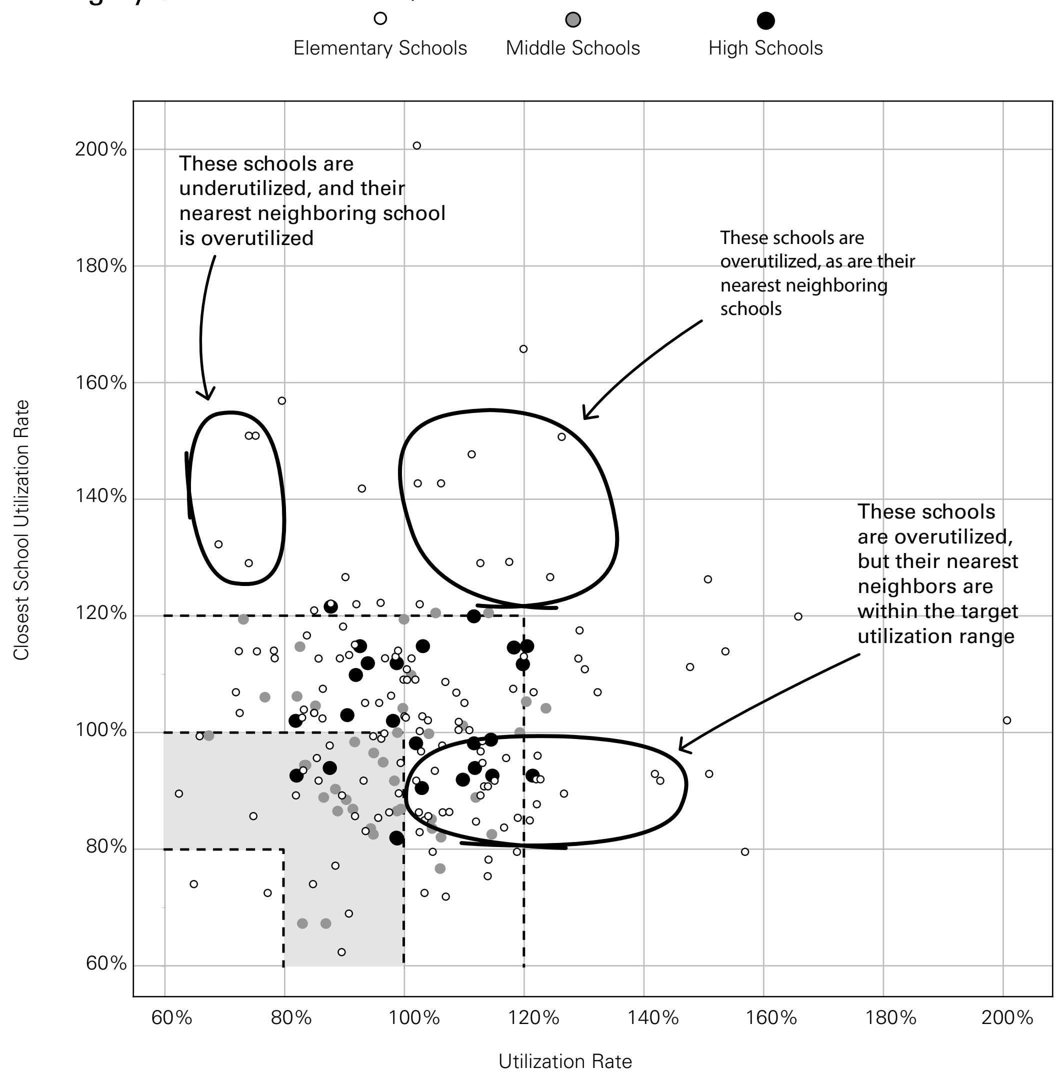


Figure 2.2.18 *School Utilization Rates Compared to Nearest Neighboring School*

The plot in **Figure 2.2.18** above expresses the relationship between the utilization rate of a school and the utilization rate of its nearest school (e.g. nearest elementary school to elementary school, nearest middle school to middle school, and nearest high school to high school). Distance between schools is based on roadway distance. Certain patterns emerge among these schools. Where schools in the lower left and upper right quadrants are very similar to their neighbor, they

are both either within the target range or overutilized.
The upper left and lower right quadrants paint a different picture. There are numerous cases where the utilization rate at a given school is significantly higher or lower than that of its nearest neighbor. The next section explores the relationships between the utilization rate of each school and the nearest neighboring school in greater detail.

In the analyses that follow, we examine the pairs of nearest schools in the district whose utilization rates vary by 20 percentage points or more.

It is important to bear in mind that these disparities represent a snapshot in time, and do not factor in recent or upcoming boundary studies or changes, nor do they factor in enrollment projections. Utilization rates vary over time for a number of reasons, including population growth and new school constructions and additions. Changes in utilization over time are discussed in more detail in **Utilization Over Time,** starting on **page** 147 .

Utilization Disparities Between Nearest Elementary Schools

Figure on the following shows all pairs of closest elementary schools in MCPS with disparities in utilization rates of 20% or more. The attendance areas of these pairs of elementary schools are shown in the map on the following page. Three notes to bear in mind when considering this table:

- There are no instances in which both schools are overutilized.
- Roadway distances between the most disparate elementary schools and their nearest school are listed and range from 0.95 miles to 2.81 miles, with one outlier that has a distance of over seven miles (a detailed table of distances between each school and its nearest school can be found in **Appendix B7: Table: Schools, Utilization Rates, and Roadway Distances to Nearest School on page 454**)
- There may be occasions when School A's nearest school is School B, but School B's closest school is not School A. This is often the case when a school is near the edge of Montgomery County.

School	Utilization Rate (2019-20)	Capacity (2019-20)	Nearest School	Nearest school utilization rate	Capacity (2019-20)	Distance between schools (mi)	Difference in utilization rates
Page	156.89%	392	Cannon Road	79.54%	518	1.53	0.77
Mill Creek Towne	150.89%	336	Flower Hill	92.90%	493	2.07	0.58
Forest Knolls	142.72%	529	Glen Haven	91.73%	556	1.17	0.51
Strawberry Knoll	141.83%	459	Flower Hill	92.90%	493	0.99	0.49
Westover	118.80%	266	Cannon Road	79.54%	518	1.83	0.39
Rosemont	113.91%	568	Washington Grove	75.37%	613	1.15	0.39
Bannockburn	126.65%	364	Wood Acres	89.52%	725	1.48	0.37
Lake Seneca	120.94%	425	Waters Landing	84.92%	776	1.41	0.36
Watkins Mill	114.04%	641	Stedwick	78.20%	688	0.95	0.36
Germantown	106.91%	304	McAuliffe	71.85%	771	1.16	0.35
Resnik	122.11%	493	Laytonsville	87.70%	447	2.43	0.34
Bethesda	118.93%	560	Bradley Hills	85.37%	663	1.66	0.34
Diamond	116.64%	679	Brown Station	83.71%	761	1.00	0.33
Ritchie Park	103.35%	388	Cold Spring	72.49%	458	0.99	0.31
Burtonsville	122.72%	493	Fairland	91.98%	648	2.81	0.31
Greencastle	122.00%	591	Fairland	91.98%	648	1.51	0.30
Fields Road	111.95%	381	Stone Mill	84.73%	694	2.28	0.27
JoAnn Leleck ES at Broad Acres	122.24%	715	Roscoe Nix*	96.02%	503	1.27	0.26
Jackson Road	104.72%	699	Cannon Road	79.54%	518	1.52	0.25
Olney	112.71%	606	Greenwood	89.21%	584	1.24	0.23
Arcola	115.05%	651	Glen Haven	91.73%	556	1.19	0.23
Rock Creek Forest	113.94%	667	Rosemary Hills*	90.76%	628	0.88	0.23
Woodlin	113.29%	489	Rosemary Hills*	90.76%	628	0.69	0.23
Ashburton	116.98%	789	Wyngate	95.62%	776	1.47	0.21
Ride	107.49%	467	William B. Gibbs Jr.	86.37%	719	1.63	0.21
Piney Branch*	106.38%	611	East Silver Spring	86.31%	577	1.12	0.20

Figure 2.2.19 *Table of Utilization Disparities Between Nearest Elementary Schools*
**Indicates paired elementary school (K-2 or 3-5)*

Of the 26 schools included in the left column, 16 are somewhat overutilized. Of these 16 schools, six are closest to schools below the target utilization rate.

Ten of the schools in the left column are highly overutilized. One of these schools is closest to a school just below the target utilization range, while the other nine are closest to schools within the target utilization range.

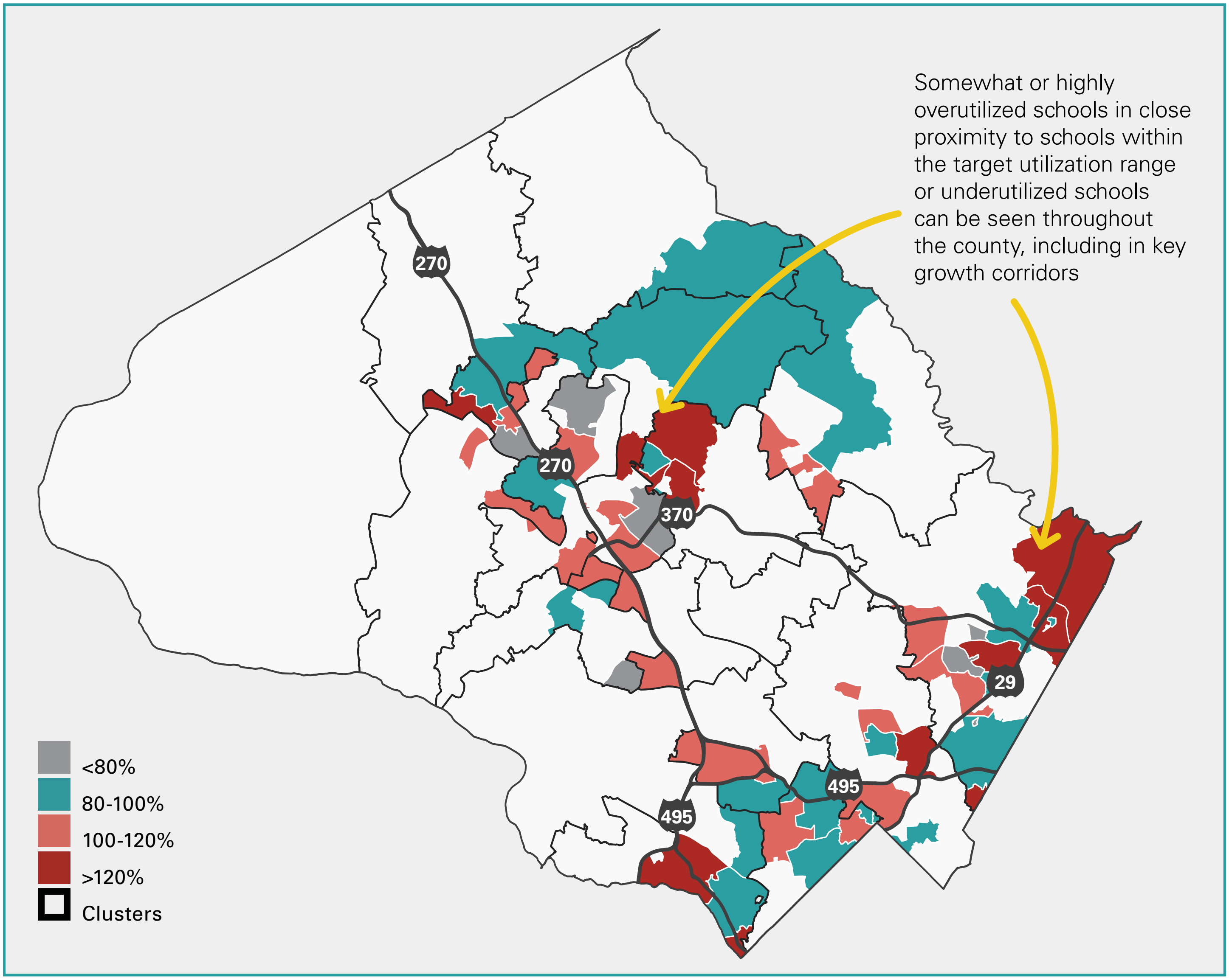


Figure 2.2.20 *Map of Utilization Disparities Between Nearest Elementary Schools*

The map above shows the pairs of elementary schools with differences of 20% or more in utilization rates. These pairs of schools are indicated in the first and third columns of the table on the previous page.

This map illustrates that imbalances between adjacent school utilization rates are found throughout the district and are not confined to schools in a certain region. Although this map shows disparities of 20% or more, there are significant disparities across the district. Within all but two high school clusters, there is at least one instance where a pair of neighboring elementary schools has a disparity of 10% or more in utilization rates. In multiple cases, overutilized schools located right along the dense I-270 corridor adjoin elementary school attendance areas that are in the target utilization range or are underutilized. In the US-29 Corridor, another key growth area, it is apparent that many elementary schools experience imbalances in utilization with nearby schools.

Utilization Disparities Between Nearest Middle Schools

The table below highlights the middle schools with a 20% difference or greater in utilization rates from their nearest school. The pairs of schools listed in the table are shown on map on the following page. Three notes to bear in mind when considering this table:

- There are no instances in which both schools are overutilized.
- Roadway distances between the most disparate middle schools and their nearest school range from 1.89 miles to 3.6 miles (a detailed table of distances between each school and its nearest school can be found in **Appendix B7: Table: Schools, Utilization Rates, and Roadway Distances to Nearest School on page 454**).
- There may be occasions when School A's nearest school is School B, but School B's closest school is not School A. This is often the case when a school is near the edge of Montgomery County.

School	Utilization Rate (19-20)	Capacity (2019-20)	Nearest school	Nearest school utilization rate	Capacity (2019-20)	Distance between schools (mi)	Difference in utilization rates
Westland	73.12%	1105	Pyle*	119.38%	1285	2.83	0.46
Loiederman	114.70%	871	Newport Mill	82.59%	850	1.95	0.32
Lee	106.05%	727	Sligo	76.73%	941	2.17	0.29
Lakelands Park	106.19%	1130	Ridgeview	82.09%	955	1.89	0.24
Baker	112.01%	741	Hallie Wells	88.90%	982	3.60	0.23
Clemente	104.71%	1231	King	83.59%	914	2.94	0.21

Figure 2.2.21 *Table of Greatest Disparities Among Nearby Middle Schools (2019-20)*

**** Note that enrollment statistics do not account for recent BOE actions to alleviate issues of overutilization at certain school, and are only reflective of the published FY 2021-26 Capital Improvements Program document.*** *Pyle MS has current expansion plans that are not accounted for in these calculations.*

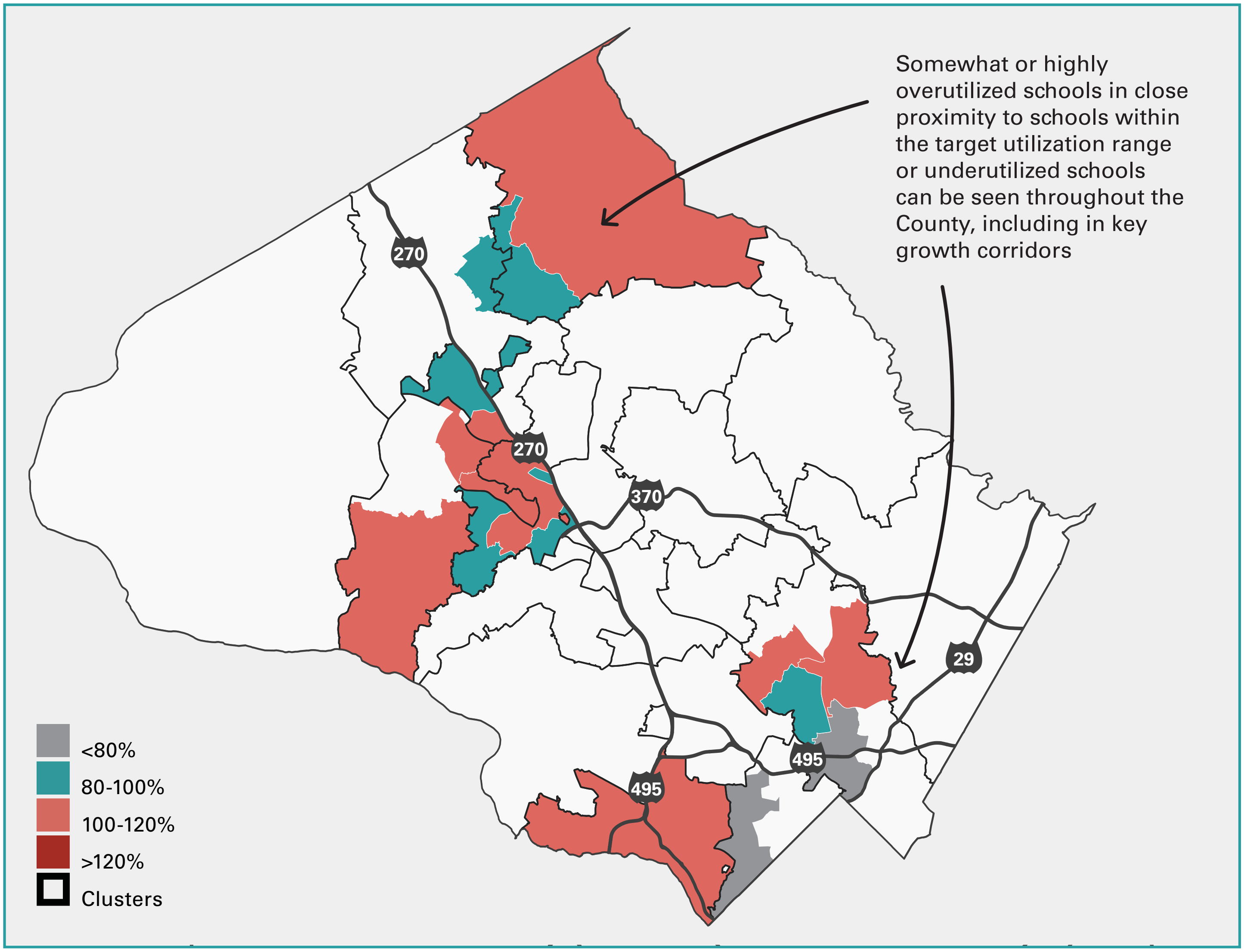


Figure 2.2.22 *Map of Utilization Disparities Between Nearest Middle Schools*

The map above shows the attendance areas of middle schools with 20% differences or more in utilization rates, along with their nearest schools (schools indicated in the first and third columns of the table on the previous page). The utilization disparities of nearest middle schools are primarily focused in different geographic areas across the district. Of those shown, none of the middle schools are highly overutilized, and there is only one middle school that is underutilized.

Utilization Disparities Between Nearest High Schools

The table below highlights the high schools with large disparities in utilization rates from their nearest high schools (20% or more). The attendance areas of the high schools listed in the table are shown on the facing page map. Three notes to bear in mind when considering these tables:

- In both pairs of schools, one school is somewhat or highly overutilized, and the other is in the target utilization range.
- Roadway distances between the most disparate high schools and their nearest school are listed and range from 2.8 miles to 4.72 miles (a detailed table of distances between each school and its nearest school can be found in **Appendix B7: Table: Schools, Utilization Rates, and Roadway Distances to Nearest School on page 454**).
- There may be occasions when School A's nearest school is School B, but School B's closest school might not be School A. This is often the case when a school, like School A described above, is near the boundary of Montgomery County.

School	Utilization Rate (19-20)	Capacity (2019-20)	Nearest school	Nearest school utilization rate	Capacity (2019-20)	Distance between schools (mi)	Difference in utilization rate
Northwest	114.79%	2286	Seneca Valley*	92.63%	1130	2.80	0.22
Clarksburg	121.53%	2034	Seneca Valley*	92.63%	1130	4.72	0.29

Figure 2.2.23 *Table of Utilization Disparities Between Nearby High Schools (2019-20)*

**** Note that enrollment statistics do not account for recent BOE actions to alleviate issues of overutilization at certain school, and are only reflective of the published FY 2021-26 Capital Improvements Program document.*** *Overutilization at Northwest and Clarksburg HS is planned to be relieved by using available capacity at Seneca Valley HS, and those changes are not reflected in these calculations.*

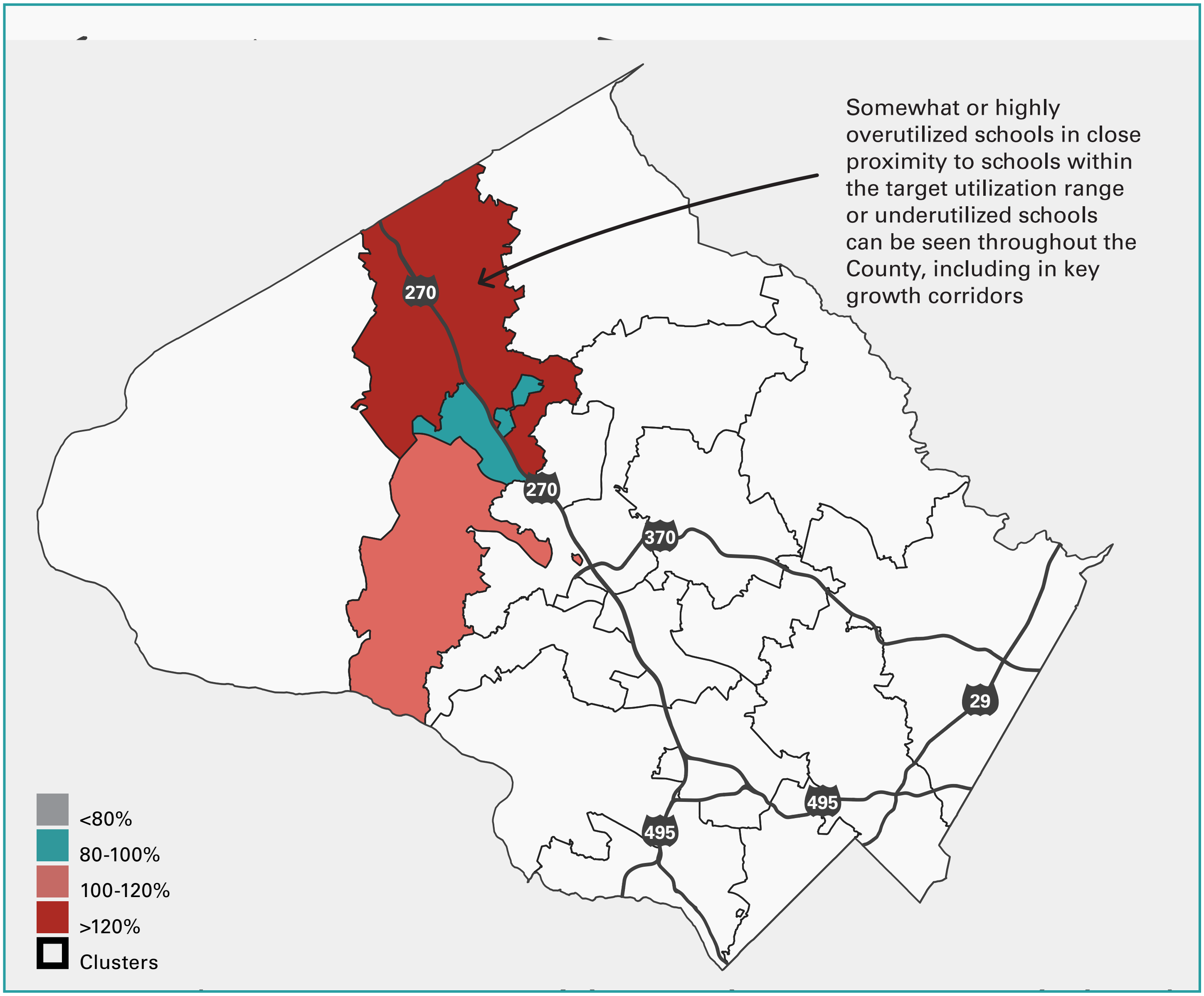


Figure 2.2.24 *Map of utilization disparities between nearest high schools*

The map above shows the attendance areas of the high schools with 20% differences or more in utilization rates, along with their nearest schools (indicated in the third column of the table on the previous page). As noted on the map, there are very few nearest high schools that have a utilization rate difference of more than 20%.

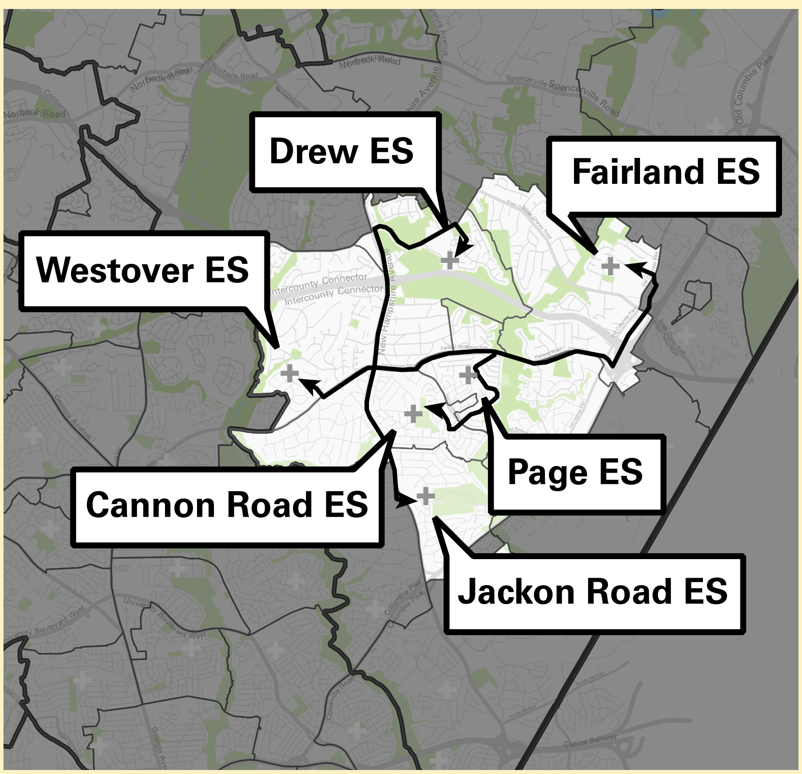
C.2 Utilization Disparities: Five Nearest Schools

Comparing the difference of only two schools may give us an incomplete picture of the utilization conditions around a school. It is informative to look at disparities among groups of closest schools. In this set of analyses, we compare each school's utilization rate to the utilization rates of a group that includes each school and its five nearest schools, to better understand the disparities in utilization between neighboring schools. This kind of analysis is called dissimilarity (see, **What is Dissimilarity?** on the following page).

Considering how utilization varies between nearby schools allows us to better identify the trade- offs between maintaining cluster boundaries, balancing utilization with existing capital assets, and the distance between different school facilities. It is important to consider a wider number of schools than just the nearest school for several reasons, including factors such as island assignments that complicate the idea of the "nearest" school. Below, we look at a case study to illustrate an example of dissimilarity analysis.

Sorted by distance

Case Study: Page Elementary



Page Elementary School has a utilization rate of 157%. This school and its neighbors were chosen for illustrative purposes only.

School	Distance | Utilization
Page ES	**-- | 157%**
Cannon Road ES	1.6 mi | 79.5%
Westover ES	2.7 mi | 119%
Fairland ES	3 mi | 92%
Jackson Road ES	3.3 mi | 105%
Drew ES	4.4 mi | 100%
Average Utilization of group:	**108.75%**
Dissimilarity of Page's utilization from neighbors:	**0.48**

☐ Cluster boundaries ☐ School attendance areas + Elementary school

Figure 2.2.25 *Page Elementary Case Study (Utilization Dissimilarity)*

In the case study in **Figure 2.2.25**, we see an example elementary school and the five nearest elementary schools based on roadway distance. We can see that the average utilization rate of the group (including Page Elementary School) is 108.75%, which is considerably lower than Page Elementary School's utilization rate of 157%. In this case, the dissimilarity score for Page is 0.48: it is 48 percentage points more utilized than the average of the six schools (Page and the five closest schools).

It should be noted that the recent increase in utilization at Page ES is due to the introduction of a new Spanish Immersion (SI) program there in 2018-19. Approximately 32% of students at Page reside in another attendance area and—in most cases—attend Page ES due to the SI program. Without these additional students, Page's utilization rate would only be about 107%. MCPS plans to increase capacity at Page ES to accommodate this growth.

What is Dissimilarity?

Dissimilarity is a way to measure, statistically, how different one factor in a particular geographic area is from a group of its peers. In the case of school utilization, dissimilarity provides a way to rate how unlike one school or cluster is from the average utilization of that school and its nearest neighbors. In the examples in this section, dissimilarity is expressed as a number between 0 and 1, which refers to how different Page Elementary School's utilization rate is from the average of the group that includes its five closest schools. The highest dissimilarity rate would be 1, and the lowest would be 0. Extreme outliers may throw off the range in certain cases and the dissimilarity may go beyond 1, if, for example, the utilization rate of a certain school is beyond 200%.

Dissimilarity in Utilization Between Overutilized and Underutilized Elementary School and Nearest Schools

Looking at utilization in relation to the five nearest schools to each school can be instructive to show whether a given school is an outlier in terms of utilization relative to its neighbors, or whether utilization rates are high in a given area. In this analysis, we look at the utilization rate of each school and the five schools nearest to it. Then, we calculate the dissimilarity of the school's utilization from its neighbors', which results in a number between 0 and 1 (if the value is closer to 1 then that school is more dissimilar when compared against other schools within that group). Clarksburg ES is a unique outlier since the overall utilization at that school is more than 200%.

The table below shows the underutilized and overutilized elementary schools that are most dissimilar from their neighboring five schools. The schools featured in this set of analyses are:

- Underutilized, overutilized, or highly overutilized (in other words, not in the target range)
- Highly dissimilar from their neighbors (they exhibit a dissimilarity score above 0.1)

See **Appendix B8: Table: Schools and Dissimilarity from Nearest Five Schools on page 461** for a full list of schools and their dissimilarity from their neighboring schools.

School	Utilization Rate (2019-20)	Enrollment (2019-20)	Capacity (2019-20)	Dissimilarity in utilization to nearest five schools
Clarksburg	200.64%	624	311	1.01*
Luxmanor	165.77%	678	409	0.62
Mill Creek Towne	150.89%	507	336	0.59
Monocacy	68.95%	151	219	0.58
Page	156.89%	615	392	0.51
Westbrook	62.34%	341	547	0.47
Cannon Road	79.54%	412	518	0.46
Washington Grove	75.37%	462	613	0.46
Highland View	150.69%	434	288	0.46
Summit Hall	153.61%	702	457	0.44
Stedwick	78.20%	538	688	0.42
Sequoyah	74.02%	376	508	0.38
Bannockburn	126.65%	461	364	0.36
McAuliffe	71.85%	554	771	0.36
Carson	129.05%	893	692	0.35
Wheaton Woods	65.80%	504	766	0.32
Strawberry Knoll	141.83%	651	459	0.31
Forest Knolls	142.72%	755	529	0.30
McNair	132.27%	828	626	0.29
North Chevy Chase	72.35%	259	358	0.29
Stonegate	130.13%	501	385	0.29
Pine Crest	102.23%	413	404	0.29
Bethesda	118.93%	666	560	0.27
DuFief	74.00%	316	427	0.27
Candlewood	75.15%	387	515	0.26

Figure 2.2.26 *Table of Utilization Rates, Capacity, and Nearest Schools*

** Dissimilarity over 1 due to outlier utilization rate over 200%*

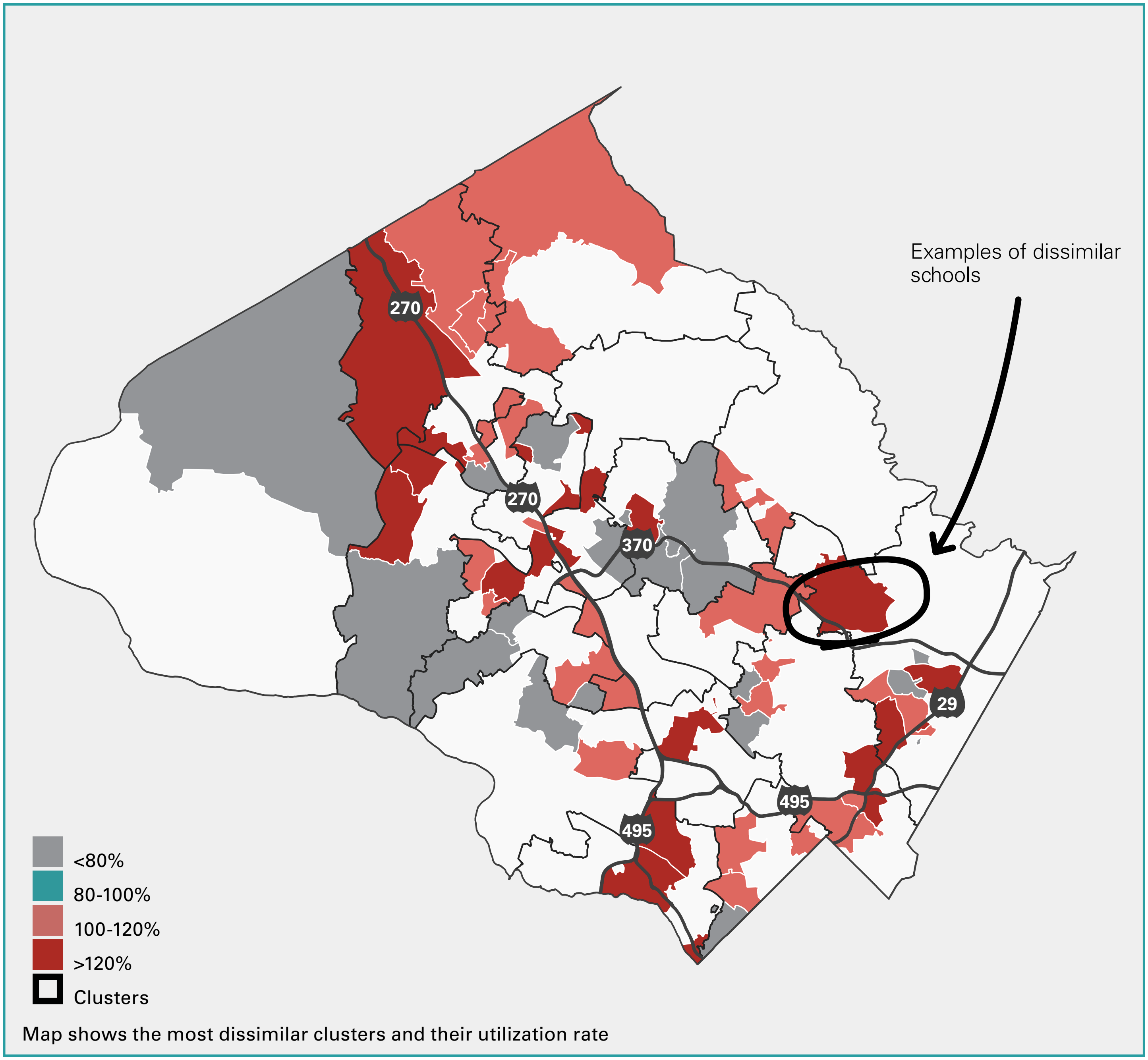


Figure 2.2.27 *Map of Elementary Schools Most Dissimilar from Five Nearest Schools*

At the elementary school level, there are instances where highly and somewhat overutilized schools, as well as underutilized schools, have significantly different utilization rates than their neighbors. As compared to the high school or middle school levels, elementary schools have more pronounced variation in utilization compared to their neighboring schools. Of the top ten most dissimilar elementary schools, six have a utilization rate of over 150%, while two of the remaining four schools have utilization rates below 70%. These underutilized schools are at opposite ends of the district: Monocacy (68.95%) is in Poolesville at the northwest edge of the county, while Westbrook (62.34%) is at the southernmost edge of the district.

Although these two extreme cases of underutilization are found at the edges of the county, there are a number of other examples across the district where highly overutilized school attendance areas are directly adjacent to underutilized schools.

Dissimilarity in Utilization Between Overutilized and Underutilized Middle School and Nearest Schools

The table below shows the underutilized and overutilized middle schools that are highly dissimilar from their neighboring five schools. See **Appendix B8: Table: Schools and Dissimilarity from Nearest Five Schools on page 461** for a full list of schools and their dissimilarity from their neighboring schools.

School	Utilization Rate (2019-20)	Enrollment (2019-20)	Capacity (2019-20)	Dissimilarity in utilization to nearest five schools
Westland	73.12%	808	1,105	0.30
Takoma Park	123.75%	1,162	939	0.28
Pyle	119.38%	1,534	1,285	0.26
Shady Grove	67.33%	575	854	0.26
Baker	112.01%	830	741	0.22
Sligo	76.73%	722	941	0.21
Parkland	120.46%	1,142	948	0.17
Clemente	104.71%	1,289	1,231	0.15
Lakelands Park	106.19%	1,200	1,130	0.14

Figure 2.2.28 *Table Of Overutilized and Underutilized Middle Schools Dissimilarity*

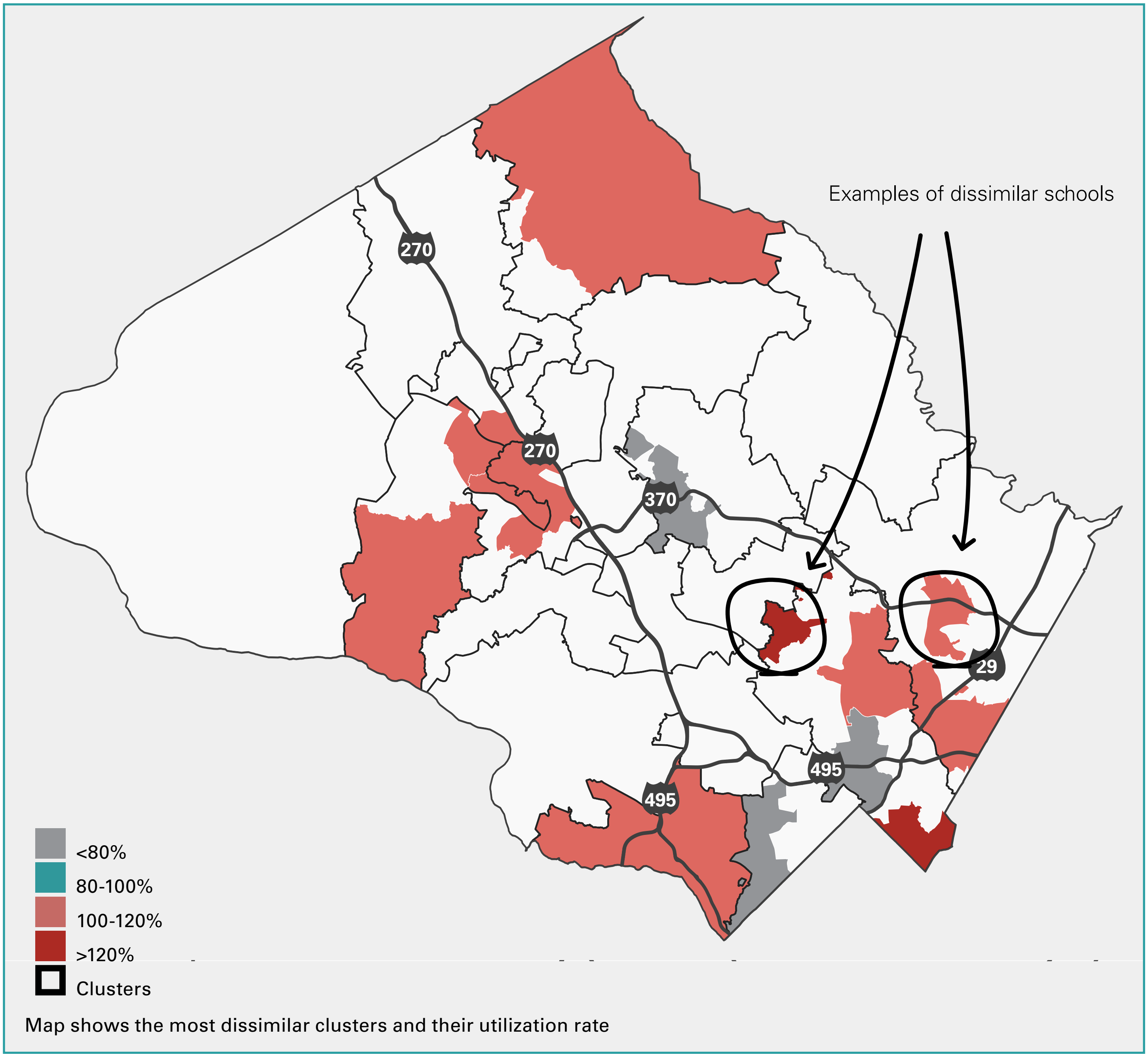


Figure 2.2.29 *Map of Middle Schools Most Dissimilar from Five Nearest Schools*

As before, this analysis inspects every middle school and the utilization rate of its five nearest schools. Schools that are underutilized, somewhat overutilized, or highly overutilized and are very dissimilar from their neighbors are shown in the map above.

Although there are fewer schools at the middle school level, similar patterns emerge between nearby schools across the district in which somewhat overutilized schools are found adjacent to underutilized schools.

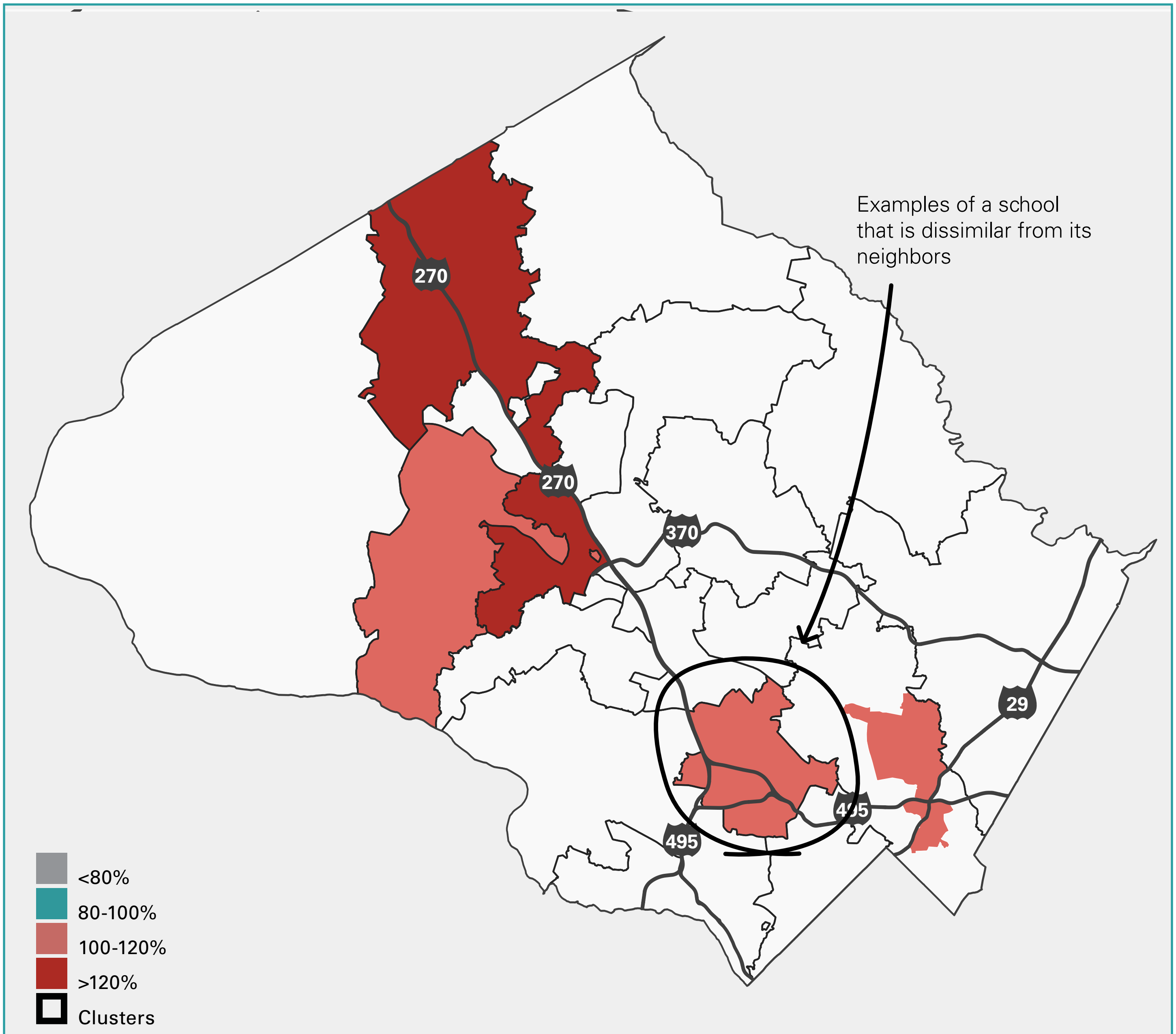
At the middle school level, a smaller proportion of schools are underutilized. So, most cases shown in the table on the previous page and the map above illustrate cases when somewhat or highly overutilized middle schools are nearest to schools within the target utilization range.

Dissimilarity in Utilization Between Overutilized and Underutilized High School and Nearest Schools

The table below shows the underutilized and overutilized high schools that are most dissimilar from their neighboring five schools. See **Appendix B8: Table: Schools and Dissimilarity from Nearest Five Schools on page 461** for a full list of schools and their dissimilarity from their neighboring schools.

School	Utilization Rate (2019-20)	Enrollment (2019-20)	Capacity (2019-20)	Dissimilarity in utilization to nearest five schools
Clarksburg	121.53%	2,472	2,034	0.26
Quince Orchard	120.60%	2,160	1,791	0.23
Northwood	119.89%	1,808	1,508	0.19
Northwest	114.79%	2,624	2,286	0.12
Johnson	118.40%	2,748	2,321	0.10

Figure 2.2.30 *Table of Overutilized and Underutilized High School Dissimilarity*



Map shows the most dissimilar clusters and their utilization rate

Figure 2.2.31 *Map of High Schools Most Dissimilar from Five Nearest Schools*

As before, this analysis inspects every high school and the utilization rate of its five nearest schools. Schools that are underutilized, somewhat overutilized, or highly overutilized and are very dissimilar from their neighbors are shown in the map above.

At the high school level, five high schools exhibit a dissimilarity score above 0.1, with Clarksburg and Quince Orchard high schools being the only schools with greater than 0.2 dissimilarity from the five schools nearest to them. These high dissimilarity schools are located in similar areas to highly dissimilar elementary schools, but not in the same areas as highly dissimilar middle schools.

C.3 Utilization Across Articulation Patterns: Elementary Schools to Middle Schools

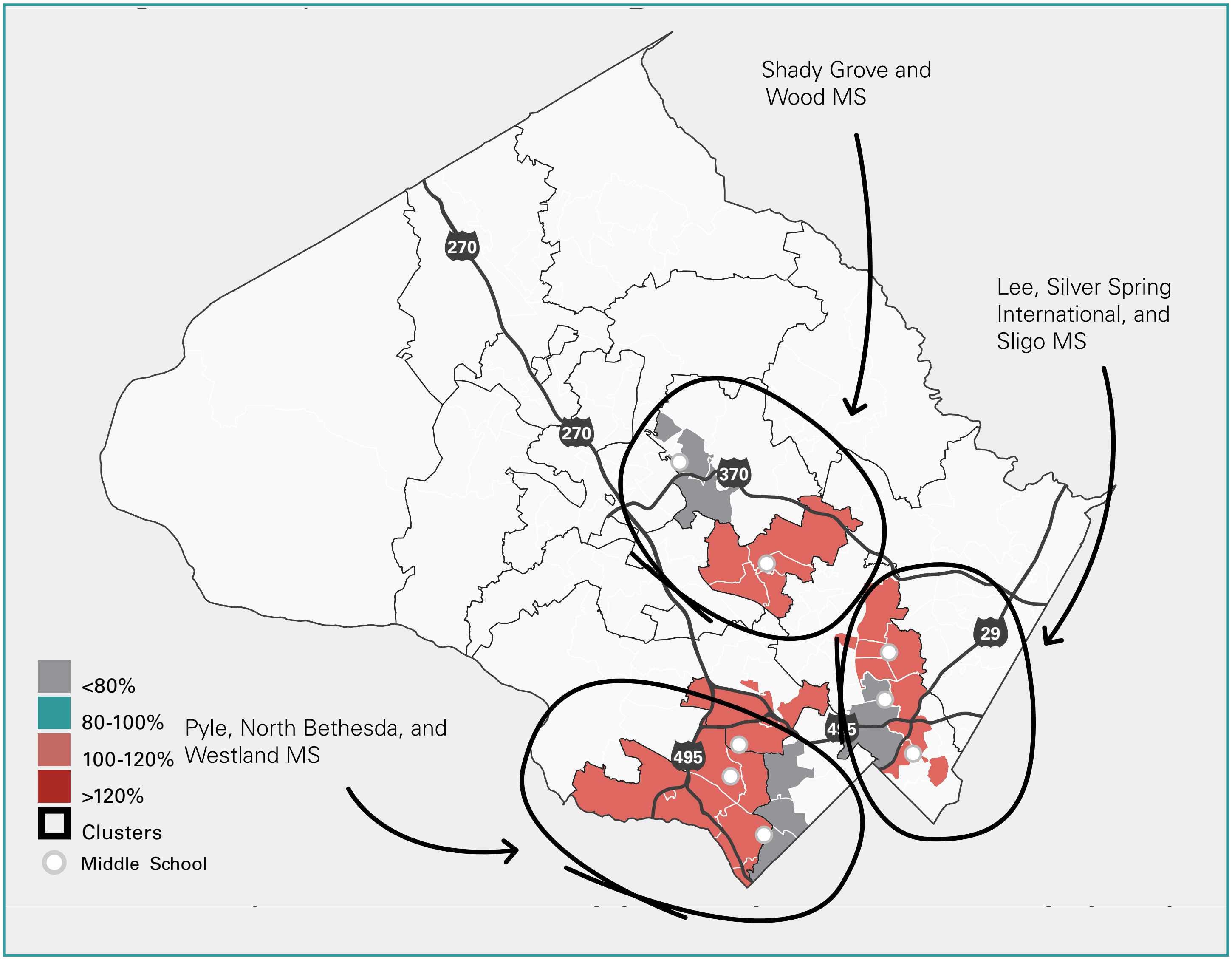


Figure 2.2.32 *Map of Adjacent Middle Schools With Disparate Utilization Rates*

Across MCPS, there are three cases where underutilized middle schools are directly adjacent to overutilized middle schools. These instances are shown in the map above and in **Figure 2.2.33** on the following page. Among each of these groups of middle schools, there are sufficient total seats to address overutilization at each school. However, there are varying utilization challenges faced at many of the elementary schools that feed into these middle schools.

The table below explores the utilization rates of adjacent middle schools, and the elementary schools that feed into them, to determine the total number of available seats among adjacent schools.

School (**MS***/ES)	Utilization rate	Enrollment	Capacity (2019-20)	Available Seats
Westland MS	**73.12%**	**808**	**1,105**	**297**
Bethesda ES	118.93%	560	666	-106
Somerset ES	113.01%	515	582	-67
Westbrook ES*	62.34%	547	341	206
North Bethesda MS	**100.00%**	**1,233**	**1,233**	**0**
Wyngate ES	95.62%	776	742	34
Ashburton ES	116.98%	789	923	-134
Pyle MS	**119.38%**	**1,534**	**1,285**	**-249**
Bradley Hills ES	85.37%	663	566	97
Wood Acres ES	89.52%	725	649	76
Burning Tree ES	124.34%	378	470	-92
Bannockburn ES	126.65%	364	461	-97
Carderock Springs ES	90.15%	406	366	40
Total available MS seats				**48**
Sligo MS	**76.73%**	**722**	**941**	**219**
Woodlin ES	113.29%	489	554	-65
Glen Haven ES	91.73%	556	510	46
Singer ES	100.44%	680	683	-3
Silver Spring International MS	**104.16%**	**1,153**	**1,107**	**-46**
Sligo Creek ES	102.41%	664	680	-16
Rolling Terrace ES	106.31%	729	775	-46
Highland View ES	150.69%	288	434	-146
Forest Knolls ES	142.72%	529	755	-226
Lee MS	**106.05%**	**771**	**727**	**-44**
Arcola ES	115.05%	651	749	-98
Kemp Mill ES	106.11%	458	486	-28
Glenallan ES	100.00%	747	747	0
Total available MS seats				**129**
Shady Grove	**67.33%**	**575**	**854**	**279**
Candlewood ES	75.15%	515	387	128
Flower Hill ES	92.90%	493	458	35
Mill Creek Towne ES	150.89%	336	507	-171
Wood MS	**105.30%**	**994**	**944**	**-50**
Maryvale ES	99.84%	626	625	1
Meadow Hall ES	109.07%	375	409	-34
Barnsley ES	113.04%	652	737	-85
Flower Valley ES	119.95%	416	499	-83
Rock Creek Valley ES	94.78%	460	436	24
Total available MS seats				**229**

There are enough seats within these groups of adjacent middle schools to accommodate enrollment at the middle school level.

Figure 2.2.33 *Table of Total Capacity and Enrollment Across Adjacent Middle School Attendance Areas*

* Please note that in certain cases such as Westbrook, the island assignment simply consists of land parcel on which the school resides.

The table above displays information about the instances in MCPS of overutilized middle schools located adjacent to underutilized ones. We pair this with data about the elementary schools that feed into each middle school, to more closely examine how utilization disparities may impact a feeder pattern of elementary to middle school. This table indicates that there are enough seats at the middle school level to accommodate all of the students in these groups of adjacent attendance areas.

For example, the first set of middle schools—starting at the top of the table—includes Westland MS, North Bethesda MS, and Pyle MS. Westland M.S. is underutilized (about 73%), and has 297 available seats. North Bethesda MS is 100% utilized, and has zero available seats. Pyle MS, on the other hand, is overutilized, with an excess of about 249 students. Taken together, these three adjacent middle schools have 48 available seats.

The elementary schools that feed into these middle schools, however, have varying degrees of imbalance in utilization. Bethesda, ES, Somerset ES, and Westbrook ES, for instance, feed into Westland MS. Bethesda ES (118.9%) and Somerset ES (113%) are overutilized, while Westbrook ES (62.3%) is underutilized. Between these schools, there are 33 available seats.

In the North Bethesda MS feeder pattern, on the other hand, Ashburton ES is overutilized (116.98%), while Wyngate ES (95.6%) is in the target utilization range. Between these schools, there is a shortage of 100 seats.

2.2 **Data Analysis** Utilization

D. Utilization Over Time

While this study represents a snapshot in time, it is informative to look at how utilization has changed over the course of the last decade in MCPS.

Questions:

How have utilization rates changed over the last decade in MCPS? Has utilization gotten better or worse?
Which schools and school assignment areas have experienced the greatest amount of change in the last decade?

Analyses:

D.1 Change in Utilization by Clusters and Consortia, 2010-2020
D.2 Change in Capacity by Clusters and Consortia, 2010-2020

Insights

1. Looking at changes in utilization over the last 10 years is one way to understand whether utilization issues across the district are improving or getting worse, and at which school level(s).

All of the analyses in this chapter use the 2009-10 school year to the 2019-20 school year to study changes in utilization over time. To understand changes in time across school levels, we look at the total utilization rates of each school level, by cluster or consortia *(in other words, what is the total elementary school enrollment in cluster A, divided by the total elementary school capacity at that same level within the cluster/consortia?)*.

Eight clusters or consortia have experienced a decrease in total elementary utilization.

- Of these eight clusters, five now have a net utilization rate within the target utilization range of 80-100% at the ES level. In the other three, elementary schools remain somewhat overutilized.

Five of the clusters or consortia that have seen decreases in elementary school utilization have middle schools within the target range today.

- This suggests that most clusters that have brought total elementary school utilization rates down have also managed to keep middle school utilization in the target range as this cohort of students has progressed through school levels.

Thirteen clusters or consortia have seen an increase in total middle school utilization. Five of these clusters saw an increase of 20 percentage points or more.

- 13 clusters saw increases in middle school utilization during the last ten years, meaning middle school enrollment has increased faster than capacity has. Despite these increases, all but three of these clusters remain within the target utilization range. Rockville, Walt Whitman, and Downcounty Consortium middle schools are now somewhat overutilized.

Total high school utilization rates increased in well over half of all clusters or consortia. Three clusters saw increases of 20 percentage points or more.

- 11 of 19 clusters saw an increase in total high school utilization rates in the last decade. Of these, nine clusters/consortia are somewhat or highly overutilized today at the high school level.

2. One way MCPS accommodates for increases in utilization is by constructing new schools. This analysis examines how often new schools have been built in the last decade, and whether this has addressed utilization challenges. Since 2009, all new school construction has been at the elementary and middle school levels.

In the last decade, five new elementary schools were constructed.

- These new school constructions all took place in the Richard Montgomery cluster and the Downcounty Consortium.

At the middle school level, two new schools were constructed, serving three clusters.

- Two of these clusters (Clarksburg and Bethesda-Chevy Chase) saw decreases in utilization at the MS level. The Damascus cluster, on the other hand, saw a 20% increase in MS utilization rates despite expanded capacity. This is in part because it shares a split articulation with Clarksburg.

In the last decade, no new high schools were constructed.

- While MCPS has expanded high school capacity in 13 clusters/consortia, no new high schools were built. School additions have not been enough to keep up with enrollment growth. This has necessitated the planned high school reopening and construction currently underway to serve Walter Johnson and the Downcounty Consortium.

D.1 Change in Utilization by Cluster or Consortium, 2010-2020

The following set of analyses looks at the percentage of change in overall utilization rates, by cluster or consortium. This section looks at the total enrollment and the total capacity of each cluster for the 2009-2010 and 2019-2020 school years to see how overall utilization rates have changed over time. This analysis is broken down by school level, so that we can begin to see general trends and outliers, both across clusters and between school levels in those clusters.

Change in Elementary School Utilization by Cluster or Consortium, 2010 - 2020

The table below shows changes in overall utilization at the elementary school level, by cluster or consortium. The fourth column indicates the change in utilization rate—with negative values indicating that utilization rates decreased overall and positive values indicating an increase.

At the elementary school level, eight clusters experienced a decrease in total elementary school utilization between 2010 and 2020. Of these eight clusters, five now have a net utilization rate within the target range of 80%-100%. Three clusters have experienced a decrease in utilization, but are still somewhat overutilized in total at the cluster level.

Cluster	Utilization Rate 09-10	Utilization Rate 19-20	Change in Utilization Rate
Col. Zadok Magruder	124.69%	96.29%	-28.40
Richard Montgomery*	121.04%	92.74%	-28.30
Poolesville	138.60%	110.90%	-27.69
Clarksburg*	120.22%	102.32%	-17.90
Sherwood	111.06%	97.10%	-13.96
Winston Churchill	105.53%	94.16%	-11.37
Watkins Mill	95.84%	90.35%	-5.49
Walter Johnson	107.61%	105.68%	-1.94
Gaithersburg	95.30%	95.77%	0.47
Damascus	101.33%	102.45%	1.12
Downcounty Consortium*	100.84%	102.36%	1.52
Seneca Valley	96.10%	98.03%	1.93
Northeast Consortium	96.24%	99.49%	3.25
Walt Whitman	99.23%	104.74%	5.51
Rockville	112.18%	118.60%	6.42
Bethesda-Chevy Chase	100.23%	108.89%	8.66
Quince Orchard	88.49%	97.91%	9.42
Thomas S. Wootton	87.20%	104.79%	17.59
Northwest	96.28%	114.63%	18.36

Figure 2.2.34 *Change in Elementary School Utilization by Cluster or Consortium, 2010 - 2020*

* Denotes clusters that have built new elementary school(s) since 2010

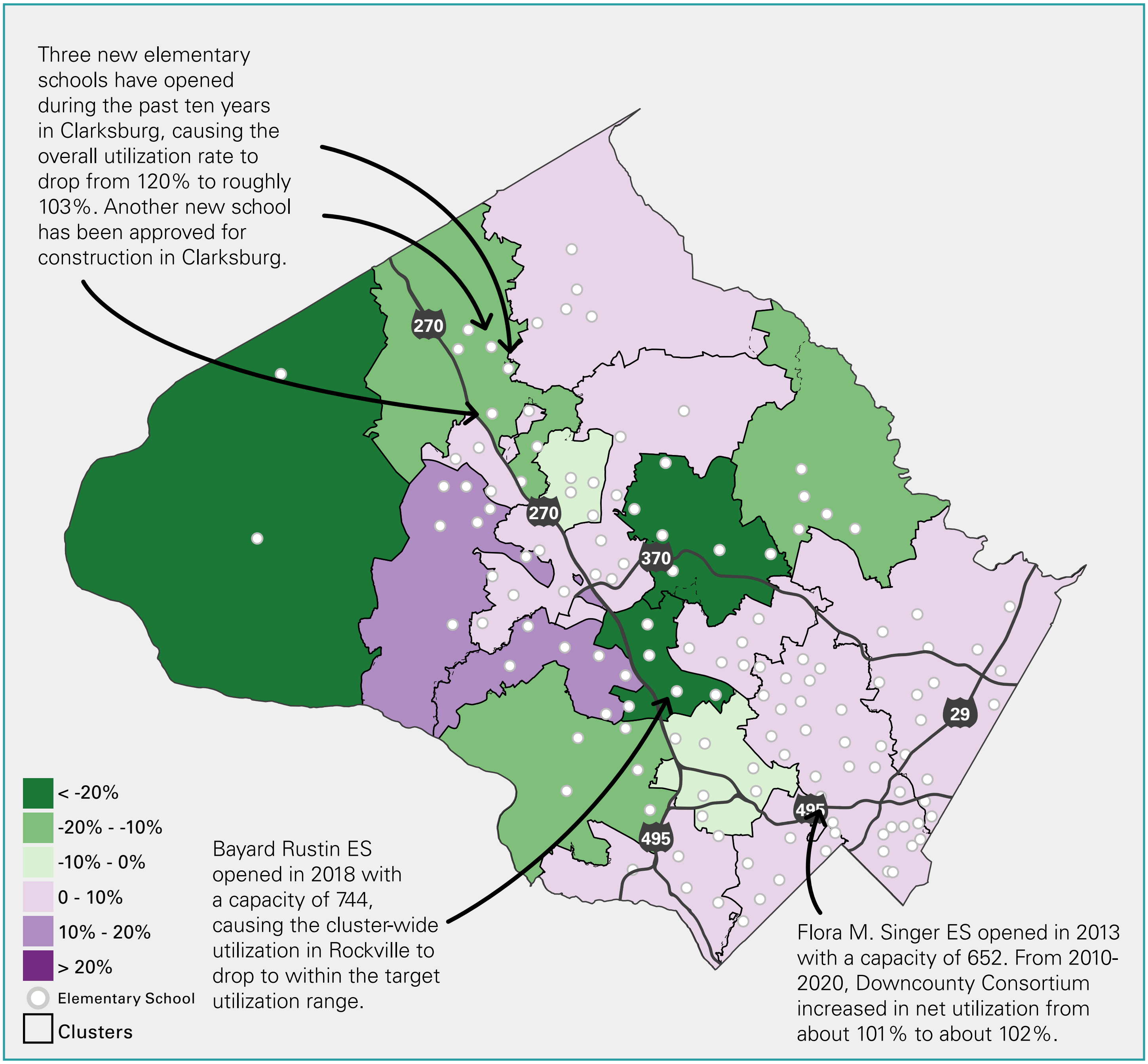


Figure 2.2.35 *Map of Change in Elementary School Utilization by Cluster or Consortium, 2010-2020*

The map above shows changes in utilization at the elementary school level, by cluster or consortium. The clusters shaded with green tones saw overall elementary school utilization rates go *down* since 2010. In other words, elementary schools in these clusters are less utilized on the whole than they were a decade ago. Clusters shaded in purple tones saw overall elementary school utilization rates go *up* since 2010. The darkest purple color indicates clusters where utilization rates rose by over 20 percentage points in the last decade.

Change in Middle School Utilization by Cluster or Consortium, 2010 - 2020

Although most middle schools experienced an increase in utilization in the last decade, this school level has managed to keep the greatest proportion of schools within the target utilization range. Efforts to expand school capacity may have contributed to this: two new middle schools were opened between 2010-2020, and 16 out of 19 clusters have added capacity over that period. Of the six clusters that experienced a decline in overall utilization over the past decade, five are within the target utilization range. Of the clusters that saw increases in overall middle school utilization over the past decade, all but three remain within the target utilization range. Middle schools in Rockville, Walt Whitman, and Downcounty Consortium— all of which were underutilized or in the target range in 2010 — are somewhat overutilized as of this year.

Cluster	09-10 Utilization Rate	19-20 Utilization Rate	Change in utilization rate
Clarksburg	110.96%	92.51%	-18.45
Winston Churchill	104.18%	94.95%	-9.23
Bethesda-Chevy Chase*	89.68%	83.09%	-6.59
Sherwood	95.27%	90.32%	-4.95
Thomas S. Wootton	97.57%	94.93%	-2.65
Col. Zadok Magruder	75.85%	74.74%	-1.11
Richard Montgomery	95.17%	96.51%	1.34
Northwest	91.95%	94.43%	2.48
Poolesville	74.15%	83.33%	9.18
Seneca Valley	82.97%	95.71%	12.74
Gaithersburg	78.83%	93.02%	14.19
Northeast Consortium	81.09%	97.75%	16.65
Damascus*	82.05%	98.84%	16.79
Watkins Mill	71.91%	91.45%	19.53
Rockville	85.29%	105.30%	20.01
Walt Whitman	98.50%	119.38%	20.88
Walter Johnson	78.55%	99.51%	20.96
Quince Orchard	74.02%	95.16%	21.14
Downcounty Consortium	77.15%	104.74%	27.59

Figure 2.2.36 *Table of Change in Middle School Utilization by Cluster, 2010 - 2020*

* Denotes clusters that have built new elementary school(s) since 2010

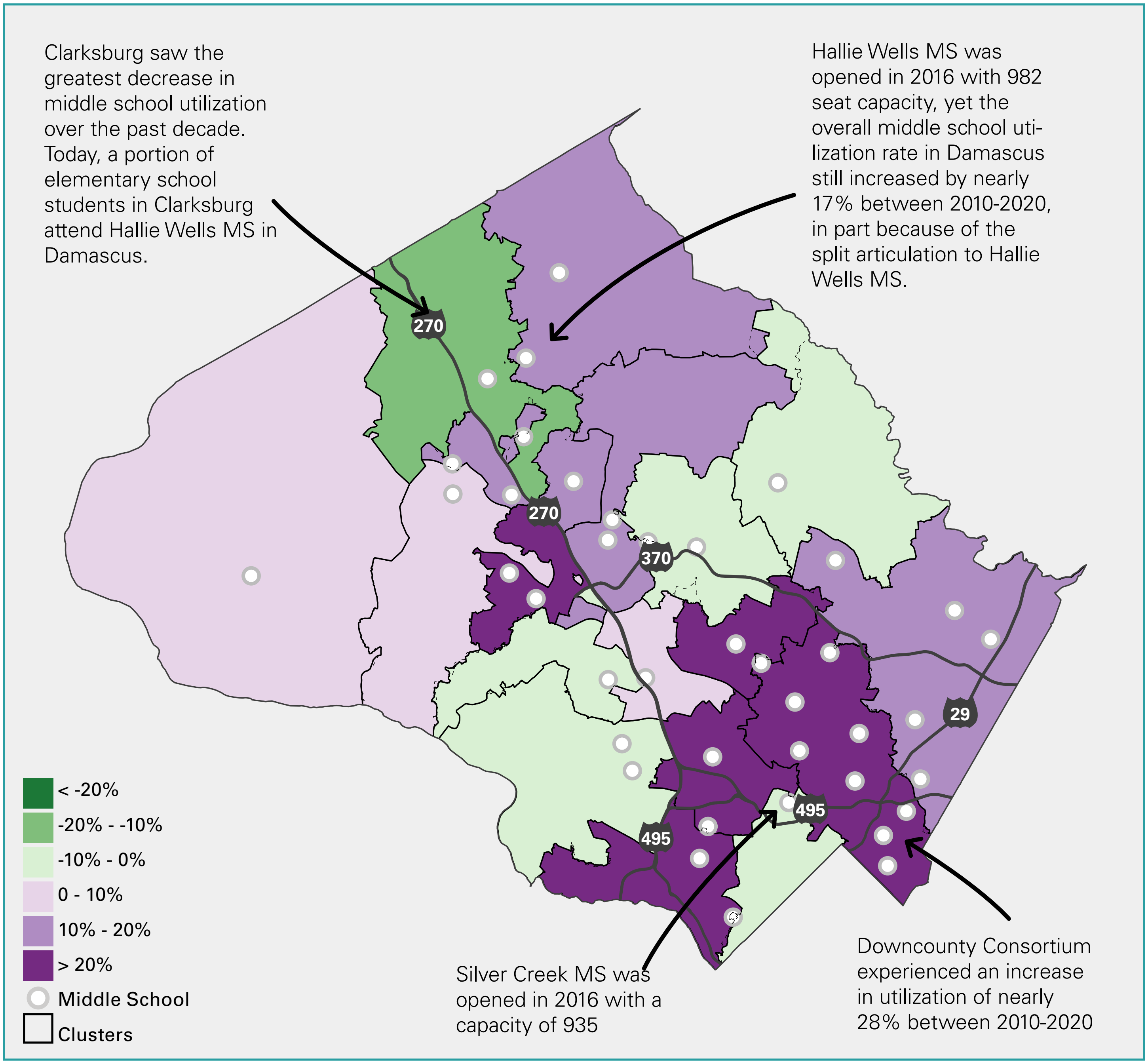


Figure 2.2.37 *Map of Change in Middle School Utilization by Cluster or Consortium, 2010-2020*

The map above shows changes in utilization at the middle school level, by cluster or consortium. The clusters shaded with green tones saw overall middle school utilization rates go down since 2010. Clusters shaded in purple tones saw overall middle school utilization rates go up since 2010. The darkest purple color indicates clusters where utilization rates rose by over 20 percentage points in the last decade. The steepest increase was in the Downcounty Consortium, where middle school utilization increased by 27.6%.

Change in High School Utilization by Cluster or Consortium, 2010 - 2020

At the high school level, the Wootton cluster experienced the greatest decrease in utilization over the past decade, from roughly 118% to 99%. It is among eight high school clusters or consortia that experienced net decreases in utilization over the past decade. Each of the other seven cases are within the target utilization range today. On the other hand, 11 high school clusters have experienced net increases in utilization rates over the past ten years. Of these eleven cases, eight are now somewhat overutilized, two are highly overutilized, and one remains within the target utilization range.

Over this time period, 13 clusters or consortia have added capacity, but no new schools have been built.

Cluster	Utilization Rate 2009-10	Utilization Rate 2019-20	Change in Utilization Rate
Thomas S. Wootton	118.36%	98.79%	-19.57
Sherwood	105.04%	90.51%	-14.53
Bethesda-Chevy Cluster	105.31%	91.94%	-13.37
Watkins Mill	92.74%	82.02%	-10.72
Col. Zadok Magruder	94.94%	87.58%	-7.36
Northeast Consortium	99.85%	93.93%	-5.92
Seneca Valley	93.94%	92.63%	-1.31
Damascus	88.86%	87.75%	-1.11
Poolesville	100.63%	103.16%	2.53
Gaithersburg	94.87%	98.73%	3.86
Richard Montgomery	104.24%	111.87%	7.63
Walt Whitman	99.47%	109.85%	10.38
Winston Churchill	103.50%	114.55%	11.05
Clarksburg	108.91%	121.53%	12.62
Downcounty Consortium	91.01%	108.20%	17.19
Northwest	96.51%	114.79%	18.27
Rockville	73.47%	93.94%	20.47
Quince Orchard	96.93%	120.60%	23.67
Walter Johnson	93.09%	118.40%	25.31

Figure 2.2.38 *Table of Change in High School Utilization by Cluster or Consortium, 2010-2020*

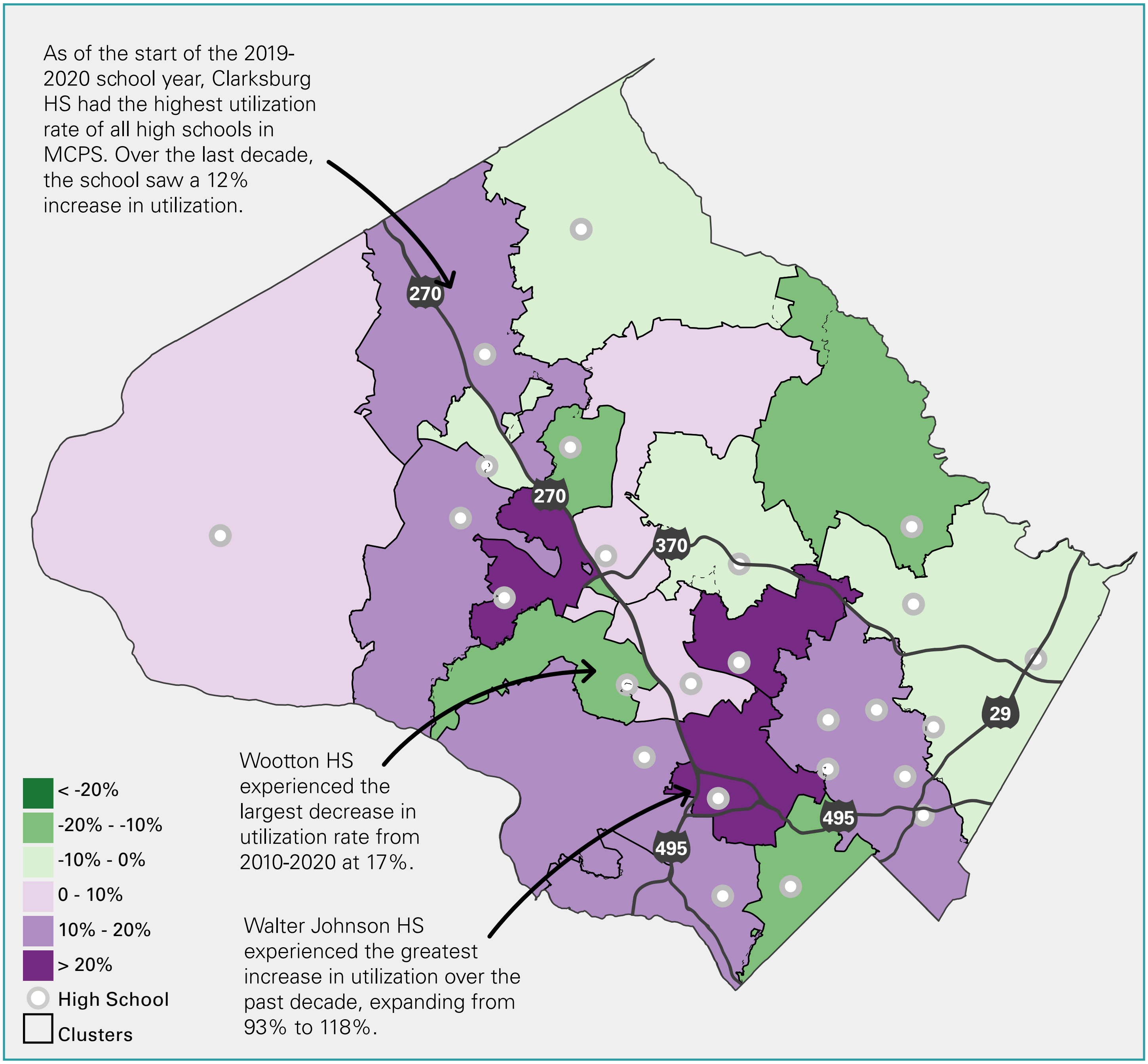


Figure 2.2.39 *Map of Change in High School Utilization By Cluster, 2010-2020*

The map above shows changes in utilization at the high school level. The clusters shaded with green tones saw overall middle school utilization rates go down since 2010. Clusters shaded in purple tones saw overall middle school utilization rates go up since 2010. The darkest purple color indicates clusters where utilization rates rose by over 20 percentage points in the last decade. The steepest increase was in the Downcounty Consortium, where middle school utilization increased by 27.6%.

D.2 Change in Capacity by Cluster or Consortium, 2010-2020

Change in Capacity at the Elementary Level

In the following figure, the x-axis represents cluster level utilization rate, and the y-axis represents the percent change in capacity between 2010 and 2020. The shaded portion of the table highlights schools within the target utilization range (80-100%). At the elementary school level, the Clarksburg cluster represents an outlier, having added substantially more capacity than other clusters, yet it remains above the target utilization range in 2019-2020. Other clusters that added capacity present a range of utilization rates today.

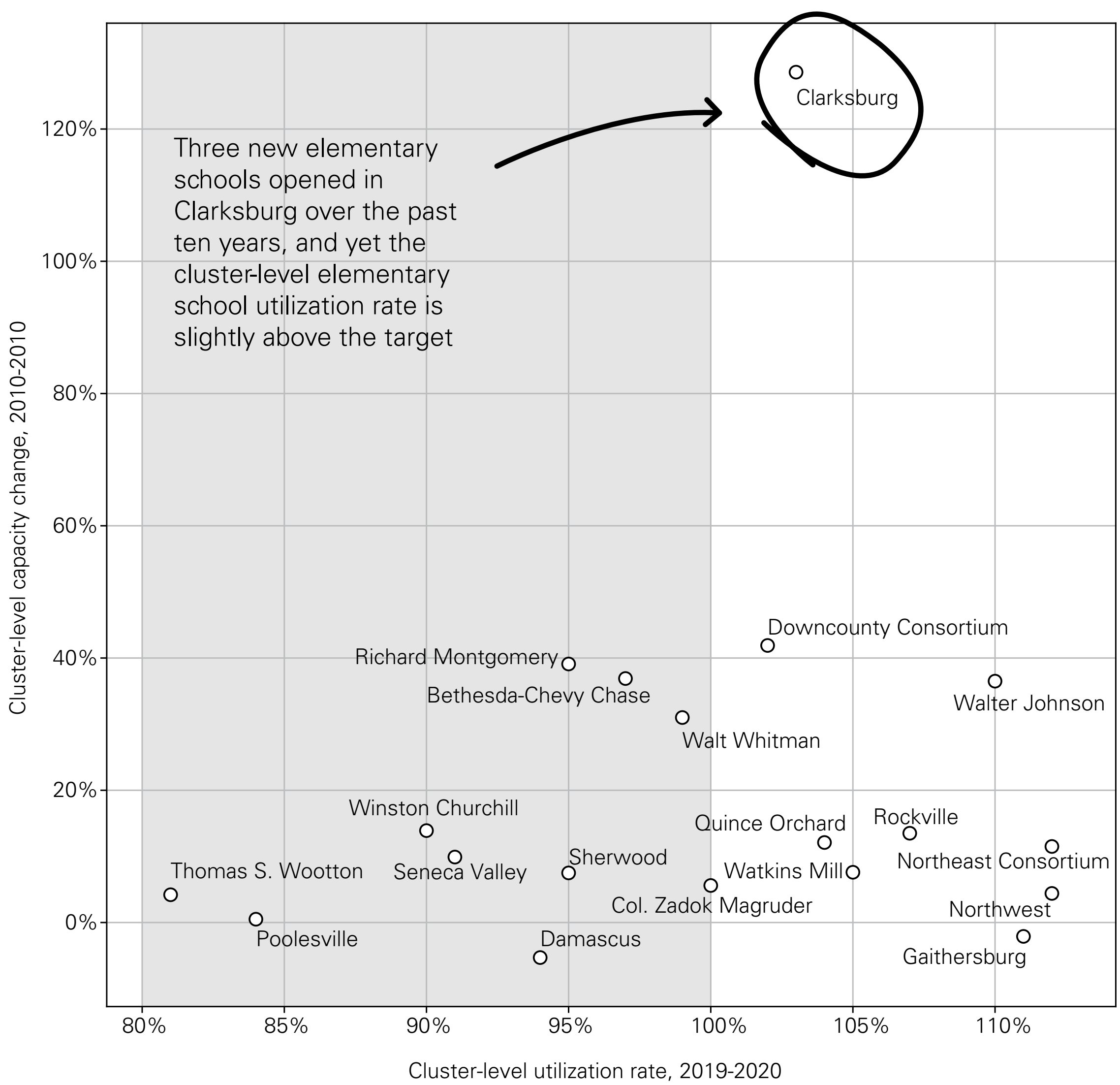


Figure 2.2.40 *Change in Elementary School Capacity (2010-2020) and Current Utilization by Cluster*

Change in Capacity at the Middle School Level

At the middle school level, clusters that have gained the most capacity have also managed to stay within the target utilization range at the cluster level. However the Damascus Cluster, which added over 140% capacity, is approaching the upper limit of this range in 2019-2020. It should be noted that new MS in Damascus (Hallie Wells) was built to offset overutilization in the neighboring Clarksburg cluster, from which students split articulate. Both the most overutilized cluster (Walt Whitman) and most underutilized cluster (Magruder), are among the clusters that added the least amount of capacity (both hovering just above 0% increases).

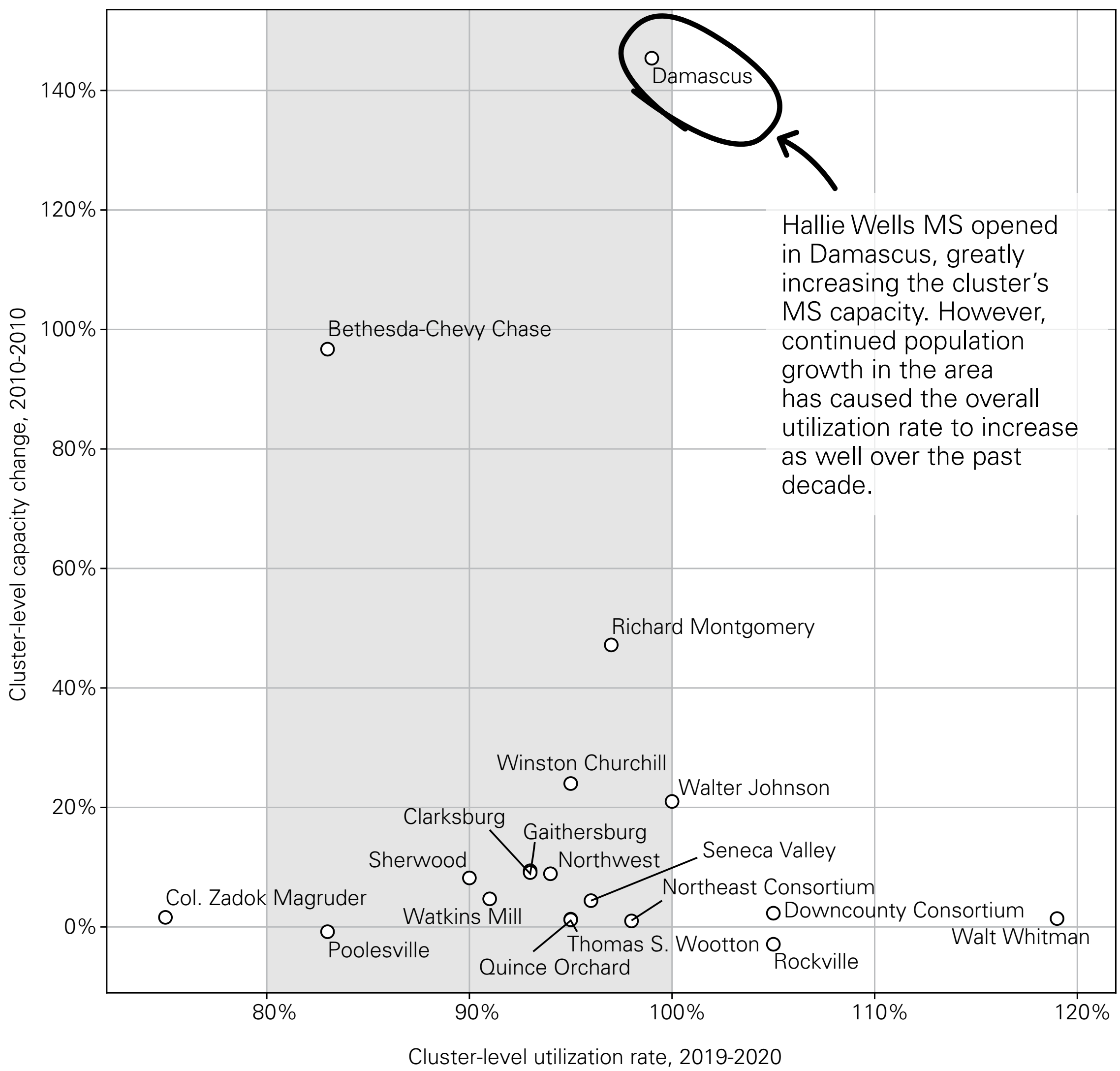


Figure 2.2.41 *Change in Middle School Capacity (2010-2020) and Current Utilization by Cluster*

Change in Capacity at the High School Level

The figure below illustrates the percent change in utilization at each HS cluster in the district. Almost 60% of HS clusters saw a rise in utilization rates in the last decade, with increases ranging from 1% (Damascus and Seneca Valley), to 28% in Rockville.

At the HS level, we see a different spread in the relationships between capacity change and utilization rates. In this case, the Bethesda-Chevy Chase cluster has added the greatest amount of capacity (nearly 50%), and has managed to stay within the target utilization range at the cluster level. Among schools that have added less capacity, there is a mild positive correlation between utilization rate and capacity change, with some of the more overutilized clusters also gaining the greatest capacity during the last decade (including Clarksburg and Richard Montgomery).

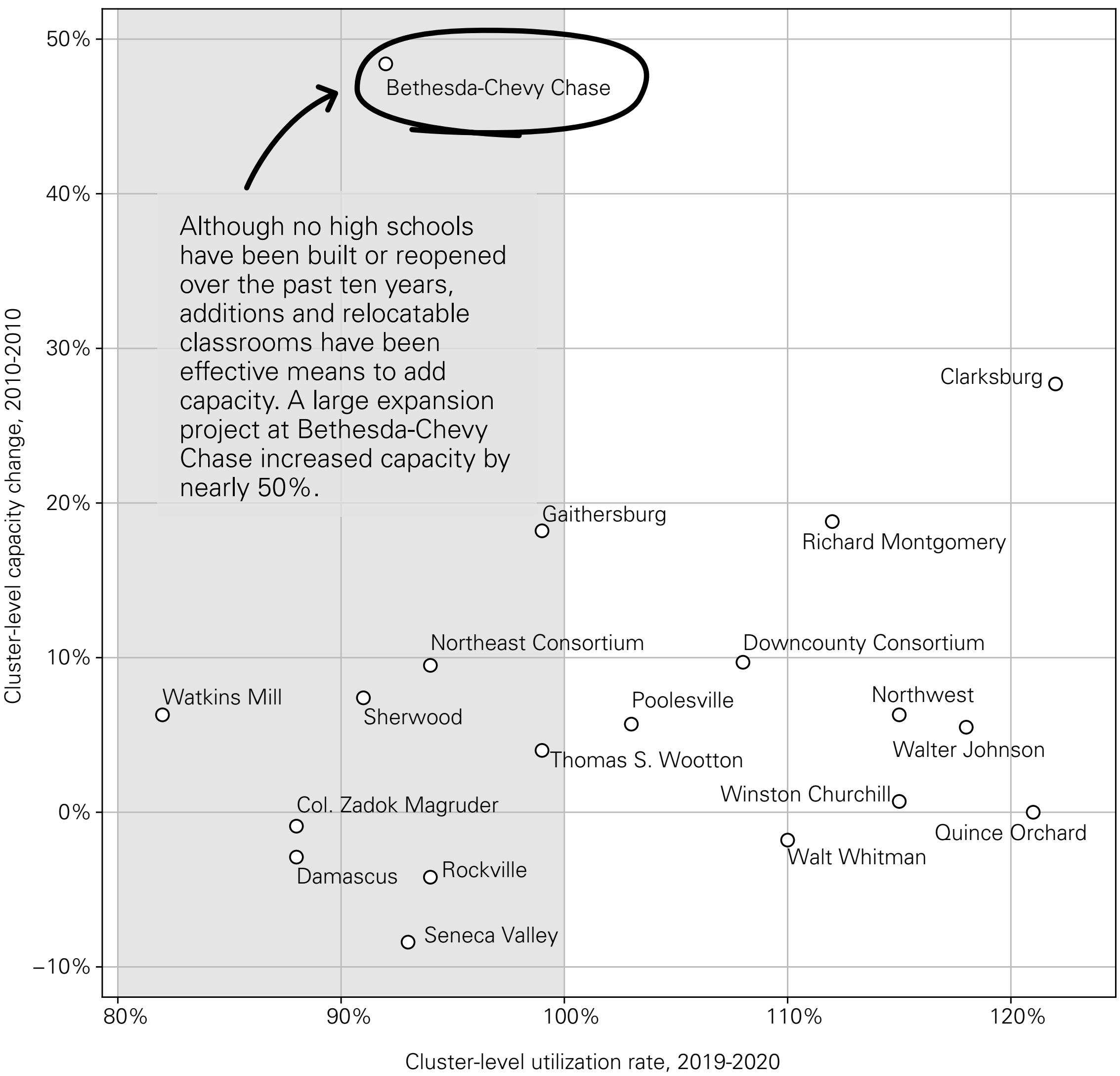


Figure 2.2.42 *Change in High School Capacity (2010-2020) and Current Utilization by Cluster*

2.2 **Data Analysis** Utilization

E. Special Conditions

This set of analyses related to MCPS's unique assignment conditions and program offerings. School choice, magnet programs, and the consortia create unique utilization conditions that require special consideration. In addition, some MCPS attendance areas include particular features, such as island assignments and paired schools. Title I schools require additional support and resources, which makes an understanding of utilization challenge at these schools important. In this section, we consider how these kinds of conditions may impact school utilization rates.

Questions:

Are schools that have island assignments more or less utilized than schools without island assignments?
Are schools with choice and magnet programs more or less utilized than other schools?
How does utilization compare between Title I schools and other schools in the district?
How do schools in the Northeast and Downcounty consortia fare in terms of utilization when compared to the district's other schools and clusters?

Analyses:

E.1 Utilization Rates and Island Assignments
E.2 School Utilization for Choice and Magnet Schools
E.3 Utilization Rates in Consortia
E.4 Other Special Conditions: Paired Schools, Title I

Insights

1. Island assignments are attendance areas that contain non-contiguous geographic areas. Schools with island assignments face the same utilization challenges as non-island assignment schools.

Island assignments may have historically helped to resolve utilization issues. However, today they are no longer yielding better utilization rates than other typical attendance areas.

2. Some attendance areas separate kindergarten through second grade into one school building and third to fifth grade into another school building – this is referred to as "paired schools." The average utilization rate for paired schools is slightly below the typical elementary school average utilization rate.

Counting each paired school individually, the average utilization rate is within the target utilization range, at 98.79%. If sets of paired schools are counted as single elementary schools (where their total capacity and total enrollment is used to calculate utilization), the average utilization rate remains within the target range at 98.28%. By comparison, the districtwide ES average is 102%.

3. Through choice and magnet programs, students may attend a school other than their base school through an application or lottery process. Special program schools are utilized at comparatively similar rates to non-special program schools, with the exception of schools with Spanish Immersion (SI) programs, which tend to be overutilized.

All three SI elementary schools are overutilized.

- One of the SI schools is somewhat overutilized and two of the SI schools are highly overutilized. Approximately 20% - 45% of these schools' students come from outside the school's attendance areas.

4. Title I is a statewide program that directs support to identified elementary schools impacted by poverty. Title I schools are on average slightly more overutilized than other schools.

There are 23 Title I elementary schools in MCPS. The average utilization rate of Title I schools is 108%, compared to 102% for non-Title I schools.

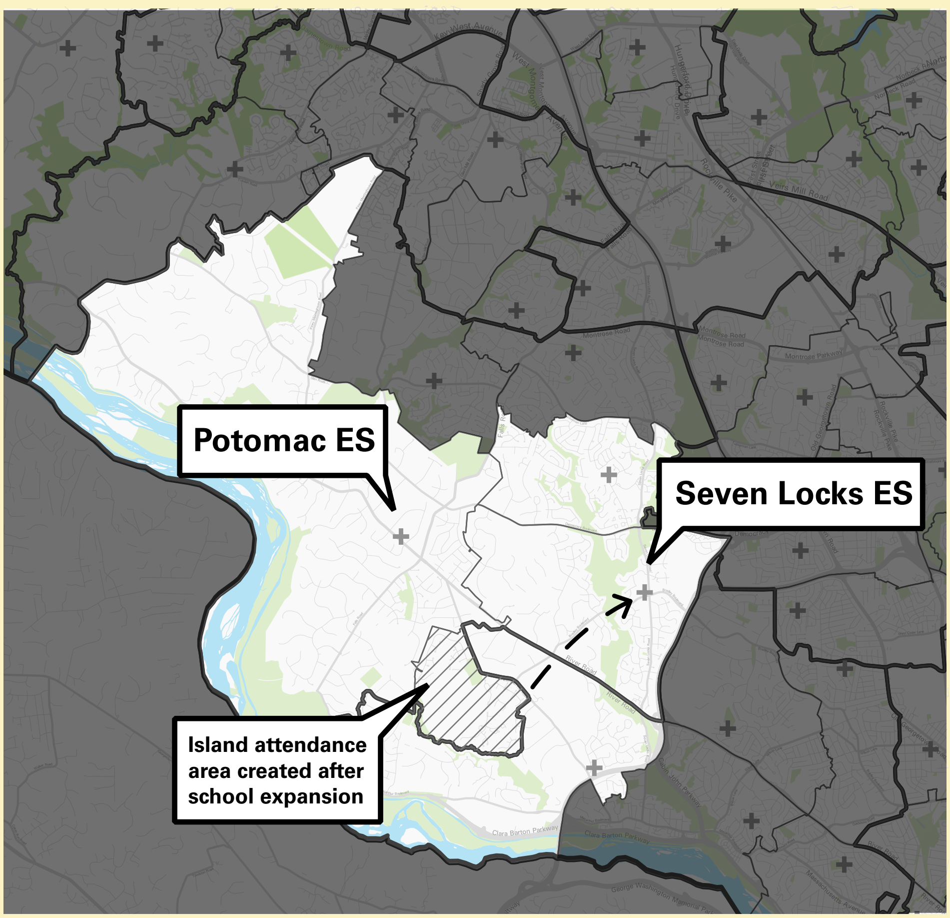
5. The Downcounty Consortium (DCC) and Northeast Consortium (NEC) face greater issues of overutilization across all levels, as compared to clusters across the district.

- At the elementary school level, schools in the consortia have an average utilization rate of 107%, as compared to an average of 101% among ES outside of consortia.
- Total utilization rate for middle schools within the DCC and NEC is 102%, compared to an average of 94% among MS outside of the consortia.
- Consortia high schools have an average utilization rate of roughly 103%, as compared to an average of 102% among high schools outside of the consortia.

In this set of analyses, we look at a range of special conditions in school assignment and attendance areas, to better understand how utilization rates are impacted by these conditions.

E.1 Special Conditions: Utilization Rates and Island Assignments

Island assignments are attendance areas that include non-contiguous areas in their geographies. Attendance areas have historically included islands for a number of reasons, including to balance school utilization. There are 36 elementary schools, 15 middle schools, and seven high schools that have island assignments. Island assignments are no longer created very frequently. There has been one new island assignment (Seven Locks ES in Winston Churchill) created in the last 10 years, and one other island assignment (Rosemary Hills in Bethesda-Chevy Chase) that was modified in the last 10 years. Seven Locks ES is used as an illustrative example below.



A modernization project was completed for Seven Locks ES in 2012, increasing the capacity from 251 to 410 students.

A boundary change followed to reassign some students from Potomac ES to Seven Locks to balance utilization at each school.

School	Utilization Rate
Seven Locks ES	
2010	104%
2015 (after reassignment & expansion)	94%
2020	100%
Potomac ES	
2010	133%
2015 (after reassignment)	112%
2020	88%

☐ Cluster boundaries ☐ School attendance areas + Elementary school

Figure 2.2.43 *Island Assignment Case Study (Seven Locks ES, Winston Churchill Cluster)*

Currently, schools with island assignments have similar utilization rates, albeit slightly less utilized rates, to schools without island assignments:

- Island assignment elementary schools have an average utilization rate of 101.5%, and non-island assignment elementary schools have an average utilization rate of 103.2%
- Island assignment middle schools have an average utilization rate of 93.1%, and non-island assignment middle schools have an average utilization rate of 96.6%
- Island assignment high schools have an average utilization rate of 98.2%, and non-island assignment high schools have an average utilization rate of 102.6%

Appendix B10: Table: Island Assignment Schools, Utilization Rates, and Number of Non-Contiguous Areas on page 472 has a table for all island assignment schools, with their utilization rates and the number of non-contiguous areas that are part of the attendance area. The maps on the following pages show the island assignments by attendance area and utilization rate.

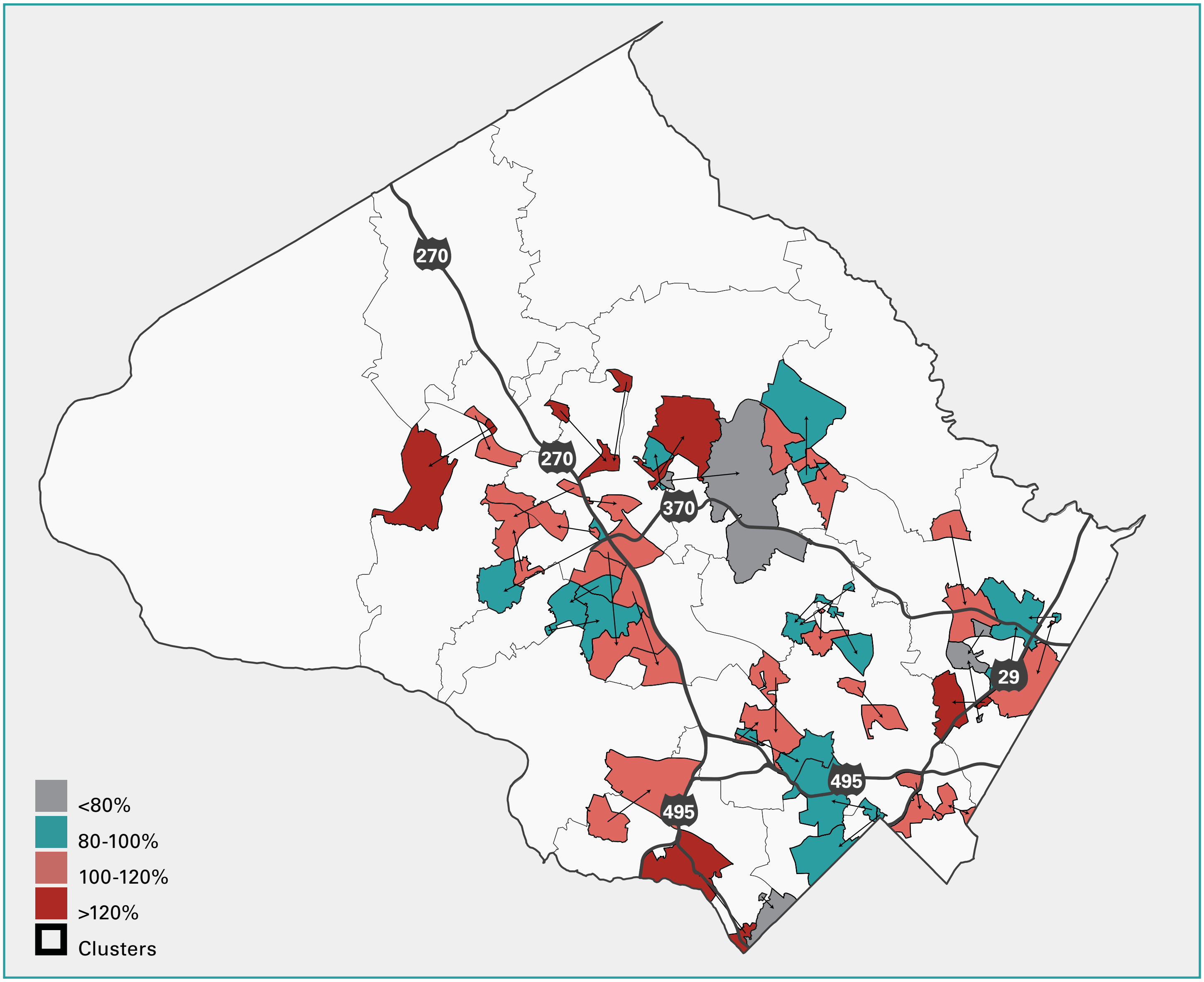


Figure 2.2.44 *Map of Elementary School Island Assignments*

Of the 33 elementary schools with island assignment areas, 12 have island areas with less than 10% of total current students., while 7 schools have island areas that are home to less than 5% of total students. These schools are highlighted in the map above—with arrows illustrating the attendance area with which the island assignment corresponds. Island assignments are discussed further in the **Diversity** and **Proximity** sections of this report.

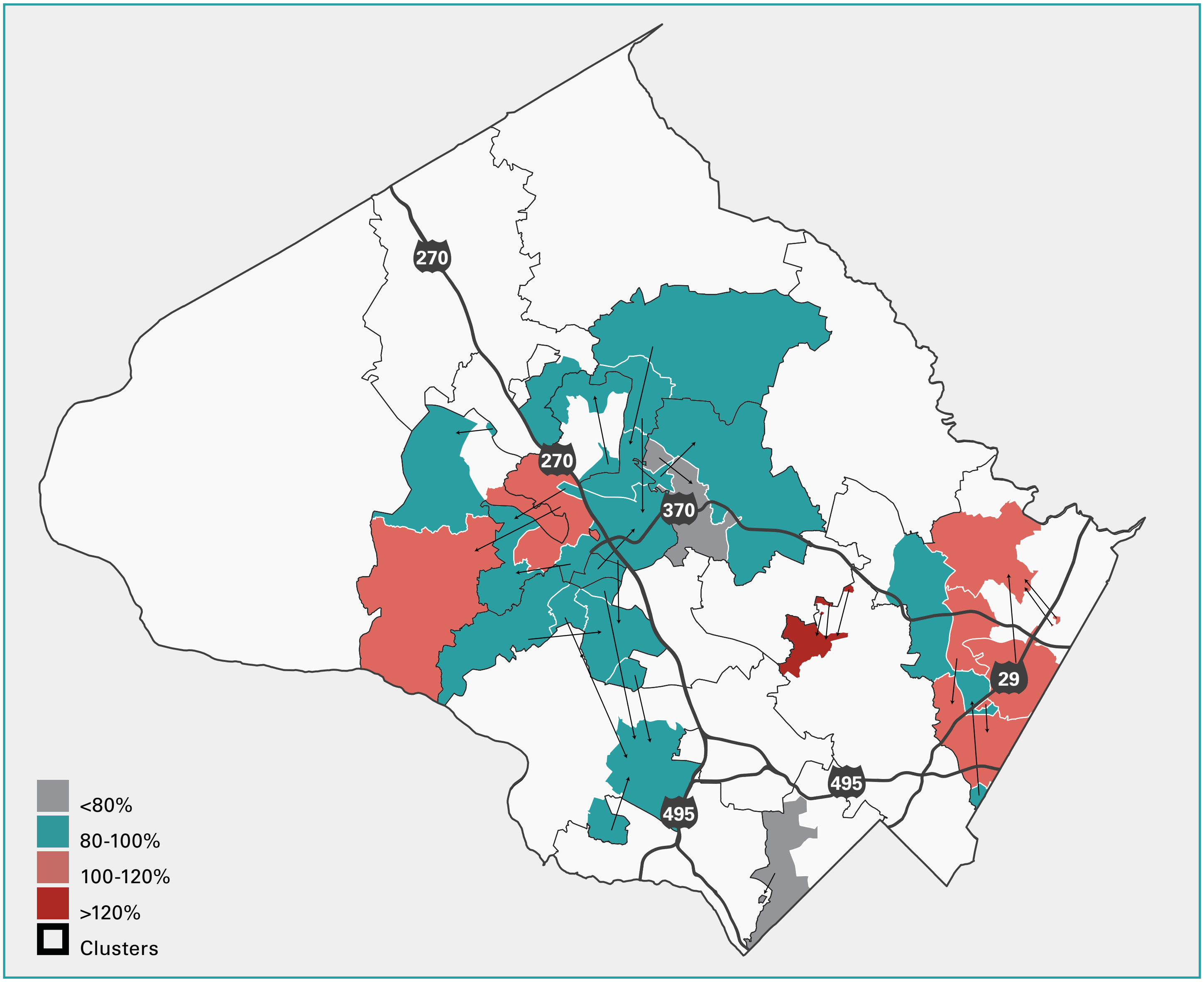


Figure 2.2.45 *Map of Middle School Island Assignments*

This map shows middle school island assignments, and their utilization rates. The majority of these attendance areas fall in the target utilization range, which is consistent with districtwide trends.

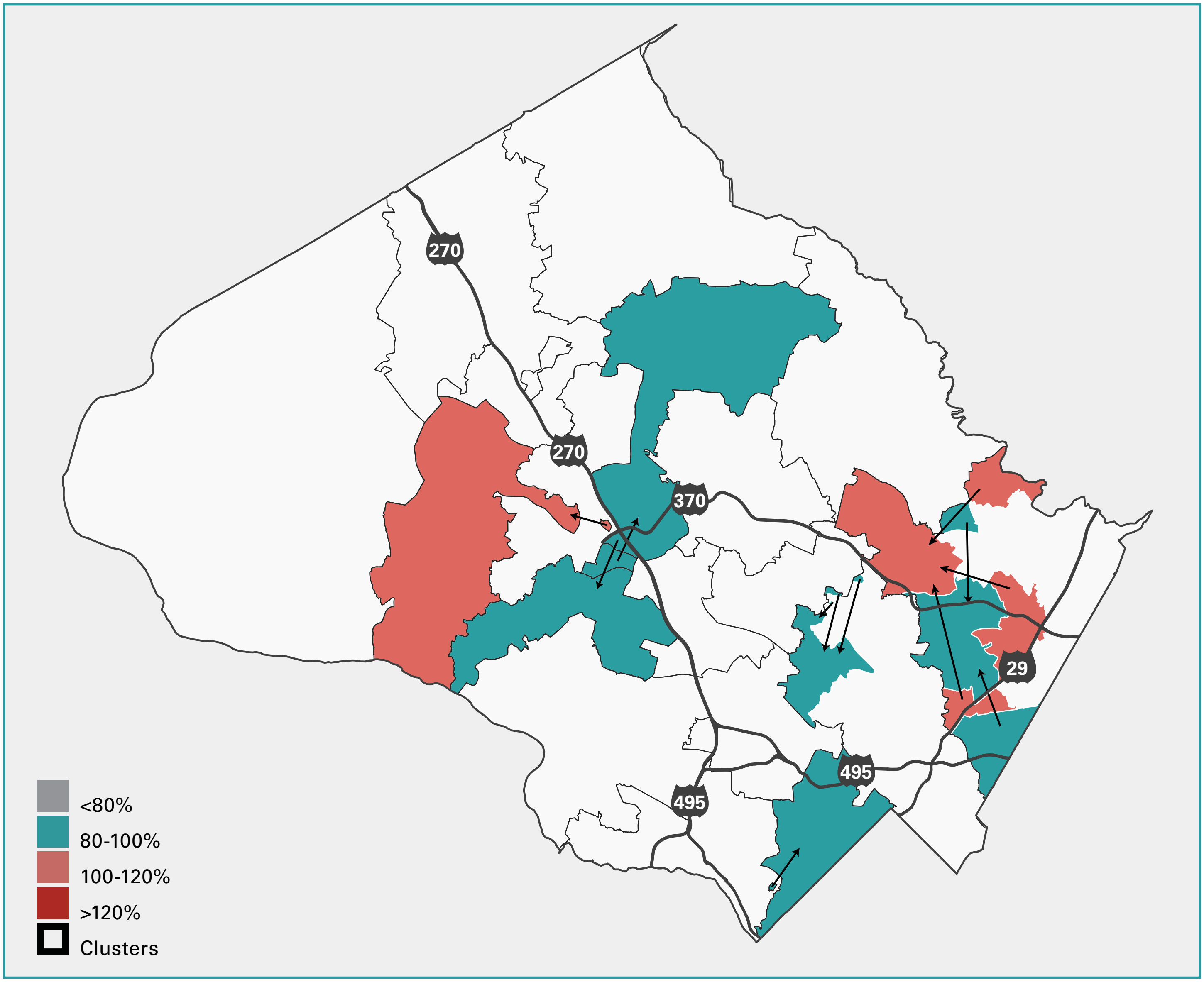


Figure 2.2.46 *Map of High School Island Assignments*

This map shows high school island assignments, and their utilization rates. The majority of these attendance areas fall in the target utilization range, meaning these assignment areas have a lower instance of overutilization than high schools tend to have districtwide.

E.2 Special Conditions: School Utilization for Choice and Magnet schools

While the majority of students in MCPS attend their base school, roughly 7% of students attend a school in a different attendance area. The majority of these students opt to attend one of the various special programs offered at schools across grade levels throughout the district.

At the elementary school level there are four types of special program schools, and 17 schools in all:

- Spanish Immersion (3)
- Center for Enriched Studies (9)
- Chinese Immersion (2)
- French Immersion (2)
- Primary Magnet (1)

The Spanish Immersion programs are somewhat or highly overutilized, with approximately 20% - 45% of the schools' students coming from outside the attendance areas. The Center for Enriched Studies schools include one underutilized, three within the target range, three somewhat overutilized and two highly overutilized, with 18% - 35% of students coming from outside the attendance areas. The Chinese Immersion programs are within the target range, with 6% and 22% of the students coming from outside the attendance area. One of the two French Immersion programs is within the target range with 54% of students coming from outside the attendance area, while the other is somewhat overutilized (102%) with 39% of students coming from outside the attendance area.

At the middle school level, there are seven types of special programs and 11 schools in all, including one underutilized, four within the target range, four somewhat overutilized and two highly overutilized. The percentages coming from outside the attendance areas ranges from approximately 7% to 20%.

At the high school level, there are three types of special programs and seven schools in all, including two within the target range and five somewhat overutilized. The percentages coming from outside the attendance areas ranges from approximately 2% to 21%, with Poolesville being an outlier at approximately 52%.

In general, there is a weak correlation between the percentage of students attending a school who do not live in that school's attendance area and the utilization rate of that school. Of the 35 total special program schools with choice programs, 57% are somewhat or highly overutilized. This is consistent with the total percentage of non-special program schools that are somewhat or highly overutilized districtwide.

More detailed information about special program schools can be found in **Appendix B11: Table: Special Program Schools on page 474**.

E.3 Special Conditions: Consortia

There are a total of 44 schools within DCC and 23 in NEC. Of the total elementary schools within the two consortia, about 61% are overutilized at an average rate of 107%. Compared to the districtwide average, this indicates that elementary schools in consortia are about 6% more utilized than the average elementary school not within the consortia (approximately 101%).

Similarly, the total utilization rate for middle schools within the consortia is 102%, compared to schools in the rest of the district at 94%.

High schools in the consortia have an average utilization rate of 103% compared to non-consortia high schools, which have an average utilization rate of 102%.

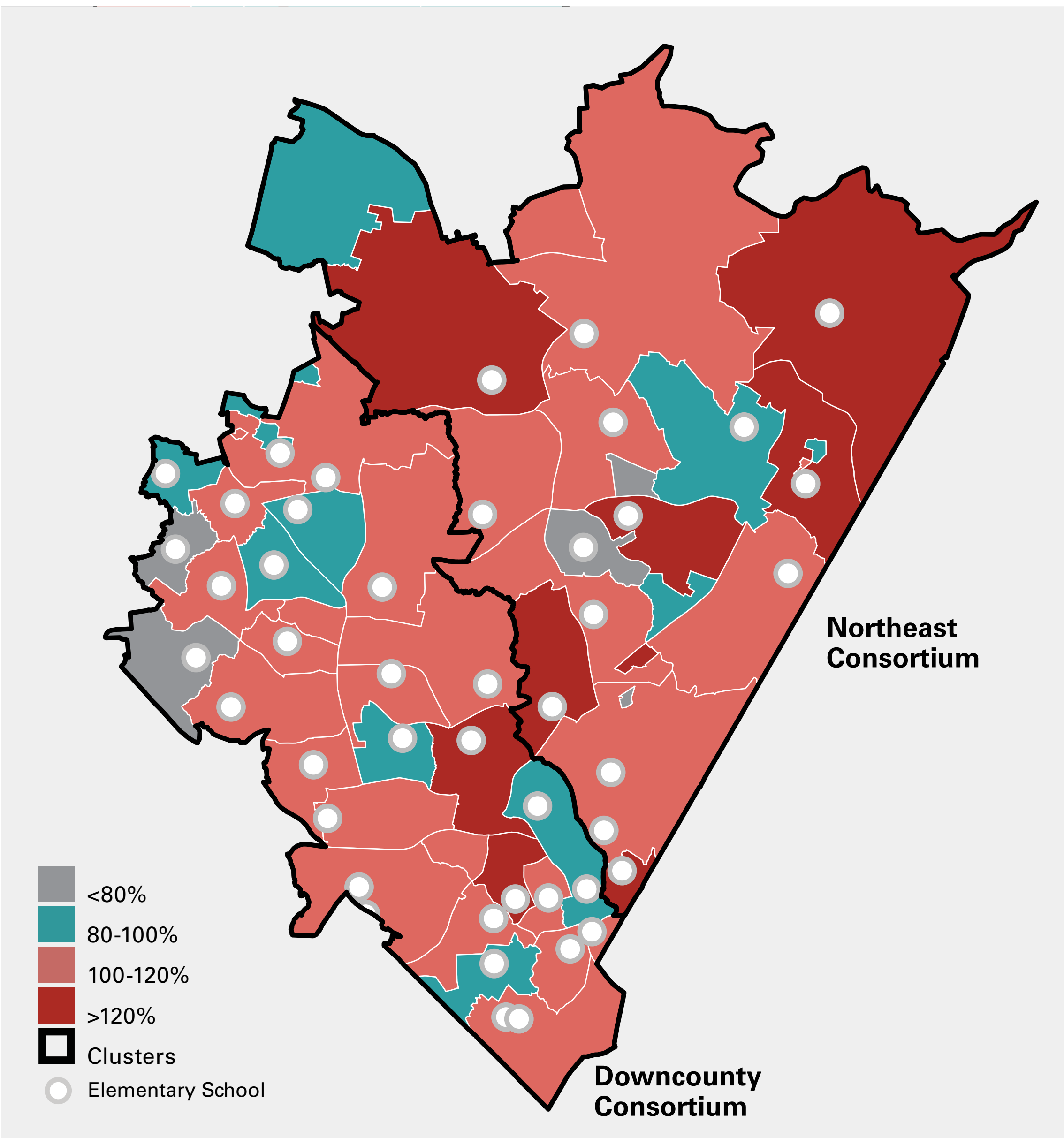


Figure 2.2.47 *Map of Elementary School Utilization in Consortia*

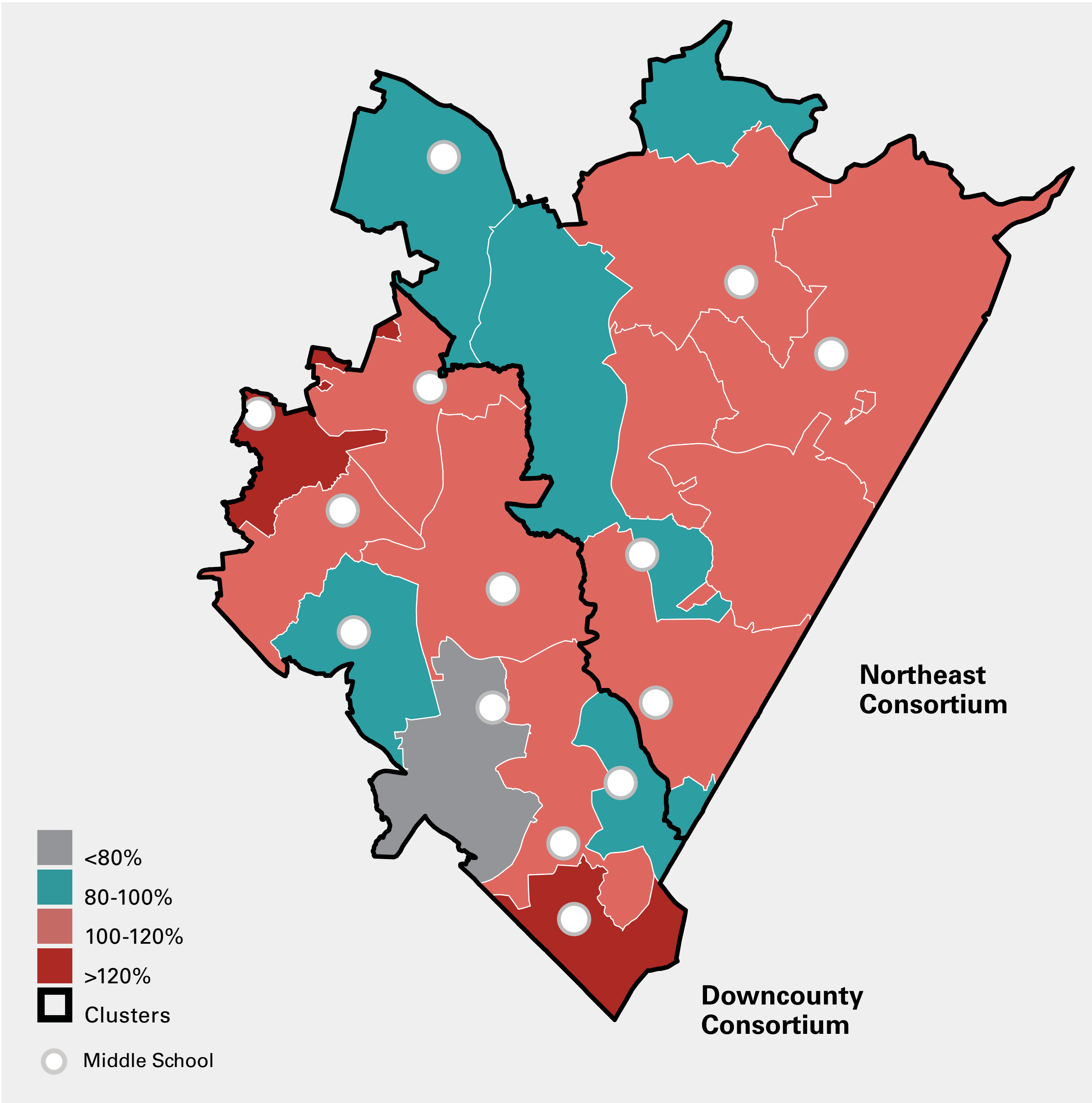


Figure 2.2.48 *Map of Middle School Utilization in Consortia*

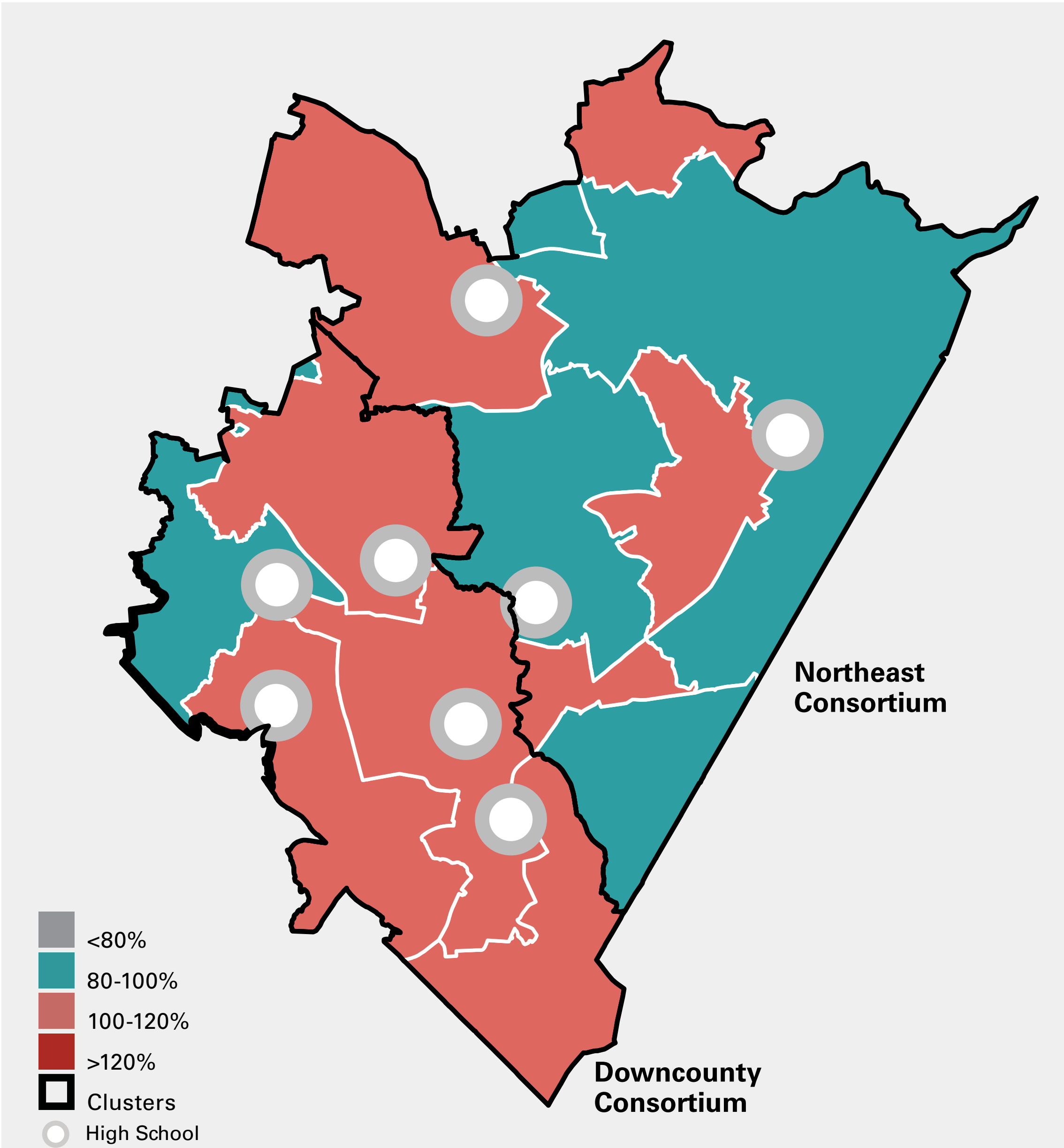


Figure 2.2.49 *Map of High School Utilization in Consortia*

E.4 Other Special Conditions: Paired Schools, Title I

Title 1 Schools:

There are 28 Title 1 schools with an average capacity of 591 seats per school. On an average Title 1 schools have a utilization rate of 108% compared to Non-Title I school utilization rate of 101.9%.[1]

Paired Schools:

There are 13 individual schools which make of seven paired school combinations (one school, Rosemary Hills ES, is paired with both Chevy Chase ES and North Chevy Chase ES. Of the 13 individual schools, four are somewhat overutilized and one is highly overutilized, while seven are within the utilization rate and one is underutilized. Even if each paired school is counted as one (where their total capacity and total enrollment is used to calculate utilization), four pairs are somewhat overutilized and three pairs are within the target utilization range (see map in **Appendix B12: Map: Paired Schools on page 476**).

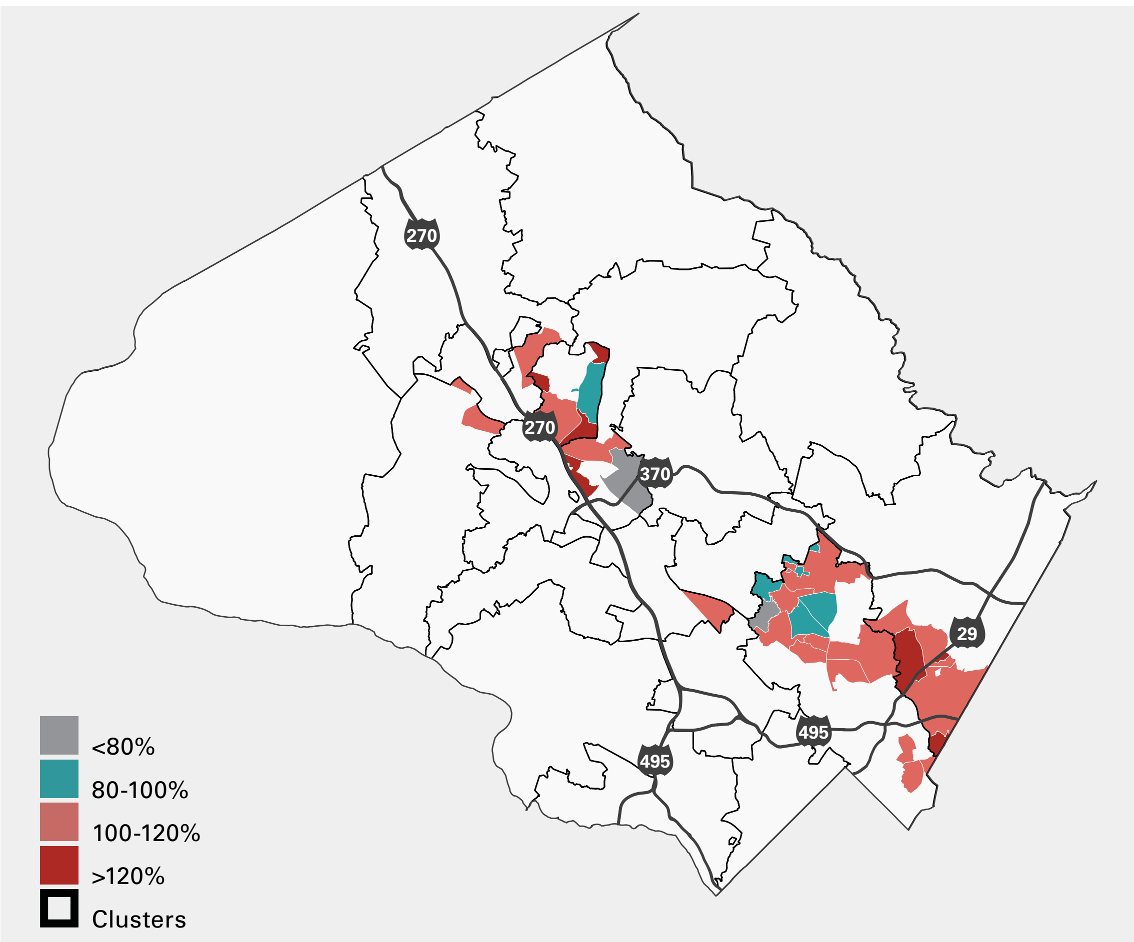


Figure 2.2.50 *Map of Utilization in Title I Schools*

1 For more information about the Division of Title I Programs, see: https://www.montgomeryschoolsmd.org/departments/dtecps/title1/

Further Inquiry

These analyses of utilization reveal several initial insights about the current conditions of school boundaries and facilities in MCPS, which have been highlighted over the course of the chapter. There are many possible directions for further inquiry, including but certainly not limited to the list below.

Directions for further inquiry:

- Further analysis of school facility and site size as compared to utilization
- Analysis of developable land and need for capital expansion
- Classification and analysis of schools nearing overutilization and high overutilization (i.e. schools in high growth areas within a particular number of percentage points away from 100% and 120%)
- Analysis of changing utilization rates over time, including comparisons to past enrollment projections
- Analysis of building age and school capacity and utilization

In addition to the directions above, there is ample opportunity for analysis on the interrelatedness of the key lenses in this report: utilization, diversity, proximity, and assignment stability. Further stages of this Districtwide Boundary Analysis will focus on interrelatedness.

2.3 Data Analysis
Diversity

2.3 **Data Analysis** Diversity Figures

What does diversity mean in this analysis?

This analysis looks at both socio-economic diversity and demographic diversity in MCPS.

For the purposes of this analysis, the key measures of diversity in MCPS include Free and Reduced Meals System eligibility (FARMS) and Ever-FARMS rates (a proxy for socio-economic status), English for Speakers of Other Languages (ESOL), and student race and ethnicity.

This analysis compares student diversity at various scales of analysis: the school level, the cluster/consortium level, and finally, districtwide.

Diversity by the Numbers

- Across MCPS, the overall FARMS rate is 34%. The overall eligibility rate for students who have ever been eligible for Free and Reduced Meals (Ever-FARMS) is 46%.
- About 1 in 6 students in MCPS receive services to help improve their English-language proficiency (ESOL), and 36% of high school students have received ESOL services at some point during their time in MCPS.
- Overall, the student body in MCPS is approximately 33% Hispanic, 27% White, 21% Black, 14% Asian, and a combined 5% "Other" (Pacific Islander, Native American, or multi-racial).

Section Overview

This set of analyses is divided into four subsections:

- Distribution: Diversity Across the District
- Adjacencies: Comparing Nearest Schools to Each Other
- Feeder Patterns: Comparing Schools Across School Levels
- Special Conditions: Island Assignments and Special Programs

Each subsection opens with a set of key insights.

Diversity at a Glance

What does diversity mean in this analysis?

Diversity is one of MCPS's considerations for educational facilities planning and boundary alignment. Diversity in a student body refers to differences between students. While diversity is complex and carries many meanings, for the purposes of this analysis, we focus on the three primary markers of diversity that MCPS draws upon in facilities planning: race and ethnicity, socio-economic background, and English language proficiency. MCPS values diversity in schools, and seeks to support schools that reflect the diversity of the communities they are in. Two of the many ways that MCPS assesses implications on its resources is by looking more closely at socio-economic diversity factors, such as FARMS, and student language proficiency, such as ESOL—both of which have implications for resource distribution, staffing, and administrative support at MCPS schools. This analysis will look at both of these factors in greater depth.

MCPS has grown increasingly diverse in recent decades as the county's overall population has diversified.[1] MCPS has various policies and programs in place to advance socio-economic and racial equity in the school system. In some cases, these programs follow state standards and funding (as in Title I schools). In other cases, these programs are particular to MCPS, such as the district's Equity Initiatives Unit.[2] Programs and policies such as these are described in this chapter wherever relevant to our analysis.

Diversity: Broader than this Analysis

While this analysis focuses on the key measures of diversity described in this chapter, we recognize that diversity is much broader and more complex than the measures discussed in this analysis. To MCPS students, staff, and families, diversity includes other factors such as gender, sexual orientation, religion, learning and ability differences, and more. For the purposes of this interim report analysis, we focus on the key measures that most impact MCPS facilities planning and programmatic needs, and for which there is data readily available at the school system and school level. For further reading and resources about diversity in MCPS and education, please see the **Further Reading section on page 406**.

1 See Introduction Section, page 38, for more detail on demographic changes in student enrollment.

2 See https://www.montgomeryschoolsmd.org/departments/clusteradmin/equity/

MCPS conducts annual reviews of diversity at each school, as mandated by Policy ACD: Integrated Quality Education.[1] As part of this annual review, the superintendent presents a diversity profile of each school to the BOE. These diversity profiles guide BOE decision-making about programmatic needs and administrative support at the school level. A fuller understanding of diversity across different scales—as presented in this section of the report—can enrich MCPS's understanding of diversity in school clusters, groups of adjacent schools, and the district as a whole.

Diversity in Context

This analysis represents a snapshot in time of diversity across the school system today. For more context about changes in diversity over time (in MCPS and districtwide) and the distribution of racial and socio-economic groups throughout Montgomery County, see **Montgomery County Context on page 38.** For a discussion of changes in MCPS policy over time with regards to racial diversity and integration, see **Policy History on page 54**.

1 "Policy ACD: Quality Integrated Education." 1993. Board of Education of Montgomery County. https://www.montgomeryschoolsmd.org/departments/policy/pdf/acd.pdf

Diversity Methodology

Measures of Diversity

This section examines diversity in MCPS using the following three markers of difference:

1. **Student race and ethnicity** measured by group clustering and the dissimilarity index.

2. **Socio-economic status** measured by the Free & Reduced Meals eligibility rate (FARMS) and Ever-FARMS rate, as well as the dissimilarity index.

3. **English language proficiency** measured by the rate of students receiving English for Speakers of Other Languages (ESOL) services and the Ever-ESOL rate.

In order to better understand these three aspects of diversity, we conducted four stages of analysis.

First, we looked at the **distribution** of different diversity indicators across the school district. This laid the context for deeper understanding of the key measures of diversity, by understanding their overall distribution across MCPS.

Next, we analyzed **adjacency** of schools and students of similar or different socio-economic and racial/ethnic backgrounds.

We then turned to **feeder patterns** between schools to better understand how they affect diversity at different school levels.

Finally, we analyzed the diversity of the student body by **special conditions** in MCPS, including consortia, Title I schools, and focus schools.

As in other chapters of this report, our focus is on groups of nearest schools and countywide trends, as opposed to focusing within individual schools. To facilitate closer inspection of schools across MCPS, we have included detailed maps of school locations by geographic zone in the Appendix. Please see Geographic Zones in **Appendix B1: Geographic Zones on page 428.**

Unless otherwise mentioned, data on racial and ethnic diversity, FARMS, Ever-FARMS, and ESOL rates are based on student enrollment data for the 2019-2020 school year.

Defining Diversity Scales of Analysis

How do we define scales of analysis for diversity? Researchers use many different approaches for thinking about diversity and segregation.[1]

Measuring diversity often requires establishing a scale of analysis and comparing how dissimilar or similar schools, clusters, or programs, are from that standard. Throughout this section, we frequently use the cluster as our scale of analysis. For much of Subsection 2, which deals with adjacencies, we also use the three nearest schools (even across cluster boundaries) as a measure of how dissimilar or similar a school is from its nearby schools. Throughout this section, we are explicit about which scale of analysis is used and why it was chosen.

1 The U.S. Census Bureau in one report examining racial and ethnic residential segregation defined as many as seventeen different measures. We use two of these in this section. For more information see: U.S. Census Bureau. Racial and Ethnic Residential Segregation in the United States: 1980-2000. "Appendix B: Measures of Residential Segregation." August 2002. https://www.census.gov/prod/2002pubs/censr-3.pdf

Key Data Sources

2019-20 Student level data (unless otherwise stated), existing and historical school boundaries, and school level data provided by MCPS

2021-2026 CIP Plan (Superintendent's Recommended FY2021 Capital Budget and the FY 2021-2026 Capital Improvements Program)

Fiscal Year 2016 Educational Facilities Master Plan and Amendments to the FY 2015-2020 Capital Improvements Program

Superintendent's Recommended FY 2011 Capital Budget and the FY 2011-2016 Capital Improvements Program

U.S. Census Bureau

MCPS Division of Capital Planning

Analyses Conducted

A. Distribution: Diversity Across the District

B. Adjacencies: Comparing Nearest Schools to Each Other

C. Feeder Patterns: Comparing Schools across School Levels

D. Special Conditions: Island Assignments and Special Programs

2.3 Data Analysis
Diversity

A. Distribution: Diversity Across the District

In this set of analyses, we examine three kinds of diversity at the scale of the school district as a whole. We present general findings about the distribution of racial demographics, FARMS/Ever-FARMS rates, and ESOL rates across the district.

Questions:

What are the racial demographics of MCPS, and how are racial groups distributed across the school system as a whole?
What is the overall distribution of FARMS and Ever-FARMS students in MCPS?
How is English language proficiency distributed across the school district?
What are some of the ways these measures of diversity relate to one another?

Analyses:

A.1 Distribution of Racial Demographics
A.2 Distribution of FARMS and Ever-FARMS Students
A.3 Distribution of ESOL Students

Insights

1. In this set of analyses, one measure we use to understand the distribution of diversity across MCPS is race/ethnicity. It is informative to look at the representation of the major racial/ethnic groups at the district and school level.

At the district and school level, a certain racial group may represent a majority of students, or an absolute majority of students (50% or more of the student body):

No single racial/ethnic group represents a majority of students in MCPS.

- Three of the four major racial/ethnic groups in MCPS make up over 20% of the student population, and none makes up more than a third of the student body.

42% of all MCPS schools have a student body where one racial or ethnic group makes up an absolute majority of students.

- At these 83 schools, one racial group represents an absolute majority (50% or more) of all students. 19 of these schools have one racial group that represents more than two thirds of students at that school.

The large majority of schools in MCPS (79%) have two or three racial/ethnic groups each representing more than 15% of those schools' students.

- These schools most closely resemble the overall student body in terms of racial and ethnic demographics. Twenty-six schools (13%) have only one racial or ethnic group representing more than 15% of the student body, with all other groups each representing less than 15%.

2. Approximately one in three students in MCPS is currently enrolled in the Free and Reduced-price Meals System (FARMS). An additional 12% of the student body has previously been FARMS eligible (Ever-FARMS).

FARMS and Ever-FARMS are both measures of socio-economic diversity. Ever-FARMS captures all students who have ever enrolled in FARMS. Students are less likely to be enrolled in FARMS as they advance through school levels:

- 37% of elementary school students are enrolled in FARMS, and 44% have ever been enrolled in FARMS.
- 34% of middle school students are enrolled in FARMS, and 48% have ever been enrolled in FARMS.
- 27% of high school students are enrolled in FARMS, although 46% have ever been enrolled in FARMS.

3. English for Speakers of Other Languages (ESOL) allows us to understand the proportion of students at a school or in the district whose first language is not English, and who receive support for English language development at school. ESOL rates decline greatly across school levels.

- The ESOL rate is 25% at the elementary school level, and decreases to 11% at both the middle and high school levels.
- The sharpest decline in ESOL rates is between 3rd and 6th grades, where the average drops from 27% to 12% districtwide.

4. In this first set of analyses, we begin to see some of the ways that these three measures of diversity exist in relationship to one another. Both FARMS and ESOL rates correlate strongly with racial and ethnic demographics:

Hispanic and Black students make up a disproportionate number of FARMS students.

- Black and Hispanic students make up a combined 88% of FARMS students, despite making up only 54% of the total student population. Hispanic students account for the majority of this group, at 57%. This points to a strong correlation between racial and ethnic identity and FARMS programming needs in MCPS.

73% of students enrolled in the ESOL program are Hispanic.

- This points to a strong correlation between racial and ethnic identity and language-related programming needs in MCPS.

A.1 Distribution of Racial and Ethnic Demographics

MCPS maintains records of students' self-identified race and ethnicity to better understand who the school system is serving. It is widely acknowledged in the scientific community that race, as we understand it today, is socially constructed. However, the resulting lived experience and historical repercussions of culturally imposed racial identity in the United States has measurable impacts on individuals' physical health, mental health and socioeconomic status among other factors.

Today, the student body of MCPS is very diverse. No single racial or ethnic group represents a majority of students.

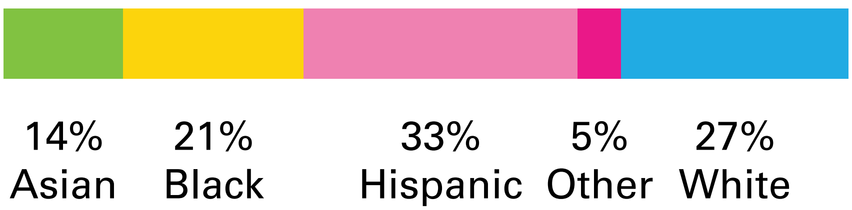


Figure 2.3.1 *Overall MCPS Racial and Ethnic Demographics*

Student Demographics Countywide

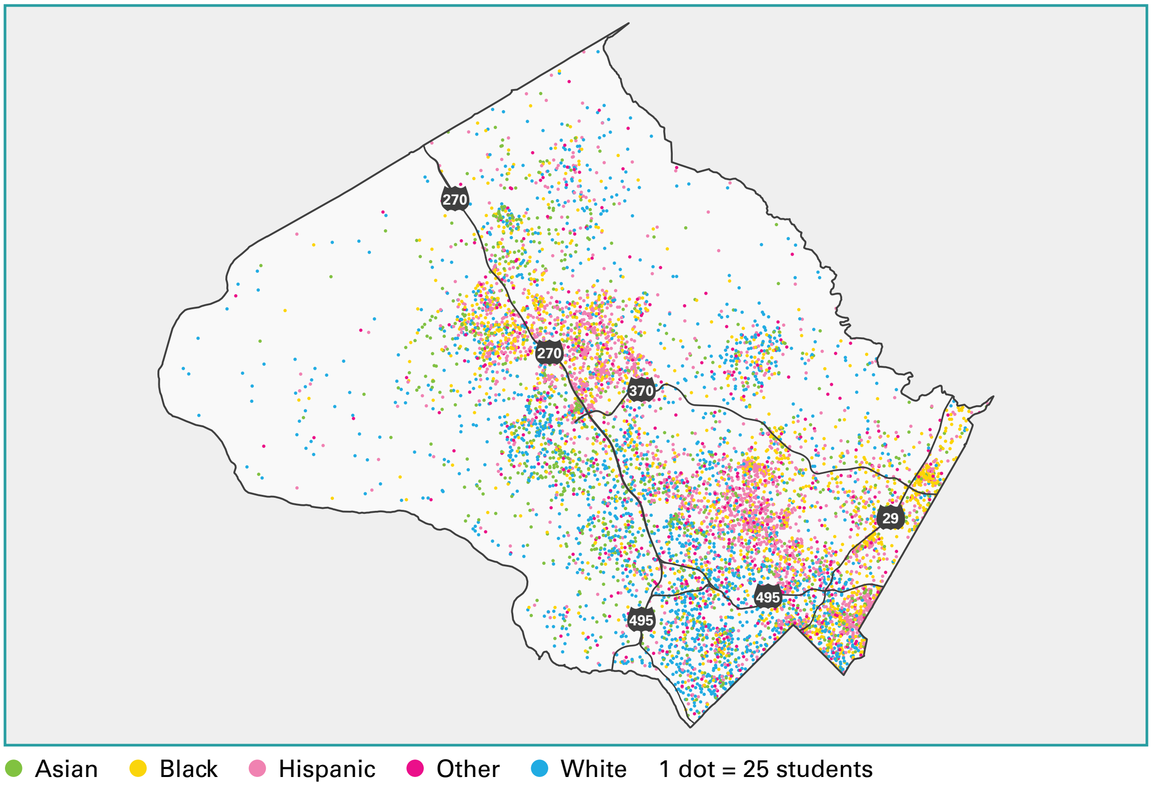


Figure 2.3.2 *Student Demographic Distribution*

Dots on the map do not represent any individual student's exact place of residence. Dots on the map were placed randomly within each Census Block Group where the 25 students represented by each dot reside.

The map above, **Figure 2.3.2. Student Demographic Distribution**, illustrates the racial and ethnic demographics of students across MCPS. The map shows both the density and distribution of different racial groups, with each dot representing 25 students. While many attendance areas of the district appear to be well-integrated, we still observe some clustering of racial and ethnic groups, as represented by the grouping of dots of the same color.

In this analysis, we seek to understand racial isolation in schools. It is important to acknowledge here that the overall diversity represented in MCPS at a districtwide scale does not reflect even distribution of racial/ethnic groups. For example, although there are five major racial/ethnic categories, 33% of students are Hispanic.

Many schools reflect the diversity of MCPS overall. Seventy-two percent of schools in the district have student bodies where at least two racial groups each represent 20% of more of the school's student body. Among them, 20 schools – 1 in 10 schools overall – have three racial groups each representing 20% or more of the school's student body.

Other schools are more racially uniform. At 28% of MCPS schools, only one racial group represents at least 20% of the student body, while all other racial or ethnic groups represent less than 20% of the student body. A total of 83 schools – 42% of all schools – have a student body where one racial group represents an absolute majority (50%) of all students. 19 of these schools have one racial group that represents more than two thirds of students at that school.

This metric helps us to identify situations where there is a high degree of racial and ethnic isolation, as seen in the analyses that follow.

Racial Group Representation Districtwide

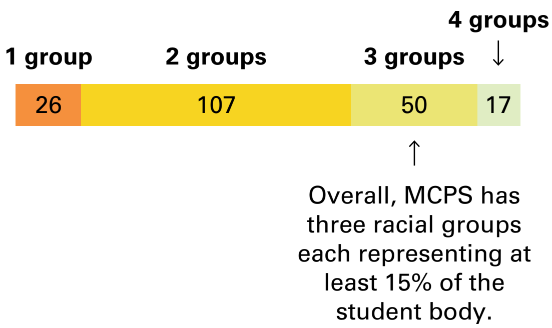


Figure 2.3.3 *Schools by Number of Racial Groups Representing More than 15% of the Student Body*

Figure 2.3.3above shows a breakdown of MCPS schools by number of racial groups representing more than 15% of the student body. There are 26 schools in MCPS where there is only one racial group representing more than 15% of the school's student body overall. On the flip side, there are 17 schools in MCPS where four racial groups each represent at least 15% of the school's student body.

The large majority of schools – 157 of 200, or 79% – have two or three racial groups representing more than 15% of those schools' students. These schools look more like the overall student body.

Racial Clustering Districtwide

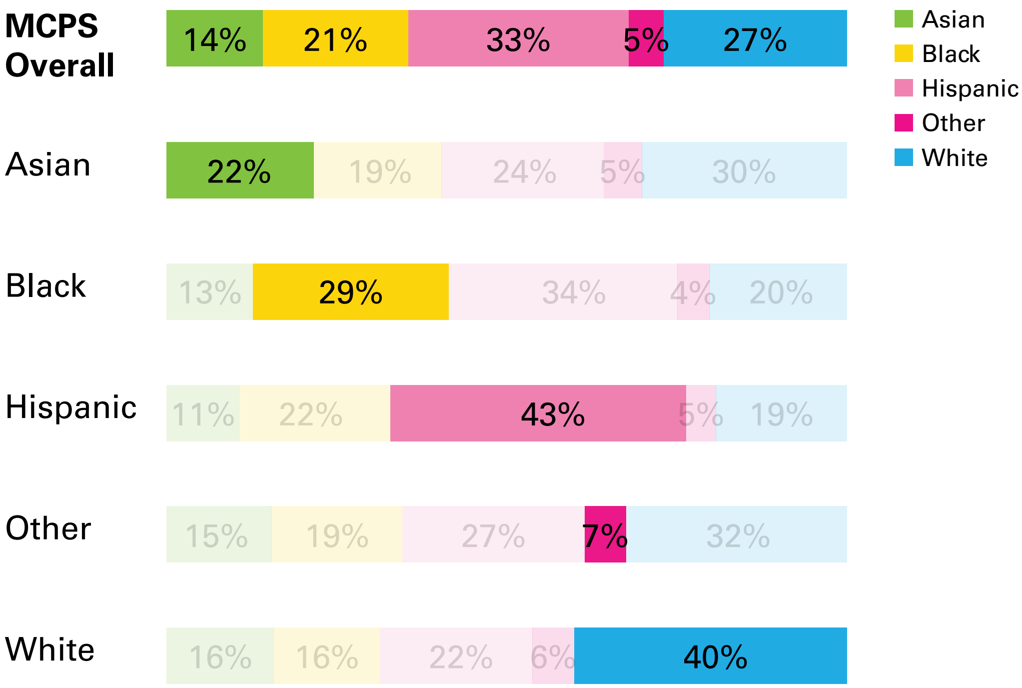
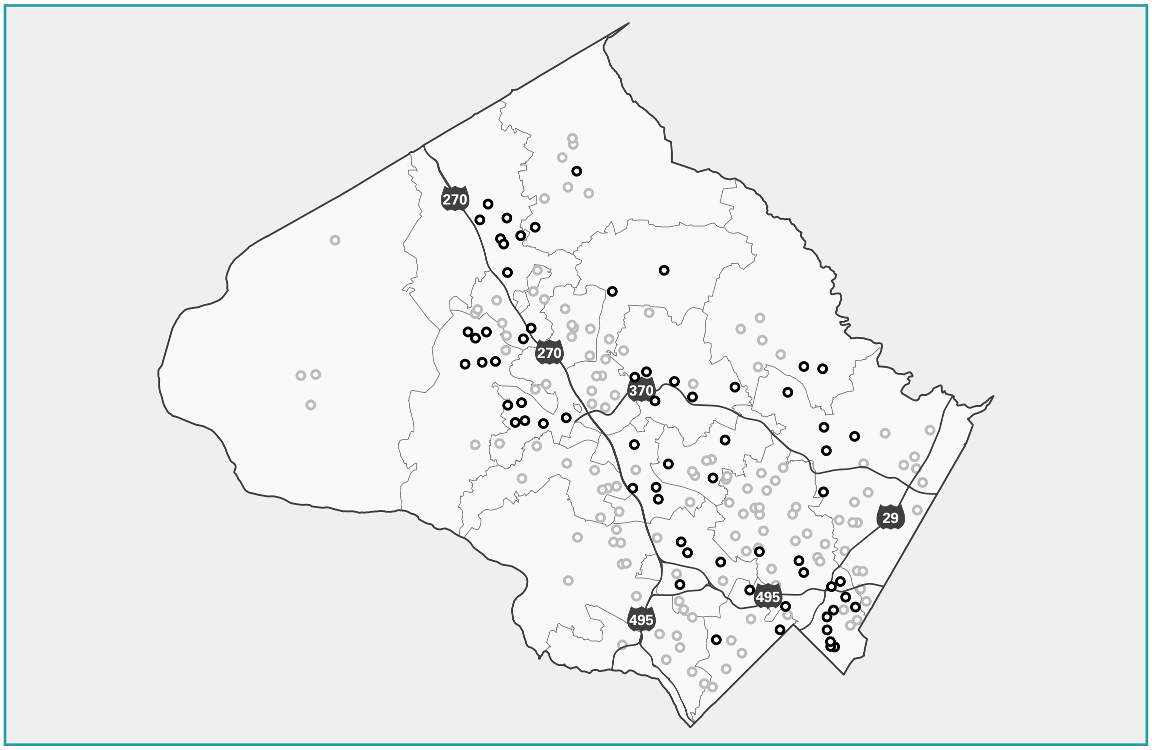


Figure 2.3.4 *The Racial Composition of Schools Attended by the Average Student by Racial Group*

Another way we can look at the distribution of racial diversity in MCPS is through racial and ethnic group clustering. Looking at school diversity through the lens of group clustering points to disparities in racial diversity that is experienced by students from different racial and ethnic groups in MCPS.

Figure 2.3.4 above illustrates the average racial demographics of schools attended by students of each major racial group. As seen here, MCPS students are more likely to attend schools with students of their same race. For example, Hispanic students represent 33% of students in MCPS but the average Hispanic student attends a school where 43% of the student body is Hispanic. Nevertheless, MCPS students, on average, attend schools that are racially diverse, and resemble MCPS student enrollment demographics overall.

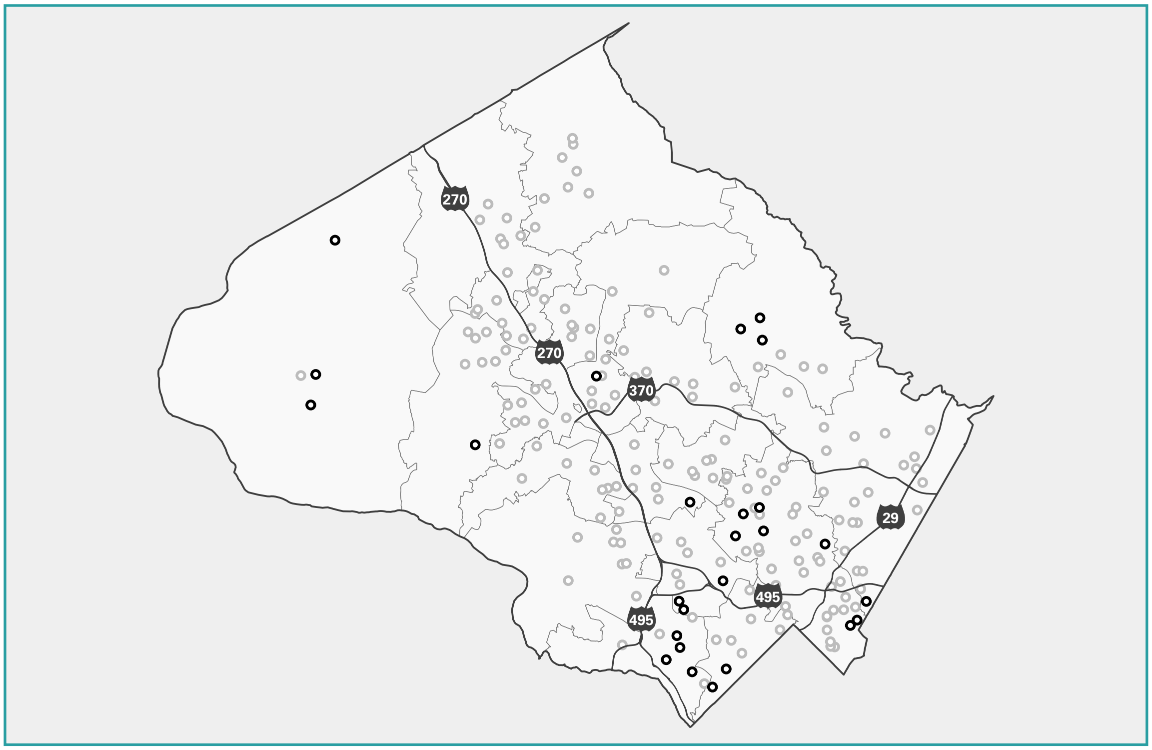
Although the average MCPS student attends a school that is reasonably representative of the school system's racial demographics, we still observe clustering by racial groups. These typical cases seen in figure above do not capture the full range of conditions experienced by students in MCPS--where some schools are very racially homogeneous, and others are very diverse. Clustering will be discussed further in **Section 2. "Diversity by School Adjacencies"** (starting on page 203).



Schools with 3-4 dominant (>15%) racial/ethnic groups   Other schools

Figure 2.3.5 *Elementary, Middle, and high Schools with Three or Four Dominant (>15%) Racial Groups*

Figure 2.3.5above, indicates schools with three or four "dominant" racial groups, representing more than 15% of the student body individually. These are the most racially diverse schools in MCPS. We see that these schools are concentrated along the central spine of Montgomery County, particularly along I-270 and I-495. Certain clusters are more likely to include schools with multiple large, or "dominant" racial groups, such as the Downcounty Consortium, Richard Montgomery Cluster, Quince Orchard Cluster, Northwest Cluster, and Clarksburg Cluster. We will see throughout this section that schools in these five clusters, in particular, are very diverse on average.



Schools with 3-4 dominant (>15%) racial/ethnic groups Other schools

Figure 2.3.6 *Elementary, Middle, and High Schools with a Single Dominant (>15%) Racial/ethnic Group*

Figure 2.3.6, above, shows MCPS schools with only a single racial group representing more than 15% of its student body. These are the schools with the highest levels of isolation of one racial or ethnic group in MCPS. These schools are concentrated in the Walt Whitman, Water Johnson, Winston Churchill, Poolesville, and Sherwood clusters, as well as in the Downcounty Consortium. We will find throughout this section that schools in these attendance areas are often outliers in terms of racial and economic measures of diversity.

Schools in the Downcounty Consortium can be found in both Figure 2.3.5 and Figure 2.3.6. By contrast, in the Walt Whitman cluster, we only find schools with a single dominant racial/ethnic group. Racial isolation in a school is often reflective of hyper-local residential segregation. Schools with three or four large racial/ethnic groups can often be found near schools with a single dominant racial/ethnic group.

A.2 Distribution of Free and Reduced-price Meals Eligibility (FARMS)

MCPS measures the socio-economic disadvantage of students by their participation in the National School Lunch Program (NSLP). These students receive free and reduced-price meals (FARMS) at school. FARMS is a means-tested program, meaning students and their families must meet income requirements to qualify. As such, FARMS eligibility is used at the district and state level as a proxy for socio-economic hardship. The overall FARMS rate in MCPS is 34%.

While FARMS and Ever-FARMS are threshold-based indicators and the threshold has changed over the years, both measures are directly based on a student's family income. Our analysis finds that both measures (FARMS and Ever-FARMS) are highly correlated to census measures of economic wealth, including median household income and per-capita income. Please see **Appendix C1: FARMS and Ever-FARMS as Measures of Socio-economic Hardship in Montgomery County on page 479** for further analysis.

About one in three students in MCPS are eligible for FARMS. A further 12% of the student body has previously been FARMS eligible. Altogether, 46% of MCPS students have ever been FARMS eligible since entering MCPS; these

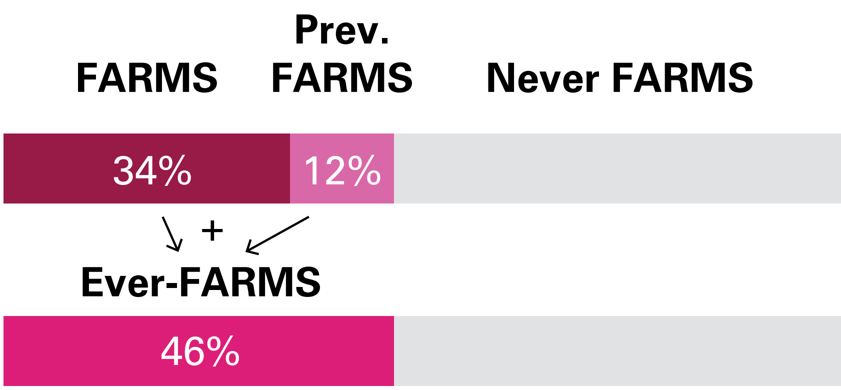


Figure 2.3.7 *Overall MCPS FARMS Eligibility*

students are classified as Ever-FARMS students.

MCPS tracks whether a student has previously enrolled in FARMS and maintains the Ever-FARMS metric because it provides a more complete picture of socio-economic hardship in the student body than FARMS alone. A student may no longer receive FARMS benefits but still live near

FARMS and Ever-FARMS

The Free and Reduced-price Meals System (FARMS) is a federal program to lower or waive the cost of cafeteria lunches in public schools. Students may qualify for free or reduced-price meals based on household size and income. They may also qualify if they are receiving Food Supplement Program or Temporary Cash Assistance benefits. Families must apply every year to determine if they are eligible for FARMS. The FARMS rate is the percentage of students in the district or a given school that are enrolled in FARMS, divided by total students.

The Ever-FARMS rate is a measure of students who are or ever have been enrolled in the FARMS during their time in MCPS, from pre-Kindergarten on. Ever-FARMS provides a more complete picture of socio-economic levels than whether a student is currently FARMS eligible as it accounts for minor changes in need over time, enrollment trends across school levels, and concerns related to social stigma and reporting.

the FARMS eligibility income threshold. As such, the Ever-FARMS rate does not change greatly by school level. Additionally, for a variety of reasons including social stigma, students may opt not to enroll in FARMS after being previously enrolled, despite still qualifying for the program.

FARMS and Ever-FARMS Distribution – Districtwide

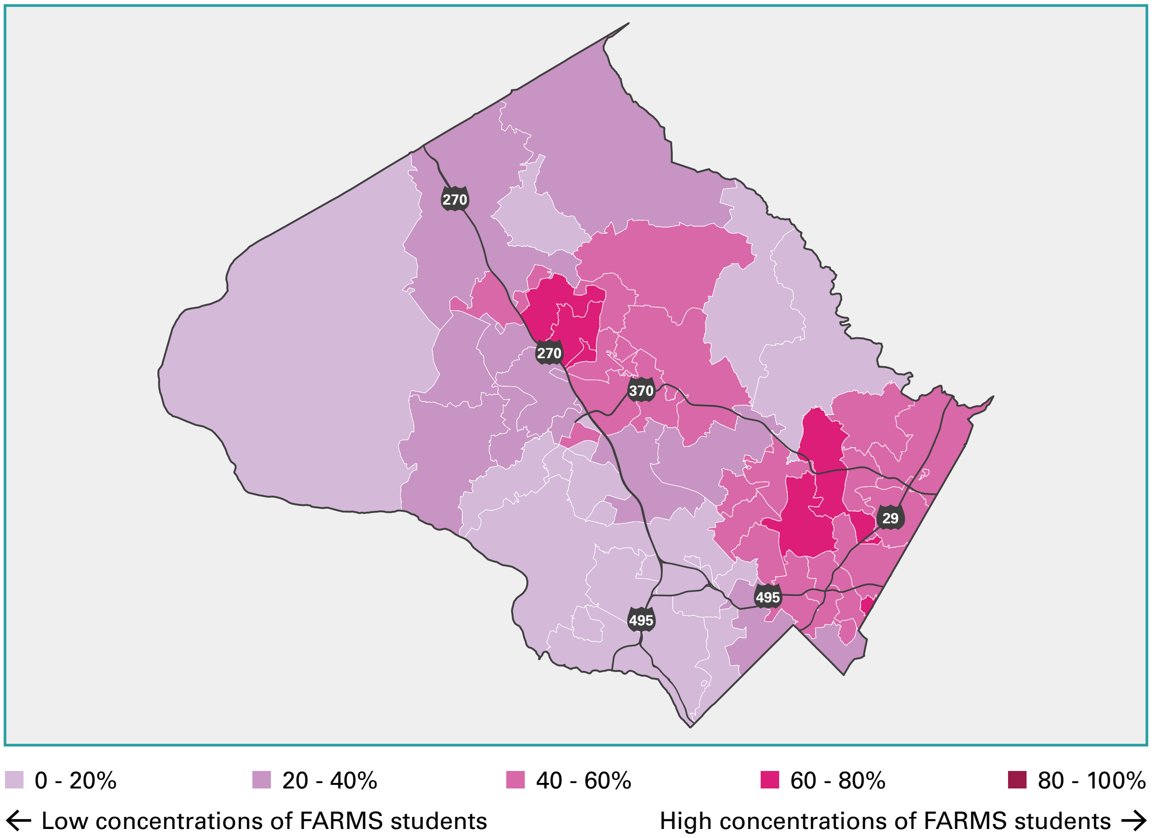
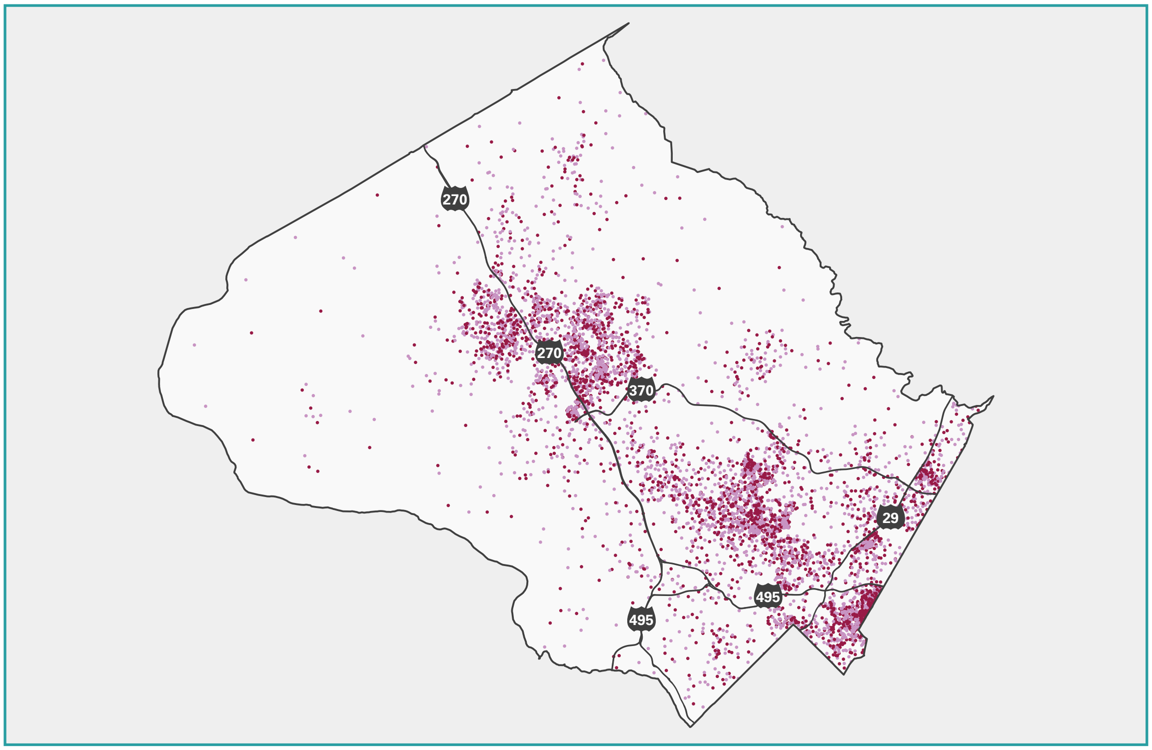


Figure 2.3.8 *FARMS Rate by Middle School Attendance Area*

The map above illustrates the proportion of middle school Ever-FARMS students by middle school attendance area. We can observe disparities across the district, with middle school Ever-FARMS rates ranging from a district minimum of 1%, to a district maximum of 93%.

For corresponding maps and tables of both FARMS and Ever-FARMS rates at all school levels see **Appendix C2: Additional Maps on page 484.**

FARMS by School Level



● FARMS ● Ever-FARMS 1 dot = 25 students

Figure 2.3.9 *Distribution of FARMS and Ever-FARMS Students*

Dots on the map do not represent any individual student's exact place of residence. Dots on the map were placed randomly within each Census Block Group where the 25 students represented by each dot reside.

The map above illustrates the distribution of FARMS and Ever-FARMS students at all school levels across the district. One dot on this map represents 25 students, demonstrating the density of FARMS and Ever-FARMS students in different parts of the county. We can see similar trends here as we do in the map of FARMS rates in middle school attendance areas (Figure 2.3.8 on the previous page).

The FARMS rate varies significantly by school level, declining from 37% for elementary school students to 34% for middle school students and 27% for high school students.

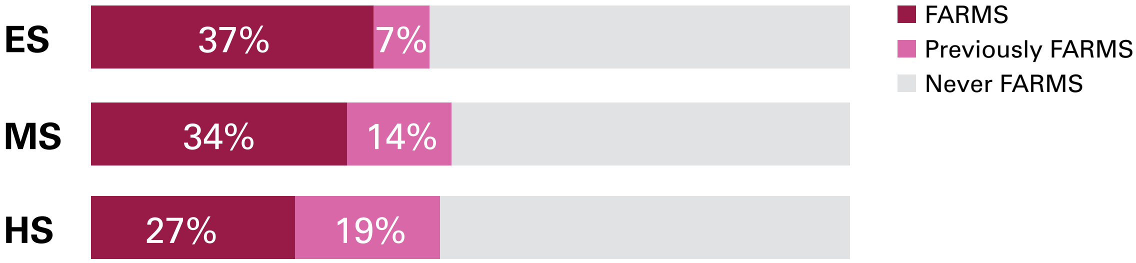


Figure 2.3.10 *FARMS by School Level*

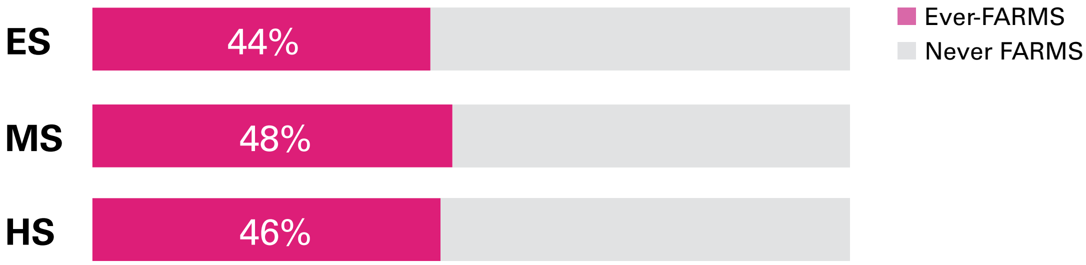


Figure 2.3.11 *Ever-FARMS by School Level*

As indirect measures of socio-economic hardship, it is worth investigating the relationship of FARMS and Ever-FARMS to direct measures of wealth and poverty, such as household and per-capita income as they are captured by the U.S. Census. **Appendix C1: FARMS and Ever-FARMS as Measures of Socio-economic Hardship in Montgomery County on page 479**, explains why MCPS school FARMS and Ever-FARMS rates are strongly correlated with the per-capita income and household median income of that school's attendance area.

The Demographics of FARMS Students

Eighty-eight percent of FARMS students in MCPS identify as Black or Hispanic. As such, instances of socio-economic segregation in MCPS often correlates strongly with racial segregation.

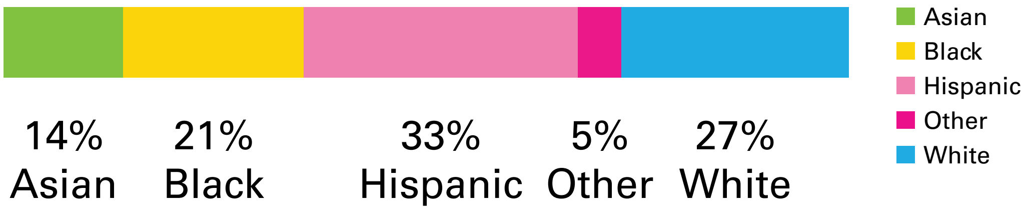


Figure 2.3.12 *Overall MCPS Racial and Ethnic Demographics*

Figure 2.3.13 *Racial Demographics of FARMS Students*

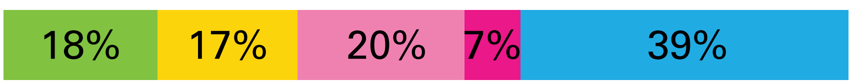


Figure 2.3.14 *Racial Demographics of Non-FARMS Students*

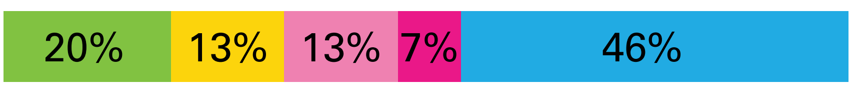


Figure 2.3.15 *Racial Demographics of Never FARMS Students*

We find that students identifying as White, representing 27% of students in MCPS overall – represent 39% of Non-FARMS students and 46% of students that have never been eligible for FARMS benefits (Never FARMS students). Asian students, representing 14% of the student body – are also more likely to be Non-FARMS or Never FARMS students, thought to a much less significant degree than White students in the district.

A3 Distribution of English for Speakers of Other Languages (ESOL)

Approximately one in six students in MCPS receives services to help improve their English-language proficiency. These students are enrolled in the English for Speakers of Other Languages (ESOL) program. An additional one in six students in MCPS has once received ESOL services but later passed the Maryland State Department of Education English Language Proficiency Target, as measured by WIDA ACCESS.[1]

In addition to ESOL, MCPS maintains a student-level indicator called Ever-ESOL which tracks whether a student has previously received ESOL services. This is similar to how to FARMS and Ever-FARMS is measured. Ever ESOL is a useful measure for tracking the performance of students that previously required support with their English skills. These students still may have limited English proficiency despite exiting the ESOL program and as such are an important cohort to track as they may require additional services to achieve academic success.

As such, nearly one in three students in MCPS is identified as Ever-ESOL and currently has low English proficiency or once had low English proficiency as measured by WIDA ACCESS. This represents a substantial portion of MCPS's student body.

ESOL Programming

MCPS' ESOL programming supports English language development for students whose first language is not English. Through this program, MCPS supports students in developing English language proficiency, including dedicated ESOL teachers. The ESOL program is funded through Title III federal funds.

To learn more about ESOL, visit: https://www.montgomeryschoolsmd.org/curriculum/esol/.

1 Montgomery County Public Schools. "About ESOL/Bilingual Programs." https://www.montgomeryschoolsmd.org/curriculum/esol/about/

ESOL Rates Distribution - Districtwide

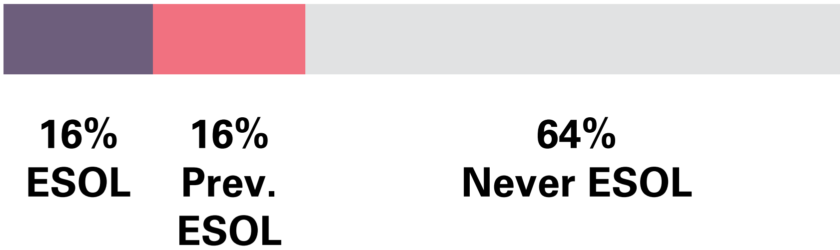


Figure 2.3.16 *Overall ESOL Rates*

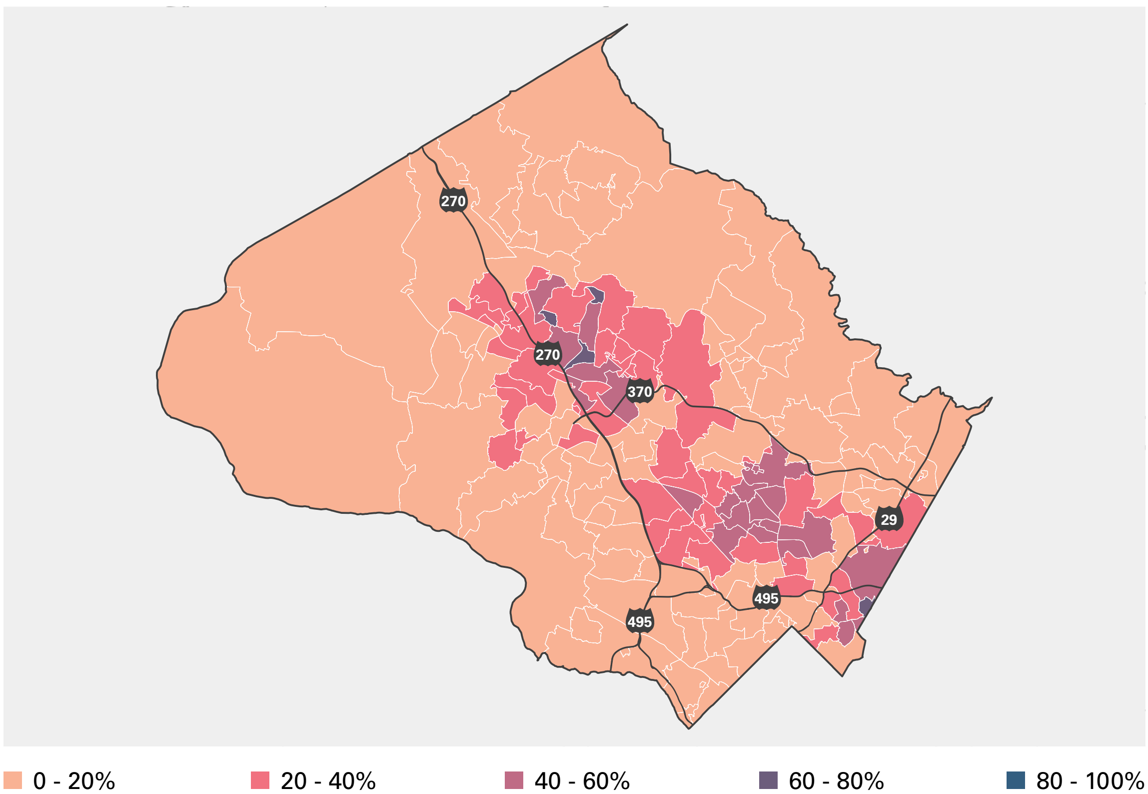


Figure 2.3.17 *Ever-ESOL Rate by Elementary School Attendance Area*

The map above illustrates the proportion of elementary school students who have ever been enrolled in ESOL, by elementary school attendance area. At the elementary school level, the districtwide range in Ever-ESOL rates is 4% at Belmont ES to 87% JoAnn Leleck ES.

Corresponding maps and tables of the elementary and high school level ESOL and Ever-ESOL rates can be found in **Appendix C2: Additional Maps on page 484.**

ESOL by School Level

As demonstrated in figure below the share of students speaking English as a second language is substantially higher at the elementary school level (25%), as compared to the middle and high school level (11%).

Figure 2.3.18 *ESOL by School Level*

This may point to two conditions: high rates of improvement of English among ESOL students in elementary school before entering middle school. It also may be related to changes in MCPS's student body, with a greater proportion of incoming students speaking English as a second language than in the past.

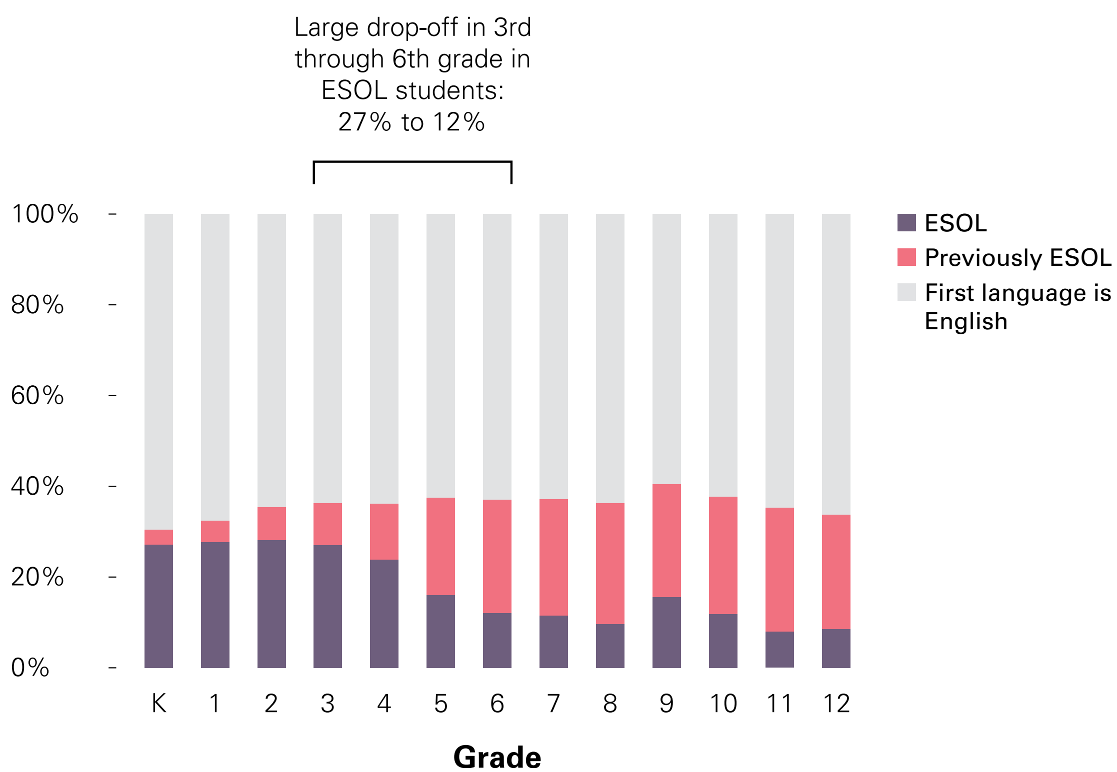


Figure 2.3.19 *ESOL by School Level*

The Demographics of ESOL Students

Seventy-three percent of students that speak English as a second language are Hispanic.

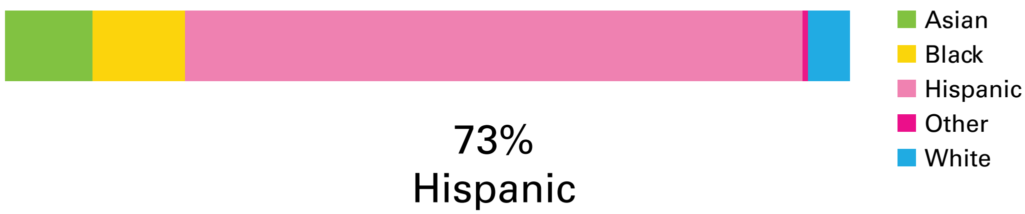


Figure 2.3.20 *Racial Demographics of ESOL Students*

Due to the strong association of ESOL to one ethnic group (Hispanic students) we primarily use FARMS and race as indicators throughout the diversity section, only occasionally analyzing ESOL.

2.3 **Data Analysis** Diversity

B. Diversity by School Adjacencies

Now that we have seen a snapshot of diversity in MCPS's schools, this section takes a closer look at the geography underlying this distribution of diversity. First, case studies explain the concept of dissimilarity—a statistic which is used throughout the section to compare the diversity of adjacent schools. Then, the section considers disparities in the demographic make-up of schools (including race / ethnicity and socio-economic background) of each school's students. Finally, the section begins to explore the relationships between adjacency and both socio-economic and racial dissimilarity.

Throughout this section we will highlight two types of adjacencies:

1. **Clustering of like with like**: In some parts of the district we see a relatively homogeneous distribution of racial and ethnic groups and wealth relative to the district overall.

2. **Adjacency of unlike with unlike**: In other parts of the district we see neighboring communities with very different demographic and socio-economic make-up.

Questions:

What is dissimilarity and how is it being used in this analysis?
What are the kinds of relationships we see, in general, between the diversity measures of adjacent schools?
How similar are the demographic compositions of neighboring schools?
How similar are the socio-economic conditions of students in neighboring schools?
How does racial/ethnic and socio-economic dissimilarity among adjacent schools relate to one another?

Analyses:

B.1 Dissimilarity Across the District
B.2 Forms of Adjacency

Insights

1. In this set of analyses, we use the dissimilarity index all to look at how different the overall demographic make-up of one school is to another school, or to a shared standard (such as a cluster or districtwide average). We look at both racial/ethnic dissimilarity, and socio-economic dissimilarity. At the district level, there are two general conditions that are important to understand:

Adjacent schools are often very dissimilar, despite being very close to one another.

- There are many cases throughout the district where immediately adjacent school attendance areas are quite dissimilar from one another in terms of racial, ethnic, and socio-economic demographics.

At the scale of the district, patterns in dissimilarity vary widely. This reflects the heterogeneity of local communities.

- In general, midcounty schools at the elementary school level tend to be most dissimilar from their nearest schools. Conversely, midcounty middle and high schools tend to be more similar to their nearest schools. Across the county, schools located in rural areas tend to be more dissimilar from their nearest schools.

2. Elementary schools in the Downcounty Consortium (DCC) have among the highest rates of racial and socio-economic dissimilarity, when compared to their nearest schools.

Sligo Creek ES has the highest dissimilarity score among elementary schools in the district, followed by Laytonsville ES, Forest Knolls ES, Kemp Mill ES, and Strawberry Knoll ES. However, none of the top five highly dissimilar middle and high schools are within the DCC.

3. Elementary and middle schools in clusters in the southwest of the county have very low racial and economic dissimilarity from their nearest schools in most cases.

In other words, these schools are more similar to their neighboring schools. This reflects the high degree of racial and socio-economic homogeneity in these areas of the county. In particular, this is the case within the Walt Whitman and Winston Churchill clusters. Their adjacent clusters, Bethesda Chevy-Chase, Walter Johnson, and Thomas Wootton share low racial and socio-economic dissimilarity scores on average, though to a lesser degree.

4. Socio-economic and racially dissimilarity are correlated in most cases, but there are exceptions to this.

Some notable examples of clusters where elementary schools have very different rates of socio-economic and racial dissimilarity from their nearest schools include Poolesville, Watkins Mill, and Northeast Consortium.

Introduction to Dissimilarity

As seen in the Section 1 analyses, the socio-economic, racial, and linguistic background of students varies significantly across the district. This diversity in the student body is reflected in MCPS's schools, where we see considerable differences in FARMS rates, ESOL enrollment, and racial demographics between schools.

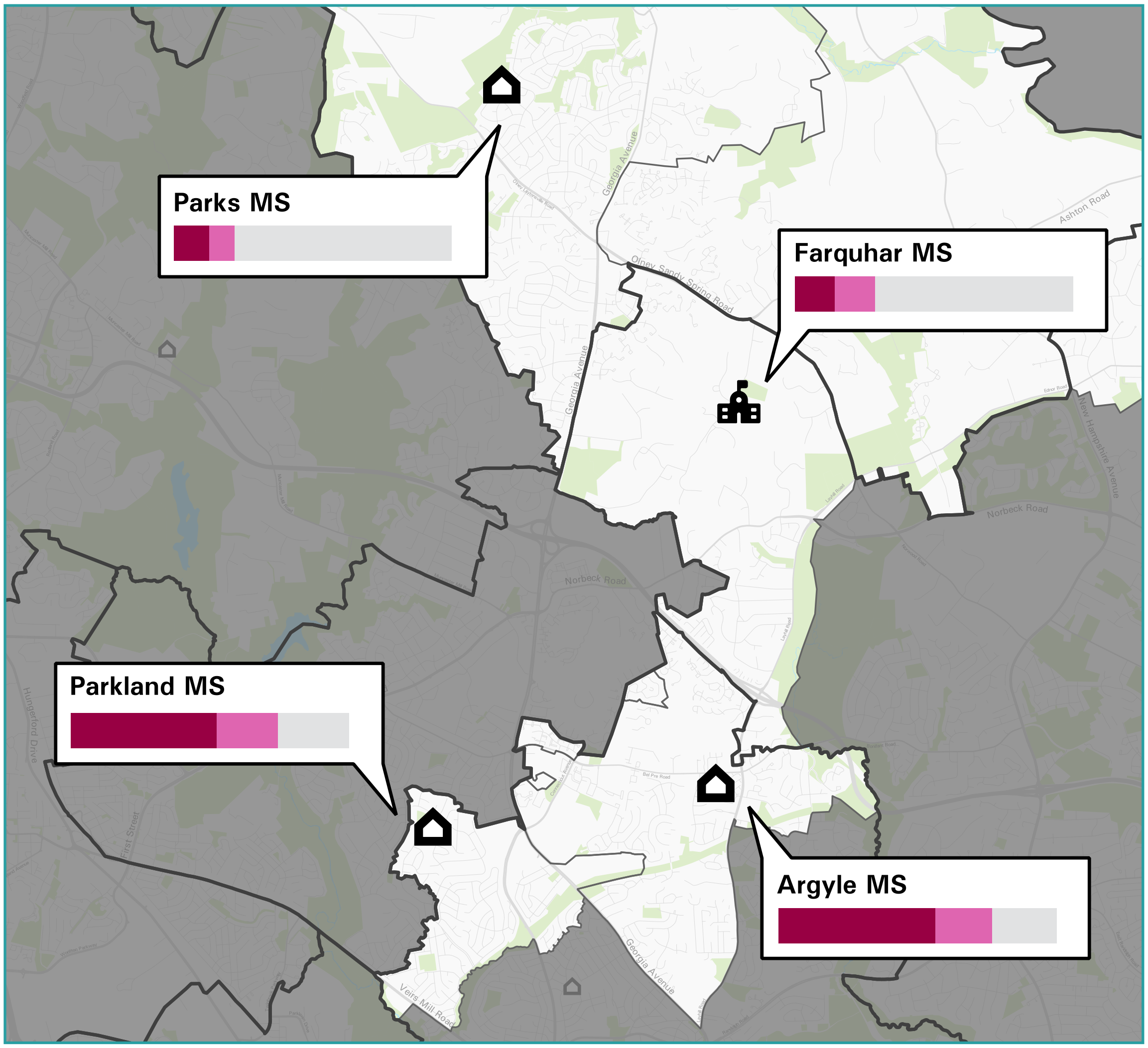
Many differences between schools are hyper-local. Schools relatively close to one another may look significantly different when compared based on the aspects of diversity we are studying in this chapter.

In this sub-section, we use case studies to explain the concept of dissimilarity—a statistic which we use throughout the section to compare the diversity of adjacent schools. Then, we look at disparities in the socio-economic and racial/ethnic make-up of schools and begin to explore the relationships between socio-economic and racial dissimilarity.

Case Study: Farquhar Middle School

Take for example the four schools mapped in Figure 2.3.21, Farquhar MS, Parks MS, Parkland MS, and Argyle MS. We are using these schools only for illustrative purposes only.

Farquhar MS has a FARMS rate of 14%. Argyle MS, which is just over 5 miles away, has a FARMS rate about four times as high as Farquhar's (56%). Parkland MS, which is 5 and a half miles away from Farquhar, also has a much larger FARMS rate (52%). Parks MS, which is about a mile closer to Farquhar than Parkland MS, has a much more similar FARMS rate to Farquhar (13%).



FARMS Previously FARMS Never-FARMS

School in focus Nearest middle schools Other middle schools

Cluster boundaries School attendance areas

Figure 2.3.21 *An Example of Dissimilarity to Nearby Schools: Farquhar Middle School*

Figure above illustrates that the socio-economic background of students at Farquhar MS is similar to that of the students at Parks MS. By contrast, we might say that the students at Farquhar MS are highly dissimilar from their counterparts at Argyle MS, at least along the dimension of socio-economic background. How can we reduce these notions of similarity and dissimilarity to a single indicator, comparable across schools?

Defining Dissimilarity in Schools

Throughout this section, we will use a measure called the dissimilarity index. The dissimilarity index allows us to look at how different the overall demographic make-up of one school is to another school, or to a shared standard (such as a cluster or districtwide average).

On the most basic level, high dissimilarity shows a greater difference between the two areas being compared. A low dissimilarity shows a lesser difference between the two things being compared. Conceptually, you can think of a dissimilarity index representing the total change in an area (or school) necessary for that area to look exactly like another.

If you are already comfortable with dissimilarity indices, you can skip past the next section which discusses the method for calculating dissimilarity indices.

Let's calculate a dissimilarity index between two schools, Farquhar MS and Argyle MS. Farquhar MS has a FARMS rate of 14% and Argyle MS has a FARMS rate of 56%. The total change necessary for Farquhar MS to look like Argyle MS and for Argyle MS to look like Farquhar MS would be 56% minus 14%, which is 42 percentage points, divided by two: 21 percentages points.[1] Why is this true? Imagine now if 21% of FARMS students at Argyle MS moved to Farquhar MS, the FARMS rate at Farquhar MS would be 35% (14 + 21 = 35) and the FARMS rate at Argyle MS would be 35% (56 - 21 = 35). Both schools would have the same FARMS rate. That number, 21 percentage points, (or the total change necessary for Farquhar MS and Argyle MS to look alike) is the dissimilarity index.

School	Grades	FARMS	Previous FARMS	Never FARMS	FARMS Dissimilarity to Farquhar	Socio-Economic Dissimilarity to Farquhar
Farquhar	6-8	14%	14%	71%	N/A	N/A
Parks	6-8	13%	9%	78%	1%	7%
Argyle	6-8	56%	21%	23%	21%	48%
Parkland	6-8	52%	22%	26%	19%	46%

Figure 2.3.22 *Farquhar Middle School FARMS dissimilarity*

The dissimilarity index is useful because it allows us to compare schools to one another not just along a single dimension, like an ESOL or FARMS rate, but along many dimensions at the same time. For example, if we compare the FARMS, Previous FARMS, and Never FARMS rates at the same time; doing so might provide us with a more nuanced understanding of the difference between the socio-economic status of students at different schools.

1 We can also do the subtraction in the other direction but using the absolute value, multiplying by negative 1: (14% - 56%)/2 * 1 = -21 * -1 = 21.

In practice, we do just this, using slightly more complex formulas to calculate socio-economic and racial/ethnic dissimilarity between schools.

Throughout this section, we call these measures socio-economic dissimilarity and racial/ethnic dissimilarity. Let's calculate socio-economic dissimilarity, keeping with the example of Farquhar MS and Argyle MS. We notice that both schools have different Previous FARMS and Never FARMS rates (see Table 1). The socio-economic dissimilarity index calculates the difference between all three of these statistics, not just FARMS. Let's walk through the math: Farquhar has a FARMS rate of 14%, Previous FARMS rate of 14%, and Never FARMS rate of 71%; Argyle MS has a FARMS rate of 56%, Previous FARMS rate of 21%, and Never FARMS rate of 23%. Subtracting these from each other and taking the absolute values we get a difference of 42 percentage points for FARMS (56% - 14%), 7 percentage points for Previous FARMS (21% - 14%), and 48 percentage points for Never FARMS. Summing these together and dividing by two, we get a socio-economic dissimilarity index of 48% ((42 + 7 + 48)/2 = 48.5). The racial dissimilarity index calculates the difference between the percentage of students by racial group.

Generalizing that logic, we obtain the formula for the dissimilarity index, D:[1]

$$D = \frac{1}{2}\sum_{i=1}^{n} |p_i - P_i|$$

Where p_i is the representation of one group in a population (e.g. 14% Asian, 33% FARMS), P_i is the representation of that group in the population we are comparing against, and n is the number of groups.

In Figure 2.3.21 and examples that follow, instead of comparing a school to just one neighbor at a time, we compare that school to three of its adjacent neighbors.[2] To compare a school to its nearest three schools using the dissimilarity index, as in the previous example and those that follow, we need to take one additional step: Comparing the FARMS rates of two schools, we subtract one from the other, flip the sign of the number if it is negative, and divide by two. If we are comparing one school to many, we calculate the overall FARMS rate (or other indicator) for those schools if we summed their populations together and then compare that number to the original school's FARMS rate.

1 Benjamin Forest. Dartmouth College. "Indices of Dissimilarity." 2005. https://www.dartmouth.edu/~segregation/IndicesofSegregation.pdf. See "Index of Dissimilarity (D)" page one. The formula included in this document generalizes as the formula provided above for comparing more than two groups at a time.

2 As in the utilization section, we calculate proximity based on the distance along roads. We do not use a straight-line method for determining adjacency.

B.1 Dissimilarity Across the District

The previous subsection introduced us to dissimilarity and examined the unique local conditions (like residential homogeneity) that lead to schools resembling their nearest schools or not. In this subsection, we analyze the geographic distribution of racial and socio-economic dissimilarity across MCPS.

The maps that follow illustrate the range of racial and socio-economic dissimilarities across MCPS. We call attention to specific geographic patterns throughout.

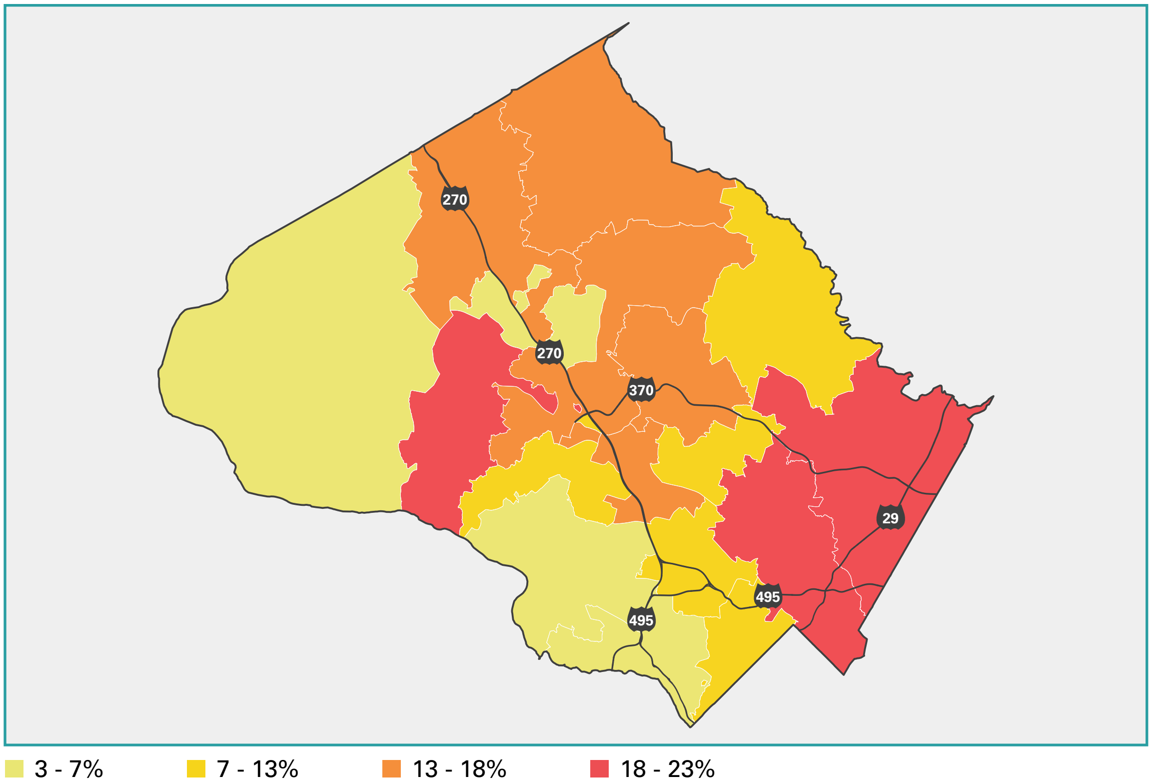


Figure 2.3.23 *Average Elementary School Racial Dissimilarity to the Overall ES Population of Their Cluster*

The map above shows elementary school racial dissimilarities at the cluster level. The cluster dissimilarity index shown represents the weighted average racial dissimilarities of the elementary schools within that cluster. In other words, we are comparing the racial demographics of each elementary school in a cluster to the overall racial demographics of that cluster, for the same school level. The value shown on figure above is the average of these schools' racial dissimilarities to their cluster.

At this scale, we notice three important spatial patterns:

First, midcounty elementary schools are on average more racially dissimilar from their nearest schools than other elementary schools in MCPS.

In particular, clusters along I-270 are more likely to have schools dissimilar from their nearest schools. In particular, elementary schools in the Richard Montgomery, Gaithersburg, and Quince Orchard Clusters look on average more dissimilar from their nearest schools than other elementary schools in MCPS. On average, elementary schools in the Walter Johnston and Clarksburg Clusters, which also run along I-270, have reasonably high racial dissimilarities compared to their nearest schools.

Further, elementary school racial dissimilarity in these areas appears to have some spill-over effects for certain clusters nearby. For example, elementary schools in the Northwest and Thomas Wootton clusters both have reasonably high racial dissimilarities compared to their nearest schools, though their dissimilarity indices are on average less than those in the other clusters that run along I-270 mentioned above.

While this measure of racial dissimilarity highlights some important patterns, it may be more instructive to compare a school to its nearest schools rather than to its cluster's population overall. As such, in the rest of the Diversity section we primarily use another measure of dissimilarity that better captures local dissimilarities.

This measure looks at the socio-economic or racial/ethnic dissimilarity of schools to their nearest three schools.[1] In other words, we compare the socio-economic or racial/ethnic demographics of each elementary school to the overall racial demographics of that school's nearest three schools (which may be in different clusters), for the same school level. The value shown in **Figure 2.3.4 - The Racial Composition of Schools Attended by the Average Student by Racial Group on page 191**) is the average of these schools' racial dissimilarities to their three nearest schools by cluster, even if one or more of their three nearest schools are in a different cluster.

1 As in the utilization section, we calculate proximity based on the distance along roads. We do not use a straight-line method for determining adjacency.

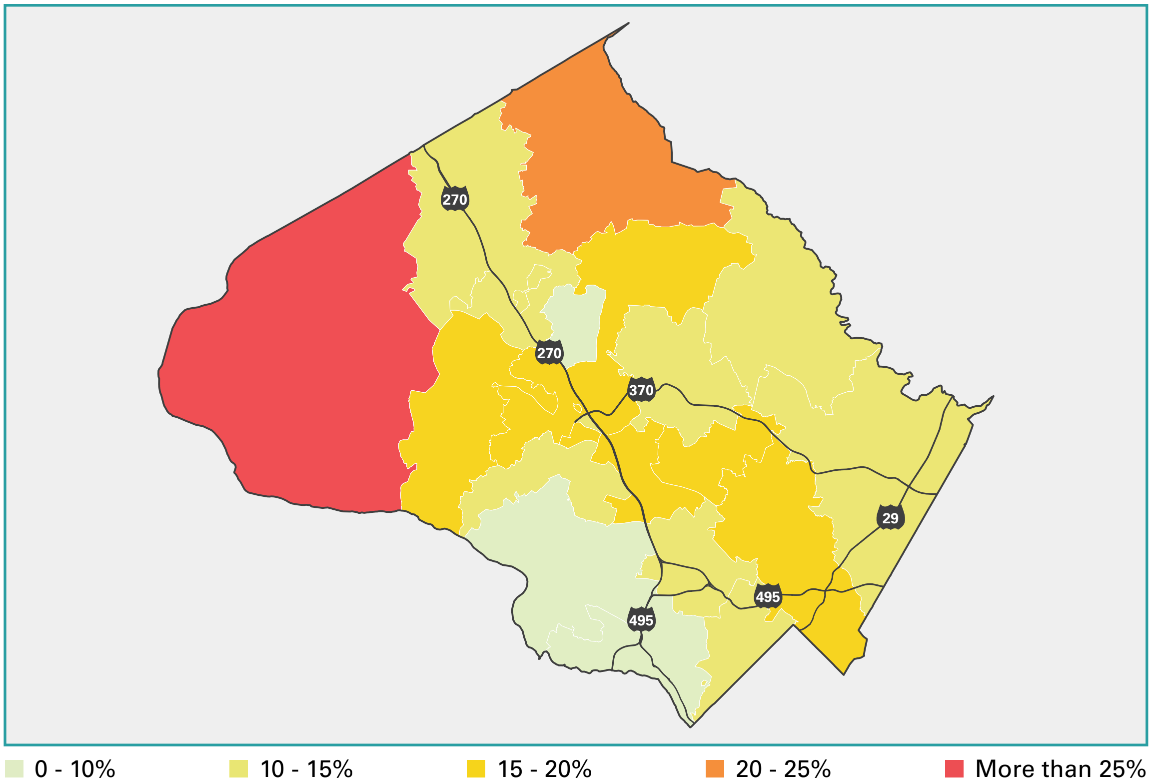


Figure 2.3.24 *Average Racial Dissimilarity of Elementary Schools to Their Nearest Three Schools by Cluster*

Elementary schools with the lowest racial dissimilarities compared to their nearest schools are in the Walt Whitman, Winston Churchill, and Watkins Mill Clusters.

Elementary schools in the rural area of Poolesville and Damascus are highly racially dissimilar from their nearest schools. The two elementary schools in the cluster, Poolesville and Monocacy ES are both far from their nearest schools in the Clarksburg and Northwest Clusters. This is an example where comparing a school's dissimilarity to its nearest schools may not be the best method for understanding racial dissimilarity.

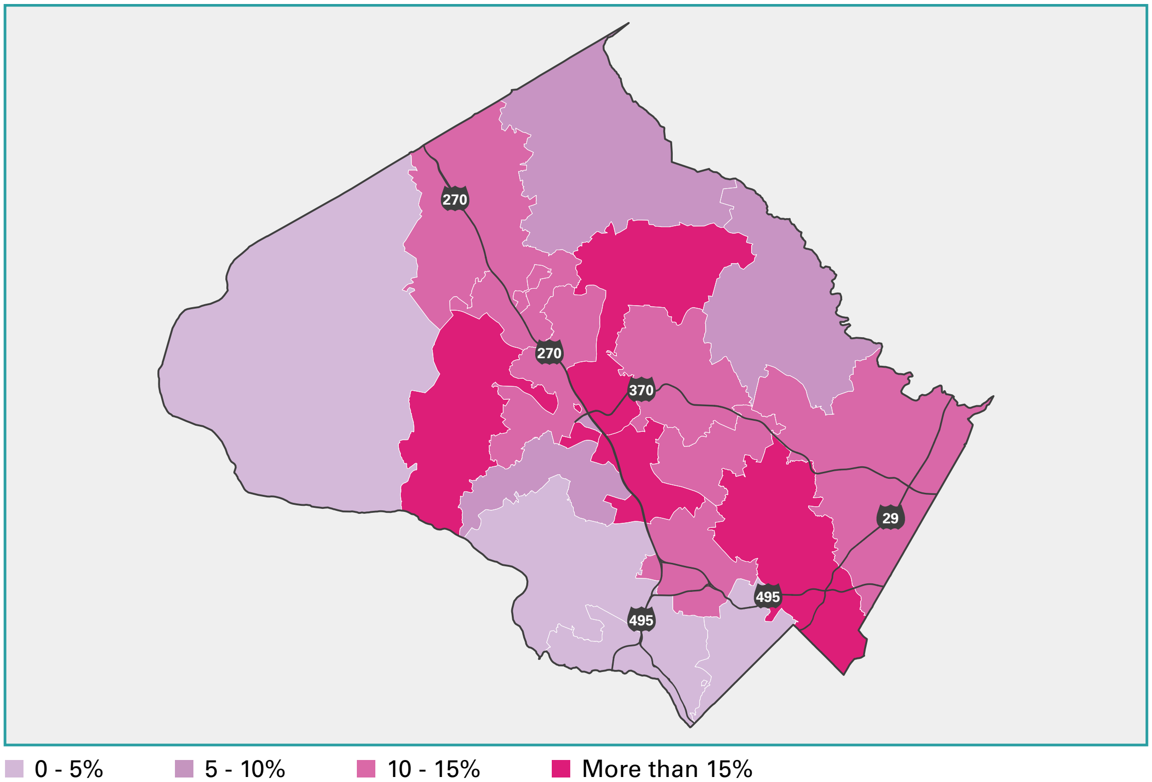


Figure 2.3.25 *Weighted Socio-economic Dissimilarity of Elementary Schools to Their Nearest Three Schools by Cluster*

Examining socio-economic dissimilarity, we find some spatial patterns similar to those we found when examining racial dissimilarity.

For example, elementary schools in the Walt Whitman and Winston Churchill Clusters all have low socio-economic dissimilarity indices when compared against their nearest schools. Elementary schools in these clusters all had similarly low dissimilarity scores for race, when compared to their nearest schools. These are examples of schools where racial and socio-economic dissimilarities overlap closely.

Similarly, we find a high degree of overlap between elementary schools with high socio-economic and racial dissimilarities when compared to their nearest schools midcounty along I-270. In particular, elementary schools in the Downcounty Corsortium and Walter Johnson, Gaithersburg, Quince Orchard, and Northwest Clusters all have high rates of socio-economic dissimilarity from their nearest schools. This is similar to what we found for racial dissimilarity.

Some notable examples of clusters where elementary schools have very different rates of socio-economic and racial dissimilarity from their nearest schools are the Poolesville and Damascus Clusters.

This suggests that socio-economic and racial dissimilarity are correlated indicators in most cases, though counterexamples do exist. This underscores the importance of examining both socio-economic and racial dissimilarities separately.

	Racial Dissimilarity			Socio-economic Dissimilarity		
Cluster	***Overall***	**Min**	**Max**	***Overall***	**Min**	**Max**
Poolesville Cluster	*35%*	41%	29%	*4%*	6%	3%
Damascus Cluster	*21%*	29%	16%	*7%*	13%	3%
Richard Montgomery Cluster	*19%*	29%	12%	*16%*	31%	3%
Northwest Cluster	*19%*	36%	4%	*15%*	31%	4%
Quince Orchard Cluster	*18%*	23%	12%	*12%*	25%	2%
Gaithersburg Cluster	*17%*	35%	6%	*20%*	42%	8%
Downcounty Consortium	*17%*	34%	2%	*16%*	48%	4%
Rockville Cluster	*16%*	21%	7%	*14%*	25%	3%
Walter Johnson Cluster	*15%*	27%	10%	*11%*	23%	5%
Clarksburg Cluster	*15%*	33%	8%	*14%*	31%	4%
Northeast Consortium	*13%*	43%	4%	*15%*	26%	7%
Thomas S. Wootton Cluster	*13%*	17%	7%	*9%*	11%	7%
Col. Zadok Magruder Cluster	*13%*	24%	5%	*12%*	22%	7%
Bethesda-Chevy Chase Cluster	*12%*	19%	3%	*5%*	8%	2%
Seneca Valley Cluster	*11%*	20%	5%	*10%*	19%	3%
Sherwood Cluster	*11%*	15%	4%	*7%*	10%	2%
Winston Churchill Cluster	*8%*	18%	3%	*1%*	2%	1%
Walt Whitman Cluster	*7%*	11%	2%	*2%*	6%	0%
Watkins Mill Cluster	*6%*	8%	4%	*13%*	17%	10%

Figure 2.3.26 *Average Elementary School Dissimilarities to Their Nearest Three Schools By Cluster*

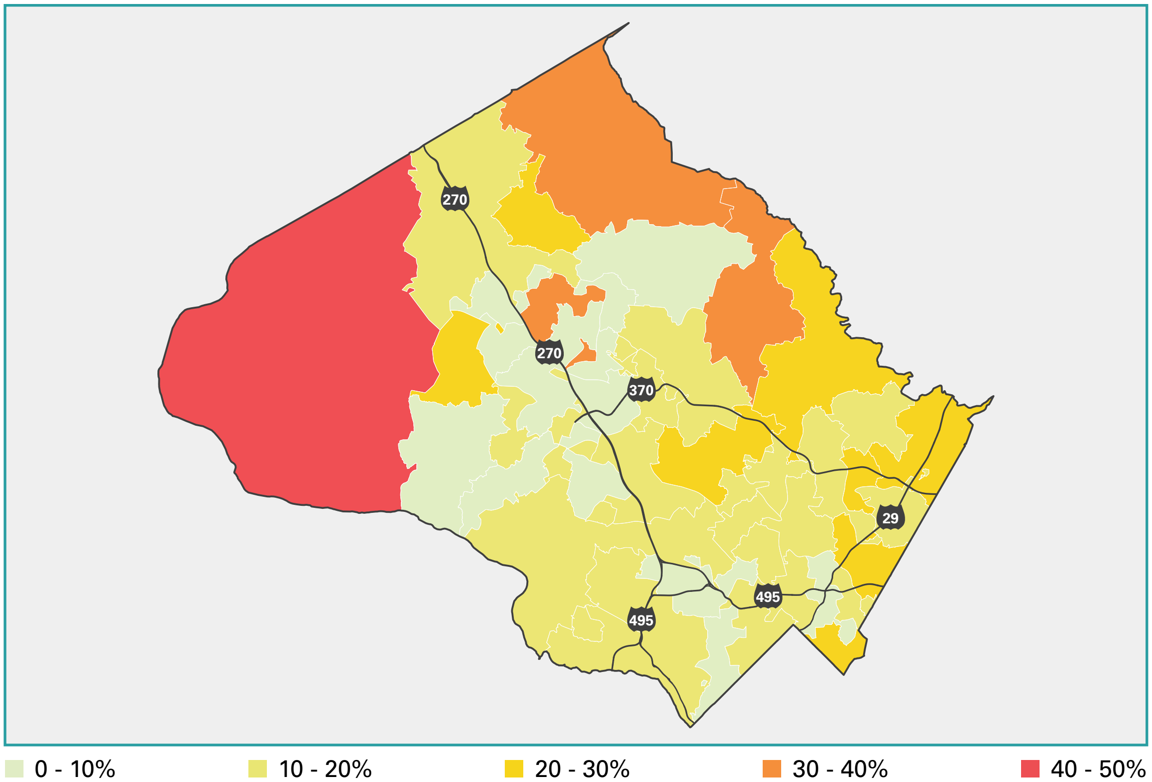


Figure 2.3.27 *Middle School Racial Dissimilarity to Nearest Three Schools*

Similar outliers emerge when we examine racial and economic dissimilarity at the middle school level, though we notice some important differences. Schools in the midcounty still appear more likely to be racially dissimilar from their nearest schools, with the notable exceptions of middle schools in and around the Quince Orchard Cluster.

Middle schools in lower density areas, particularly in the Poolesville, Damascus, and Sherwood Clusters have higher racial dissimilarity indices.

Finally, schools in the Downcounty and Northeast Consortia all have racial dissimilarity indices between 10 and 30 percent, when compared to their three nearest schools.

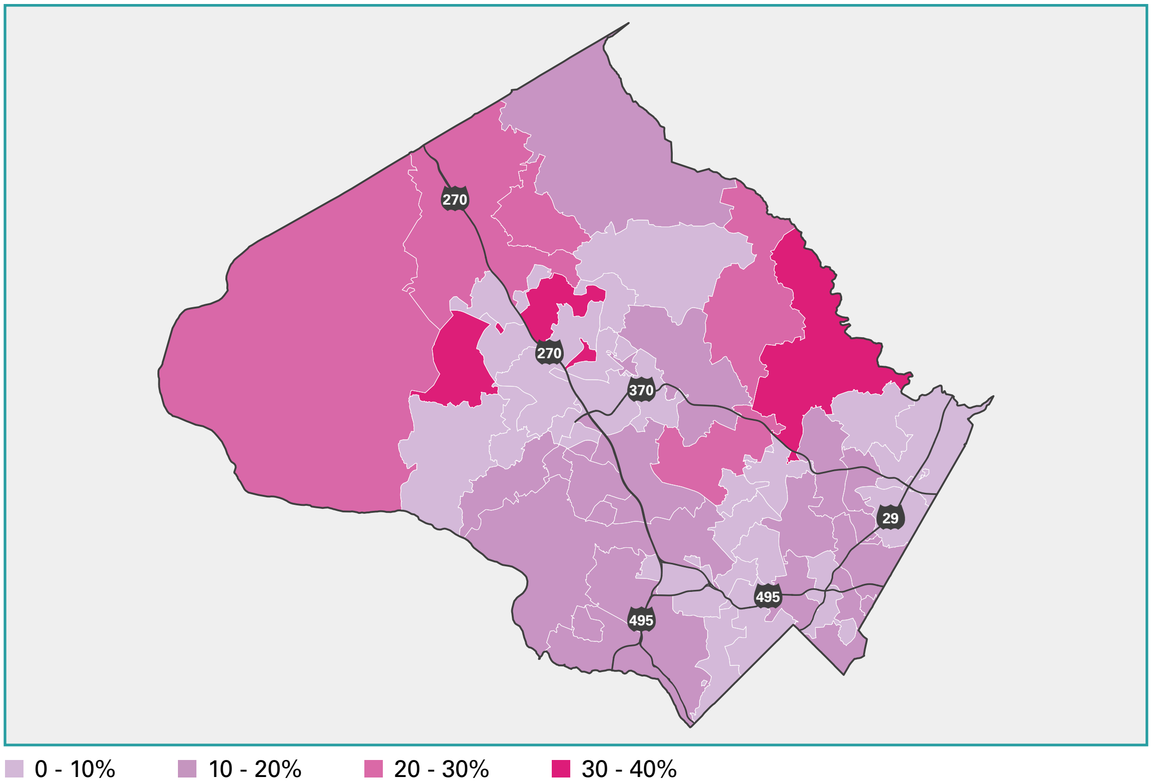


Figure 2.3.28 *Middle Schools FARMS Dissimilarity to Three Nearest Schools*

While generally we find that indicators of racial and socio-economic dissimilarity overlap, examining the socio-economic dissimilarity of middle schools to their nearest schools reveals some notable patterns we have not seen before.

Middle schools in the Winston Churchill, Walt Whitman, Thomas Wootton, Richard Montgomery, and Walter Johnson Clusters all show socio-economic dissimilarity indices between 10 and 20% when compared to their nearest schools. These indices were much lower for racial dissimilarity, all under 10%.

Other patterns across the district remain steadfast: middle schools in low density areas such as in the Poolesville, Damascus, and Clarksburg Clusters have high socio-economic dissimilarity rates, as do middle schools in the Downcounty Consortium.

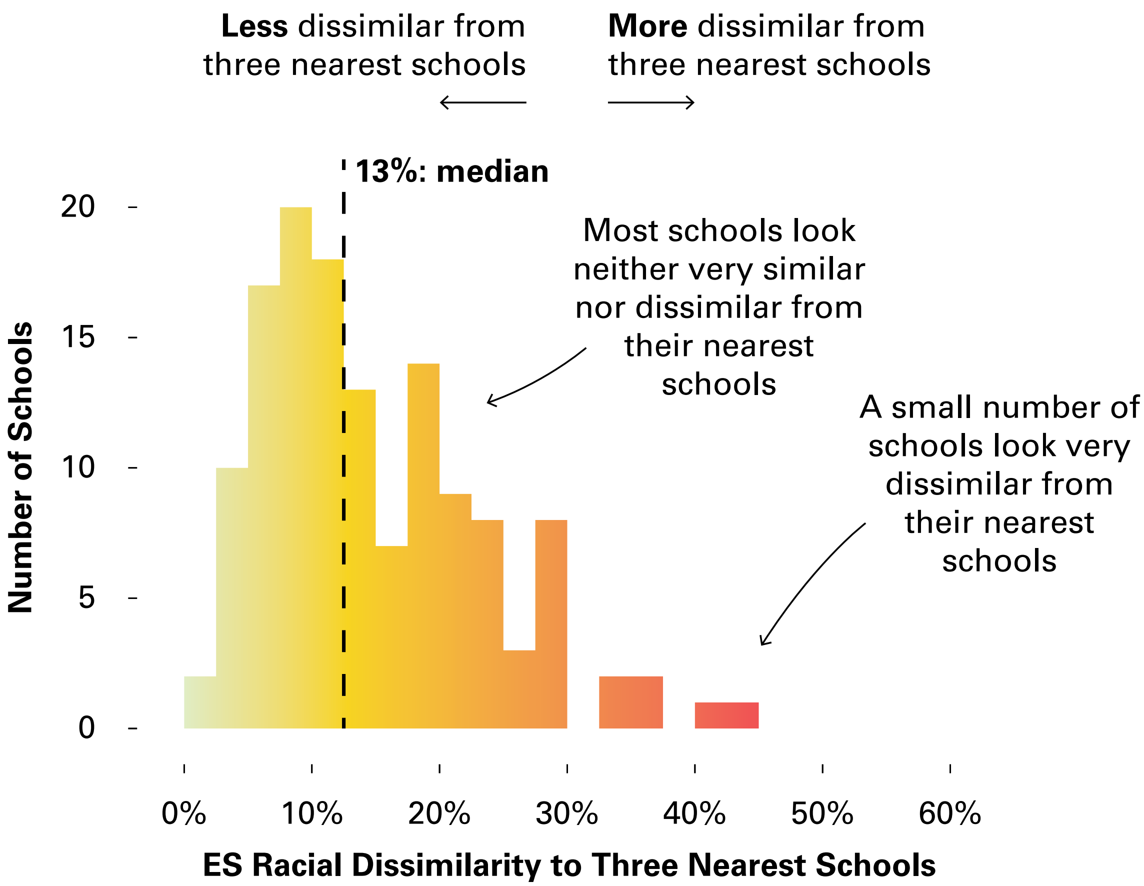


Figure 2.3.29 *Racial Dissimilarity to Three Nearest Schools of the Same School Level*

Figure 2.3.29, above, groups and counts the number of elementary schools by their racial dissimilarity to their nearest three schools. A lower value means that a school is more similar to its nearest three schools and a higher value means a schools is more dissimilar from its nearest three schools.

Examining Figure 2.3.29 we see that half of elementary schools have dissimilarity scores under 13% when compared to their nearest three schools. The other half have dissimilarity scores between 13% and 43%. This distribution suggests that while most schools in MCPS look similar to their nearest schools, a small number of schools look highly dissimilar to their nearest schools.

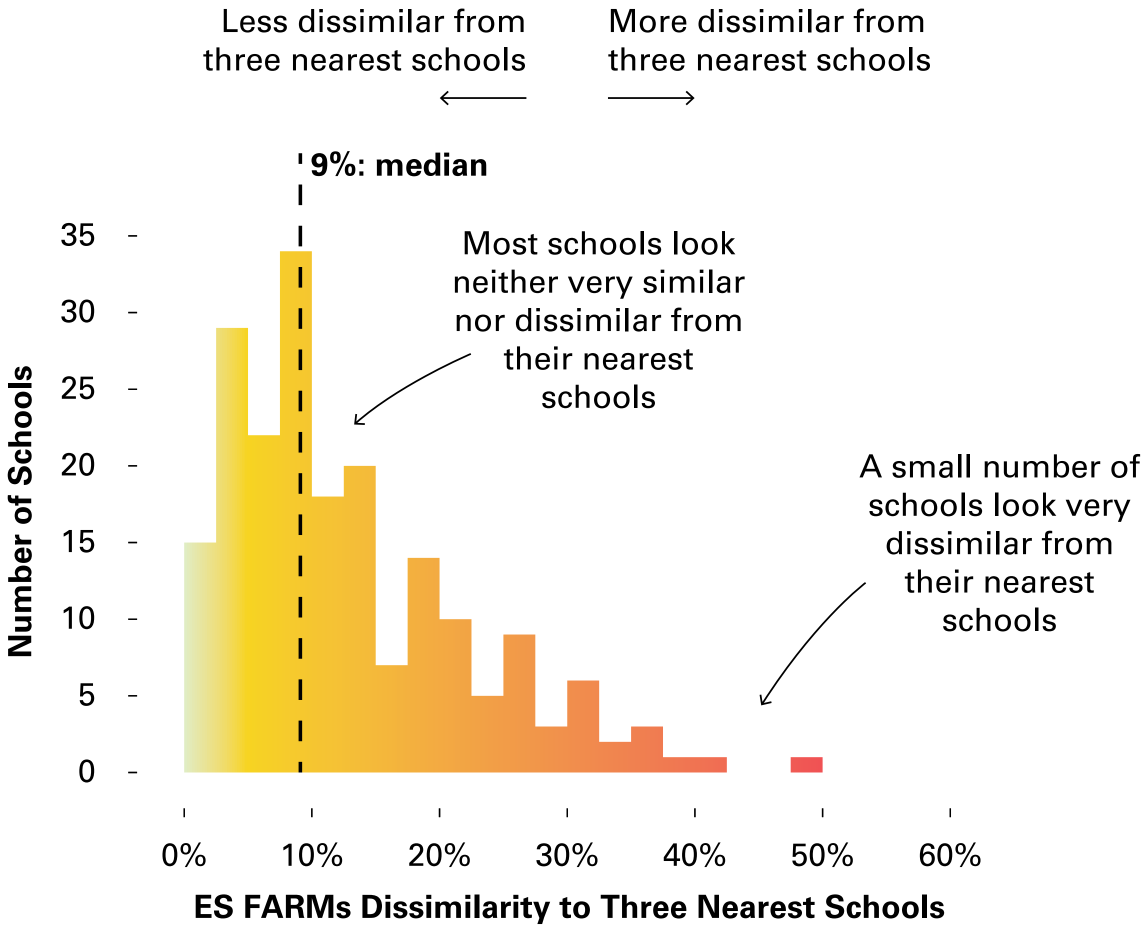


Figure 2.3.30 *Racial Dissimilarity to Three Nearest Schools of the Same School Level*

When we examine diversity from the point of view of FARMS and Ever-FARMS we find similar patterns to racial diversity. The distribution of elementary school FARMS dissimilarity scores, seen in Figure 2.3.30 above, follows a similar left-skewed pattern as seen for racial dissimilarity. Half of elementary schools have dissimilarity scores under 9%, the median in MCPS, with the rest ranging between 9% and 48%.

B.2 Forms of Adjacency

Throughout this section we will highlight two types of adjacencies:

1. Clustering of like with like (similar schools): In some parts of the district we see a relatively homogeneous distribution of people and wealth relative to the county overall.

2. Adjacency of unlike with unlike (dissimilar schools): In other parts of the district we see neighboring communities with very different demographic and socio-economic make-up.

In this section, we will go through examples of greatest and least similar adjacencies, in terms of both racial demographics and FARMS.

Clustering of Like with Like Schools (Similar Schools)

Across MCPS we see large discrepancies in how similar or dissimilar schools are from the nearest schools. Some schools have very similar socio-economic and racial backgrounds to their nearest schools. Others have very different socio-economic and racial backgrounds from their nearest schools.

Wood Acres Elementary School in the Walt Whitman cluster is more racially similar to its nearest three schools – Bannockburn, Somerset, and Westbrook – than any other elementary school in MCPS. It's dissimilarity index when compared to its three nearest schools is 2%. This is an example of like schools clustering with like schools along the lines of race.

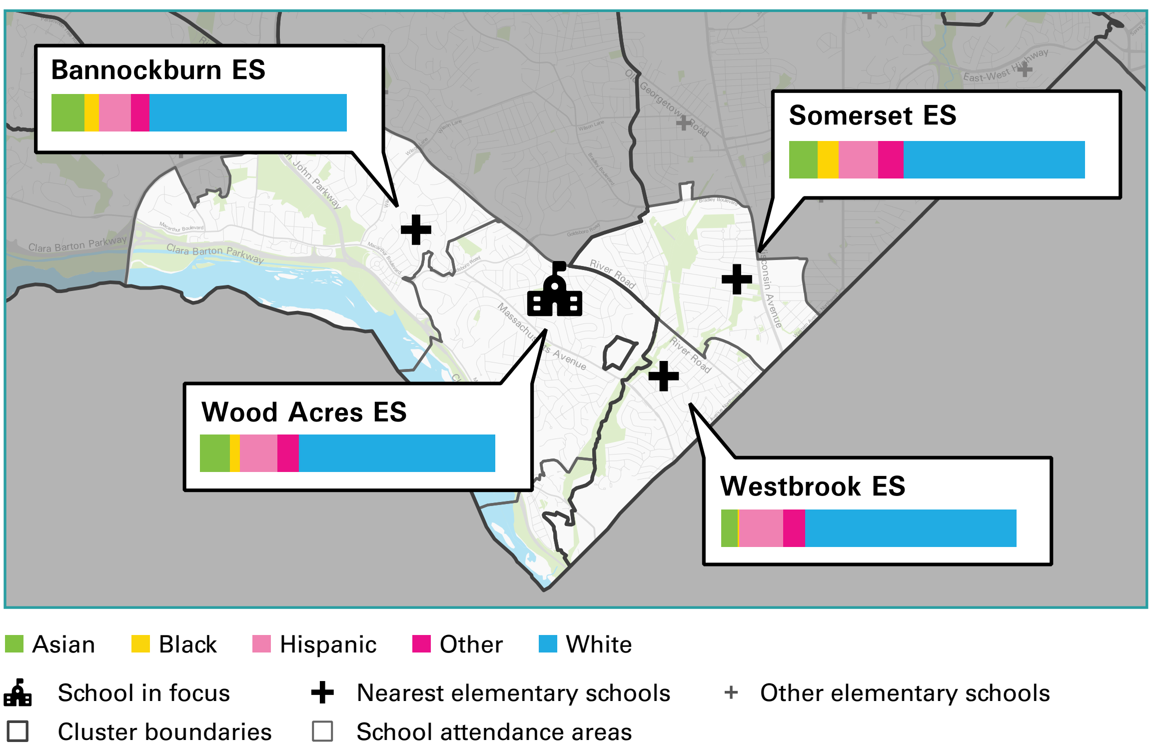


Figure 2.3.31 *Wood Acres ES: Most Racially Similar to Three Nearest Schools*

School	Grades	Asian	Black	Hispanic	Other	White	Dissimilarity to Nearest Schools	Dissimilarity to Wood Acres
Wood Acres	K-5	10%	3%	13%	7%	66%	2%	NA
Westbrook	K-5	6%	1%	15%	7%	72%	9%	7%
Bannockburn	K-5	11%	5%	11%	6%	67%	5%	3%
Somerset	K-5	10%	7%	13%	8%	61%	3%	6%

Figure 2.3.32 *Wood Acres ES Dissimilarity to Three Nearest Schools*

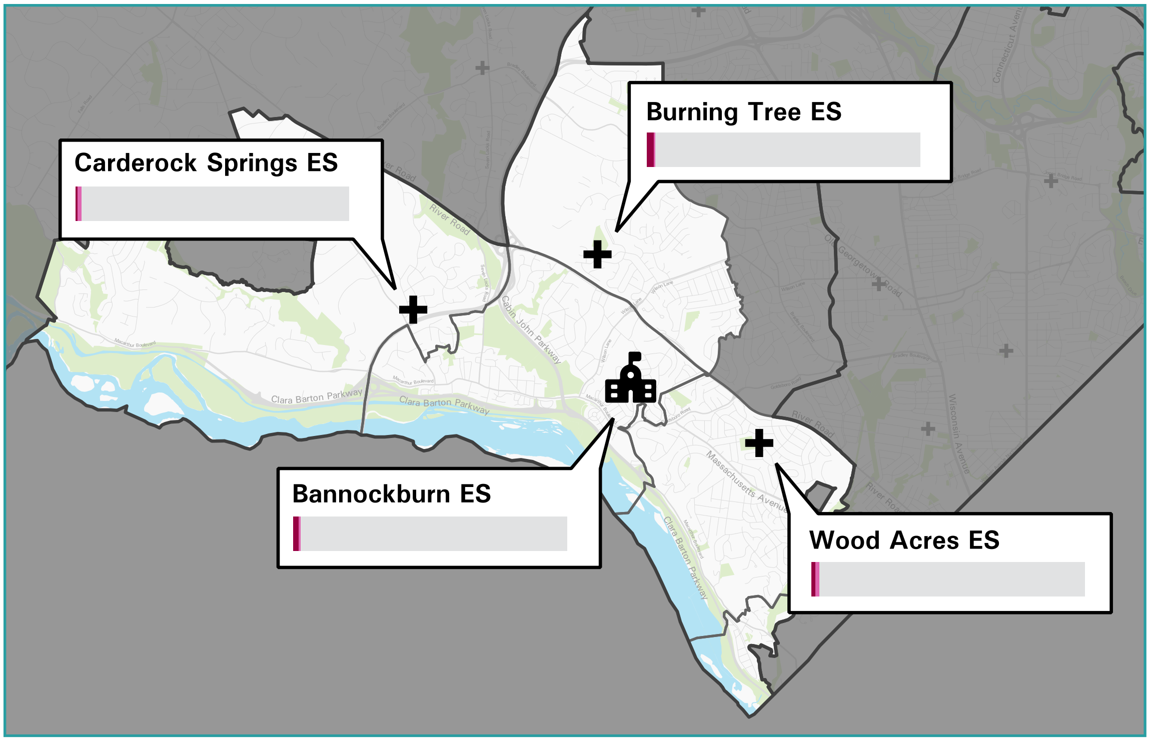
Wood Acres ES and its nearest three schools all have very low racial dissimilarity scores when compared to their nearest schools. This is an example of an area where racial demographics are relatively even across a large geography.

We can do a similar comparison for the FARMS rates of nearby schools.

The elementary school most similar to its three nearest schools along the dimension of socio-economic status is Bannockburn Elementary School in the Walt Whitman Cluster. Bannockburn is adjacent to Wood Acres ES, as seen in the previous example for racial dissimilarity. Bannockburn ES has low proportion of FARMS (2%) and previously FARMS (1%) students.

We see a similar spatial pattern in FARMS dissimilarity at Bannockburn ES as we saw with racial dissimilarity at Wood Acres ES. Bannockburn's three nearest schools have similar FARMS rates and FARMS dissimilarities compared to their nearest schools.

As previously noted, racial diversity, socio-economic diversity, and geography are highly interrelated phenomena across MCPS. Bannockburn, Wood Acres, and their nearest schools are good illustrations of the spatial concentration of affluent, mostly White students in MCPS.



FARMS Previously FARMS Never-FARMS

School in focus Nearest elementary schools Other elementary schools

Cluster boundaries School attendance areas

Figure 2.3.33 *Bannockburn ES: Most Socio-economically Similar to Three Nearest Schools*

School	Grades	FARMS	Previous FARMS	Never FARMS	Dissimilarity to Nearest Schools	Dissimilarity to Bannockburn
Bannockburn	K-5	2%	1%	97%	0%	NA
Wood Acres	K-5	2%	1%	97%	3%	1%
Burning Tree	K-5	3%	0%	97%	1%	1%
Carderock Springs	K-5	1%	1%	98%	2%	1%

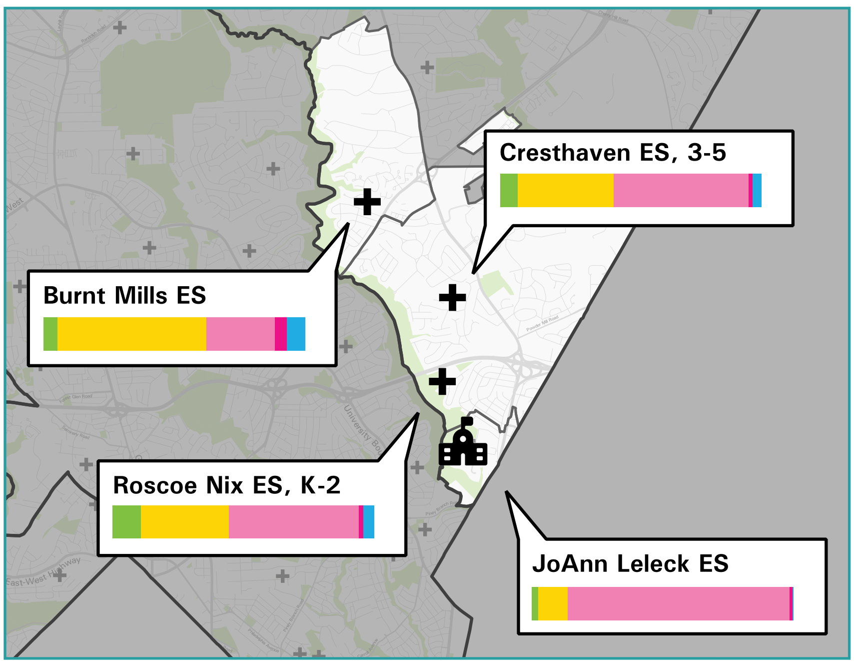
Figure 2.3.34 *Bannockburn ES Dissimilarity to Three Nearest Schools*

Adjacencies of Unlike with Unlike (Dissimilar Schools)

At the other end of the spectrum is JoAnn Leleck Elementary School, which has a racial dissimilarity index of 43% compared to its three nearest schools. JoAnn Leleck is disproportionally Hispanic compared to its nearest schools and to MCPS overall. Eighty-five percent of JoAnn Leleck's students are Hispanic, compared to a range of 25-55% Hispanic students in the nearest schools. This is an example of a school clustering with very dissimilar schools: unlike with unlike.

Methodological Note

Roscoe Nix ES and Cresthaven ES are paired schools with a shared attendance area, serving grades K-5 between them. Other paired schools in MCPS (which are only at the elementary school level) have separate attendance areas, unlike Roscoe Nix / Cresthaven which share an attendance area. For this reason, we have chosen to treat the two schools as separate.



Asian Black Hispanic Other White

School in focus | Nearest elementary schools | Other elementary schools

Cluster boundaries | School attendance areas

Figure 2.3.35 *JoAnn Leleck ES: Most Racially Dissimilar from Three Nearest Schools*

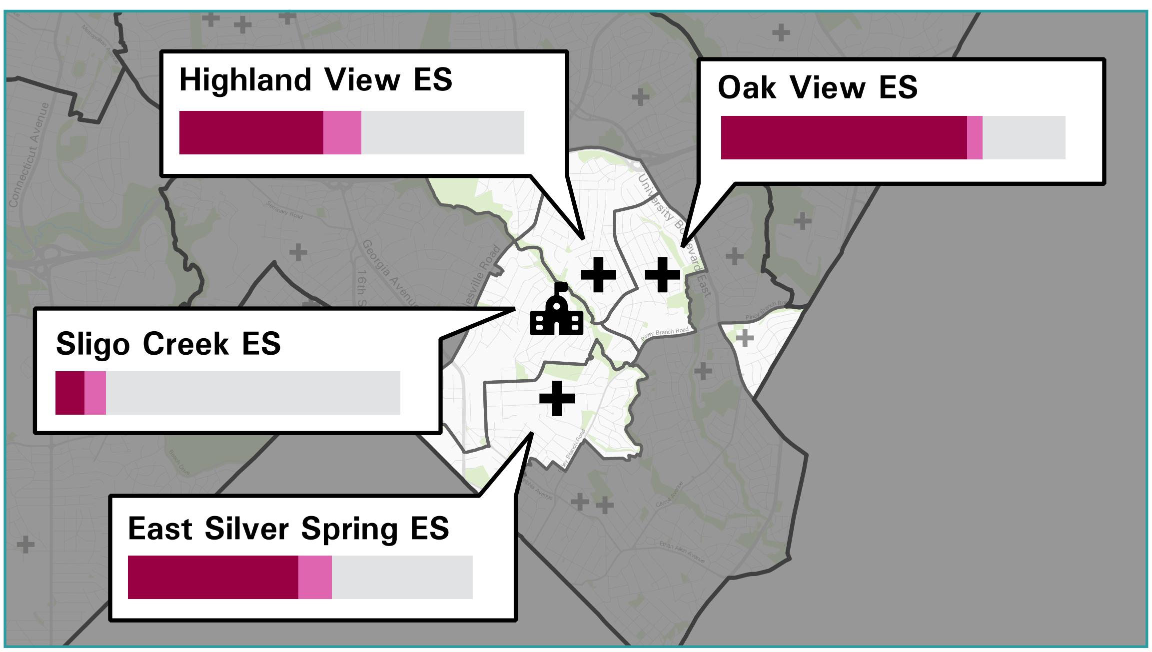
Two of JoAnn Leleck's nearest schools, Roscoe Nix and Cresthaven (which are paired), have low racial dissimilarity scores when compared to their three nearest schools (6% and 5% respectively).

Across MCPS, racial and socio-economic isolation is often highly unique to a particular school or geographic area. Areas with highly diverse populations overall, such as in Silver Spring and its surrounding neighborhoods, may have neighborhoods with different racial demographics within them. For this reason, we may see schools like JoAnn Leleck with high racial dissimilarity indices next to schools with low racial dissimilarity indices.

School	Grades	Asian	Black	Hispanic	Other	White	Dissimilarity to Nearest Schools	Dissimilarity to JoAnn Leleck
JoAnn Leleck	HS-5	2%	11%	85%	1%	0%	43%	NA
Roscoe Nix	HS-2	11%	34%	50%	2%	4%	6%	35%
Cresthaven	3-5	6%	34%	55%	2%	4%	5%	30%
Burnt Mills	HS-5	5%	57%	26%	5%	7%	19%	59%

Figure 2.3.36 *JoAnn Leleck ES Dissimilarity to Three Nearest Schools*

Nearby Sligo Creek Elementary School is an example of a school that is highly socio-economically dissimilar from its nearest schools. Here, we compare Sligo Creek ES to Highland View ES, Oak View ES, and East Sliver Spring ES. Sligo Creek has a FARMS rate of 8% and an Ever-FARMS rate of 15%. By contrast, its nearest schools all have Ever-FARMS rates greater than 50% of students. At Oakview ES the FARMS rate is 71% and the Ever-FARMS rate is 76%.



FARMS   Previously FARMS   Never-FARMS

School in focus   Nearest elementary schools   Other elementary schools

Cluster boundaries   School attendance areas

Figure 2.3.37 *Sligo Creek ES: Most Socio-economically Dissimilar from Three Nearest Schools*

School	Grades	FARMS	Previous FARMS	Never FARMS	Dissimilarity to Nearest Schools	Dissimilarity to Bannockburn
Bannockburn	K-5	2%	1%	97%	0%	NA
Wood Acres	K-5	2%	1%	97%	3%	1%
Burning Tree	K-5	3%	0%	97%	1%	1%
Carderock Springs	K-5	1%	1%	98%	2%	1%

Figure 2.3.38 *Sligo Creek ES Dissimilarity to Three Nearest Schools*

The two previous examples of local dissimilarity – JoAnn Leleck and Sligo Creek – underline that the demographics and socio-economic background of a school's student body are hyper-local. Racial and socio-economic dissimilarity in schools is often highly sensitive to the exact boundaries of a school attendance area. Minor changes in these boundaries can in some cases significantly alter the demographic and socio-economic make-up of a school.

Which Schools Are Most Socio-economically Dissimilar from their Nearest Schools?

Aside from Sligo Creek ES, the other elementary schools with the highest socio-economic dissimilarity to their three nearest schools include Laytonsville ES (Damascus Cluster), Forest Knolls ES (Downcounty Consortium), Kemp Mill ES (Downcounty Consortium), and Strawberry Knoll ES (Gaithersburg cluster). Of these top five most dissimilar schools, three are a part of the Downcounty Consortium.

The most socio-economically dissimilar middle schools in the district from their nearest three schools are Neelsville MS (Clarksburg cluster), Kingsview MS (Northwest HS), Farquhar MS (Sherwood HS / Northeast Consortium), Hallie Wells MS (Clarksbug and Damascus HS), and Rosa M. Parks MS (Sherwood HS/Northeast Consortium).

The most socio-economically dissimilar high schools from their three nearest high schools are Sherwood HS, Poolesville HS, Damascus HS, Whitman HS, and Gaithersburg HS.

2.3 **Data Analysis** Diversity

C. The Effect of Feeder Patterns on Diversity

Having analyzed disparities across the district and at nearby schools, we now turn to questions of diversity across feeder patterns. We first examine the effects of cluster boundaries on diversity, then compare diversity measures across school levels. We also look at dissimilarity in terms of the number of nearest schools in a different cluster, to better understand the effects of attendance area size.

Questions:

How does diversity vary throughout the elementary to middle school, and middle to high school feeder patterns?
What is the relationship between elementary school diversity and the overall dissimilarity of elementary schools within a cluster?
Are there any trends across school levels regarding these measures of diversity?
How does diversity vary across different kinds of attendance areas?

Analyses:

C.1 The Effects of Cluster Boundaries
C.2 Diversity by Feeder Pattern

Insights

1. In this set of analyses, we compare schools to their closest schools by roadway distance, including schools across cluster boundaries. This analysis suggests that the cluster boundaries in MCPS may contribute to racial or socio-economic isolation to some degree

In many cases across the district, cluster boundaries isolate schools from one another that might otherwise look more socio-economically or racially similar. For example, elementary schools whose nearest schools are in different clusters are more likely to be racially dissimilar from their nearest schools than if their nearest schools are located in the same cluster:

- In MCPS the median racial dissimilarity rate for elementary schools is 13%.
- Schools with only one of their three nearest schools in a different cluster have a median racial dissimilarity of 12%.
- By contrast, schools with two or three of their nearest three schools in different clusters have median racial dissimilarity rates of 15% and 18%, respectively.

2. In addition to adjacent schools on the other side of cluster boundaries, the shape of these boundaries themselves seems to have a relationship with racial and socio-economic dissimilarity. Schools with high dissimilarities when compared to their nearest schools can often be found in school clusters with boundaries that have highly irregular shapes.

Clusters in midcounty, including the Wootton, Quince Orchard, Northwest, Seneca Valley, Clarksburg, and Gaithersburg have some of the most irregularly shaped cluster boundaries. Elementary schools in these clusters, in particular, are most likely to be racially and socio-economically dissimilar from their nearest neighbors, which often fall in different clusters.

3. Ever-FARMS rates by school are more evenly distributed at the high school level than at the middle school level, and more evenly distributed at the middle school level than at the elementary school level.

Seven out of 25 high schools (31%) have Ever-FARMS rates between 40% and 60%, near the MCPS average of 46%. By contrast, only 18 of 135 elementary schools (13%) fall in that same middle category.

C.1 The Effects of Cluster Boundaries

In this analysis we examine the extent to which cluster boundaries may create schools that are more dissimilar to schools in their cluster than to those they are nearest to. In each analysis in this section, we compare schools to their three nearest schools by roadway distance—regardless of cluster boundaries—to examine the question: do cluster boundaries make schools more dissimilar from one another than they would otherwise be?

District Overview

Figure 2.3.39, below, examines the racial dissimilarity of elementary schools to the overall racial demographics of their cluster. The black dots represent schools where there is only one racial group representing more than 15% of the school's population.

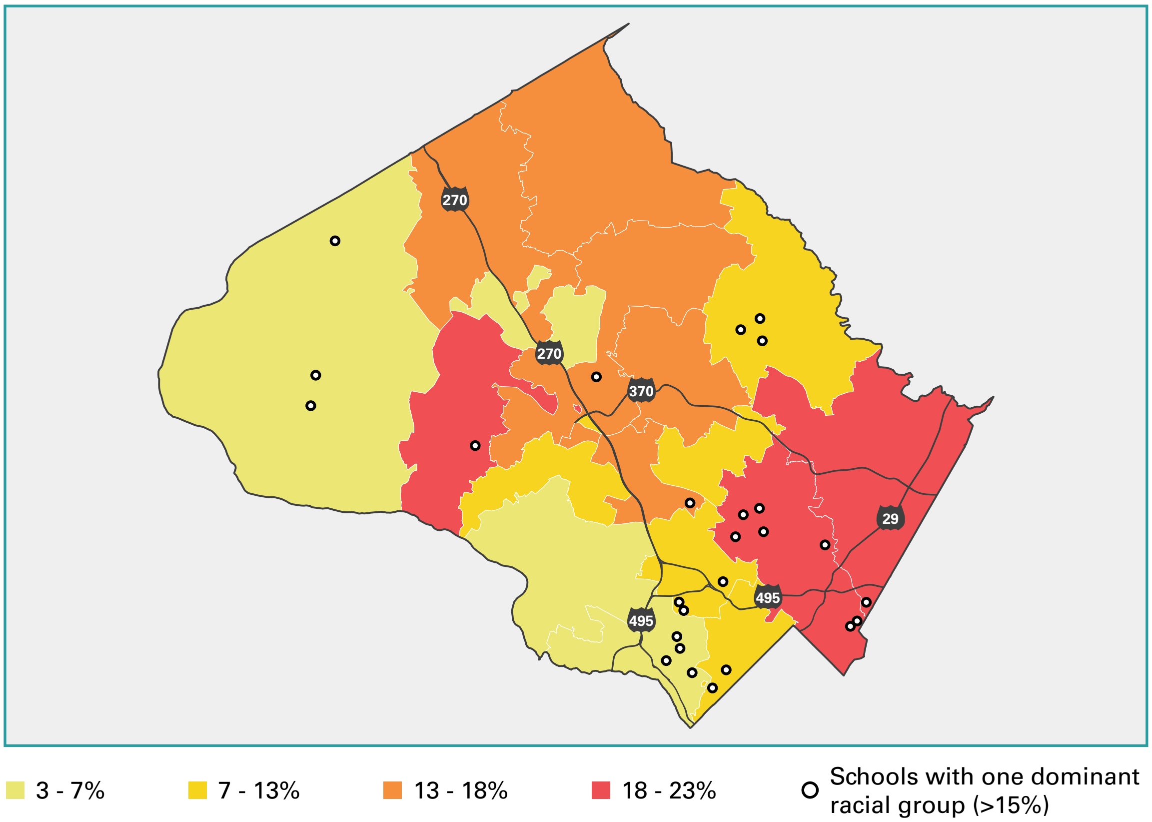


Figure 2.3.39 *Average Elementary School Racial Dissimilarity to the Overall ES Population of Their Cluster*

Figure 2.3.39 indicates that clusters where elementary schools are either highly similar or dissimilar from their clusters overall are more likely to have schools with a single dominant racial group.

This raises the question of whether current cluster boundaries are isolating certain demographic groups, or whether they simply reflect the demographic distribution of students across MCPS. The two examples that follow illustrate how cluster boundaries can divide communities that otherwise might have schools with more similar, or even, racial and socio-economic make-ups.

Examples of Dissimilarity Near Complex Cluster Boundaries

Diamond Elementary School is highly racially dissimilar from its nearest schools, Brown Station ES, Marshall ES, and Carson ES. It has a racial dissimilarity rate of 36% compared to its nearest schools. In fact, it is the elementary school most dissimilar from its nearest schools when those nearest schools are all in a different cluster. Diamond ES is in the Northwest Cluster, while its three nearest schools are all in the Quince Orchards Cluster. Clusters are indicated with the thick dark grey line in the map below.

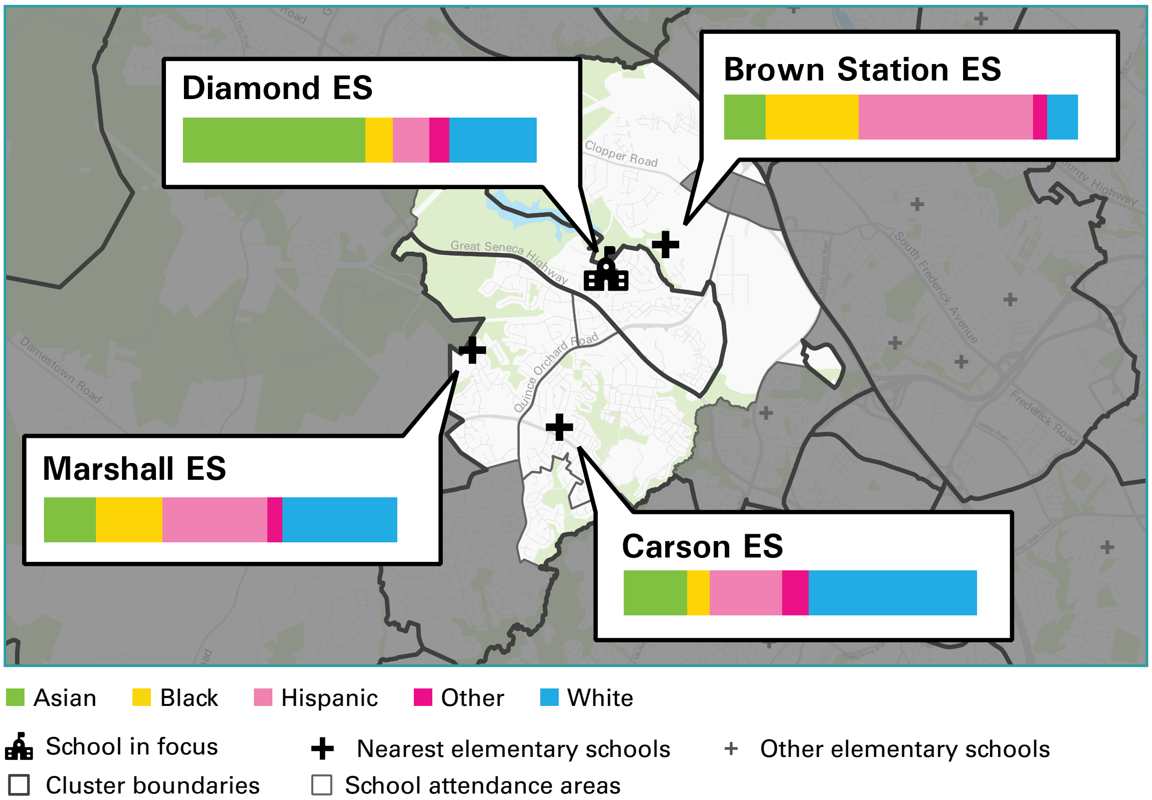


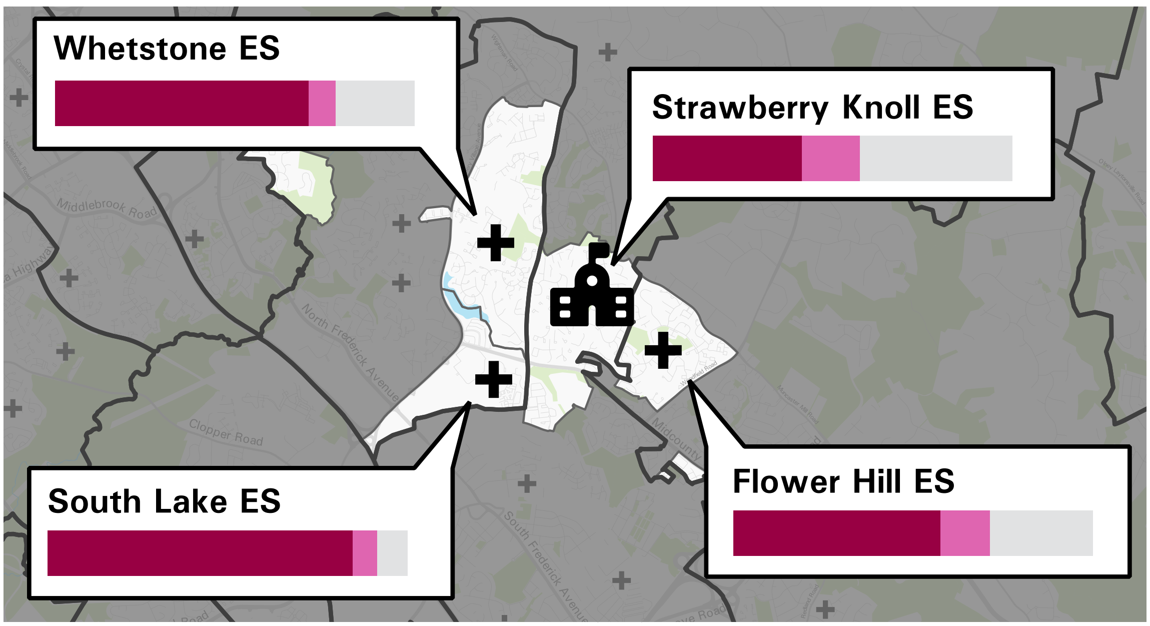
Figure 2.3.40 *Diamond ES Racial Dissimilarity from Nearest Schools*

School	Grades	Asian	Black	Hispanic	Other	White	Dissimilarity to Nearest Schools	Dissimilarity to Diamond
Diamond	K-5	52%	8%	10%	6%	25%	36%	NA
Brown Station	HS-5	12%	26%	49%	4%	9%	20%	58%
Carson	HS-5	18%	6%	21%	8%	48%	23%	35%
Marshall	K-5	15%	19%	30%	4%	32%	22%	38%

Figure 2.3.41 *Diamond ES Racial Dissimilarity from Nearest Schools*

This is an example of a school isolated from its nearest schools and racially dissimilar from those nearest schools. This alone, however, does not necessarily mean that the Northwest and Quince Orchard Cluster boundaries create more dissimilar schools. We will address this question later in the section.

Strawberry Knolls ES, in the Gaithersburg Cluster, is an example of an elementary school that is highly socio-economically dissimilar from its nearest schools. Of all elementary schools whose nearest schools are all in a different cluster, Strawberry Knolls is the most socio-economically dissimilar to its nearest schools. Its nearest schools are Whetstone and South Lake ES – both in the Watkins Mill Cluster – and Flower Hill ES, which is in the Magruder Cluster.



FARMS Previously FARMS Never-FARMS

School in focus | Nearest elementary schools | Other elementary schools
Cluster boundaries | School attendance areas

Figure 2.3.42 *Sligo Creek ES: Most Socio-economically Dissimilar from Three Nearest Schools*

School	Grades	FARMS	Previous FARMS	Never FARMS	Dissimilarity to Nearest Schools	Dissimilarity to Strawberry Knoll
Strawberry Knoll	HS-5	41%	16%	42%	33%	NA
Flower Hill	HS-5	58%	14%	29%	9%	16%
Whetstone	HS-5	71%	7%	22%	13%	29%
South Lake	HS-5	85%	7%	8%	17%	43%

Figure 2.3.43 *Strawberry Knoll ES Socio-economic Dissimilarity from Nearest Schools*

Once again, this is an example of a school isolated from its nearest schools and socio-economically dissimilar from those nearest schools. Are schools in this configuration more likely on average to be racially dissimilar from their nearest schools than schools whose neighbors are in the same cluster?

The Overall Effect of Clusters on Dissimilarity

Figure 2.3.44, below left, suggests that schools that have two or three nearest schools in different clusters are more likely to be racially dissimilar from their three nearest schools.

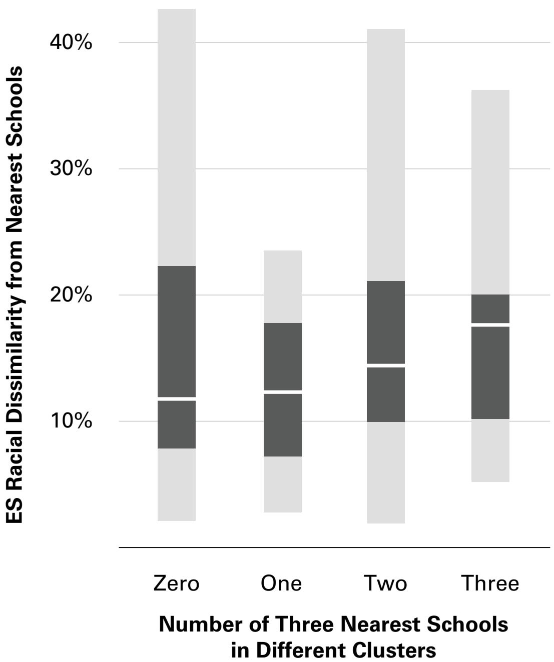


Figure 2.3.44 *Elementary School Racial Dissimilarity to Nearest Schools by Number of Nearest Schools in Different Clusters*

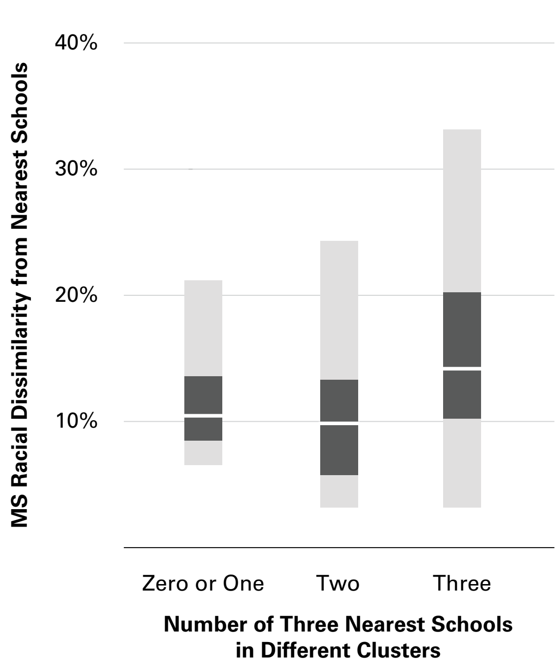
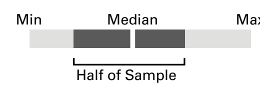


Figure 2.3.45 *Middle School Racial Dissimilarity to Nearest Schools by Number of Nearest Schools in Different Clusters*



Schools with only one of their three nearest schools in different clusters have a median racial dissimilarity of 12%. By contrast, schools with two or three of their nearest three schools in different clusters have median racial dissimilarity rates of 15% and 18% respectively. Recall that in MCPS the median racial dissimilarity rate for elementary schools is 13%. Finally, note that the minimum of the inter-quartile range, representing half of all elementary schools in the bars shown above (this is the dark grey bar), is two to three percentage points higher for schools with two or three nearest schools in different clusters, than for schools with only zero or one nearest schools in their cluster.

This suggests that elementary schools are more likely to be dissimilar from their nearest schools if their nearest schools are in a different cluster. Cluster boundaries may be isolating communities from one another that otherwise might look more similar.

Now, a few qualifying statements must be made. The racial dissimilarities of elementary schools compared to their nearest schools range from 2% to 43%. This is a broad range. **Figure 2.3.44** indicates that the minimum and maximum dissimilarities of schools in the four categories range broadly. In other words, many schools are outliers and must be examined on a case-by-case basis. There may be individual cases where cluster boundaries improve racial dissimilarities in elementary schools, even though the overall trend suggests otherwise.

Nevertheless, a difference of three to six percentage points in racial dissimilarities, when looking at all elementary schools together, is a significant amount.

We see a similar pattern for middle schools in MCPS, though the effect size seen for elementary schools is less significant. The median middle schools with three of three of its nearest schools in different clusters has a racial dissimilarity index of about 15%, compared to only 10% for middle schools that only have zero to two of their nearest schools in different clusters. This may in part be due to the greater use of split articulations and island assignments in middle schools. This is a space for future inquiry.

The Geography of Dissimilarities and Clusters

Figure 2.3.46, below, indicates elementary school attendance areas where all three of their nearest three schools are in the same cluster as them. The racial dissimilarity indices of these schools are represented by the different color hues.

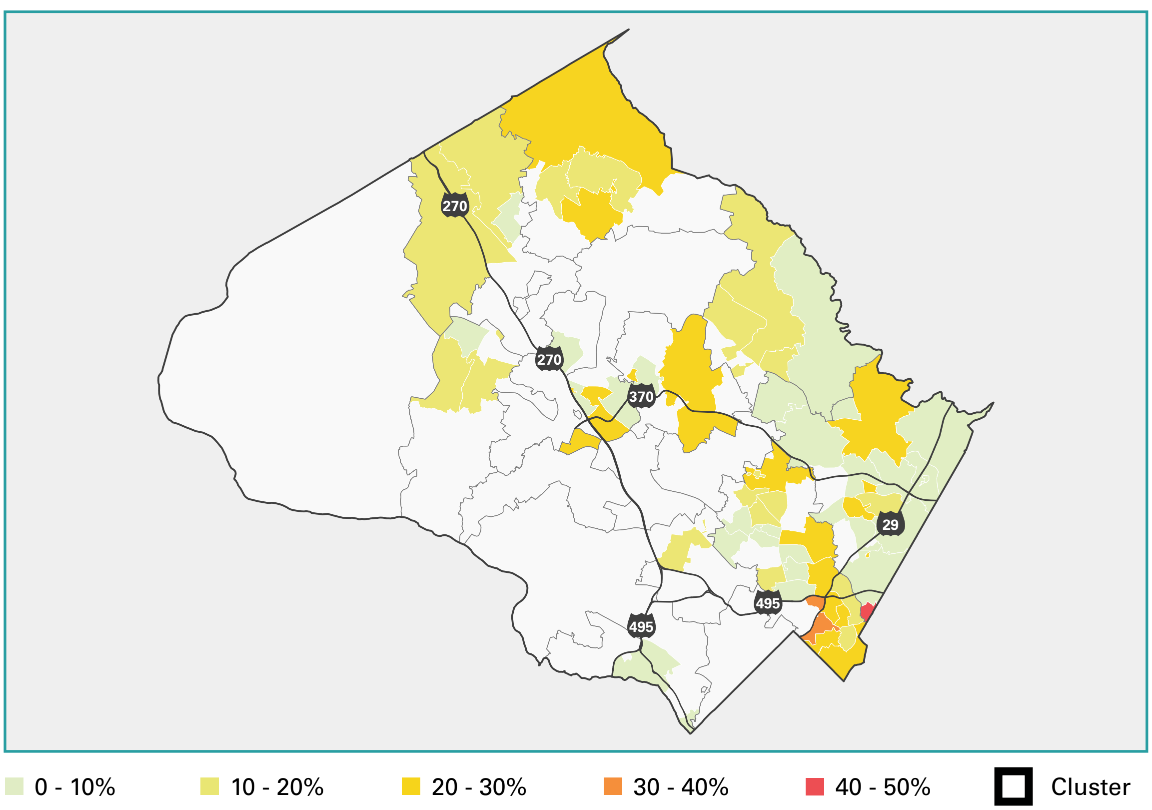


Figure 2.3.46 *Elementary School Racial Dissimilarity to Nearest Schools for Schools Where Nearest Schools are in the Same Cluster*

With the exception of a number of schools in the Downcounty Consortium, most elementary schools who's nearest three schools are in the same cluster have low racial dissimilarity indices, most under 20%. While 20% is greater than the districtwide median racial dissimilarity of school's to their nearest three schools, 20% is far from the outlying dissimilarity indices we see for some schools. Here, we focus on outliers, particularly those schools with dissimilarity indices to their nearest three schools over 25%.

Figure 2.3.47, below, indicates elementary school attendance areas for schools with one, two, or three of three of their nearest schools in a different cluster. The attendance areas are colored by their racial dissimilarity indices.

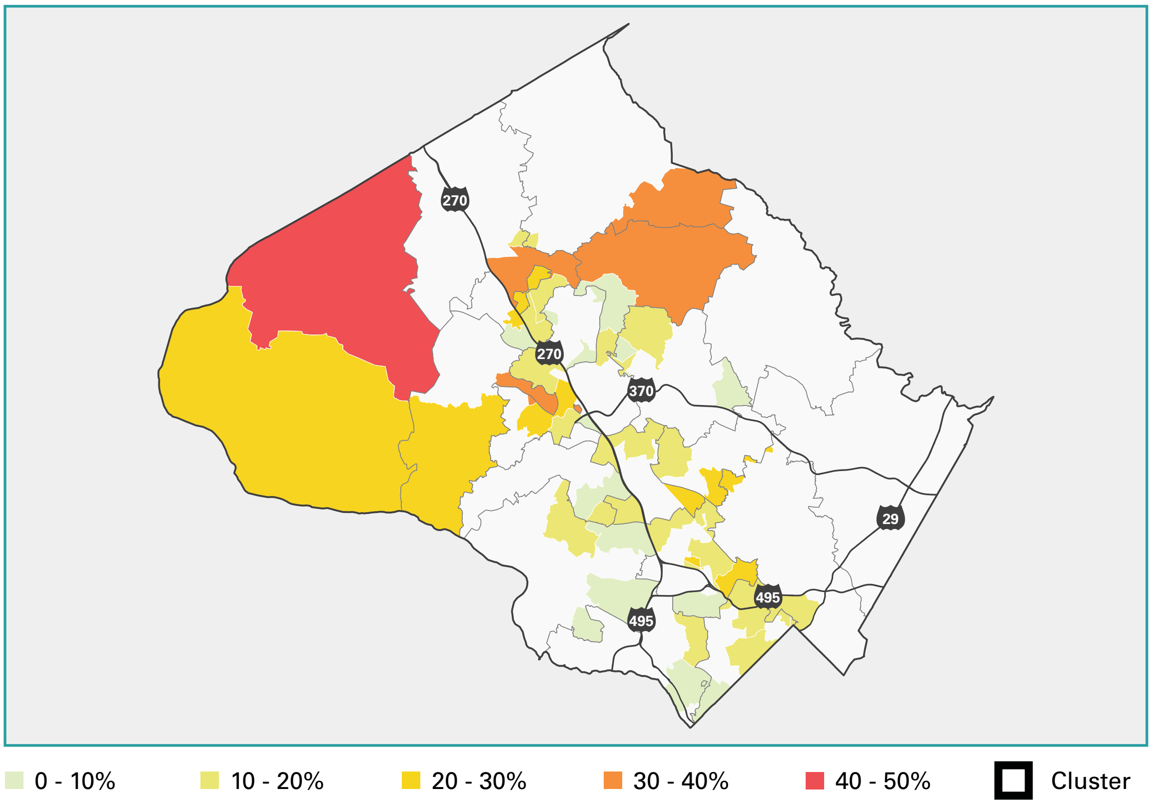
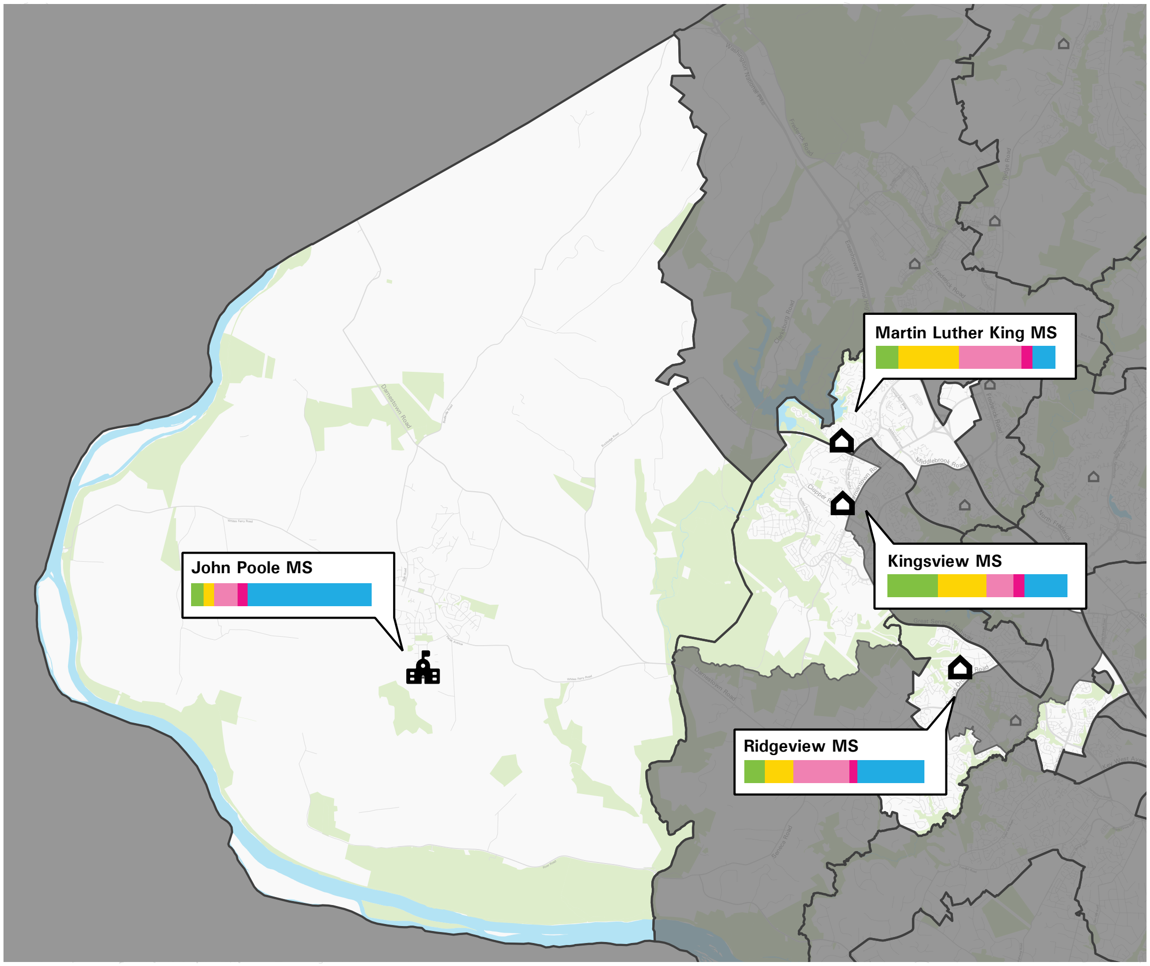


Figure 2.3.47 *Elementary School Racial Dissimilarity to Nearest Schools for Schools Where More Than One Nearest Schools are in a Different Cluster*

Figure 2.3.47 suggests that there are relatively few elementary schools with dissimilarities under 10% that have one or more of their nearest schools in a different cluster. Where they exist, they are mainly clustered in Walt Whitman and Winston Churchill Clusters in the southwest corner of Montgomery County.

A large number of elementary schools, mostly in midcounty along I-270 and north of I-495 in the Clarksburg, Quince Orchard, Walter Johnson, and Richard Montgomery Clusters are nearest to more than one elementary school in a different cluster. These elementary schools have racial dissimilarity indices between 10% and 30%, for the most part.

Finally, elementary schools in less densely populated areas such as Poolesville and the northern side of the Damascus Cluster, appear most racially dissimilar from their nearest schools. These schools are relatively far from their nearest schools, so we might expect to see these kinds of dissimilarities. John Poole Middle School illustrates this, as seen in Figure 2.3.48.



Asian Black Hispanic Other White

School in focus
Nearest middle schools
Other middle schools
Cluster boundaries
School attendance areas

Figure 2.3.48 *An Example of Dissimilarity to Nearby Schools: Farquhar Middle School*

School	Grades	Asian	Black	Hispanic	Other	White	Dissimilarity to Nearest Schools	Dissimilarity to Poole
Poole	6-8	7%	6%	13%	5%	69%	44%	NA
Kingsview	6-8	28%	27%	15%	6%	24%	28%	45%
Ridgeview	6-8	11%	16%	31%	4%	37%	16%	33%
King	6-8	13%	34%	35%	6%	13%	8%	56%

Figure 2.3.49 *John Poole MS Racial Dissimilarity from Nearest Schools*

Addressing racial and socio-economic dissimilarities in schools like John Poole may be more challenging than in other parts of the county, where schools tend to be geographically closer to one another.

C.2 Diversity by School Level

This analysis examines how our indicators of diversity change by school level.

FARMS and Ever-FARMS by School Level

The share of schools with high FARMS rates is highest at the elementary school level and lowest at the high school level (Figure 2.3.50**)**. Adjusting for students who have ever been eligible for FARMS, called Ever-FARMS, we see the same pattern (Figure 2.3.51).

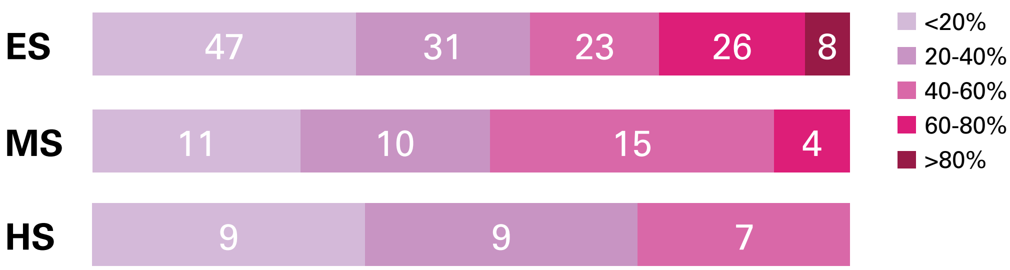


Figure 2.3.50 *Number of Schools by FARMS Rate and School Level*

Ever-FARMS rates by school are more evenly distributed between schools at the high school level than at the middle school level, which is still more evenly distributed than Ever-FARMS rates at the elementary school level. Seven out of 25 high schools (31%) have Ever-FARMS rates between 40 and 60%. The range of ever-FARMS rates found in these seven high schools is close to the MCPS average of 46%. By contrast, only 18 of 135 elementary schools (13%) fall in that same middle category.

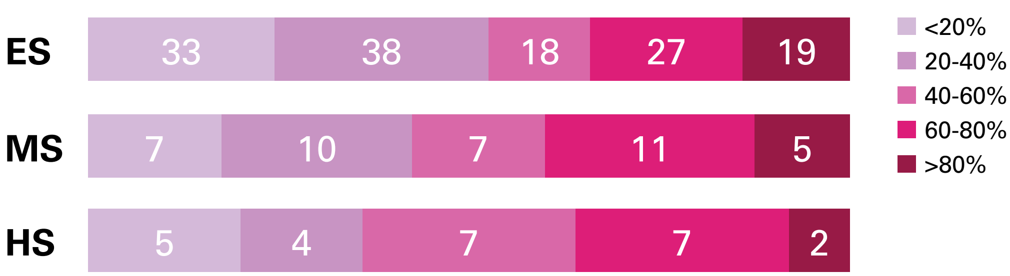


Figure 2.3.51 *Number of Schools by Ever-FARMS Rate and School Level*

ESOL and Ever-ESOL by School Level

Similar to FARMS and Ever-FARMS, the share of schools with high ESOL rates is greatest at the elementary school level and lowest at the high school level. As noted previously, the ESOL rate decreases sharply between 3rd and 6th grades, from 25% in elementary schools overall to 11% in both middle and high schools.

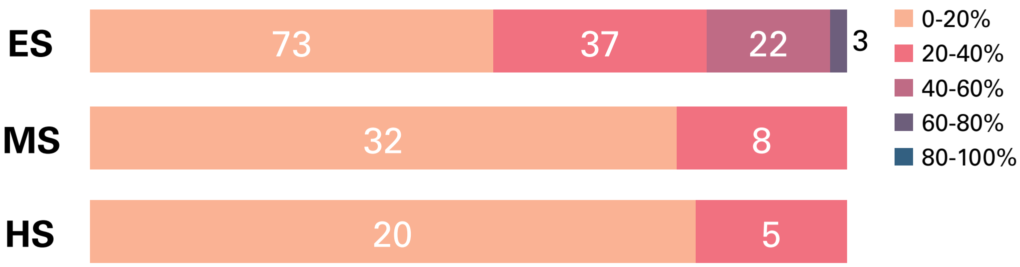


Figure 2.3.52 *ESOL by School Level*

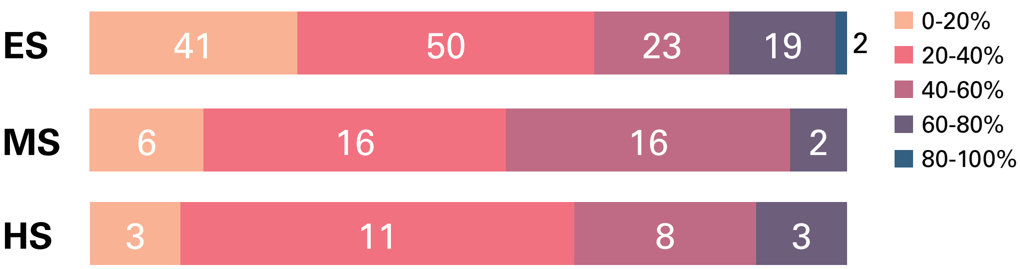


Figure 2.3.53 *Ever-ESOL by School Level*

The Ever-ESOL rate in middle schools and high schools remains quite consistent, representing 37% of students for both school levels. Compare this to the Ever-ESOL rate in elementary schools overall of 35%.

Dissimilarity to Three Nearest Schools by School Level

The following figures examine the racial and socio-economic dissimilarity of schools to their nearest three schools by school level.

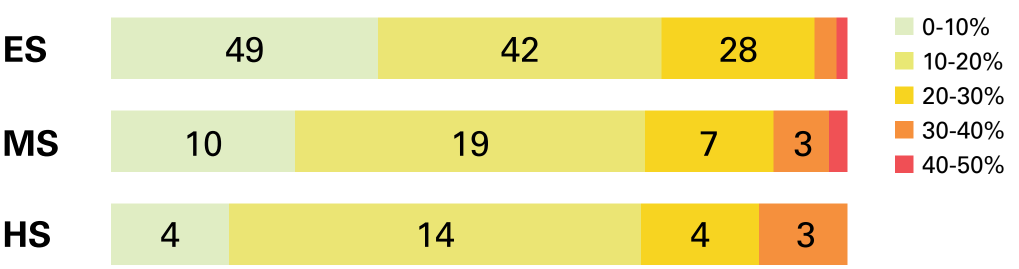


Figure 2.3.54 *Number of Schools by Racial Dissimilarity to Nearest Schools and School Level*

Figure 2.3.54 illustrates that 49 of the 135 elementary schools have very low racial dissimilarity indices (less than 10%). In other words, the students enrolled in these 49 elementary schools have similar racial and ethnic backgrounds as the students in their three nearest schools. What we notice about the racial dissimilarity is a trend towards increased dissimilarity rates at the middle school and high school level when compared to the three nearest schools. While 49 of the elementary schools have very low dissimilarity rates (less than 10%), only 10 middle schools and four high schools have dissimilarity indices less than 10%. We notice the same trend for socio-economic dissimilarity of schools to their nearest three schools: there are fewer and fewer schools with very low dissimilarity indices (less than 10%) at the middle school, then the high school level. In general, dissimilarity indices tend to increase uniformly between ES and MS, and then MS and HS.

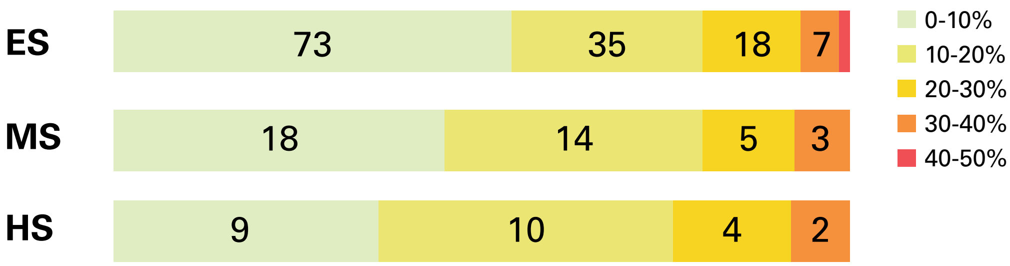


Figure 2.3.55 *Number of Schools by Socio-economic Dissimilarity to Nearest Schools and School Level*

The exception to this last observation is that there appear to be fewer schools with very high racial and socio-economic dissimilarities (greater than 40%) to their three nearest schools in high schools, than in middle or elementary schools. Two elementary schools have very high dissimilarity (40-50%) indices when compared to their three nearest elementary schools, but this comparison at middle school and high school level does not result in any dissimilarity indices greater than 40%.

2.3 **Data Analysis** Diversity

D. Special Conditions

In this final set of analyses, we consider how special conditions in MCPS may impact the three measures of diversity considered in this report. First we analyze non-contiguous school attendance areas (or island assignments) with relation to diversity. Then we look at school choice programs to see if these impact diversity across school levels.

Questions:

How is student diversity impacted (or not) by non-contiguous school attendance areas, known as island assignments?
Where are most schools with non-contiguous attendance areas and what do their attendance areas look like?
How is diversity impacted at schools with special programs?
Is the impact – if any – of special programs on diversity different across school levels?

Analyses:

D.1 Diversity and Island Assignments
D.2 Diversity and School Choice Programs

Insights

1. One of the special conditions we analyze in this section are non-contiguous school attendance areas—or island assignments. On the whole, schools with island assignments are more racially and socio-economically diverse than schools without island assignments.

Many island assignments significantly change the overall socio-economic and racial/ethnic background of their schools' student bodies. We find numerous examples of "islands" that are highly dissimilar from one another and their attendance area bodies (the part of the attendance area where the school is located).

2. The overall populations at schools with island assignments tend to be more socio-economically and racially/ethnically dissimilar to the students residing in their own islands than to their nearest schools.

To analyze this, we compare the dissimilarity scores of islands and attendance area bodies, to those between nearby schools. On average, there is more dissimilarity (or diversity) between the pieces of island assignments than there is between neighboring schools in MCPS.

3. We also look at regional choice programs (special programs accessible to students across multiple attendance areas) in this section, to understand whether these programs impact diversity at the schools that house them. Historically, school choice programs have been one strategy for voluntary integration of schools in MCPS. So, it is instructive to ask the question of how diversity may be impacted by these programs, and how these programs may impact diversity across MCPS. The clearest trend is at the middle school level, where regional choice programs correspond with lower dissimilarity:

Middle schools with special programs accessible to students across multiple attendance areas (called regional programs) have significantly lower socio-economic and racial/ethnic dissimilarity to their nearest schools. In other words, special programs at the middle school level are associated with less difference (or diversity) between that school and its nearby schools.

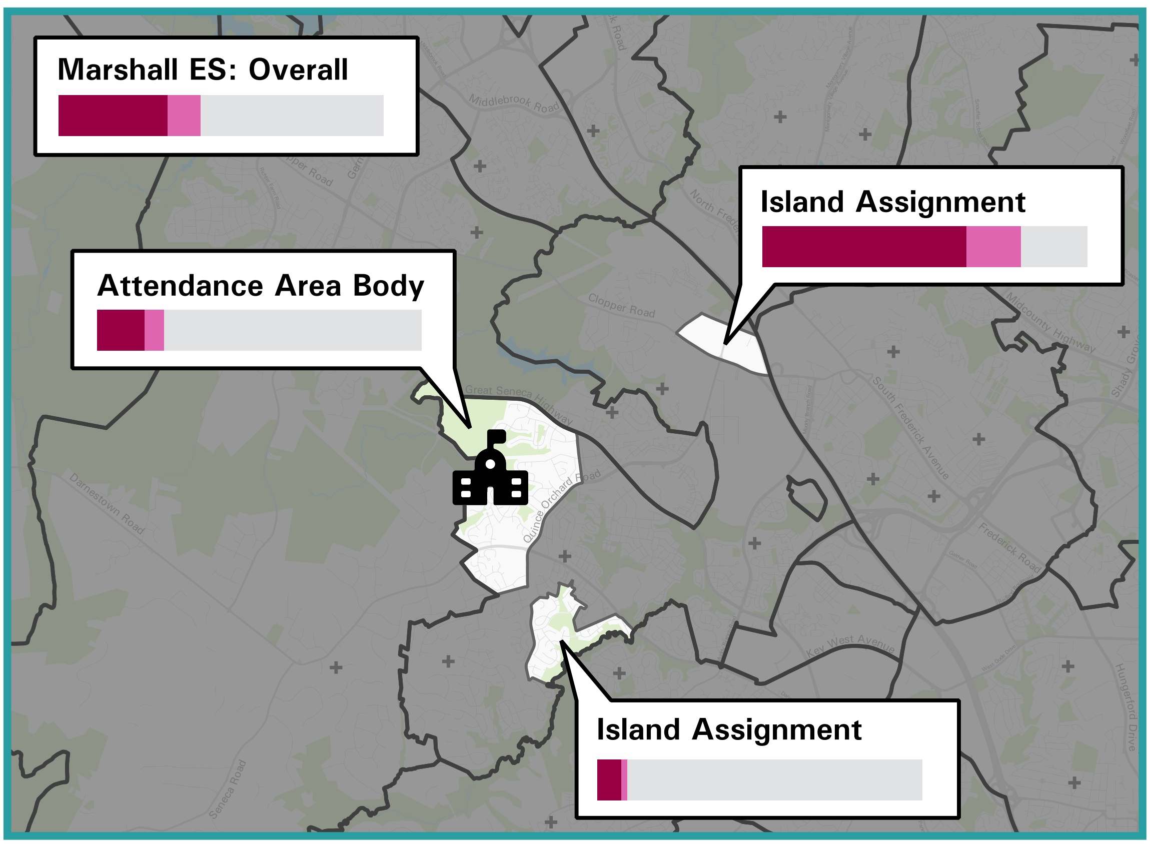
Elementary and high schools with regional special programs do not show strongly significant patterns (positive or negative) in socio-economic or racial/ethnic dissimilarity compared to their nearest neighbors and other schools. The relationship is not as clear regarding how these programs impact diversity at the elementary and high school levels.

D.1 Diversity and Island Assignments

"Island assignments" are attendance areas that include non-contiguous areas in their geographies. MCPS has 33 elementary schools, 15 middle schools, and seven high schools with island assignments. Island assignments are no longer created very frequently – there has been one new island assignment (Seven Locks ES in Winston Churchill cluster) created in the last 10 years, and one other island assignment (Rosemary Hills in Bethesda-Chevy Chase cluster) that was modified in the last 10 years.

Examples of Diversity and Dissimilarity in Island Assignments

In this section we examine the effects of island assignments on the socio-economic and racial diversity of their schools. Figures 2.3.56 and 2.3.58 are examples of schools with island assignments, Marshall Elementary School (two islands) and Sequoyah Elementary School (one island). In these examples we examine the socio-economic and racial backgrounds of students living the island assignments to the socio-economic and racial make-up of the school overall.



FARMS Previously FARMS Never-FARMS

School in focus Cluster boundaries School attendance area

Figure 2.3.56 *Example of Elementary School with Socio-economically Dissimilar Islands: Marshall ES*

In the case of Marshall Elementary School, we notice that neither the school's attendance area body – the piece of the attendance area where the school is located – nor any of its island assignments are very socio-economically similar to the school overall. Marshall ES has an overall FARMS rate of 34%, while its attendance area body has a FARMS rate of 15%, and its island assignments have FARMS rates of 7% and 63%, respectively. Accordingly, the socio-economic dissimilarity indices of the attendance area body and island assignments to the school overall are relatively high (see Figure 2.3.57).

School	FARMS	Previous FARMS	Never-FARMS	Dissimilarity to School Overall
Marshall ES Overall	34%	10%	56%	NA
Attendance Area Body	15%	6%	79%	23%
Island Assignment 1	7%	2%	91%	35%
Island Assignment 2	63%	17%	20%	36%

Figure 2.3.57 *Example of Elementary School with Socio-economically Dissimilar Islands: Marshall ES*

In particular, we notice the dissimilarity indices of Marshall ES's island assignments are significantly more dissimilar – a difference of more than ten points – to the school overall than the attendance area body. We find similar patterns for schools with island assignments, where the attendance area body is often relatively more similar to the school overall than its island(s) are to the school overall.

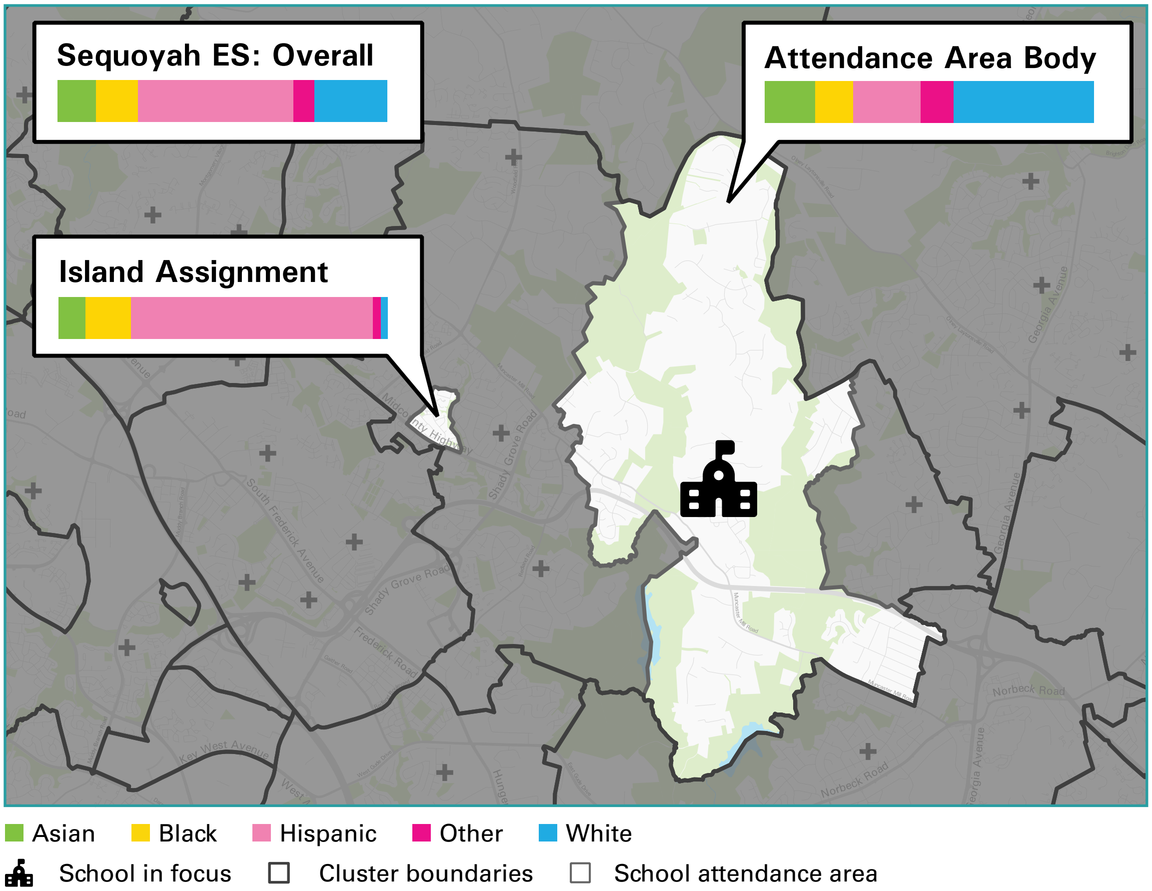


Figure 2.3.58 *Example of Elementary School with Racially Dissimilar Islands: Sequoyah ES*

Examining racial dissimilarity in the case of Sequoyah Elementary School, we find similar patterns to those with Marshall ES. Neither the school's attendance area body nor its island assignment are racially similar to the school's racial composition overall.

School	Asian	Black	Latinx	Other	White	Dissimilarity to School Overall
Sequoyah ES Overall	12%	13%	47%	6%	22%	NA
Attendance Area Body	15%	12%	21%	10%	43%	28%
Island Assignment	8%	14%	73%	3%	2%	27%

Figure 2.3.59 *Example of Elementary School with Racially Dissimilar Islands: Sequoyah ES*

Notably, the proportion of Hispanic and White students is markedly different in the school's attendance area body versus its island assignment: 21% of students in the attendance area body are Hispanic, compared to 73% in the island assignment; 43% of students in the attendance area body are White, compared to 3% in the island assignment. We notice differences in the racial/ethnic composition of Asian, Black, and students of other racial/ethnic backgrounds between the island assignment and attendance area body, but these are less pronounced than for Hispanic and White students.

Sequoyah ES is an example of a school where its island assignment has a similar total population to the attendance area body overall. For this reason, we see that the dissimilarity indices of the two attendance area pieces are similar, 28% and 27% respectively.

Island Assignment Dissimilarities Across the District

The following maps examine the socio-economic and racial dissimilarities of individual island assignments and attendance area bodies to the overall socio-economic and racial make-up of their schools overall. Figure 2.3.60 looks at racial dissimilarity for elementary schools. Figure 2.3.61 looks at socio-economic dissimilarity for middle schools. Schools without island assignments are not shown.

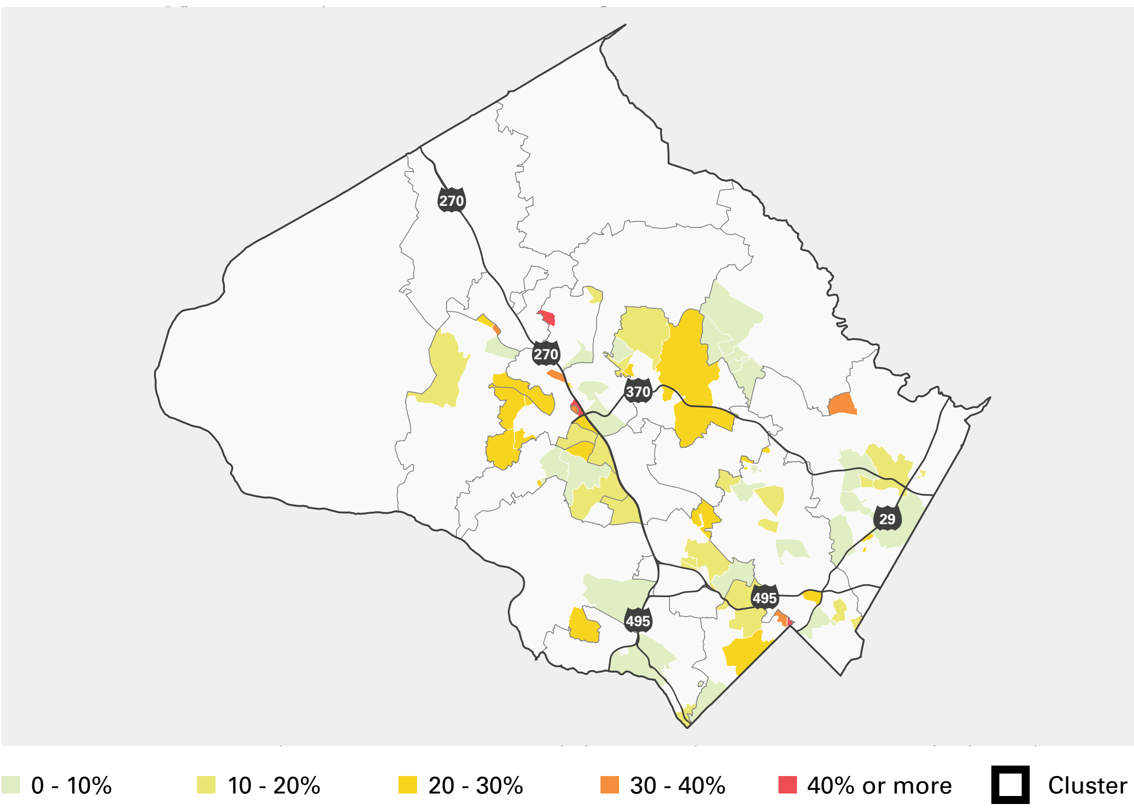


Figure 2.3.60 *Racial Dissimilarity of Elementary School Island Assignments to Their School*

The map above examines the racial dissimilarity of elementary school island assignments and attendance area bodies to the overall racial make-up of their school. First, we notice that elementary schools with island assignments are more common in midcounty and down-county areas.

However, not all elementary schools with island assignments have islands and attendance area bodies that are racially dissimilar from their school overall. Island assignments and attendance area bodies in the Walt Whitman and Sherwood clusters have dissimilarity indices under 10%, with one exception at 11%.

Elementary schools with island assignments and attendance area bodies most racially dissimilar from their schools overall are clustered in the Quince Orchards, Northwest, Watkins Mill, and Magruder clusters.

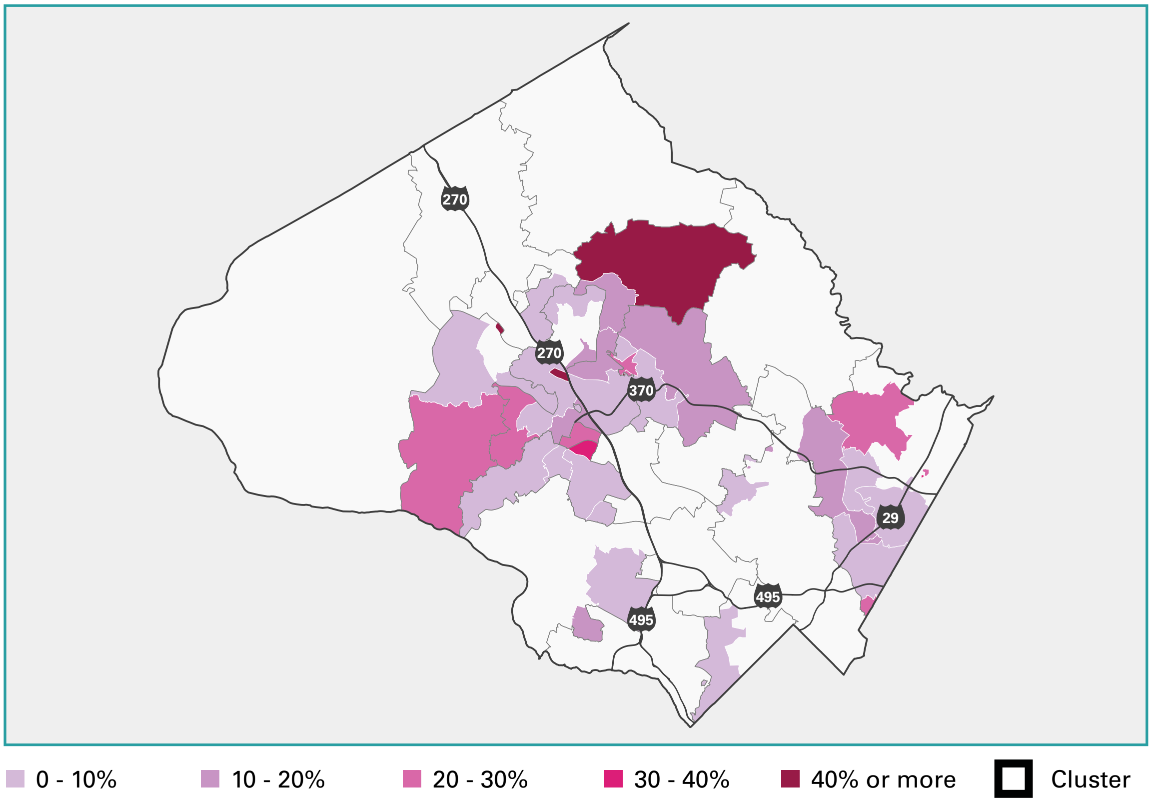


Figure 2.3.61 *Socio-economic Dissimilarity of Middle School Island Assignments to Their School*

The map above examines the socio-economic dissimilarity of middle school island assignments and attendance area bodies to the overall socio-economic make-up of their school. Similarly to racial dissimilarity at the elementary school level, we notice that middle schools with island assignments are more common in midcounty and down-county areas (in particular in the Northeast Consortium).

Middle schools whose islands and attendance area bodies are most dissimilar from their overall socio-economic make-up are principally in the Wootton, Northwest, Quince Orchards, Gaithersburg, and Magruder Clusters, as well as in the Downcounty Consortium.

Contextualizing Island Assignment Dissimilarity

Figure 2.3.60 and Figure 2.3.61 map the dissimilarities between the racial and socio-economic backgrounds of students living in schools with island assignments to the overall racial and socio-economic backgrounds of their schools overall. To better understand these dissimilarity indices, we compare the indices to the socio-economic and racial dissimilarities of schools across the county to their nearest three schools. These are the same dissimilarity indices explored in detail in Sections 2 and 3. This comparison is not perfect: we are comparing two dissimilarity indices with different scales of analysis. Nevertheless, by examining the overall distribution of dissimilarity indices for the two scales of analysis, we can better understand where we see more socio-economic and racial dissimilarity in schools.

The following set of figures compare the socio-economic and racial dissimilarity of elementary and middle schools to their nearest schools to the socio-economic and racial dissimilarity of island assignments to their schools. Using this method, we are able to see whether, overall, schools are more likely to be similar to their nearest schools or islands to their schools.

Indeed, we find that schools are more likely to be socio-economically and racially similar to their nearest three schools than island assignments are to their own school. This suggests that island assignments are more likely on average to be an effective tool for diversifying schools along socio-economic and racial lines than boundary changes between nearby schools.

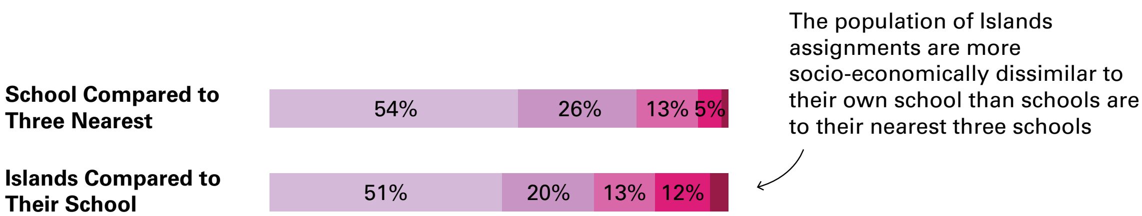


Figure 2.3.62 *Comparing the Socio-economic Dissimilarity of Elementary Schools to Their Nearest Schools to the Dissimilarity of Islands and Their Schools*

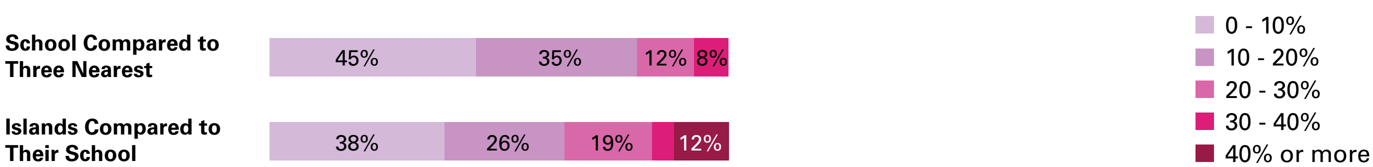


Figure 2.3.63 *Middle School Socio-economic Dissimilarity Compared to the Dissimilarity of Islands to Their Schools*

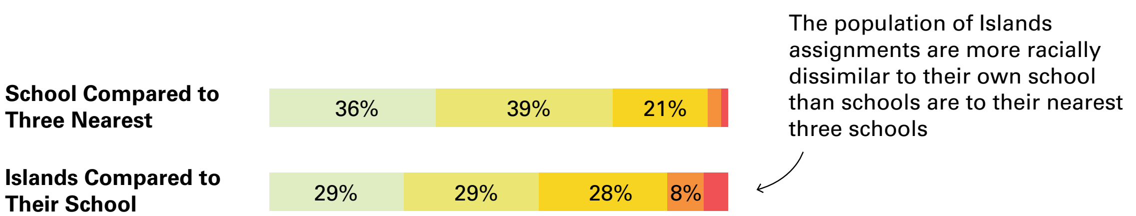


Figure 2.3.64 *Elementary School Racial Dissimilarity Compared to the Dissimilarity of Islands to Their Schools*

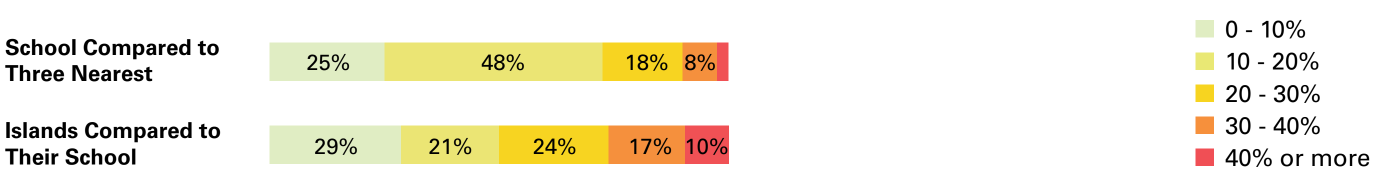


Figure 2.3.65 *Middle School Racial Dissimilarity Compared to the Dissimilarity of Islands to Their Schools*

Examining the figures on the previous page, we notice two patterns. First, socio-economic dissimilarity indices follow a similar distribution to racial dissimilarity indices. This is true for both measures of dissimilarity and both school levels, ES and MS, examined. And second, we find that island assignments are more likely to increase diversity at the middle school level. Further inquiry might examine why this is; we hypothesize that this pattern exists because middle school island assignments are geographically larger and farther apart than at the elementary school level.

D.2 Diversity and School Choice Programs

Historically, school choice programs have been one strategy for voluntary integration of schools in MCPS.[1] So, it is instructive to ask the question of how diversity may be impacted by these programs, and how these programs may impact diversity across MCPS.

In the following analysis, we examine schools with regional special programs only. Many schools in MCPS offer special programs but where enrollment is limited to students living in its attendance area. These are called local school programs and are not included in this analysis. In sum, we examine 17 elementary schools, 11 middle schools, and seven high schools with regional special programs.

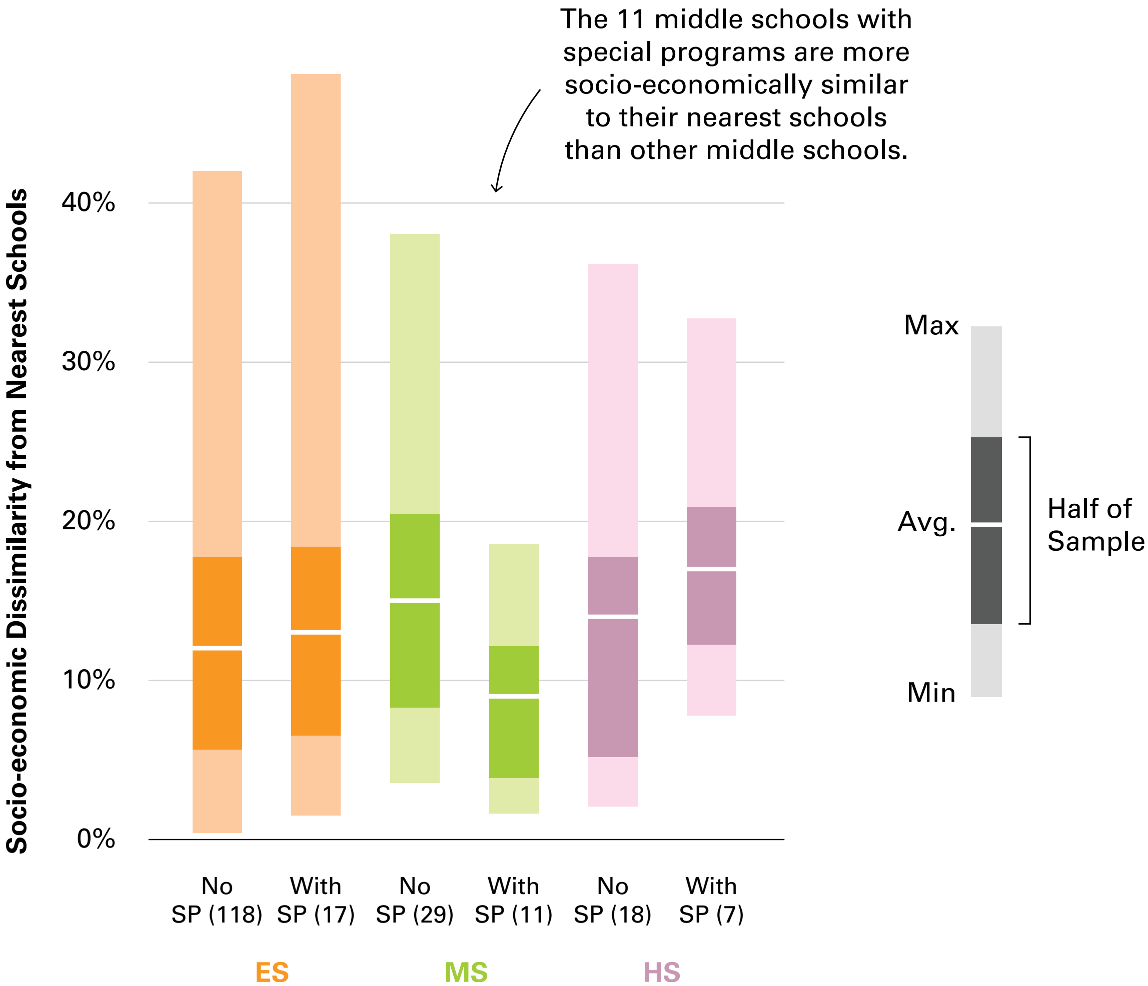


Figure 2.3.66 *Socio-economic Dissimilarity of Schools with and Without Special Programs*

1 See "Policy History" in the **Introduction Section**, on page 53, for more discussion of the history of school choice and other MCPS policies

We find that elementary and middle schools with special programs are slightly more likely to be racially and socio-economically similar to their nearest three schools. The seven high schools appear slightly more racially and socio-economically dissimilar from their nearest three schools.

For all three school levels, we notice outliers with dissimilarity indices much larger or smaller than the district average. As we are examining relatively small samples, it is important to keep these cases in mind. While a special program may skew a school to be more or less dissimilar from its nearest three neighbors, the socio-economic and racial/ethnic demographics of every school is unique to its attendance area.

Overall, the average racial dissimilarity indices of the 17 elementary schools with special programs is 14%, compared to 15% for elementary schools without special programs. The average socio-economic dissimilarity indices of the 17 elementary schools with special programs is 13%, compared to 12% for elementary schools without special programs. This is a very small difference (one percentage point in both cases) not likely attributable to the existence of special programs at the schools.

Middle schools with and without special programs, by contrast, show notable differences between racial and socio-economic dissimilarities. Overall, the average racial dissimilarity indices of the 11 middle schools with special programs is 12%, compared to 18% for middle schools without special programs. The average socio-economic dissimilarity indices of the 11 middle schools with special programs is 9%, compared to 15% for middle schools without special programs. Racial and socio-economic dissimilarity indices at the middle school level are both six points lower on average.

The special programs at these 11 middle schools are likely responsible in part for these observed differences in dissimilarity indices. Given that the dissimilarity indices of most schools cluster around the median dissimilarity index at each school level, as seen in Figure 2.3.29 in Section B.1, discrepancies as large as those observed for middle schools are notable. Further, we can be confident that sampling error does not play a large role in these observed differences: the 11 middle schools with special programs represent more than one in four middle schools overall, a substantial share.

School has Special Program(s)	School Level	No. of Schools	Racial Dissimilarity to Nearest Schools				Socio-economic Dissimilarity to Nearest Schools			
			Avg.	Median	Max	Min	Avg.	Median	Max	Min
No	ES	118	15%	13%	43%	2%	12%	9%	42%	0%
	MS	29	18%	16%	44%	4%	15%	13%	38%	4%
	HS	18	17%	13%	37%	2%	14%	12%	36%	2%
Yes	ES	17	14%	12%	34%	3%	13%	8%	48%	2%
	MS	11	12%	11%	28%	5%	9%	8%	19%	2%
		7	19%	16%	38%	13%	17%	15%	33%	8%

Figure 2.3.67 *Racial and Socio-economic Dissimilarity of Schools to their Nearest Three Schools by Existence of Special Program at School*

Finally, high schools with special programs appear slightly more racially and economically dissimilar from their nearest three schools than high schools without special programs. Here, we examine only seven high schools – those with districtwide or regional application programs. Local special programs are excluded, as with elementary and middle schools. Further, we exclude regional career related special programs.

Overall, the average racial dissimilarity indices of the seven high schools with special programs is 19%, compared to 17% for high schools without special programs. The average socio-economic dissimilarity indices of the seven high schools with special programs is 17%, compared to 14% for high schools without special programs.

These discrepancies in dissimilarity indices between high schools with or without special programs are small, but notable. The seven high schools with special programs represent 28% of all high schools – a substantial share. These are small differences (three percentage points or less in both cases) not likely attributable to any large degree to the existence of special programs at the schools.

Further Inquiry

These analyses of diversity reveal several initial insights about the current conditions of school boundaries, assignment patterns, and student demographics in MCPS. There are many possible directions for further inquiry, including but certainly not limited to the list below.

- Analysis of historical changes in FARMS rates, racial/ethnic demographics, and ESOL enrollment.
- Relationship of FARMS rates and student performance.
- Relationship of diversity metrics to attendance area sizes and attendance area population densities.
- History of diversity metrics, 2010-2018.
- Comparison of MCPS demographic data to census demographics:
    - Comparison of race categories to county racial demographics for census school-aged-children
    - Comparison of ESOL metrics to foreign-born population.
- Examine transience of ESOL students in the student body. How many years of school do these students receive in MCPS, compared to the average student?
- Detailed analysis of neighborhood dynamics and their effects on school diversity. Are middle class communities more likely to live near low income communities than affluent communities? In the case boundary changes, which communities are most likely to be affected by changed reassignments?
- Detailed analysis of student flows to special programs by socio-economic and racial/ethnic background.

In addition to the possible analyses listed above, there is ample opportunity for analysis of the interrelatedness of the key lenses in this report: utilization, diversity, proximity, and assignment stability. Future stages of this comprehensive boundary analysis will focus on this interrelatedness.

2.4 Data Analysis
Proximity

2.4 Data Analysis
Proximity
Figures

What does proximity mean in this analysis?

In this report, proximity refers to the spatial relationships between students and schools, as well as between different schools.

Proximity is used to understand the distances between schools in MCPS, which is useful for understanding the difficulty or ease with which students get to school.

This analysis treats the proximity and distance of general education students separately from that of choice students, as choice students generally travel greater distances to attend specific programs. All analysis presented in this section excludes choice students, except for the third subsection, which focuses on special conditions including choice programs.

Proximity by the Numbers

- Many students (32% of elementary school students, 40% of middle school students, and 37% of high school students) do not attend the school closest to where they live.*
- The average distance to school for elementary school students is 1.2 miles, for middle school students is 2.2 miles, and for high school students is 2.5 miles.*
- 38% of elementary school students, 25% of middle school students, and 29% of high school students live in their school's walk zone.

* This excludes students who attend schools outside their assignment area for reasons such as choice or magnet programs.

Section Overview

This set of analyses is divided into three subsections:

- Proximity to Schools
- Proximity and Walk Zones
- Special Conditions: Split Articulation, Choice, Magnet, and Paired schools

Each subsection opens with a set of key insights.

Proximity at a Glance

What does proximity mean in this analysis?

Covering over 500 square miles, Montgomery County Public School district's geography is both large and varied. The district includes rural, suburban, metropolitan, and urban areas[1]. While the population density of MCPS as a whole is over 2,000 persons/square mile, densities vary widely between the rural areas upcounty and the highly urbanized areas downcounty and along I-270.[2] Across the district, mobility and modes of travel vary widely. While 37% of elementary school students, 25% of middle school students, and 28% of high school students live in their school's walk zones—meaning MCPS has determined they have a safe and accessible route to school and live within the approved distance for each level-- most students depend on car and bus trips of varying distances.

In addition to the district's size and varied density, recent and continued growth plays into the school system's proximity challenges. In the last decade, MCPS student enrollment increased by about 15%[3]. During that same time, the population of Montgomery County has grown from around 972,000 to over 1.05 million, amounting to an 8% increase overall. With 15% more students traveling to school now than 10 years ago, in a denser and more congested district, proximity to schools is of great concern to MCPS and many of its families. While this study cannot account for the varied times of student trips to school or the variable of traffic (see **What About Traffic?** on the following page), proximity is a crucial planning question for MCPS: how does the number of road-miles traveled vary for students across the district each day?

MCPS strives to create neighborhood schools, where students live as close as possible to school. The district also strives to maximize the number of students who walk to school. Student proximity to schools is an important

1 See **Introduction Section**, starting on page 288, for more discussion of density zones in Montgomery County.

2 Population density data via U.S. Census Bureau American Community Survey 2018.

3 Three major drivers of student population trends—resident live births, aging of the student population, and migration patterns-- are discussed in depth in the FY 2021-2026 CIP.

What about traffic?

As a populous and dense County situated in one of the most highly congested metropolitan regions in the Country,[1] traffic is a strong concern for many residents in Montgomery County.

Traffic is a multi-factor variable that includes elements like time of departure, means of transportation, roadwork, and more. These variables are not consistently quantifiable across the school system. Therefore, the study focuses on factors that are more fixed and universally applicable, such as the average road distance to school, when analyzing the district through the proximity lens. MCPS analyzes traffic patterns and congestion when conducting localized studies for facilities planning and boundary changes.

For further reading and resources on proximity and transportation in MCPS (and more broadly), see: the **Further Reading** section, **page 406**.

1 See, for example: "2019 Urban Mobility Report." 2019. Texas A&M University. https://static.tti.tamu.edu/tti.tamu.edu/documents/mobility-report-2019.pdf.

planning consideration for MCPS, as laid out in Policy FAA, which names geography as a key factor in educational facilities planning. As cited in this policy, the school system has an ongoing commitment to "community involvement in schools."[1] Additionally, MCPS aims for as many students to live in walk-zones as possible, and participates in the national Safe Routes to School program to promote the safety of student walkers and bikers. [2]

Proximity to school is not only important for students, families, and communities, but also for the school district's resources. MCPS transports about 100,000 students every day, in nearly 1,200 buses.[3] As enrollment in the school system has grown, so too has the amount of resources needed to transport this growing student body each day. Among other measures to increase resources for transportation, the proposed FY 2021 budget calls for expanding MCPS's bus fleet with an additional 17 buses to the district's inventory to accommodate growing enrollment.[4]

Proximity in Context

This analysis represents a snapshot in time of proximity across the school system today. For some context about underlying conditions including population growth and development trends in the county, see **Montgomery County Context on page 63.** Other relevant resources and further reading related to proximity to schools can be found in Further Reading section under **Proximity and Student Outcomes on page 410.**

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1 "Policy FAA: Educational Facilities Planning." 2018. Board of Education of Montgomery County. https://www.montgomeryschoolsmd.org/departments/policy/pdf/faa.pdf.

2 "Safe Routes to School." n.d. Montgomery County Public Schools. https://www.montgomeryschoolsmd.org/saferoutes/.

3 "Supporting Our Students—Investing in Our Future." n.d. MCPS Budget 101. https://www.montgomeryschoolsmd.org/budget-101/index.html.

4 "The Superintendent's Recommended Budget in Briefg: FY2021 Operating Budget." 2019. Montgomery County Public Schools. https://www.montgomeryschoolsmd.org/uploadedFiles/departments/budget/fy2021/FY2021_Budget-In-Brief_121919.pdf.

Proximity Methodology

Measures of Proximity

This section examines three aspects of proximity in MCPS:

1. **Where students live in relation to their school (with a focus on road network distance)**
2. **The role that school assignment area geography plays in student travel distance**
3. **MCPS-designated walk zones**

By examining these three aspects of proximity, we are pursuing some larger questions:

- How does the likelihood of students being able to walk to schools differ across the district?
- How do existing school assignment areas affect the distance that students travel to school?

To address these questions, we conducted the following stages of analysis:

First, we looked at the average **distance** between students' home and school by school level, based on current school boundaries. We examined whether this average road network distance varies across the district, including factors such as attendance area size and population density. This analysis compares student travel distance across levels and between clusters to understand how proximity challenges differ.

Next, we analyzed **walkability** to school, by looking at the proportion of students living in MCPS-designated walk zones and the average walk distance from school by school level. This section identifies walkshed areas—total potential walkable areas based on walkable roadways but not taking into account the hazardous features that MCPS uses to determine walk zones-- for each school based on the walk distances outlined above and uses the **Mapbox** Isochrones API[1] to determine generalized walksheds.

Finally, we considered the impact of **special conditions** in MCPS on proximity, including school choice programs, consortia, paired schools, and distinct articulation patterns.

Which students "count" in these analyses?

Unlike our analysis of utilization and diversity, this set of analyses is largely based on student-level data (as opposed to school-level data). Because this is student-level data and it relates to proximity to school, we exclude--or "freeze"--certain students from these analyses so that our analysis paints a clear and accurate picture of school proximity as it relates to school boundaries. Some students select a school that is farther away from their home school for a variety of reasons, which can throw off distance-based analysis. In other cases (such as consortia), school assignment operates differently than the rest of the district:

Choice students: unless otherwise noted, choice students (those who attend specialized programs at schools other than their base schools, including magnet programs, language immersion, and special education programs) are frozen from this set of analyses, and handled separately in Section 4: Special Conditions.

COSA students: students who have requested a change of school assignment through COSA are frozen from this set of analyses. Consortia students: in the case of students who reside within a consortium, the student's current school is counted as their base school, so long as it is within the consortium. Additionally, the impact of consortia on proximity is discussed in Section 3: Special Conditions.

(continued on the next page)

1 See: https://docs.mapbox.com/api/navigation/#isochrone.

As in other chapters of this report, our focus is on groups of nearest schools and countywide trends, as opposed to individual schools. To facilitate closer inspection of schools across MCPS, we have included detailed maps of school locations by geographic zone in the **Appendix B1: Geographic Zones on page 428**. Unless otherwise noted, data on student proximity to schools are based on data for the 2019-2020 school year.

Defining Scales of Analysis for Proximity

Researchers use many different approaches for thinking about proximity. How do you define the scales of analysis when examining proximity in a school system? We consider scale on a case by case basis. Often in this section, we compare particular sets of nearby schools, based—for example—on the group of schools that constitute the closest school(s) for some student(s) in a given attendance area. In other cases, we focus on wider trends, comparing regions of the district (such as peripheral regions versus central ones), or regions based on population density.

Consortia students: in the case of students who reside within a consortium, the student's current school is counted as their base school, so long as it is within the consortium. Additionally, the impact of consortia on proximity is discussed in Section 3: Special Conditions.

Key Data Sources

- Student level data, school boundaries, and school level data provided by MCPS reflecting the 2019-2020 school year
- 2021-2026 CIP Plan (Superintendent's Recommended FY2021 Capital Budget and the FY 2021-2026 Capital Improvements Program)
- Fiscal Year 2016 Educational Facilities Master Plan and Amendments to the FY 2015-2020 Capital Improvements Program
- Superintendent's Recommended FY 2011 Capital Budget and the FY 2011-2016 Capital Improvements Program
- U.S. Census Bureau ACS 2018
- MCPS Division of Capital Planning

Analyses Conducted

A. Proximity to Schools

1. Comparing Proximity Across Attendance Areas
2. Proportion of Students Assigned to Closest School, by School Level
3. Proximity and Population Density
4. Relative Distance: Difference Between Current School and Closest School

B. Proximity and Walk Zones

1. Proportion of Students who Live within the Walk Zone
2. Difference in Percentage of Students in Walk Zone vs. Walkshed
3. Average Walk Distance for Students within Walk Zones

C. Special Conditions

1. Split Articulation Patterns (Elementary to Middle Schools)
2. Split Articulation Patterns (Middle to High Schools)
3. Choice/Magnet Programs
4. Consortia

2.4 **Data Analysis** Proximity

A. Proximity to Schools

MCPS covers roughly 500 square miles of land and ranges from highly urbanized areas near Washington, D.C. to more rural parts of the county further north. For the most part, density of schools largely corresponds with the attendance area's population density. This section investigates the average distance that students travel to school in MCPS, focusing on districtwide trends. We start with a snapshot of the current distance traveled by students at each school level. Then, we compare distance traveled to population density. Finally, we analyze the average distance between current school and closest school to better understand how the density of schools impacts proximity.

Questions:

How does average road-distance traveled to school vary among students across the district?
How many students, on average, attend the school located closest to where they live? Does this vary by school level?
Does proximity to school correlate with population density?
What is the relationship between the distance to a student's current school and closest school?

Analyses:

A.1 Comparing Proximity Across Attendance Areas
A.2 Proportion of Students Assigned to Closest School, by School Level
A.3 Proximity and Population Density
A.4 Relative Distance: Difference Between Current School and Closest School

Insights

1. One way we examine proximity is by looking at the average distance that students travel to school, using roadway distance. Generally, students living in larger school attendance areas travel greater distances to school.

This is true when comparing schools at the same level, and it is also related to the trend that students travel farther to school as they progress from elementary, to middle, to high school.

We can understand this trend by looking at the average distance traveled by students, by school level:

- The average distance to school for all elementary schools is 1.2 miles, with a school minimum and maximum of 0.4 miles and 3.5 miles, respectively. Elementary school students tend to live closer to school—and those in the Rockville cluster and Downcounty Consortium are the closest to school on average.
- The average distance to school for all middle schools is 2.1 miles, with a school minimum and maximum of 1 mile and 4.2 miles, respectively.
- The average distance traveled to school for high schools is 2.5 mi, with a school minimum and maximum of 1.5 mi and 4.9 mi, respectively. In the Northeast Consortium, high school students at Blake HS travel the farthest distance on average to school—4.9 miles. High school students in Seneca Valley live the closest to school, on average: 1.5 miles.

2. In this section, we look at the proportion of students assigned to their closest schools as another way to understand proximity. When we break this measure of proximity down by school level, we find that middle school students are less likely than elementary and high school students to attend the school closest to their home.

At the middle school level, about 60% of students attend the school closest to their home, as compared with around 69% at the elementary school level and 68% at the high school level.

3. It can also be informative to look at how this measure of proximity ranges from cluster to cluster. The proportion of students who attend their closest schools varies widely by cluster.

The proportion of students who attend their closest school ranges from 54% in the Magruder cluster up to nearly 95% in the Poolesville cluster. This variation may be due to land use distribution and density, as well as where schools are sited relative to population densities.

4. Having observed this variation across the district, this analysis explores how schools of the same level (ES, MS, or HS) vary from cluster to cluster in terms of the proportion of students who attend their closest school. The widest disparities are at the middle school level.

- At the elementary school level, cluster averages range from approximately 56% to approximately 86% of students who attend their closest school (a range of about 30 percentage points).
- At the middle school level, the cluster averages range from 29% to 100% of students who attend their closest school. At over 70 percentage points, this is by far the widest range of any school level.
- At the high school level, cluster averages range from roughly 49% to 95% of students who attend their closest school. This range of over 40 percentage points is wider than the ES level, but still much smaller than the middle school level.

5. There is a correlation between the proportion of students who attend their closest school and the distance traveled to school at all levels. In general, where a higher proportion of students attend their closest schools, these students also tend to travel shorter distances.

This trend is most pronounced at the middle and high school levels, although there are significant exceptions at each level:

- The elementary schools and middle school in the Poolesville cluster upset this trend: 86% of elementary students attend their closest school, however the average distances traveled by students to these schools ranks the highest across all clusters. Poole MS similarly upsets this trend at the middle school level, with 93% of students attending their closest school but with an average travel distance of nearly three miles.
- At the high school level, the Magruder cluster presents itself as an outlier, with only 49% of students attending their closest school while the average travel distance to this school is roughly 3.4 miles.

6. In this analysis, we also consider the relationship between population density and distance traveled to school. In general, students in more densely populated areas live closer to school than those in less densely populated parts of the county.

Though this is the trend, there are notable outliers. There are cases of very low-density attendance areas that serve relatively compact communities. Poolesville HS, for example, has the lowest population density of all schools as well as one of the lowest travel distances for high schools.

7. Students in more densely populated areas tend to live closer to school than their peers in less densely populated parts of the county. This trend follows a geographic pattern: schools that are closer to the I-270 corridor tend to have students travel shorter distances to school.

This points to another underlying geographic factor to be considered when thinking about proximity in MCPS. Students who attend schools toward the interior of the county generally experience shorter distances to school than students who attend schools toward the edges of the county (except for the Downcounty region). However, there are notable outliers to this trend at each school level.

8. Island assignment attendance areas have an impact on average distance to school at all levels. Generally, students living in island assignment attendance areas tend to travel greater distances to school.

Students living in island assignment attendance areas tend to travel farther distances to school. This is true even when their schools are located in densely populated areas. This trend is seen at each school level:

- At the elementary school level, the average distance traveled to school in island assignment attendance areas is 2.6 miles, compared to the district average for elementary schools of 1.2 miles.
- At the middle school level, the average distance traveled to school in island assignment attendance areas is 4.1 miles, compared to the average of 2.2 miles.
- The average distance traveled at the high school level is 4.5 miles for island assignment attendance areas and 2.5 miles for contiguous attendance areas.
- There are some cases where students in island assignments travel distances below the average for their school level: Gaithersburg HS and Wootton HS students travel 1.1 and 0.5 mi on average to school, respectively. Students at six of 14 middle schools with island assignments travel less, on average, than the MS average of 2.2. 11 of 36 ES with island assignments travel less than the ES average of 1.2 mi.

In this first set of analyses, **Proximity to Schools**, we create a snapshot of proximity across MCPS, starting with the average distance students travel to school. In these analyses, distances are calculated using road-network distance to compute the miles traveled between each student and their school. We calculate the average distance traveled using school attendance areas as the scale of comparison.

As the crow flies?

In each of the proximity analyses in this report, we use road network distance to calculate how far students live from their schools. Road network distance approximates walking or automobile routes by using the current system of roads or sidewalks to calculate distance. So, distance in these analyses accounts for realistic routes using geospatial network data and not straight lines between points.

Participants at a regional public meeting at Blair High School on January 11, ,2020 (photo credit: C.D. Boykin)

A.1 Comparing Proximity Across School Attendance Areas

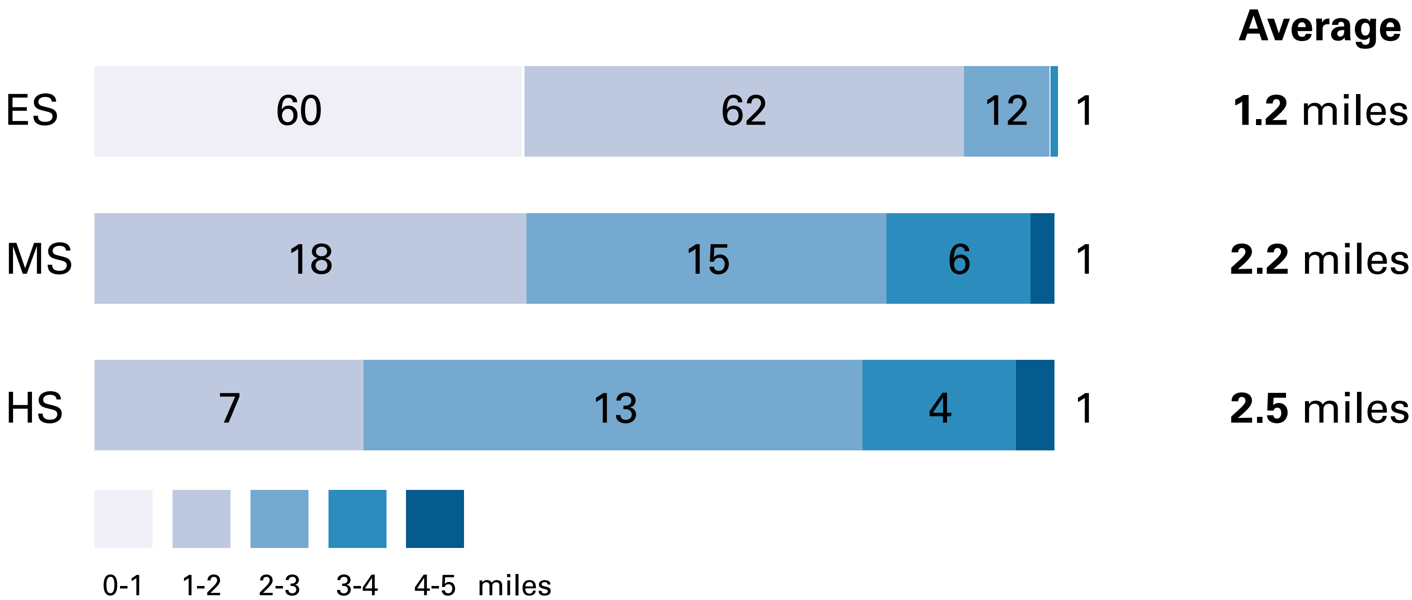


Figure 2.4.1 *Average Distance to Schools (by school level)*

The average distance to school increases as students move from elementary school to middle and high school levels—with students traveling the shortest distances, on average, at the elementary school level. This is partly because as attendance area geographies become larger, there is an increase in travel distance to schools.

At the high school level, attendance areas are generally much larger and therefore travel distances are on average higher than at the other levels (2.5 miles, compared to 1.2 miles at the elementary level and 2.1 miles at the middle school level). These numbers reflect the average distance traveled to school at each level (i.e. comparing schools) as opposed to measuring the average distance traveled by students (i.e. the average distance traveled by all students, regardless of current school).

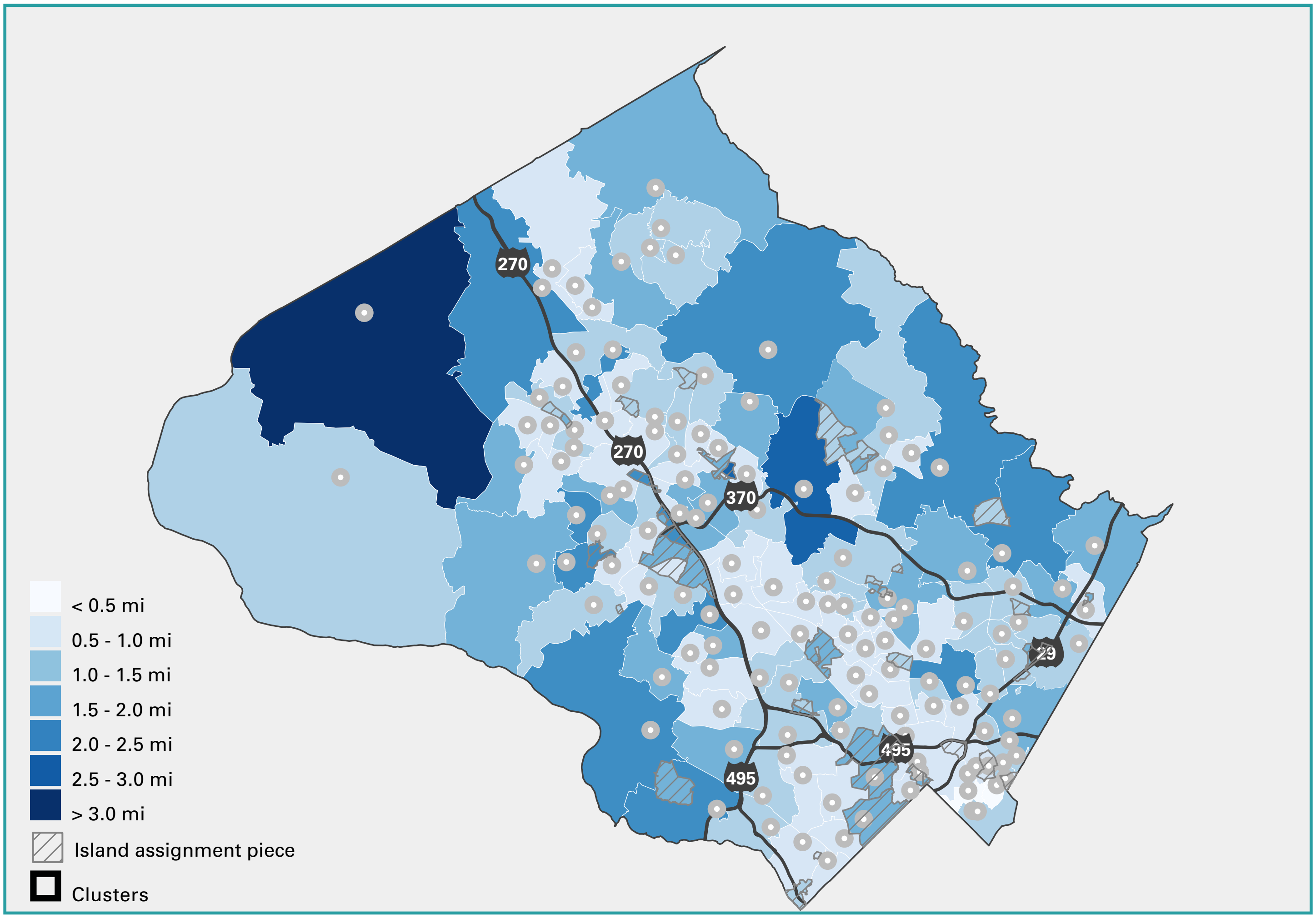


Figure 2.4.2 *Average Distance to Elementary Schools (non-choice students)*

The map above illustrates average distance traveled to school at the elementary school level. The color of the school attendance area corresponds to the average number of miles traveled by students who attend that school—with darker colors representing greater average distances traveled. By looking at average distances traveled by attendance area at the county scale, we start to see some patterns in terms of both geographic trends, and overall distribution of average distances to school by school level.

How is this range of school proximities distributed throughout the district? To answer this question, we take the middle school level on the following pages as an example to better understand the geography of average distances to school by school attendance area.

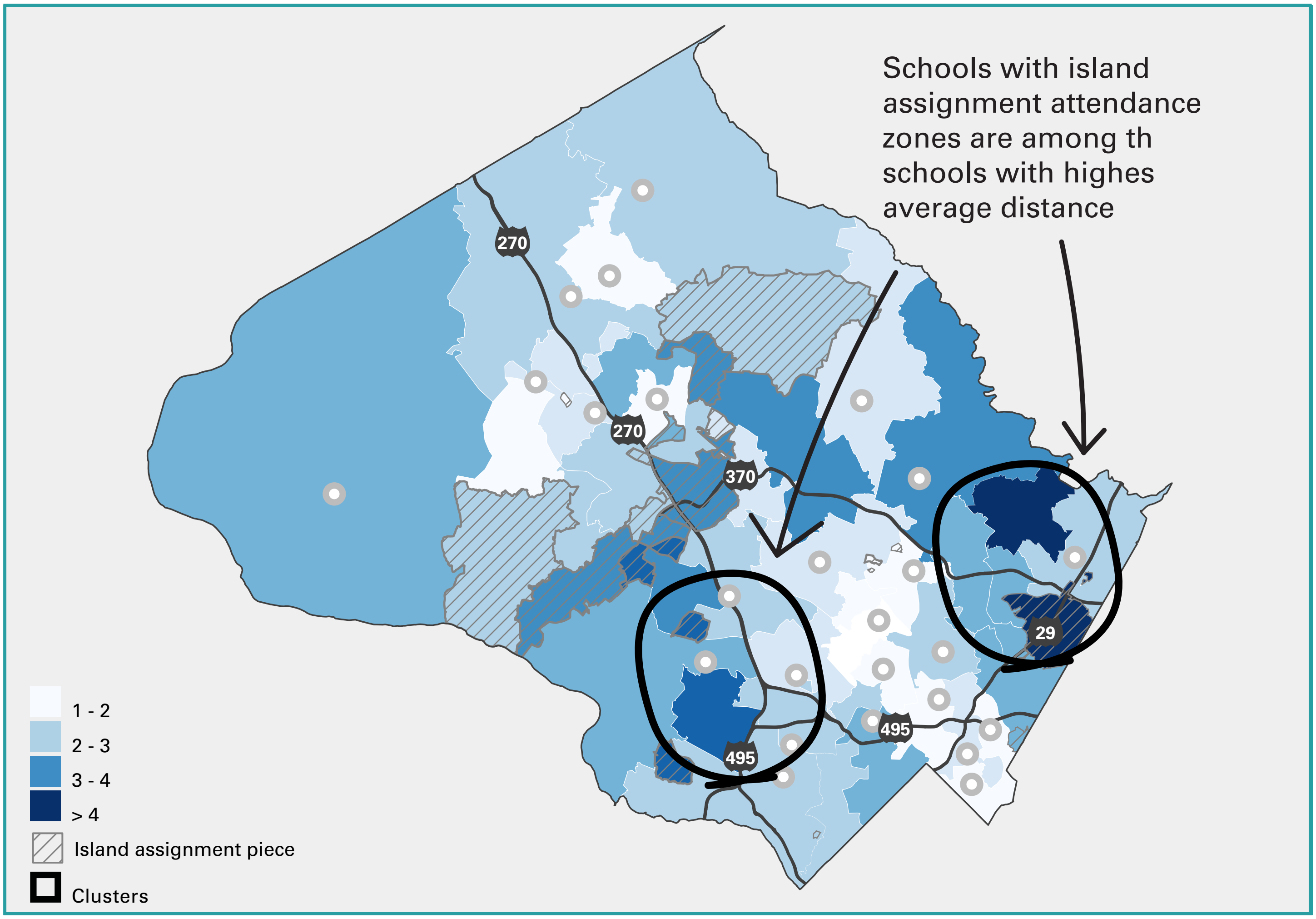


Figure 2.4.3 *Average Distance to Middle Schools (non-choice students)*

At the middle school level, schools with island assignment attendance areas have considerably higher average travel distances than their neighbors. Two schools with multi-part island assignment attendance areas stand out as having the highest average distances to school: Briggs Chaney MS (4.2 miles) and Cabin John MS (3.5 miles). These attendance areas are highlighted on the map above. For more on island assignments and proximity, see **Appendix D2: Proximity for island attendance areas on page 501.**

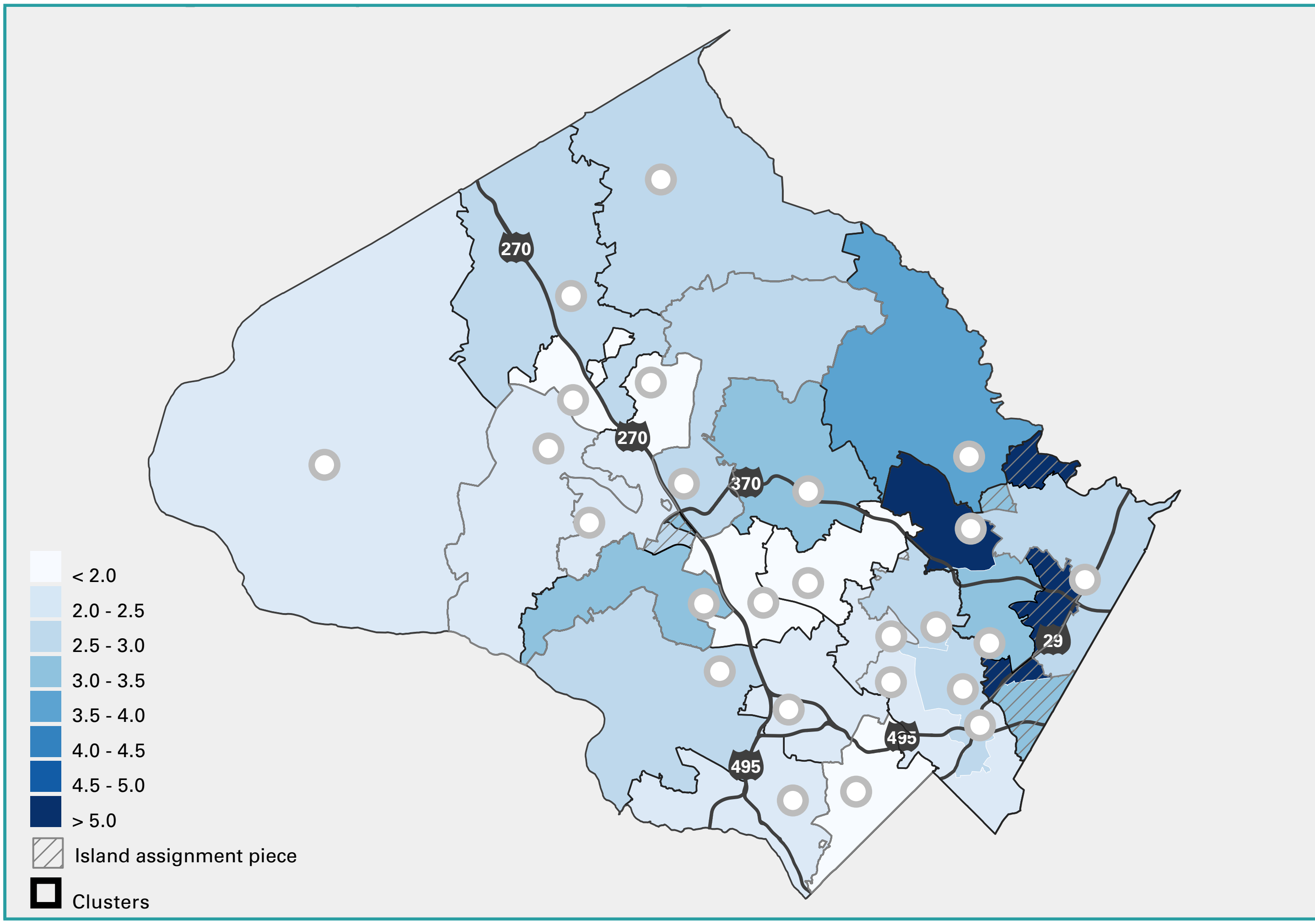


Figure 2.4.4 *Average Distance to High Schools (non-choice students)*

Another trend emerges when we map average travel distances across the county. Across all school levels, students in more densely populated areas tend to live closer to school than their peers in less densely populated parts of the county. This trend follows a geographic pattern: schools that are closer to the I-270 corridor tend to have students travel shorter distances to school. However, there are notable outliers to this trend at each school level.

A similar pattern emerges at the high school level, where the island assignment school split between Sherwood and Northeast Consortium presents itself as an outlier in terms of average distance to school compared with other clusters throughout the district.

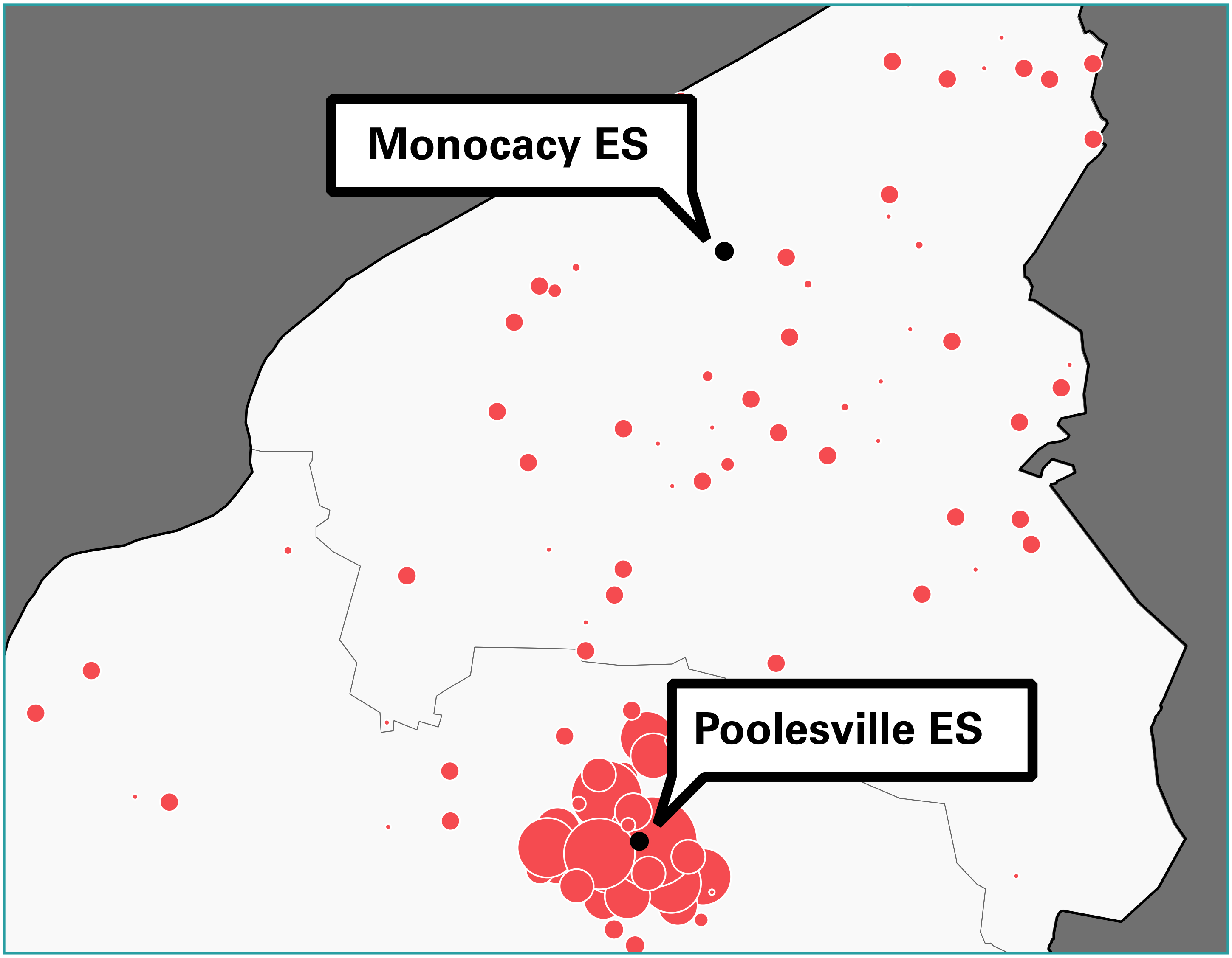


Figure 2.4.5 *Student Density in the Poolesville ES and Monocacy ES Attendance Areas*

The distribution of residential areas within a school attendance area is another important consideration to understand proximity in MCPS. For example, at the elementary school level, the average distance to school is 1.2 mi, although students at Monocacy ES travel an average 3.48 mi to school. Students at neighboring Poolesville ES have a much lower average distance to school, signaling that even though both attendance areas are quite large, most students at Poolesville ES live near the school whereas students in Monocacy are spread throughout the attendance area.

This is illustrated in **Figure 2.4.5**, above, which shows the building footprints in each attendance area to give a sense of the distribution of population throughout each zone. This theme is explored in more detail in the following section.

A.2 Proportion of Students Assigned to Closest School, by School Level

How likely are students to attend the school that is closest to their home? And how does this vary across school levels?

The table below shows each cluster or consortium in the district, and the proportion of students who go to their closest school, by school level. The table also shows average distances traveled to school by cluster, by school level.

This table demonstrates the variability across the district and across school levels in terms of the proportion of students who attend the school closest to where they live. There is a wide range of values not only between school levels, but also among schools within the same high school clusters and consortia.

Across all school levels, at least half of all students attend the school that is closest to their home. This is true for most students at each level in each cluster, however there are certain exceptions: five of the six instances where this is not the case are at the middle school level (shown in the table below). At the elementary school level, between 56% and 86% of students go to their closest schools on average. However, at the middle school level, the range extends from 29% of students attending their closest schools, up to 100%. The range at the high school level (49% - 95%), is larger than the elementary school level, but not as large as at the middle school level.

Cluster	% students at closest school ES	% students at closest school MS	% students at closest school HS	Cluster total proportion is closest	Avg. Dist. to ES (mi)	Avg. Dist. to ES (mi)	Avg. Dist. to ES (mi)	Cluster total avg. distance
Bethesda-Chevy Chase*	72.19%	56.35%	81.78%	73.48%	0.95	2.39	1.94	1.64
Clarksburg*†	76.14%	59.86%	66.88%	69.77%	0.99	2.60	2.52	1.80
Winston Churchill	71.65%	56.93%	75.17%	69.17%	1.38	3.07	2.83	2.36
Damascus*†	57.34%	82.09%	85.89%	72.97%	1.49	1.78	2.83	1.96
Downcounty Consortium†	66.69%	70.09%	65.02%	69.39%	0.94	1.38	2.13	1.34
Gaithersburg	59.28%	30.32%	68.49%	58.70%	1.14	2.89	2.53	1.94
Walter Johnson	58.98%	71.16%	60.12%	61.33%	1.31	1.86	2.24	1.70
Col. Zadok Magruder	71.68%	29.38%	49.37%	53.66%	1.45	2.56	3.45	2.34
Richard Montgomery	78.21%	67.27%	58.00%	69.33%	1.01	2.19	1.97	1.62
Northeast Consortium†	64.26%	53.91%	49.10%	60.22%	1.41	2.94	3.32	2.31
Northwest	64.65%	92.13%	50.04%	60.94%	1.20	1.26	2.25	1.57
Poolesville	86.29%	93.40%	95.41%	94.75%	1.52	2.88	2.01	2.04
Quince Orchard	72.92%	40.83%	61.56%	59.82%	1.29	2.30	2.20	1.86
Rockville	67.02%	46.82%	72.28%	62.50%	0.94	1.72	1.84	1.40
Seneca Valley*	74.54%	60.06%	88.45%	72.84%	1.09	1.71	1.51	1.41
Sherwood†	56.36%	88.32%	73.98%	68.03%	1.46	1.90	3.65	2.29
Watkins Mill	76.92%	100.00%•	77.88%	80.59%	1.05	1.04	1.94	1.33
Walt Whitman	69.58%	55.06%	93.83%	74.31%	1.16	2.17	2.11	1.74
Thomas S. Wootton	74.05%	46.45%	52.99%	58.94%	1.27	3.09	3.20	2.36
Average by cluster	69.41%	63.18%	69.80%		1.21	2.2	2.45	

Figure 2.4.6 *Proportion of Students Who Attend Their Closest School, by School Level*

** Denotes school with elementary to middle school inter-cluster articulation, inter-cluster split articulation, or intra-cluster split articulation, described on* ***C1. Split Articulation Patterns and Proximity (Elementary to Middle) on page 302****.*

†Denotes cluster or consortium with middle to high school alternative articulation.

• Neelsville MS is included as part of the Clarksburg cluster, although some students from Watkins Mill articulate to this school.

A.3 Proximity and Population Density

Having seen a general trend of shorter average travel distances in more densely populated regions of the county, we now look more closely at the correlations between population density of school attendance areas and average distance to school.

Across all three school levels, there is a correlation between population density and average distance to school: the denser an attendance area is, the more likely it is to have a lower average distance to school.

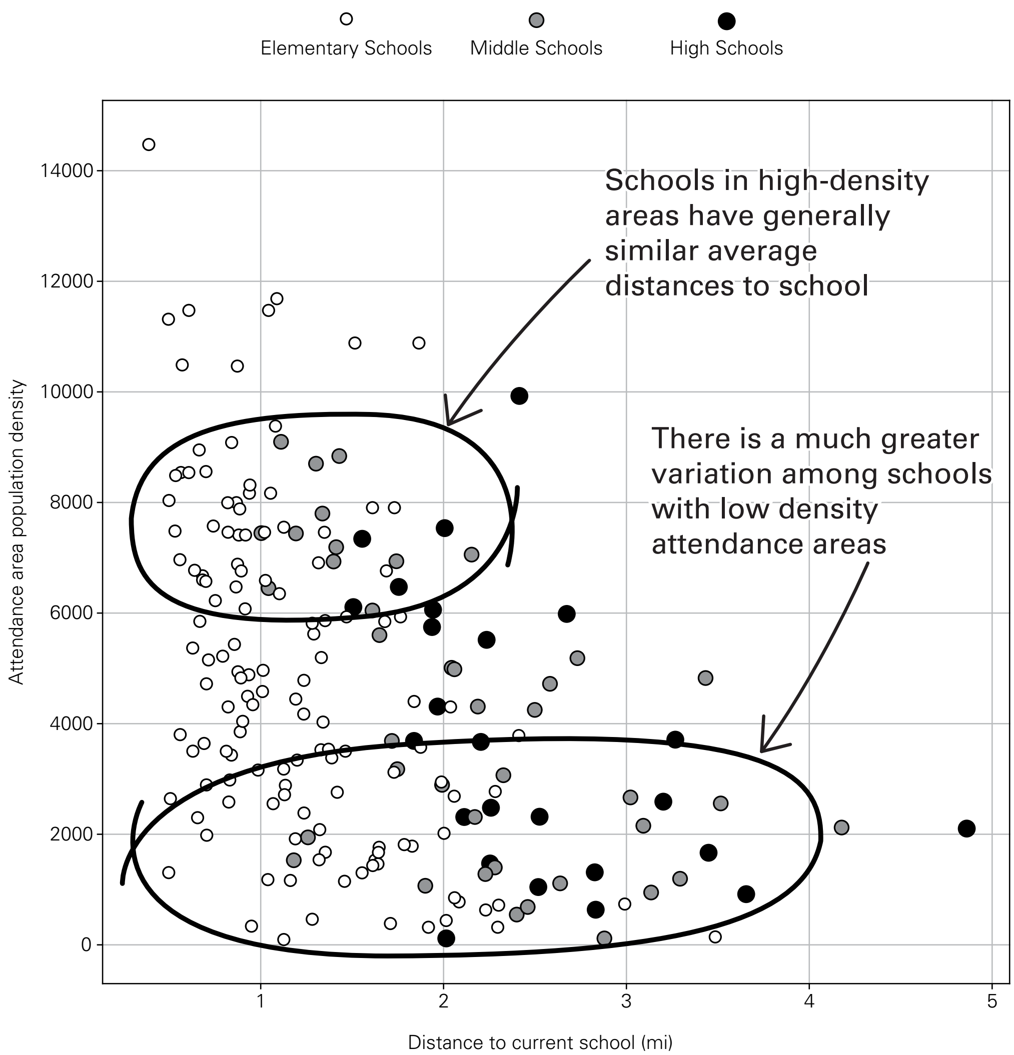


Figure 2.4.7 *School Attendance Area Population Density Compared with Average Distance to School (all school levels)*

The figure above illustrates the correlation between population density and average distance to school for each school in the district. The x-axis measures the average distance traveled to school, and the y-axis represents the population density of the school attendance area. The size and color of the points corresponds to school level.

Overall, we see a negative trend, as expected: students in attendance areas with higher population densities tend to also travel fewer miles, on average, to school.

Furthermore, although there is large variation across school levels, the general trend suggests that more densely populated school attendance areas have very similar average distances to school to one another, while there is a wider variation in distances to school in more rural areas.

The median population density for elementary school attendance areas is 4,444 persons per square mile. Of the elementary schools that are above the median population density, the total range between average distances to school at the school level is 1.48 miles. For schools below the median population density, that range is 2.99 miles.

The same pattern is apparent at the middle and high school levels as well: school attendance areas in denser areas are more alike in terms of the average distance traveled to school than school attendance areas in less dense areas. The map in Figure 2.4.8 Population Density and Median Distance to School (on the following page) illustrates the relationships between population density and distance to school, at the elementary school level.

Participants in a table discussion at a regional public meeting at Gaithersburg High School on December 5, 2019 (photo credit: Rodrick Campbell)

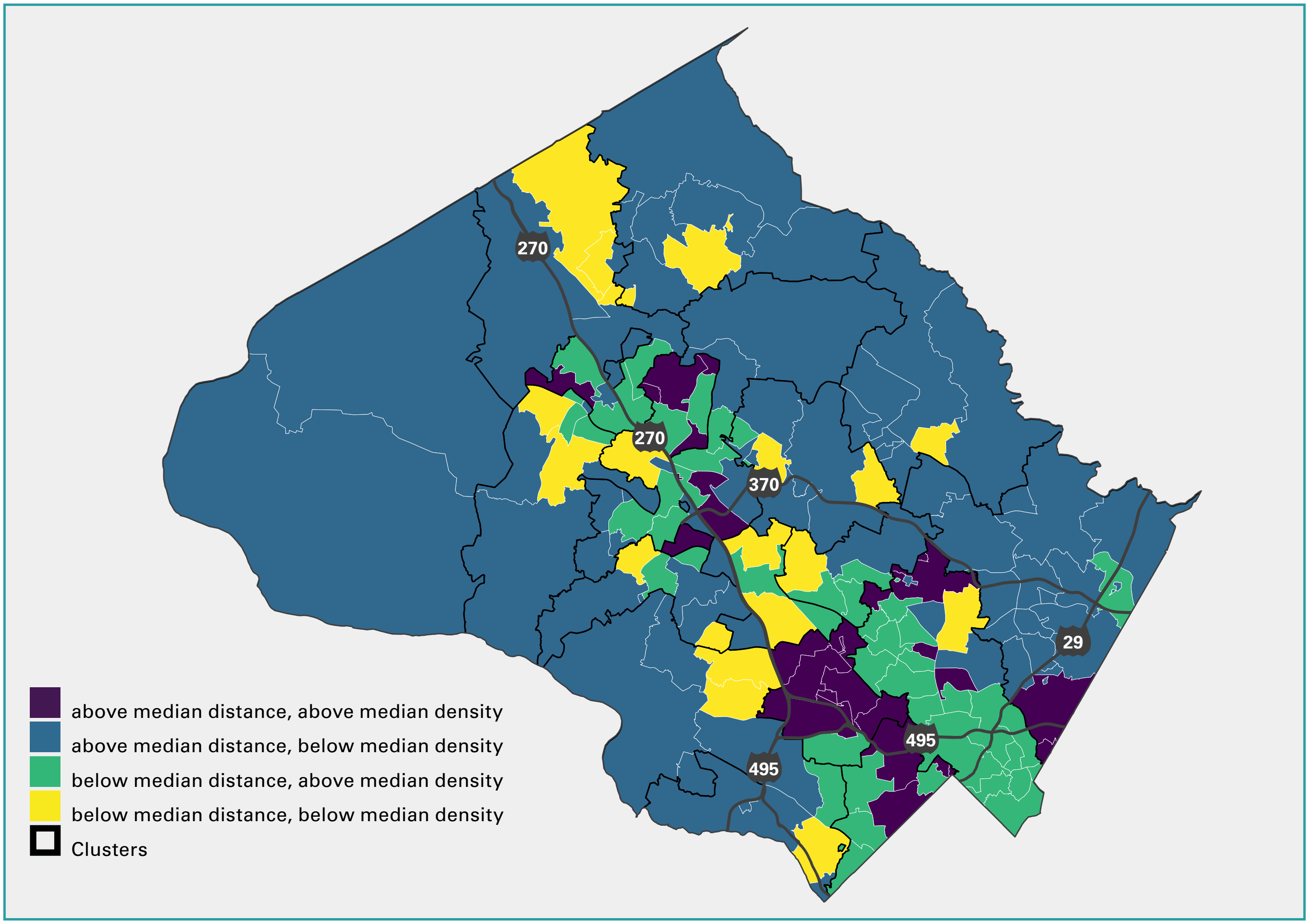


Figure 2.4.8 *Population Density and Median Distance to School (Elementary Schools)*

The map above expresses the data from Figure 2.4.9 below, using the following categories:

- **Purple attendance areas** are above the median distance to school, and above the median population density: these areas are denser than the county median, but students are further from school on average than their peers in adjacent, similarly dense urban areas.
- **Blue attendance areas** are above the median distance to school, and below the median population density.
- **Green attendance areas** are below the median distance to school, and above the median population density: these tend to cluster around the I-270 corridor and southern parts of the county.
- **Yellow attendance areas** are below the median distance to school, and below the median population density. Although these areas are less densely populated, students travel relatively short distances to school.

Map on the previous page reveals patterns in population density and average distance to school for elementary schools across the county. The blue and green attendance areas align with the larger trend of greater density and lower distances to school, while the purple and yellow attendance areas provide interesting exceptions to this norm.

School	Population Density (persons/square mile)	Avg. Distance to School (mi)
Poolesville Elementary	95.53	1.13
Monocacy Elementary	143.61	3.49
Damascus Elementary	317.78	1.92
Laytonsville Elementary	318.49	2.30
Little Bennett Elementary	337.95	0.95
Darnestown Elementary	385.57	1.71
Clarksburg Elementary	440.05	2.01
Greenwood Elementary	462.60	1.28
Sherwood Elementary	630.49	2.23
Potomac Elementary	717.62	2.30

Figure 2.4.9 *Top Ten Greatest Distances to School and Attendance Area Population Density for Elementary Schools.*

(Complete tables for elementary, middle, and high schools can be found in ***Appendix D4: Population density and average distance to school on page 505****)*

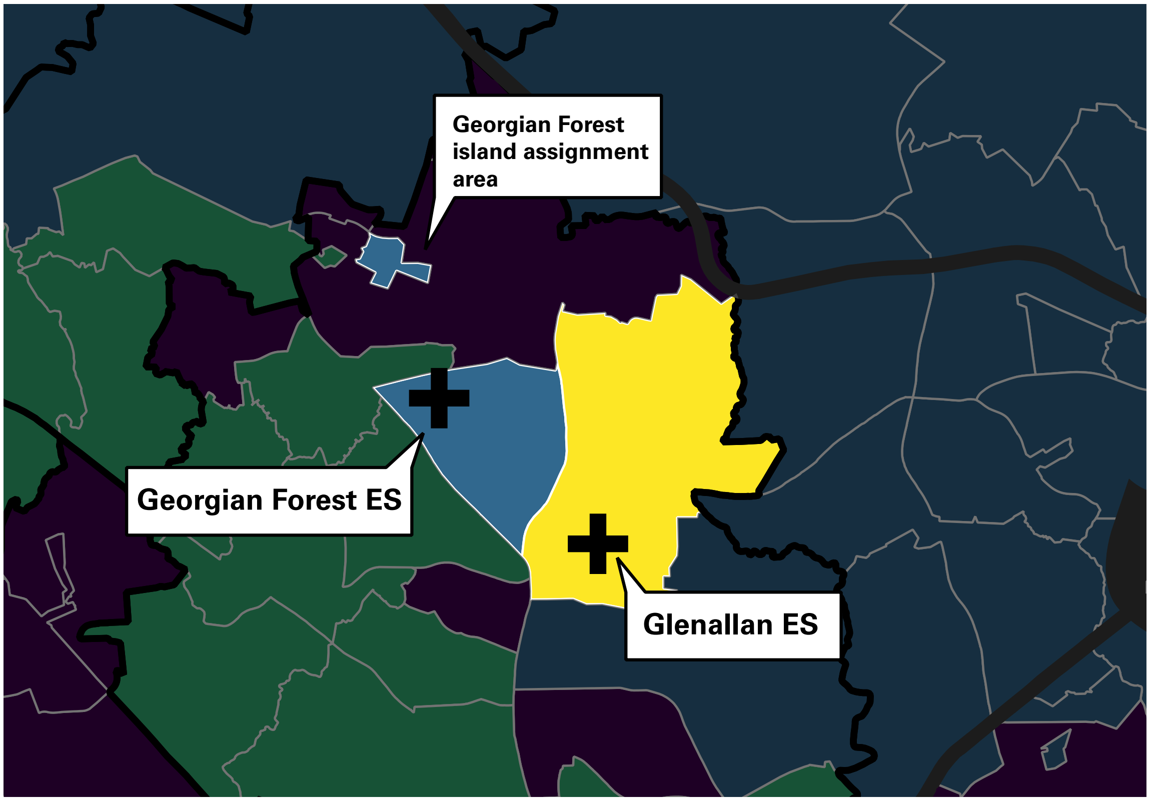


Figure 2.4.10 *Case study: Georgian Forest ES and Glenallan ES Attendance Areas, by Population Density and Average Distance to School*

The case study above illustrates the relationship between population density and average distance to school. The Georgian Forest ES attendance area is smaller than the neighboring Glenallan ES attendance area, but its island attendance area piece contributes to higher average distances to school: students who live in that portion of the attendance area must travel through parts of the Bel Pre ES and/or Harmony Hills ES attendance areas to reach the school itself. Glenallan ES, on the other hand, is also below the median population density of elementary attendance areas in the county, but a portion of that attendance area is Wheaton Regional Park and open space near the Anacostia River; although the attendance area is larger than that of Georgian Forest ES, students tend to live closer to school on average.

A.4 Relative Distance: Difference Between Current School and Closest School

Given the variable conditions across the district, how can we contextualize our understanding of proximity to schools? One way to begin to do this is by looking at proximity to schools relative to other nearby schools. Oftentimes, a student's assigned base school is not the closest school to their home. On average, how far apart is a student's closest school, and the school they are actually assigned to attend?

This portion of the analysis inspects the difference in distance between a student's current school and the schools closest to where they live. The goal of this analysis is to better understand how attendance area geographies impact the total distance that students travel to attend school.

The table below shows the ten middle schools for which current students have the greatest difference in distance between their current school (the leftmost column) and the school that is closest to them.

The schools shown in the table below are chosen to illustrate the concept and provide better context on whether students are assigned to their closest schools. Complete tables for each school at each level can be found in .

School	Average distance from home to school (mi)	Average distance from home to closest school (mi)	Number of distinct closest schools for students in attendance area (including base school)	Difference in distance (mi) between current school and closest school	Normalized Difference in Distance** (Difference in distance between school and average of three closest schools)	Percent students who live closest to this school
Briggs Chaney Middle*	4.18	2.34	5	1.84	0.74	18.36%
Cabin John Middle*	3.52	1.98	6	1.54	0.82	50.26%
Forest Oak Middle*	3.43	1.92	6	1.51	0.73	3.96%
Neelsville Middle*	2.73	1.61	3	1.12	0.33	54.69%
Redland Middle	3.29	2.30	7	0.99	0.52	14. 71%
White Oak Middle*	3.02	2.08	7	0.94	0.05	41.71%
Francis Scott Key Middle*	2.50	1.67	4	0.83	-0.08	66.83%
North Bethesda Middle	2.04	1.28	5	0.77	1.06	43.89%
William H. Farquhar Middle	3.14	2.44	4	0.70	-0.68	46.98%
Robert Frost Middle*	3.09	2.40	4	0.69	-0.14	46.45%

*Denotes schools with an island assignment
** Calculated as (distance to current school – average distance to three closest schools)

Figure 2.4.11 *Ten Schools with Greatest Difference in Distance Between Current School and Closest School (Middle School)*

In the table above, we see the ten middle schools where the difference in distance between students' closest school and their base school is the widest. Let's take a closer look at what the columns in this table are telling us:

- **Average Distance from Home to School:** The second column shows the average distance, in miles, between students' homes and their current school (the school in the leftmost column).
- **Average Distance from Home to Closest School:** The third column shows the average distance, in miles, between students' homes and their closest school (which varies depending on where a student lives).

- **Number of Distinct Closest Schools for students in Attendance Area:** The fourth column over tells us how many different closest schools there are among all students at this school (including the base school, named in column one). In the first row, for example, while some students at Briggs Chaney live closest to Briggs Chaney, there are some students who live closer to school A, and others who live closer to school B, C, D or E. Altogether, this makes five schools to which some students living in the Briggs Chaney attendance area live closest.

- **Difference in Distance Between Current School and Closest School:** this column (column five) represents the difference between column two (average distance from home to school) and column three (average distance from home to closest school). This column tells us that the students at these middle schools tend to have some other school closer to their home then their base school (if all students attended their closest school, this distance would be 0).

- **Normalized Difference in Distance:** this column (column six) offers more context to this disparity. To calculate this value, we find the average distance between students and each of their closest three schools, excluding their current school. If students in an attendance area live in close proximity to many schools, we would expect this relative proximity value to be negative or very low (for example, in a densely populated area with many schools). If students in an attendance area tend to live farther away from schools (for example, in a less densely populated area with fewer schools)–, we would expect this value to be positive or higher.

- **Proportion of Students Who Attend their Closest School:** the final column over (column seven) offers the percentage of students at the school who attend their closest school. This value validates the measures in column six. In schools where the value in column six is closer to 0, the proportion of students who attend their closest school is generally higher.

By calculating the average distance between students and their three closest schools, we are adding greater context to the statistic of whether students are assigned to their closest schools. This analysis also provides greater context to island assignment attendance areas – which tend to present greater proximity challenges for students. Although this trend may be true, we can see in this analysis that some island assignment schools are still, on the whole, a closer option for the average student.

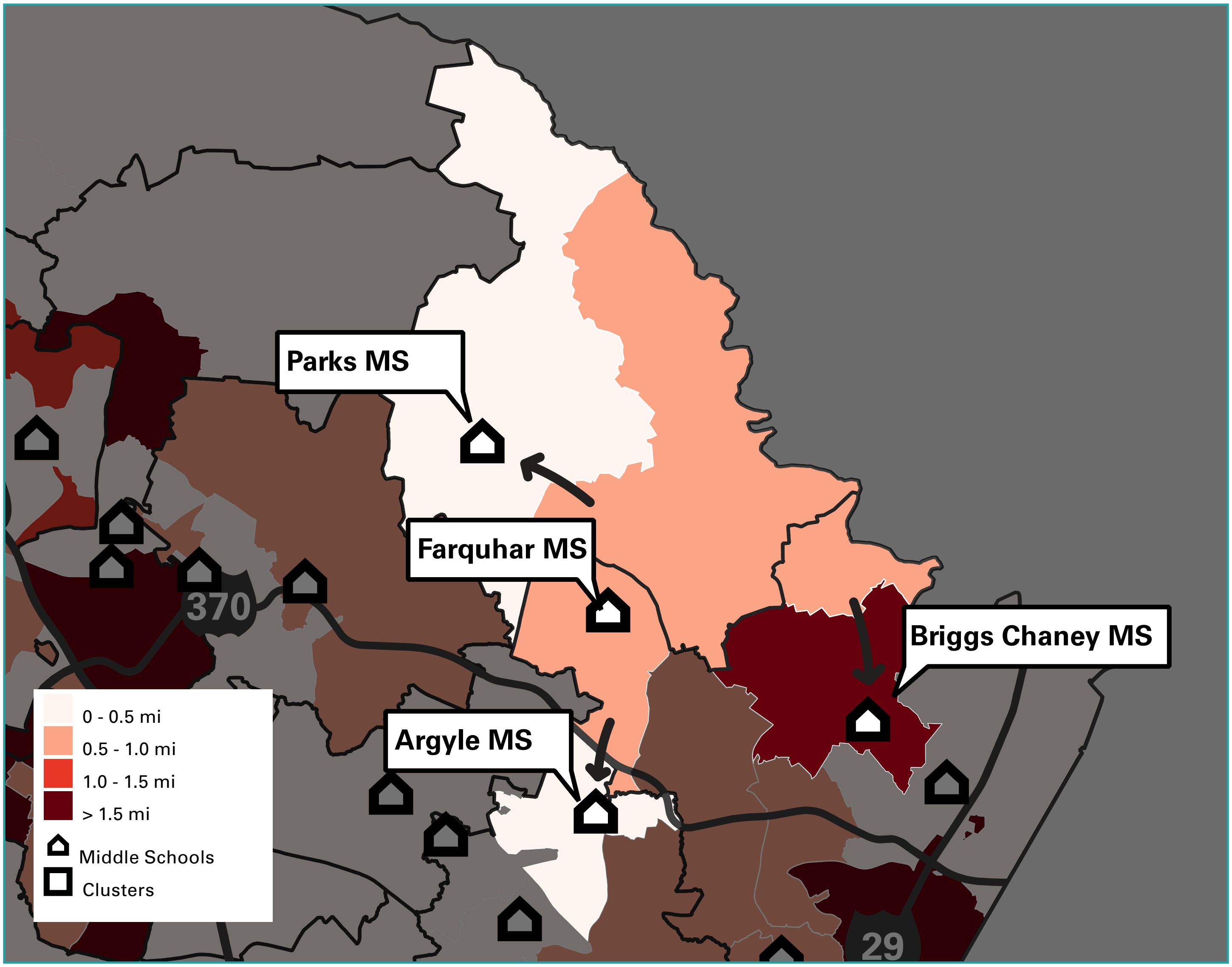


Figure 2.4.12 *Case Study of Relative Distance to Schools: Farquhar MS*

There are many cases throughout the district where there is one school closer to a student's home than their base school--and it may be easy to assume that students should go to that school. But this analysis suggests that there is a wider network of schools that are in proximity to the many students in the attendance area, and proximity should be viewed with this context in mind.

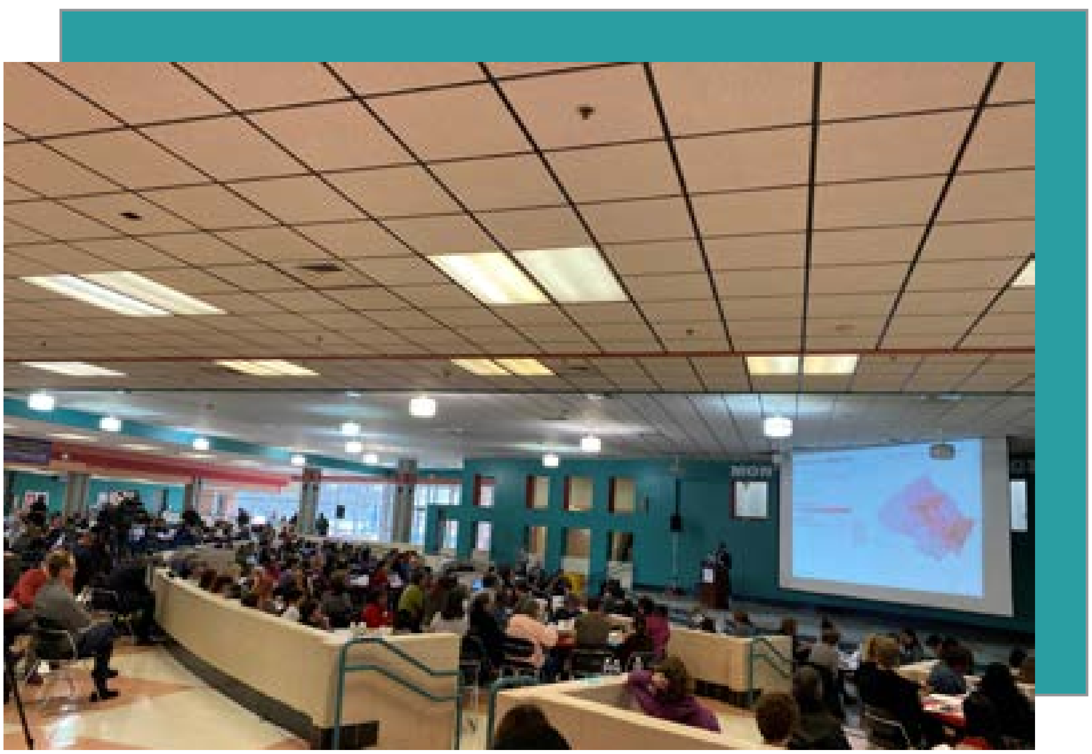
The map above uses Farquhar MS to illustrate the relative proximity analysis in this section. At Farquhar, the average student lives 3.14 miles from school. On average, they are 2.4 miles away from their closest school – which may or may not be Farquhar.

We know that not all students live closest to Farquhar, given that the difference in distance between students' closest school and Farquhar MS is on average 0.70 (for students whose closest school is Farquhar, this value would be 0 miles).
In the case of Farquhar MS students, there are four schools that are the closest

school to those students: Briggs Chaney MS, Argyle MS, Parks MS, and Farquhar MS (the base school).

From here, we calculate relative proximity to Farquhar by subtracting the average distance of students to their three closest schools from their average distance to Farquhar. This value is -0.68 miles , meaning that, when considered together, most students who attend Farquhar live closest to Farquhar when we normalize school proximity by factoring in other nearby schools.

At some schools, this means that while certain pockets of students may be closer to other schools, the attendance area of the school that they attend minimizes travel distance for the student body of that school as a whole. In other cases, the difference in distance between a school and the average of the closest three schools is positive. This implies that there is a group of schools which are, on average, closer to students than their current school, and that the current attendance areas do not effectively minimize travel distance for students.



Regional public meeting at Blair High School, January 11, 2020 (photo credit: C.D. Boykin)

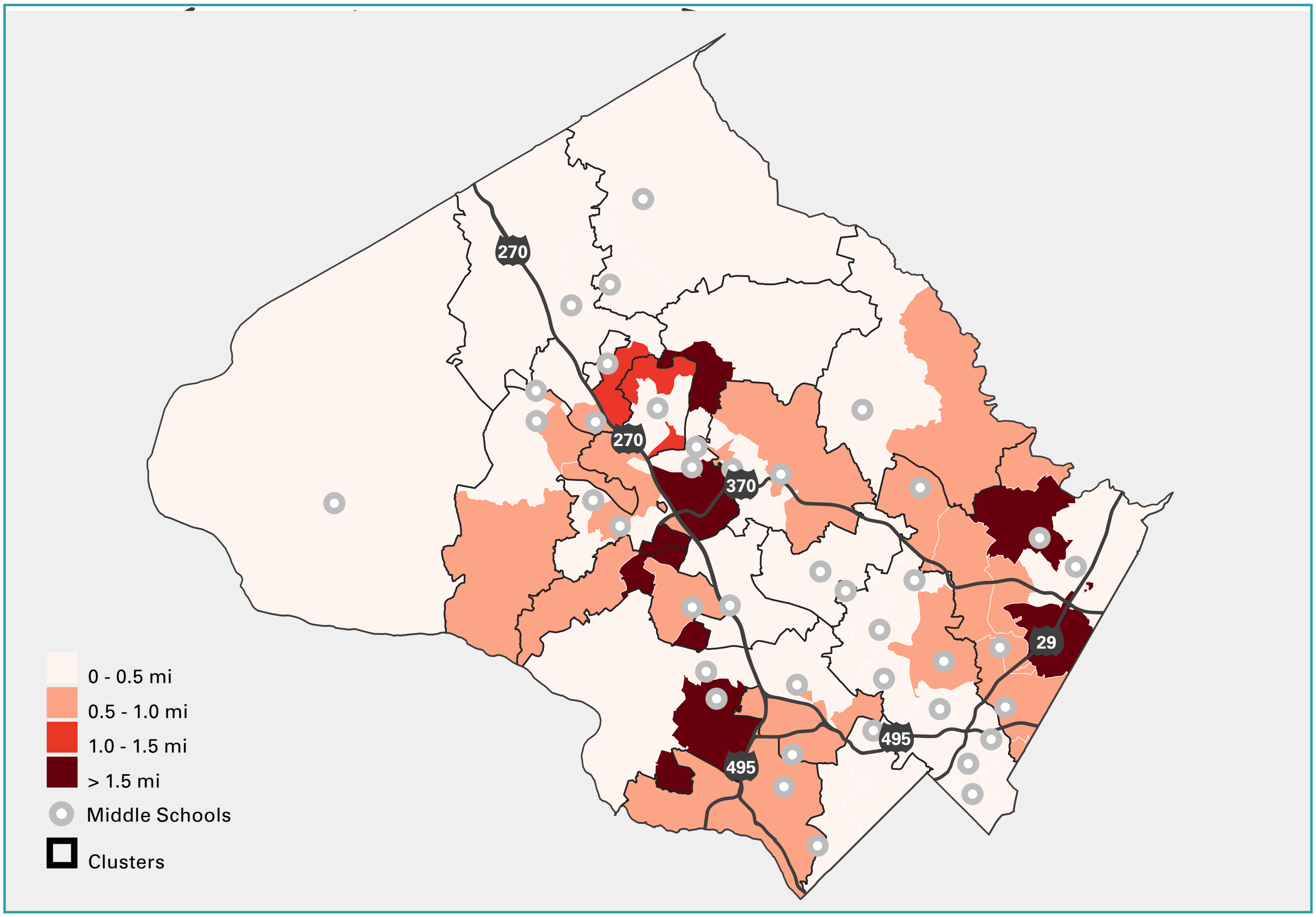


Figure 2.4.13 *Ten Schools with Greatest Difference in Distance Between Current School and Closest School (Middle School)*

The map above illustrates Difference in Distance Between Current School and Closest School (shown in **Figure 2.4.11 - Ten Schools with Greatest Difference in Distance Between Current School and Closest School (Middle School)**).

While the majority of schools with great disparities in this regard are island assignments, we can see in this map that there are also a number of contiguous attendance areas throughout the district with relatively higher differences in distance than others.

2.4 Data Analysis
Proximity

B. Proximity and Walk Zones

MCPS aims for as many students to walk to school as possible and designates particular areas around schools as walk zones. In this set of analyses, we examine these geographies, as well as other factors related to walkability to schools in MCPS.

Questions:

What is a walk zone and how are its boundaries determined?
What is the proportion of students living within MCPS designated walk zones, across schools and levels?
Within MCPS walk zones, how far do students live from school on average?

Analyses:

B.1 Proportion of Students in the Walk Zone
B.2 Difference in Percentage of Students in Walk Zone vs. Walk Shed
B.3 Average Walk Distance for Students within Walk Zones

Insights

1. Elementary school students are most likely to live within their school's walk zone.

At the elementary school level, 38% of students live within their school's walk zone. At the middle and high school levels, these numbers are 25% and 29%, respectively. A higher proportion of high school students live in the walk zone than middle school students.

2. On average, students living in walk zones tend to live at least a half mile away from school. This increases across school levels.

Elementary school students who live within their school's walk zone live 0.51 miles away from school on average. Middle school students in the walk zone live 0.86 miles away on average, and high school students live 1.2 miles away on average.

3. More than half of all the elementary schools have less than 50% of students within the walk zone.

This increases at the middle school and high school levels: more than three-quarters of all the middle schools and high schools have less than 50% of the students within the walk zone.

4. Students who live in the I-270 corridor area are more likely to live within their school's walk zone than in other parts of the county.

This suggest a correlation between population density and the likelihood of students living within their school's walk zones.

5. Not all schools have walk zones.

Due to traffic hazards and roadway conditions around schools, not all schools have walk zones. Schools in less densely populated areas on the periphery of the county are more likely not to have walk zones. 12 of 135 elementary schools, two of 40 middle schools and two of 25 high schools do not have walk zones.

6. At each school level, MCPS sets a maximum distance that student walkers can reasonably walk, or walk-radius, and a walk-zone, which accounts for the actual walkable routes within this radius. There is often a considerable difference between the percentage of students who live within the walk-radius and the MCPS-defined walk zone, suggesting that walkability is not simply a matter of proximity to school.

About 46% of students overall (across all grade levels) are within the MCPS defined walk -radius polygon (one mile for elementary students, 1.5 miles for middle school students, and two miles for high school students). But only 32% are within MCPS DOT-designated walk zones for their school. That means that 14% of students (46%-32%) who theoretically live close enough to school to walk, do not actually have a viable walking route to school. In these cases, optimizing walkers may be a question of traffic safety, land use, and other factors, rather than distance.

Introduction to Walk Zones

MCPS aims for as many students as possible to walk to school, and through MCPS DOT (the school system's Department of Transportation), MCPS regularly assesses the walkability of neighborhoods around schools to determine whether a route is safe and appropriate for students at each school level. As seen in the box, **MCPS Walk Zone Standards**, MCPS also sets a threshold for the maximum walking radius for walk zones at each school level: ranging from one to two miles from a student's home.

To better understand walk zones, it is important to understand the difference between the walk radius and the **walk zone polygon.**

The walking radius defines a general area of potential walkability: this is more or less a circle drawn around a school, with the radius of the appropriate school level walk zone (1, 1.5, or 2 miles). Within this radius, we first must adjust to road-network distance (in other words, 1 mile via existing roads and walkways). From there, the road-network distance must be further adjusted to account for hazards and barriers that may make a walking route unsuitable for students.[1] This final adjusted area is the MCPS walk zone.

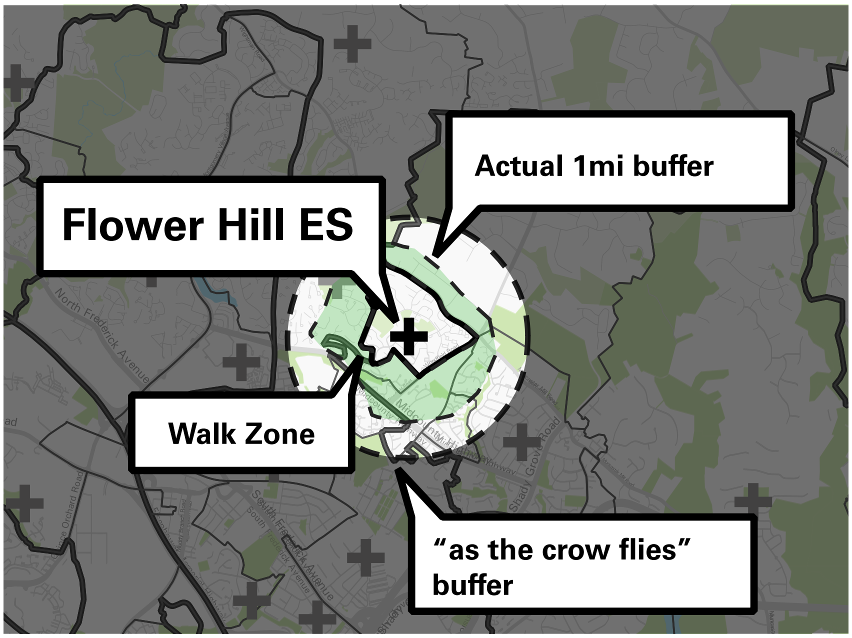


Figure 2.4.14 *Walk Zones, Walksheds, and the Walk Radius*

1 For more on walkability and street networks, see: Angela Coullias. 2013. "Barriers and Facilitators of Walkability: Analysis of Street Networks and Urban Design Characteristics Around Central Florida Elementary Schools." University of Florida. https://ufdcimages.uflib.ufl.edu/UF/E0/04/56/37/00001/COULLIAS_A.pdf.

MCPS Walk Zone Standards[1]

MCPS walk zones are aligned with the district standards for bus service. The walk zone standards are as follows, provided there is a safe route as determined by MCPS DOT:

- Elementary school students: 1 mile walking radius
- Middle school students: 1.5 mile walking radius
- High school students: 2 mile walking radius

The MCPS DOT analyzes safety and walkability conditions to recommend appropriate walking zones and routes to schools.

1 For more on walk zones policy in MCPS, see Policy EEA; "Policy EEA: Student Transportation." 2008. Board of Education of Montgomery County. https://www.montgomeryschoolsmd.org/departments/policy/pdf/eea.pdf.

Let's look at current walk zone polygons when compared to the walk-radius mandated by MCPS DOT.

About 46% of students overall (across all grade levels) are within the MCPS designated potential walk-shed area. But only 32% are within the walk zone. That means that 14% of students who theoretically live close enough to school to walk, do not actually have a viable walking route to school. This may be due to a variety of factors, ranging from unsafe walking and biking conditions to disconnected pedestrian networks. In some cases, this can be attributed to factors such as inadequate sidewalks, high traffic speed and volume, fences or walls, and absence of crossing guards to facilitate safe crossing of the street.

B.1 Proportion of Students in Walk Zones

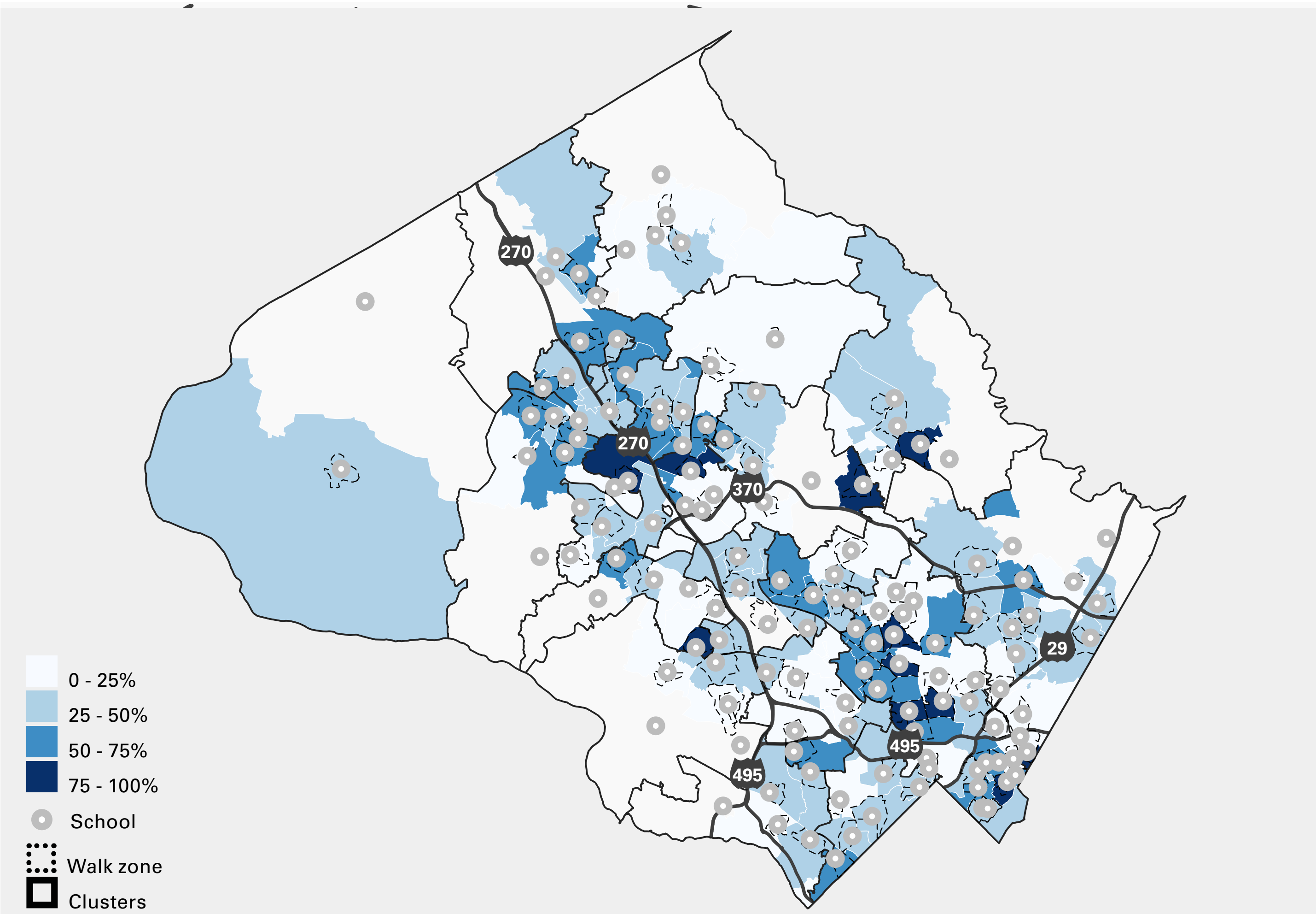


Figure 2.4.15 *Map of Proportion of Students in Walk Zones (Elementary School)*

More students live within their school's walk zone at the elementary school level than at the middle or high school level. Yet, the proportion of students by schools ranges widely. At nearly a quarter of elementary schools, less than 25% of students live within the walk zone. On the other hand, there are 13 schools with very high proportions of students living in the walk zone (75-100%).

At the middle and high school levels, there is a lower proportion of students living in walk zones overall. Interestingly—although high school attendance areas are larger-- there is a greater proportion of students that live in the walk zone at the high school level than at the middle school level. Note that 123 of 135 elementary schools, 38 of 40 middle schools, and 23 of 25 high schools have walk zones.

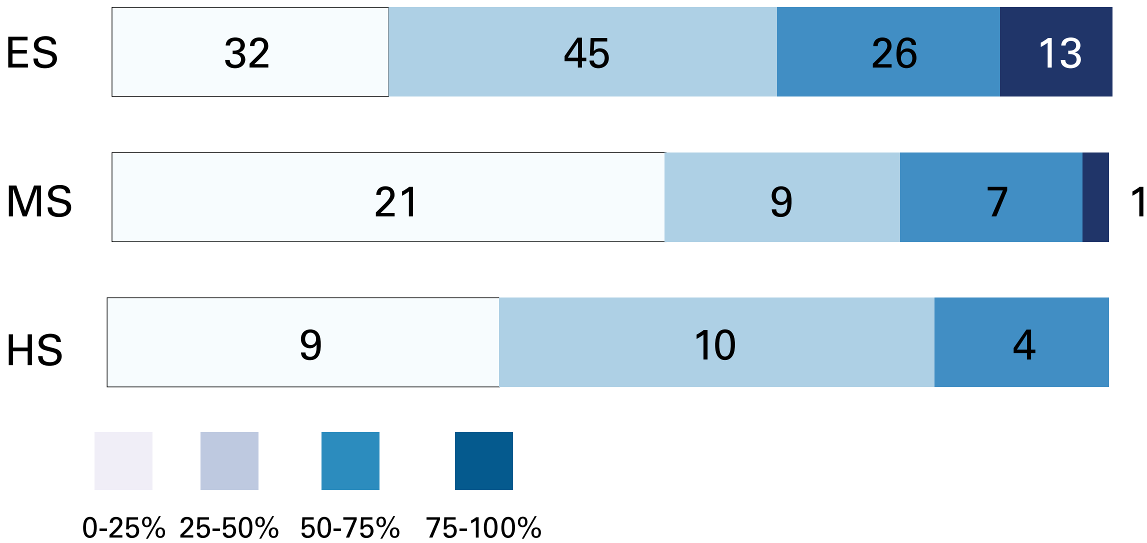


Figure 2.4.16 *Proportion of Students in Walk Zones, by School Level*

B.2 Difference in Percentage of Students in Walk Zone vs. Walkshed

MCPS's walk zones are generally 1 mile for elementary schools, 1.5 miles for middle schools, and 2 miles for high schools. But in actuality, walk zones are far smaller due to factors like hazardous conditions and major roadways.
This section identifies walkshed areas—total potential walkable areas based on walkable roadways but not taking into account the hazardous features that MCPS uses to determine walk zones-- for each school based on the walk distances outlined above and uses the Mapbox Isochrones API to determine generalized walksheds. These walksheds provide approximate isochrones (or, connective lines on a map) for different travel modes based on travel time. After iterative testing, walk zones that approximate 1, 1.5, and 2 mile walk distances were created and the number of students at a school within these zones was compared to the number of students within official walk zones. The difference between these numbers was identified to determine the impact that physical conditions of neighborhoods have on limiting students' eligibility to walk to school. To illustrate this point, the table in **Figure 2.4.20** shows the top ten largest disparities between the percentage of students in the walk zone vs. the percentage of students in the calculated walkshed.

School	% current students in walk zone	% current students in 1mi walkshed	% difference
Bethesda ES	7.56%	85.98%	78.43%
Rock Creek Forest ES	30.73%	100.00%	69.27%
Bells Mill ES	23.44%	75.72%	52.28%
Fields Road ES	34.03%	84.62%	50.58%
Germantown ES	36.19%	85.07%	48.88%
Woodlin ES	10.75%	55.98%	45.23%
Montgomery Knolls ES	20.98%	62.67%	41.69%
Somerset ES	36.38%	77.61%	41.23%
Sargent Shriver ES	52.73%	92.36%	39.63%
Burnt Mills ES	20.92%	60.23%	39.31%

Figure 2.4.17 *Top Ten Cases with the Greatest Difference in Percentage of Students in One Mile Walkshed vs. Walk Zone (Elementary School)*

A complete list of proportion of students in walk zones and walksheds, by school, is available in ***Appendix D7: Percentage of students in walk zone vs. walk shed on page 520.***

☐ Cluster boundaries ☐ School attendance areas + Elementary school

Figure 2.4.18 *Map of Bethesda ES, its MCPS-assigned walk zone, and calculated 1mi walkshed*

Case Study: Bethesda ES

Bethesda Elementary School's walk zone currently includes less than ten percent of its current students. However, the walkshed polygon, which represents a one-mile walk distance from Bethesda ES, includes roughly 86% of all Bethesda students who live in the attendance area. This analysis only includes students who currently attend Bethesda ES and live in the attendance area. Major roadways and other unsafe conditions limit the extent of walk zones. In the case above, Wilson Lane and Arlington Road have been assessed by MCPS DOT as unsafe for elementary school aged children to cross safely to walk to school. The average difference across all elementary schools is 14.88%.

Although the difference between walk zones and walksheds is less pronounced overall at the middle school level, several cases exist where over 25% of students at a given middle school are excluded from the walk zone based on unsafe roadway conditions or other hazards. The average difference between percentage of students in the walk zone and the walkshed at the middle school level is 13.96%.

The average difference at the high school level is slightly less than at the elementary and middle school levels (11.81%). However, there are still several notable cases where over 25% of students are excluded from the potential walk zone at their school due to roadway conditions. The walkshed of Walt Whitman HS, for example, is bisected by River Road, a major thoroughfare without sidewalks and with only two crossings (both at-grade) anywhere near the school. Clearly these are not safe walkable conditions, nor do these present viable conditions for

School	% current students in walk zone	% current students in 1.5 mi walkshed	% difference
Silver Spring International MS	23.24%	66.52%	43.28%
Eastern MS	49.08%	89.53%	40.45%
Shady Grove MS	12.64%	46.28%	33.64%
Tilden MS	9.67%	39.89%	30.22%
A. Mario Loiederman MS	54.07%	80.99%	26.91%
Martin Luther King, Jr MS	30.09%	56.74%	26.65%
Thomas W. Pyle MS	18.13%	43.15%	25.02%
Takoma Park MS	55.19%	78.62%	23.43%
Sligo MS	46.25%	69.37%	23.12%
Newport Mill MS	59.13%	77.40%	18.27%

Figure 2.4.19 *Ten cases with the Greatest Difference in Percentage of Students in 1.5 mi Walkshed vs. Walk zone (Middle School)*

A complete list of proportion of students in walk zones and walksheds, by school, is available in ***Appendix D7: Percentage of students in walk zone vs. walk shed on page 520****.*

School	% current students in walk zone	% current students in 2mi walkshed	% difference
Walt Whitman HS	22.95%	61.76%	38.81%
Paint Branch HS	3.05%	35.86%	32.81%
Damascus HS	4.48%	30.58%	26.10%
Clarksburg HS	21.44%	46.65%	25.20%
Montgomery Blair HS	8.10%	31.22%	23.12%
Walter Johnson HS	17.57%	40.68%	23.11%
Poolesville HS	53.08%	75.57%	22.50%
Rockville HS	40.83%	61.61%	20.77%
Bethesda-Chevy Chase HS	30.40%	48.56%	18.16%
Winston Churchill HS	34.05%	45.84%	11.78%

Figure 2.4.20 *Ten cases with the Greatest Difference in Percentage of Students in 2 mi Walkshed vs. Walk zone (High School)*

A complete list of the proportion of students in walk zones and walksheds, by school, is available in ***Appendix D7: Percentage of students in walk zone vs. walk shed on page 520****.*

students to walk to school. These differences point to the external transportation and roadway infrastructure that impacts the walkability of attendance areas that are outside of the purview of MCPS.

B.3 Average Walk Distance for Students within Walk Zones

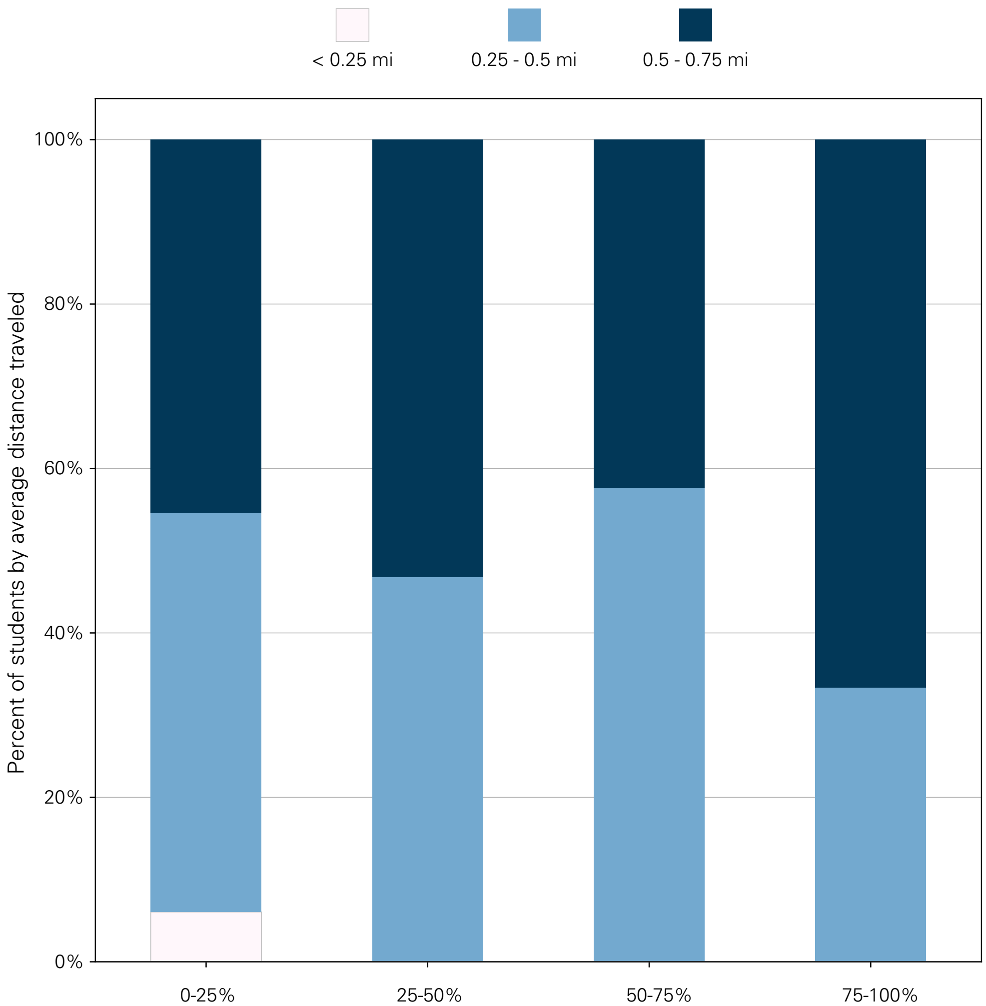


Figure 2.4.21 *Proportion of Students within the Walk Zone (Elementary Schools)*

In the graph above, the x-axis represents the proportion of students in the walk zone (elementary school level), and the y-axis represents the average distance between students' home and school.

Of the elementary schools with over 75% of students within the walk zone, 58% of these students live within a half mile of school. This proportion is only slightly higher than for schools with a smaller percentage of students living within the walk zone. However, at schools with less than 25% of students in the walk zone, 6% of these students live less than a quarter mile away. Although the proportion of students within the walk zone varies by school, around half of students who are in the walk zone live within a half mile walking distance of school. The school with the shortest average walk distance to school is Cedar Grove ES (0.2 miles), and the school with the largest average walk distance to school is Washington Grove ES (0.9 miles).

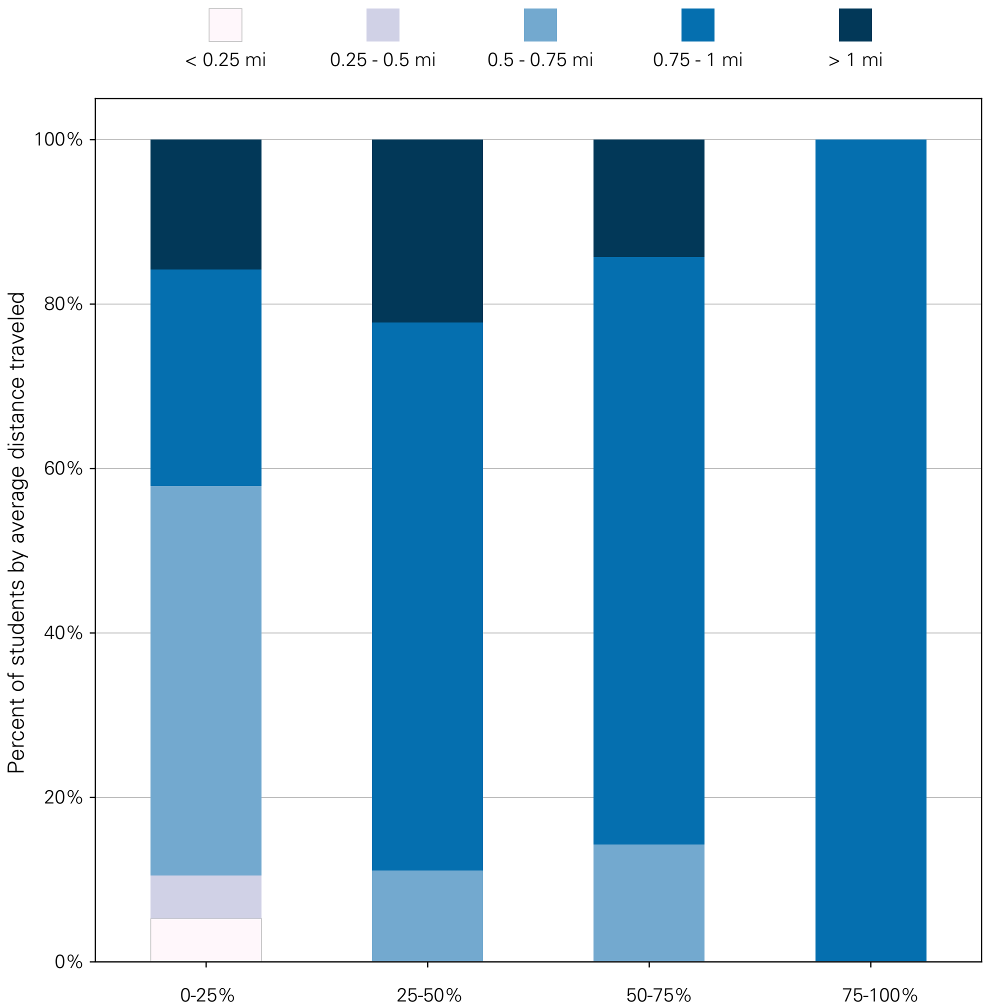


Figure 2.4.22 *Proportion of Students within the Walk Zone (Middle Schools)*

This relationship shifts drastically at the middle school level. Of the middle schools that have more than 50% of their students within the walk zone, over 80% of these students live more than 0.75 miles away. Interestingly, only middle schools with less than 25% of students in the walk zone have students who live less than half a mile away, although these students make up less than 5% of all students at their respective schools.

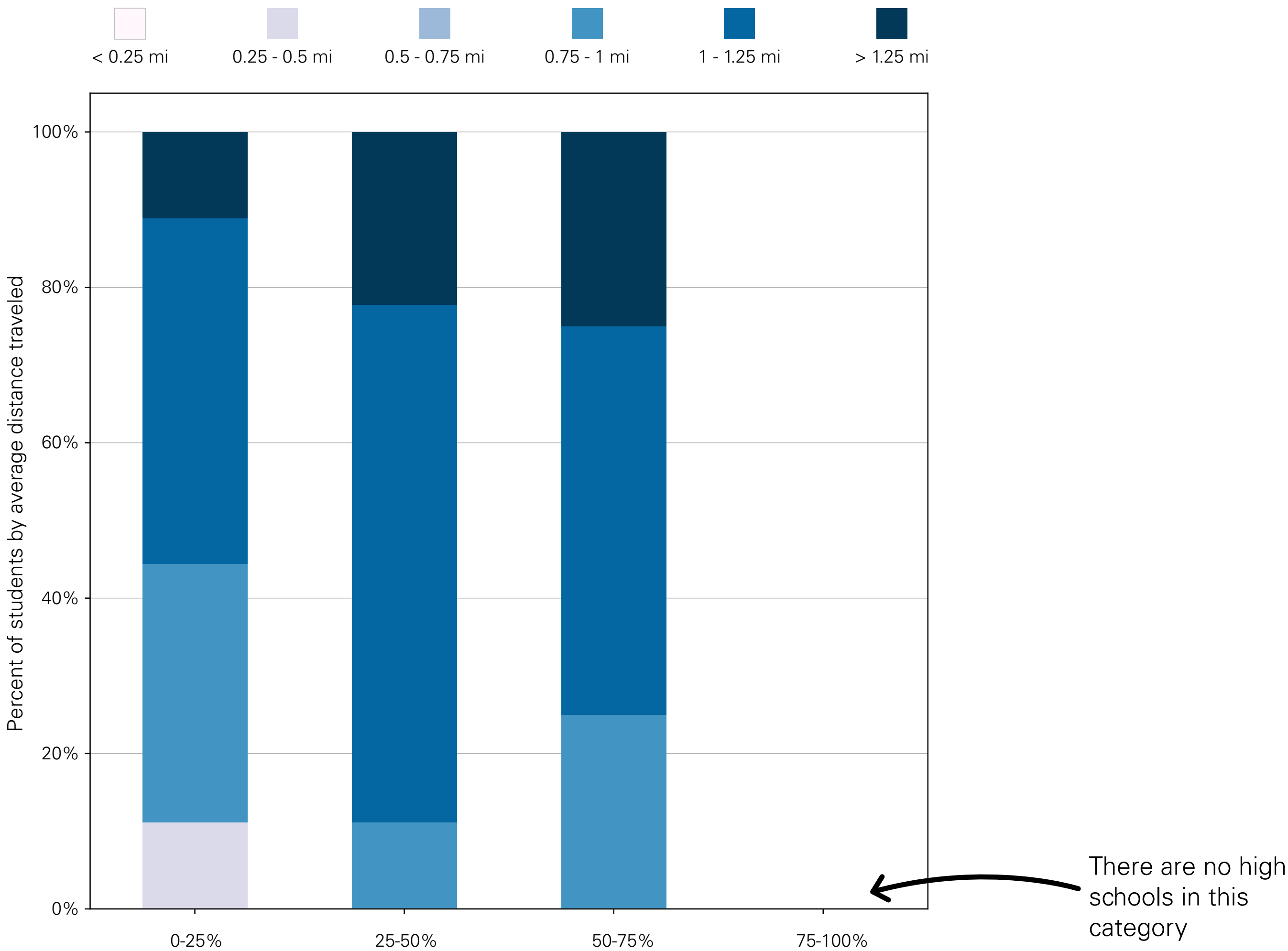


Figure 2.4.23 *Proportion of Students within the Walk Zone (High Schools)*

At the high school level, students in the walk zone generally live further away from school than students at the elementary and middle school levels: at high schools with over 50% of students in the walk zone, the average distance from school is over 0.75 miles.

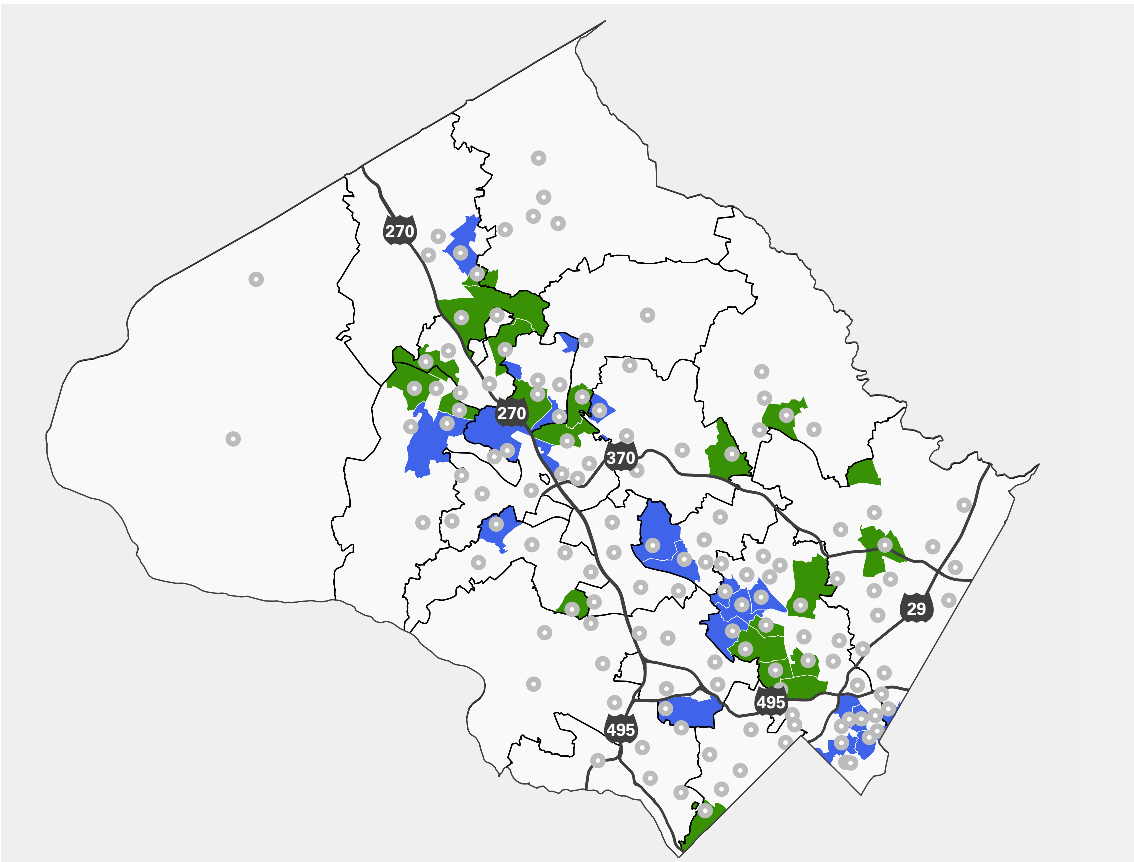


Figure 2.4.24 *Map of Elementary Schools with Over 50% of Students within the Walk Zone.*

The map above shows elementary school attendance areas that have more than 50% of students within the walk zone. Schools in blue are those for which greater than 50% of students live within the walk zone and the average distance to school for these students is less than half a mile. The green schools are cases where more than 50% of students live within the walk zone but are on average more than half a mile away from school.

More than 50% of students who live in the schools shown if blue live within a half mile to school. This suggests that distance may be less of a factor in determining whether students walk to school compared to elsewhere. Schools shown in green also have more than 50% of students within the walk zone, but the average distance from school for these students is over half a mile.

At the middle school level, there are no cases where greater than 50% of students live within the walk zone and less than 0.5mi away on average, while there are eight cases where over 50% of students live within the walkshed and are over half a mile away from school on average. At the high school level, four schools have more than 50% of their students within the walk zone, but these students live on average more than half a mile away from school. Similar maps for MS and HS can be found in **Appendix D8: Walk Distance Ranges for Students with at least 50% of Students in Walk Zone on page 525**.

2.4 Data Analysis
Proximity

C. Special Cases

There are a number of special conditions that may impact our understanding of proximity in MCPS. This includes split and cross-cluster articulation patterns, in which primary students feed into multiple different secondary schools or articulate across cluster lines. Next, many MCPS students choose not to attend their base school as part of MCPS's school choice programs. Additionally, 30% of students districtwide reside within high school consortia and attend consortia schools, in which articulation patterns operate differently than the rest of the county. This section looks at these special conditions in MCPS, through the lens of proximity.

Questions:

How do special conditions in MCPS impact proximity to schools?
What trends can we see between proximity and school choice?
What does proximity to schools look like in the county's two high school consortia, as compared with the rest of the county?
How much farther do choice students travel on average by grade level?

Analyses:

C.1 Split Articulation and Proximity (Elementary to Middle)
C.2 Split Articulation and Proximity (Middle to High)
C.3 Choice and Magnet Programs and Proximity
C.4 Consortia and Proximity

Insights

1. One set of special conditions we explore are different forms of articulation between elementary schools and middle schools, to better understand how they relate to proximity. There are 19 instances in which elementary school students do not all simply articulate to a single middle school within their cluster. And there are six cases of split articulation between middle and high schools.

Among the 25 instances mentioned above, we can observe three types of articulation patterns in the school system today:

a. Inter-cluster articulation: where all elementary school students at a school articulate to a middle school located in a different cluster (this kind of articulation does not take place at the MS to HS level). Ten elementary schools articulate to a middle school in a different cluster, and six middle schools have this kind of articulation pattern.

b. Intra-cluster split articulation: where primary students (ES or MS) articulate to multiple secondary schools but within the same cluster. Five elementary schools in the district articulate this way (at the MS level, this only happens in consortia).

c. Inter-cluster split articulation: where primary students articulate to multiple secondary schools – both in the same and different clusters than that of the primary school itself. Four elementary schools have this kind of articulation pattern, and no middle schools do.

2. In cases where elementary students travel across cluster boundaries to attend a middle school in a different cluster (inter-cluster articulation), the average travel distance is slightly greater than the district average.

Students at these schools travel just slightly farther to school on average (2.3 miles) than the district average of 2.1 miles.

3. In cases of intra-cluster split articulation (where elementary school students travel within cluster boundaries to attend different middle schools), there is not a clear trend between the proportions of students going to each school and the distances traveled.

Although this kind of articulation pattern may impact proximity to school for certain students, there is no clear relationship between intra-cluster split articulation and proximity to schools at the district level. Students at King and Clemente MS, for instance, travel comparable distances to school, and tend to travel less than the districtwide MS average. On the other hand, students at Farquhar MS and White Oak MS travel comparable distances to school, and tend to travel somewhat farther than the districtwide average.

4. Oftentimes, inter-cluster split articulation (where 100% of elementary students at a school articulate to a middle school in

another cluster) occurs where elementary school attendance areas are quite large.

This may be done for a variety of reasons ranging from balancing enrollments based on underlying demographic trends, to ensuring that students attend their closest schools.

5. The Northeast Consortium (NEC) seems to experience greater challenges with proximity than many other areas of the district—consortia or not.

Some factors that underlie this include a high number of island assignment attendance areas, and areas of lower density within the consortia. The Downcounty Consortium (DCC) experiences fewer proximity related challenges, based on factors in this analysis.

6. Choice students travel the farthest to attend the choice program at Poolesville HS. This is the only school where over half of students are choice students from outside of the school's attendance area.

52% of Poolesville HS students are choice students from outside the school's attendance area, and these students travel an average of 11.7 miles to school.

7. Of high school choice programs, Blake HS has the lowest difference in distance traveled between choice and non-choice students.

Choice students at Blake travel an average of 6.1 miles to school, which is 1.27 miles more than their non-choice pers.

8. High school choice students, who choose to attend a school other than their base school travel on an average approximately eight miles.

There are three high schools where more than 10% students attending that school come from outside the cluster. Poolesville (51.66%), Blaire HS (13.61%), and Montgomery HS (20.62%).

9. 39.8% of NEC students, and 30.6% of DCC students do not attend the school closest to where they live.

This places NEC above, and places the DCC below the countywide average of 33.5% students who do not attend their closest school.

10. The school with the highest average distance to school in both consortia is Blake HS, which also has the highest average travel distance in the district.

The average student travels 4.9 miles to Blake HS, which is in the NEC. On the other hand, the lowest average distance to school in both consortia is Wheaton HS in the DCC, where the average student travels only 1.5 miles. This is well under the average of 2.5 miles for high school students across the district.

C1. Split Articulation Patterns and Proximity (Elementary to Middle)

In the standard articulation pattern in MCPS, students move from elementary school, to middle school, to high school within the same high school cluster. However, 19 elementary schools and 6 middle schools in the county have "split articulations." In these cases, students at an elementary school or middle school do not all attend the same secondary school. In other cases, elementary school students may be assigned to cross cluster boundaries for middle school.

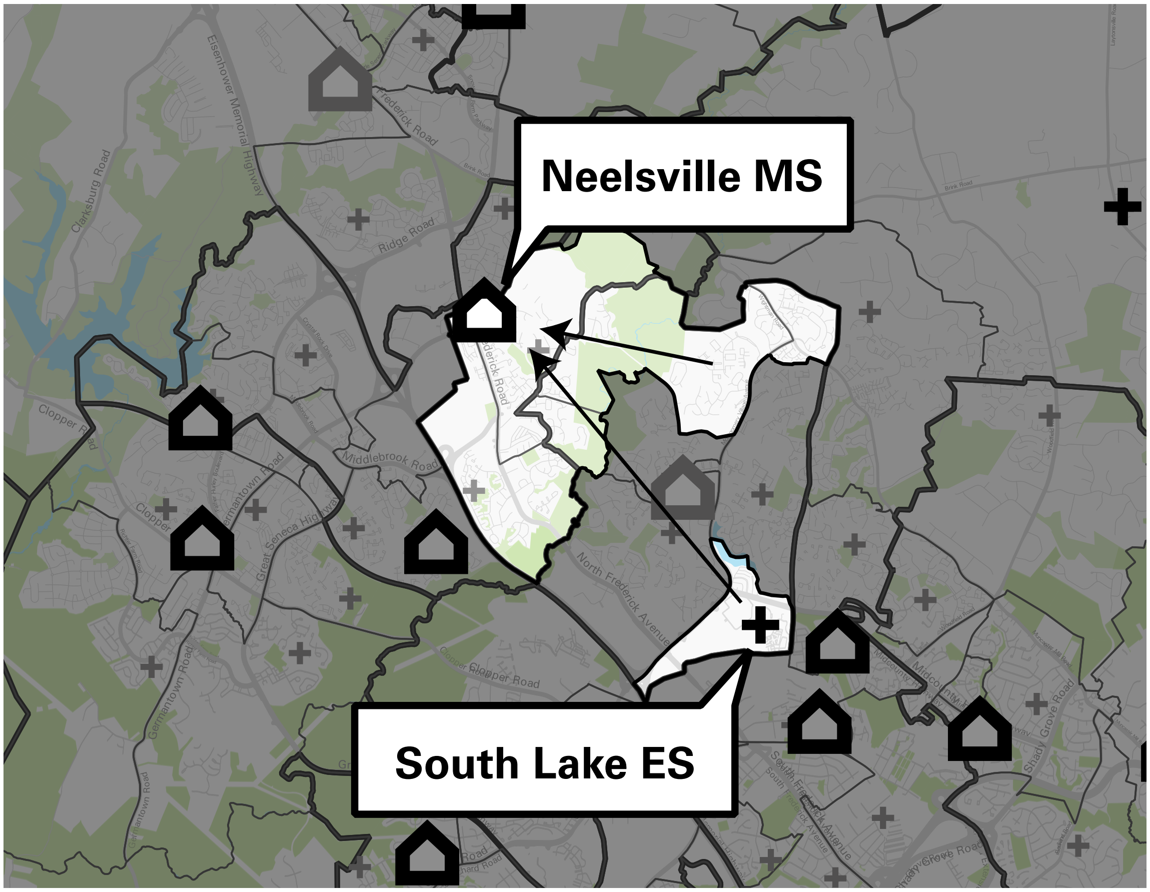
At the elementary to middle school level, we can observe three types of articulation patterns in the school system today:

- **Inter-cluster articulation:** In these cases, 100% of students from an elementary school articulate to a middle school in another cluster. Ten elementary schools articulate to a middle school in a different cluster.
- **Intra-cluster split articulation:** Elementary schools that articulate to multiple middle schools within the same cluster. Five elementary schools in the county articulate this way.
- **Inter-cluster split articulation:** Elementary schools that articulate to multiple middle schools – both in the same and different clusters than the elementary school itself. Four elementary schools have this kind of articulation pattern.

These forms of articulation may have been created over time for a number of reasons—including to balance enrollment at the middle school level. One way to frame the discussion around split articulation and proximity is to ask questions such as: What is the impact of these split articulations on proximity to schools? By sending students across cluster boundaries, or splitting up groups of primary students, does split articulation tend to facilitate more students attending schools closer to home?

In the following maps and tables, we explore the 19 cases of **split and inter-cluster articulation** between elementary and middle schools.

Inter-Cluster Articulation



☐ Cluster boundaries ☐ School attendance areas + Elementary school ⌂ Middle school

Figure 2.4.25 *Inter-cluster Articulation Example: South Lake ES*

South Lake ES is an example of an elementary school that articulates to a middle school in a different cluster (to Neelsville MS in Clarksburg). As seen in the graphic above, students cross over from the Watkins Mill cluster, to the Clarksburg cluster. These students attend Watkins Mill HS.

The table below details the cases where all students at an elementary school attend the same middle school in a different cluster. From left to right, the table shows the elementary school, the middle school to which it articulates, the proportion of students at the middle school who attend the school closest to home, and the average distance to school for students.

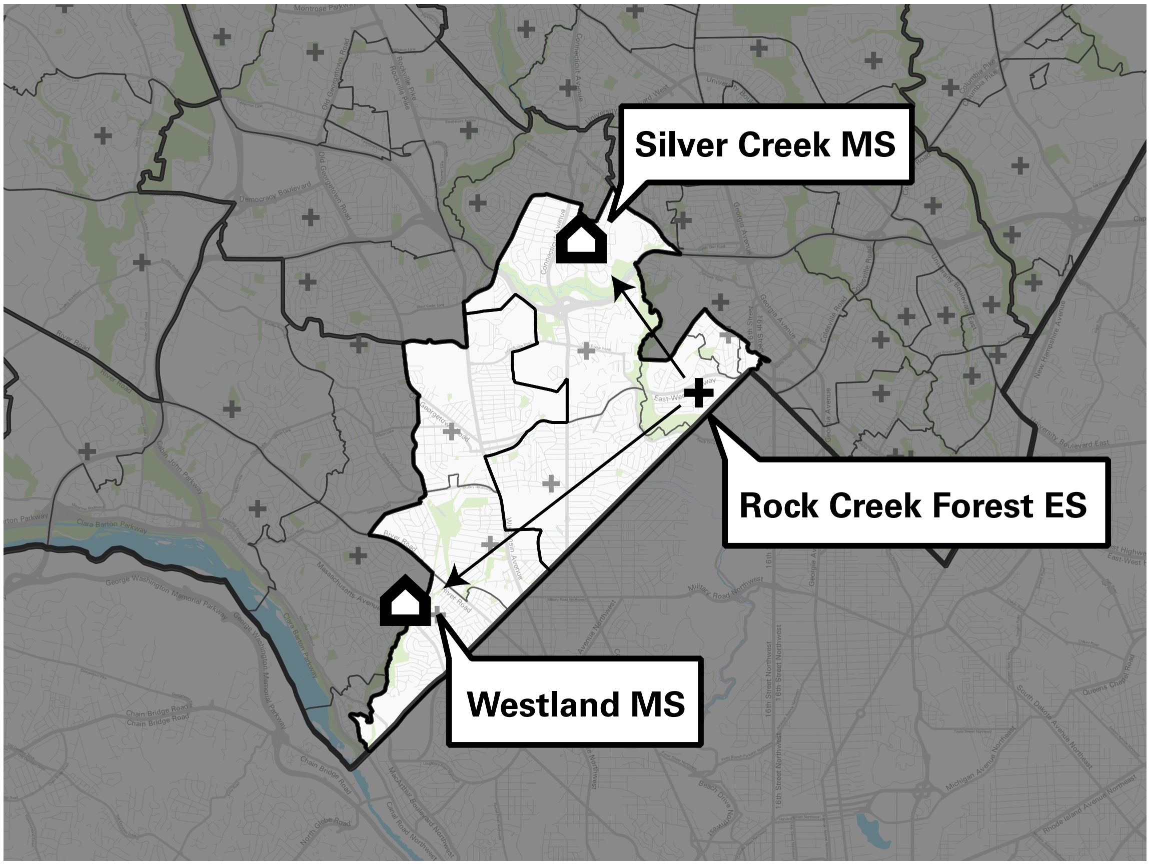
ES	MS	MS: proportion of students who attend their closest school	MS: avg. distance to school (miles)
South Lake (Watkins Mill)	Neelsville (Clarksburg)	55%	2.73
Clopper Mill (Northwest)	Clemente (Seneca Valley)	38%	1.74
Germantown (Northwest)	Clemente (Seneca Valley)	38%	1.74
Wilson Wims (Clarksburg)	Hallie Wells (Damascus)	69%	1.18
Snowden Farm (Clarksburg)	Hallie Wells (Damascus)	69%	1.18
Sherwood (Sherwood)	Farquhar (Northeast Consortium)	47%	3.14
Brooke Grove (Sherwood)	Farquhar (Northeast Consortium)	47%	3.14
Darnestown (Northwest)	Lakelands Park (Quince Orchard)	31%	2.28
Cold Spring (Wootton)	Cabin John (Winston Churchill)	50%	3.52
Stone Mill (Wootton)	Cabin John (Winston Churchill)	50%	3.52
MS Average		**61%**	**2.2**

Figure 2.4.26 *Inter-cluster Articulation (ES to MS)*

The average distance to school, and the proportion of students for whom their middle school is closest at the receiving middle schools ranges considerably: from 31% for students at Lakelands Park to 67% for students at Hallie Wells, the average distance to school for these schools is 2.4 mi, only slightly higher than the middle school average distance of 2.2 miles.

Middle schools with inter-cluster articulation patterns exhibit a range of proximity values that largely mirror the district as a whole. On average, these middle schools have about 59% of students attending the closest school, as compared to a districtwide average of 61%.

Intra-cluster Split Articulation



☐ Cluster boundaries ☐ School attendance areas + Elementary school ⌂ Middle school

Figure 2.4.27 *Intra-cluster Split Articulation Example: Rock Creek Forest ES*

The graphic above illustrates an example of intra-cluster split articulation. In this case, Rock Creek Forest ES split articulates to two different middle schools: Westland MS and Silver Creek MS. Both of these schools are within the Bethesda-Chevy Chase cluster.

Elementary school	Cluster	Middle schools	% of ES students in MS attendance area	Avg. distance to school for MS
Ride	Seneca Valley	King / Clemente	72% / 28%	1.6 mi / 1.7 mi
Fairland	Northeast Consortium	Briggs Chaney / Banneker	74% / 26%	4.2 mi / 2 mi
Cloverly	Northeast Consortium	Briggs Chaney / Farquhar	80% / 20%	4.2 mi / 3.1 mi
Stonegate	Northeast Consortium	White Oak / Farquhar	57% / 43%	3 mi / 3.1 mi
Rock Creek Forest	Bethesda-Chevy Chase	Silver Creek / Westland	100%/ –	2.6 mi / 2.2 mi
MS Average				**2.2**

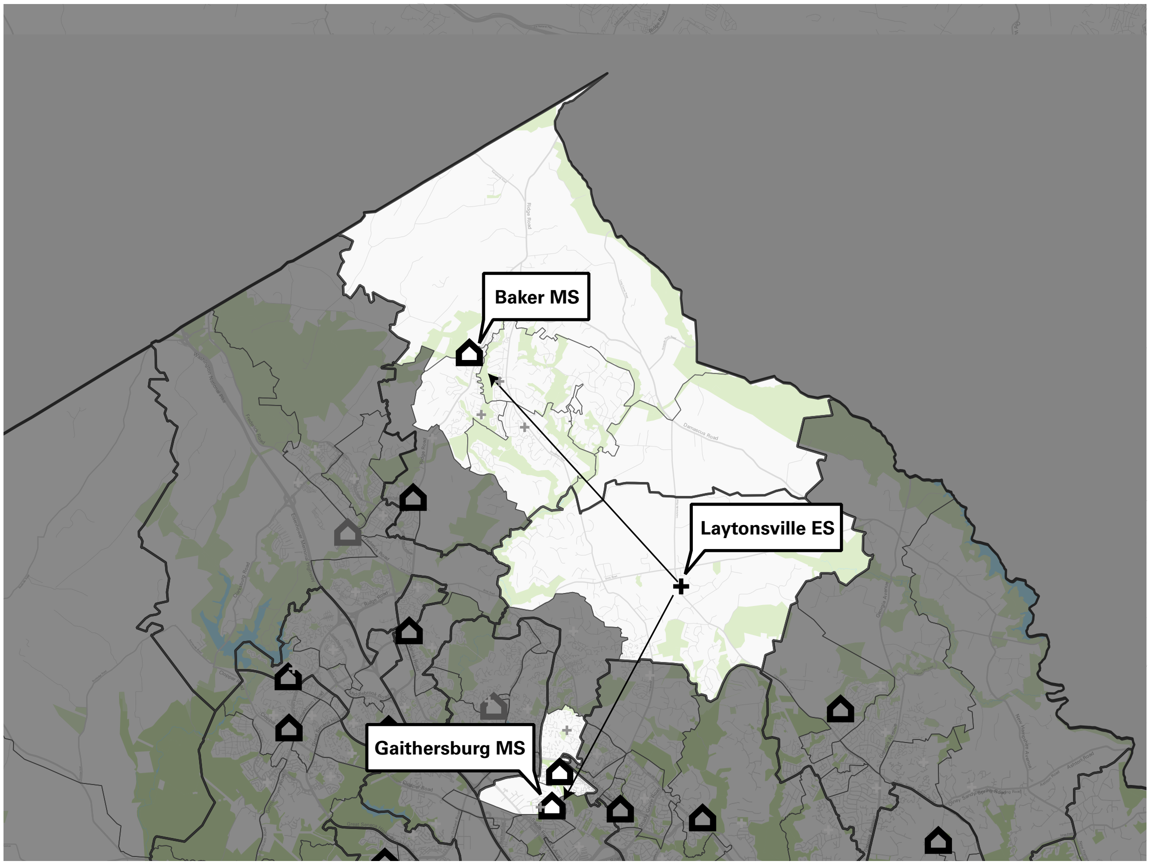
Figure 2.4.28 *Intra-Cluster Split Articulation*

The table in **Figure 2.4.28. Intra-Cluster Split Articulation** illustrates cases where students articulate to multiple middle schools within the same cluster (intra-cluster split articulation).[1] The data in the fourth and fifth columns is split to show the proportion of students at each elementary school that live in each middle school attendance area, and thus what the "split" is between schools.

The fifth column shows the average distance that all students travel to the middle schools in that row. There is not a clear trend between proportions of students going to each school and the distances traveled. Students at King and Clemente MS travel roughly the same distances on average to middle school. On the other hand, students at Briggs Chaney MS travel on average much farther than students at Banneker MS (although this is due in part to the island assignment attendance area of Briggs Chaney).

1 The middle school magnet consortia schools are excluded from this table and are discussed in Section III: Special Cases.

Inter-cluster Split Articulation



☐ Cluster boundaries ☐ School attendance areas + Elementary school ⌂ Middle school

Figure 2.4.29 *Inter-Cluster Split Articulation Example: Laytonsville ES*

At times, inter-cluster split articulation occurs where elementary school attendance areas are quite large. See figure above, which shows Laytonsville ES attendance area in relation to Gaithersburg MS. This kind of articulation pattern may also arise due to the location of middle schools in relation to elementary school attendance areas. The case study above (Laytonsville ES), in particular, demonstrates how split articulation and non-contiguous boundaries can be used to minimize the distance that students travel to attend middle school.

Elementary school	ES cluster	Middle school(s)	% of ES students who live in MS attendance area	Avg. distance to MS	MS cluster(s)
Laytonsville	Gaithersburg	Baker / Gaithersburg	12% / 88%	2.4mi / 2.2mi	Damascus, Gaithersburg
Great Seneca Creek	Northwest	Kingsview / Clemente	34% / 66%	1.3mi / 1.7mi	Northwest, Seneca Valley
Stedwick	Watkins Mill	Montgomery Village / Neelsville	54% / 46%	1mi / 2.7mi	Watkins Mill, Clarksburg
Diamond	Northwest	Lakelands Park, Ridgeview	95%/5%	2.3 mi / 2.3 mi	Quince Orchard
MS Average				**2.2**	

Figure 2.4.30 *Inter-cluster Split Articulation (Elementary to Middle School)*

C2. Split Articulation Patterns and Proximity (Middle and High Schools)

In the standard articulation pattern in MCPS, students move from elementary school, to middle school, to high school within the same high school cluster. However, 19 elementary schools and six middle schools in the district have split articulations.

At the middle to high school level, only one of the three kinds of articulation patterns discussed in Section 3.1 can be seen in the school system today:

- **Inter-cluster split articulation:** In this case, middle schools articulate to two different high schools in two different clusters. Six middle schools have this kind of articulation pattern.

Similar to the elementary to middle school relationship discussed above, this form of articulation may have been created over time for a number of reasons—including to balance enrollment at the high school level. These six instances of split articulation affect the same six clusters that are impacted by split articulations at the elementary to middle school level, indicating that split articulation at one school level begets this kind of articulation at the next level.

In the following maps and tables, we explore these six cases of split articulation between middle and high schools.

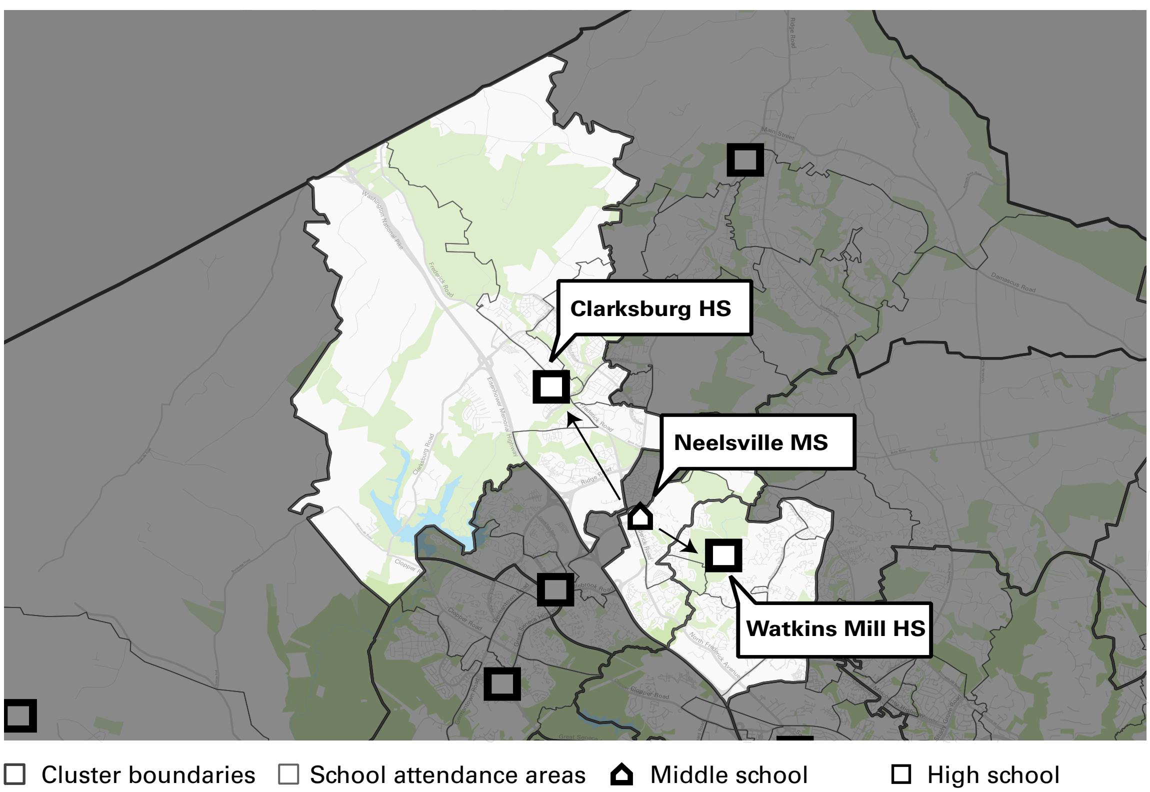


Figure 2.4.31 *Example of Inter-cluster Articulation for Neelsville MS*

The example above shows the Neelsville MS attendance area along with the two high schools to which Neelsville articulates: Watkins Mill HS and Clarksburg HS. In the case study above, 51.7% of Neelsville MS students attend Clarksburg HS, while 48.3% attend Watkins Mill HS. As seen in the figure below, students who attend Clarksburg HS travel, on average, 2.5 miles, whereas students who attend Watkins Mill HS travel, on average, 1.9 miles. These averages include students from both of the middle schools that articulate to these high schools in each case, but raise interesting questions about the impacts that split articulation cases such as this may impact the distance traveled to school for high school students.

As with the other five cases of split articulation between middle and high schools, Neelsville MS also receives elementary school students in part through split articulation (in this case from South Lake ES).

Middle school	**MS cluster**	**High schools**	**% of MS students who live in HS attendance area**	**Avg. distance to HS for all students at these schools**	**HS cluster or consortia**
Neelsville	Clarksburg	Clarksburg, Watkins Mill	51.7% / 48.3%	2.52mi / 1.94mi	Clarksburg, Watkins Mill
Clemente	Seneca Valley	Northwest, Seneca Valley	65% / 35%	2.25mi/1.51mi	Northwest, Seneca Valley
Hallie Wells	Damascus	Clarksburg, Damascus	65.2% / 34.8%	2.52mi/2.83mi	Clarksburg, Damascus
Farquhar	Northeast Consortium	Sherwood, Blake, Paint Branch, Springbrook	60.8%/39.2%*	3.65mi/4.86mi**	Sherwood, Northeast Consortium
Lakelands Park	Quince Orchard	Northwest, Quince Orchard	32.3% / 67.7%	2.25mi/2.2mi	Northwest, Quince Orchard
Cabin John	Winston Churchill	Winston Churchill, Wootton	57.2%/42.8%	2.83mi/3.2mi	Winston Churchill, Thomas Wootton

*The portion of Farquhar MS that overlaps with Blake HS's service area articulates into Northeast Consortium (not just Blake HS)
** Average distance to Blake HS shown here

Figure 2.4.32 *Inter-cluster Split Articulation (Middle to High School)*

C3. Choice/Magnet Programs

As of the 2019-2020 school year, approximately 9.48% of students across all levels attend a school other than their home school. This number excludes students who reside within a consortium, as well as students enrolled in special education programs outside of their home schools. While some of these students have requested a special change of school assignment through COSA, many attend schools outside of their base schools as part of MCPS's school choice and magnet programs.

How much farther do choice students travel on average than other students in MCPS? What proportion of students at schools with choice programs travel from outside the attendance area for these programs? The table below begins to explore these questions at the high school level.

High School	% choice / outside attendance area*	Avg. distance traveled by students in attendance area	Average distance traveled by choice students	Difference in distance between choice and non-choice
Poolesville	51.66%	2.01	13.73	11.72
Blair	13.61%	2.41	9.64	7.23
Einstein	2.50%	2.01	8.63	6.62
Montgomery	20.62%	1.97	7.40	5.43
Springbrook	1.52%	3.27	8.65	5.38
Kennedy	2.69%	2.67	5.77	3.09
Watkins Mill	4.31%	1.94	4.34	2.39
Average		**2.32**	**8.31**	**5.98**
HS County Average		**2.5**		

*These are students whose base school Is different from their current school and they live outside their current school's attendance area. It does not include COSA transfer students or special education students For Einstein HS Kennedy HS, and Blair HS, these numbers only include students who attend from outside Downcounty Consortium.

Corresponding tables for the ES and MS levels are available in **Appendix D9: Choice and Magnet Programs on page 527** .

Figure 2.4.33 *Proximity and School Choice (High Schools)*

C4. Consortia

How does proximity compare between consortia and the county as a whole?

Consortia	Average ES Distance to School (mi)	Average MS Distance to School (mi)	Average HS Distance to School (mi)	% of students whose current school is not their closest school
DCC	0.94	1.38	2.13	30.6%
NEC	1.41	2.94	3.32	39.8%
District (including consortia)	**1.2**	**2.2**	**2.5**	**33.5%**

Figure 2.4.34 *Proximity for Consortia Students*

The table above shows some of the key proximity statistics we have reviewed earlier in this chapter, taking the two high school consortia as a special case. Given the unique circumstances of school articulation in these schools, we compare these values with hopes of seeing how proximity to schools compares between consortia and the district as a whole.

Students across school levels in the Downcounty consortia travel, on average, smaller distances than the average student in MCPS and are more likely to attend the school closest to where they live. On the other hand, students in the Northeast consortia travel greater distances to school than the average MCPS student and are significantly less likely to attend their closest school.

One underlying factor behind this discrepancy is the number of island assignments in the Northeast Consortium (5 ES, 3 MS, 2 HS), and areas of low population density within the consortium. The Downcounty Consortium is more densely populated and has fewer island assignments at the MS and HS levels (6 ES, 1 MS, 1 HS).

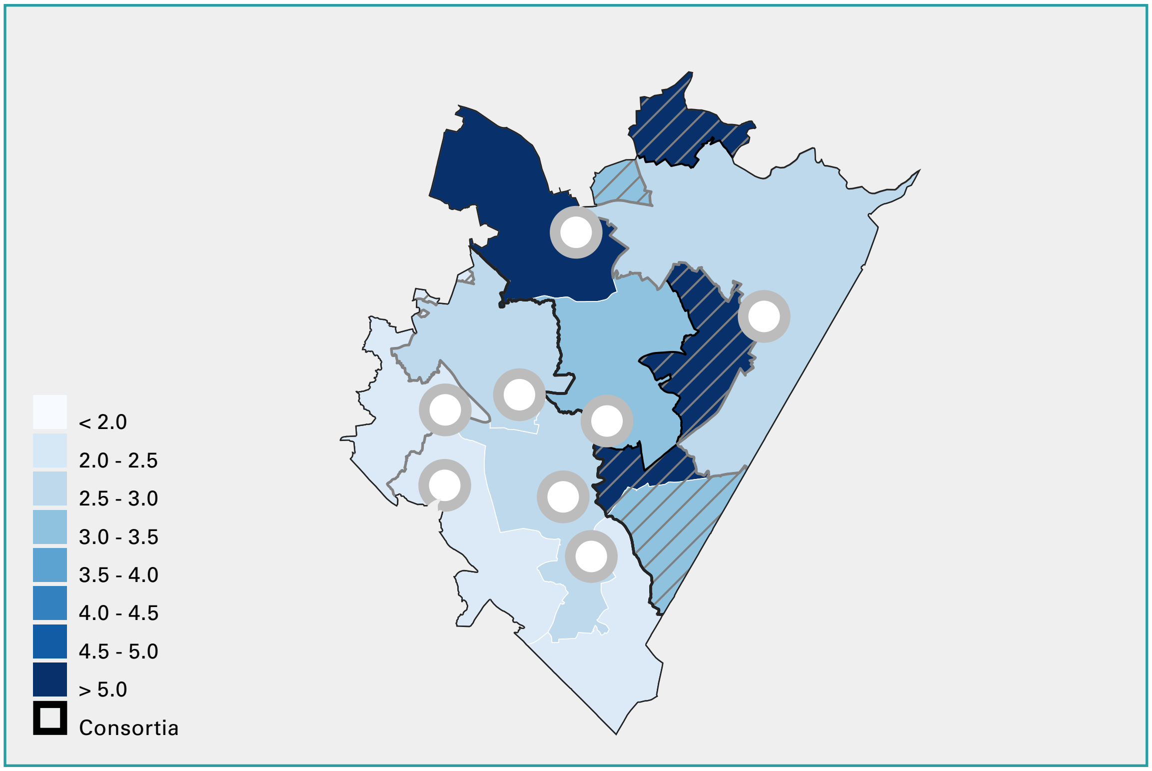


Figure 2.4.35 *Distance to School Among Consortia High Schools*

Here, we see a map of proximity to schools of high schools within the two consortia. Whereas elsewhere in this chapter, consortia are treated as one cluster in comparisons of other high school clusters—here we seek to gain a better understanding of how schools within the consortia compare to one another.

The school with the highest average distance to school in both consortia is Blake HS in the NEC, at 4.9 miles. Blake HS has the highest average travel distance in the county.

The lowest average distance to school in both consortia is Wheaton HS in the DCC, where the average student travels only 1.5 miles. This is well under the average of 2.5 miles for high school students across the county.

Further Inquiry

These analyses of proximity reveal several initial insights about the current conditions of school boundaries, assignment patterns, student proximity to schools, and district-provided transportation in MCPS. There are many possible directions for further inquiry, including but certainly not limited to the list below:

- Analysis of historical changes in walk zones, bus ridership, and distance to school
- Further analysis of residential densities in relation to school locations
- Walk zone and land use patterns, including socioeconomics as a factor in walkability
- An analysis of roadway types and proximity
- Analysis of bus route scheduled duration and distance[1]
- Analysis of distances between students and bus stops

In addition to the directions above, there is ample opportunity for analysis of the interrelatedness of the key lenses in this report: utilization, diversity, proximity, and assignment stability. Future stages of this comprehensive boundary analysis will focus on the interconnected aspects of these four lenses.

1 Pending available data.

3. Benchmarking

3. **Benchmarking** Figures

What does benchmarking mean in this analysis?

Benchmarking is used to compare MCPS to other comparable school districts throughout the country, to better understand how MCPS compares in terms of the key lenses of this analysis and to document notable policies or practices used to address similar challenges elsewhere.

Benchmarks were chosen based on three criteria: NCES (National Center for Education Statistics) peer database, past benchmarks of MCPS, and a review of recent relevant policies.

This Districtwide Boundary Analysis uses six school districts throughout the country as benchmarks: Charlotte-Mecklenburg Public Schools (NC), Duval County Public Schools (FL), Fairfax County Public Schools (VA), Gwinnett County Public Schools (GA), Houston Independent School District (TX), and Wake County Public Schools (NC).

Section Overview

This set of analyses is divided into two subsections:

1. Overview and Benchmark Profiles
2. Benchmarking Data Analysis

Benchmarking at a Glance

Benchmarking MCPS with other comparable districts around the country is an important layer of this analysis. Through benchmarking, this report seeks to equip MCPS and Montgomery County residents with an understanding of notable policies, practices, and challenges seen in other districts, as it relates to school boundaries and student assignment and the central lenses of this analysis: utilization, diversity, proximity, and student assignment stability.

The purpose of benchmarking in this analysis is to provide greater context to MCPS decision-makers and community members and develop insights about how MCPS compares to other school districts with respect to the analytical lenses of this Districtwide Boundary Analysis.

In addition, this benchmarking process identifies policies, programs, and historic milestones related to school boundaries in the selected school districts. This includes the criteria that benchmark districts use when making decisions about school boundaries. Though not exhaustive, these can serve as informative touchpoints for MCPS and residents of Montgomery County.

Benchmarking Methodology

Benchmarking Criteria

To select benchmarks, we used three sets of criteria to identify relevant school districts:

- **NCES Peers Database**: we used this national statistics database to identify comparable school districts using the criteria of total students, student/teacher ratio, percent children in poverty, district type, and urbanity locale code. These criteria were used to identify 100 "peer" districts across the US.
- **Relevant recent policies**: we conducted a policy and literature review to identify districts that have recent relevant policies and programs related to school boundaries, student assignment, and facilities planning.
- **MCPS past benchmarks**: finally, we considered past benchmarks used by MCPS, as a third form of criteria to inform the selection of benchmarks.

Based on these criteria, we identified a long list of potential benchmarks first, and then narrowed down this list with the aim of identifying school districts that satisfied as many of these criteria as possible.

Benchmarking: Approach and Limitations

Every school district has different practices in collecting, managing, and sharing data. In some cases, we could not access relevant data for a school district or districts, in which case this is noted along with the analysis. This analysis was also limited by the vintage of available datasets. Data related to utilization for each district was drawn from the most recently published data for each district (listed below).

The diversity analysis compares students who are enrolled in Free and Reduced Lunch (FRL) programs as defined by the National Center for Education Statistics for the most recent available school year (2017-2018). National FRL guidelines align with the income brackets used by MCPS for FARMS (Free and Reduced-price Meals System). Nevertheless, FRL is a useful means for comparing economic disparities within student populations across districts.

The racial dissimilarity comparisons in this chapter are based on students whose race or ethnicity is reported; students for whom there is no data or incomplete data are excluded from that analysis.

Due to a lack of student-level data for the benchmark districts, the proximity comparison provides insight on the average distance between schools at each level in the benchmark districts and their three closest schools. This provides an approximation of the density of schools throughout each one of the districts.

Key Data Sources

- NCES (National Center for Education Statistics)
- 2021-2026 CIP Plan (Superintendent's Recommended FY2021 Capital Budget and the FY 2021-2026 Capital Improvements Program)
- U.S. Census Bureau
- Houston Independent School District: HISD 2019-20 Research and Accountability Report
- Wake County Public Schools 2018-19 Facilities Utilization Report
- Charlotte-Mecklenburg Schools: 2019-20 Facility Information; additional data provided by CMS
- Fairfax County Public Schools: FCPS CIP Plan 2020-21
- Data provided by Gwinnett County Public Schools Office of Planning
- Data provided by Duval County Public Schools

Analyses Conducted

1. Overview and Benchmark Profiles
2. Benchmarking Data Analysis (Utilization, Diversity, Proximity)

3.1 Overview and Benchmark Profiles

This section includes an overview of how MCPS compares to the selected benchmarks, followed by a summary profile of each of the six selected benchmarks.

Questions:

What kinds of student assignment models do these districts use?
What are the core criteria for creating and changing school boundaries in these districts?
What are the notable programs and policies in these districts, as it relates to school boundaries and the central lenses of this analysis?

Sub-sections:

1. Benchmarking Overview and Table

2. Benchmarking Profiles:

- **A.** Charlotte-Mecklenburg Schools (CMS)
- **B.** Duval County Public Schools (DCPS)
- **C.** Fairfax County Public Schools (FCPS)
- **D.** Gwinnett County Public Schools (GCPS)
- **E.** Houston Independent School District (HISD)
- **F.** Wake County Public School System (WCPSS)

Insights

1. MCPS and all benchmarks have attendance areas determined by home address and feeder patterns that progress from elementary through high school. But these feeder patterns are organized differently.

MCPS has a cluster-based system, where most ES students attend the same MS as their peers, and most MS students attend the same HS as their peers, with instances of split articulation at both levels.

GCPS also has a clearly defined cluster system, in which HS attendance areas include the ES and MS schools that feed into the HS. Unlike MCPS, however, there are multiple different schools that a student may be assigned to, as opposed to one base school at each level.

FCPS and HISD both have defined feeder patterns divided into 5 administrative regions. Students generally feed from one school to the next alongside their peers, with instances of split articulation between ES and MS, and MS and HS. In FCPS, feeder patterns are known as "pyramids."

DCPS has a feeder pattern with geographically defined ES, to MS, to HS patterns and many instances of split articulation. In CMS and WCPSS, students are assigned to a particular feeder pattern, but may or may not attend the same schools as their cohort of peers as they progress through school levels.

2. There were known boundary changes within the last five years in MCPS and also in all six benchmark districts.

Some districts, like MCPS, GCPS, and DCPS regularly review school boundaries to determine the need for boundary studies and changes. Charlotte-Mecklenburg School Board completes a comprehensive student assignment review every six years. MCPS and four of the benchmark districts have specific policies that guide the creation and adjustment of boundaries.

3. In addition to MCPS, two of the other benchmark districts have island assignment areas.

MCPS has several non-contiguous attendance areas, or island assignments, which are discussed throughout this report. WCPSS and FCPS also have island assignments.

4. MCPS and five of the six benchmark districts have school choice programs.

While all of the benchmark districts have geographically defined assignment areas for all three school levels, most have school choice and/or magnet programs. In all cases, voluntary integration of the school district factored in to the original or current goals of the choice programs. Some districts emphasize choice more than others. For instance, HISD has a wide array of choice programs—from career readiness programs, multiple kinds of academic magnet tracks, and fine arts choice programs. FCPS has a narrower focus in its choice programs, with an emphasis on general education magnet programs within or outside of the base schools of high performing students.

1. Overview and Benchmarking Table

The tables below show a range of comparisons between MCPS and the six selected benchmark districts. The criteria used to select each benchmark are noted in Figure 3.1, and limitations or gaps in available data are indicated.

District	State	Benchmark Selection Criteria			Total Number Operational Public Schools (by level)	Total Students (excludes adult education) 2017-18	Pop Density (persons per square mile)	Land Area (square miles)
		NCES	Past MCPS benchmark	Relevant policy				
MONTGOMERY COUNTY PUBLIC SCHOOLS (MCPS)	Maryland				135 ES 40 MS 25 HS*	165,267	2,109	493
CHARLOTTE-MECKLENBURG SCHOOLS (CMS)	North Carolina			X	110 ES 27 MS 35 HS	147,631	2,014	524
DUVAL COUNTY PUBLIC SCHOOLS (DCPS)	Florida	X		X	126 ES 28 MS 40 HS*	129,583	1,212	763
FAIRFAX COUNTY PUBLIC SCHOOLS (FCPS)	Virginia	X	X	X	139 ES 25 MS 28 HS*	188,556	2,925	391
GWINNETT COUNTY PUBLIC SCHOOLS (GCPS)	Georgia	X			82 ES 29 MS 1 SEC** 23 HS	179,266	2,135	416
HOUSTON INDEPENDENT SCHOOL DISTRICT (HISD)	Texas		X		181 ES 43 MS 1 SEC** 50 HS*	214,175	4,462	330
WAKE COUNTY PUBLIC SCHOOLS (WCPSS)	North Carolina	X	X	X	114 ES 37 MS 1 SEC** 31 HS	161,417	1,254	835

Figure 3.1 *Benchmark Comparisons at a Glance (table)*
**In addition to schools listed: FCPS (2 'Other'; 24 'Not Applicable' ; 4 Pre-K); HISD (4 Pre-k; 4 other); DCPS (8 Other; 2 Pre-k); WCPSS (4 not reported); MCPS (8 special education schools)*
***SEC: Secondary school other than high school*

1.2. Assignment Structures and Policies

In the table below, benchmark districts are compared in terms of basic elements related to student assignment structure and school boundaries (which are covered in more detail in the benchmarking profiles in this chapter).

Agency Name	Feeder pattern? (y/n)	School choice/ magnet program(s)? (y/n)	Policy that Guides Boundary Changes (and criteria)	Recent Boundary Changes**	Other notable policies/ programs
MONTGOMERY COUNTY PUBLIC SCHOOLS (MCPS)	Y	Y	Board of Education Policy FAA	2019-20; 2018-19; 2017-18; 2016-17; 2014-15; 2013-14; 2012-13;	Consortia; Paired Schools
CHARLOTTE-MECKLENBURG SCHOOLS (CMS)	Y	Y	School Board Policy - Chapter J, Section JCA	2017-18 (ongoing)	School Board Community Equity Committee; Non-magnet School Options; Paired Schools
DUVAL COUNTY PUBLIC SCHOOLS (DCPS)	Y	Y	Duval County Public School Board Policy Handbook- Chapter 5, Section 5.44	2015-16; 2010-11	Full Service Schools Program
FAIRFAX COUNTY PUBLIC SCHOOLS (FCPS)	Y	Y	Policy Manual for the Fairfax County School Board- Policy 8130.6 (currently under review)	2018-19; 2016-17; 2014-15; 2013-14; 2011-12	One Fairfax Equity Plan; Young Scholars Model; Advanced Academic Programs
GWINNETT COUNTY (GCPS)	Y	N*	n/a	2015-16; (and others)***	E-SPLOST
HOUSTON INDEPENDENT SCHOOL DISTRICT (HISD)	Y	Y	n/a***	2015-16 n/a***	HISD 2012 Bond Program; Local and Regional Hubs
WAKE COUNTY PUBLIC SCHOOLS (WCPSS)	Y	Y	Policy Code: 4150 School Assignments and Transfers	2020-21; 2019-20	Year Round Schools

Figure 3.2 *Benchmark Comparisons: Student Assignment Structures;*
**Gwinnett County has two charter schools.*
***Most comprehensive information available from MCPS; other district information from NCES data portal representing school year 2017-2018 (latest available year)*
****Lack of available data*

2. Benchmarking Profiles

A. Charlotte-Mecklenburg Schools

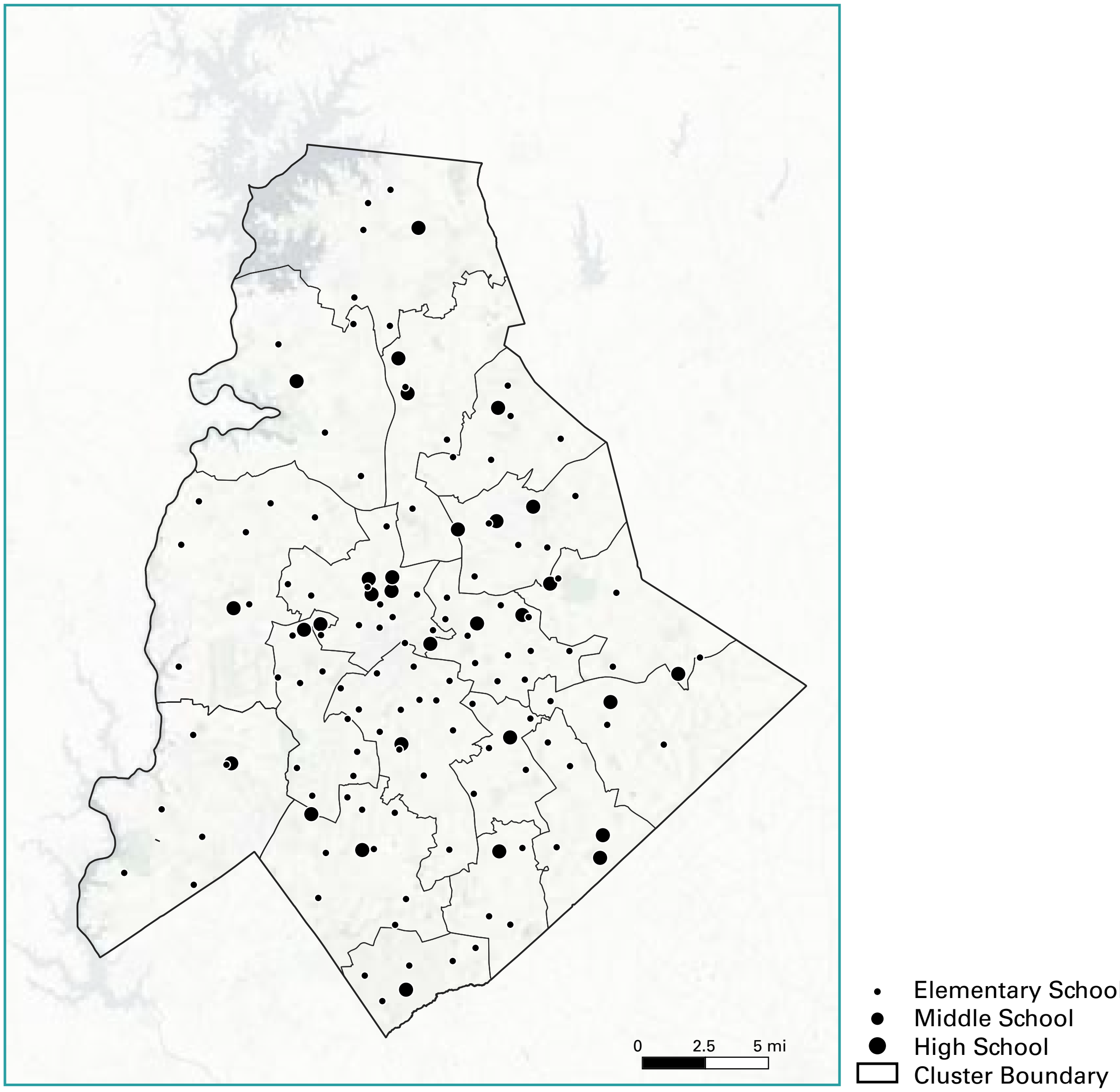


Figure 3.3 *Map of CMS High School Attendance Areas*

Key Statistics	CMS	MCPS
Total schools (ES, MS, HS)	172	200
Total students	147,631	165,267
Land area (square miles)	524	493
Population density (persons/ square mile)	2,014	2,109
Utilization rate average (elementary schools)	108%*	102%
Free and reduced lunch (FRL) rate (elementary schools)	68%	38%

**Target utilization range is 90-105% (source: CMS Planning Department)*

Overview

Founded in 1882, Charlotte-Mecklenburg Schools is now the 18th largest school district in the country.[1] Located in North Carolina, the school district is centered on the city of Charlotte, at the southern border of the state. The school district manages all schools in the City of Charlotte and county of Mecklenburg.

Student Assignment Structure

There are two types of schools in CMS: home schools and school options. Home schools are schools with geographic attendance boundaries and are cluster based with only one middle school island assignment. Every student is assigned to a home school based on their address. Students are automatically assigned to their home school upon enrollment. Transportation is provided to home schools.

School options are schools that do not have fixed attendance boundaries. There are 65 schools that have over 90 school choice programs.[2] These are mostly magnet schools and are governed by the School Board's magnet policies. Magnet schools may be partial or full programs. Partial programs reserve a portion of their seats for students residing within a fixed home school attendance area, providing a "home school guarantee" or guaranteed access to the magnet program for people in the attendance zone. For full programs, all seats are assigned via the school options lottery.

For the school options lottery, also known as the school choice program, seats are allocated across socioeconomic status to achieve the greatest diversity possible. Each student is classified as high, medium, or low socioeconomic status based on home address and data that their family provides during the lottery application.[3] Students who are attending a school that has been designated by the state as low performing for three consecutive years get an additional priority in the school choice lottery called the School Performance Priority. Additional priorities for lottery applications include priority for students who live within one third of a mile from a full magnet program, and "transportation zone priority" for students who live within the transportation zone for the school options for which they are applying.

CMS only guarantees transportation for students who reside in the transportation zone for the program in which they are enrolled, or students assigned to home schools through the Special Performance Priority.

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1 "Charlotte-Mecklenburg Schools." n.d. Charlotte-Mecklenburg Schools. https://www.cms.k12.nc.us/communications/aboutus/Pages/History.aspx.

2 Annie Ma. n.d. "Here's What You Need to Know About Round 2 of the Choice Lottery." Charlotte Observer. Accessed March 8, 2020. https://www.charlotteobserver.com/news/local/education/article238584898.html.

3 "CMS Choice: FAQ's." n.d. CMS Choice. Accessed March 8, 2020. https://cmschoice.org/faqs/.

Policies

For any changes to student assignment policy, the School Board must follow the guidelines outlined in Chapter J (Students) section JCA (Student Assignment Plan) in the School Board Policies. Section JCA lays out the Board's student assignment goals as the following:[1]

- Provide choice and promote equitable access to varied and viable programmatic options for all children.
- Maximize efficiency in the use of school facilities, transportation, and other capital and operational resources to reduce overcrowding.
- Reduce the number of schools with high concentrations of low income and high-needs children.
- Provide school assignment options to students assigned to schools that are not meeting performance standards established by the state.
- Preserve and expand schools and programs in which students are successfully achieving the mission and vision of the Board.[2]

From these goals, the School Board has specific mandates and considerations for creating attendance boundaries and for defining magnet school matching policy. When establishing school attendance boundaries for students' homes schools, the Board considers **facility capacity, travel distance** for students to their home school, **keeping neighborhoods intact, population density** within neighborhoods and school attendance areas, and **keeping elementary attendance areas intact** as part of middle and high school feeder patterns. For new or updated boundaries, the Board considers boundaries that contribute to a socio-economically diverse student population. The Board cannot take any action on changing the boundaries until they have a public hearing. Charlotte-Mecklenburg School Board completes a comprehensive student assignment review every six years.

History

CMS last approved boundary changes for the 2018-19 school year. Prior to that, their student assignment review beginning in 2016 resulted in the student assignment plan approved by the Board of Education in 2017. Part of this process yielded the creation of the Student Assignment Goals which are now part of the School Board policy for any changes to student assignment policy. This plan is still

1 "Policy JCA: Student Assignment Plan." 2016. Charlotte-Mecklenburg Public Schools. https://www.cms.k12.nc.us/cmsdepartments/StudentPlacement/PlanningServices/20172018StuAsgnReview/Documents/JCA,%20Student%20Assignment%20Plan,%20Approved%2011-9-16.pdf.

2 "BoardDocs® Policy: JCA Student Assignment Plan." n.d. Charlotte-Mecklenburg Public Schools. Accessed March 8, 2020. https://go.boarddocs.com/nc/cmsnc/Board.nsf/goto?open&id=B25LFU558C97.

in place and has been implemented in stages since Fall 2017.[1]

An initial school choice program and a shift to neighborhood schools was implemented in 2002 after the courts ruled in *Capacchione v. Charlotte-Mecklenburg* that schools could not use race as a factor for integrating schools. However, since the implementation of the 2002 student assignment plan, Charlotte-Mecklenburg had seen increased concentrations of poverty over time, a trend that helped push CMS toward new choice program policies in 2016.[2]

Other notable programs and policies

- **School Board Community Equity Committee**

  The Charlotte-Mecklenburg School Board will convene a Community Equity Committee in 2020. This group will review and discuss data and programs in the school district in order to monitor progress toward equity.

- **School Pairing**

  In an attempt to address racial and socio-economic isolation in schools, some CMS schools are paired with nearby schools. Paired schools split the grades between the two schools, with the aim of racial and socioeconomic integration. For example, students zoned for Billingsville and Cotswold elementary schools (located in adjacent neighborhoods with differing demographics) are zoned together into one paired school: as the primary campus, Billingsville has all students grades K-2; as the intermediate campus, Cotswold has all students grades 3-5.[3]

- **Non-magnet School Options**

  Broader than magnet schools and not governed by the Board's magnet policies, non-magnet school options include but are not limited to middle and early colleges, innovative small schools, and e-Learning academies.

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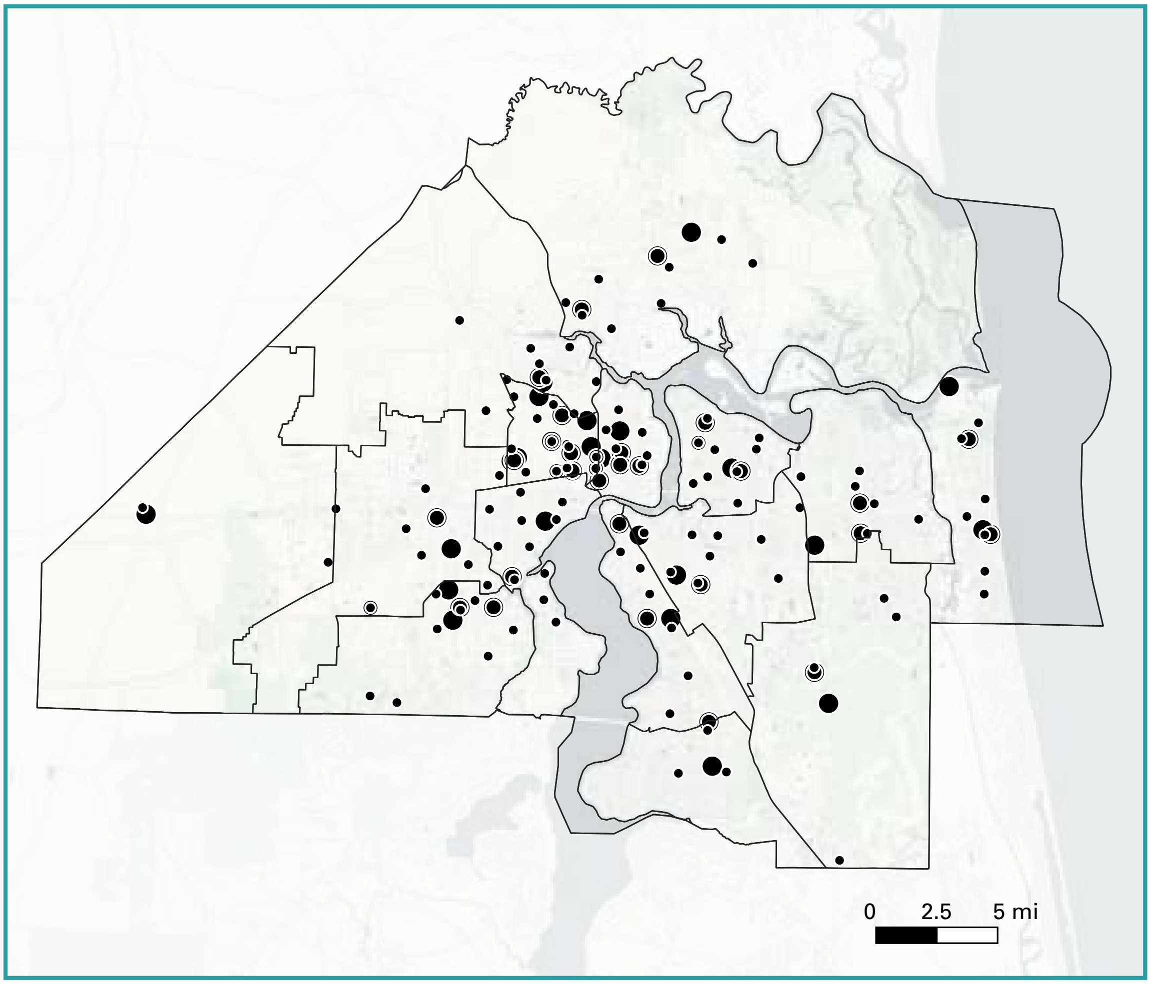
1 Charlotte-Mecklenburg Schools. n.d. "2017-2018 Student Assignment Review." Accessed March 8, 2020. https://www.cms.k12.nc.us/cmsdepartments/StudentPlacement/PlanningServices/20172018StuAsgnReview/Pages/default.aspx.

2 "History of CMS." n.d. Charlotte-Mecklenburg Schools. Accessed March 8, 2020. https://www.cms.k12.nc.us/communications/aboutus/Pages/History.aspx.

3 Emma Way. 2019. "Together. Separate. Together Again." Charlotte Magazine, September 16, 2019. https://www.charlottemagazine.com/together-separate-together-again/.

B. Duval County Public Schools



• Elementary School ● Middle School ● High School ▭ Cluster Boundary

Figure 3.4 *Map of DCPS High School Attendance Areas*

Key Statistics	DCPS	MCPS
Total schools (ES, MS, HS)	194	200
Total students	129,583	165,267
Land area (square miles)	763	493
Population density (persons/ square mile)	1,212	2,109
Utilization rate average (elementary schools)	79%*	102%
Free and reduced lunch (FRL) rate (elementary schools)	61%	38%

**Target utilization range is 90-110% (source: "Duval County Public Schools Long Range Facilities Master Plan." 2007. Duval County Public Schools.* https://dcps.duvalschools.org/cms/lib07/FL01903657/Centricity/domain/4415/projects/selection%20booklets/forms%20and%20standards/DCPS_2007%20LRFMP_Final_April2007.pdf.*)*

Overview

Duval County is centered on the city of Jacksonville, at the northeast corner of the state of Florida. DCPS is the 20th largest school district in the United States. The school district was founded in 1864.[1]

Duval County Public Schools was a benchmark for MCPS in MCPS's 2016 "Montgomery County Public Schools: Study of Choice and Special Academic Programs."

Student Assignment Structure

DCPS has three student assignment policies based on the three types of schools they have: attendance area schools, magnet schools, and special transfer option schools.

Attendance area schools are schools that have corresponding attendance boundaries. Assignments for these schools are cluster based. These schools serve students residing within their attendance boundary. Some attendance area schools offer magnet or special transfer options programs that serve both neighborhood students as well as students who apply to the school outside of the specified attendance area.

To attend a magnet school, students enter a lottery system where seats are allocated based on priority and choice. Selection criteria include neighborhood preference, socioeconomic background, sibling preference, and academic performance.[2] There are over 30 programs in more than 50 schools.[3]

Students can also attend a non-neighborhood elementary or middle school by using the Special Transfer Option. All elementary and middle schools provide this option for a limited number of students living outside of the school's assignment area. As with magnet schools, families must submit a separate application for these schools. All applications are processed based on priority categories and given in order of priority category until the available seats are filled. Transportation to Special Transfer Option Schools is the responsibility of the parent or guardian.[4]

1 "Public Schools in Duval County: Timeline of Major Events (1864-2014)." 2016. Quality Education for All Fund. http://www.qeafund.org/wp-content/uploads/2014/07/Timeline-2016-Version.pdf.

2 "Duval County Public Schools School Choice Reference Guide." n.d. DCPS. https://dcps.duvalschools.org/cms/lib/FL01903657/Centricity/Domain/4417/DCPS_School%20Choice%20Catalog_2020.pdf.

3 "School Choice/ Magnet / Magnet Schools." https://dcps.duvalschools.org/Page/7279.

4 "School Choice/ Magnet / Special Transfer Option Schools." https://dcps.duvalschools.org/Page/7283.

Policies

Chapter 5 (Students), Section 5.44 (School Attendance Boundaries) of the Duval County Public School Board Policy Handbook sets the guidelines for attendance area boundaries. The Policy Handbook is reviewed in full on a two-year rotation, with the last update to Section 5.44 in January 2019. Section 5.44 begins with goals related to diversity, specifically highlighting the value of integrated schools for student success. According to Section 5.44, to establish attendance boundaries, the Board considers **capacity, proximity, siblings, diversity, and assignment stability.** The District conducts an annual enrollment review which it then submits to the Board with recommendations. If boundary changes are recommended, the Superintendent's Office is responsible for starting a community consultation process called the Academic and Community Excellence Planning Process. This process includes consultations with school principals, a working group, and community meeting(s). After this process, the Superintendent submits their final boundary change recommendations to the School Board, which votes on the changes.[1]

Magnet school policy and magnet school student admissions, eligibility criteria, and priority groups are determined by Chapter 5 (Students), Section 5.46 (Magnet Schools and Programs) of the Duval County Public School Board Policy Handbook, which was last updated in July 2019. Section 5.46 states that the purpose of magnet school programs is to promote and maintain diversity, provide a unique or specialized curriculum or approach, improve achievement for all participating students, and stabilize student assignment.

For deciding whether a new magnet school or program should be built or replicating a magnet school program in a new building, the Superintendent considers equitable access, maintaining and promoting diverse student bodies, preventing displacement or adding undue burdens to students, and many other factors.

Special Transfer Options are determined by Chapter 5 (Students), Section 5.22 (Student Transfer Policy) of the School Board Policy Handbook.[2]

1 "Board Policy Manual, Chapter 5: Students." n.d. Duvall County Public Schools. https://dcps.duvalschools.org/site/handlers/filedownload.ashx?moduleinstanceid=12486&dataid=9212&FileName=CHAPTER%205%20-%20Board%20Policy%20Manual-12-18-19.pdf.

2 Ibid.

History

Attendance boundaries in DCPS were last changed for the start of the 2015-16 school year and before that were changed for the 2010-11 school year.[1 2] The boundary changes in 2015-16 were part of an effort to address lower performing schools and offer a stronger menu of educational options to attract and retain students to traditional public schools –including converting low performing schools to magnet schools.[3]

Duval County started their magnet schools in 1991-1992 as a result of an NAACP lawsuit against the school system. From this suit, the School Board and NAACP agreed to a plan that replaced forced busing with a system of magnet schools as a voluntary desegregation plan.[4]

Other notable programs and policies

- **Full Service Schools Program**

  Started in 1990, this program houses free social services within schools that are responsive to the specific needs of the neighborhood in which the school is located. These services include tutoring, mental health services, healthcare, social work, enrichment activities, and more.[5]

1 Kent Justice. 2016. "Duval County School Board Passes Five Boundary Change Proposals." News 4 Jax. February 4, 2016. https://www.news4jax.com/news/2016/02/04/duval-county-school-board-passes-five-boundary-change-proposals/.

2 "2015 – 2016 Boundary Proposals / 2016-2017 School Program Updates." n.d. Duval County Public Schools. https://dcps.duvalschools.org/domain/8498

3 Ibid.

4 "Duval County Public Schools School Choice Reference Guide." n.d. DCPS. https://dcps.duvalschools.org/cms/lib/FL01903657/Centricity/Domain/4417/DCPS_School%20Choice%20Catalog_2020.pdf.

5 "Student Discipline & Support Services / Full Service Schools." n.d.. https://dcps.duvalschools.org/Page/18837.

C. Fairfax County Public Schools

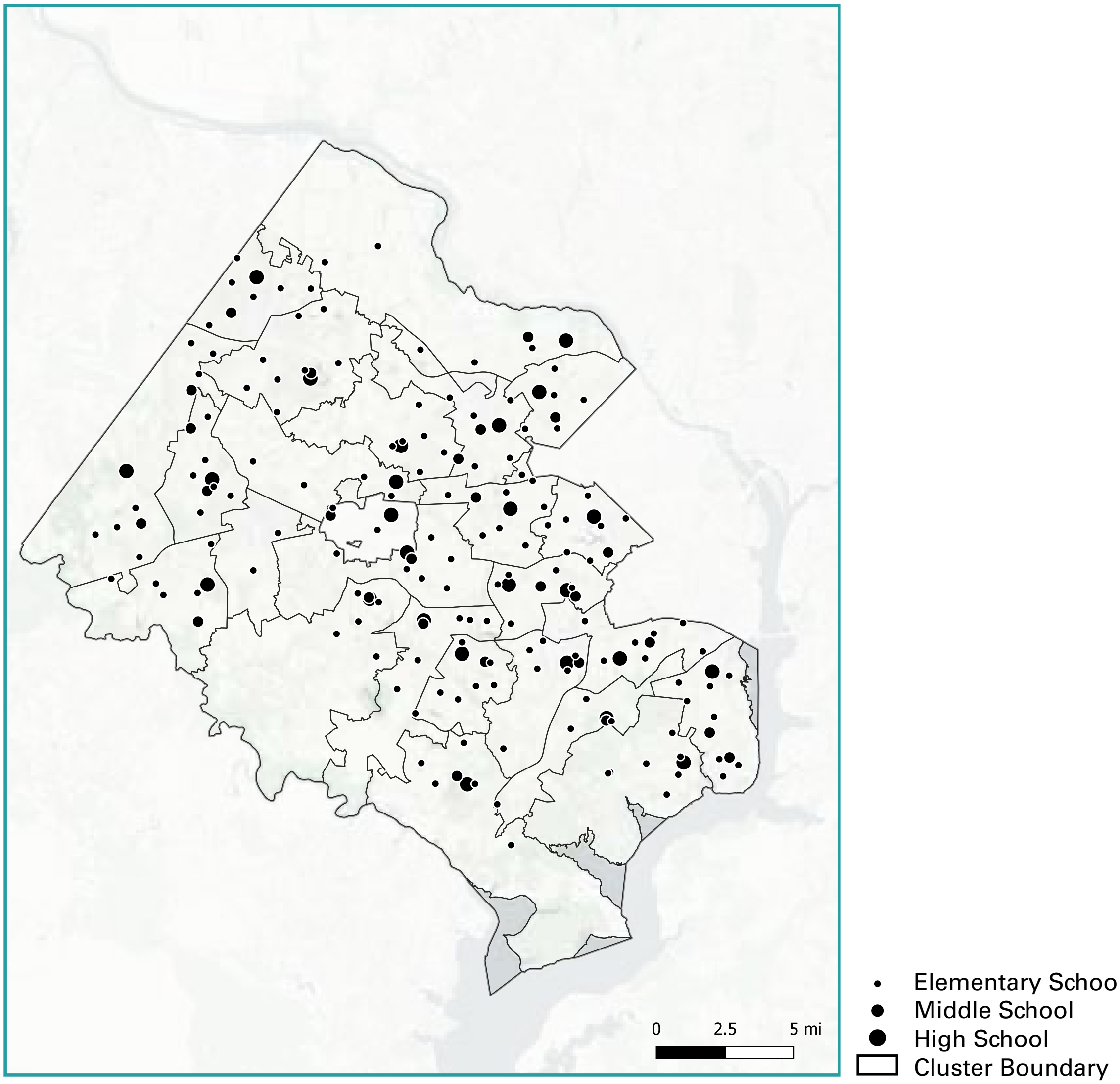


Figure 3.5 *Map of FCPS High School Attendance Areas*

Key Statistics	FCPS	MCPS
Total schools (ES, MS, HS)	192	200
Total students	188,556	165,267
Land area (square miles)	391	493
Population density (persons/ square mile)	2,925	2,109
Utilization rate average (elementary schools)	92%*	102%
Free and reduced lunch (FRL) rate (elementary schools)	32%	38%

**Target utilization range is between 85-95% (source: Fairfax County Public Schools)*

Overview

FCPS was established in 1870 and today is the 10th largest school division in the United States.[1] [2] Fairfax County is located outside of Washington, D.C.

Student Assignment Structure

FCPS generally uses cluster-based geographic student assignments. FCPS uses a feeder system centered around high school "pyramids" (akin to clusters in MCPS). Within high school pyramids, there is sometimes split articulation at the elementary and middle school levels.[3] Geographic boundaries for assignments are determined by Policy 8130.6 in the Policy Manual for the Fairfax County School Board.[4]

Policies

According to Policy 8130.6, the Fairfax County School Board has the power to change school boundaries and student assignment plans, or close schools and may do so "in order to maintain or **improve operating efficiency** and/or **instructional effectiveness**."[5] The Division Superintendent can make adjustments to the school attendance areas as well, but only to understand specific circumstances and after consultation with the School Board. According to the Code of Virginia, the School board must obtain public comment through a public hearing on boundary changes or student assignment plans.[6]

Regulation 3333 governs location guidelines for special programs and services in FCPS. This regulation establishes the School Board's guidelines for the conditions of relocating existing or establishing new programs. Key factors considered include enrollment changes/overcrowding, transportation, new schools/additions, stability of programs, impact of the number of special programs on a school, and facility needs.[7]

Fairfax County begins monitoring schools for overcapacity once they reach a utilization rate of 95-104% and considers a school to be underutilized when it drops below 85%.[8]

1 "Our History." n.d. Fairfax County Public Schools. https://www.fcps.edu/about-fcps/history.

2 "About Us." n.d. Fairfax County Public Schools. https://www.fcps.edu/about-fcps.

3 "Feeder List SY2016-17." n.d. Fairfax County Public Schools. https://www.fcps.edu/sites/default/files/media/pdf/Feeder%20List%20SY2016-17.pdf.

4 "Policy 8130.7: Facilities Services." n.d. Fairfax County Public Schools. https://go.boarddocs.com/vsba/fairfax/Board.nsf/files/97KJK54D54F8/$file/P8130.pdf. https://go.boarddocs.com/vsba/fairfax/Board.nsf/files/97KJK54D54F8/$file/P8130.pdf.

5 Ibid.

6 Ibid.

7 "R3333: Location Guidelines." n.d. Fairfax County Public Schools. https://go.boarddocs.com/vsba/fairfax/Board.nsf/files/8J3KBE4FC2C0/$file/R3333.pdf.

8 "Capital Improvement Program FY 2019-23." n.d. Fairfax County Public Schools. https://www.fcps.edu/sites/default/files/media/pdf/Proposed%20FY%202019-23%20CIP_0.pdf.

History

Policy 8130.6 was last updated in May 2013 but has been under review since 2018. A factsheet from FCPS says that the School Board began discussions regarding boundary policy for the following reasons: overcrowding in FCPS, the fact that boundaries had not been updated since 1986, lack of transparency in the Superintendent's expedited process for making boundary changes, and the Fairfax School Board's recently adopted One Fairfax Policy committing the county and schools to consider equity.[1]

From a July 2019 work session, FCPS staff presented a draft policy that listed specific criteria to determine when and how a boundary should be redrawn. After this working session, the School Board requested that the Superintendent hire an outside consultant to work with the Board to identify best practices in boundary policy, engage the community in conversation, and identify areas of overcrowding that are not included in the Capital Improvement program.[2] [3]

According to the FY 2021-25 CIP, FCPS has made boundary changes in most of the last ten school years.[4] This includes standard boundary changes (in which 15% or more of students are affected at a school), program boundary changes (indicating a change in location for an existing program), and administrative boundary changes (indicating a change in which circumstances were considered to be an emergency, the change concerns new unoccupied housing, or less than 5% of students at a school will be impacted).[5]

Other notable programs and policies

- **One Fairfax Equity Plan**

The Fairfax County Board of Supervisors and School Board adopted the One Fairfax plan in November 2017. One Fairfax is a social and racial equity policy that commits the School Board to an equity minded decision-making framework. From this policy, FCPS created a Chief Equity Officer role to ensure that the school district meets its policy commitments.[6]

1 "Fairfax County Public Schools Boundary Fact Sheet." n.d. Fairfax County Public Schools. https://www.fcps.edu/sites/default/files/media/pdf/Boundary%20Fact%20Sheet_final.pdf

2 Angela Woolsey. 2019. "To Some Opposition, FCPS Considers Boundary Policy Overhaul." Fairfax Times, July 26, 2019. http://www.fairfaxtimes.com/articles/to-some-opposition-fcps-considers-boundary-policy-overhaul/article_d3dacdfa-afd9-11e9-b2fa-9f370ff28b07.html

3 "Superintendent Committed to Transparent Process During Boundary Policy Review | Fairfax County Public Schools." 2019. FCPS.Edu. September 13, 2019. https://www.fcps.edu/news/superintendent-committed-transparent-process-during-boundary-policy-review

4 "Capital Improvement Program FY 2021-25." n.d. Fairfax County Public Schools. https://www.fcps.edu/sites/default/files/media/pdf/Proposed-CIP-FY-2021-25_0.pdf

5 "P8130. Facilities Services: Facilities Planning - Local School Boundaries, Program Assignments, and School Closings." n.d. Fairfax County Public Schools. https://go.boarddocs.com/vsba/fairfax/Board.nsf/files/97KJK54D54F8/$file/P8130.pdf

6 "One Fairfax | Fairfax County Public Schools." n.d. Fairfax County Public Schools. https://www.fcps.edu/onefairfax

- **Young Scholars Model**

The Young Scholars Model is a program designed to increase diversity in advanced academic programs. This program is part of the FCPS Advanced Academic Programs, which oversees all programing for advanced students.[1] [2]

- **Advanced Academic Programs**

Advanced Academic Programs offer academic services to advanced students in grades K-12. They may be housed within a student's base school or off-site at a special facility or within another school. Students go through a screening process to determine their eligibility for such programs.

1 "Fairfax County Public Schools Local Plan for the Education of the Gifted 2016-2021." n.d. FCPS. https://www.fcps.edu/sites/default/files/media/pdf/LocalPlanGifted2016to2021.pdf.

2 See: https://www.fcps.edu/academics/elementary-school-academics/k-6advanced-academics/young-scholars-k-12.

D. Gwinnett County Public Schools

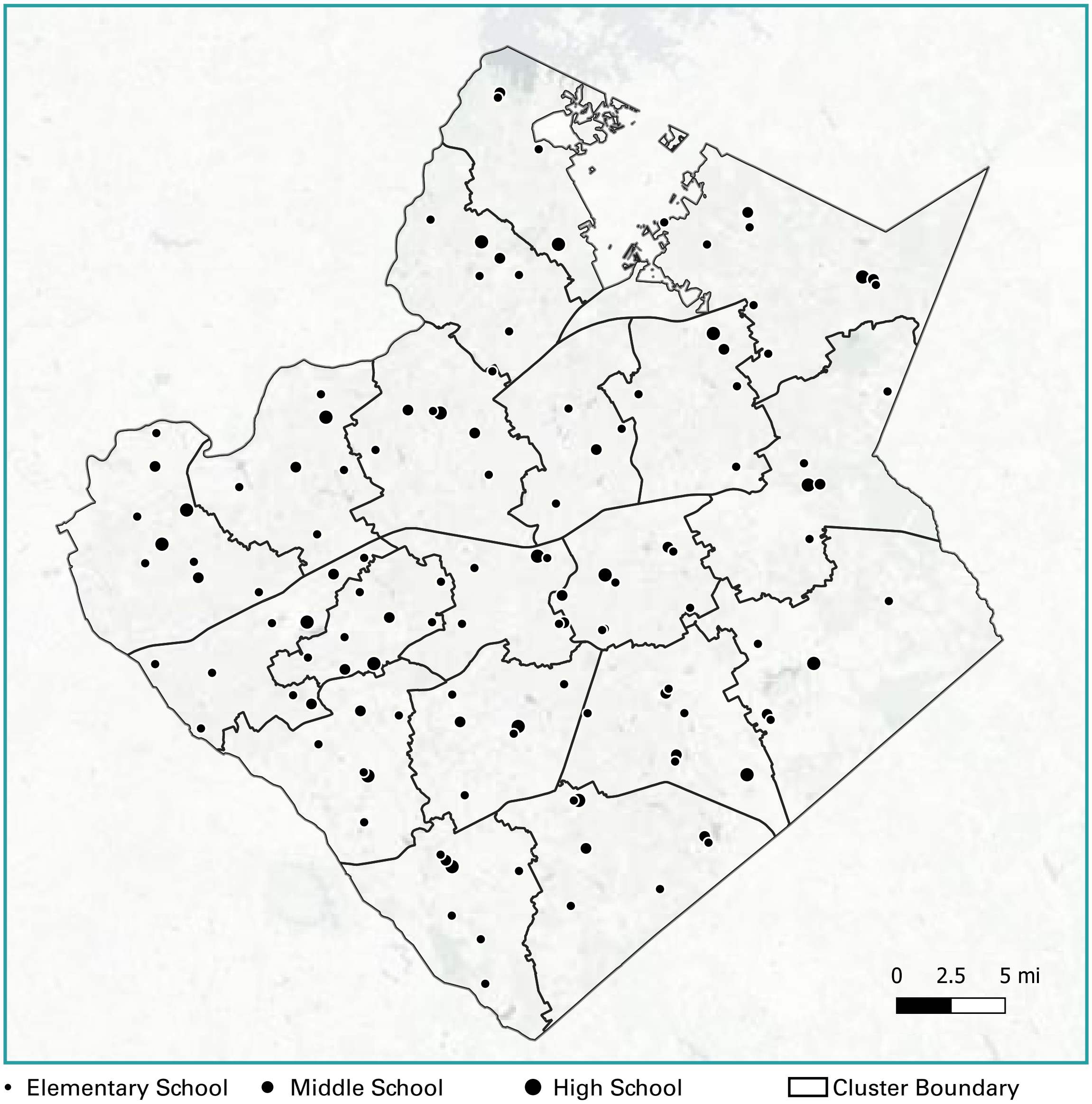


Figure 3.6 *Map of CMS High School Attendance Areas*

Key Statistics	GCPS	MCPS
Total schools (ES, MS, HS)	135	200
Total students	179,266	165,267
Land area (square miles)	416	493
Population density (persons/ square mile)	2,135	2,109
Utilization rate average (elementary schools)	No data available	102%
Free and reduced lunch (FRL) rate (elementary schools)	58%	38%

Overview

Gwinnett County Public Schools is the largest school system in Georgia and the 14th largest school district in the country. The first school in Gwinnett County opened in 1826.[1] GCPS encompasses all schools in Gwinnett County, located northeast of Atlanta.

Student Assignment Structure

GCPS uses cluster attendance zones. Unlike MCPS, this means that there are multiple schools to which a student can be assigned based on their home address (as opposed to one base school as in districts like MCPS). In Gwinnett County there are 19 clusters, each containing three to six elementary schools that feed into one or two middle schools, which then feed into one high school (with the exception of one cluster with two high schools). There are also about a dozen schools where attendance is not determined by cluster.[2]

Policies

According to the GCPS Board approved policies, the Superintendent is responsible for developing and implementing procedures around enrollment and admissions criteria.[3] According to local news coverage of past redistricting, some of the criteria GCPS uses for determining school boundaries and boundary changes are: "**current enrollment, enrollment forecasts, enrollment histories, existing identifiable boundaries, school locations,** and **student transportation.**"[4]

While there is no particular policy guiding boundary changes in GCPS, the Office of Planning reviews school boundaries each year to determine whether there is a need for boundary adjustments—typically related to the opening of a new school and the need to balance school capacity. According to the Office of Planning, all redistricting processes are driven by the public, according to the following process: the principal of any affected school(s) appoints a redistricting committee, consisting of parents, teachers, or other members of the public. This committee oversees the process of developing options, and presents their recommendations to the Board of Education, which makes the ultimate decision(s).

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1 Trevor McNaboe. 2018. "PROGRESS: Gwinnett County Public Schools' Journey from Rural to State's Largest System." Gwinnett Daily Post. February 25, 2018. https://www.gwinnettdailypost.com/local/progress-gwinnett-county-public-schools-journey-from-rural-to-state/article_eb62bf0e-3881-571e-9c70-72b72d0e623c.html.

2 "2018-19 GCPS Schools by Cluster." n.d. Gwinnett County Public Schools. https://publish.gwinnett.k12.ga.us/gcps/wcm/connect/eb268777-69ca-468e-b54a-1208a609522e/2018-19-Schools-by-Cluster.pdf?MOD=AJPERES&CVID=mI5bmAX.

3 "GCPS Board Approved Policies." n.d. Gwinnet County Public Schools. Accessed March 3, 2020. https://publish.gwinnett.k12.ga.us/gcps/home/public/about/boe/content/policies.

4 Keith Farner. n.d. "Latest Gwinnett County Schools Redistricting to Affect 6,800 Students, 31 Schools." Gwinnett Daily Post. Accessed March 3, 2020. https://www.gwinnettdailypost.com/local/education/latest-gwinnett-county-schools-redistricting-to-affect-students-schools/article_6424d29e-0537-5e56-844c-77586ae58963.html.

GCPS works with the planning commissions and local officials in Gwinnett County to create rezoning reports related to upcoming residential rezoning and its impact on school zones. Through these reports, the school system documents residential rezoning plans and their possible impacts on school enrollment and makes this information public on their website.[1]

History

Between 2015 and 2016, GCPS underwent a series of large redistricting efforts to rebalance attendance areas and accommodate new school openings. This included multiple new school openings, redistricting, and the creation of a new cluster. This redistricting effort changed the school assignment of tens of thousands of students. According to the GCPS Office of Planning, a redistricting process is anticipated to begin in the coming year due to the opening of a new secondary school in 2022.

In 2018, Gwinnett County voters approved a $350 million General Obligation bond referendum to complete capital projects throughout the county, including a new high school, updated technology, and safety-related improvements.

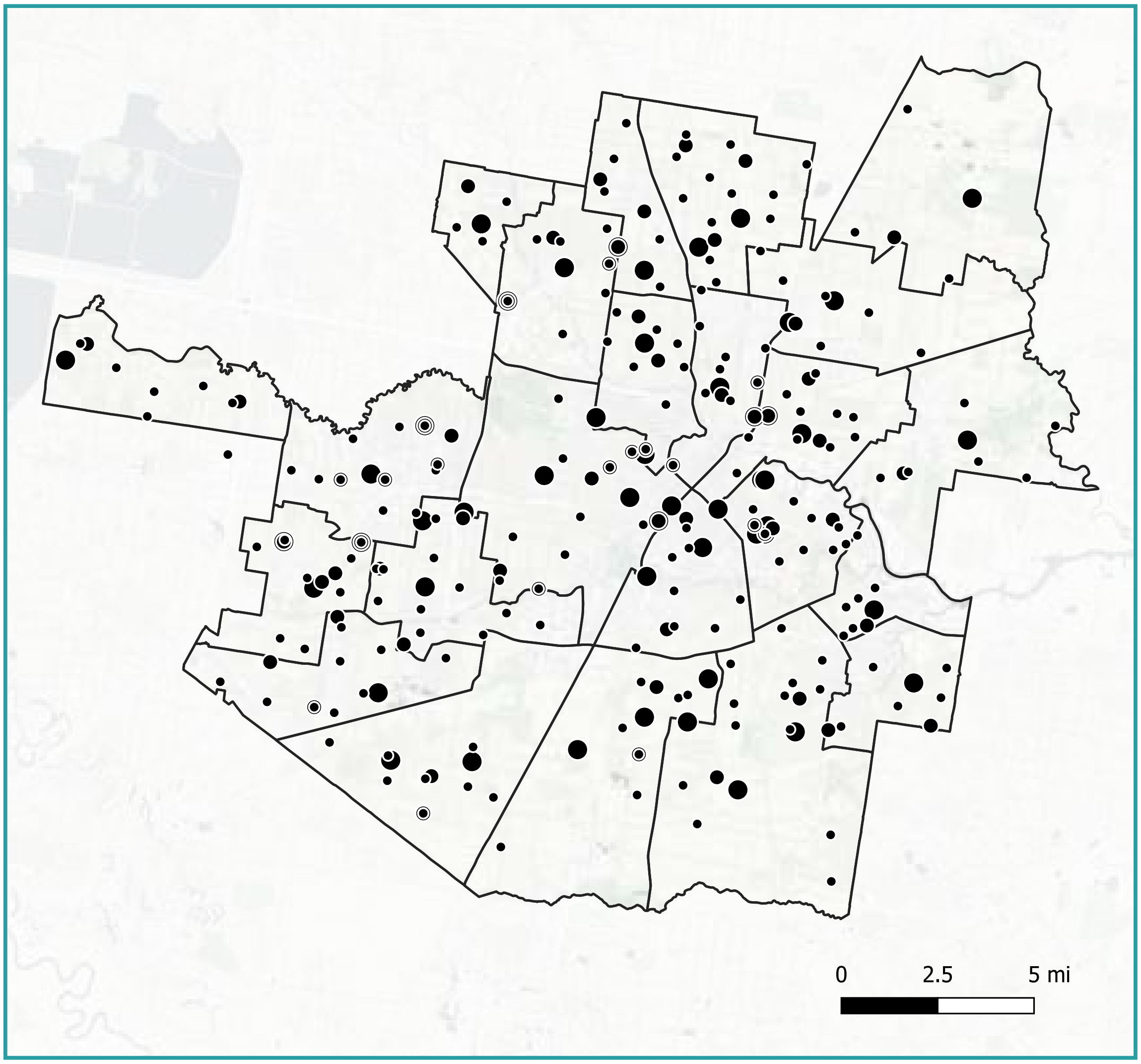
Other notable programs and policies

- **E-SPLOST**

  Gwinnett County Public School has a tax policy called the education special purpose local options sales tax (E-SPLOST) that funds education related expenses. Originally started i¬n 1997, E-SPLOST is a one-cent sales tax on all retail sales in Gwinnett County and that revenue can only be used for certain capital programs in the school system. E-SPLOST was successfully extended through 2022.

1 "Board of Education Data on County Rezoning Requests." n.d. http://publish.gwinnett.k12.ga.us/gcps/home/public/about/content/key-initiatives/planning-for-our-future/rezoning-report/rezoning-rpt-content.

E. Houston Independent School District



• Elementary School ● Middle School ● High School ▭ Cluster Boundary

Figure 3.7 *Map of HISD High School Attendance Areas*

Key Statistics	HISD	MCPS
Total schools (ES, MS, HS)	275	200
Total students	214,175	165,267
Land area (square miles)	330	493
Population density (persons/ square mile)	4,462	2,109
Utilization rate average (elementary schools)	84%	102%
Free and reduced lunch (FRL) rate (elementary schools)	80%	38%

Overview

Houston Independent School District was founded in 1924. It is the largest school system in Texas and the 7th largest in the country.[1] It is located in southeastern Texas and covers the municipalities of Bellaire, Southside Place, and West University Place, and portions of the municipalities of Houston, Hunters Creek Village, Jacinto City, Missouri City, Pearland, and Piney Point Village.

Student Assignment Structure

HISD uses cluster-based attendance zones to assign students to neighborhood schools.[2] All attendance zones are contiguous and neighborhood based. HISD also has magnet programs as a way to promote school choice. Some magnet schools are open enrollment, with students getting spots via lottery, while others require auditions or meeting the requirements to be identified as gifted and talented. There are over 100 magnet schools—some of which also have comprehensive education for locally zoned students, and some of which are purely magnet programs, which do not have any students geographically zoned to attend them.

Additionally, through program choice transfers, families living within HISD can apply for their child to be transferred to a school other than their zoned school, so long as the family provides transportation. There are also a handful of schools that are part of the Boundary Option Transfer program. These schools accept students from specific schools outside of their school attendance areas.

Policies

The Houston Independent School District Board of Education is the body that votes on boundary changes.[3] A 2015 FAQ sheet explains that the Board of Education was reviewing boundary changes because of overcrowding while maintaining the traditional demographic makeup of the overcrowded schools. According to state law, Texas schools are required to have 22 or fewer students in kindergarten to fourth grade classrooms. If schools are overcrowded, HISD must submit a class-size waiver to the state education agency. In 2015, HISD had to submit 1,500 class-size waivers.[4]

1 "General Information / Facts and Figures." n.d. Houston Independent School District. Accessed March 8, 2020. http%3A%2F%2Fwww.houstonisd.org%2Fsite%2Fdefault.aspx%3FPageID%3D41879.

2 "How to Enroll." n.d. Houston Independent School District. Accessed March 8, 2020. http%3A%2F%2Fwww.houstonisd.org%2Fsite%2Fdefault.aspx%3FPageID%3D167912.

3 "Policy AC: Geographic Boundaries." n.d. Houston Independent School District. https://pol.tasb.org/Policy/Download/592?filename=AC(LEGAL).pdf.

4 "FAQ: Attendance Boundaries." n.d. Houston Independent School District. https://www.houstonisd.org/cms/lib2/TX01001591/Centricity/Domain/32468/021215-Attendance-Boundaries-FAQ-ENG.pdf.

In addition to more standard approaches to address and prevent overcrowding in elementary schools (boundary changes, temporary classrooms, etc.), HISD caps transfers and special programs within schools once utilization reaches 95%. HISD also designates local and regional hubs: these are centers equipped to receive students if schools or particular programs reach capacity. The first tier of support is the local hub, followed by the regional one.[1]

History

The Houston school board considered proposals for six boundary changes ahead of the 2015-16 school year and rejected four of them.[2]

The first magnet school in HISD opened in 1975 to voluntarily racially integrate schools. In April 1997 a lawsuit against HISD seeking to end race-based admissions to magnet schools was filed on behalf of two white applicants to Lanier Middle School who were denied admission because the quota for white students was filled. That year, as a result of this lawsuit, HISD removed the ethnic guidelines to one of their magnet program enrollment policies.

Other notable programs and policies

- **HISD 2012 Bond Program**

  In 2012, Houston voters approved of a $1.89 billion bond for school renovations and construction of 40 schools, and other projects to address infrastructural and programmatic needs. The bond budget was approved by voters. The project is overseen by a Bond Oversight Committee of seven independent citizens and has committed to holding public meetings to gather community input throughout the process.[3]

- **Local and Regional Hubs**

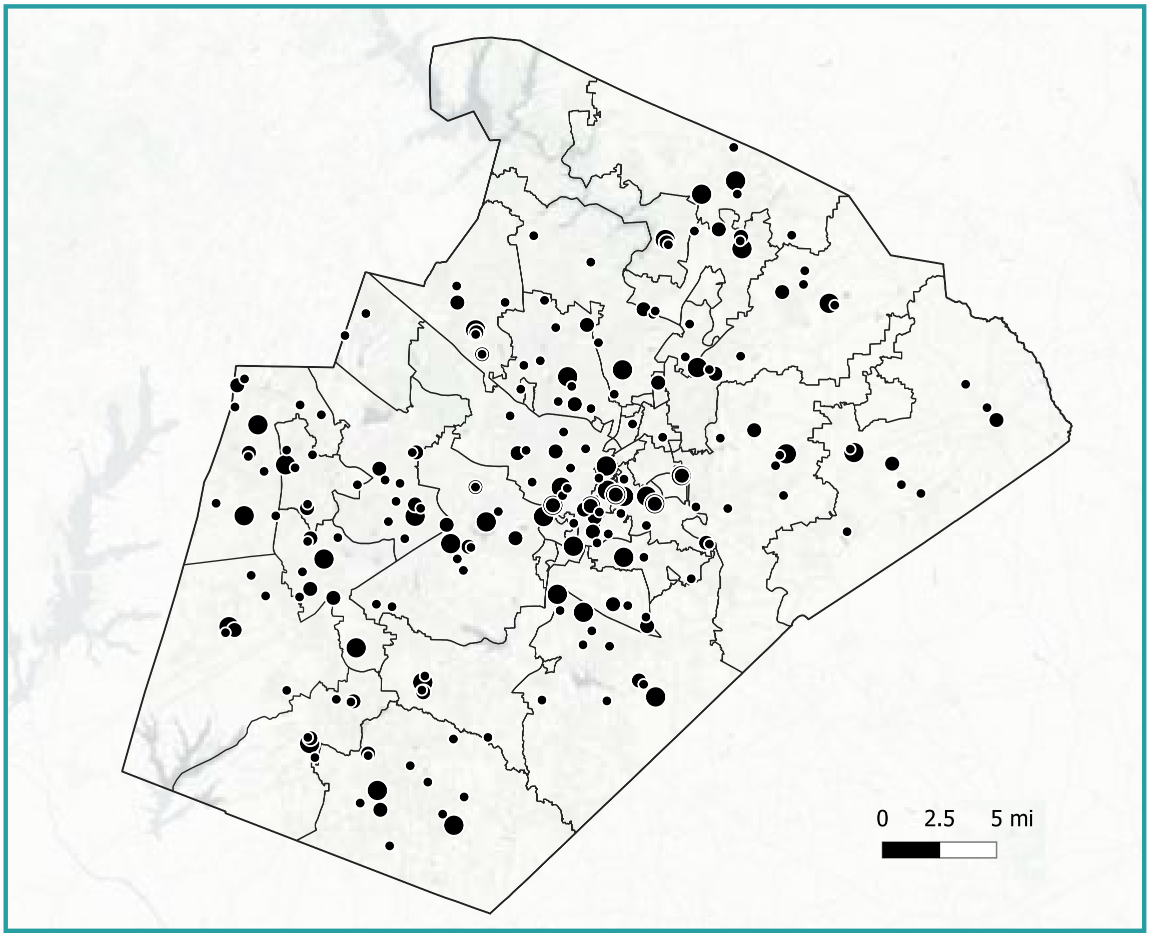
  HISD designates local and regional hubs to address capacity challenges. These are centers equipped to receive students if schools or particular programs reach capacity. The local hub is the first tier, followed by the regional hub if the local one exceeds capacity.

1 "Guidelines to Relieve Elementary School Overcrowding." n.d. Houston Independent School District. https://www.houstonisd.org/site/handlers/filedownload.ashx?moduleinstanceid=171520&dataid=140216&FileName=FINAL_One_Pager_-_Recommendations_to_Relieve_Overcrowding_-_2018-19.pdf.

2 Mellon, Ericka. 2015. "Split HISD Board Rejects Most Rezoning Plans." Houston Chronicle, May 15, 2015. https://www.chron.com/news/education/article/Split-HISD-board-rejects-most-rezoning-plans-6264962.php.

3 Learn more at: https://www.houstonisd.org/Page/71691.

F. Wake County Public School System



• Elementary School ● Middle School ● High School ▭ Cluster Boundary

Figure 3.8 *Map of WCPSS High School Attendance Areas*

Key Statistics	WCPSS	MCPS
Total schools (ES, MS, HS)	183	200
Total students	161,417	165,267
Land area (square miles)	835	493
Population density (persons/ square mile)	1,254	2,109
Utilization rate average (elementary schools)	103%*	102%
Free and reduced lunch (FRL) rate (elementary schools)	40%	38%

**WCPSS identifies 100% as the cutoff threshold for target utilization (Source: WCPSS)*

Overview

Founded in 1976, WCPSS is the school district for Wake County, North Carolina. At the geographic center of Wake County is Raleigh, North Carolina, the most southeast of three cities that make up the North Carolina Triangle Cities. It is the largest school district in North Carolina and the 16th largest school district in the country.[1]

Student Assignment Structure

Student assignment in WCPSS is based on cluster assignments based on home address. Given a student's home address, they are assigned to a base elementary, middle, and high school.[2] Some schools have enrollment caps because they have reached the maximum number of students they can effectively teach. If a student's base school is a school with an enrollment cap, they will be assigned to an overflow school.[3]

WCPSS also has 51 magnet schools and 45 year-round schools, which students must apply to attend using ranked choice. The purpose of magnet schools in WCPSS is to reduce high concentrations of poverty, promote student body diversity, maximize use of school facilities, and provide innovative education opportunities. As such, priority is given for these special programs based on the socioeconomic status of a students' base school.[4]

Students are assigned specific bus routes to get to school if they live more than 1.5 miles from the school and attend their base school. Students who are assigned outside of their base school attendance area because of a transfer request are not guaranteed transportation. For magnet students who live outside of their school's geographical area, WCPSS might assign a student to an express stop. At express stops, families are responsible for getting their student to the express stop and the bus takes them from there to the school.

Policies

Changes to student assignment in WCPSS are based on the pillars outlined in "Policy Code: 4150 School Assignments and Transfers" of the Wake County Board of Education Policy Manual. The policy states that changes to student assignment should be based on balancing the goals of **student achievement, stability,**

1 Grace Chen. 2019. "Wake County Public Schools: History and Overview | PublicSchoolReview.Com." Public School Review. December 30, 2019. https://www.publicschoolreview.com/blog/wake-county-public-schools-history-and-overview.

2 "Student Assignment / New Student Enrollment." n.d. https://www.wcpss.net/student-assignment

3 "Student Assignment / Enrollment Caps." n.d. WCPSS. https://www.wcpss.net/site/Default.aspx?PageID=33756

4 "Magnet Schools / Application Process." n.d. Wake County Public Schools. https://www.wcpss.net/site/Default.aspx?PageID=189.

proximity, and **operational efficiency.** The Board of Education can also take into account **overcrowded schools** in creating new assignment boundaries for school attendance areas.[1] To make changes, staff from the Office of Student Assignment conduct analyses about enrollment trends at the request of the BOE. The staff presents the findings back to the BOE, which uses this information to determine how to vote on new assignment policies or new attendance boundaries.

History

Most recently, WCPSS made changes to student assignment in the 2019-20 and 2020-21 student enrollment plans. These updates were mostly based on new school construction, and the reassignment of students from overcrowded schools to newly built ones, but also included efforts to balance utilization at existing schools. In at least one case, this redistricting included the correction of a neighborhood split.

WCPSS began to move toward a neighborhood zone-based school assignment policy-- also called community assignment zones-- after the BOE voted to change school assignment policy to encourage neighborhood zones in 2010.[2]

From 2010 to 2012, WCPSS used a choice-based student assignment plan. This plan was then replaced with an address-based school assignment policy for the 2013-14 school year.[3] [4] This policy continues to today with some limited options for school choice for year-round schools and magnet schools, where priority for applicants is based on socioeconomics.

Prior to 2010, school assignments were based on intentional integration policies that bused students to schools to ensure socioeconomic and racial diversity in schools (first based on race, and later based on socioeconomics).

1 Wake County Public Schools. n.d. "Policy Code: 4150 School Assignment and Transfers." Board Policy Online. Accessed March 8, 2020. https://boardpolicyonline.com/bl/?b=wake_new#&&hs=194229.

2 Brown, Robbie. 2010. "District May End N.C. Economic Diversity Program." The New York Times, February 27, 2010, sec. U.S. https://www.nytimes.com/2010/02/28/us/28raleigh.html.

3 "WCPSS History: Assignment Zones & Choice Plan." n.d. Great Schools in Wake. https://www.greatschoolsinwake.org/wcpss-history-assignment-zones-choice-plan/.

4 WRAL. 2012. "New Wake Assignment Proposal Combines Choice, Address-Based Models," September 19, 2012. https://www.wral.com/news/education/wake_county_schools/story/11568018/.

Other notable programs and policies

- **Year-Round School**

Wake County Public Schools offers students a year-round school option. There are four tracks for the year round schools with one of the tracks always rotating out on a three-week break. Some families are assigned to year-round schools as their base school, but those who are not can apply to year-round school during the magnet application process. 45 of Wake County's 161 schools have year-round schooling. Year-round schools can accommodate 25% more students, helping WCPSS address utilization challenges in highly populated areas.[1]

1 "Magnet Schools / Year-Round Schools." n.d. Wake County Public Schools. https://www.wcpss.net/Page/38744.

3.2 Benchmarking Data Analysis

In this section, we offer a general comparison of MCPS to the selected benchmarks, using the lenses of utilization, diversity, and proximity.

Questions:

How does MCPS compare to the benchmark districts in terms of overall school utilization?
How does MCPS compare to the benchmark districts in terms of racial/ethnic and socio-economic diversity?
How do some of the important conditions underlying proximity to schools compare between MCPS and the benchmarks?

Insights:

Utilization

1. As part of benchmarking, we compare the utilization rates across selected districts. MCPS has higher utilization rates, on average, than all benchmarks aside from Charlotte-Mecklenburg.*

The highest utilization rate of any school level across benchmarked districts are middle schools in Charlotte-Mecklenburg, which have an average utilization rate of 114.11%.

Duval County and Houston ISD have considerably lower average utilization rates across all school levels than MCPS and Charlotte-Mecklenburg.

Fairfax County and Wake County each have two school levels below 100% utilization, and one school level above.

**Utilization data not available for GCPS*

2. The utilization rates for each benchmark district range by over 50 percentage points between the minimum and maximum school utilization rates at each school level, with the exception of high schools in MCPS.

High schools in each of the other districts range by at least 50% (Fairfax County), with Duval County ranging by 112% at the high school level. High school utilization rates in MCPS range by only 21%.

3. MCPS has a less pronounced range in middle school utilization rates than some benchmarks and is comparable with others.

MCPS has a range of 57% between the minimum and maximum school utilization rates at the middle school level, which is comparable to that of Wake County (54%), but well below Duval County (118%), Charlotte-Mecklenburg (124%), and Houston ISD (a strong outlier at 338%).

Diversity

1. One way to understand socio-economic demographics among the benchmarks is by looking at Free and Reduce-price Lunch (FRL) enrollment. MCPS has a lower FRL rate (referred to as FARMS in MCPS), on average, than all benchmarks other than FCPS.

At the elementary school level, the FRL enrollment rate is highest in Houston ISD (80.41%), while MCPS, Fairfax County, and Wake County have enrollment rates below 40%.

At the high school level, FRL enrollment in MCPS is the second-lowest enrollment rate for any level across all benchmark districts. High schools in Fairfax County have the lowest overall enrollment at 26.89%.

2. At MCPS and all benchmark districts, Free and Reduced-price Lunch enrollment decreases across elementary, middle, and high school levels.

The FRL rate decreases by roughly eight

percentage points from elementary to high school levels in MCPS, compared with an average decrease of 10 percentage points among all of the benchmarks.

3. At the elementary school level in MCPS, Hispanic students represent the plurality (32.3%), followed by White students (26.6%). Hispanic students also make up a plurality or majority in GCPS and HISD.

One way to understand the racial demographics of MCPS and its benchmarks is to look at whether certain groups form a plurality of the student body (or, which racial group is most highly represented in the student body):

- In Gwinnett County, Hispanic students represent the plurality. In Houston, Hispanic students represent the majority at 62.6%.
- White students represent the plurality in Wake and Fairfax Counties.
- Black students represent the plurality in Charlotte-Mecklenburg Schools and Duval County.

4. Racial dissimilarity is a form of analysis that can help us understand racial segregation in a school district. In MCPS, the average racial dissimilarity between groups of three closest schools is among the lowest of all benchmarked districts.[1]

Dissimilarity is expressed as a value between 0 and 1, where 1 represents higher unevenness.

1 To learn more about racial dissimilarity and how it is calculated, see the Diversity chapter, starting on page 173.

In this benchmarking analysis, we compare the racial demographics among groups of three closest schools at each benchmark district, by school level. Although measuring dissimilarity between three closest schools is an imperfect measure of segregation, it does represent the evenness of racial groups between different schools.

Racial groups in MCPS tend to be more evenly distributed than all benchmarked districts, aside from Wake County, whose average dissimilarity score is the lowest across all benchmarks:

- Among the benchmarked districts at the ES level, there are three districts that have higher racial dissimilarity scores and one that has a lower score. MCPS has the same score as WCPSS and DCPS.
- For benchmarked districts at the MS level, there are four districts that have higher racial dissimilarity scores and one that has a lower score (WCPSS). MCPS has the same score as GCPS.
- For benchmarked districts at the HS level, there are five districts that have higher racial dissimilarity scores and one that has a lower score (WCPSS). Racial dissimilarity scores are highest at the HS level for MCPS and all but one of the benchmarked districts (CMS).

5. Although the benchmarked districts have relatively low average dissimilarity scores at the scale of the district, we see a different story at the level of individual schools. In each district, there is extreme variation in racial dissimilarity scores between schools.

When we compare the dissimilarity scores of different schools at the same level (i.e. elementary schools compared to elementary schools), racial dissimilarity ranges widely:

- The minimum dissimilarity value compared to three closest elementary schools in MCPS is 1.9% while the maximum is 42.6% There is a 40 percentage point difference between the minimum dissimilarity and the maximum dissimilarity at the middle school level, and a 35 percentage point difference at the high school level
- Across all benchmarks, the greatest variation at the elementary school level is 66% in Fairfax.
- Across all benchmarks, the greatest variation at the middle school level is in Charlotte-Mecklenburg, at 67%.
- Across all benchmarks, the greatest variation at the high school level is in Houston, at 68%.

Proximity

1. In this benchmarking analysis, we use the average distance between three closest schools as a proxy measure for proximity. By this measure, MCPS ranks among the lowest of the benchmarked districts at the elementary and middle school levels, but among the highest at the high school level.

Given a lack of access to student-level data for each district, measuring the average distance between three closest schools provides insight into the distance it would take to travel from a school to its nearest neighbors. This is a proxy measure for student travel (presumably, the shorter the distance between schools, the shorter the student trip to school from one of those attendance areas)

The average distance between three closest elementary schools in MCPS is 1.87 miles.

- Only Houston ISD and Fairfax County have lower average distances at this school level.

At the middle school level, only Houston ISD has a shorter average distance between three closest schools than MCPS.

- In MCPS, the average distance between three closest middle schools is 3.32 miles, as compared to 3.07 miles in HISD.

At the high school level, Wake County is the only benchmarked district with a higher average than MCPS in terms of the distance between three nearest schools.

- Variation in the size of attendance areas in MCPS may play a role in this: the maximum average distance between a school and its three nearest neighbors in MCPS is nearly 11 miles (Poolesville HS).

Benchmarking Table: Utilization, Diversity, and Proximity

To analyze MCPS in relation to the selected benchmark districts, we identified four indicators that could be used to compare utilization, diversity, and proximity among the selected districts: utilization averages, percentage of student body receiving Free and Reduced-price Lunch (FRL), racial dissimilarity, and proximity to schools (the average distance between schools and their three closest schools).[1]

These analyses were conducted using available data from benchmark districts, including school boundary maps and student enrollment data. Pending the availability of data sets, there are many opportunities for further inquiry and analysis.

The table below presents a side by side comparison of the benchmarks using the four indicators mentioned above, organized by school level.

1 Read more about racial dissimilarity in the Diversity chapter, starting on **page 207**.

	MCPS	Charlotte-Mecklenburg Public Schools	Duval County	Fairfax County	Gwinnett County	Houston ISD	Wake County
Utilization*							
ES	102%	107.53%	79%	91.8%	no data	84%	102.6%
MS	97%	114.11%	83%	92.5%	no data	82%	91.8%
HS	103%	111.19%	83%	100.1%	no data	77%	93.3%
Diversity-FRL							
ES	37.91%	67.68%	61.35%	31.96%	57.92%	80.41%	39.70%
MS	34.43%	62.24%	61.68%	30.18%	57.14%	78.43%	38.70%
HS	29.64%	53.87%	42.87%	26.89%	49.16%	73.64%	32.19%
Secondary**		39.59%					36.00%
Diversity-Racial Dissimilarity							
ES	0.15	0.2	0.15	0.16	0.14	0.17	0.15
MS	0.16	0.21	0.21	0.17	0.16	0.19	0.15
HS	0.18	0.19	0.21	0.25	0.21	0.22	0.17
Proximity-Average distance between school and three closest schools (mi)							
ES	1.87	2.64	2.17	1.86	2.9	1.49	2.69
MS	3.32	4.79	4.01	4.38	4.58	3.07	4.25
HS	4.2	3.45	3.83	4.05	5.11	2.56	4.59

Figure 3.9 *Benchmarking Table: Utilization, Diversity, and Proximity*
**Because we did not have access to school capacity data for Charlotte-Mecklenburg schools, utilization statistics for all districts are based on the average utilization rate by school (as opposed to total enrollment divided by total capacity).*
***Indicates secondary schools other than high schools.*

4. Community Engagement

4. **Community Engagement** Figures

Community Engagement Overview

The second section of this report covers the intent, approach, and outcomes of community engagement as a part of the Districtwide Boundary Analysis. This analysis is structured around two interconnected processes of data analysis and community engagement. These processes inform one another throughout the three phases of the analysis discussed in greater depth in the Introduction on page 38.

Because data analysis and community engagement are closely interrelated in this boundary analysis, we recommend referring to the data analysis in Section I as a companion to this section, both to inform your understanding of community feedback, and to explore the ways in which community input informed our approach to data analysis.

As of the publishing of this interim report, Section II: Community Engagement documents our overarching approach to community engagement, and contains insights from Phase 1 of community engagement, which began in fall 2019, and consists of four core strategies: regional community meetings, small group meetings, interviews, and online participation. These strategies are discussed in greater detail in the pages that follow, along with an exploration of outcomes and insights from the process thus far.

This section will be updated in the final report to reflect additional engagement insights from Phase 2, taking place in spring 2020.

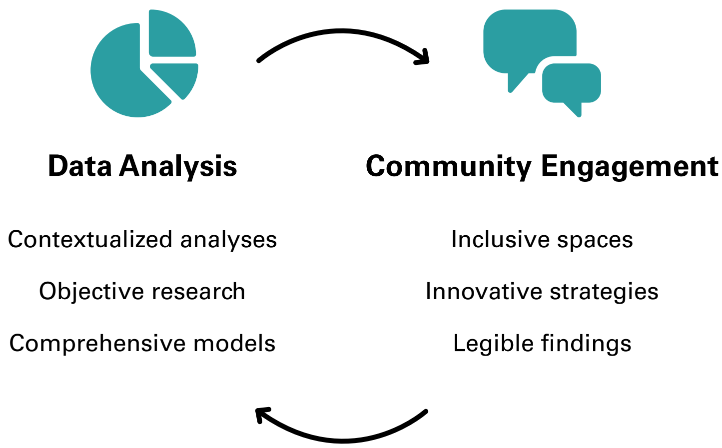
Engagement Activities at a Glance

- Regional community meetings (to invite broad public participation, by county region)
- Small group meetings (to engage underrepresented groups)
- Interviews (to learn from community members and stakeholders)
- Online Participation (to gather similar input as in public meetings via online surveys)
- Virtual Meetings (to reach a broader range of participants not reached in other formats)

Intent of Community Engagement

A thoughtful approach to public engagement is an essential element of effective civic processes. Complex systemic challenges – such as those experienced in MCPS today—cannot be solved simply through an understanding of data points. Community narratives offer invaluable context that data analysis does not express on its own. This context can bring more clarity to today's conditions, as well as direct decision-makers to more relevant, timely, and responsive solutions.

In the Boundary Analysis process, data intelligence and community intelligence operate in tandem: community engagement provides integral context, insight, and complexity to the data, while data analysis adds depth and clarity to community narratives



Community engagement in this Boundary Analysis is intended to serve as a two-way process that both enables participants to gain knowledge and awareness about central issues, key data points, and the Boundary Analysis process, and enables MCPS to gather critical insights about the specific needs and challenges that the community foresees, as well as their insights about the factors that guide their decision-making regarding school boundaries: utilization, diversity, proximity, and assignment stability.

Through this engagement process, we aim to:

- **Create a common understanding** of county-wide issues that impact the public school system
- **Acknowledge a range of opinions** that might be conflicting at times, but help establish a strong foundation for future decision-making processes
- **Increase county residents' awareness** so that they can meaningfully participate in future discussions related to school boundaries
- **Gather baseline information** from the public that can inform our team's analysis and be incorporated into reports for the Board of Education and the general public

To pursue the objectives above, the community engagement process is guided by key principles:

- **Engagement should progress throughout the process.**
  Our engagement process progresses alongside the process of data analysis. A common pitfall in public engagement is to ask local communities to come up with solutions to a problem, before establishing a shared understanding of the problem's meaning and complexity. In the earlier stages of this process, we discuss local concerns without anticipated solutions, and respond to the concerns, questions, and feedback we receive from community members as the process progresses.

- **Engagement should be broad.**
  As a county of over a million residents, we recognize that there is no one "community" in Montgomery County. In this process, we aim to reach the greatest number of participants possible within the constraints of our project scope and timeline. This includes reaching participants through multiple mediums, spreading in-person engagement across different regions of the county, and conducting targeted outreach with groups that may experience barriers to participation in larger public meetings.

- **Engagement should be varied.**
  To reach the widest range of participants and ensure a rich range of feedback, this process is designed to provide a variety of formats for learning and participating. For example, in Phase 1, this includes making engagement materials available at in-person meetings and through online, virtual presentations, as well as collecting feedback through table conversations and written responses. In Phase 2, we will introduce other formats for engaging with the data and offering insights, including through interaction with a digital tool currently in development. Throughout the process, we also include engagement at multiple levels: from one-on-one interviews, to small group meetings, to regional meetings with hundreds of participants.

- **Engagement should be two-way.**
  As mentioned above, effective community engagement operates in two directions. We aim to both make information as clear and accessible as possible, and create opportunities to gather clear, insightful comments and feedback.

Engagement Approach

Our engagement approach is designed to maximize the depth and breadth of participation, as well as to capture the greatest possible amount of input given the constraints of the project scope and timeline, and considerable number of residents and stakeholders in Montgomery County .

This community engagement strategy is structured over the course of two phases, each with particular outreach objectives and activities. A phased approach provides more time to both gather and analyze community feedback, such that one phase can meaningfully inform the next. In this way, a phased approach creates room for this process to be both iterative (evolving throughout the process as we learn and engage) and responsive (adapting to the particular needs, challenges, and conditions of Montgomery County and MCPS).

Fall and Winter 2019	Winter and Spring 2020	May - June 2020
Phase 1 Data Analysis, Community Awareness, Ideas Gatherings	**Phase 2** Testing Ideas and Metrics	**Phase 3** Final Report and Presentation
Data Analysis & Benchmarking Community Engagement	**Data Analysis Community Engagement**	

Phase 1

Phase 1: Community Awareness and Information Gathering aims to increase county residents' awareness around key challenges and opportunities within the current boundaries and provide a platform for discussion. The following activities are either complete or in progress as a part of Phase 1 community engagement:

- Area-Wide Meetings (6 complete)
- Targeted Meetings - with "Hard to Reach Groups" (12 complete)
- One-on-one interviews or small group meetings of 2-3
- Online presentation and survey
- Virtual meetings (including countywide student engagement)

Phase 2

Phase 2 will involve presenting data and engagement findings from Phase 1 and understand the trade-offs between the four analytical lenses used in the boundary analysis (utilization, diversity, proximity, and assignment stability). This section will be updated at the conclusion of Phase 2 with greater discussion of the strategies and activities during this phase, and the insights documented through these activities.

Phase 1:
Community Awareness and Information Gathering

For community members to meaningfully engage with the Districtwide Boundary Analysis, it is necessary to establish a shared understanding of the challenges currently faced by MCPS, and the stakes underlying this kind of analysis. Complex data sets, such as those being used in this analysis, can be overwhelming and inaccessible for many participants (while exciting or familiar to others). Through Phase 1 engagement activities, our team aimed to share baseline information with the community and, through involved discussions, facilitate learning and discussion around the following lines of inquiry:

- How has MCPS evolved over the decades, and what were some of the key moments in time that informed MCPS's strategies around school facilities and student assignment?
- What are the major "lenses", articulated under Policy FAA, that inform much of MCPS's ongoing and future strategic actions (utilization, diversity, proximity, and assignment stability)?
- What do these lenses mean within the context of MCPS, and in relation to this data analysis?
- What is the impact of these lenses, across and within school clusters, as well as across levels of schooling (elementary, middle, high)?

Within each engagement activity in Phase 1, facilitators worked to establish a baseline understanding of the above questions through the sharing of maps, timelines, and key statistics, and to enlist the lived expertise of residents to add to or extrapolate from the story told by the data. Residents were asked to share their reactions and insights to the data associated with the key lenses (utilization, diversity and proximity) and what would be required to deepen and refine this boundary analysis in preparation for the second phase of engagement and data analysis.

To maximize public inputs during Phase 1, our team followed an engagement strategy that invited participation at a variety of scales, and through a variety of formats. The objectives of each component are described below:

Regional Meetings

To enable broad outreach in Phase 1, regional meetings were held in regions throughout the county at central school locations. The meetings were designed to maximize participant input through facilitated discussions, facilitator and participant worksheets, live polling, and collecting written and verbal questions. These meetings were strategically located in six diverse geographic locations to attract participation from residents across the county. (See further discussion and insights on **page 366**)

Small group meetings

These meetings, which began in February 2020 and will continue throughout Phase 2, engage "harder-to-reach" populations, who are often not as well-represented in public involvement processes. This includes low- and median-income residents, immigrant residents, people associated with particular racial, ethnic, cultural or language groups, and youth and young adults. We are coordinating these meetings with MCPS contacts and community and neighborhood groups with ties to the target populations. (See further discussion on **page 397**)

Interviews

Throughout the engagement process, we are conducting interviews with stakeholders both inside and outside the school system, who can provide unique insights and perspectives based on the roles they play or positions they hold. (See further discussion and insights on **page 392**)

Online participation

Through online participation, the public at-large is invited to view narrated video presentations of the data explored in public and small group meetings and provide comments and feedback virtually. In some cases, we have also engaged community members through virtual meetings, to ensure greater representation of a particular group (see discussion of student engagement on **page 399**). Online participation enables a broader audience to engage in the process and complements the three strategies above.

Impact of Community Engagement on Analysis

The community engagement activities in this analysis are designed to enable insights from the public to inform the process of data analysis.

Throughout Phase 1, as we presented initial analysis and established shared understanding about the MCPS context and four key lenses at the center of this analysis, we adjusted our work as needed to reflect the concerns, expertise, and questions we heard at meetings.

As we distilled and analyzed the insights from public meetings, we looked for opportunities to incorporate these concerns and insights, and address the public's questions, through the analytical components of this work.

Workshop materials at a regional public meeting at Gaithersburg High School December 04, 2019 (photo credit: C.D. Boykin)

Feedback: Impact On Analysis

This table highlights some of the major impacts of community feedback on this boundary analysis. We encourage you to refer to Section I: Data Analysis for a deeper look at the data analysis.

UTILIZATION

What we heard	Where we heard this	What did we do?
Concern about the unique circumstances of consortia and school choice, and questions about how this would impact the data analysis	Regional Meetings (White Oak MS, Blair HS); Small Group Meetings	We analyzed consortia and choice schools in each section of analysis to understand their impact on the data. Included explanation and callouts about choice and consortia as applicable in each section. (page **167**)
Contextualizing Utilization analysis by 'size of school'	Regional Meetings (Northwest HS)	We included school size in our utilization analysis to contextualize utilization ratios. (page **118**)
Desire to understand utilization change over time	Regional Meetings (Julius West MS; White Oak MS)	Utilization section of the report updated to include utilization change over time. (page **147**)
How is the utilization analysis factoring in choice, magnets and other specialized programs?	Regional Meetings (Blair HS; Northwest HS)	Utilization analysis text was articulated to clearly state that choice and magnet programs, as well as special geographic cases such as consortia and paired schools, were accounted for in the analysis.
Confusion about how relocatable are factored into this analysis	Regional meetings (White Oak MS, Blaire HS)	Methodology section and appendix items under utilization were updated to explain how relocatable were factored in the analysis. (page **121**)

DIVERSITY

What we heard	Where we heard this	What did we do?
Concerns about using only Ever-FARMS as a metric of diversity	Regional meetings (all); Small Group Meetings	Diversity analysis approach text was articulated to be clearer on the range of analyses being conducted under the diversity lens. In addition to Ever-FARMS, other analyses such as racial dissimilarity and ESOL were also completed. (page **180**)

PROXIMITY		
What we heard	**Where we heard this**	**What did we do?**
Concern and confusion about the number of students who do not attend their closest schools currently	Regional meetings (Gaithersburg HS)	Proximity analysis included 'closest school' analysis for better comprehension of proximity related issues. (page 273),
Recommendation that proximity analysis take population density into account; Desire to know the percentage of students who do not attend the school closest to them at each level	Regional meetings (White Oak MS, Blair HS)	Adjusted closest-school analysis to consider 'closest 3 schools' to provide greater context related to population and school density. (page 280)
Understanding of proximity might differ across geographies with different densities	Regional meetings (White Oak MS, Blair HS)	Our proximity analysis contextualizes average distance by looking at relevant geography as identified by the Montgomery County Planning Department (urban, suburban, and rural tiers). Also contextualizing distance to school by looking at the difference in distance between near schools, not just the nearest school. (page 280)
Concerns how consortia might affect the analysis of boundaries in this project	Regional Meetings (various)	The proximity analysis methodology was articulated to explicitly state our approach when looking at consortia school. (page 312)
Desire to maximize walkers, and put a cap on distance for bussing	Regional Meetings (various)	Proximity section of the study was updated to include an in-depth walkshed analysis. (page 286) The consultant team is currently working with Montgomery Planning Department to overlay their sidewalk analysis, amongst other datasets, to better understand walkability issues per cluster.
This part of the analysis should factor in natural barriers, major roads, etc. (especially as it relates to school walksheds)	Regional Meetings (various)	To better understand potential barriers to walkability, the difference between MCPS defined walkzone and actual walkshed was analyzed. (page 293)

Other (Data Related)

What we heard	Where we heard this	What did we do?
Research student enrollment history, MCPS policy changes over time, and historical shifts in demographics	Interviews	Drew upon historical documents provided by stakeholders interviewed; research informed graphs and timelines related to policy history and demographic change over time. (Section 1, page 52)
Contextualize understanding of the data through county context	Regional Meetings (Gaithersburg; White Oak; Blair); Interviews	Added a section explaining context of Montgomery County including housing and development trends under Section1: Introduction. (page 63)
Concern that assignment stability is not emphasized as a lens in public meetings	Regional Meetings (various)	Introduction section was articulated to clearly state how assignment stability is being discussed in this report. Additionally, a cohort study was added under the assignment stability section to understand the impacts of boundary changes on student re-assignment. (page 87)

Participants in a table discussion at a regional public meeting at Gaithersburg High School December 04, 2019 (photo credit: C.D. Boykin)

Feedback: Impact On Process

As an iterative and responsive community engagement process, engagement activities also elicited learning and insights that impacted the design of subsequent engagement. The following table highlights some of the major impacts of public feedback on the boundary analysis process itself, including the community engagement activities described in this volume.

PROCESS

What we heard	Where we heard this	What did we do?
Recurring questions and confusion about the scope, purpose, and approach of the Boundary Analysis	Regional Meetings (Gaithersburg HS, Julius West MS)	Developed a working list of FAQ's which were shared at subsequent public meetings, and posted online
Desire for more time to ask questions directly to consultant team and/or MCPS staff	Regional Meetings (Gaithersburg HS, Julius West)	In addition to general FAQ, added time for Q and A at 5 out of 6 regional community meetings.
Importance of engaging Hispanic communities and other racial groups underrepresented in public meetings	Regional Meetings (White Oak MS, Blair HS); Inter-views (many)	Drew upon these general recommendations, as well as participants' specific ideas related to outreach, in planning of Small Group Meetings; Our team will continue to incorporate this feedback in approach to Phase 2 engagement as well.
Importance of engaging MCPS students in this process	Regional Meetings (all); Interviews (many)	Worked with MCPS to craft student engagement strategy; Planned countywide virtual meeting for students in February; In the process of planning Small Group Meetings to engage additional students.
Differing feedback on data literacy	Regional Meetings (all)	Interim Report content was drafted to address a wide range of audience. For instance, the report provides summary pages for each data analysis section for a shorter read as well as extensive materials in Appendix (page 416) for those interested in more data.
Desire to have digital forums for online inputs; Desire to see all information online to make the process more transparent	Regional Meetings (Gaithersburg HS, Julius West MS)	Worked with MCPS to create digital version of the presentation, handbooks, and online surveys for capturing more feedback.
Need to understand more clearly how consortia will be factored in across the lenses	Regional Meetings (various)	Methodology for each of the analytical sections of the report was articulated to clearly define how consortia model is factored into that analysis.

Feedback: General Clarification

In this process, we have also heard many more general questions and concerns, many of which fall outside the scope of this boundary analysis. Below are some of the recurring concerns that were heard in Phase 1 meetings:

- Concern that the Board will weigh diversity more heavily than the other lenses.
- Concerns about the impacts of travel time on student mental and physical health, academic performance.
- How are Title 1 schools looked at in this analysis?
- Belief that MCPS enrollment projections have been historically flawed or inaccurate.
- Need for strong coordination with county planning office to address population growth and housing growth and its impact on school utilization.
- Desire for clarity on how MCPS determines where to build new schools.
- Concern about what data is being used for the utilization analysis.
- MCPS should increase support for immigrant / ESOL students.
- Desire to understand the relationship between diversity and school/student performance.
- Concern about trying to solve socioeconomic disparities through boundary changes.

Phase 1: Community Engagement

A. Regional Community Meetings Approach

The large regional community meetings served as the centerpiece of the Phase 1 community engagement strategy, with a goal of engaging residents from across the county. These meetings were organized around four components:

- **Focused, concise presentations** by WXY consultants to provide key context, data, and perspective on the key lenses (utilization, diversity, proximity)
- **Small group discussions at tables of** approximately **10 participants** to deepen conversation around the key lenses and the intersection among the lenses
- **Notes capturing participant ideas captured by volunteer table facilitators** on worksheets for input on each of the lenses and on other issues, challenges, and opportunities they see
- **Live electronic polling, with keypads for every participant,** to gather participant data and feedback throughout each meeting

Volunteer Table Facilitators. Prior to the public meetings, the consultant team recruited a team of 72 facilitators who volunteered their time to lead discussions at the tables. Many of these volunteers provided this service at more than one meeting, and several them at all the meetings. All volunteer facilitators went through a one-hour phone and web briefing prior to the meetings, as well as a debrief after the meeting. These volunteers were essential to the success of each meeting as they allowed every community participant to be heard, and ensured that their insights, feedback, and questions were captured for later analysis.

Recruitment. Email and web publicity served as the primary vehicle for recruiting participants. All attendees were asked to register ahead of time.
From December 4 – January 23, MCPS and WXY held six large public meetings. The consultant team chose large school sites that were well distributed geographically across the county in order to maximize participation in each major geographic region. The dates and locations for the meetings were as follows:

1. Gaithersburg High School, Wednesday, December 4, 7pm-9pm
2. Julius West Middle School, Wednesday, December 11, 7pm-9pm
3. White Oak Middle School, Saturday, December 14, 10am-12noon
4. Blair High School, Saturday, January 11, 10am-12noon
5. Northwest High School, Tuesday, January 14, 7pm-9pm
6. Walter Johnson High School, Thursday, January 23, 7pm-9pm

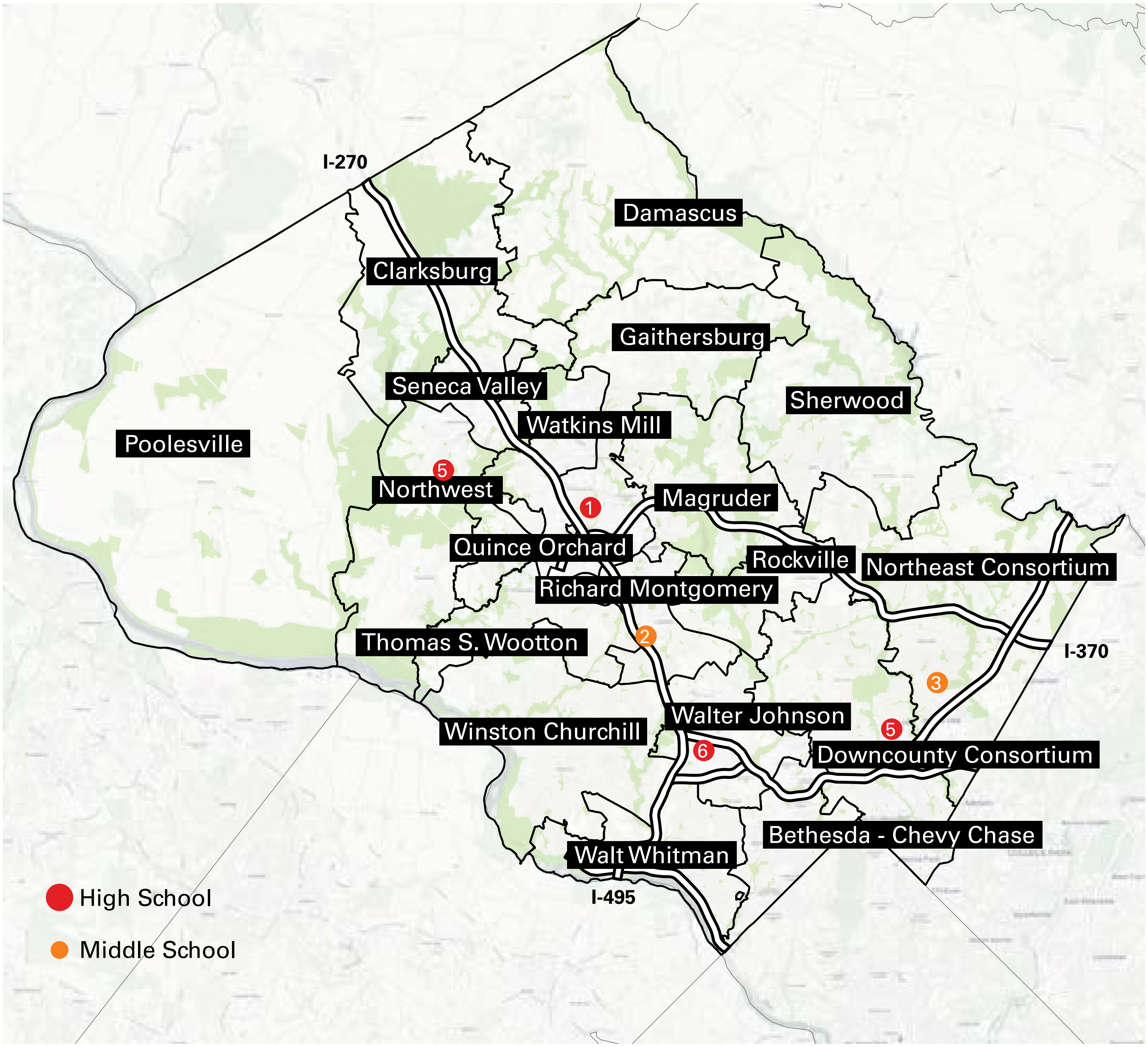


Figure 4.1 *Location of Six Community Meetings*

Meeting Format

All community meetings were organized to maximize the participation of every person attending. The consultant team arranged the room to have 30-60 tables for participants to sit at, learn, and discuss. Volunteer table facilitators facilitated small group discussions at nearly every table; when a volunteer facilitator was not available, tables of participants were coached to self-facilitate.

All meetings were scheduled as two-hour meetings, although the team adjusted the schedule for the final four meetings to incorporate a 25-45-minute Q&A period at the very end of the meeting, extending these meetings to approximately 2 ½ hours.

What are we doing?

- Focused, concise presentations
- Abbreviated and targeted small group discussions to deepen conversation
- Ideas captured on worksheets by table facilitators for input to future stages of the process
- Polling to gather participant feedback

Every meeting incorporated an opening presentation that provided [1]:

- An overview of the project and project team
- An overview of the meeting agenda, meeting format, and meeting ground rules
- Polling of all participants to gauge more effectively who was in attendance

The opening segment also provided brief time for participants to introduce themselves at the tables.

The majority of the meeting focused on three, presentation-table discussion cycles, one each on school utilization, student body diversity, and proximity to schools. During each table discussion, table facilitators captured the full range of ideas discussed by participants on to facilitator worksheets. These worksheets were handed in at the end of the night.

1 Due to recurring questions across meetings, in later meetings, consultant team members and/or MCPS staff went through Frequently Asked Questions at the beginning of the meeting. FAQ's were also posted online in mid-January.

To support table conversations, every participant received a blue booklet that contained all the relevant presentation slides; every table featured a large map of the county organized by school clusters. Participants also received worksheets which they could write on and either keep for themselves or hand in before they departed.

Tables also included a stack of post-it notes on which participants wrote down their questions. At the end of the evening all the questions were collected.

More than 2,000 Montgomery County participants attended the meetings:

1. Gaithersburg High School, approximately 300 community members
2. Julius West Middle School, approximately 400 community members
3. White Oak Middle School, approximately 225 community members
4. Blair High School, Saturday, approximately 400 community members
5. Northwest High School, approximately 375 community members
6. Walter Johnson High School, approximately 550 community members

Materials gathered at each meeting include:

- Facilitator worksheets from each table with responses to all questions discussed at the tables
- Worksheets from those participants who wished to submit them
- Post-its from participants who submitted questions (or comments) during or at the end of the meeting
- Polling results from five of the six meetings (all but Julius West MS, where the length of Q&A prevented us from asking any polling questions)

Analysis Methodology

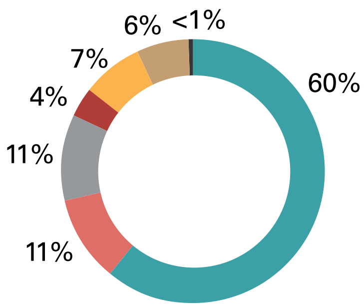
After each meeting, the consultant team produced a meeting report, including a summary of participant comments and live polling results. All qualitative data captured by facilitators was compiled into an Excel spreadsheet, then analyzed and themed. The team also collated and compiled all questions submitted on post-it notes, then categorized questions by theme.

Summary reports from each meeting can be found in Community Engagement **Appendix 1A: Regional Community Meeting Summary Reports on page 531** .

Polling Summary – Area-Wide Community Meetings

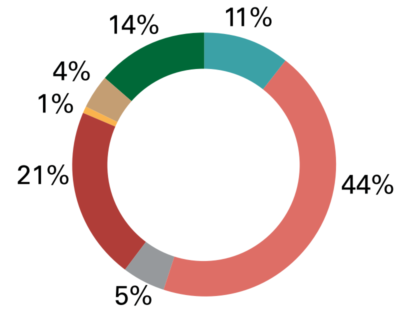
Summary of all meetings

Q1. Select all of those that apply to you:



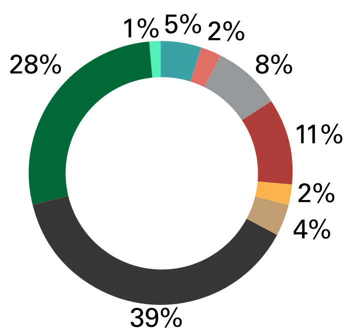
- I am a Pre-K-12 student but not in MCPS
- I am a Pre-K-12 student in MCPS
- I don't have children but care about our county
- I am a parent/guardian of children of Pre-K-12 age in private schools
- I am a parent/guardian who used to have children in MCPS
- I am a parent/guardian with kids who are not in MCPS
- I am a parent/guardian with kids currently in MCPS

Q3. I consider myself:



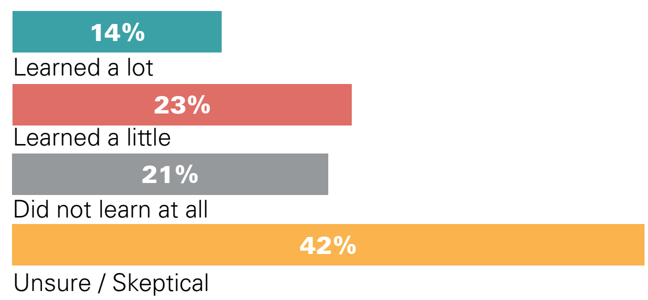
- African-American/Black
- Caucasian/ White
- Hispanic or Latino
- Asian American or Pacific Islander
- Native American
- More than One race
- I don't care to say

Q2. Which of these best describes where you live:

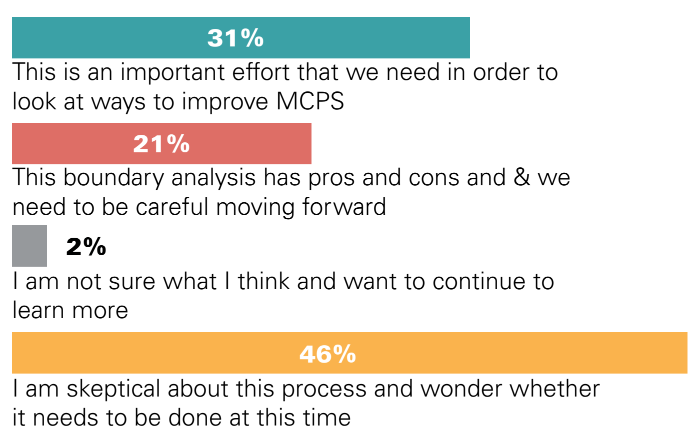


- Southeast: in the vicinity of Colesville, Fairland + Burtonsville
- South: In the vicinity of Sliver Spring, Takoma Park, Wheaton + White Oak
- Southwest: In the vicinity of Bethesda, Chevy Chase + Potomac
- East: In the vicinity of Colesville, Fairland + Burtonsville
- Central: In the vicinity of of Rockville + Derwood
- North Central: In the vicinity of Gaithersburg + Montgomery Village
- Northeast: In the vicinity of Damascus + Clarksburg
- Northwest: In the vicinity of Poolsville, Dickerson, Boyds + Germantown
- I live outside Montgomery County, but connected to the county in other ways

Q4. Which statement best describes your experience in terms of how much you learned:

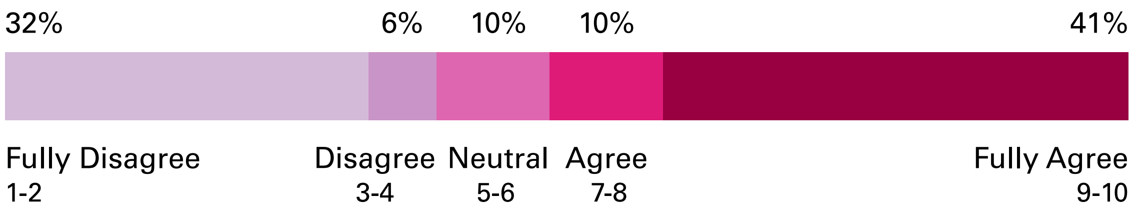


Q5. Which statement best summarizes your view of the MCPS boundary analysis:



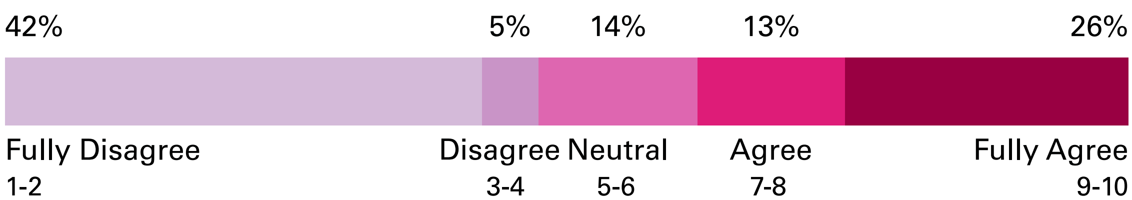
Summary of all meetings (Continued)

Q6. Is it a good idea to review the school boundaries occasionally to make sure they are up to date with the growth of the district? (Scale of 1-10) (multiple choice)



This question was asked in Jan 11th, Jan14th and Jan 23rd.

Q7. I have felt heard today and have had a chance to express my views, hopes, and concerns. (Scale 1-10) (multiple choice)



This question was asked in Jan 11th, Jan14th and Jan 23rd.

As part of the structure of regional community meetings, attendees participated in live polling, using keypads to respond to prompts at various points throughout the evening. Some polling questions related to participant identity and affinities, in order to give us a sense of who we were reaching in public meetings, and whose perspectives were underrepresented. Other polling questions related to participants' views on the boundary analysis (for instance, Is it a good idea to review the school boundaries occasionally to make sure they are up to date with the growth of the district?). Yet other questions solicited feedback about participants' experience in public meetings (for instance, Did you feel heard today, like you had a chance to express your ideas, wishes and concerns?).

The data from this live polling is not a perfect science. Additionally, live polling was not intended to be decisive or representative of any specific community or viewpoint. These are illustrative insights only and are not used for a more concrete purpose in this process. Due to technical difficulties, user error, and the addition and subtraction of certain questions over the course of the public meetings, the polling data has limitations. However, the insights of live polling data can provide an interesting picture of who attended regional public meetings, and what some of the overriding perspectives were among these attendees.

Regional Meeting Polling Insights

Insight: Approximately 67% of all meeting participants say that they reside in the Southwest (in the vicinity of Bethesda, Chevy Chase, and Potomac) or South of the county (in the vicinity of Silver Spring, Takoma Park, Wheaton, and White Oak).

Insight: The vast majority of participants –86%–identified as parents, however only about 60% of these parents currently have children enrolled in MCPS. Much less represented in these meetings were MCPS students who made up only 6% of polling participants.

Insight: In terms of racial identity, Hispanic/Latino and African American residents were strongly underrepresented among polling participants in the regional meetings as compared to their percentage of the total county population (around 20% and 18%, respectively). White and Asian American participants attended meetings in numbers that more closely mirror their percentage of the total county population.

Insight: While 37% of participants learned a little or a lot during these public meetings, 42% said they were either unclear or skeptical about what they had learned.

Insight: Finally, while almost a third of participants (31%) expressed outright support for the Boundary Analysis process, 46% of participants expressed skepticism about the process and its need to be done at this time.

(continued on next page)

What We Heard: Overview of Participant Feedback

After each public meeting, our team transcribed the qualitative data from the facilitator worksheets (one from each table) into an Excel spreadsheet, organized by the topics from the meeting. Across the six meetings, nearly 4,000 comments were transcribed.

Our team wrote a 4-6-page summary report for each meeting, identifying the ideas that occurred the most frequently in each category (e.g., school utilization, student body diversity, proximity to schools, etc.)

After our team completed all six reports, we looked in each category at the recurring themes, which you can find below. Comments are organized according to the themes presented and discussed at regional public meetings: school utilization, student body diversity, proximity to schools, the intersection of the lenses, and other comments that participants felt MCPS should be aware of. The fourth lens of our analytical framework, stability of student assignment, was mentioned in meetings but not discussed at length. This is due to the fact that assignment stability is a result of boundary changes over time and is dependent on the first three lenses which speak to the current conditions of school boundaries in MCPS[1].

Please note that this qualitative analysis attempts to capture the ideas, opinions, and perspectives shared by participants without looking to explain, validate, or justify any of them. The summary of comments that follows reflects the comments of participants at public meetings in Phase 1.

Comments from each area-wide community meeting, along with disaggregated live polling data, can be found in the meeting reports in **Appendix 1A: Regional Community Meeting Summary Reports 531**.

Lens #1 - School Utilization

Participants surfaced a number of key challenges over the course of their conversations in the six meetings. Many observed not only how much the county's population has grown, but also how this growth impacts the school utilization. Thus, an important theme was to urge the school

Regional Meeting Polling Insights (continued)

While question 6 (It is a good idea to review school boundaries occasionally to make sure they are up to date with the growth of the district), and 7 (I have felt heard today and have had a chance to express my views, hopes, and concerns) were only asked at half of the regional meetings, it is worth mentioning that these polling questions seem to suggest that a majority of participants at this meeting agree with the need to occasionally review school boundaries, and a majority of these participants did not feel that they were heard or had a chance to express their views at these meetings.

1 For further discussion of assignment stability as a part of this boundary analysis, see Section I: Data Analysis, pages 76

system to coordinate effectively with county planning officials to stay on top of growth, including where development is occurring, and how much development is upcoming.

Population growth directly affects enrollment and enrollment projections. Participants emphasized the need to ensure that MCPS'S enrollment projections are as accurate as possible. Many participants urged that--given the volume of growth the county has experienced and will continue to experience – school constructions and additions will need to continue, if not accelerate.

Many participants expressed concern about the frequent use of relocatables (portables) at schools, even at schools that were recently constructed. Participants were particularly concerned about the perceived overutilization of many elementary schools.

Participants raised questions about how magnet, specialized, and choice schools impact utilization across the county, and whether moving and/or expanding those programs might have a positive impact on currently underutilized schools. Participants also expressed concern about how consortium schools impact MCPS utilization data.

Participants also wondered how utilization is connected (or not) to student academic performance or the quality of the academic programs at schools, how utilization intersects with student-teacher ratios across the school system, and, how it intersects with students' and schools' access to resources.

Lens #2 - Diversity

Perhaps one of the clearest themes at all six meetings was the concern many participants had with the use of Ever-FARMS as a metric for analyzing student body diversity. In general, many participants expressed confusion about how diversity was being defined for this analysis and many indicated a need for a broad range of variables to measure diversity be incorporated into this analysis including racial diversity, cultural diversity, country of origin and English for speakers of other languages (ESOL).

There was also a clear acknowledgment across meetings that students who are Ever-FARMS and schools with high Ever-FARMS rates require more support and resources than other students and schools.

Participants considered the idea that FARMS students might be moved in future boundary changes to schools with lower FARMS rates, or that non-FARMS students might move to schools with higher FARMS rates. Some participants raised concerns about the impact this would have on student performance--both for those who moved and on overall school performance.

Participants also expressed a need to better understand the interplay between student body diversity and proximity as well as diversity and school utilization. There were a range of comments focused on how diversity intersects with new housing construction, home values, school location, and future school construction.

Finally, there was a concern, given the 2018 update to Policy FAA, that diversity would be weighed most heavily in this analysis, above utilization and proximity.

Lens #3 - Proximity to Schools

In most public meetings, proximity to schools was emphasized most frequently as the most important lens to participants. However, other participants expressed the opposite. Many participants expressed concerns that the analysis would not incorporate travel time or traffic patterns and emphasized the need for the analysis to include both.

Participants underscored that long and/or increased travel times have numerous consequences, impacting before-school care, after-school care, extracurricular activities, sleep time, work commutes for parents, etc. Parents also shared concerns about longer bus rides to schools much further away than their children's current schools and also highlighted concerns about safety on buses (e.g., no seat belts) and environmental (e.g., burning more fossil fuels) and cost consequences (more buses, more bus drivers, more fuel expenses, etc.) of long bus routes.

Participants also observed population growth and the location of new development as drivers of potential changes to proximity.

As well, participants expressed confusion about the relationship in this analysis between proximity calculations and magnet, choice, and consortia.

Finally, many attendees wanted to remind MCPS that families choose where they live based on where schools are located.

Intersection of the Lenses

Table discussions about the intersection of the lenses varied within and across meetings. Many participants believed all lenses should be considered equally, while also acknowledging practical obstacles to this in the event of a specific boundary study. Others noted that lenses might need to be utilized differently at the level of a school's boundaries, a specific cluster's boundaries, and across levels of schooling (i.e., elementary, middle, and high). Still others made an additional appeal to weigh proximity most heavily in the analysis.

Participants also expressed concern be given to how boundary changes can have genuine negative impact on students, families, and neighborhoods.

Participants continued to emphasize the need to integrate quality education and outcomes in some way into the analysis while also expressing a lack of clarity about what specific metrics will be used in the analysis.

The Boundary Analysis Process

Many participants arrived at the public meetings with concerns, curiosity, and misconceptions about the boundary analysis process itself. By the third meeting, our team worked with MCPS to plan a short, opening presentation to answer questions about purpose and outcomes for the analysis and answer other frequently asked questions.

However, despite these efforts, participants continued to share their concerns about the analysis' purpose and outcomes. Participants at each meeting also expressed mistrust they have of the Board of Education and what they see as a lack of transparency on this process (and on other actions).

A significant number of questions were raised about the data that was being used to analyze the data, the breadth and depth of the data being studied, and whether the raw data would be publicly shared. These concerns were paired with questions raised about the scope of the boundary analysis project, and whether recommendations would be a critical result of the analysis (some wanted recommendations; many others did not).

Finally, participants recommended that Phase 1 should also include opportunities for residents to engage online, especially if they couldn't attend a meeting and that the process needed to include and engage underrepresented populations (including Hispanic residents, immigrant groups, and current high school students).

What Else Does MCPS Need to Know?

"What else does MCPS need to know?" served as the last discussion question posed at every public meeting. This served as a final opportunity for participants to share what still lingered for them as the meeting moved toward adjournment.

This question provided an opportunity for many issues and concerns already raised to be brought to the fore, such as concerns about students being bused long distances, dismay over the recent Clarksburg-Seneca Valley boundary decision, a desire to see quality education and student and school performance woven into this analysis, worries about the impact of population growth on enrollment, and a need to study how resources are distributed across schools, among others.

What We Heard:
Summary of Comments from Regional Meetings

Lens #1 - School Utilization

Intersection with land use, development, and population growth

- This analysis takes place in a much larger county context that includes county housing policy, transportation policy, and current and future development
- MCPS must be ready to figure out what happens when more growth occurs in areas that are already overcrowded
- Utilization challenges are tied to ongoing development in the county; perception that this is a result of "poor planning" (on the part of the county, school system)
- Population growth is occurring, especially in areas of the county where development is more intensive
- Population growth is growing particularly fast with the Latino population in the county, and this is impacting school utilization particularly in neighborhoods where many Latino residents have settled
- Population growth seems to be outpacing the construction of new schools
- Utilization is impacted by new developments, the density of housing in certain parts of the county, and a lack of affordable housing; in many parts of the county, development doesn't align well with school utilization
- Need for strong coordination with county planning office to address population growth and housing growth and its impact on school utilization

Concern with MCPS's enrollment projections

- Belief that MCPS enrollment projections have been historically flawed or inaccurate
- Many believe that MCPS' projections tend to be underestimated
- Desire for MCPS to improve its accuracy in projecting or predicting future population growth and enrollment growth
- Desire for MCPS enrollment projections to factor in future development and population growth in the county
- Concerned about poor planning of schools and utilization in the face of the county's population growth; need to project more accurately and further out into the future

Need for more school construction and/or school expansion

- MCPS needs to build more schools; and be clear about how and when that happens
- MCPS needs more coordinated and better planning around school construction and expansion
- MCPS needs to continuously plan for expansion of the school system – specifically expansion of existing schools

Need to include student-teacher ratios in the analysis

- Need to understand the relationship between over-/under-utilization and the deployment of teachers (& staff) across the school system
- Desire to see student-teacher ratios included in this analysis
- Need to understand better how student-teacher ratios and class size intersect with utilization in both over and underutilized schools
- Questions about student-teacher ratios, class sizes, and their relationship to utilization

Desire to understand how MCPS actions (recent & historical) lead to under/over-utilization

- A number of clusters look like they have been gerrymandered
- Not clear why the "islands" have occurred in the first place and why MCPS still has them
- Not clear how underutilization nor overutilization occur – need to understand better the history of decisions that led to this
- Overcrowding in schools appears to be more prevalent in Downcounty
- Lack of clarity about why there is underutilization in any schools
- Disparities in utilization appear to be based on geography
- Wonder whether there is a relationship between under-utilization and the age of (older) facilities
- Wonder how much longer older facilities will be able to be used as schools

Need to understand the connections between utilization, student success, and academic quality

- Interest in whether there is a correlation between overcrowding/ overutilization and student success

- Assertion that programs drive enrollment (quality, quantity, type, etc.), which needs to be factored into analysis
- Unclear about how utilization intersects with student performance
- Wonder whether there is a relationship between lower performing schools and under-utilized schools
- If moving students due to utilization needs, school system needs to ensure minimal disruption for students impacted by that
- Consider how to increase academic quality across the schools
- Concern and uncertainty about whether future boundary changes will really impact academic quality and performance positively and solve current disparities

Concern about overuse of relocatables (i.e. portables)

- Concern about use of relocatables throughout the system, even in schools perceived to be underutilized
- Concern about extensive and long-term use of relocatables at numerous schools; also, confusion about how relocatables are factored into this analysis
- Concern about why there are so many relocatables/portables being used

Concern about overcrowded elementary schools

- Elementary schools have the biggest overcrowding challenges
- Concern about overcrowding in a number of elementary schools
- Perception that there are numerous overutilized elementary schools near underutilized elementary schools

Desire to understand the intersection of utilization and specialized/choice programs

- Not clear how utilization intersects or is affected by MCPS choice, magnet, and other specialized programs
- Wonder whether some of these programs (choice, magnet, etc.) should be moved to underutilized schools

Factor in where families choose to buy homes in utilization analysis

- Parents chose to purchase homes based on nearby school locations – many participants do not want that to change

- People move to areas where schools are better, which leads to overcrowding
- Families purchase houses based on the location of schools and that reality should be considered in this analysis

Desire to understand how utilization intersects with access to resources

- Unclear about how utilization intersects with access to resources
- MCPS needs to allocate resources for schools more effectively
- Unclear about how utilization intersects with Ever-FARMS rates
- Need to dedicate more resources (teachers, programs, etc.) to underutilized schools

Other Themed Comments

- Concern about the possibility of forced busing in the future as a result of boundary changes to balance utilization
- Need to analyze boundaries more regularly to prevent the problem of over- and under-utilization
- Concern about what data is being used for the utilization analysis

Lens #2 - Student Body Diversity

Concerns about Ever FARMS as a measure of diversity

- MCPS needs to factor in far more than FARMS data regarding diversity
- Concerned that MCPS is using too narrow a definition for diversity
- Question whether Ever-FARMS is the right variable to use for diversity
- Skeptical about (and, in some cases, opposed to) the use of FARMS-related/socioeconomic status data
- Concern that FARMS is not a real or reliable indicator of socioeconomic status

Desire for a broad definition of diversity in this analysis

- Recommend that other diversity factors could include – race, gender, ethnicity, religion, children with disabilities and who need special education, ESOL, country of origin, family education background, etc.
- Belief that dimensions like cultural diversity are more important than socioeconomic diversity

- Need to use other diversity measures instead of or in addition to Ever FARMS; especially racial diversity ("race rather than poverty")
- Desire to see other factors measured in diversity analysis, including racial and cultural diversity, ESOL, and special needs populations
- Desire for a common understanding of what is meant by diversity in this analysis

More support for Ever FARMS students and schools with high FARMS rates

- Desire for MCPS to provide more resources to schools that serve high percentages of Ever-FARMS students
- MCPS should increase support for immigrant/ESOL populations
- Desire to see resources provided more equitably across the school system
- Belief that there is a stigma associated with FARMS (including assumption that high-FARMS schools are underperforming)

Need to understand the connection between diversity and student performance

- Concern about what happens to a student's performance when they move from a high performing school to a low performing one.
- Certain parts of the county have greater concentrations of diversity than others
- Wonder whether there is a correlation between FARMS and school performance
- Desire to understand the relationship between diversity and school/student performance
- Lack of belief in research cited by meeting handouts that increased diversity has positive impact on school performance

Where diversity and ever-FARMS are prominent in MCPS

- It appears that there are higher Ever-FARMS rates at the elementary school level
- Certain parts of the county have greater concentrations of diversity than others
- Desire to understand the history of boundary decisions and how it relates to the varying Ever-FARMS rates across schools

Desire to understand better the impact of housing construction, housing location, and property values on diversity

- Desire to understand how new home construction impacts diversity in MCPS schools
- Would like to see the interrelationship between school location and property values
- The county (and MCPS) needs to balance new housing development with the need for more or expanded schools
- Concern that an increase in Ever-FARMS students in schools could cause students/families to move or go to school elsewhere (e.g., private schools)

Need to determine the validity of how moving students impacts academic performance

- Concerned about the validity of the data that proves moving students from low to high performing schools improves grades; and vice versa
- Concern about whether the data actually proves that moving students from low to high performing schools improves grades; and vice versa
- Skeptical about lack of discussion of FARMS, specifically, in diversity research

Socioeconomic disparities and boundary changes

- Desire to improve education/academic programs in all schools rather than trying to do it through boundary changes
- Concern about trying to solve socioeconomic disparities through boundary changes

Desire to understand the linkage between ever-FARMS rates and school utilization

- Need to understand how over- and under-utilization intersects with the lack of diversity in schools where that is the case
- Want to know if there is a link between Ever-FARMS/socioeconomic data and overcrowded schools

Need to understand the relationship between diversity and proximity

- Need to understand how diversity intersects with proximity
- Concerns about FARMS students being burdened in future boundary changes

Need to expand choice and magnet programs in ways that attract diverse students

- Belief that there is low participation in specialized programs by racial/ethnic minorities and students with low socioeconomic status
- Need to expand choice and magnet programs to be more inclusive of the full school system population, especially students of color, immigrant students, lower-income students

Concern that the Board will weigh diversity more heavily than the other lenses (in future boundary studies and changes)

- Desire for clarity about the Board weighing diversity more heavily (based on recent update to policy FAA), while in this analysis diversity is treated equally with the other lenses

Diversity and fears of bussing

- Concerns that MCPS efforts to distribute diversity more evenly will lead to bussing students across the county

MCPS is already perceived as diverse

- Schools are already perceived as diverse (racially)
- Recognize that the County is already very diverse and so is MCPS

Lens #3 - Proximity to Schools

Concerns about bussing and/or increased travel time

- Fear that county is considering forced bussing as an outcome of this analysis
- Major concerns around potential of increased travel time
- Concerns about the secondary impact that increased travel time has on commutes, including time for family and after-school activities.
- Concern regarding the impact of potential increased bus time on issues like before-school care, after-school care, extracurricular programs, parental engagement, etc.
- Desire to include traffic and travel time in this analysis, and make it a priority

High importance of proximity

- Many participants stress that proximity is the most important issue in this analysis. It impacts:
    1. Quality of life
    2. Commutes

3. Participation in after school activities

- MCPS needs to make a commitment to neighborhood schools
- Proximity is especially important at the elementary school level
- Belief that proximity leads to better parent engagement
- Place a high value on community schools ("assign kids to closer schools")
- Proximity should be considered the primary lens in this analysis

Desire for travel time and traffic to factor into this analysis

- Proximity must include travel time to school
- Need to not just look at distance but time factors too
- Must consider traffic patterns into this part of the analysis, including mileage, travel time, and travel patterns
- Traffic is more indicative of proximity than distance; need to account for driving/travel/bus time

Relationship of proximity to school choice & consortia

- Desire to ensure that magnet and specialty programs (and consortia) fit into this analysis
- Lack of clarity about the relationship between proximity to schools and a family's willingness to travel (e.g., school choice programs)
- Consortia are important in the school system, but concerns how they might affect the analysis of boundaries in this project
- Desire to understand how magnet and specialized programs factor into proximity

Challenge of population growth and new housing and developments

- Suggestions that this analysis look at where housing growth and development current and planned) will occur in the county
- Desire to understand the impact of development and population growth on proximity to schools
- Desire for clarity on how MCPS determines where to build new schools
- Negative impact of travel time on students/families
- Proximity to schools and the amount of travel time required to get to schools can have a big impact on family and student well-being
- Travel distance to schools often has the biggest impact on those families/

students with the fewest resources

- Desire to maximize walkers, and put a cap on distance for bussing

Student safety for bussing and walking

- Students thrive where they feel safe and comfortable
- Desire to emphasize the safety of children in decisions being made
- Safety is an issue not just on buses (concern about lack of seatbelts; more time on bus means increased likelihood of accidents) but also on walking/ walkability and how safe it is to expect children to walk to school in the case of certain schools and routes

Concerned about environmental factors

- Measure the costs to the environment of bussing
- Concern about the environmental impact of additional bussing

What else should be factored in?

- Need to factor in bike routes, walk routes, use of public transportation, availability of safe paths
- Bussing time matters, and perhaps matters as much if not more than walk sheds
- Desire to know the percentage of students who do not attend the school closest to them at each level
- Would like to see the historical data on proximity to schools
- Buses are a problem – they run late; not enough drivers; breakdowns; they also cause pollution
- Perception that the (school cluster) maps show clusters that look like the boundaries have been gerrymandered
- This part of the analysis should factor in natural barriers, major roads, etc. (especially as it relates to school walksheds)
- Dislike for the reality of split articulation in the school system
- Concern and confusion about the number of students who do not attend their closest schools currently
- Desire that, if students are moved in future boundary changes, they be kept in the same cluster

Intersection of the Lenses[1]

Lenses should be of equal weight

- All lenses should be of equal weight (this comment was often stressed in relation to the 2018 update to Policy FAA, emphasizing diversity)
- Desire for all lenses to be balanced, but recognition that they may be difficult to weigh equally
- Concern about whether it is possible for all 3 lenses to be treated equally

Understanding the impacts and differences of the three lenses

- Desire to understand the impact of 3 lenses together and the resources required
- Desire to understand the differences for how the three lenses intersect by school, cluster, and different school levels (i.e., elementary, middle, high)
- All three lenses are important, but it is hard to determine how to align as they are likely to be in conflict or counteracting one another

Analysis should have a special emphasis on proximity

- Concerns about the possibility of future bussing
- Desire to preserve neighborhood/community schools
- Strong interest in seeing proximity prioritized as compared to the other lenses
- Desire to ensure MCPS studies impact of traffic in proximity analysis

Include a focus on education quality in this analysis

- Need to equalize resources so all students have same opportunity to a great education
- While conducting this analysis, need to keep in mind the importance of providing high quality education for all students, and there was concern that the focus on data did not make clear the links to what would improve schools
- Lack of clarity on where student performance, quality of education, school performance fits in – and concerned that metrics being used do not measure quality

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1 Note: regional public meetings focused on the three lenses of utilization, diversity, and proximity. The fourth lens, assignment stability, is an outcome of the first three, as it relates to the changes of boundaries over time and geography. For more discussion and analysis of assignment stability, see page 77.

Impact of boundary changes on students and families

- Concern that boundary changes will have a negative impact on students and families due to assumption that boundary changes will include busing and moving students over longer distances
- Concerns about losing parental and community involvement if students attend schools further away
- Concerns about the impact of future boundary changes on home and property values

Assignment stability as a lens

- Concern that assignment stability is not emphasized as a lens in public meetings
- Assignment stability is an important lens

Concerned and lack of clarity about metrics for analysis

- Desire to know what metrics will be used for diversity and proximity (as has already been done for utilization)
- Concerned about Ever- FARMS as a measure – unsure whether it is an accurate or valid measure
- Need to see metrics and thresholds for both diversity and proximity

How consortia factors into the analysis

- Need to understand more clearly how consortia will be factored in across the lenses

Other feedback

- Must include new housing and commercial development (i.e., future growth) in the analysis – when and where it will occur; also, the need for affordable housing in the county
- Need to do better planning around schools and school construction
- Diversity doesn't belong as a lens
- Need to consider safety issues in this part of the analysis
- Need to invest more resources for schools that need them

Boundary Analysis Process

Lack of clarity about purpose and outcomes about the boundary analysis

- The difference between boundary change versus bus-in/bus-out
- Why the Board is doing this analysis, i.e., about what problem it is trying to solve
- When decisions will be made as a result of this analysis nor how those decisions will be made, or what happens next, after the report is submitted
- What the process will be to make specific boundary changes
- What the end result will be of this analysis – "everybody knows something will happen"
- What the need is for the analysis, the need for a consultant, and what the qualifications of the selected consultant are
- What the ultimate goal of this analysis is
- Unclear why the Board is doing this analysis, i.e., what problem it is trying to solve
- Not clear about what happens next, after analysis is completed

Trust and transparency challenges with the BOE

- People don't trust the MCPS Board of Education
- Desire for more transparency regarding the whole process and the data; desire for the data to be made public
- Desire for this process and for MCPS to be more transparent with parents; don't currently trust the school system
- The Board's lack of transparency broadly in its actions and decisions and around boundary studies and this analysis
- Skeptical about the intentions of the Board of Education in this process and whether the public can trust what they're communicating
- Because of recent actions and decisions, there is a distrust of the school system

Concerns about lack of MCPS transparency

- Desire for more transparency in this process and the analysis itself
- Desire to see all information online to make the process more transparent

The need to involve and engage underrepresented (including student) populations

- Need to directly involve hard-to-reach groups, especially populations for whom English is a second language
- Need to reach out to the Latino community to engage in this process
- Need to reach out to a wide range of students to provide input into this process
- Make sure you engage with underrepresented groups/populations and target harder-to-reach communities, especially Latinos
- Desire to see more student voices in this process

Concerns with the data

- Concerned about the data and the model – not complex enough, not clear about the data sources, nor how the data will be used
- Concerns about how data is collected
- Desire to see all the data; lack of trust in the data at this point; perception that the data is misleading or manipulative
- Desire to know how the data will be analyzed
- Desire for the data to be made public
- Concerns about the origin of the data, including the sources and age of the data

Concerns about project scope and contract

- Concerns about the boundary analysis scope and contract (including both participants who expressed that the scope is too large or worried it would reach too far; and participants who expressed that the scope is too narrow and should include boundary recommendations)
- Concerned about the amount of money invested in this analysis

Desire for boundary analysis to result in recommendations

- Desire to see recommendations on boundaries, given that MCPS is investing so much money in the analysis
- Desire to see recommendations on boundaries, based on the need and a lack of comprehensive analyses in the past

Need for online engagement

- Need an online forum for this analysis

- If engagement is conducted online, make sure data is not skewed by highly organized groups during that part of the process

Other process concerns

- Concern that options and recommendations will be provided on boundaries because that is what the scope on the website says
- Concerns about the timeline: this process is moving too fast; finishing by June is too soon
- Dislike of the polling question about number of boundary changes from past 25 years (first meeting only); participants felt manipulated
- Loudest people in the room (second meeting only) took over in disrespectful way; perception that this was rude and obnoxious
- Dislike for the polling question asking about "occasional boundary analysis" because participants felt that the question was poorly defined.

What Else Does MCPS Need to Know?

Concerns about students being moved to schools further away

- Participants fear having to send kids to schools that are not near their neighborhoods; people chose houses/neighborhoods largely because of the schools their kids would go to
- Concerns about possibility of future bussing in the county

Concerns raised about performance and quality education

- Would like to know how boundary analysis intersects with school and student performance
- Concern that MCPS is not focused on quality of education in this process

Concerns raised about travel time

- We believe travel time should be included in this analysis as a part of proximity
- Concerned that the analysis is not looking at travel time or traffic

Concern and dismay about the Clarksburg – Seneca Valley process and decision

- Upset about the decisions re: Clarksburg/Seneca Valley boundary study; and how those decisions were made; this increased distrust
- Concerns about the recent Clarksburg/Seneca Valley decision

Other issues to study and incorporate into analysis

- Desire to understand how choice and magnet programs are factored in
- Desire to look at how resources are distributed across schools
- Desire to understand more clearly what the impact of future population growth will be on MCPS and boundaries

Strategy 2: Interview

B. Interviews Approach

During Phase 1, we utilized interviews and conversations with community stakeholders to guide our approach to public engagement and data analysis. While these interviews and conversations represented the initiation of a Phase 1 “Ideas Gathering” process, their purpose was primarily to inform our outreach to other key stakeholders, “hard-to-reach” groups, and the general public. The interviews also provided us with a foundational understanding of local history and context from a variety of points-of-view. This understanding of MCPS’s historical challenges as well as the education system’s current planning and policy context allowed us to direct our data analysis around proximity, diversity, and utilization. Their insights also helped to inform the design of public workshops, small group meetings, and virtual engagement.

During Phase 1, we spoke to 21 community members in an effort to guide our Phase 1 community engagement and data analysis approach. Of these 21 conversations, 13 followed the long-form interview format that can be found in the appendix (see **Appendix 2A: Interviews – Format and Questions on page 564**). Each interview began with a brief of the goals and purpose of the Districtwide Boundary Analysis. This introduction was followed by a series of open-ended questions and long-form responses by interviewees about challenges and opportunities for utilization, diversity and proximity, as well as representation and participation of additional stakeholders. This format ensured that we could gather detailed feedback on the four lenses from Policy FAA, in addition to insights on local history, political context, and community outreach recommendations. The remaining conversations focused on introducing stakeholders to the process, listening to specific concerns about MCPS, and gathering feedback on additional stakeholders to consult.

The 21 community members whom we interviewed or consulted represent a small selection of: MCPS Board Members, County Council staff and officials, elected officials, MCPS administrative staff, MCPS educators (current and former), policy experts, community leaders, and other community members. These stakeholders were selected collaboratively by WXY, PEA, and MCPS based on input from MCPS. The team will continue to interview stakeholders in phase 2.

What We Heard: Common Themes in Interviews

In addition to gathering feedback on public outreach strategies and stakeholders, the interviews focused on participants’ reactions to the study’s analytical lenses, with a focus on the primary three lenses analyzed most extensively in this report: Utilization, Diversity and Proximity. The most common themes raised by interviewees included the following:

Utilization

- Overcrowding: Concerns about students who have been injured in overcrowded hallways, music classes being conducted in hallways, and inadequate spaces for teachers to work and store materials.
- Class Sizes: Discussions of the correlation between small class sizes and student success, with additional insights on the level of teaching experience needed to manage an overcrowded class.
- Facilities: Concerns that investment in facilities improvement is imbalanced across the county, with a disproportionate number of old Downcounty schools whose need for renovations have been neglected in favor of new school construction or additions.
- Population Growth: Discussion of the burden that population growth has on school capacity, as well as misconceptions about where that growth is concentrated (not in high rises). One interviewee raised concern that capital funds are insufficient to keep up with growth.

Diversity

- Disparities: Reflections on the disparities that exist between PTA fundraising efforts at various schools, and the resulting disparities in student resources.
- Restorative Justice and Practices: Reflections on the impacts of racially or economically biased behavior management practices in classrooms, and the strategies that would be required to mitigate those biased practices.
- Integration: Arguments for integration that focused on the negative impacts of isolating communities geographically or in specialized programs. And arguments against integration that questioned the value of diversity in education.
- Representation: Recommendations on how to get greater representation from "hard to reach" communities, as well as concerns about the lack of racial diversity among teaching staff.
- Specialized Programs: The success of language immersion programs in encouraging diverse classrooms, compared to issues of segregation that have resulted from magnet, AP, and IB program policies.

Proximity

- Housing Patterns: How housing segregation poses a great challenge to integrating schools without increasing travel times.
- Willingness to Travel: How families are more willing to travel to schools with coveted reputations or specialized programs.

- Distance from School: A discussion of misconceptions about how many students are assigned to their closest school.

Intersection of the Lenses[1]

- Integration: The history of resistance to integration in Montgomery County, and board decisions that have exacerbated segregation.

- Transparency: Frustrations among community members that, although MCPS hears them, they still feel ignored.

- Budgets and Spending: Frustrations with resource disparities, perceived disconnects between school budgets and academic findings, and students who are not covered by Title I funding.

- Assignment Stability: Frustrations with the negative impact of consortiums on student experiences.

What We Heard: Summary of Comments

Below, we have included a summary of key comments that arose during our conversations about each of the three lenses that were addressed during our Phase 1 community engagement process.

Lens #1 - Utilization

Overall, interview participants were concerned about school capacity, and no comments detracted from the importance of addressing this lens. Most comments focused on the negative impacts of overcrowding on teaching and the safety of students. One interviewee lamented that *"it's not right" for kids to have to eat lunch as early as 10:15 am or as late as 2:15pm because of overcrowding.* In addition to the safety issues associated with overcrowding, many interviewees thought it was important for more parents to understand how overutilized schools negatively impact their children's classroom experience. A former educator debated that just two to three additional students in a classroom can make a big difference in reducing the quality of teaching and learning. This person contended that if MCPS wants to see greater academic achievement, they need smaller class sizes.

Our interviews also reflected concerns about disparities across the county in the quality of facilities. One person argued that, considering a large backlog for facilities repairs, these repairs should be prioritized over new school additions

1 Note: as in public meetings, Phase 1 interviews focused on the three lenses of utilization, diversity, and proximity. The fourth lens, assignment stability, is an outcome of the first three, as it relates to the changes of boundaries over time and geography. For more discussion and analysis of assignment stability, see Volume I, page 77.

when open seats are available at other schools. Concerns that more renovations occur Upcounty or in affluent communities, while Downcounty schools are older, also came up during these conversations. Many other concerns about budgets and funding arose, along with comments about misperceptions when it comes to population growth. One interviewee raised concern that the blame for capacity issues is unjustly laid on development, stating that while many people think that all the growth is concentrated in high-rises, very few kids live in high-rises.

In addition to the key themes mentioned above, interviewee's comments shed light on how historical triggers for boundary changes focused primarily on disproportionate utilization, and not demographic distribution, despite diversity's inclusion in the Policy FAA since 1993. Interviewees also recommended benchmarking examples for utilization, including creative solutions for addressing overcrowding in Wake County, Miami-Dade, and Houston.

Lens #2 - Diversity

Many interviewees recognized the educational disparities that are faced by lower income students. However, the majority of interviewees were unsure that cross-county integration is the best way to resolve this. One interviewee who supported school integration sought to clarify that they did not advocate for cross-county sending patterns, but they did advocate for integrating schools that were already geographically close to each other. Other interviewees voiced concern that low-income students of color would bear the burden of traveling farther to integrate schools, with little support from inadequate and inequitable public transportation systems. One interviewee questioned the potential transportation costs of integrating schools, while another pointed out the cost of prioritizing school additions over the integration of nearby high and low capacity schools.

Interviewees were not afraid to complicate the values that undergird many integration efforts, or to doubt the academic research that validates integration. One interviewee asked if the county wants to send a message to students of color that "In order to do well, you have to travel and sit next to someone who doesn't look like you." Another interviewee stated that they did not understand the relevance of diversity because *"school is school"* and education, separate from diversity, should be the top concern. Others contended that exposure to diversity is critical to a student's success in the world, citing projections that the country will be majority minority by 2040 and kids need to know how to be around each other. Some also cited the underlying racism in arguments against diversity, saying that high achieving students of color flourish in Blair High School's student government. The range and complexity of feedback reflected the complexity of the issue and highlighted a lack of agreement on (and understanding of) the most successful solutions.

Our conversations sought greater clarity about what diversity means and how it is measured. But socioeconomic and racial disparities consistently arose as the primary concern among interviewees. Some of our conversations indicated an awareness among interviewees that the county's issues with diversity go deeper than enrollment. *"After all these years, teachers still look at these kids in terms of their ethnicity, gender, whether those kids come from a family that was poor,"* said one interviewee when discussing the legacy of discrimination in MCPS classrooms today. Calling for more restorative justice and practices in classrooms, this person explained that "If we do not manage [biased behavior management] at the level of teachers, by the time the kids get to the principal they are very mad because these kids know that they are being discriminated against, and they are upset about it." These issues are also reflected among the teaching staff, according to some interview participants, who explained that the Blair magnet program, for example, did not have any diversity on their staff for a long time. But when the Blair magnet eventually hired a few Black male teachers, those teachers left shortly because "they felt so uncomfortable," according to one interviewee. These concerns about representation and behavior management are also reflected in some community members' experience of inclusion, according to one interviewee. This person reported that Black families do not always feel welcome at Churchill or Whitman High School. As an example, they mentioned a friend whose Black children attended both Churchill and Wheaton High School and had widely different experiences of inclusion.

Lens #3 - Proximity to Schools

Conversations about proximity revealed the tension between community members' perception of distance or transportation costs, and their willingness to travel farther for specialized programs. Discussion topics addressed the barriers imposed by inadequate public transportation or unsafe walking conditions. But many conversations also delved into the distances that families are willing to travel to attend Richard Montgomery's IB program and Blair's Magnet Program, or the long bus rides experienced by Sherwood cluster students. Along a similar thread, an interviewee encouraged our team to better understand the "elasticity" of students' and parents' willingness to travel, asking *"when is too far too far?"* But as our other interviewees indicated, this elasticity will vary greatly according to geography, public transportation quality, school reputation, and socio-economic status.

According to some interviewees, high FARMS families tend to push back against the burden of traveling because they are reliant on poor public transportation and do not have equal opportunity to drive to school. Equal opportunity in transportation options also came up as a barrier to access for specialized programs. An interviewee reflected on how her grandson, upon gaining admission to a Middle School magnet program, did not qualify for bus transportation because of his address. He had the privilege of being driven to school by a guardian, but many of his neighbors were not able to take advantage of the opportunity to attend a magnet because they had no other transportation options.

Strategy 3: Small Group Meetings

Small Group Meetings Approach

Even when it is possible to convene large and diverse groups of residents in the county to participate in public meetings, there are many populations that experience barriers to participation in public meetings, but whose views, perspectives, and lived experiences are essential to gather.

Thus, the purpose of the small group meetings is to make sure that important segments of the Montgomery County population, which were underrepresented at the six public meetings, have an opportunity to participate in discussions about the boundary analysis. These segments include low income residents, students, young adults, and people associated with some racial, ethnic, cultural, or language groups.

In the first stage of the project, *12 small group meetings have been conducted, and as of the publishing of this report, an additional # are scheduled. We will continue to conduct small group meetings in the coming months to learn from and hear the concerns of various groups around the county.*

In Phase 1, each small group meeting will:

- Have the same basic format and conveys the same information as the six public meetings
- Run between 60-90 minutes
- Convene small groups of 10-20 people, all from the same target population
- Incorporate the same participant handbooks and worksheets used during area-wide community meetings

Materials gathered at each meeting include:

- Detailed notes taken by 1-2 note-takers
- Participant worksheet for additional comments and questions
- Written responses to polling questions

During phase 1, we began the outreach and planning process for small group meetings. To coordinate these meetings, our team reached out to a number of active, community-based groups that were tied to those specific target populations, including local chapters of national associations, community centers, and non-profit organizations. These groups and individuals have been approached to serve as partners in the planning process, including inviting participants, providing meeting space, and offering expertise about accessibility and special considerations for meetings with their communities.

MCPS has been an important partner in the process of identifying and reaching identified “hard to reach” populations through small group meetings. Through the Office of Student and Family Support and Engagement (OSFSE), the consultant team has been in communication with Parent Community Coordinators (PCC’s), community ambassadors who are based in Title I schools and work with MCPS families in the targeted groups listed above.

Communication with these organizations and MCPS ambassadors is in various stages of completion as of the publishing of this report. In some cases, meetings have already been conducted. In other cases, initial conversations are underway. Due to the variability of these engagement processes and the complex nature of planning with community-based groups, the resulting comments and findings from these meetings—and those in the coming months—will be included in the final report.

As of the publishing of this report meetings have been held with the following organizations:

- *Linkages to Learning (Hispanic parents)*
- *IMPACT Silver Spring (Immigrant groups & low-moderate income)*
- *AIM High (African American youth and parents)*
- *NAACP Parents Council (African American)*
- *Identity (Latino & low-moderate income, two meetings)*
- *CASA parent group (Latino & low-moderate income parents)*
- *Jack and Jill – Potomac Valley (African American parents and youth, western Montgomery County)*
- *Latino Student Achievement Action Group (LSAAG) (Hispanic parents and youth)*
- *IMPACT Silver Spring--Ethiopian Community (Amharic speaking residents)*
- *Parent Community Coordinators (MCPS) – French-speaking (French-speaking immigrant parents at Title I schools)*
- *Asian Pacific American Student Academic Achievement Action Group (Asian Pacific American students and parents)**

*Meeting scheduled for after publishing of this report.

In addition to the targeted "hard to reach" groups described above, this process also has engaged other key stakeholders using the small group meeting format to facilitate deeper engagement and increased time for questions and answers, and specific feedback. In Phase 1, these meetings included:

- *MCCPTA*
- *Educational Facilities Group*

Student Engagement

The participation and insights of MCPS students are integral to this Boundary Analysis and represent another key feature of the team's approach to community engagement. To reach as many students as possible and to accommodate the diverse accessibility and transportation needs of students throughout a large county, the team has been working with MCPS to coordinate a strategy for student engagement. In February 2020, MCPS and the consultant team hosted a virtual student meeting intended to present initial data analysis to students and solicit their feedback through live comments and questions **Appendix 2B: Student Engagement – Comments and Questions from Virtual Meeting on page 566** to maximize participation of students from across the county.

The virtual student meeting was a first step in student engagement, and provided a foundation for the next stage of this process, in which we will continue to engage with students in a number of formats. In preparation for a more comprehensive student engagement process, we have engaged in preliminary conversations with students. These conversations have led to the development of strategies for engaging more students, as well as a foundation for understanding student experiences in relation to school utilization, diversity, and proximity.

The insights of our continued student engagement will be synthesized and shared as part of the final report.

5. Glossary

ACD (policy): *(Policy ACD: Quality Integrated Education)* An MCPS policy that establishes guidelines for school integration, first adopted in 1983. The policy seeks to ensure equitable educational outcomes in an increasingly diverse school system, and mandates the BOE to evaluate diversity in MCPS schools on an annual basis, and determine programmatic and resourcing needs accordingly. The policy can be accessed online at: https://www.montgomeryschoolsmd.org/departments/policy/pdf/acd.pdf.

Assignment stability: Stability of school assignments over time is one of four factors outlined by Policy FAA to be considered in educational facility planning. MCPS attempts to minimize the number of times the same student(s) are impacted by reassignments leading to changing schools within a particular level of school. The policy states: "student reassignments should consider recent boundary or geographic student choice assignment plan changes, and/or school closings and consolidations that may have affected the same students."

Base school (also called home school): The school a student is assigned to, based on their residential address and school attendance boundaries.

Boundary study: The BOE's process for studying specific boundaries and considering a formal change. Boundary studies involve geographically-specific research of boundary options, within a certain scope set by the superintendent of schools. This research includes an analysis of factors such as travel time and traffic patterns, current and projected enrollment, and the articulation patterns of affected schools. Through a boundary study, MCPS staff develop boundary options to be considered by the BOE.

Capacity: The number of students who can be accommodated in the building, based on an allocation of space for different grades and types of programs.

Capital Improvements Master Plan (CIP): A six-year master plan for capital improvements in Montgomery County Public Schools. This plan is the mechanism through which the Board of Education requests funding from the County Council and the State of Maryland for county-wide and major planning projects. The most recent CIP plan covers fiscal years 2021-2026 and can be accessed online at: https://www.montgomeryschoolsmd.org/departments/planning/cipmaster.aspx

Choice programs: Through school choice programs, students in MCPS may apply districtwide to be a part of specialized programs at schools other than their base school. Choice programs are offered at the elementary, middle, and high school levels. They include competitive academic magnet programs, specialized academic programs (arts, science, communications, etc.), language immersion programs, the International Baccalaureate (IB), and others. Depending on the program, students may be admitted through a lottery process, an application process, and/or based on past academic achievement.

Cluster: The geographic grouping of schools within a defined attendance area that includes a high school and the elementary and middle schools which send students to that high school.

Consortium *(plural: consortia)*: Unlike a cluster, a consortium contains multiple high schools. Students residing within the geographic boundaries of the consortia enroll in a lottery to attend a school other than their base school. Assignment in the consortia lottery is based on student choice, sibling link, school capacity, and socio-economic factors. Students living within the geographic boundaries of the consortia are guaranteed a seat at their assigned home school and may enroll in the lottery to attend a school other than their home school. Students living outside of the geographic boundaries of the consortia may also enroll in a lottery to attend a school within the consortia, but they are not guaranteed a spot at any consortia school.

COSA (Change of School Assignment): A student may apply for a school transfer through COSA due to unique hardship, a family move (valid for the remainder of the current school year), or siblings (i.e. to attend the same school as an older sibling enrolled at a school other than their home school). Students who transfer schools through COSA are not provided with transportation by MCPS. Read more about COSA at https://www.montgomeryschoolsmd.org/info/transfers/.

Dissimilarity: A way to measure, statistically, how different one factor (i.e. a school) is from a group of its peers within a particular geographic area. In this report, dissimilarity provides a way to rate how unlike one school is from the average of that school and its five nearest neighbors. Looking at the five nearest schools to each school can be instructive to show whether a given school is an outlier relative to its neighbors, or better understand trends in a given area. Dissimilarity is expressed as a value between 0 and 1 – where 1 is the most dissimilar.

Diversity: The range of differences between individuas, including aspects of identity, culture, ability, gender and sexuality, and more. While diversity is complex and carries many meanings, this analysis focuses on the three primary markers of diversity that MCPS draws upon in facilities planning: race and ethnicity, socio-economic status, and English language proficiency.

Downcounty Consortium (DCC): The Downcounty Consortium (DCC) is comprised of Montgomery Blair, Albert Einstein, John F. Kennedy, Northwood, and Wheaton high schools. Students entering high school participate in a choice process to rank, in order of preference, their choice of high school based on academy program. School assignments are made using a computerized lottery process that considers base school, sibling link, available space, and socioeconomic status.

EEA (Policy): The policy that established guidelines related to district-provided transportation in MCPS, including establishing walk zone standards, and emphasizes the safety of students in district-provided transportation. (Policy available online at: https://www.montgomeryschoolsmd.org/departments/policy/pdf/eea.pdf)

English for Speakers of Other Languages (ESOL) enrollment: The English for Speakers of Other Languages (ESOL) enrollment is the percentage of students eligible for ESOL services, divided by the official total student enrollment.

Enrollment: The number of students enrolled in school as of the start of the school year. Total enrollment refers to total students countywide.

Ever-FARMS: The Ever-FARMS rate is a measure of students who are or ever have been enrolled in the FARMS (Free and Reduced-price Meals System) during their time in MCPS, from pre-Kindergarten on. A wide body of research has shown that FARMS is a good proxy measure for the concentration of low-income students within a school (see National Center for Education Statistics). Ever-FARMS provides a more complete picture of socio-economic levels than whether a student is currently FARMS eligible as it accounts for minor changes in need over time, enrollment trends across grade levels, and concerns related to social stigma and reporting. *See "FARMS" for more information about the FARMS program.*

Equity: The fair treatment, access, opportunity, and advancement of all people or students, which recognizes and works to eliminate the barriers that have prevented the full participation of some groups. "The principle of equity acknowledges that there are historically underserved and underrepresented populations and that fairness regarding these unbalanced conditions is needed to assist equality in the provision of effective opportunities to all groups." (source: University of Houston).[1]

Equity Initiatives Unit: Housed within MCPS, the purpose of this unit "is to support, coach, consult, and collaborate with schools and offices to design and implement efforts to address equity and cultural competency." They work with MCPS employees to address the racial achievement gap in the school system. (Link: https://www.montgomeryschoolsmd.org/departments/clusteradmin/equity/whoweare.aspx)

FAA (Policy): Policy FAA is the Educational Facilities Planning policy of the Montgomery County Board of Education adopted in 1986. The policy seeks to establish standards and procedures for long range educational facilities planning, and to this day it governs the Board's planning and decision-making related to school facilities, including school construction, boundary changes, and assignment patterns. FAA establishes the four factors to be considered when developing facility and assignment recommendations, including school boundaries: demographic characteristics of the student population, geography, stability of school assignments over time, and facility utilization. (Note: No, FAA is not an acronym! All Board of Education policies are titled with a series of letters. Policy FAA falls under "Section F" of MCPS policies, "Facilities Development", subsection FA, "Facility Development Goals"). Policy FAA can be accessed online at: https://www.montgomeryschoolsmd.org/departments/policy/pdf/faa.pdf.

FAA-RA (Regulation): Policy FAA-RA established the processes to implement Policy FAA. This includes the development of the Capital Improvement Program (CIP), Educational Facilities Master Plan (EFP), and non-capital strategies including school site selection, boundaries, geographic student choice assignment plans, and school closures/consolidations. This policy offers guidelines for developing and considering both capital and non-capital strategies, as well as for the implementation of the four key considerations outlined in Policy FAA. Policy FAA-RA can be accessed online at: https://www.montgomeryschoolsmd.org/departments/policy/pdf/faara.pdf.

Facility Utilization: The total number of students divided by program capacity. Program capacity is calculated based on available seats, adjusted for optimal utilization. MCPS aims for schools to be utilized between 80-100% of school capacity.

FARMS: The Free and Reduced-price Meals System (FARMS) is a federal program to lower or waive the cost of cafeteria lunches in public schools. Students may qualify for free or reduced-price meals based on household size and income. They may also qualify if they are receiving Food Supplement Program or Temporary Cash Assistance benefits. Families must apply every year to determine if they are eligible for FARMS. A wide body of research has shown that FARMS is a good proxy measure for the concentration of low-income students within a school (see National Center for Education Statistics). The FARMS rate is the percentage of students in the county or a given school that are enrolled in FARMS, divided by total students.

Feeder school: A school that sends its students to another school for the next grade level (e.g., a middle school that feeds a high school by sending its eighth graders to the high school for ninth grade). Most schools "feed" 100 percent of their students to the same school. Those in which the population goes on to more than one school are shown in the profiles of each school.

Island Assignment: A geographically non-contiguous school attendance area (broken up into two or more parts). MCPS has drawn non-contiguous school service areas for a variety of

1 "Diversity, Equity, and Inclusion Terms." n.d. University of Houston Center for Diversity and Inclusion. https://www.uh.edu/cdi/diversity_education/resources/pdf/terms.pdf.

reasons over the course of its history.

KFI (Key Facility Indicator): KFI's are the components of school facilities that help to provide MCPS a summary of the facility's overall condition. KFI's allow MCPS to rate and benchmark the quality of schools' major infrastructural elements against industry standards. KFI's are one measure that informs the school system's capital planning process.

Middle School Magnet Consortium (MSMC): The Middle School Magnet Consortium (MSMC) is comprised of Argyle, A. Mario Loiederman, and Parkland middle schools. MSMC students entering middle school participate in a choice process to rank, in order of preference, their choice of middle school based on magnet program. Rising Grade 6 and 7 students from outside the consortium also may enter the lottery process. School assignments are made by using a computerized lottery process that considers sibling link, available space, and socioeconomic status.

Northeast Consortium (NEC): The Northeast Consortium (NEC) is comprised of James Hubert Blake, Paint Branch, and Springbrook high schools. NEC students entering high school participate in a choice process to rank, in order of preference, their choice of high school based on signature program. School assignments are made by using a computerized lottery process that considers base school, sibling link, available space, and socioeconomic status.

Paired schools: In some cases, MCPS has created paired schools to address shifting enrollment needs and better integrate communities at the elementary level. In paired schools, students attend both a primary (kindergarten-2nd grade) and secondary (3rd-5th grade) elementary school, allowing for adjustments to enrollment across more schools.

Proximity: This has to do with how close or far students live from school. Proximity is one of the key lenses in this report, and it corresponds to the consideration under Policy FAA of geography. Under this consideration, the BOE policy encourages a continued commitment to community schools, with an emphasis on students attending schools close to their place of residence.

Relocatable classrooms (commonly called portables): Mobile classrooms used as a short-term strategy by MCPS to accommodate overcrowding in schools, while necessary capital improvements are taking place.

Special Education (SPED) enrollment: The Special Education (SPED) enrollment is the percentage of students eligible for special education services, divided by the official total student enrollment.

Student/Instructional Staff Ratio: The Student/Instructional Staff Ratio is calculated by dividing the weighted enrollment, by the number of instructional staff. Weighted enrollment includes full-day kindergarten enrollment plus 1/2 times pre-K enrollment plus enrollment in Grades 1–12. Instructional staff is determined as all school-based instructional Full-time Equivalent positions (includes staff under the Teachers, Other Professional, and Instructional Support categories).

Split articulations: This refers to elementary or middle schools where not all students attend the same secondary school. 26 elementary and six middle schools in MCPS have split articulations.

Subdivision Staging Policy (SSP): The SSP is a policy put in place to ensure that public facilities and infrastructure in Montgomery County systems are keeping pace with county growth and development. The SSP assesses whether there is adequate public facilities present to support new residential subdivisions, including schools. The SSP calls for annual tests of school capacity and utilization. As a result of the annual school test, parts of the county may be placed on a development moratorium (or, a temporary halt on residential development) to prevent further school overcrowding. The SSP is updated every four years, with the next review and update due in 2020.

Title I: A federal funding program intended to address achievement gaps in schools with high economic needs. This funding goes toward supplemental academic programs and other services and support. Title I schools in MCPS receive technical assistance from an instructional specialist, additional teaching professionals/ paraeducators, the Extended Learning Opportunities Summer Adventures in Learning program (ELO-SAIL), and family involvement funds. Title I falls under the Elementary and Secondary Education Act (ESEA), amended by the Every Student Succeeds Act (ESSA) in 2015.

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8. Appendix

8.1 Appendix Introduction & Analysis

Data Analysis

8.1 Appendix
Introduction & Analysis

A. Data Analysis
Assignment Stability

8.1

A.

Appendix A1:
Boundary Changes, 1984 to Present

School Year of BOE Action	Scope: Cluster(s) Involved	School Level(s)	Schools Opened or Reopened (opening date)
1984–85	Gaithersburg	Elementary	Flower Hill ES (Sept. 1985)
	Seneca Valley	Elementary	Lake Seneca ES (Sept. 1985)
1985–86	Seneca Valley	Elementary	Clopper Mill ES (Sept. 1986)
	Seneca Valley	Elementary	Jones Lane ES (Sept. 1987)
			McAuliffe ES (Sept. 1987)
	Gaithersburg, Richard Montgomery, Seneca Valley, Wootton	High	Quince Orchard HS (Sept. 1988)
			Watkins Mill HS (Sept. 1989)
1987–88	Damascus	Elementary	Clearspring ES (Sept. 1988)
	Gaithersburg	Elementary	Goshen ES (Sept. 1988)
			Strawberry Knoll ES (Sept. 1988)
	Paint Branch	Elementary	Greencastle ES (Sept. 1988)
			Cloverly ES (Sept. 1989)
	Seneca Valley	Elementary	Waters Landing ES (Sept. 1988)
	Wootton	Elementary	Stone Mill ES (Sept. 1988)
1988–89	Kennedy, Magruder, Rockville, Sherwood, & Springbrook	Elementary, Middle, High	no schools opened
	Rockville, Sherwood	Middle and High	no schools opened
	Watkins Mill	Elementary	Daly ES (Sept. 1989)
	Churchill	Elementary and Middle	Cabin John MS (Sept. 1989)
	Damascus, Poolesville	Elementary, Middle, High	no schools opened
	Kennedy	Elementary	no schools opened
	Springbrook		Key MS (Sept. 1990)
		Elementary and Middle	Burnt Mills ES (Sept. 1990)
			Drew ES (Sept. 1991)

School Year of BOE Action	Scope: Cluster(s) Involved	School Level(s)	Schools Opened or Reopened (opening date)
1989–90	Paint Branch	Elementary, Middle	Briggs Chaney MS (Sept. 1990)
	Gaithersburg, Magruder	Elementary, Middle, High	no schools opened
	Gaithersburg, Wootton	Elementary, Middle, High	no schools opened
	Magruder	Elementary	Sequoyah ES (Sept. 1990)
	Seneca Valley	Elementary	McNair ES (Sept. 1990)
	Quince Orchard	Elementary	Carson ES (Sept. 1990)
	Sherwood	Elementary	Brooke Grove ES (Sept. 1990)
	Wheaton	Elementary	no schools opened
1990–91	Gaithersburg	Elementary	Resnik ES (Sept. 1991)
	Richard Montgomery	Elementary	no schools opened
	Churchill, Wootton	Elementary, Middle, High	no schools opened
	Springbrook	Elementary	no schools opened
1991–92	Watkins Mill	Elementary	no schools opened
	Seneca Valley	Elementary and Middle	Ride ES (Sept. 1992)
			Clemente MS (Sept. 1994)
	Damascus, Gaithersburg, Magruder	Elementary, Middle, High	no schools opened
	Seneca Valley		
	Damascus	Elementary	Rockwell ES (Sept. 1992)
	Magruder, Sherwood	Middle	Rosa Parks MS (Sept. 1992)
1992–93	Churchill, Wootton	Middle	no schools opened
	Kennedy	Middle	Argyle MS (Sept. 1993)
	Quince Orchard	Elementary	Marshall ES (Sept. 1993)
1993–94	Kennedy, Wheaton	Middle, High	no schools opened
1994–95	Damascus	Middle	Rocky Hill MS (Sept. 1995)
	Gaithersburg	Middle	Forest Oak MS (Sept. 1995 and
			relocated in Sept. 1999)
	Paint Branch	Elementary and Middle	no schools opened
	Sherwood	Elementary and Middle	no schools opened

School Year of BOE Action	Scope: Cluster(s) Involved	School Level(s)	Schools Opened or Reopened (opening date)
1995–96	Watkins Mill	Middle	Neelsville MS (Sept. 1996)
	Whitman	Elementary	no schools opened
	Blair, Takoma Park Unification Area	Elementary, Middle, High	no schools opened
	Damascus	Elementary	no schools opened
1996–97	Sherwood	Elementary, Middle, High	no schools opened
	Paint Branch, Sherwood, Springbrook	High—base areas	Blake HS (Sept. 1998) and
			Northeast Consortium
	Quince Orchard, Seneca Valley	Middle and High	Northwest HS (Sept. 1998)
			Kingsview MS (Sept. 1997)
	Walter Johnson	Middle	North Bethesda MS (Sept. 1999)
	Watkins Mill	Elementary	no schools opened
1997–98	Churhill, Wootton	Elementary, Middle, High	no schools opened
	Springbrook	Elementary	no schools opened
	Blair	Elementary and Middle	Silver Spring International MS (Sept. 1999)
			Sligo Creek ES (Sept. 1999)
1998–99	Northeast Consortium, Sherwood	Middle	no schools opened
	Magruder	Middle	Shady Grove MS (former Forest Oak MS
			reassigned to Magruder cluster, Sept. 1999)
1999–00	Richard Montgomery, Wootton	Elementary, Middle, High	no schools opened
	Einstein, Walter Johnson	Elementary, Middle, High	no schools opened
2000–01	Seneca Valley	Elementary	no schools opened
	Northwest	Elementary	Matsunaga ES (Sept. 2001)
2001–02	Einstein	Middle	Newport Mill MS (Sept. 2002)
	Quince Orchard	Elementary	no schools opened
2002–03	Gaithersburg	Elementary	no schools opened

School Year of BOE Action	Scope: Cluster(s) Involved	School Level(s)	Schools Opened or Reopened (opening date)
	Blair, Einstein, Kennedy, Wheaton	High—base areas	Northwood HS (Sept. 2004) and
			Downcounty Consortium
2003–04	Banneker MS & Briggs Chaney MS	Middle	no schools opened
2004–05	Viers Mill, Weller Road, Wheaton Woods	Elementary	Sargent Shriver ES (Aug. 2006)
	Kingsview MS & Ridgeview MS	Middle	Lakelands Park MS (Aug. 2005)
	Argyle MS, Belt MS, and Parkland MS	Middle	Middle School Magnet Consortium; single choice area and temporary boundaries for Belt MS in 2005–06 (Grades 7–8)
	Clarksburg ES & Cedar Grove ES	Elementary	Little Bennett ES (Aug. 2006)
2005–06	Burnt Mills ES & Cresthaven ES	Elementary	Roscoe R. Nix ES (Aug. 2006)
	Clopper Mill ES, Germantown ES, & Matsunaga ES	Elementary	Great Seneca Creek ES (Aug. 2006)
	Damascus, Seneca Valley, and Watkins Mill	High and Middle	Clarksburg HS (Aug. 2006)
2006–07	Glen Haven, Highland, Kemp Mill ESs	Elementary	Arcola ES (Aug. 2007)
	Briggs Chaney MS, Farquhar MS, Key MS, & White Oak MS (Hampshire Greens)	Middle	no schools opened
2007–08	None	None	no schools opened
2008–09	Bells Mill, Potomac, Seven Locks	Elementary & Middle	no schools opened
	Cabin John, Hoover		
	Cedar Grove, Clarksburg, Little Bennett	Elementary	William B. Gibbs ES (Aug. 2009)
2009–10	East Silver Spring ES, Takoma Park ES, Piney Branch ES, Sligo Creek ES, Takoma Park MS & Silver Spring International MS	Elementary & Middle	no schools opened

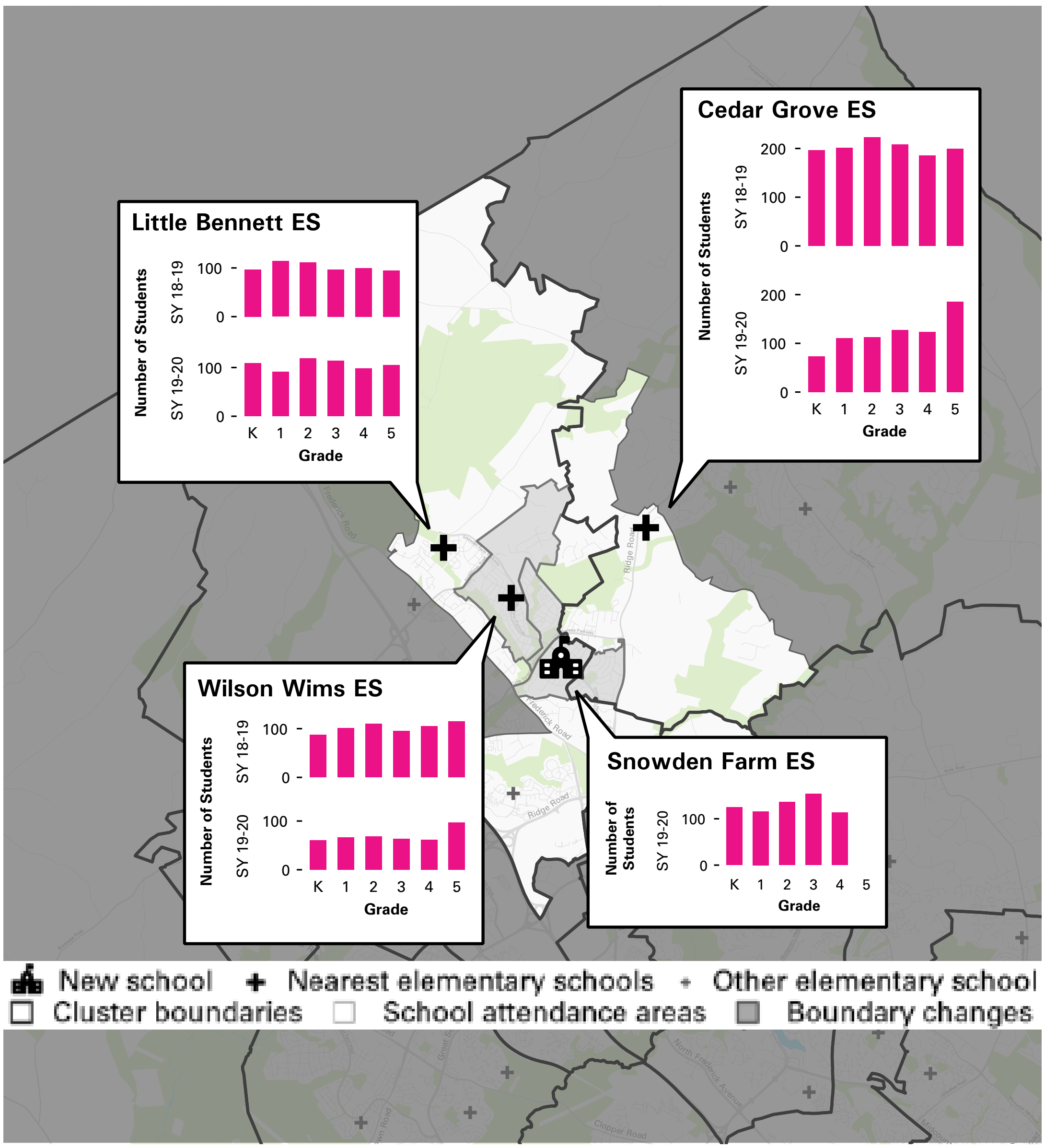
School Year of BOE Action	Scope: Cluster(s) Involved	School Level(s)	Schools Opened or Reopened (opening date)
	Baker MS and Rocky Hill MS	Middle	no schools opened
	reassignment of Rockwell ES		
	Bethesda ES & Bradley Hill ES	Elementary	no schools opened
	Oakland Terrace K @ Sligo MS	Elementary	no schools opened
	2010–11 and 2011–12 years		
2010–11	None	None	no schools opened
2011–12	Oakland Terrace ES	Elementary/ Middle	Flora M. Singer ES (Aug 2012)
	Bethesda ES, Chevy Chase ES, N orth Chevy Chase ES, & Rosemary Hills ES	Elementary	no schools opened
	Maryvale ES/ Carl Sandburg LC Roundtable Study	Collocation study	Implement collocation at Maryvale ES (Sept. 2020)
2012–13	None	None	no schools opened
2013–14	Clarksburg Cluster	Elementary	Wilson Wims ES (Aug. 2014)
	Bethesda–Chevy Chase Cluster	Elementary	no schools opened
	(Naval Support Activity Bethesda)		
2014–15	None	None	no schools opened
2015–16	Clarksburg, Damascus	Middle	Hallie Wells MS (Aug 2016)
2016–17	Bethesda-Chevy Chase	Middle	Silver Creek MS (Sept. 2017)
	Gaithersburg & Sherwood	Elementary, Middle, & High	Reassign Unity Area from Gaithersburg Cluster to Sherwood Cluster
	Highland ES, Newport MS & Sligo MS	Middle	Reassign portion of Highland ES from Sligo MS to Newport Mill MS
2017–18	Beall ES, College Gardens ES, & Ritchie Park ES	Elementary	Bayard Rustin ES (Sept. 2018)
2018–19	Clarksburg	Elementary	Snowden Farm ES (Sept. 2019)

School Year of BOE Action	Scope: Cluster(s) Involved	School Level(s)	Schools Opened or Reopened (opening date)
2019–20*	Forest Knolls ES, Montgomery Knolls ES, & Pine Crest ES	Elementary	no schools opened (capacity added at Montgomery Knolls ES and Pine Crest ES) Sept. 2020
	Clarksburg, Northwest, & Seneca Valley	Middle & High	no schools opened (capacity added at Seneca Valley HS) Sept. 2020
*Board action on November 26, 2019			

Data source: MCPS Office of Shared Accountability

Appendix A2:
An Example Boundary Change

Finally, we examine an example boundary change to better understand the local effects of boundary changes. The figure below indicates the change in students by grade level at Little Bennett ES, Wilson Wims ES, and Cedar Grove ES as a result of the opening of Snowden Farm ES for the 2019-20 school year.
Most students relocated to Snowden Farm ES previously had Cedar Grove ES as their base school. We notice this shift when comparing the number of students in grades K-4 at Cedar Grove ES in school year 2019-20, the year Snowden Farm was



opened, compared to in school year 2018-19. In addition, students at Wilson Wims ES (which itself opened since 2010) were reassigned to Snowden Farm ES. We see a drop in enrollment at Wilson Wims between school years 2018-19 and 2019-20. At both Wilson Wims ES and Cedar Grove ES, we notice the effect of grandfathering policies: both schools have large 5th grade classes in comparison to grades K-4.

8.1 Appendix
Introduction & Analysis

B. Data Analysis
Utilization

These analyses of utilization reveal several initial insights about the current conditions of school boundaries and facilities in MCPS, which have been highlighted over the course of the chapter.

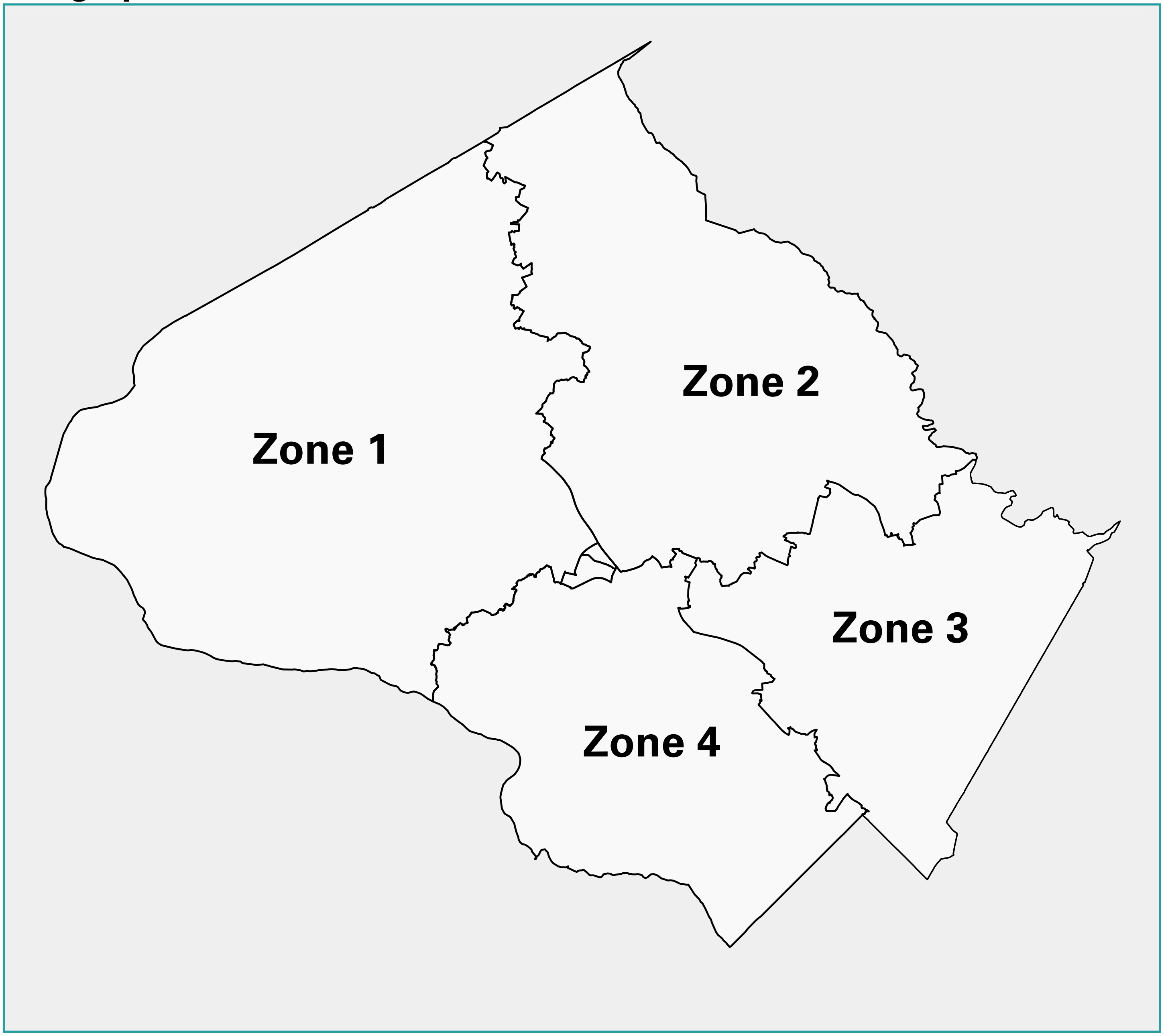
8.1

B.

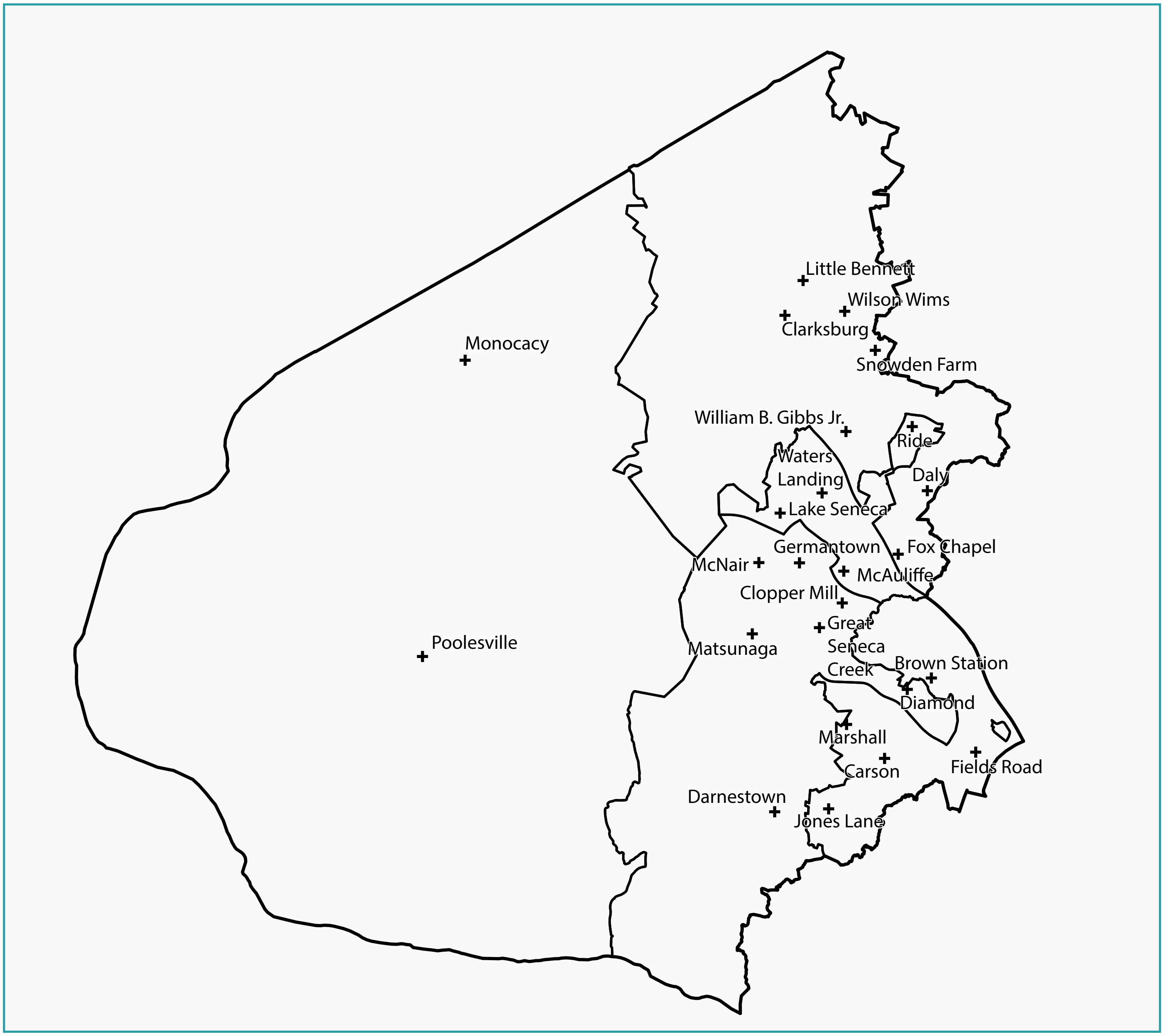
8.1

B.

Appendix B1:
Geographic Zones



Map of zones


Little Bennett
Wilson Wims
Clarksburg
Snowden Farm
Monocacy
William B. Gibbs Jr.
Ride
Waters Landing
Daly
Lake Seneca
Germantown
Fox Chapel
McNair
McAuliffe
Clopper Mill
Great Seneca Creek
Poolesville
Matsunaga
Brown Station
Diamond
Marshall
Carson
Fields Road
Darnestown
Jones Lane

Zone 1


Damascus
Clearspring
Rockwell
Woodfield
Cedar Grove
Laytonsville
Goshen
Stedwick
Whetstone
Resnik
Belmont
Watkins Mill
Strawberry Knoll
Greenwood
Flower Hill
South Lake
Brook Grove
Mill Creek
Towne
Gaithersburg
Sequoyah
Olney
Sherwood
Washington
Grove
Cashell
Summit Hall
Candlewood
Rosemont

Zone 2


Cloverly
Burtonsville
Stonegate
Flower Valley
Barnsley
Drew
Fairland
Maryvale
Strathmore
Brookhaven
Meadow Hall
Bel Pre
Rock Creek Valley
Harmony Hills
Georgian Forest
Westover
Page
Greencastle
Wheaton Woods
Weller Road
Cannon Road
Galway
Sargent Shriver
Glenallan
Highland
Jackson Road
Viers Mill
Arcola
Kemp Mill
Burnt Mills
Rock View
Forest Knolls
Oakland Terrace
Glen Haven
Cresthaven
Singer
Pine Crest
Roscoe Nix
JoAnn Leleck at Broad Acres
Woodlin
Highland View
Montgomery Knolls
Sligo Creek
New Hampshire Estates
East Silver Spring
Oak View
Rolling Terrace
Takoma Park
Piney Branch
Zone 3


College Gardens
DuFief
Stone Mill
Lakewood
Travilah
Beall
Fallsmead
Bayard Rustin
Twinbrook
Cold Spring
Ritchie Park
Farmland
Luxmanor
Wayside
Beverly
Farms
Bells Mill
Garrett Park
Potomac
Ashburton
Kensington-
Parkwood
Seven Locks
Wyngate
North Chevy
Chase
Rosemary
Hills
Bradley Hills
Burning Tree
Bethesda
Rock
Creek
Forest
Carderock
Springs
Bannockburn
Chevy
Chase
Somerset
Wood
Acres
Westbrook

Zone 4

Appendix B2:
Utilization Rate for all Schools, 2019-2020

Cluster	School	School Type	Enrollment (2019-2020)	Capacity (2019-2020)	Utilization Rate (2019-2020)
Bethesda-Chevy Chase	Bethesda	ES	666	560	118.93%
Bethesda-Chevy Chase	Chevy Chase	ES	466	473	98.52%
Bethesda-Chevy Chase	Somerset	ES	582	515	113.01%
Bethesda-Chevy Chase	Westbrook	ES	341	547	62.34%
Bethesda-Chevy Chase	North Chevy Chase	ES	259	358	72.35%
Bethesda-Chevy Chase	Rock Creek Forest	ES	760	667	113.94%
Bethesda-Chevy Chase	Rosemary Hills	ES	570	628	90.76%
Bethesda-Chevy Chase	Westland	MS	808	1,105	73.12%
Bethesda-Chevy Chase	Silver Creek	MS	887	935	94.87%
Bethesda-Chevy Chase	Bethesda-Chevy Chase	HS	2,259	2,457	91.94%
Clarksburg	Clarksburg	ES	624	311	200.64%
Clarksburg	Fox Chapel	ES	613	683	89.75%
Clarksburg	Daly	ES	618	523	118.16%
Clarksburg	Little Bennett	ES	637	624	102.08%
Clarksburg	William B. Gibbs Jr.	ES	621	719	86.37%
Clarksburg	Wilson Wims	ES	768	739	103.92%
Clarksburg	Snowden Farm	ES	644	774	83.20%
Clarksburg	Neelsville	MS	945	956	98.85%
Clarksburg	Rocky Hill	MS	883	1,020	86.57%
Clarksburg	Clarksburg	HS	2,472	2,034	121.53%
Col. Zadok Magruder	Candlewood	ES	387	515	75.15%
Col. Zadok Magruder	Cashell	ES	343	339	101.18%
Col. Zadok Magruder	Resnik	ES	602	493	122.11%
Col. Zadok Magruder	Flower Hill	ES	458	493	92.90%
Col. Zadok Magruder	Mill Creek Towne	ES	507	336	150.89%
Col. Zadok Magruder	Sequoyah	ES	376	508	74.02%
Col. Zadok Magruder	Shady Grove	MS	575	854	67.33%
Col. Zadok Magruder	Redland	MS	635	765	83.01%
Col. Zadok Magruder	Magruder	HS	1,700	1,941	87.58%
Damascus	Rockwell	ES	454	530	85.66%
Damascus	Damascus	ES	362	355	101.97%
Damascus	Cedar Grove	ES	418	402	103.98%
Damascus	Woodfield	ES	355	381	93.18%
Damascus	Clearspring	ES	589	642	91.74%
Damascus	Hallie Wells	MS	873	982	88.90%
Damascus	Baker	MS	830	741	112.01%

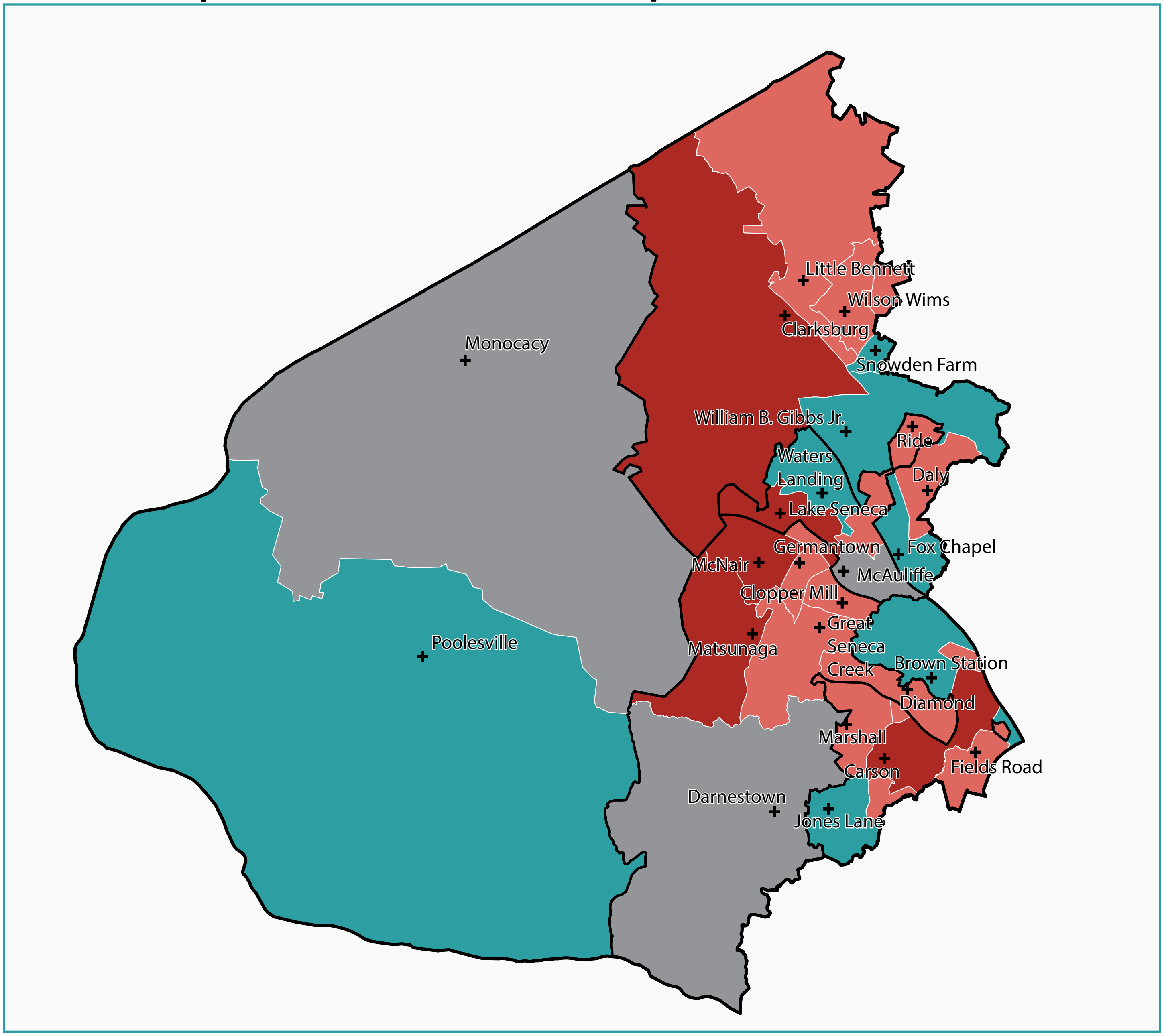
Cluster	School	School Type	Enrollment (2019-2020)	Capacity (2019-2020)	Utilization Rate (2019-2020)
Damascus	Damascus	HS	1,354	1,543	87.75%
Downcounty Consortium	Sligo Creek	ES	680	664	102.41%
Downcounty Consortium	Piney Branch	ES	650	611	106.38%
Downcounty Consortium	Takoma Park	ES	613	629	97.46%
Downcounty Consortium	East Silver Spring	ES	498	577	86.31%
Downcounty Consortium	Pine Crest	ES	413	404	102.23%
Downcounty Consortium	Woodlin	ES	554	489	113.29%
Downcounty Consortium	Oak View	ES	423	335	126.27%
Downcounty Consortium	Glen Haven	ES	510	556	91.73%
Downcounty Consortium	Oakland Terrace	ES	531	487	109.03%
Downcounty Consortium	Singer	ES	683	680	100.44%
Downcounty Consortium	Rolling Terrace	ES	775	729	106.31%
Downcounty Consortium	Viers Mill	ES	582	743	78.33%
Downcounty Consortium	Highland	ES	555	540	102.78%
Downcounty Consortium	Montgomery Knolls	ES	470	537	87.52%
Downcounty Consortium	Weller Road	ES	747	772	96.76%
Downcounty Consortium	Sargent Shriver	ES	744	660	112.73%
Downcounty Consortium	Bel Pre	ES	613	640	95.78%
Downcounty Consortium	Highland View	ES	434	288	150.69%
Downcounty Consortium	Georgian Forest	ES	626	670	93.43%
Downcounty Consortium	Wheaton Woods	ES	504	766	65.80%
Downcounty Consortium	Arcola	ES	749	651	115.05%
Downcounty Consortium	New Hampshire Estates	ES	482	493	97.77%
Downcounty Consortium	Rock View	ES	655	636	102.99%
Downcounty Consortium	Harmony Hills	ES	745	709	105.08%
Downcounty Consortium	Forest Knolls	ES	755	529	142.72%
Downcounty Consortium	Kemp Mill	ES	486	458	106.11%
Downcounty Consortium	Brookhaven	ES	467	470	99.36%
Downcounty Consortium	Glenallan	ES	747	747	100.00%
Downcounty Consortium	Strathmore	ES	483	439	110.02%
Downcounty Consortium	Silver Spring International	MS	1,153	1,107	104.16%
Downcounty Consortium	Takoma Park	MS	1,162	939	123.75%
Downcounty Consortium	Eastern	MS	1,010	1,012	99.80%
Downcounty Consortium	Sligo	MS	722	941	76.73%
Downcounty Consortium	Loiederman	MS	999	871	114.70%
Downcounty Consortium	Newport Mill	MS	702	850	82.59%
Downcounty Consortium	Parkland	MS	1,142	948	120.46%
Downcounty Consortium	Lee	MS	771	727	106.05%
Downcounty Consortium	Argyle	MS	1,024	897	114.16%
Downcounty Consortium	Blair	HS	3,227	2,889	111.70%

Cluster	School	School Type	Enrollment (2019-2020)	Capacity (2019-2020)	Utilization Rate (2019-2020)
Downcounty Consortium	Wheaton	HS	2,193	2,234	98.16%
Downcounty Consortium	Einstein	HS	1,820	1,629	111.72%
Downcounty Consortium	Northwood	HS	1,808	1,508	119.89%
Downcounty Consortium	Kennedy	HS	1,830	1,794	102.01%
Gaithersburg	Laytonsville	ES	392	447	87.70%
Gaithersburg	Goshen	ES	571	594	96.13%
Gaithersburg	Washington Grove	ES	462	613	75.37%
Gaithersburg	Gaithersburg	ES	866	737	117.50%
Gaithersburg	Rosemont	ES	647	568	113.91%
Gaithersburg	Summit Hall	ES	702	457	153.61%
Gaithersburg	Strawberry Knoll	ES	651	459	141.83%
Gaithersburg	Forest Oak	MS	950	955	99.48%
Gaithersburg	Gaithersburg	MS	877	1,009	86.92%
Gaithersburg	Gaithersburg	HS	2,412	2,443	98.73%
Northeast Consortium	Burtonsville	ES	605	493	122.72%
Northeast Consortium	Fairland	ES	596	648	91.98%
Northeast Consortium	JoAnn Leleck	ES	874	715	122.24%
Northeast Consortium	Jackson Road	ES	732	699	104.72%
Northeast Consortium	Roscoe Nix	ES	483	503	96.02%
Northeast Consortium	Cloverly	ES	511	461	110.85%
Northeast Consortium	Burnt Mills	ES	579	392	147.70%
Northeast Consortium	Cannon Road	ES	412	518	79.54%
Northeast Consortium	Page	ES	615	392	156.89%
Northeast Consortium	Galway	ES	763	744	102.55%
Northeast Consortium	Stonegate	ES	501	385	130.13%
Northeast Consortium	Greencastle	ES	721	591	122.00%
Northeast Consortium	Westover	ES	316	266	118.80%
Northeast Consortium	Drew	ES	498	496	100.40%
Northeast Consortium	Cresthaven	ES	505	454	111.23%
Northeast Consortium	Key	MS	1,004	960	104.58%
Northeast Consortium	Banneker	MS	905	824	109.83%
Northeast Consortium	Briggs Chaney	MS	937	926	101.19%
Northeast Consortium	Farquhar	MS	694	784	88.52%
Northeast Consortium	White Oak	MS	845	992	85.18%
Northeast Consortium	Paint Branch	HS	1,997	2,020	98.86%
Northeast Consortium	Blake	HS	1,795	1,743	102.98%
Northeast Consortium	Springbrook	HS	1,748	2,135	81.87%
Northwest	Clopper Mill	ES	539	496	108.67%
Northwest	Germantown	ES	325	304	106.91%
Northwest	McNair	ES	828	626	132.27%
Northwest	Great Seneca Creek	ES	594	556	106.83%

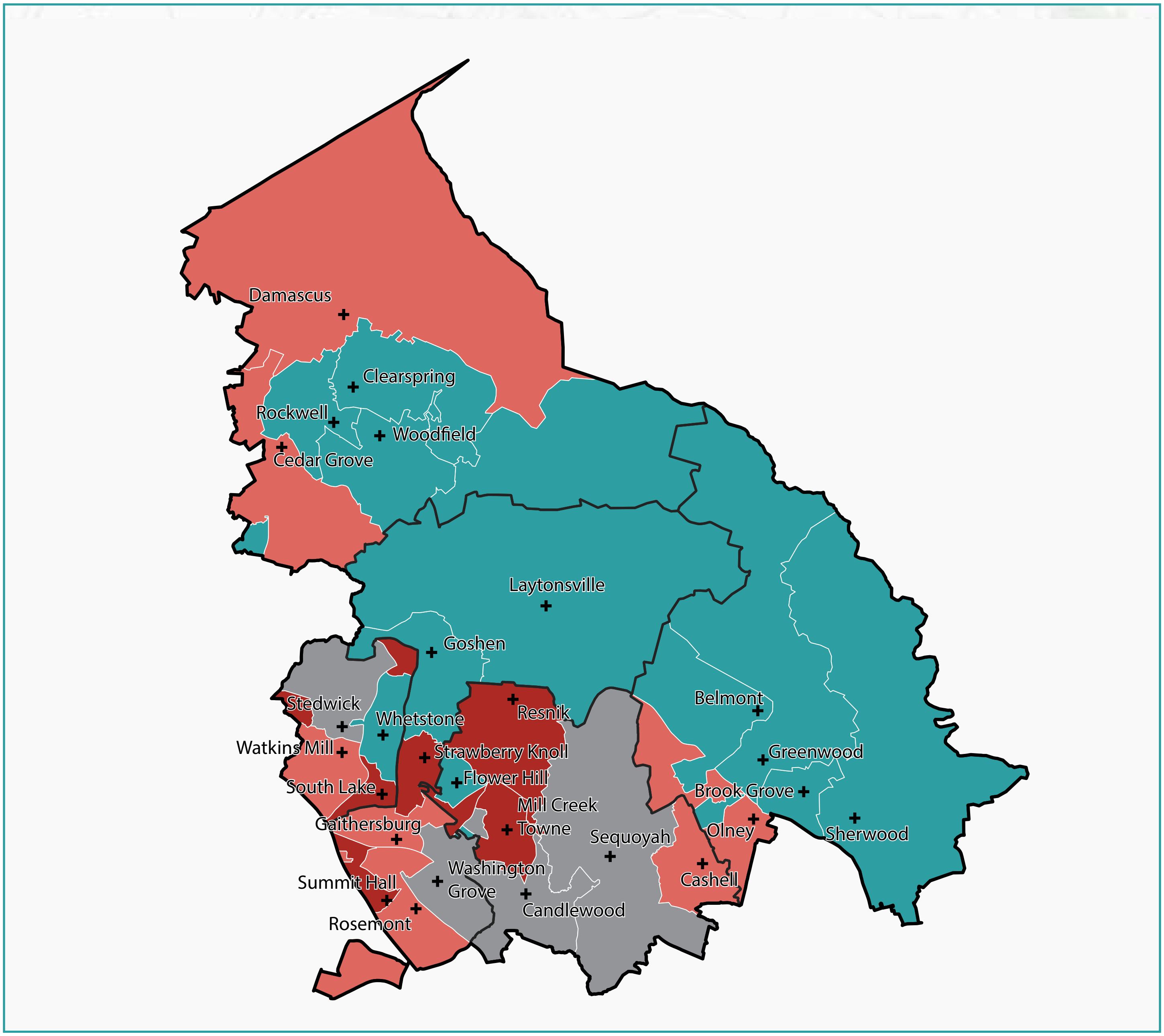
Cluster	School	School Type	Enrollment (2019-2020)	Capacity (2019-2020)	Utilization Rate (2019-2020)
Northwest	Darnestown	ES	323	432	74.77%
Northwest	Matsunaga	ES	710	584	121.58%
Northwest	Diamond	ES	792	679	116.64%
Northwest	Kingsview	MS	983	1,041	94.43%
Northwest	Northwest	HS	2,624	2,286	114.79%
Poolesville	Poolesville	ES	489	539	90.72%
Poolesville	Monocacy	ES	151	219	68.95%
Poolesville	Poole	MS	390	468	83.33%
Poolesville	Poolesville	HS	1,207	1,170	103.16%
Quince Orchard	Carson	ES	893	692	129.05%
Quince Orchard	Marshall	ES	622	552	112.68%
Quince Orchard	Jones Lane	ES	442	516	85.66%
Quince Orchard	Brown Station	ES	637	761	83.71%
Quince Orchard	Fields Road	ES	487	435	111.95%
Quince Orchard	Ridgeview	MS	784	955	82.09%
Quince Orchard	Lakelands Park	MS	1,200	1,130	106.19%
Quince Orchard	Quince Orchard	HS	2,160	1,791	120.60%
Richard Montgomery	Twinbrook	ES	558	548	101.82%
Richard Montgomery	Beall	ES	531	639	83.10%
Richard Montgomery	Ritchie Park	ES	401	388	103.35%
Richard Montgomery	College Gardens	ES	634	678	93.51%
Richard Montgomery	Bayard Rustin	ES	719	744	96.64%
Richard Montgomery	West	MS	1,382	1,432	96.51%
Richard Montgomery	Montgomery	HS	2,507	2,241	111.87%
Rockville	Maryvale	ES	625	626	99.84%
Rockville	Meadow Hall	ES	409	375	109.07%
Rockville	Barnsley	ES	737	652	113.04%
Rockville	Flower Valley	ES	499	416	119.95%
Rockville	Rock Creek Valley	ES	436	460	94.78%
Rockville	Wood	MS	994	944	105.30%
Rockville	Rockville	HS	1,442	1,535	93.94%
Seneca Valley	Lake Seneca	ES	514	425	120.94%
Seneca Valley	Waters Landing	ES	659	776	84.92%
Seneca Valley	McAuliffe	ES	554	771	71.85%
Seneca Valley	Ride	ES	502	467	107.49%
Seneca Valley	King	MS	764	914	83.59%
Seneca Valley	Clemente	MS	1,289	1,231	104.71%
Seneca Valley	Seneca Valley	HS	1,232	1,330	92.63%
Sherwood	Sherwood	ES	524	529	99.05%
Sherwood	Olney	ES	683	606	112.71%
Sherwood	Greenwood	ES	521	584	89.21%
Sherwood	Belmont	ES	348	425	81.88%

Cluster	School	School Type	Enrollment (2019-2020)	Capacity (2019-2020)	Utilization Rate (2019-2020)
Sherwood	Brooke Grove	ES	464	518	89.58%
Sherwood	Parks	MS	868	961	90.32%
Sherwood	Sherwood	HS	1,965	2,171	90.51%
Thomas S. Wootton	Lakewood	ES	461	556	82.91%
Thomas S. Wootton	Travilah	ES	341	526	64.83%
Thomas S. Wootton	Fallsmead	ES	565	551	102.54%
Thomas S. Wootton	Cold Spring	ES	332	458	72.49%
Thomas S. Wootton	DuFief	ES	316	427	74.00%
Thomas S. Wootton	Stone Mill	ES	588	694	84.73%
Thomas S. Wootton	Frost	MS	1,029	1,084	94.93%
Thomas S. Wootton	Wootton	HS	2,116	2,142	98.79%
Walt Whitman	Bradley Hills	ES	566	663	85.37%
Walt Whitman	Wood Acres	ES	649	725	89.52%
Walt Whitman	Burning Tree	ES	470	378	124.34%
Walt Whitman	Bannockburn	ES	461	364	126.65%
Walt Whitman	Carderock Springs	ES	366	406	90.15%
Walt Whitman	Pyle	MS	1,534	1,285	119.38%
Walt Whitman	Whitman	HS	2,040	1,857	109.85%
Walter Johnson	Garrett Park	ES	802	776	103.35%
Walter Johnson	Farmland	ES	856	714	119.89%
Walter Johnson	Luxmanor	ES	678	409	165.77%
Walter Johnson	Wyngate	ES	742	776	95.62%
Walter Johnson	Ashburton	ES	923	789	116.98%
Walter Johnson	Kensington-Parkwood	ES	643	757	84.94%
Walter Johnson	Tilden	MS	990	1,001	98.90%
Walter Johnson	North Bethesda	MS	1,233	1,233	100.00%
Walter Johnson	Johnson	HS	2,748	2,321	118.40%
Watkins Mill	Whetstone	ES	742	750	98.93%
Watkins Mill	Watkins Mill	ES	731	641	114.04%
Watkins Mill	South Lake	ES	897	694	129.25%
Watkins Mill	Stedwick	ES	538	688	78.20%
Watkins Mill	Montgomery Village	MS	791	865	91.45%
Watkins Mill	Watkins Mill	HS	1,597	1,947	82.02%
Winston Churchill	Beverly Farms	ES	585	689	84.91%
Winston Churchill	Wayside	ES	500	648	77.16%
Winston Churchill	Potomac	ES	376	425	88.47%
Winston Churchill	Seven Locks	ES	425	424	100.24%
Winston Churchill	Bells Mill	ES	642	626	102.56%
Winston Churchill	Hoover	MS	1,045	1,139	91.75%
Winston Churchill	Cabin John	MS	1,040	1,057	98.39%
Winston Churchill	Churchill	HS	2,275	1,986	114.55%

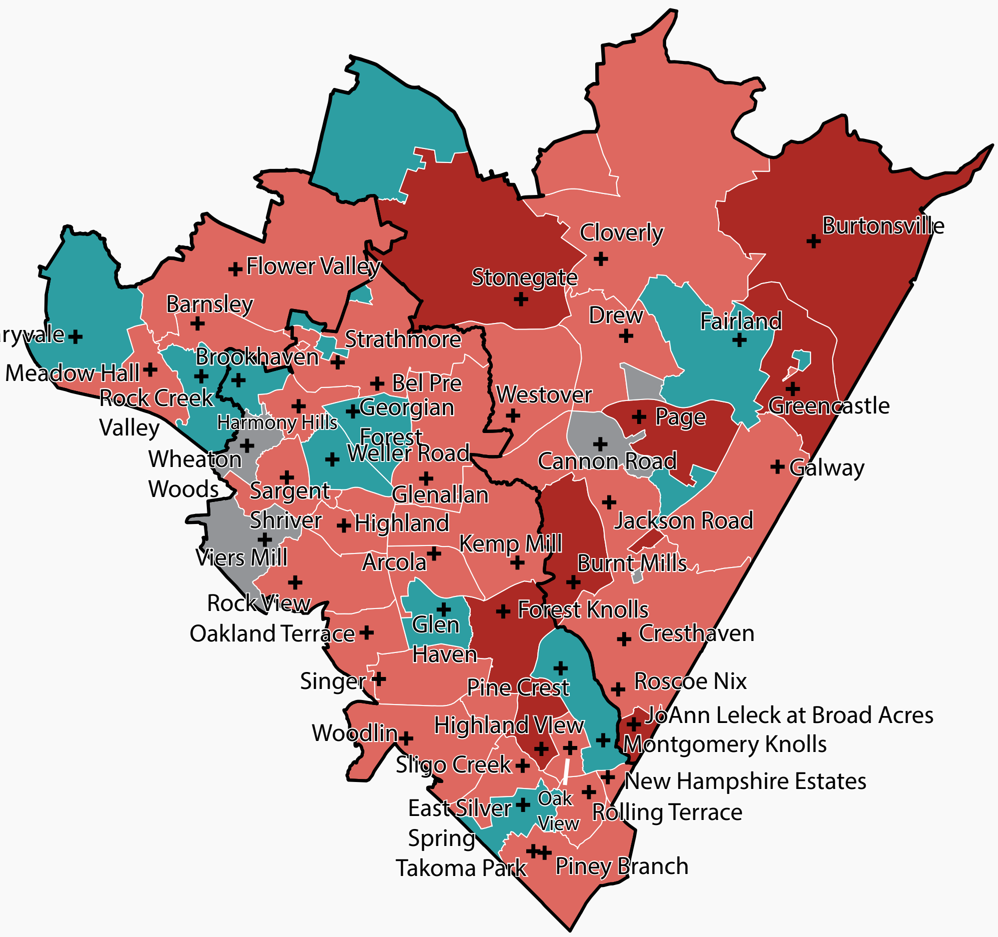
Appendix B3:
Detailed Maps of Utilization (Elementary Schools)



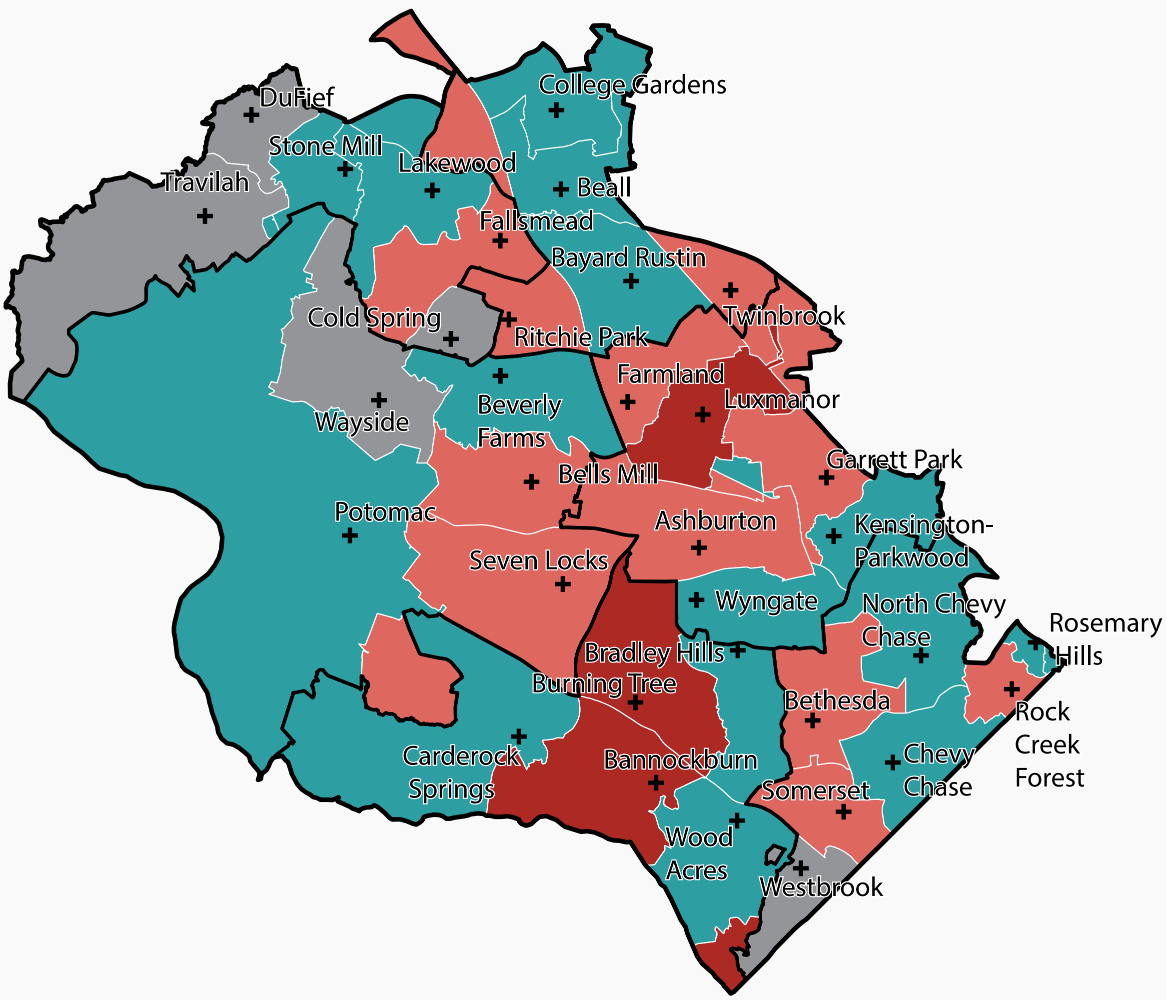
Zone 1: Elementary school utilization rates



Zone 2: Elementary school utilization rates

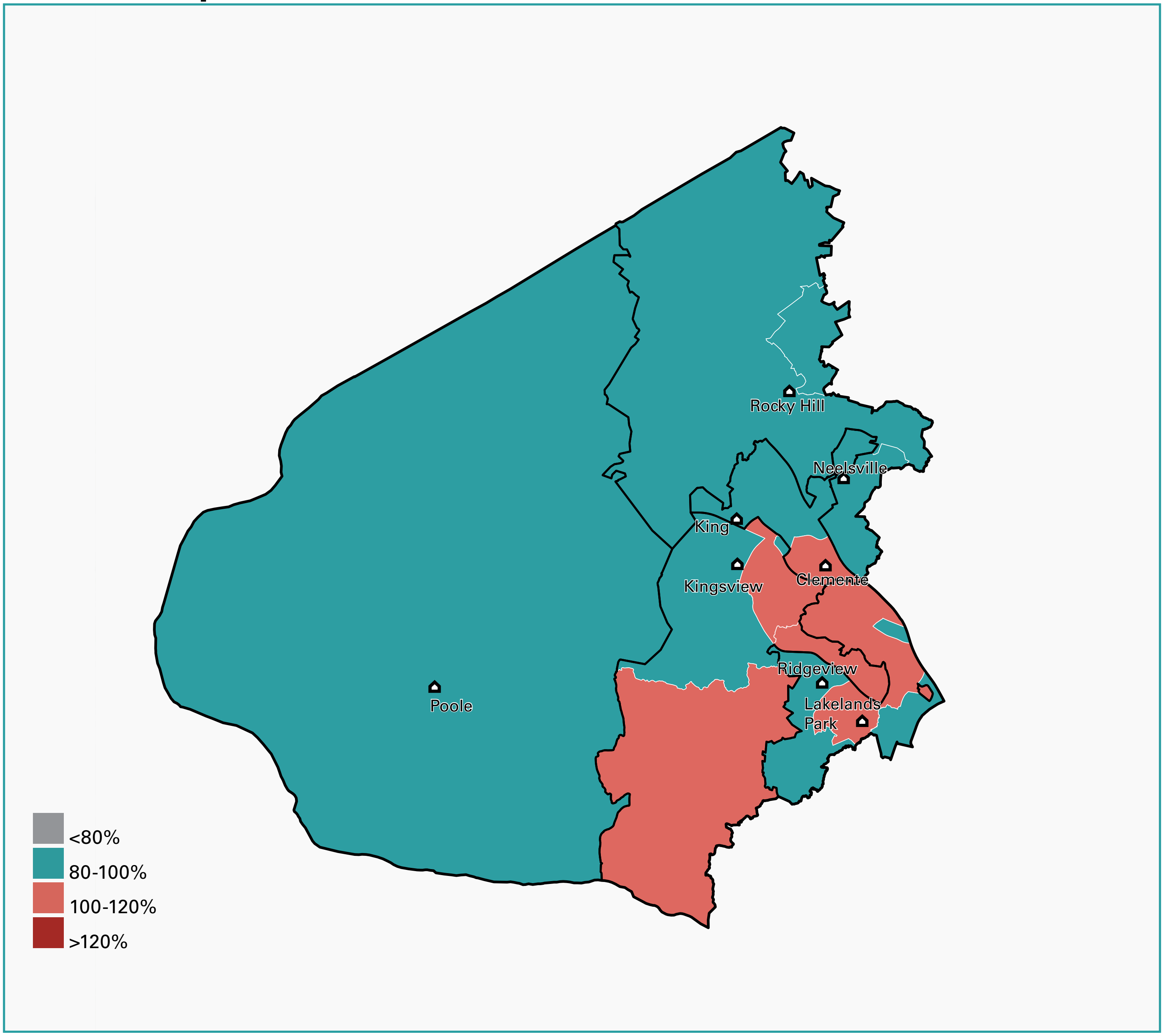


Zone 3: Elementary school utilization rates

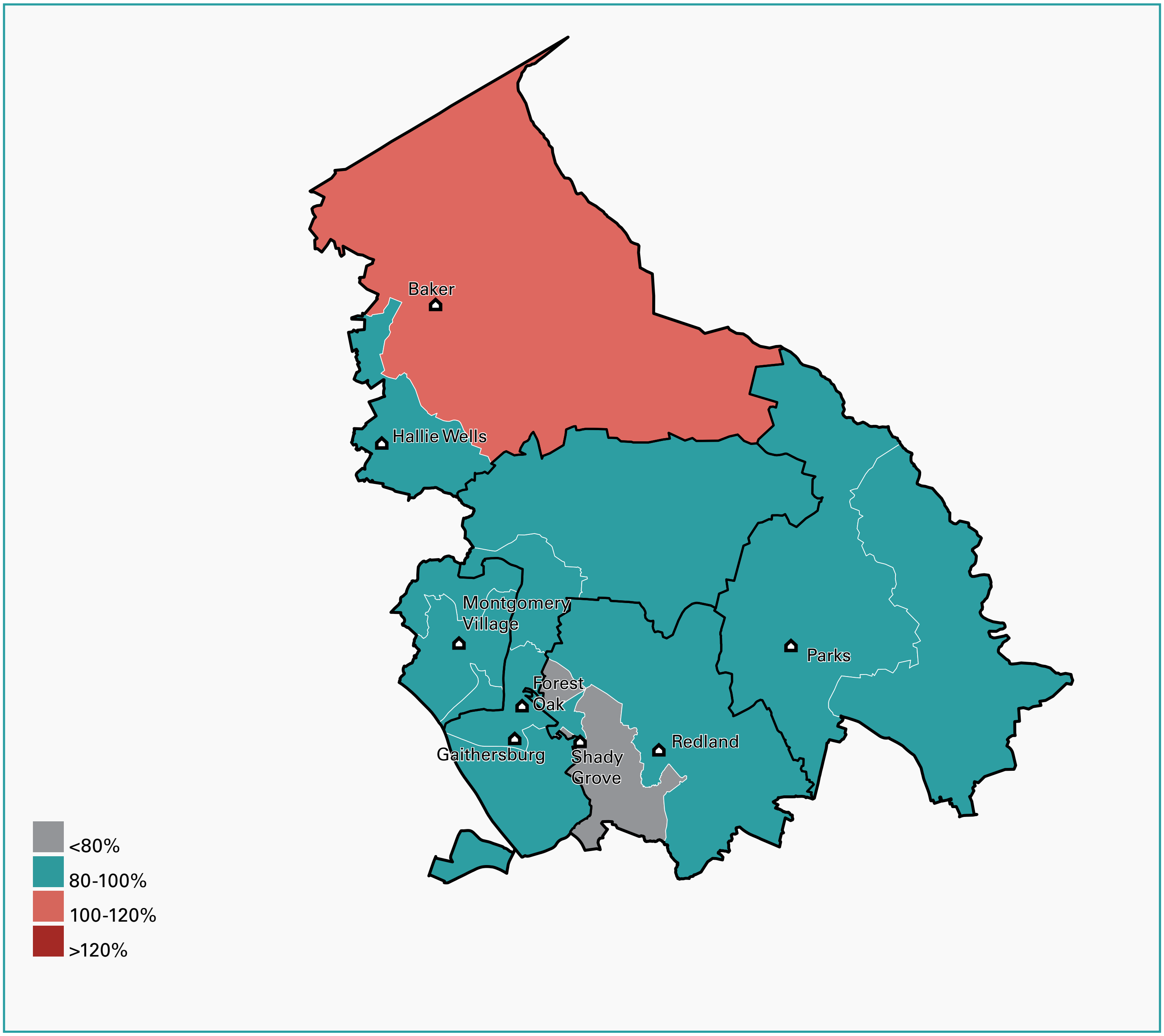


Zone 4: Elementary school utilization rates

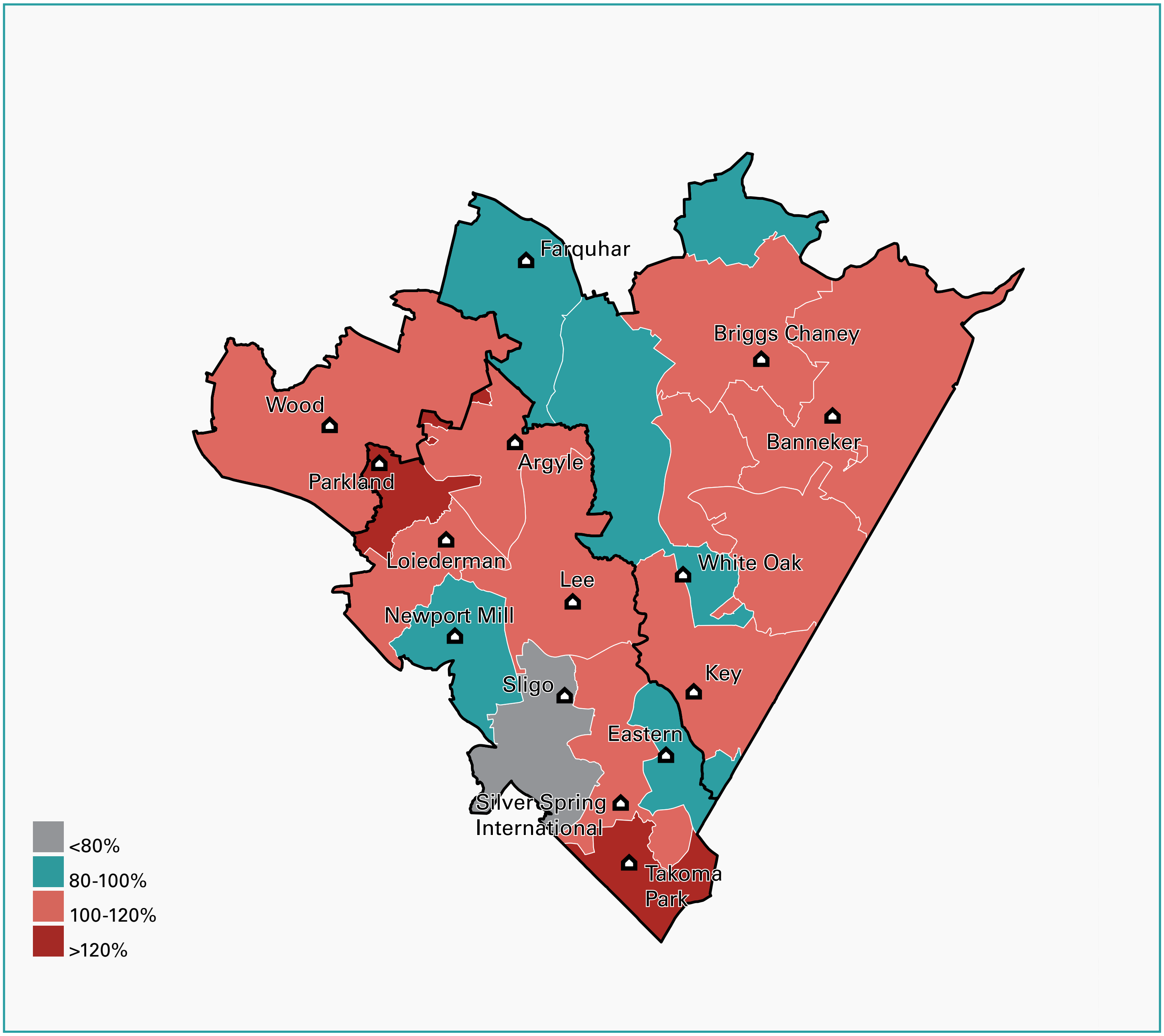
Appendix B4:
Detailed Maps of Utilization (Middle Schools)



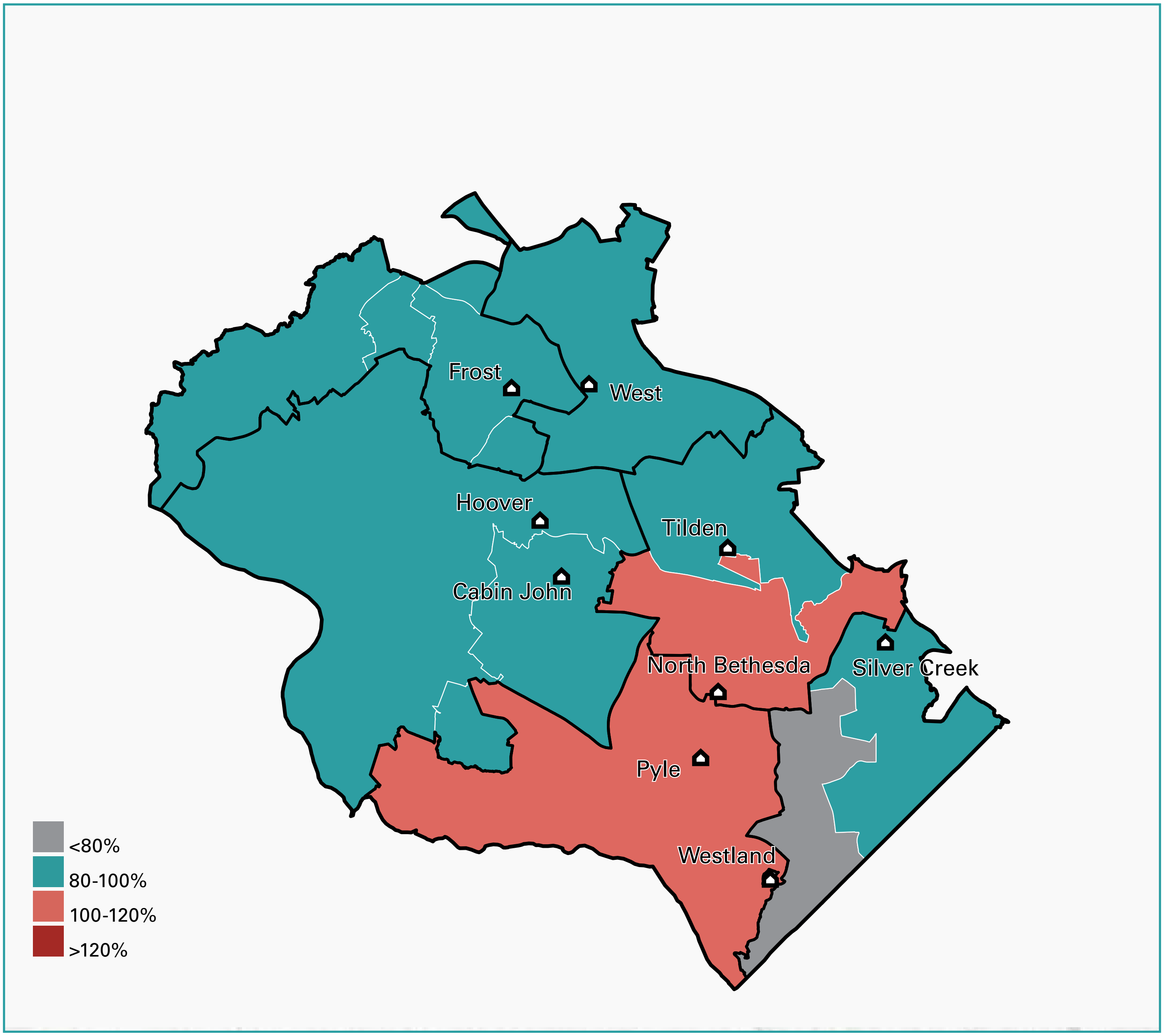
Zone 1: Middle school utilization rates



Zone 2: Middle school utilization rates

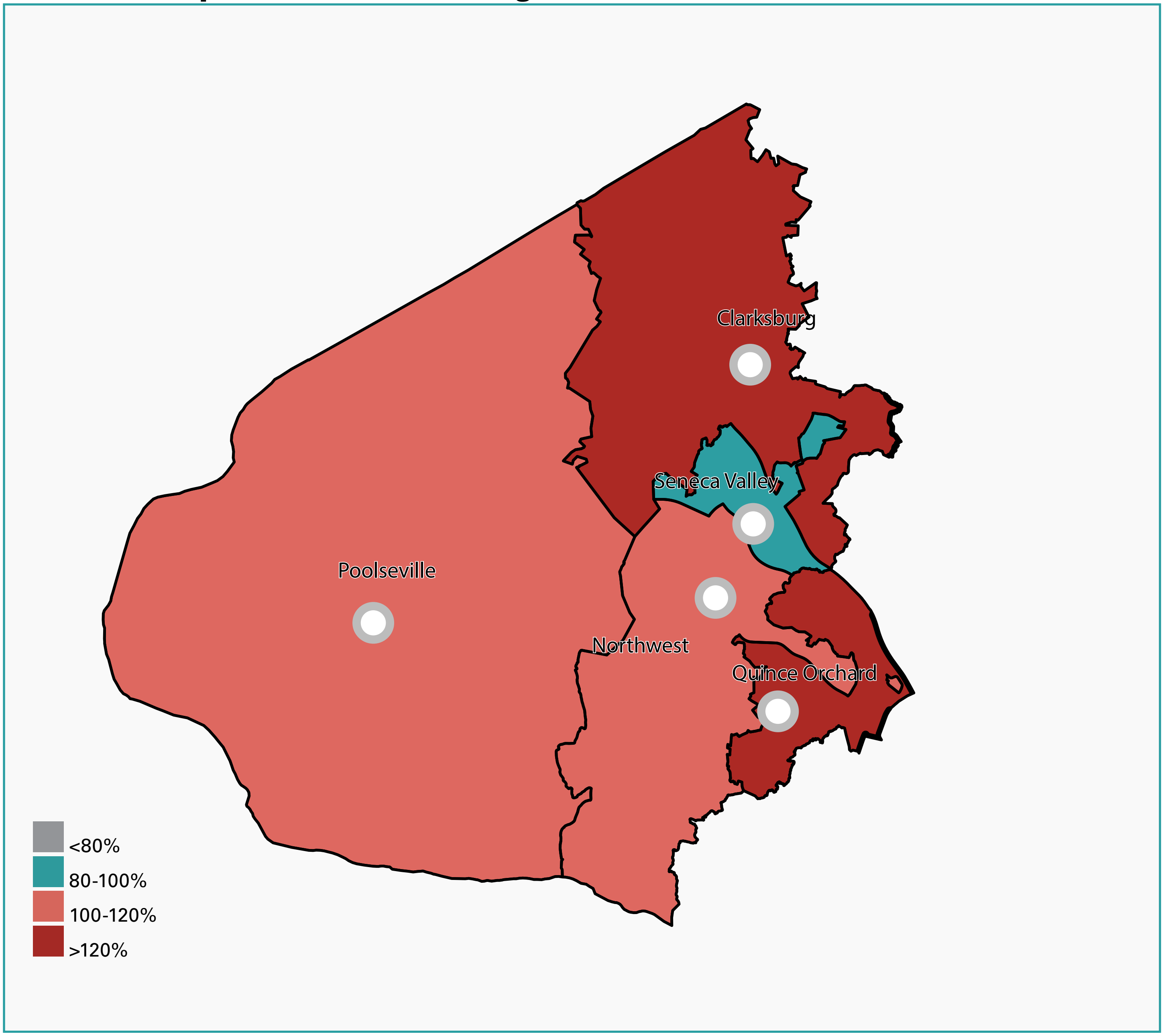


Zone 3: Middle school utilization rates

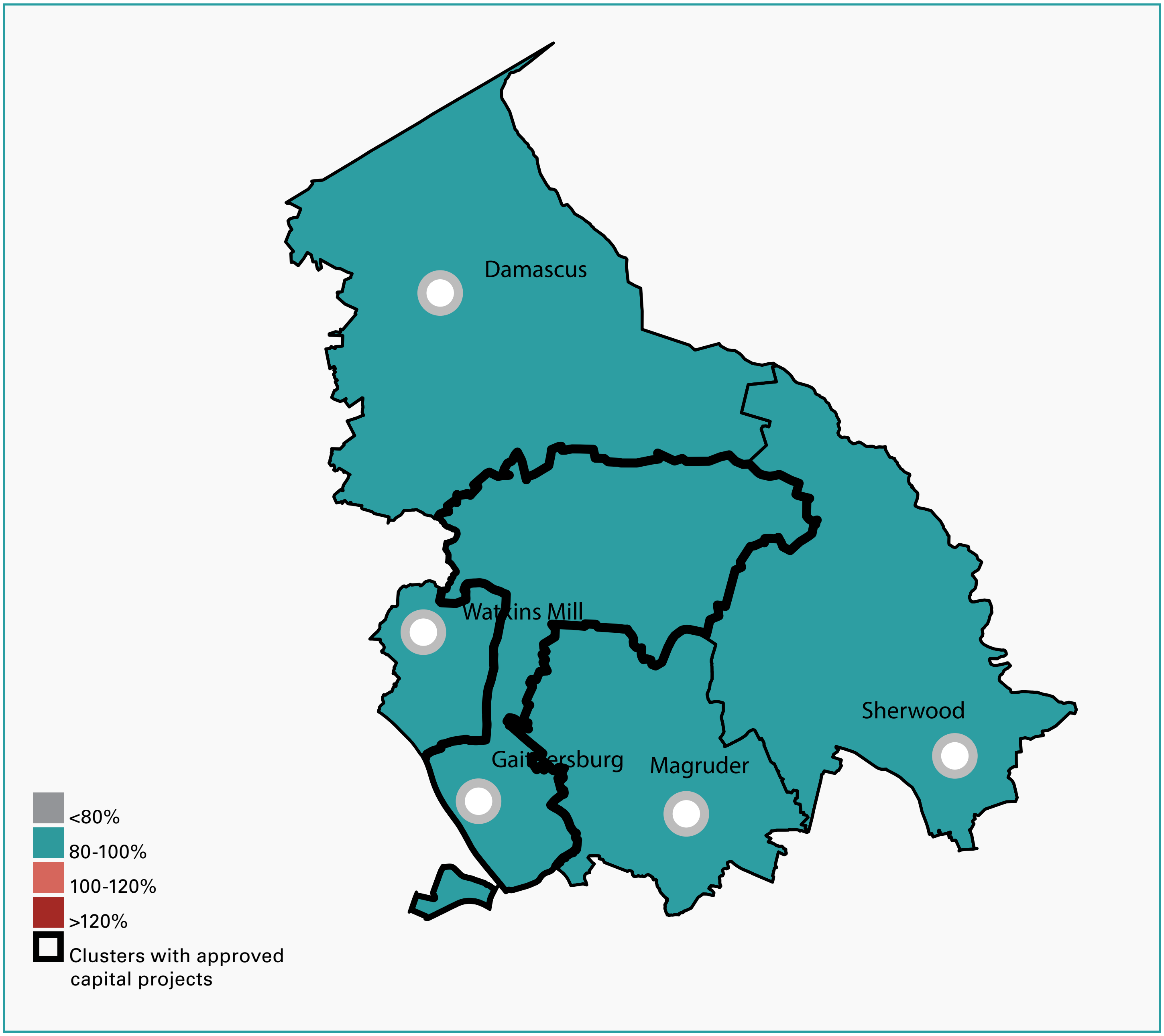


Zone 4: Middle school utilization rates

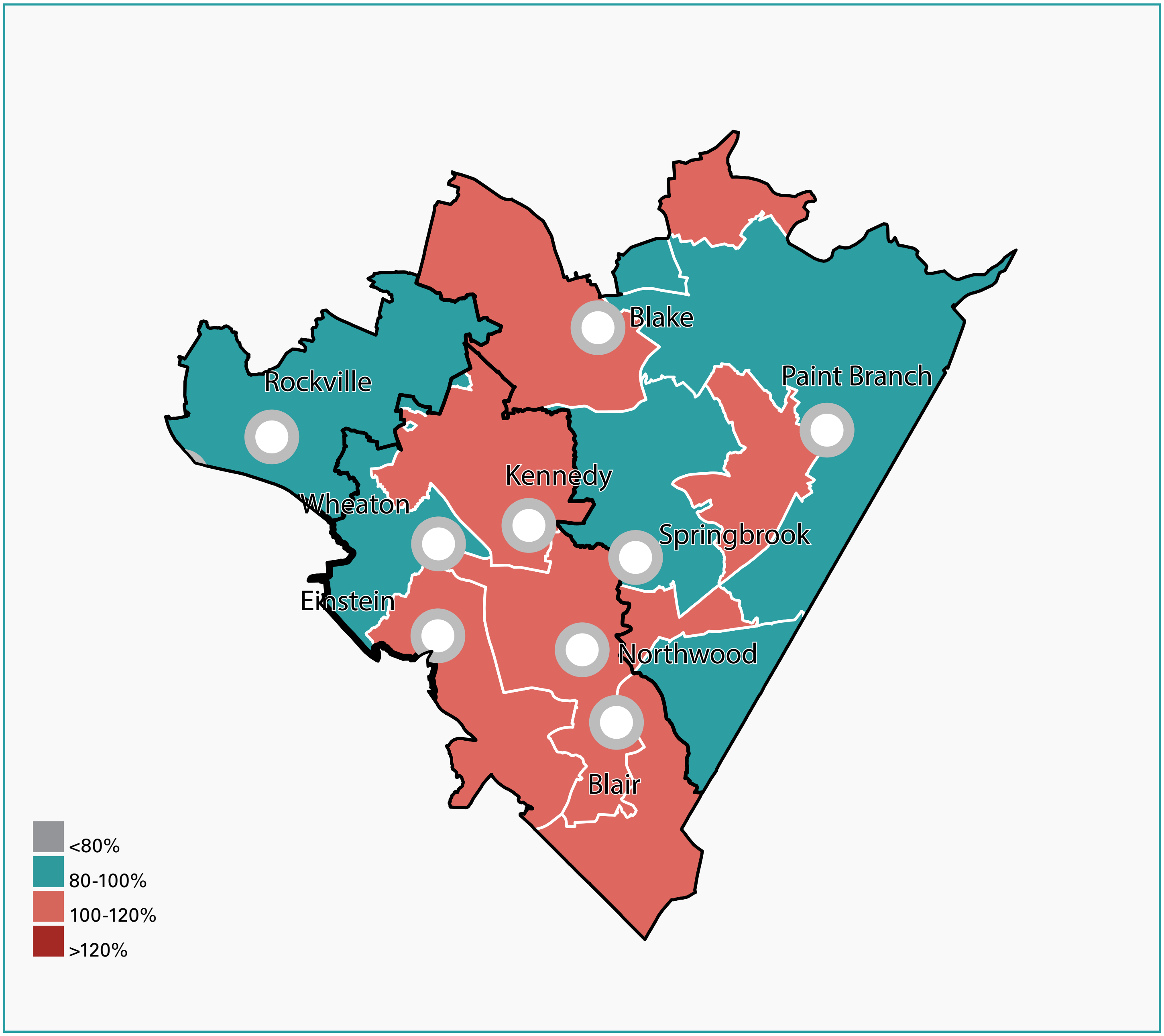
Appendix B5:
Detailed Maps of Utilization (High Schools)



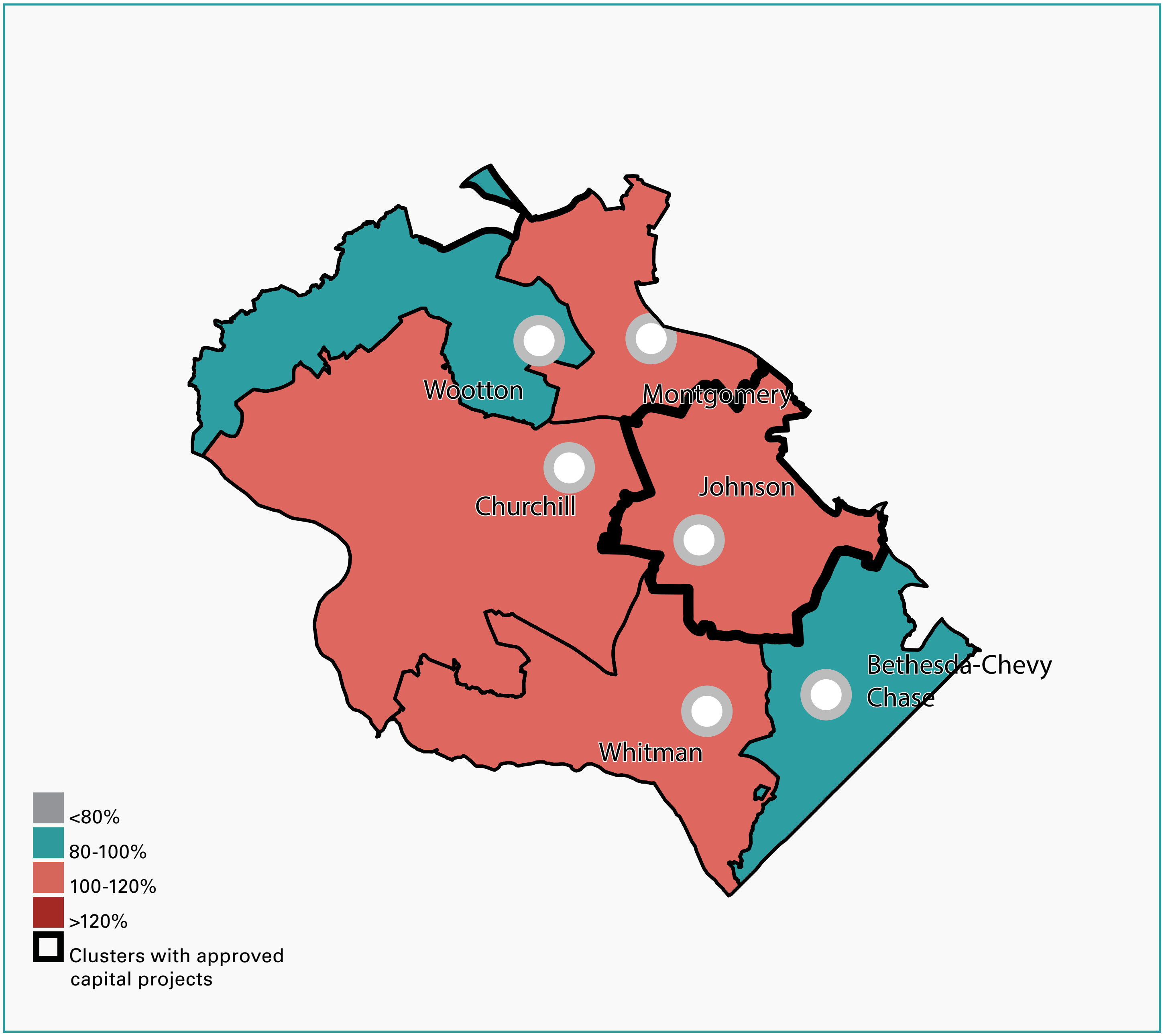
Zone 1: High school utilization rates



Zone 2: High school utilization rates



Zone 3: High school utilization rates



Zone 4: High school utilization rates

Appendix B6:
Table: Over and Under the Minimum Threshold, by School

The minimum threshold at the elementary level is 92. The following schools have a deficit of greater than 92 seats and are sorted by cluster.

Cluster	School	Enrollment (2019-2020)	Capacity (2019-2020)	Difference between capacity and enrollment	Utilization Rate (2019-2020)
Bethesda-Chevy Chase	Bethesda	666	560	-106	118.93%
Bethesda-Chevy Chase	Rock Creek Forest	760	667	-93	113.94%
Clarksburg	Clarksburg	624	311	-313	200.64%
Clarksburg	Daly	618	523	-95	118.16%
Col. Zadok Magruder	Mill Creek Towne	507	336	-171	150.89%
Col. Zadok Magruder	Resnik	602	493	-109	122.11%
Downcounty Consortium	Forest Knolls	755	529	-226	142.72%
Downcounty Consortium	Highland View	434	288	-146	150.69%
Downcounty Consortium	Arcola	749	651	-98	115.05%
Gaithersburg	Summit Hall	702	457	-245	153.61%
Gaithersburg	Strawberry Knoll	651	459	-192	141.83%
Gaithersburg	Gaithersburg	866	737	-129	117.50%
Northeast Consortium	Page	615	392	-223	156.89%
Northeast Consortium	Burnt Mills	579	392	-187	147.70%
Northeast Consortium	JoAnn Leleck	874	715	-159	122.24%
Northeast Consortium	Greencastle	721	591	-130	122.00%
Northeast Consortium	Stonegate	501	385	-116	130.13%
Northeast Consortium	Burtonsville	605	493	-112	122.72%
Northwest	McNair	828	626	-202	132.27%
Northwest	Matsunaga	710	584	-126	121.58%
Northwest	Diamond	792	679	-113	116.64%
Quince Orchard	Carson	893	692	-201	129.05%
Walt Whitman	Bannockburn	461	364	-97	126.65%
Walter Johnson	Luxmanor	678	409	-269	165.77%
Walter Johnson	Farmland	856	714	-142	119.89%
Walter Johnson	Ashburton	923	789	-134	116.98%
Watkins Mill	South Lake	897	694	-203	129.25%

The minimum threshold at the middle school level is 150. The following schools have a deficit of greater than 150 seats and are sorted by cluster.

Cluster	School	Enrollment (2019-2020)	Capacity (2019-2020)	Difference between capacity and enrollment	Utilization Rate (2019-2020)
Downcounty Consortium	Takoma Park	1,162	939	-223	123.75%
Downcounty Consortium	Parkland	1,142	948	-194	120.46%
Walt Whitman	Pyle	1,534	1,285	-249	119.38%

The minimum threshold at the high school level is 200. The following schools have a deficit of greater than 200 seats and are sorted by cluster.

Cluster	School	Enrollment (2019-2020)	Capacity (2019-2020)	Difference between capacity and enrollment	Utilization Rate (2019-2020)
Clarksburg	Clarksburg	2,472	2,034	-438	121.53%
Downcounty Consortium	Blair	3,227	2,889	-338	111.70%
Downcounty Consortium	Northwood	1,808	1,508	-300	119.89%
Northwest	Northwest	2,624	2,286	-338	114.79%
Quince Orchard	Quince Orchard	2,160	1,791	-369	120.60%
Richard Montgomery	Montgomery	2,507	2,241	-266	111.87%
Walter Johnson	Johnson	2,748	2,321	-427	118.40%
Winston Churchill	Churchill	2,275	1,986	-289	114.55%

Appendix B7:
Table: Schools, Utilization Rates, and Roadway Distances to Nearest School

Elementary Schools

Cluster	School	Utilization Rate	Distance to current school (miles)	Distance to closest School (miles)
Bethesda-Chevy Chase	Bethesda Elementary	118.93%	0.68	0.68
Bethesda-Chevy Chase	Chevy Chase Elementary	98.52%	1.52	0.80
Bethesda-Chevy Chase	Somerset Elementary	113.01%	0.82	0.74
Bethesda-Chevy Chase	Westbrook Elementary	62.34%	0.68	0.68
Bethesda-Chevy Chase	North Chevy Chase Elementary	72.35%	1.32	0.79
Bethesda-Chevy Chase	Rock Creek Forest Elementary	113.94%	0.53	0.52
Bethesda-Chevy Chase	Rosemary Hills Elementary	90.76%	1.87	1.11
Clarksburg	Little Bennett Elementary	102.08%	0.95	0.88
Clarksburg	Snowden Farm Elementary	83.20%	0.50	0.50
Clarksburg	Wilson Wims Elementary	103.92%	0.70	0.61
Clarksburg	William B. Gibbs Jr. Elementary	86.37%	1.07	0.87
Clarksburg	Captain James E. Daly Elementary	118.16%	0.93	0.70
Clarksburg	Fox Chapel Elementary	89.75%	0.71	0.62
Clarksburg	Clarksburg Elementary	200.64%	2.01	1.76
Col. Zadok Magruder	Cashell Elementary	101.18%	0.65	0.65
Col. Zadok Magruder	Candlewood Elementary	75.15%	1.32	1.18
Col. Zadok Magruder	Sequoyah Elementary	74.02%	2.99	1.40
Col. Zadok Magruder	Mill Creek Towne Elementary	150.89%	0.96	0.80
Col. Zadok Magruder	Flower Hill Elementary	92.90%	0.74	0.73
Col. Zadok Magruder	Judith A. Resnik Elementary	122.11%	1.78	0.95
Damascus	Clearspring Elementary	91.74%	1.46	1.18
Damascus	Woodfield Elementary	93.18%	1.04	1.02
Damascus	Cedar Grove Elementary	103.98%	1.61	0.77

Cluster	School	Utilization Rate	Distance to current school (miles)	Distance to closest School (miles)
Damascus	Damascus Elementary	101.97%	1.92	1.91
Damascus	Lois P. Rockwell Elementary	85.66%	1.35	0.98
Downcounty Consortium	Piney Branch Elementary	106.38%	0.94	0.81
Downcounty Consortium	Flora M. Singer Elementary	100.44%	0.86	0.77
Downcounty Consortium	Oakland Terrace Elementary	109.03%	0.64	0.57
Downcounty Consortium	Glen Haven Elementary	91.73%	0.56	0.56
Downcounty Consortium	Oak View Elementary	126.27%	1.04	0.67
Downcounty Consortium	Woodlin Elementary	113.29%	0.94	0.84
Downcounty Consortium	Pine Crest Elementary	102.23%	1.35	0.78
Downcounty Consortium	East Silver Spring Elementary	86.31%	0.50	0.50
Downcounty Consortium	Sligo Creek Elementary	102.41%	0.87	0.75
Downcounty Consortium	Takoma Park Elementary	97.46%	1.05	0.88
Downcounty Consortium	Rolling Terrace Elementary	106.31%	0.39	0.39
Downcounty Consortium	Montgomery Knolls Elementary	87.52%	1.02	0.73
Downcounty Consortium	Highland Elementary	102.78%	0.57	0.57
Downcounty Consortium	Strathmore Elementary	110.02%	1.61	1.46
Downcounty Consortium	Glenallan Elementary	100.00%	0.90	0.88
Downcounty Consortium	Brookhaven Elementary	99.36%	1.28	1.08
Downcounty Consortium	Kemp Mill Elementary	106.11%	2.41	0.95
Downcounty Consortium	Forest Knolls Elementary	142.72%	0.91	0.84
Downcounty Consortium	Harmony Hills Elementary	105.08%	0.89	0.70
Downcounty Consortium	Viers Mill Elementary	78.33%	0.70	0.69
Downcounty Consortium	Rock View Elementary	102.99%	0.89	0.71
Downcounty Consortium	Arcola Elementary	115.05%	1.08	0.67
Downcounty Consortium	Wheaton Woods Elementary	65.80%	0.50	0.50
Downcounty Consortium	Georgian Forest Elementary	93.43%	1.84	1.22
Downcounty Consortium	Highland View Elementary	150.69%	0.56	0.54
Downcounty Consortium	Sargent Shriver Elementary	112.73%	0.61	0.56

Cluster	School	Utilization Rate	Distance to current school (miles)	Distance to closest School (miles)
Downcounty Consortium	Weller Road Elementary	96.76%	0.53	0.50
Downcounty Consortium	New Hampshire Estates Elementary	97.77%	0.61	0.43
Downcounty Consortium	Bel Pre Elementary	95.78%	1.73	1.54
Gaithersburg	Laytonsville Elementary	87.70%	2.30	1.96
Gaithersburg	Strawberry Knoll Elementary	141.83%	0.70	0.59
Gaithersburg	Summit Hall Elementary	153.61%	0.84	0.82
Gaithersburg	Rosemont Elementary	113.91%	1.68	1.01
Gaithersburg	Gaithersburg Elementary	117.50%	0.66	0.65
Gaithersburg	Washington Grove Elementary	75.37%	1.34	1.04
Gaithersburg	Goshen Elementary	96.13%	1.20	1.01
Northeast Consortium	Cresthaven Elementary	111.23%	1.47	1.03
Northeast Consortium	Dr. Charles R. Drew Elementary	100.40%	1.19	0.91
Northeast Consortium	Westover Elementary	118.80%	1.24	0.97
Northeast Consortium	Greencastle Elementary	122.00%	0.92	0.90
Northeast Consortium	Stonegate Elementary	130.13%	1.83	1.54
Northeast Consortium	Galway Elementary	102.55%	1.24	1.12
Northeast Consortium	William Tyler Page Elementary	156.89%	1.13	1.08
Northeast Consortium	Cannon Road Elementary	79.54%	1.37	0.84
Northeast Consortium	Burnt Mills Elementary	147.70%	1.13	1.00
Northeast Consortium	Jackson Road Elementary	104.72%	1.33	1.25
Northeast Consortium	Roscoe R. Nix Elementary	96.02%	1.76	1.10
Northeast Consortium	Burtonsville Elementary	122.72%	1.65	1.57
Northeast Consortium	Fairland Elementary	91.98%	1.99	1.33
Northeast Consortium	Cloverly Elementary	110.85%	2.08	1.93
Northeast Consortium	JoAnn Leleck Elementary at Broad Acres	122.24%	1.09	0.48
Northwest	Clopper Mill Elementary	108.67%	0.88	0.61
Northwest	Germantown Elementary	106.91%	0.67	0.62

Cluster	School	Utilization Rate	Distance to current school (miles)	Distance to closest School (miles)
Northwest	Ronald McNair Elementary	132.27%	0.82	0.72
Northwest	Great Seneca Creek Elementary	106.83%	0.83	0.72
Northwest	Darnestown Elementary	74.77%	1.71	1.56
Northwest	Spark M. Matsunaga Elementary	121.58%	1.55	0.92
Northwest	Diamond Elementary	116.64%	1.73	1.18
Poolesville	Poolesville Elementary	90.72%	1.13	1.12
Poolesville	Monocacy Elementary	68.95%	3.49	3.02
Quince Orchard	Thurgood Marshall Elementary	112.68%	2.00	0.90
Quince Orchard	Jones Lane Elementary	85.66%	2.28	1.01
Quince Orchard	Brown Station Elementary	83.71%	0.69	0.68
Quince Orchard	Fields Road Elementary	111.95%	0.63	0.63
Quince Orchard	Rachel Carson Elementary	129.05%	1.01	0.79
Richard Montgomery	College Gardens Elementary	93.51%	0.84	0.81
Richard Montgomery	Twinbrook Elementary	101.82%	0.82	0.76
Richard Montgomery	Beall Elementary	83.10%	0.79	0.69
Richard Montgomery	Ritchie Park Elementary	103.35%	1.87	0.90
Richard Montgomery	Bayard Rustin Elementary	96.64%	0.89	0.76
Rockville	Meadow Hall Elementary	109.07%	0.70	0.61
Rockville	Lucy V. Barnsley Elementary	113.04%	1.01	0.90
Rockville	Flower Valley Elementary	119.95%	1.39	1.11
Rockville	Rock Creek Valley Elementary	94.78%	0.86	0.62
Rockville	Maryvale Elementary	99.84%	0.51	0.51
Seneca Valley	Dr. Sally K. Ride Elementary	107.49%	2.04	0.90
Seneca Valley	S. Christa McAuliffe Elementary	71.85%	0.87	0.87
Seneca Valley	Waters Landing Elementary	84.92%	0.75	0.73
Seneca Valley	Lake Seneca Elementary	120.94%	1.10	0.84

Cluster	School	Utilization Rate	Distance to current school (miles)	Distance to closest School (miles)
Sherwood	Brooke Grove Elementary	89.58%	0.63	0.60
Sherwood	Sherwood Elementary	99.05%	2.23	1.88
Sherwood	Greenwood Elementary	89.21%	1.28	1.13
Sherwood	Olney Elementary	112.71%	1.42	1.27
Sherwood	Belmont Elementary	81.88%	1.64	1.19
Thomas S. Wootton	Lakewood Elementary	82.91%	1.46	1.01
Thomas S. Wootton	Travilah Elementary	64.83%	1.16	1.16
Thomas S. Wootton	Fallsmead Elementary	102.54%	2.06	1.12
Thomas S. Wootton	Cold Spring Elementary	72.49%	0.56	0.50
Thomas S. Wootton	Dufief Elementary	74.00%	0.70	0.70
Thomas S. Wootton	Stone Mill Elementary	84.73%	0.89	0.87
Walt Whitman	Wood Acres Elementary	89.52%	0.81	0.79
Walt Whitman	Burning Tree Elementary	124.34%	1.13	0.95
Walt Whitman	Bannockburn Elementary	126.65%	1.32	1.00
Walt Whitman	Carderock Springs Elementary	90.15%	2.06	1.89
Walt Whitman	Bradley Hills Elementary	85.37%	0.88	0.71
Walter Johnson	Garrett Park Elementary	103.35%	1.69	1.15
Walter Johnson	Farmland Elementary	119.89%	1.35	1.22
Walter Johnson	Luxmanor Elementary	165.77%	1.33	1.18
Walter Johnson	Wyngate Elementary	95.62%	0.94	0.79
Walter Johnson	Ashburton Elementary	116.98%	1.24	1.09
Walter Johnson	Kensington Parkwood Elementary	84.94%	1.29	0.88
Watkins Mill	Watkins Mill Elementary	114.04%	0.87	0.80
Watkins Mill	Whetstone Elementary	98.93%	1.03	0.88
Watkins Mill	South Lake Elementary	129.25%	1.13	0.68
Watkins Mill	Stedwick Elementary	78.20%	1.19	1.03
Winston Churchill	Seven Locks Elementary	100.24%	1.64	1.30
Winston Churchill	Potomac Elementary	88.47%	2.30	1.88
Winston Churchill	Wayside Elementary	77.16%	1.62	1.05
Winston Churchill	Bells Mill Elementary	102.56%	0.83	0.83
Winston Churchill	Beverly Farms Elementary	84.91%	0.99	0.86

Middle Schools

Cluster	School	Utilization Rate	Distance to current school (miles)	Distance to closest School (miles)
Bethesda-Chevy Chase	Westland Middle	73.12%	2.15	1.79
Bethesda-Chevy Chase	Silver Creek Middle	94.87%	2.58	2.21
Clarksburg	Rocky Hill Middle	86.57%	2.46	2.19
Clarksburg	Neelsville Middle	98.85%	2.73	1.61
Col. Zadok Magruder	Redland Middle	83.01%	3.29	2.30
Col. Zadok Magruder	Shady Grove Middle	67.33%	1.75	1.66
Damascus	John T. Baker Middle	112.01%	2.40	2.36
Damascus	Hallie Wells Middle	88.90%	1.18	1.13
Downcounty Consortium	Newport Mill Middle	82.59%	1.19	1.01
Downcounty Consortium	A. Mario Loiederman Middle	114.70%	1.00	0.98
Downcounty Consortium	Sligo Middle	76.73%	1.34	1.11
Downcounty Consortium	Eastern Middle	99.80%	1.30	1.22
Downcounty Consortium	Takoma Park Middle	123.75%	1.11	1.08
Downcounty Consortium	Silver Spring International Middle	104.16%	1.43	1.02
Downcounty Consortium	Col. E. Brooke Lee Middle	106.05%	2.06	1.53
Downcounty Consortium	Argyle Middle	114.16%	1.40	1.19
Downcounty Consortium	Parkland Middle	120.46%	1.41	1.31
Gaithersburg	Gaithersburg Middle	86.92%	2.23	1.82
Gaithersburg	Forest Oak Middle	99.48%	3.43	1.92
Northeast Consortium	Briggs Chaney Middle	101.19%	4.18	2.34
Northeast Consortium	White Oak Middle	85.18%	3.02	2.08
Northeast Consortium	Francis Scott Key Middle	104.58%	2.50	1.67
Northeast Consortium	Benjamin Banneker Middle	109.83%	1.99	1.96
Northeast Consortium	William H. Farquhar Middle	88.52%	3.14	2.43
Northwest	Kingsview Middle	94.43%	1.26	1.23
Poolesville	John Poole Middle	83.33%	2.88	2.68
Quince Orchard	Ridgeview Middle	82.09%	2.33	2.02
Quince Orchard	Lakelands Park Middle	106.19%	2.28	1.73
Richard Montgomery	Julius West Middle	96.51%	2.19	2.01
Rockville	Earle B. Wood Middle	105.30%	1.72	1.38
Seneca Valley	Roberto W Clemente Middle	104.71%	1.74	1.23
Seneca Valley	Dr. Martin Luther King Jr. Middle	83.59%	1.65	1.24
Sherwood	Rosa Parks Middle	90.32%	1.90	1.86
Thomas S. Wootton	Robert Frost Middle	94.93%	3.09	2.40
Walt Whitman	Thomas W. Pyle Middle	119.38%	2.17	1.67
Walter Johnson	North Bethesda Middle	100.00%	2.04	1.28
Walter Johnson	Tilden Middle	98.90%	1.61	1.61
Watkins Mill	Montgomery Village Middle	91.45%	1.04	1.04
Winston Churchill	Cabin John Middle	98.39%	3.52	1.98
Winston Churchill	Herbert Hoover Middle	91.75%	2.64	2.33

High Schools

Cluster	School	Utilization Rate	Distance to current school (miles)	Distance to closest School (miles)
Bethesda-Chevy Chase	Bethesda-Chevy Chase High	91.94%	1.94	1.86
Clarksburg	Clarksburg High	121.53%	2.52	1.99
Col. Zadok Magruder	Col. Zadok Magruder High	87.58%	3.45	2.93
Damascus	Damascus High	87.75%	2.83	2.49
Downcounty Consortium	John F. Kennedy High	102.01%	2.67	2.14
Downcounty Consortium	Montgomery Blair High	111.70%	2.41	2.41
Downcounty Consortium	Wheaton High	98.16%	1.56	1.51
Downcounty Consortium	Northwood High	119.89%	1.76	1.19
Downcounty Consortium	Albert Einstein High	111.72%	2.01	1.54
Gaithersburg	Gaithersburg High	98.73%	2.53	2.07
Northeast Consortium	Springbrook High	81.87%	3.27	2.47
Northeast Consortium	James Hubert Blake High	102.98%	4.86	2.29
Northeast Consortium	Paint Branch High	98.86%	2.26	2.22
Northwest	Northwest High	114.79%	2.25	1.72
Poolesville	Poolesville High	103.16%	2.01	1.88
Quince Orchard	Quince Orchard High	120.60%	2.20	1.94
Richard Montgomery	Richard Montgomery High	111.87%	1.97	1.66
Rockville	Rockville High	93.94%	1.84	1.69
Seneca Valley	Seneca Valley High	92.63%	1.51	1.46
Sherwood	Sherwood High	90.51%	3.65	3.40
Thomas S. Wootton	Thomas S. Wootton High	98.79%	3.20	2.52
Walt Whitman	Walt Whitman High	109.85%	2.11	2.09
Walter Johnson	Walter Johnson High	118.40%	2.24	1.92
Watkins Mill	Watkins Mill High	82.02%	1.94	1.80
Winston Churchill	Winston Churchill High	114.55%	2.83	2.53

Appendix B8:
Table: Schools and Dissimilarity from Nearest Five Schools

Elementary Schools

School	Utilization Rate	Dissimilarity between school and nearest five neighboring schools
Arcola	115.05%	0.12
Ashburton	116.98%	0.02
Bannockburn	126.65%	0.27
Barnsley	113.04%	0.11
Bayard Rustin	96.64%	0.05
Beall	83.10%	0.11
Bel Pre	95.78%	0.01
Bells Mill	102.56%	0.06
Belmont	81.88%	0.13
Bethesda	118.93%	0.27
Beverly Farms	84.91%	0.11
Bradley Hills	85.37%	0.17
Brooke Grove	89.58%	0.21
Brookhaven	99.36%	0.09
Brown Station	83.71%	0.27
Burning Tree	124.34%	0.23
Burnt Mills	147.70%	0.44
Burtonsville	122.72%	0.12
Candlewood	75.15%	0.17
Cannon Road	79.54%	0.39
Carderock Springs	90.15%	0.12
Carson	129.05%	0.39
Cashell	101.18%	0.02
Cedar Grove	103.98%	0.13
Chevy Chase	98.52%	0.07
Clarksburg	200.64%	0.84
Clearspring	91.74%	0.24
Clopper Mill	108.67%	0.11
Cloverly	110.85%	0.00
Cold Spring	72.49%	0.19
College Gardens	93.51%	0.00
Cresthaven	111.23%	0.06
Daly	118.16%	0.21
Damascus	101.97%	0.15
Darnestown	74.77%	0.19

School	Utilization Rate	Dissimilarity between school and nearest five neighboring schools
Diamond	116.64%	0.14
Drew	100.40%	0.07
DuFief	74.00%	0.16
East Silver Spring	86.31%	0.18
Fairland	91.98%	0.19
Fallsmead	102.54%	0.10
Farmland	119.89%	0.12
Fields Road	111.95%	0.08
Flower Hill	92.90%	0.17
Flower Valley	119.95%	0.18
Forest Knolls	142.72%	0.28
Fox Chapel	89.75%	0.07
Gaithersburg	117.50%	0.09
Galway	102.55%	0.06
Garrett Park	103.35%	0.08
Georgian Forest	93.43%	0.01
Germantown	106.91%	0.10
Glen Haven	91.73%	0.17
Glenallan	100.00%	0.04
Goshen	96.13%	0.07
Great Seneca Creek	106.83%	0.06
Greencastle	122.00%	0.17
Greenwood	89.21%	0.11
Harmony Hills	105.08%	0.04
Highland	102.78%	0.04
Highland View	150.69%	0.41
Jackson Road	104.72%	0.14
JoAnn Leleck ES at Broad Acres	122.24%	0.13
Jones Lane	85.66%	0.05
Kemp Mill	106.11%	0.01
Kensing-tonÃ¯Â¿Â½Parkwood	84.94%	0.08
Lake Seneca	120.94%	0.24
Lakewood	82.91%	0.09
Laytonsville	87.70%	0.18
Little Bennett	102.08%	0.09
Luxmanor	165.77%	0.52
Marshall	112.68%	0.12
Maryvale	99.84%	0.02
Matsunaga	121.58%	0.19

School	Utilization Rate	Dissimilarity between school and nearest five neighboring schools
McAuliffe	71.85%	0.25
McNair	132.27%	0.25
Meadow Hall	109.07%	0.02
Mill Creek Towne	150.89%	0.45
Monocacy	68.95%	0.43
Montgomery Knolls	87.52%	0.12
New Hampshire Estates	97.77%	0.04
North Chevy Chase	72.35%	0.32
Oak View	126.27%	0.20
Oakland Terrace	109.03%	0.10
Olney	112.71%	0.07
Page	156.89%	0.49
Pine Crest	102.23%	0.14
Piney Branch	106.38%	0.00
Poolesville	90.72%	0.21
Potomac	88.47%	0.03
Resnik	122.11%	0.14
Ride	107.49%	0.06
Ritchie Park	103.35%	0.07
Rock Creek Forest	113.94%	0.19
Rock Creek Valley	94.78%	0.12
Rock View	102.99%	0.04
Rockwell	85.66%	0.28
Rolling Terrace	106.31%	0.03
Roscoe Nix	96.02%	0.21
Rosemary Hills	90.76%	0.03
Rosemont	113.91%	0.19
Sargent Shriver	112.73%	0.21
Sequoyah	74.02%	0.25
Seven Locks	100.24%	0.01
Sherwood	99.05%	0.13
Singer	100.44%	0.00
Sligo Creek	102.41%	0.01
Snowden Farm	83.20%	0.30
Somerset	113.01%	0.21
South Lake	129.25%	0.30
Stedwick	78.20%	0.21
Stone Mill	84.73%	0.05
Stonegate	130.13%	0.14

School	Utilization Rate	Dissimilarity between school and nearest five neighboring schools
Strathmore	110.02%	0.05
Strawberry Knoll	141.83%	0.22
Summit Hall	153.61%	0.46
Takoma Park	97.46%	0.07
Travilah	64.83%	0.25
Twinbrook	101.82%	0.14
Viers Mill	78.33%	0.22
Washington Grove	75.37%	0.19
Waters Landing	84.92%	0.12
Watkins Mill	114.04%	0.09
Wayside	77.16%	0.18
Weller Road	96.76%	0.00
Westbrook	62.34%	0.29
Westover	118.80%	0.04
Wheaton Woods	65.80%	0.26
Whetstone	98.93%	0.03
William B. Gibbs Jr.	86.37%	0.29
Wilson Wims	103.92%	0.10
Wood Acres	89.52%	0.05
Woodfield	93.18%	0.03
Woodlin	113.29%	0.17
Wyngate	95.62%	0.20

Middle Schools

School	Utilization Rate	Dissimilarity between school and nearest five neighboring schools
Argyle	114.16%	0.18
Baker	112.01%	0.14
Banneker	109.83%	0.13
Briggs Chaney	101.19%	0.02
Cabin John	98.39%	0.02
Clemente	104.71%	0.09
Eastern	99.80%	0.04
Farquhar	88.52%	0.09
Forest Oak	99.48%	0.08
Frost	94.93%	0.06
Gaithersburg	86.92%	0.08
Hallie Wells	88.90%	0.05
Hoover	91.75%	0.08
Key	104.58%	0.01
King	83.59%	0.09
Kingsview	94.43%	0.01
Lakelands Park	106.19%	0.09
Lee	106.05%	0.05
Loiederman	114.70%	0.18
Montgomery Village	91.45%	0.02
Neelsville	98.85%	0.06
Newport Mill	82.59%	0.14
North Bethesda	100.00%	0.03
Parkland	120.46%	0.20
Parks	90.32%	0.03
Poole	83.33%	0.07
Pyle	119.38%	0.22
Redland	83.01%	0.05
Ridgeview	82.09%	0.07
Rocky Hill	86.57%	0.06
Shady Grove	67.33%	0.23
Silver Creek	94.87%	0.12
Silver Spring International	104.16%	0.00
Sligo	76.73%	0.27
Takoma Park	123.75%	0.27
Tilden	98.90%	0.02
West	96.51%	0.04
Westland	73.12%	0.26
White Oak	85.18%	0.16
Wood	105.30%	0.11

High Schools

School	Utilization Rate	Dissimilarity between school and nearest five neighboring schools
Bethesda-Chevy Chase	91.94%	0.15
Blair	111.70%	0.08
Blake	102.98%	0.08
Churchill	114.55%	0.10
Clarksburg	121.53%	0.13
Damascus	87.75%	0.18
Einstein	111.72%	0.05
Gaithersburg	98.73%	0.04
Johnson	118.40%	0.14
Kennedy	102.01%	0.03
Magruder	87.58%	0.10
Montgomery	111.87%	0.10
Northwest	114.79%	0.08
Northwood	119.89%	0.13
Paint Branch	98.86%	0.00
Poolesville	103.16%	0.05
Quince Orchard	120.60%	0.15
Rockville	93.94%	0.08
Seneca Valley	92.63%	0.16
Sherwood	90.51%	0.05
Springbrook	81.87%	0.15
Watkins Mill	82.02%	0.21
Wheaton	98.16%	0.08
Whitman	109.85%	0.02
Wootton	98.79%	0.06

Appendix B9:
Utilization Rates Over Time (2010, 2015, 2020)

Cluster	school	type	Enrollment 2009-2010	Capacity 2009-2010	Utilization Rate 2009-2010	Enrollment 2014-2015	Capacity 2014-2015	Utilization Rate 2014-2015	Enrollment 2019-2020	Capacity 2019-2020	Utilization Rate 2019-2020
Bethesda - Chevy Chase	Bethesda	ES	467	384	122%	517	384	135%	666	560	119%
Bethesda - Chevy Chase	Chevy Chase	ES	439	429	102%	541	473	114%	466	473	99%
Bethesda - Chevy Chase	Somerset	ES	388	457	85%	567	515	110%	582	515	113%
Bethesda - Chevy Chase	Westbrook	ES	363	293	124%	452	554	82%	341	547	62%
Bethesda - Chevy Chase	North Chevy Chase	ES	349	276	126%	355	266	133%	259	358	72%
Bethesda - Chevy Chase	Rock Creek Forest	ES	511	404	126%	628	770	82%	760	667	114%
Bethesda - Chevy Chase	Rosemary Hills	ES	598	494	121%	633	478	132%	570	628	91%
Bethesda - Chevy Chase	Bethesda-Chevy Chase	HS	1,744	1,656	105%	1,992	1,683	118%	2,259	2,457	92%
Bethesda - Chevy Chase	Westland	MS	930	1,037	90%	1,254	1,097	114%	808	1,105	73%
Bethesda - Chevy Chase	Silver Creek	MS	--	--	--	--	--	--	887	935	95%
Clarksburg	Clarksburg	ES	428	335	128%	305	312	98%	624	311	201%
Clarksburg	Fox Chapel	ES	600	386	155%	601	683	88%	613	683	90%
Clarksburg	Captain James Daly	ES	565	508	111%	593	518	114%	618	523	118%
Clarksburg	Little Bennett	ES	999	684	146%	691	676	102%	637	624	102%
Clarksburg	William B. Gibbs Jr.	ES	--	--	--	778	740	105%	621	719	86%
Clarksburg	Wilson Wims	ES	--	--	--	660	759	87%	768	739	104%
Clarksburg	Snowden Farm	ES	--	--	--	--	--	--	644	774	83%
Clarksburg	Clarksburg	HS	1,735	1,593	109%	1,974	1,638	121%	2,472	2,034	122%
Clarksburg	Neelsville	MS	793	850	93%	914	922	99%	945	956	99%
Clarksburg	Rocky Hill	MS	1,211	956	127%	1,133	995	114%	883	1,020	87%
Damascus	Lois P. Rockwell	ES	389	534	73%	456	523	87%	454	530	86%
Damascus	Damascus	ES	275	338	81%	297	328	91%	362	355	102%
Damascus	Cedar Grove	ES	659	479	138%	641	405	158%	418	402	104%
Damascus	Woodfield	ES	395	457	86%	302	471	64%	355	381	93%
Damascus	Clearspring	ES	639	631	101%	624	642	97%	589	642	92%
Damascus	Damascus	HS	1,412	1,589	89%	1,246	1,551	80%	1,354	1,543	88%
Damascus	Hallie Wells	MS	--	--	--	--	--	--	873	982	89%
Damascus	John T Baker	MS	576	702	82%	772	741	104%	830	741	112%
Downcounty Consortium	Sligo Creek	ES	616	526	117%	639	664	96%	680	664	102%
Downcounty Consortium	Piney Branch	ES	519	565	92%	527	611	86%	650	611	106%
Downcounty Consortium	Takoma Park	ES	399	290	138%	654	636	103%	613	629	97%
Downcounty Consortium	East Silver Spring	ES	231	354	65%	525	582	90%	498	577	86%
Downcounty Consortium	Pine Crest	ES	348	358	97%	473	381	124%	413	404	102%
Downcounty Consortium	Woodlin	ES	420	393	107%	623	462	135%	554	489	113%
Downcounty Consortium	Oak View	ES	303	358	85%	379	358	106%	423	335	126%
Downcounty Consortium	Glen Haven	ES	587	505	116%	547	576	95%	510	556	92%
Downcounty Consortium	Oakland Terrace	ES	731	469	156%	491	513	96%	531	487	109%
Downcounty Consortium	Flora M. Singer	ES	--	--	--	677	680	100%	683	680	100%
Downcounty Consortium	Rolling Terrace	ES	637	639	100%	905	724	125%	775	729	106%
Downcounty Consortium	Viers Mill	ES	549	383	143%	714	760	94%	582	743	78%

Cluster	school	type	Enrollment 2009-2010	Capacity 2009-2010	Utilization Rate 2009-2010	Enrollment 2014-2015	Capacity 2014-2015	Utilization Rate 2014-2015	Enrollment 2019-2020	Capacity 2019-2020	Utilization Rate 2019-2020
Downcounty Consortium	Highland	ES	469	570	82%	541	522	104%	555	540	103%
Downcounty Consortium	Montgomery Knolls	ES	410	273	150%	510	540	94%	470	537	88%
Downcounty Consortium	Weller Road	ES	450	570	79%	652	752	87%	747	772	97%
Downcounty Consortium	Sargent Shriver	ES	587	587	100%	756	673	112%	744	660	113%
Downcounty Consortium	Bel Pre	ES	516	383	135%	541	638	85%	613	640	96%
Downcounty Consortium	Highland View	ES	368	278	132%	426	298	143%	434	288	151%
Downcounty Consortium	Georgian Forest	ES	460	309	149%	571	649	88%	626	670	93%
Downcounty Consortium	Wheaton Woods	ES	415	348	119%	537	358	150%	504	766	66%
Downcounty Consortium	Arcola	ES	430	513	84%	719	496	145%	749	651	115%
Downcounty Consortium	New Hampshire Estates	ES	383	483	79%	516	480	108%	482	493	98%
Downcounty Consortium	Rock View	ES	521	335	156%	657	687	96%	655	636	103%
Downcounty Consortium	Harmony Hills	ES	498	328	152%	736	709	104%	745	709	105%
Downcounty Consortium	Forest Knolls	ES	531	590	90%	737	560	132%	755	529	143%
Downcounty Consortium	Kemp Mill	ES	406	466	87%	531	453	117%	486	458	106%
Downcounty Consortium	Brookhaven	ES	406	278	146%	458	486	94%	467	470	99%
Downcounty Consortium	Glenallan	ES	378	294	129%	650	762	85%	747	747	100%
Downcounty Consortium	Strathmore	ES	383	473	81%	455	439	104%	483	439	110%
Downcounty Consortium	Wheaton	HS	1,270	1,389	91%	1,467	1,356	108%	2,193	2,234	98%
Downcounty Consortium	Albert Einstein	HS	1,606	1,615	99%	1,699	1,621	105%	1,820	1,629	112%
Downcounty Consortium	John F. Kennedy	HS	1,548	1,748	89%	1,570	1,847	85%	1,830	1,794	102%
Downcounty Consortium	Montgomery Blair	HS	2,614	2,885	91%	2,900	2,920	99%	3,227	2,889	112%
Downcounty Consortium	Northwood	HS	1,301	1,526	85%	1,586	1,519	104%	1,808	1,508	120%
Downcounty Consortium	Silver Spring Interna-tional	MS	632	1,029	61%	979	1,118	88%	1,153	1,107	104%
Downcounty Consortium	Eastern	MS	729	978	75%	868	1,024	85%	1,010	1,012	100%
Downcounty Consortium	Sligo	MS	583	988	59%	523	915	57%	722	941	77%
Downcounty Consortium	A. Mario Loiederman	MS	926	944	98%	909	897	101%	999	871	115%
Downcounty Consortium	Newport Mill	MS	621	769	81%	599	825	73%	702	850	83%
Downcounty Consortium	Col. E. Brooke Lee	MS	461	762	60%	719	743	97%	771	727	106%
Downcounty Consortium	Argyle	MS	734	888	83%	920	897	103%	1,024	897	114%
Downcounty Consortium	Takoma Park	MS	768	863	89%	996	939	106%	1,162	939	124%
Downcounty Consortium	Parkland	MS	797	881	90%	941	948	99%	1,142	948	120%
Gaithersburg	Laytonsville	ES	442	488	91%	428	448	96%	392	447	88%
Gaithersburg	Goshen	ES	590	655	90%	577	533	108%	571	594	96%
Gaithersburg	Washington Grove	ES	376	537	70%	414	603	69%	462	613	75%
Gaithersburg	Gaithersburg	ES	517	729	71%	795	771	103%	866	737	118%
Gaithersburg	Rosemont	ES	489	607	81%	569	590	96%	647	568	114%
Gaithersburg	Summit Hall	ES	458	443	103%	634	443	143%	702	457	154%
Gaithersburg	Strawberry Knoll	ES	531	498	107%	599	453	132%	651	459	142%
Gaithersburg	Gaithersburg	HS	1,961	2,067	95%	2,245	2,407	93%	2,412	2,443	99%
Gaithersburg	Forest Oak	MS	768	890	86%	834	949	88%	950	955	99%
Gaithersburg	Gaithersburg	MS	651	910	72%	749	933	80%	877	1,009	87%
Magruder	Candlewood	ES	344	411	84%	329	550	60%	387	515	75%

Cluster	school	type	Enrollment 2009-2010	Capacity 2009-2010	Utilization Rate 2009-2010	Enrollment 2014-2015	Capacity 2014-2015	Utilization Rate 2014-2015	Enrollment 2019-2020	Capacity 2019-2020	Utilization Rate 2019-2020
Magruder	Cashell	ES	286	403	71%	337	341	99%	343	339	101%
Magruder	Judith A. Resnik	ES	532	481	111%	615	493	125%	602	493	122%
Magruder	Flower Hill	ES	454	403	113%	505	483	105%	458	493	93%
Magruder	Mill Creek Towne	ES	442	393	112%	412	326	126%	507	336	151%
Magruder	Sequoyah	ES	409	451	91%	433	470	92%	376	508	74%
Magruder	Col. Zadok Magruder	HS	1,859	1,958	95%	1,520	1,995	76%	1,700	1,941	88%
Magruder	Shady Grove	MS	579	854	68%	592	867	68%	575	854	67%
Magruder	Redland	MS	630	740	85%	540	757	71%	635	765	83%
Northeast Consortium	Burtonsville	ES	598	594	101%	660	485	136%	605	493	123%
Northeast Consortium	Fairland	ES	521	354	147%	623	648	96%	596	648	92%
Northeast Consortium	JoAnn Leleck	ES	475	677	70%	756	672	113%	874	715	122%
Northeast Consortium	Jackson Road	ES	548	380	144%	727	709	103%	732	699	105%
Northeast Consortium	Roscoe R. Nix	ES	436	486	90%	756	672	113%	483	503	96%
Northeast Consortium	Cloverly	ES	500	460	109%	462	454	102%	511	461	111%
Northeast Consortium	Burnt Mills	ES	361	386	94%	538	402	134%	579	392	148%
Northeast Consortium	Cannon Road	ES	385	283	136%	432	521	83%	412	518	80%
Northeast Consortium	William T. Page	ES	344	351	98%	410	379	108%	615	392	157%
Northeast Consortium	Galway	ES	726	754	96%	808	790	102%	763	744	103%
Northeast Consortium	Stonegate	ES	460	431	107%	492	395	125%	501	385	130%
Northeast Consortium	Greencastle	ES	569	576	99%	817	582	140%	721	591	122%
Northeast Consortium	Westover	ES	283	298	95%	304	293	104%	316	266	119%
Northeast Consortium	Dr. Charles R. Drew	ES	387	465	83%	444	456	97%	498	496	100%
Northeast Consortium	Cresthaven	ES	387	465	83%	503	467	108%	505	454	111%
Northeast Consortium	Paint Branch	HS	1,816	1,584	115%	1,996	2,034	98%	1,997	2,020	99%
Northeast Consortium	James Blake	HS	1,709	1,715	100%	1,607	1,743	92%	1,795	1,743	103%
Northeast Consortium	Springbrook	HS	1,852	2,086	89%	1,750	2,145	82%	1,748	2,135	82%
Northeast Consortium	Francis Scott Key	MS	727	878	83%	942	961	98%	1,004	960	105%
Northeast Consortium	Benjamin Banneker	MS	715	876	82%	884	803	110%	905	824	110%
Northeast Consortium	Briggs Chaney	MS	878	927	95%	891	969	92%	937	926	101%
Northeast Consortium	William H. Farquhar	MS	620	838	74%	586	906	65%	694	784	89%
Northeast Consortium	White Oak	MS	663	924	72%	750	962	78%	845	992	85%
Northwest	Clopper Mill	ES	466	429	109%	457	417	110%	539	496	109%
Northwest	Germantown	ES	281	361	78%	316	333	95%	325	304	107%
Northwest	Ronald McNair	ES	701	611	115%	851	623	137%	828	626	132%
Northwest	Great Seneca Creek	ES	708	659	107%	732	566	129%	594	556	107%
Northwest	Darnestown	ES	388	273	142%	310	471	66%	323	432	75%
Northwest	Spark M. Matsunaga	ES	940	660	142%	926	652	142%	710	584	122%
Northwest	Diamond	ES	470	528	89%	648	463	140%	792	679	117%
Northwest	Northwest	HS	2,076	2,151	97%	2,116	2,241	94%	2,624	2,286	115%
Northwest	Kingsview	MS	879	956	92%	1,002	1,041	96%	983	1,041	94%
Poolesville	Poolesville	ES	364	549	66%	441	539	82%	489	539	91%
Poolesville	Monocacy	ES	205	205	100%	161	219	74%	151	219	69%
Poolesville	Poolesville	HS	1,114	1,107	101%	1,222	1,170	104%	1,207	1,170	103%

Cluster	school	type	Enrollment 2009-2010	Capacity 2009-2010	Utilization Rate 2009-2010	Enrollment 2014-2015	Capacity 2014-2015	Utilization Rate 2014-2015	Enrollment 2019-2020	Capacity 2019-2020	Utilization Rate 2019-2020
Poolesville	John Poole	MS	350	472	74%	327	468	70%	390	468	83%
Quince Orchard	Rachel Carson	ES	854	639	134%	1,013	667	152%	893	692	129%
Quince Orchard	Thurgood Marshall	ES	525	529	99%	624	534	117%	622	552	113%
Quince Orchard	Jones Lane	ES	508	495	103%	470	441	107%	442	516	86%
Quince Orchard	Brown Station	ES	419	394	106%	513	436	118%	637	761	84%
Quince Orchard	Fields Road	ES	420	580	72%	484	419	116%	487	435	112%
Quince Orchard	Quince Orchard	HS	1,736	1,791	97%	1,899	1,857	102%	2,160	1,791	121%
Quince Orchard	Ridgeview	MS	702	1,007	70%	702	995	71%	784	955	82%
Quince Orchard	Lakelands Park	MS	822	1,052	78%	1,011	1,122	90%	1,200	1,130	106%
Richard Montgomery	Twinbrook	ES	521	511	102%	531	563	94%	558	548	102%
Richard Montgomery	Beall	ES	576	540	107%	801	638	126%	531	639	83%
Richard Montgomery	Ritchie Park	ES	480	410	117%	551	387	142%	401	388	103%
Richard Montgomery	College Gardens	ES	647	694	93%	873	694	126%	634	678	94%
Richard Montgomery	Bayard Rustin	ES	--	--	--	--	--	--	719	744	97%
Richard Montgomery	Richard Montgomery	HS	1,967	1,887	104%	2,199	2,236	98%	2,507	2,241	112%
Richard Montgomery	Julius West	MS	926	973	95%	1,201	1,054	114%	1,382	1,432	97%
Rockville	Maryvale	ES	609	579	105%	613	626	98%	625	626	100%
Rockville	Meadow	ES	344	345	100%	428	370	116%	409	375	109%
Rockville	Lucy V. Barnsley	ES	596	513	116%	691	404	171%	737	652	113%
Rockville	Flower Valley	ES	444	429	103%	480	429	112%	499	416	120%
Rockville	Rock Creek Valley	ES	397	363	109%	437	393	111%	436	460	95%
Rockville	Rockville	HS	1,177	1,602	73%	1,339	1,570	85%	1,442	1,535	94%
Rockville	Earle B. Wood	MS	829	972	85%	927	961	96%	994	944	105%
Seneca Valley	Lake Seneca	ES	350	460	76%	536	410	131%	514	425	121%
Seneca Valley	Waters Landing	ES	647	651	99%	691	776	89%	659	776	85%
Seneca Valley	S. Christa McAuliffe	ES	550	630	87%	629	526	120%	554	771	72%
Seneca Valley	Dr. Sally K. Ride	ES	506	479	106%	527	523	101%	502	467	107%
Seneca Valley	Seneca Valley	HS	1,364	1,452	94%	1,284	1,374	93%	1,232	1,330	93%
Seneca Valley	Martin Luther King, Jr.	MS	609	880	69%	612	905	68%	764	914	84%
Seneca Valley	Roberto Clemente	MS	1,096	1,175	93%	1,208	1,231	98%	1,289	1,231	105%
Sherwood	Sherwood	ES	468	377	124%	499	569	88%	524	529	99%
Sherwood	Olney	ES	555	584	95%	629	585	108%	683	606	113%
Sherwood	Greenwood	ES	547	572	96%	505	585	86%	521	584	89%
Sherwood	Belmont	ES	386	414	93%	310	424	73%	348	425	82%
Sherwood	Brooke Grove	ES	410	530	77%	398	531	75%	464	518	90%
Sherwood	Sherwood	HS	2,124	2,022	105%	1,891	2,166	87%	1,965	2,171	91%
Sherwood	Rosa Parks	MS	846	888	95%	904	978	92%	868	961	90%
Walt Whitman	Bradley Hills	ES	454	341	133%	632	663	95%	566	663	85%
Walt Whitman	Wood Acres	ES	630	551	114%	718	527	136%	649	725	90%
Walt Whitman	Burning Tree	ES	463	428	108%	492	379	130%	470	378	124%
Walt Whitman	Bannockburn	ES	367	365	101%	407	365	112%	461	364	127%
Walt Whitman	Carderock Springs	ES	299	251	119%	418	407	103%	366	406	90%
Walt Whitman	Walt Whitman	HS	1,881	1,891	99%	1,912	1,891	101%	2,040	1,857	110%

Cluster	school	type	Enrollment 2009-2010	Capacity 2009-2010	Utilization Rate 2009-2010	Enrollment 2014-2015	Capacity 2014-2015	Utilization Rate 2014-2015	Enrollment 2019-2020	Capacity 2019-2020	Utilization Rate 2019-2020
Walt Whitman	Thomas W. Pyle	MS	1,248	1,267	99%	1,483	1,289	115%	1,534	1,285	119%
Walter Johnson	Garrett Park	ES	460	456	101%	749	753	99%	802	776	103%
Walter Johnson	Farmland	ES	579	617	94%	655	728	90%	856	714	120%
Walter Johnson	Wyngate	ES	606	412	147%	770	777	99%	742	776	96%
Walter Johnson	Ashburton	ES	615	660	93%	892	629	142%	923	789	117%
Walter Johnson	Kensington-Parkwood	ES	509	518	98%	654	472	139%	643	757	85%
Walter Johnson	Luxmanor	ES	353	429	82%	466	428	109%	678	409	166%
Walter Johnson	Walter Johnson	HS	2,047	2,199	93%	2,264	2,335	97%	2,748	2,321	118%
Walter Johnson	Tilden	MS	687	996	69%	798	972	82%	990	1,001	99%
Walter Johnson	North Bethesda	MS	763	850	90%	951	874	109%	1,233	1,233	100%
Watkins Mill	Whetstone	ES	611	495	123%	758	783	97%	742	750	99%
Watkins Mill	Watkins Mill	ES	556	695	80%	635	746	85%	731	641	114%
Watkins Mill	South Lake	ES	553	729	76%	862	716	120%	897	694	129%
Watkins Mill	Stedwick	ES	590	658	90%	573	639	90%	538	688	78%
Watkins Mill	Watkins Mill	HS	1,699	1,832	93%	1,499	1,906	79%	1,597	1,947	82%
Watkins Mill	Montgomery Village	MS	594	826	72%	658	894	74%	791	865	91%
Winston Churchill	Beverly Farms	ES	596	541	110%	621	690	90%	585	689	85%
Winston Churchill	Wayside	ES	599	657	91%	533	671	79%	500	648	77%
Winston Churchill	Potomac	ES	547	411	133%	474	424	112%	376	425	88%
Winston Churchill	Seven Locks	ES	262	251	104%	398	425	94%	425	424	100%
Winston Churchill	Bells Mill	ES	428	609	70%	611	626	98%	642	626	103%
Winston Churchill	Winston Churchill	HS	2,041	1,972	103%	1,996	2,013	99%	2,275	1,986	115%
Winston Churchill	Herbert Hoover	MS	955	927	103%	1,058	1,139	93%	1,045	1,139	92%
Winston Churchill	Cabin John	MS	890	844	105%	943	1,129	84%	1,040	1,057	98%
Wootton	Lakewood	ES	604	568	106%	549	569	96%	461	556	83%
Wootton	Travilah	ES	417	524	80%	413	517	80%	341	526	65%
Wootton	Fallsmead	ES	442	519	85%	566	598	95%	565	551	103%
Wootton	Cold Spring	ES	364	412	88%	335	458	73%	332	458	72%
Wootton	DuFief	ES	397	394	101%	328	428	77%	316	427	74%
Wootton	Stone Mill	ES	622	666	93%	619	654	95%	588	694	85%
Wootton	Thomas S. Wootton	HS	2,437	2,059	118%	2,195	2,184	101%	2,116	2,142	99%
Wootton	Robert Frost	MS	1,045	1,071	98%	1,139	1,075	106%	1,029	1,084	95%

Appendix B10:
Table: Island Assignment Schools, Utilization Rates, and Number of Non-Contiguous Areas

Elementary Schools

School	Utilization Rate	Number of Non-Contiguous Areas
Arcola ES	115.05%	2
Bannockburn ES	126.65%	2
Belmont ES	81.88%	2
Brookhaven ES	99.36%	3
Burnt Mills ES	147.70%	2
Cannon Road ES	79.54%	3
Clopper Mill ES	108.67%	2
Diamond ES	116.64%	2
Drew ES	100.40%	2
Fairland ES	91.98%	3
Fallsmead ES	102.54%	2
Flower Hill ES	92.90%	3
Galway ES	102.55%	3
Garrett Park ES	103.35%	3
Georgian Forest ES	93.43%	2
Harmony Hills ES	105.08%	2
Jones Lane ES	85.66%	2
Kensington-Parkwood ES	84.94%	2
Lakewood ES	82.91%	2
Marshall ES	112.68%	3
New Hampshire Estates ES	97.77%	2
Olney ES	112.71%	2
Resnik ES	122.11%	2
Ritchie Park ES	103.35%	2
Rosemary Hills ES	90.76%	4
Rosemary Hills ES	90.76%	4
Rosemont ES	113.91%	3
Sequoyah ES	74.02%	2
Seven Locks ES	100.24%	2
Sligo Creek ES	102.41%	2
South Lake ES	129.25%	3
Spark M. Matsunaga ES	121.58%	2
Stone Mill ES	84.73%	2
Westbrook ES	62.34%	2

Middle Schools

School	Utilization Rate	Number of Non-Contiguous Areas
Ridgeview MS	82.09%	3
Neelsville MS	98.85%	2
Frost MS	94.93%	3
Forest Oak MS	99.48%	3
Key MS	104.58%	3
Briggs Chaney MS	101.19%	5
Westland MS	73.12%	2
Shady Grove MS	67.33%	4
Lakelands Park MS	106.19%	2
Gaithersburg MS	86.92%	2
Redland MS	83.01%	2
Cabin John MS	98.39%	5
Kingsview MS	94.43%	2
White Oak MS	85.18%	2
Parkland MS	120.46%	4

High Schools

School	Utilization Rate	Number of Non-Contiguous Areas
Wootton HS	98.79%	2
Northwest HS	114.79%	2
Blake HS	102.98%	4
Bethesda-Chevy Chase HS	91.94%	2
Gaithersburg HS	98.73%	2
Wheaton HS	98.16%	4
Springbrook HS	81.87%	3

Appendix B11:
Table: Special Program Schools

Regional Special Programs at elementary schools

School Name	% Students not living in attendance area	Utilization Rate	Special Program
Page	25.13%	156.89%	SIR
Mill Creek Towne	26.20%	150.89%	CESR
Burnt Mills	19.59%	147.70%	SIR
Oak View	21.88%	126.27%	CESR
Rock Creek Forest	45.68%	113.94%	SIR
Barnsley	26.54%	113.04%	CESR
Sligo Creek	38.80%	102.41%	FIR
Pine Crest	23.42%	102.23%	CESR
Drew	29.78%	100.40%	CESR
Maryvale	54.37%	99.84%	FIR
Chevy Chase	29.72%	98.52%	CESR
Takoma Park	5.61%	97.46%	Magnet
Bayard Rustin	22.47%	96.64%	CIR
Clearspring	20.32%	91.74%	CESR
Fox Chapel	18.15%	89.75%	CESR
Potomac	6.43%	88.47%	CIP
Cold Spring	35.45%	72.49%	CESR

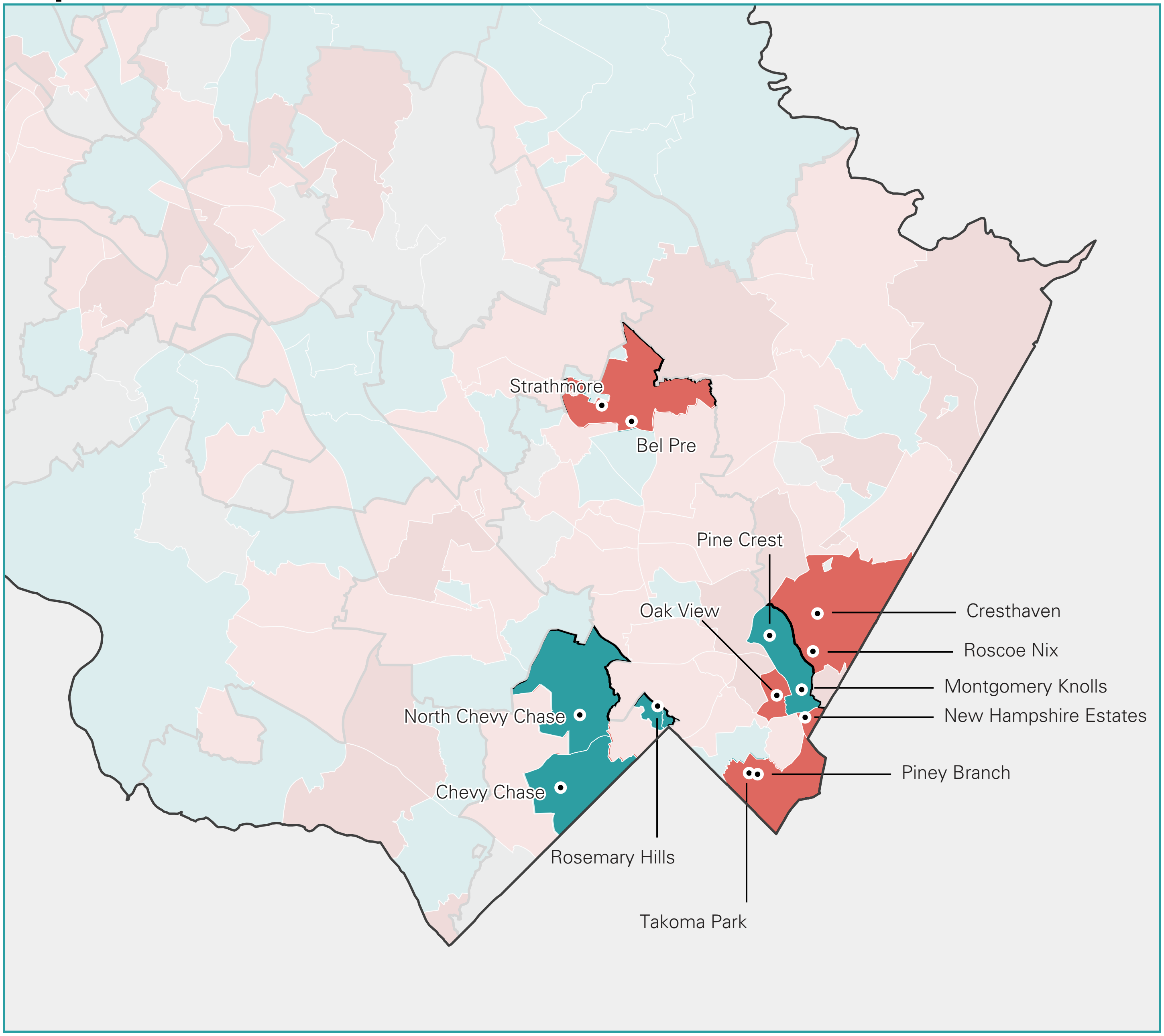
Regional Special Programs at middle schools

School	% Students not living in attendance area	Utilization Rate	Special Program
Takoma Park	19.01%	123.75%	MSMSCSP
Parkland	14.35%	120.46%	MSMC
Loiederman	11.55%	114.70%	MSMC
Argyle	12.77%	114.16%	MSMC
Clemente	20.86%	104.71%	MSHCP,MSMSCSP,MYP
Silver Spring International	6.44%	104.16%	FIP, SIP, MYP
Eastern	16.14%	99.80%	MSHCP
Hoover	6.56%	91.75%	CIP
Gaithersburg	12.08%	86.92%	FIP
King	15.61%	83.59%	MSHCP, MYP
Westland	9.74%	73.12%	SIP, MYP

Regional Special Programs at high schools

School Name	% Students not living in attendance area	Utilization Rate	Special Program
Montgomery	20.60%	111.87%	APC, IBDP
Einstein	2.67%	111.72%	APC, IBDP
Blair	13.93%	111.70%	SMCSMR, APCS
Poolesville	51.74%	103.16%	APC, SMCSMR, HHR
Kennedy	3.05%	102.01%	SMCSMR, APCS, IBDP
Watkins Mill	4.43%	82.02%	SMCSMR, IBDP
Springbrook	1.75%	81.87%	SMCSMR, LSSP, IBDP

Appendix B12:
Map: Paired Schools



Map of paired schools and their combined utilization rate (total enrollment divided by total capacity).

8.1 Appendix
Introduction & Analysis

C. Data Analysis
Diversity

8.1

C.

Appendix C1:
FARMS and Ever-FARMS as Measures of Socio-economic Hardship in Montgomery County

Correlation of FARMS and Ever-FARMS

FARMS and Ever-FARMS have come under scrutiny as measures of socio-economic hardship faced by students. How accurate are these measures? The graphs below compare the FARMS and Ever-FARMS rates in MCPS's 200 general education schools to the area median household income and per capita income of their attendance area.

School Catchment Area Median Household Income

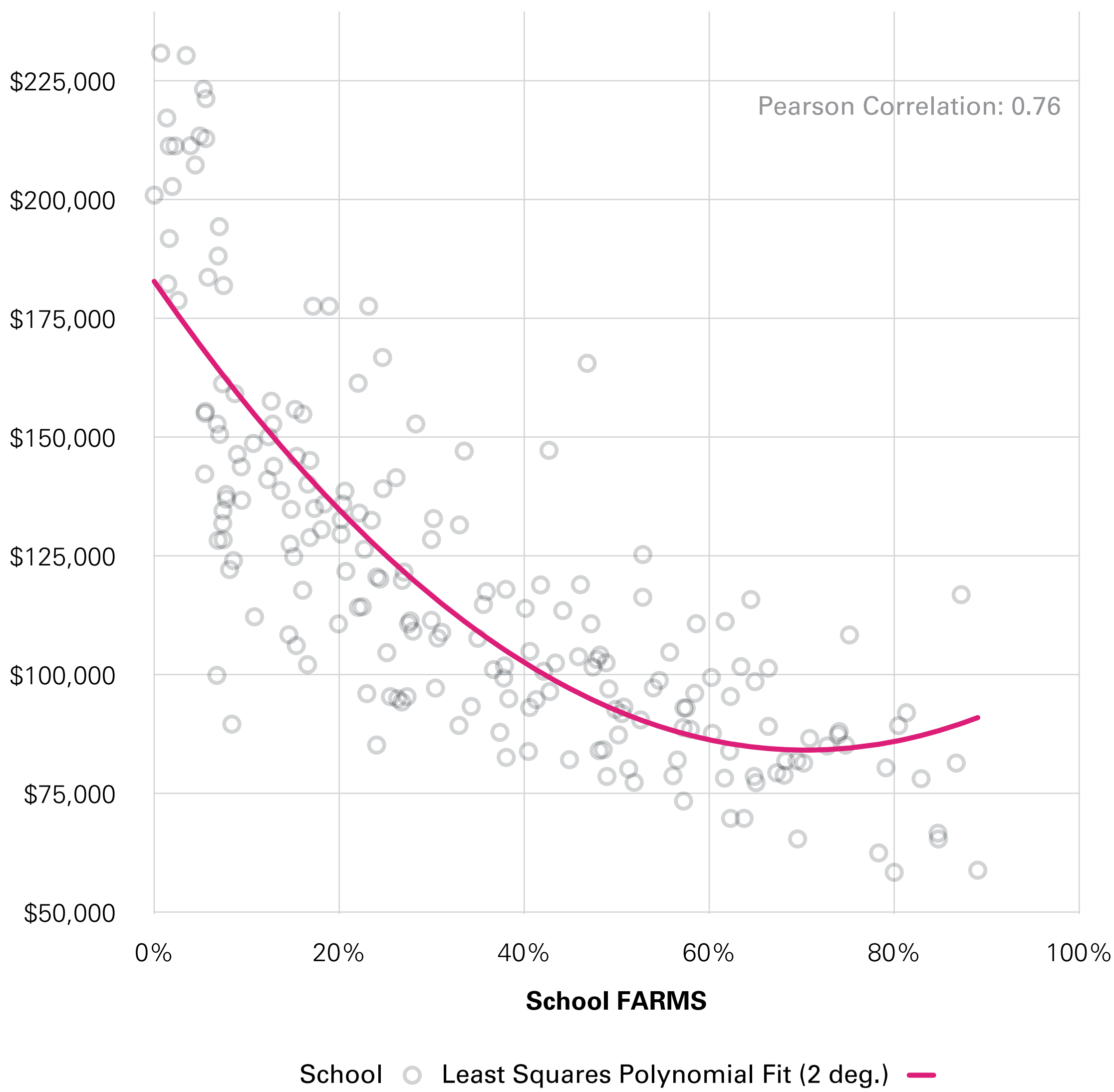


Figure 1 *School FARMS Rate and Median Household Income*

School Catchment Area Median Household Income

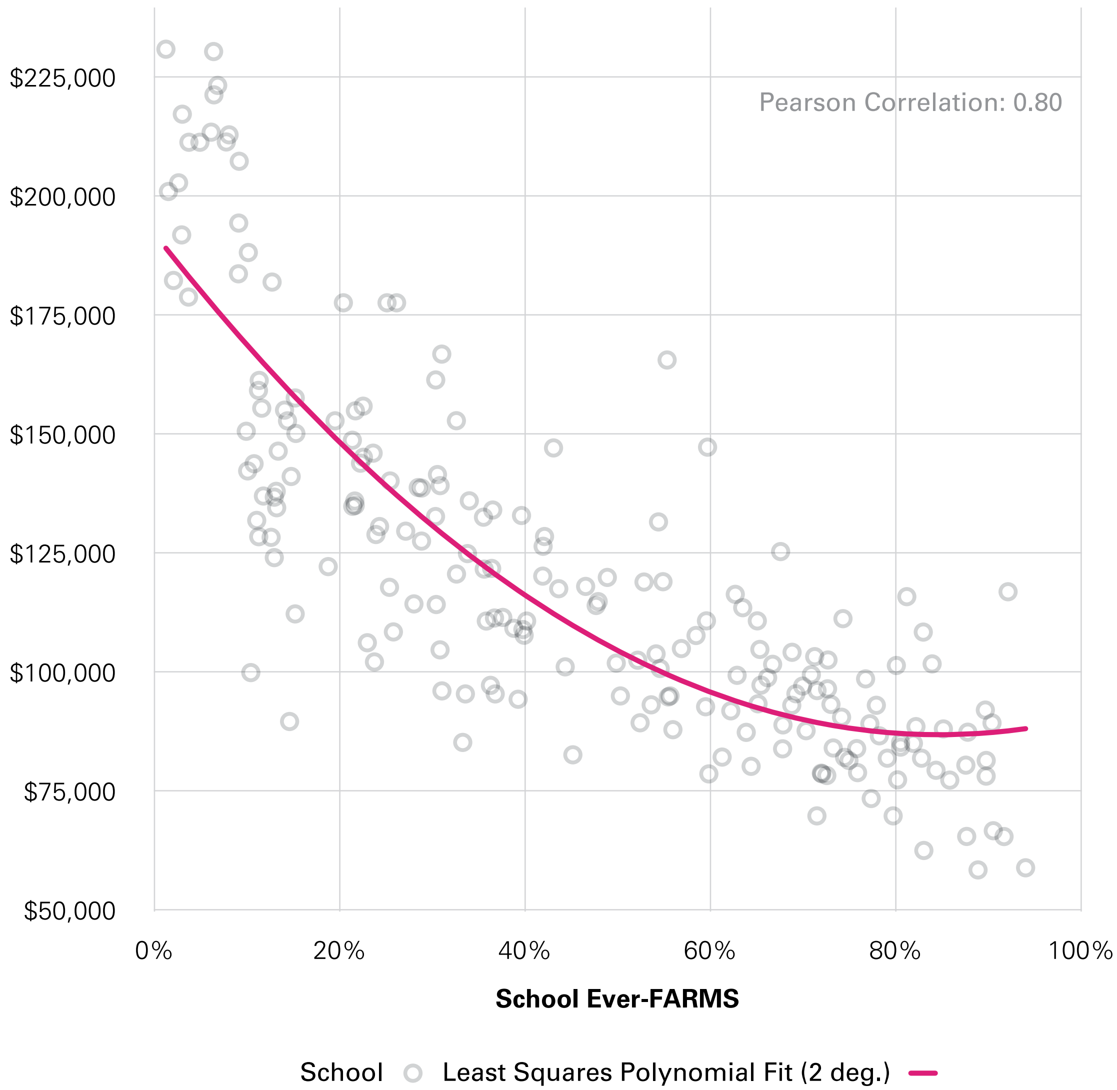


Figure 2 *School Ever-FARMS Rate and Median Household Income*

Figures in this section show a strong downward correlation between area median household income and FARMS / Ever-FARMS rates. The correlation is marginally higher for Ever-FARMS than for FARMS.

Schools where area median household income is between $250,000 per year and $150,000 per year have an average Ever-FARMS rate of 13%, compared to a rate of 69% for schools where the median household income is less than $100,000 per year.

Comparing FARMS and Ever-FARMS to per capita income in school catchment zones, we again find a strong downward correlation. The correlation is marginally higher for Ever-FARMS than for FARMS.

The coefficients of correlation are the same to two decimal places when comparing FARMS to median household income and per capita income (0.76), and Ever-FARMS to median household income and per capita income (0.8).

School Catchment Area Per Capita Income

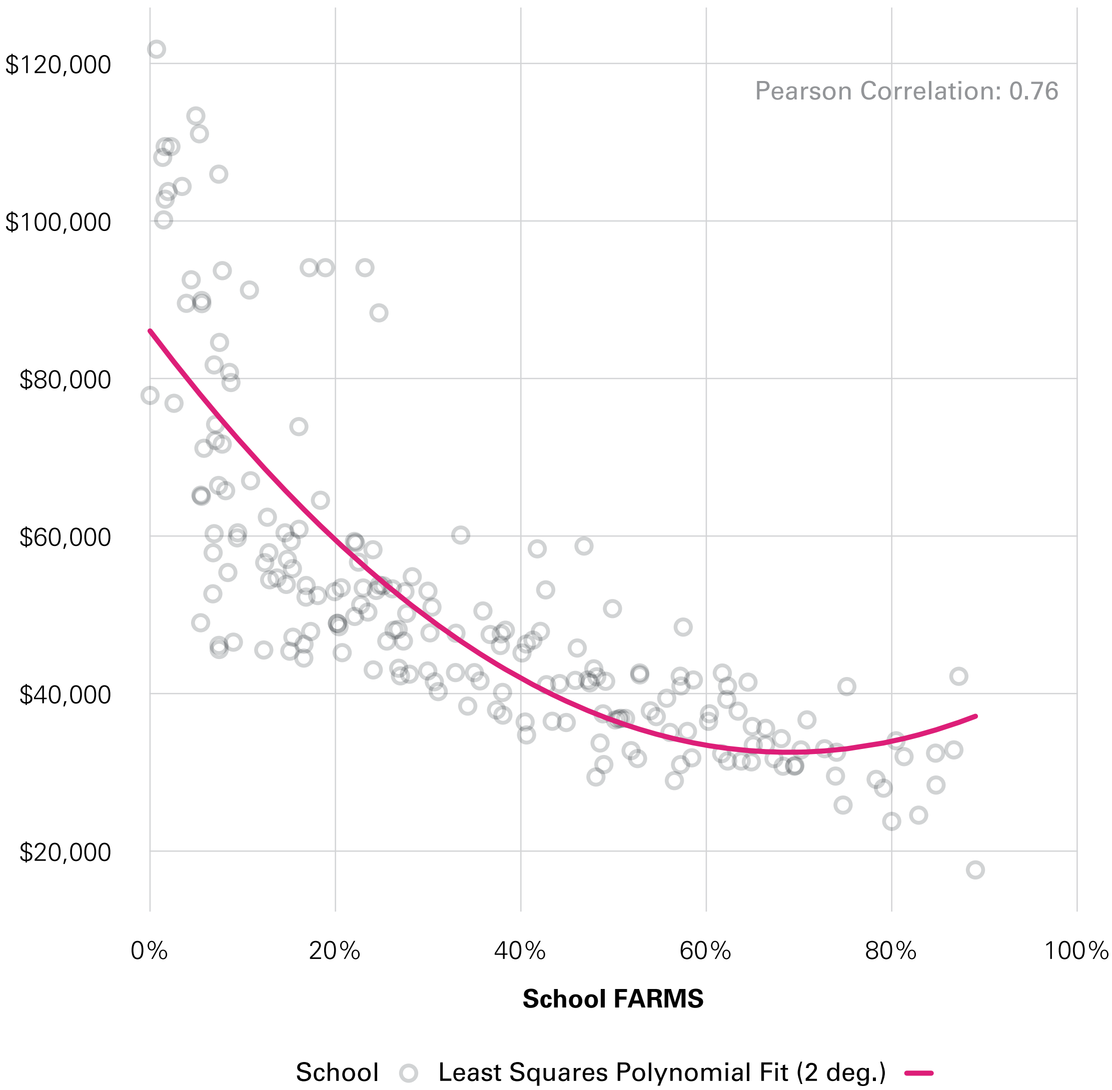


Figure 3 *School FARMS Rate and Per Capita Income*

Nevertheless, we find less variation when comparing school FARMS and Ever-FARMS rates to per capita income, rather than median household income. You can see this by comparing the range of values along the vertical aspects in Figures XX-XX at different points.

This suggests FARMS and Ever-FARMS track with per capita income more closely than median household income. As such, FARMS and Ever-FARMS capture student socio-economic hardship better when ignoring household size, suggesting the measures function well across MCPS.

School Catchment Area Per Capita Income

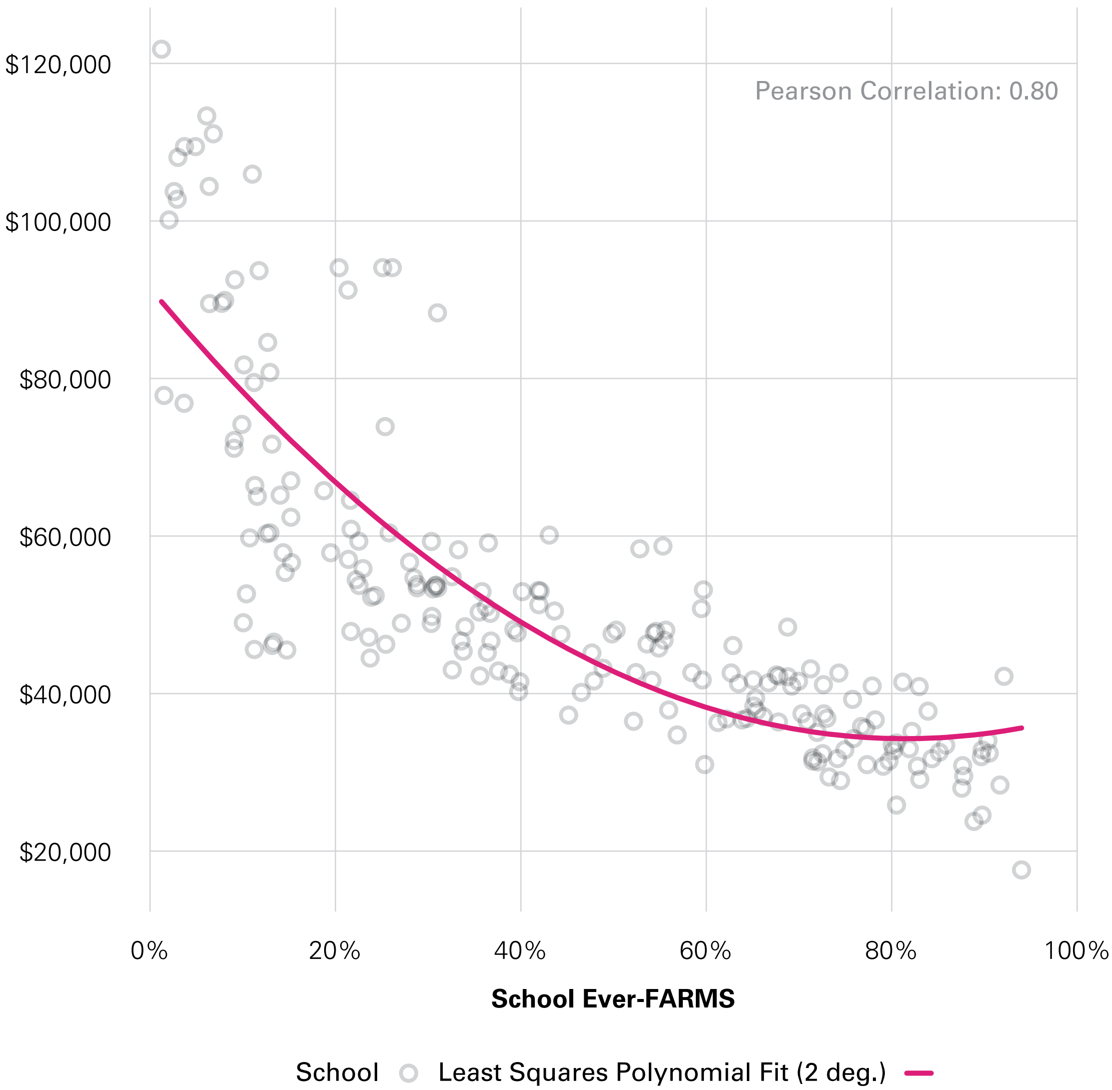


Figure 4 *School Ever-FARMS Rate and Per Capita Income*

Critiques of FARMS

Though the charts above suggest FARMS and Ever-FARMS are reasonable measures of socio-economic hardship at this point in time, researchers rightly scrutinize the accuracy and importance of the measures. Brookings cites [1] changing eligibility requirements as one major reason the measure may perform poorly across time:

Actual poverty measures fall and rise with the state of the economy, but FRL [2] participation has increased almost every year for more than 30 years. This is particularly noticeable in recent years, when the poverty-based measure fell

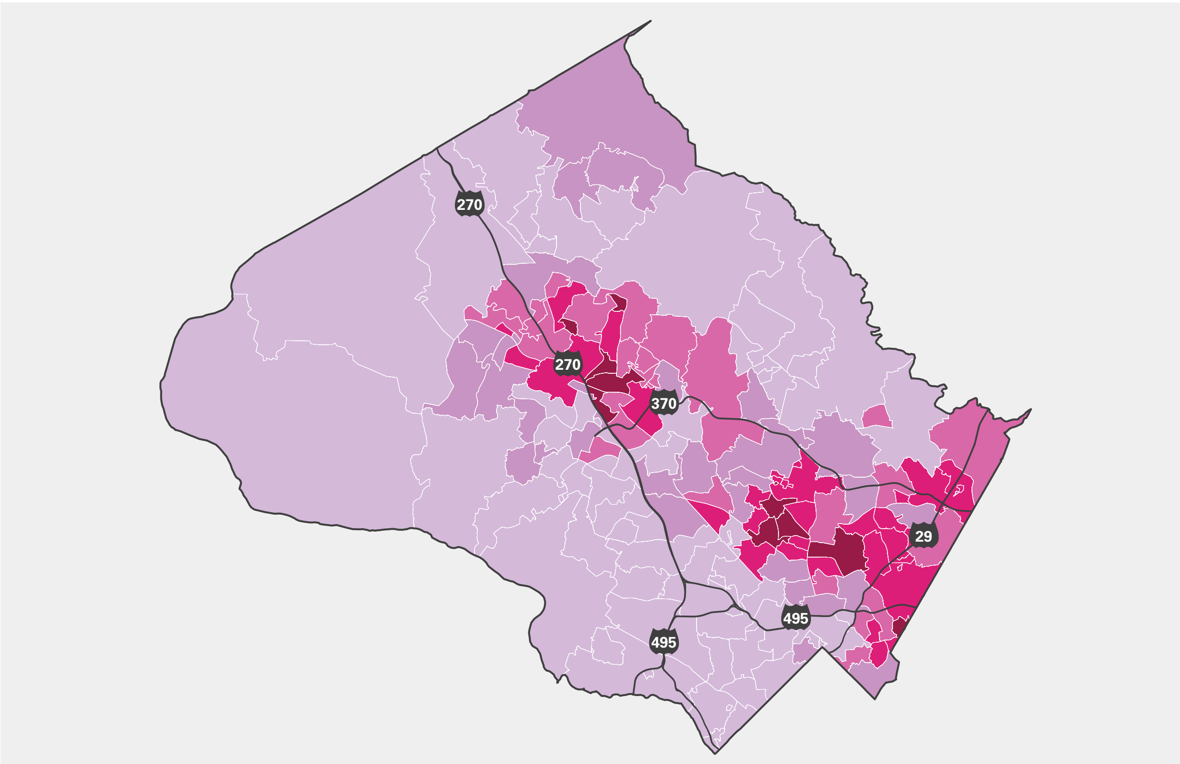
1 Matthew M. Chingos. Brookings. "No More Free Lunch for Education Policymakers and Researchers." June 30, 2016. https://www.brookings.edu/research/no-more-free-lunch-for-education-policymakers-and-researchers/.

2 Note: The acronym FRL stands for Free or Reduced Lunch and is used synonymously with FARMS.

but FRL participation continued to rise as the 2010 changes were implemented. The most recent data indicate that there are substantially more kids eligible for a program limited to 185 percent of the poverty line than there are kids who live in families below 200 percent of the poverty threshold—a difference that likely results in large part from the program's community eligibility provisions. These data make clear that FRL is not a reliable way to track the socio-economic makeup of the U.S. student population over time. When the national FRL rate crossed the 50 percent mark for the first time in 2012-13, it generated misleading headlines such as "Majority of U.S. public school students are in poverty." [Data] clearly show that the share of children living in families below 50 percent, 100 percent, or 200 percent of the federal poverty threshold is similar to what it was in the early 1990s.

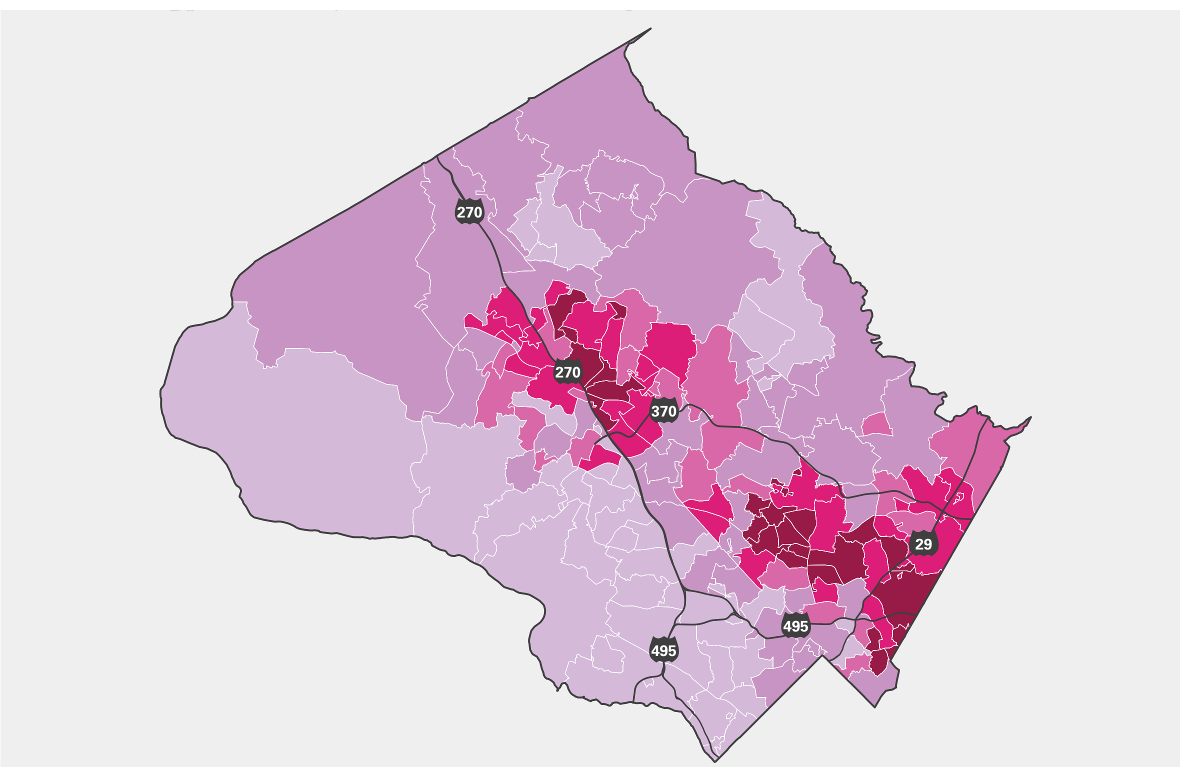
The changing eligibility requirements of FARMS and recent disconnect between national measures of poverty and FARMS suggests that measures relying on longitudinal FARMS data, such as Ever-FARMS, should be used with caution. As such, the average Ever-FARMS student in elementary school may have a slightly different socio-economic background than the average Ever-FARMS student in high school if that student was only FARMS eligible many years ago. Despite this, FARMS rates nationally have increased steadily in the last thirty years, suggesting that students eligible for FARMS many years ago gained that status by a more stringent test of socio-economic disadvantage.

Appendix C2:
Additional Maps and Tables



0 - 20%　20 - 40%　40 - 60%　60 - 80%　80 - 100%

Figure 2.3.1 *FARMS Rate by Elementary School Attendance Area*



0 - 20%　20 - 40%　40 - 60%　60 - 80%　80 - 100%

Figure 2.3.1 *Ever-FARMS Rate by Elementary School Attendance Area*

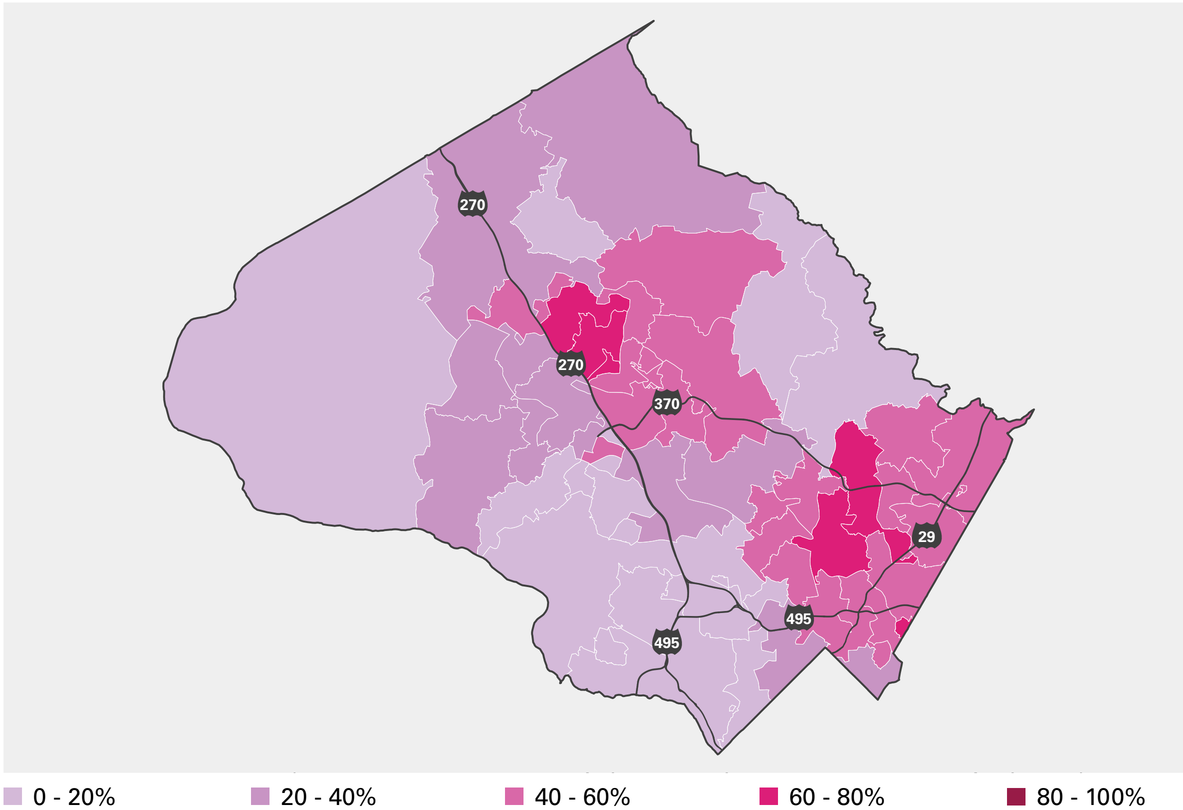


Figure 2.3.1 *FARMS Rate by Middle School Attendance Area*

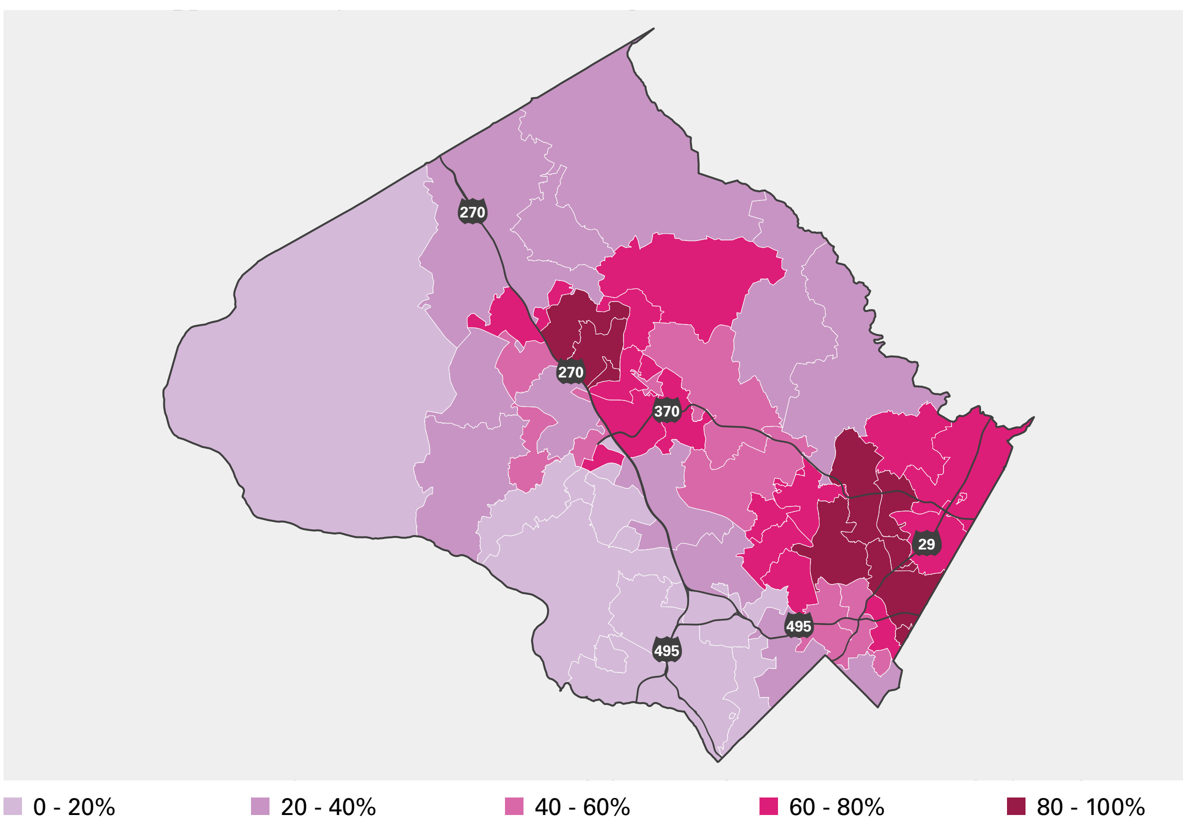
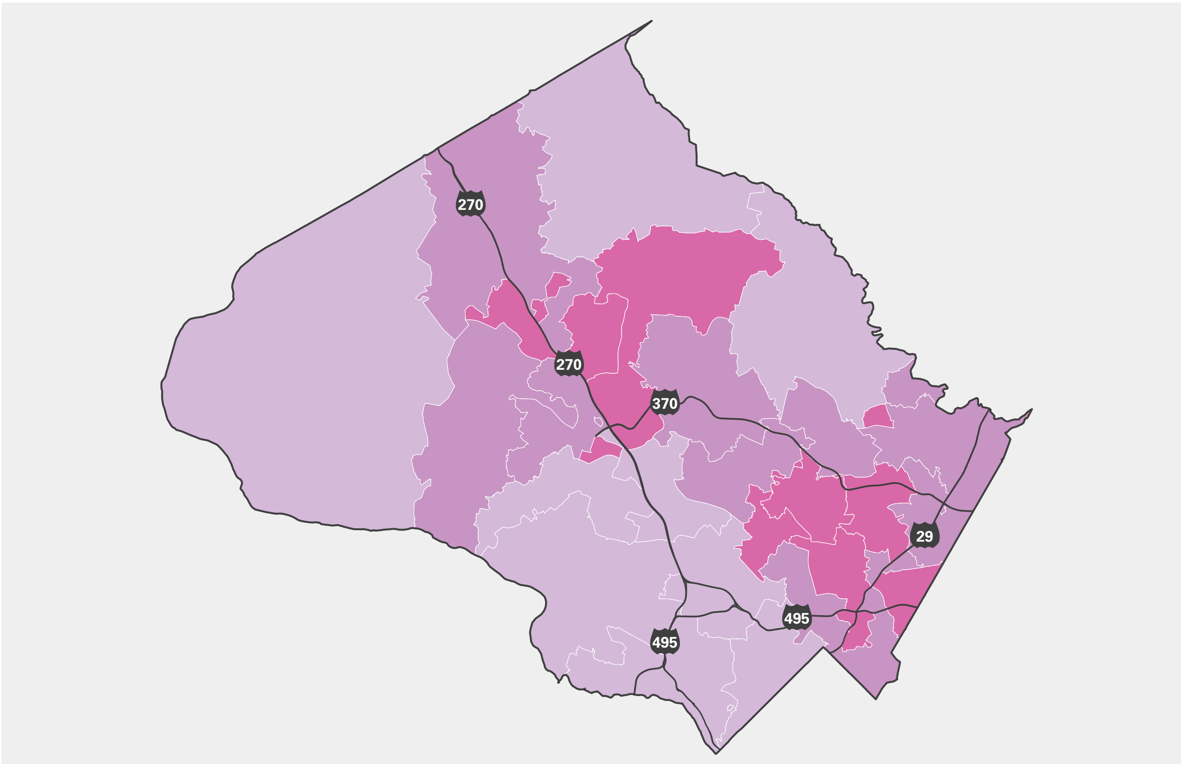
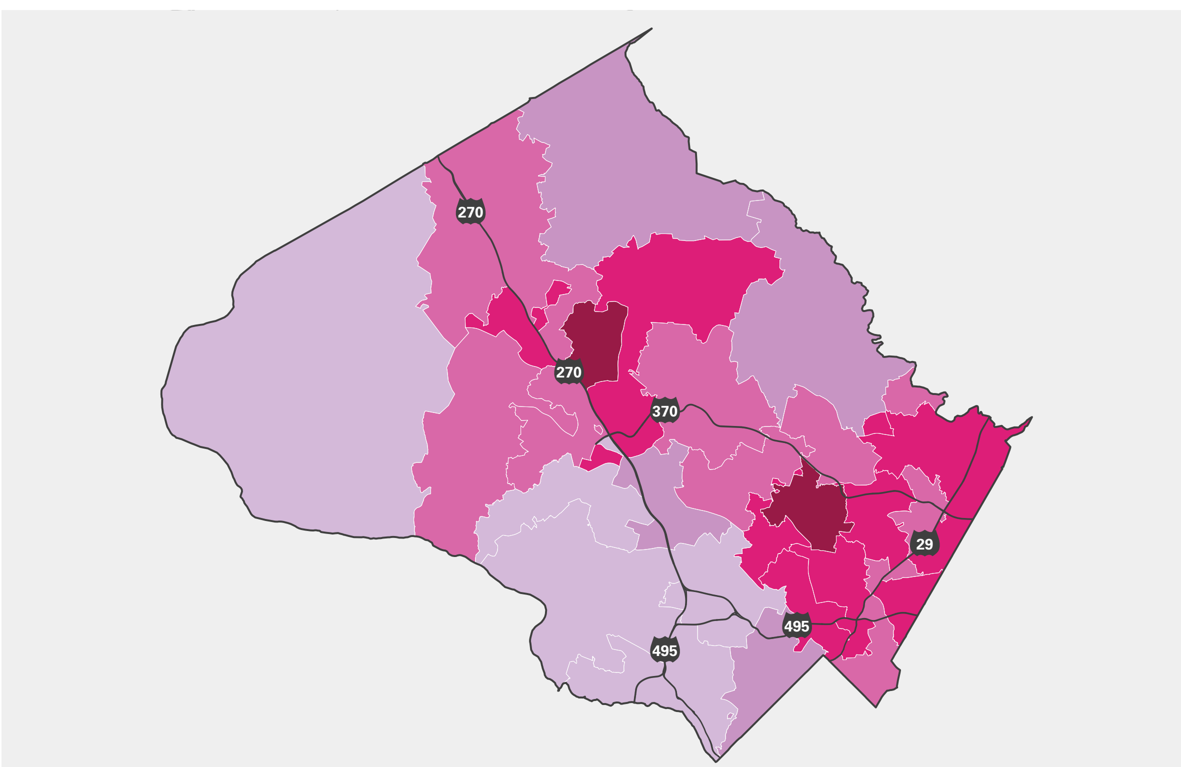


Figure 2.3.1 *Ever-FARMS Rate by Middle School Attendance Area*



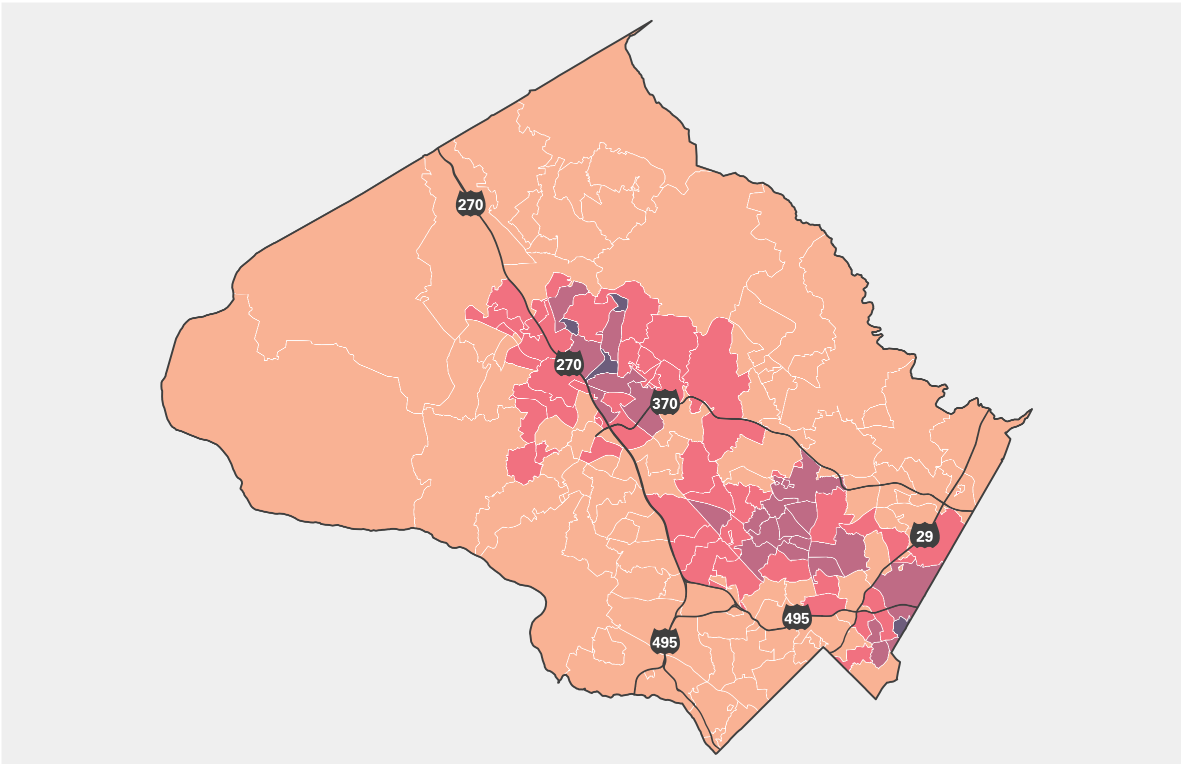
0 - 20% 20 - 40% 40 - 60% 60 - 80% 80 - 100%

Figure 2.3.1 *FARMS Rate by High School Attendance Area*



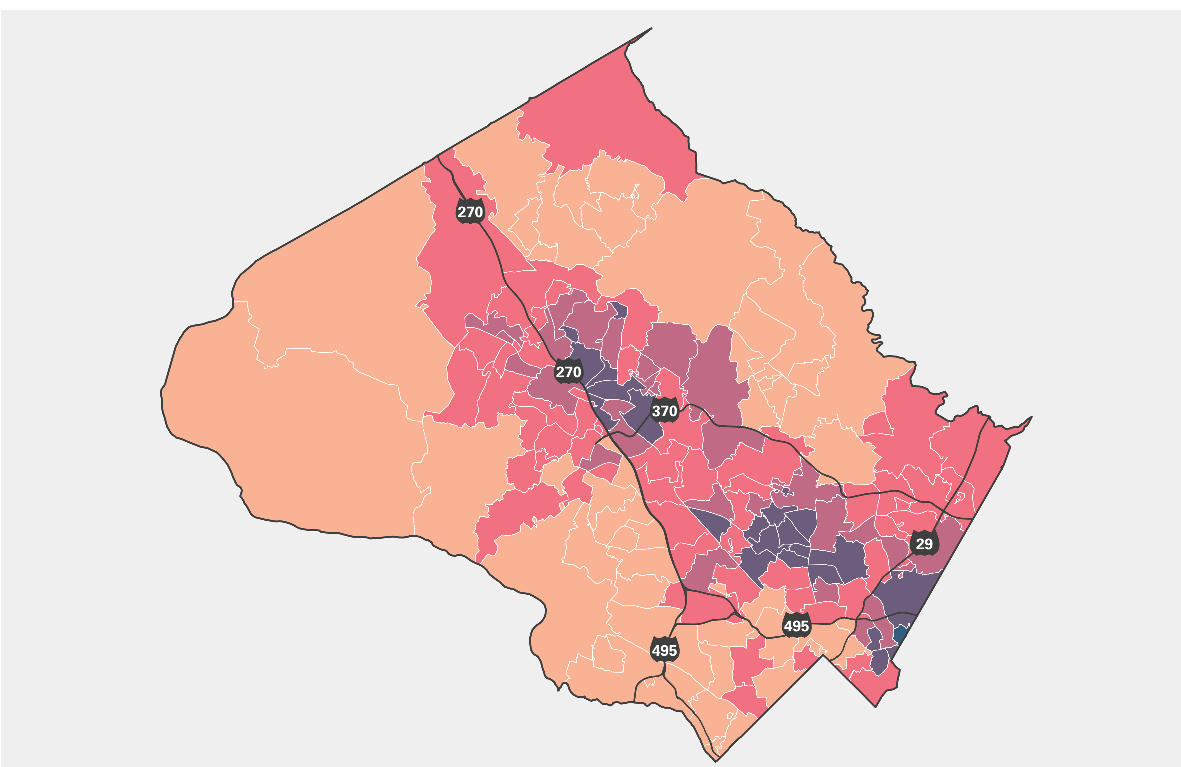
0 - 20% 20 - 40% 40 - 60% 60 - 80% 80 - 100%

Figure 2.3.1 *Ever-FARMS Rate by High School Attendance Area*



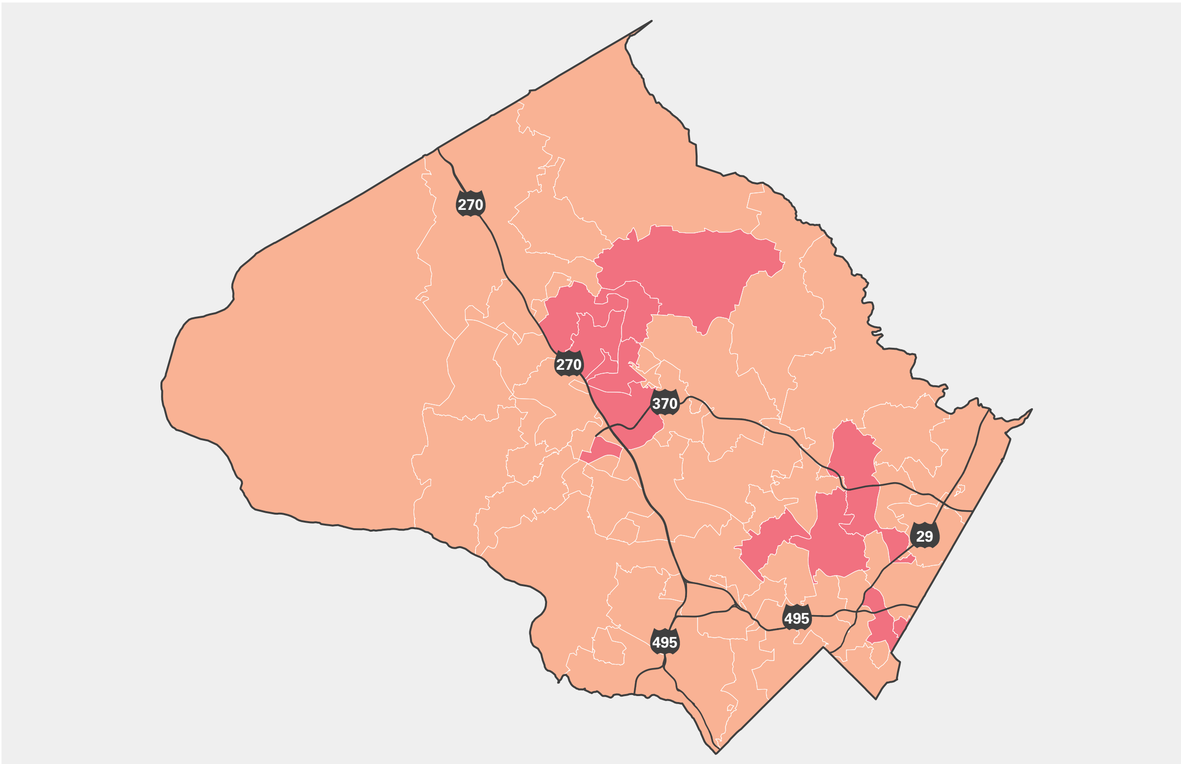
0 - 20% 20 - 40% 40 - 60% 60 - 80% 80 - 100%

Figure 2.3.1 *ESOL Rate by Elementary School Attendance Area*



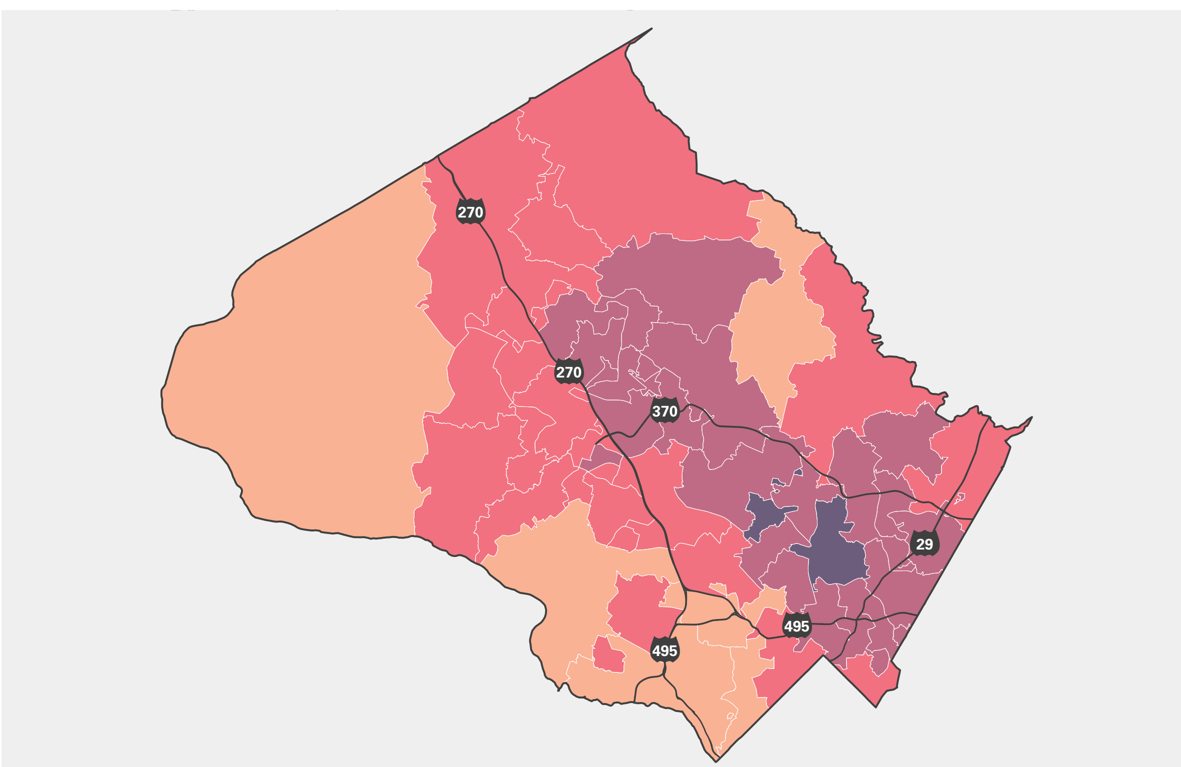
0 - 20% 20 - 40% 40 - 60% 60 - 80% 80 - 100%

Figure 2.3.1 *Ever-ESOL Rate by Elementary School Attendance Area*



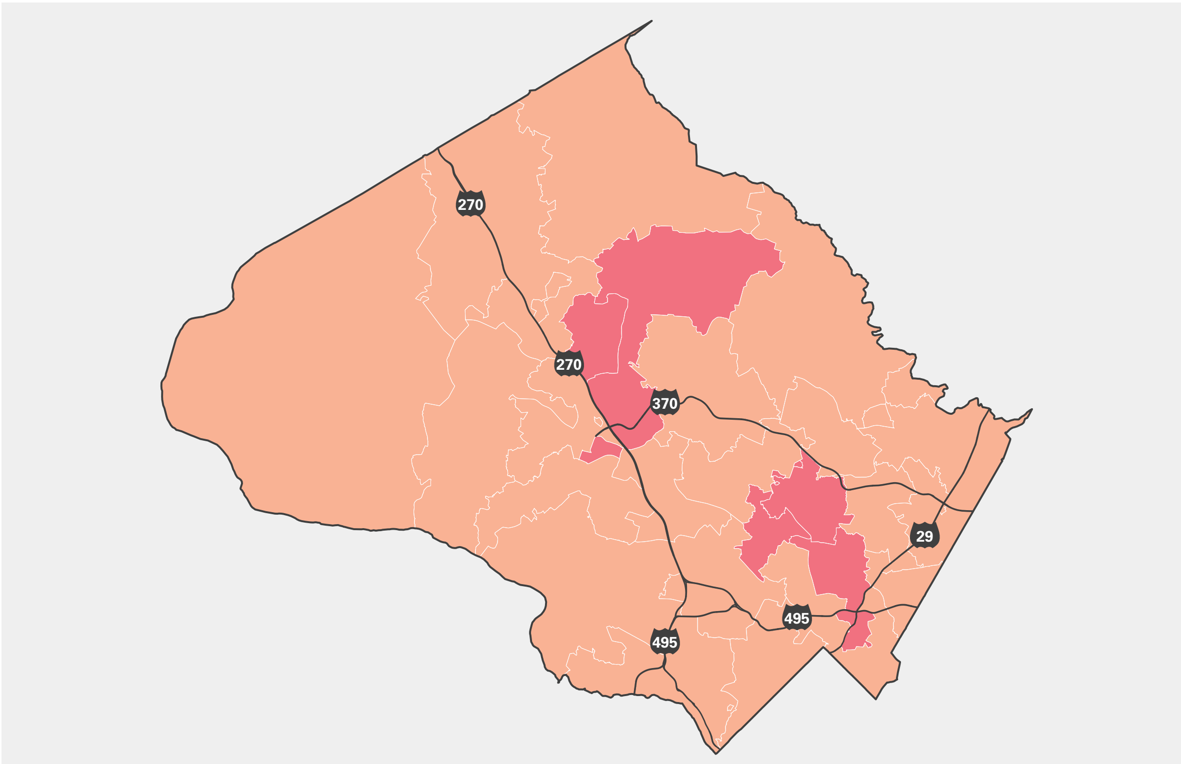
0 - 20% 20 - 40% 40 - 60% 60 - 80% 80 - 100%

Figure 2.3.1 *ESOL Rate by Middle School Attendance Area*



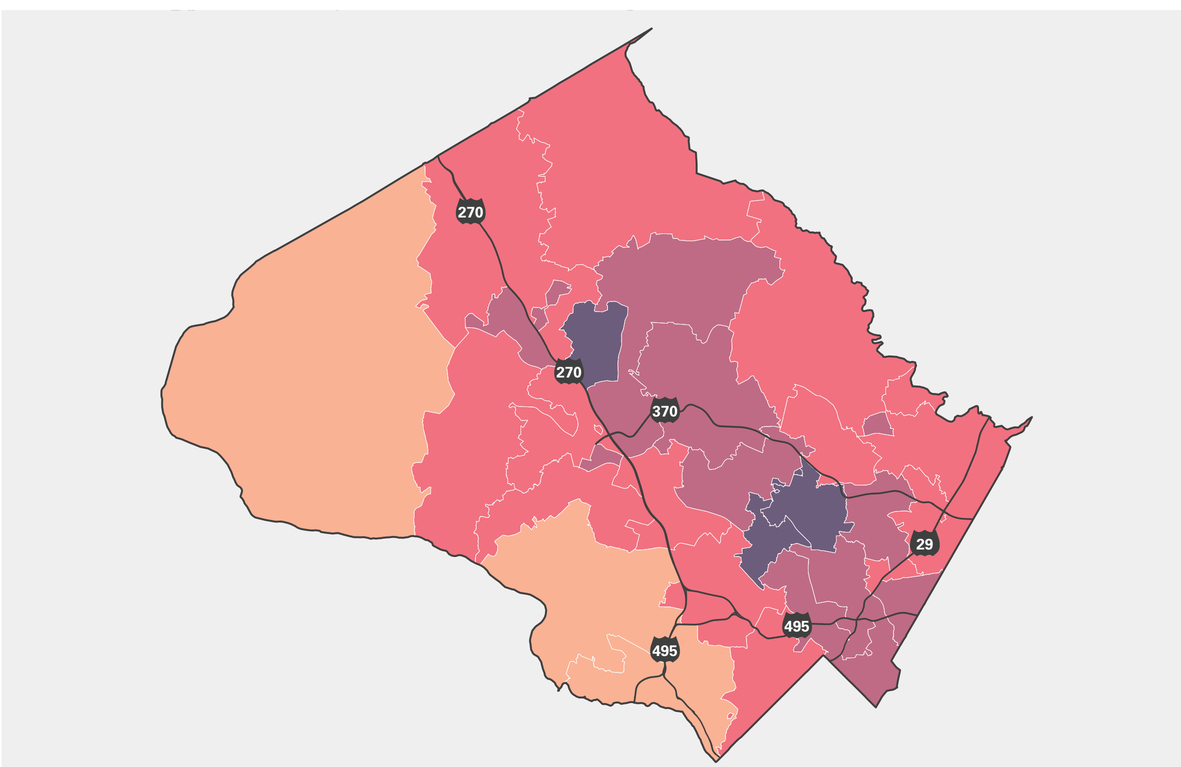
0 - 20% 20 - 40% 40 - 60% 60 - 80% 80 - 100%

Figure 2.3.1 *Ever-ESOL Rate by Middle School Attendance Area*



0 - 20% 20 - 40% 40 - 60% 60 - 80% 80 - 100%

Figure 2.3.1 *ESOL Rate by High School Attendance Area*



0 - 20% 20 - 40% 40 - 60% 60 - 80% 80 - 100%

Figure 2.3.1 *Ever-ESOL Rate by High School Attendance Area*

Cluster	School	Grades Served	Racial Dissimilarity to 3 Nearest	Socio-Economic Dissimilarity to 3 Nearest
Bethesda-Checy Chase Cluster	Chevy Chase	3-5	8.5%	7.5%
	North Chevy Chase	3-5	12.3%	5.8%
	Westland	6-8	6.4%	2.5%
	Silver Creek	6-8	17.3%	7.6%
	Bethesda-Chevy Chase	9-12	12.9%	4.6%
	Rosemary Hills	HS-2	18.7%	7.6%
	Bethesda	K-5	12.5%	2.5%
	Somerset	K-5	2.8%	2.7%
	Westbrook	K-5	9.2%	4.7%
	Rock Creek Forest	K-5	19.3%	1.8%
Clarksburg Cluster	Neelsville	6-8	31.8%	38.1%
	Rocky Hill	6-8	19.8%	23.5%
	Clarksburg	9-12	17.9%	13.6%
	Fox Chapel	HS-5	11.2%	18.4%
	Daly	HS-5	12.4%	19.7%
	Clarksburg	K-5	10.4%	8.2%
	Little Bennett	K-5	14.6%	3.9%
	William B. Gibbs Jr.	K-5	32.6%	30.9%
	Wilson Wims	K-5	7.7%	5.7%
	Snowden Farm	K-5	14.4%	12.5%
Col. Zadok Magruder Cluster	Shady Grove	6-8	13.1%	7.7%
	Redland	6-8	13.0%	11.1%
	Magruder	9-12	2.3%	3.0%
	Cashell	HS-5	9.9%	7.3%
	Resnik	HS-5	10.4%	12.8%
	Flower Hill	HS-5	5.1%	8.9%
	Mill Creek Towne	HS-5	4.6%	7.5%
	Candlewood	K-5	23.3%	13.9%
	Sequoyah	K-5	24.2%	22.1%
Damascus Cluster	Hallie Wells	6-8	23.6%	28.6%
	Baker	6-8	32.4%	14.3%
	Damascus	9-12	37.1%	29.3%
	Clearspring	HS-5	17.9%	4.6%
	Rockwell	K-5	15.8%	3.2%
	Damascus	K-5	29.0%	13.4%
	Cedar Grove	K-5	16.5%	10.9%
	Woodfield	K-5	25.2%	4.5%

Cluster	School	Grades Served	Racial Dissimilarity to 3 Nearest	Socio-Economic Dissimilarity to 3 Nearest
Downcounty Consortium	Piney Branch	3-5	22.2%	20.7%
	Pine Crest	3-5	5.9%	6.6%
	Oak View	3-5	25.3%	27.5%
	Strathmore	3-5	29.7%	15.4%
	Silver Spring International	6-8	8.7%	1.6%
	Takoma Park	6-8	28.3%	18.6%
	Eastern	6-8	18.1%	18.3%
	Sligo	6-8	11.7%	12.5%
	Loiederman	6-8	13.9%	4.7%
	Newport Mill	6-8	11.2%	6.0%
	Parkland	6-8	11.4%	5.1%
	Lee	6-8	18.2%	18.3%
	Argyle	6-8	11.0%	8.1%
	Blair	9-12	23.2%	22.2%
	Wheaton	9-12	7.3%	3.9%
	Einstein	9-12	15.4%	12.9%
	Northwood	9-12	11.0%	9.5%
	Kennedy	9-12	13.5%	11.6%
	Montgomery Knolls	HS-2	14.6%	11.5%
	New Hampshire Estates	HS-2	22.7%	22.2%
	East Silver Spring	HS-5	29.9%	31.5%
	Glen Haven	HS-5	7.8%	11.4%
	Rolling Terrace	HS-5	12.4%	6.5%
	Viers Mill	HS-5	2.1%	3.7%
	Highland	HS-5	6.7%	8.3%
	Weller Road	HS-5	10.9%	3.6%
	Highland View	HS-5	21.2%	9.1%
	Georgian Forest	HS-5	11.0%	4.8%
	Wheaton Woods	HS-5	11.0%	13.9%
	Rock View	HS-5	4.5%	7.3%
	Harmony Hills	HS-5	17.1%	9.1%
	Kemp Mill	HS-5	28.3%	35.3%
	Brookhaven	HS-5	21.5%	27.1%
	Glenallan	HS-5	23.5%	12.5%
	Takoma Park	K-2	23.5%	18.5%
	Bel Pre	K-2	22.4%	17.9%
	Sligo Creek	K-5	34.2%	48.2%

Cluster	School	Grades Served	Racial Dissimilarity to 3 Nearest	Socio-Economic Dissimilarity to 3 Nearest
	Woodlin	K-5	11.8%	8.1%
	Oakland Terrace	K-5	12.6%	17.6%
	Singer	K-5	7.9%	4.5%
	Sargent Shriver	K-5	6.5%	8.4%
	Arcola	K-5	7.9%	5.8%
	Forest Knolls	K-5	24.4%	35.5%
Gaithersburg Cluster	Forest Oak	6-8	7.5%	4.8%
	Gaithersburg	6-8	5.3%	8.9%
	Gaithersburg	9-12	25.9%	24.0%
	Washington Grove	HS-5	6.0%	10.2%
	Gaithersburg	HS-5	14.6%	9.9%
	Rosemont	HS-5	27.8%	22.5%
	Summit Hall	HS-5	8.8%	8.3%
	Strawberry Knoll	HS-5	17.6%	32.7%
	Laytonsville	K-5	35.3%	42.1%
	Goshen	K-5	9.8%	12.3%
Northeast Consortium	Cresthaven	3-5	3.5%	6.8%
	Key	6-8	22.0%	14.7%
	Banneker	6-8	22.2%	6.7%
	Briggs Chaney	6-8	18.1%	8.3%
	Farquhar	6-8	24.0%	30.8%
	White Oak	6-8	12.1%	12.6%
	Paint Branch	9-12	28.6%	10.2%
	Blake	9-12	6.7%	4.2%
	Springbrook	9-12	15.9%	7.8%
	Roscoe Nix	HS-2	6.3%	8.4%
	Fairland	HS-5	7.1%	8.2%
	JoAnn Leleck ES at Broad Acres	HS-5	42.6%	22.1%
	Jackson Road	HS-5	8.0%	22.2%
	Burnt Mills	HS-5	19.4%	7.7%
	Page	HS-5	11.8%	21.6%
	Galway	HS-5	4.9%	7.1%
	Stonegate	HS-5	6.4%	11.9%
	Greencastle	HS-5	9.1%	14.3%
	Drew	HS-5	9.9%	10.1%
	Burtonsville	K-5	8.7%	20.0%
	Cloverly	K-5	23.2%	25.0%
	Cannon Road	K-5	20.3%	11.6%

Cluster	School	Grades Served	Racial Dissimilarity to 3 Nearest	Socio-Economic Dissimilarity to 3 Nearest
	Westover	K-5	20.0%	26.1%
Northwest Cluster	Kingsview	6-8	28.0%	31.2%
	Northwest	9-12	18.8%	18.6%
	Clopper Mill	HS-5	19.8%	19.9%
	McNair	HS-5	4.0%	6.2%
	Germantown	K-5	7.4%	8.4%
	Great Seneca Creek	K-5	14.7%	3.5%
	Darnestown	K-5	28.7%	26.1%
	Matsunaga	K-5	18.8%	11.8%
	Diamond	K-5	36.2%	31.1%
Poolesville Cluster	Poole	6-8	44.2%	25.9%
	Poolesville	9-12	37.6%	32.8%
	Poolesville	K-5	29.0%	6.1%
	Monocacy	K-5	41.1%	2.8%
Quince Orchard Cluster	Ridgeview	6-8	15.8%	9.5%
	Lakelands Park	6-8	9.9%	5.0%
	Quince Orchard	9-12	12.2%	2.1%
	Carson	HS-5	23.2%	2.3%
	Brown Station	HS-5	20.0%	25.4%
	Fields Road	HS-5	14.8%	3.6%
	Marshall	K-5	21.7%	23.2%
	Jones Lane	K-5	12.3%	7.6%
Richard Montgomery Cluster	West	6-8	14.3%	16.1%
	Montgomery	9-12	15.5%	15.0%
	Twinbrook	HS-5	28.9%	30.8%
	Beall	HS-5	12.2%	3.5%
	College Gardens	HS-5	17.6%	25.9%
	Ritchie Park	K-5	19.8%	4.1%
	Bayard Rustin	K-5	17.9%	15.0%
Rockville Cluster	Wood	6-8	20.5%	20.5%
	Rockville	9-12	12.7%	7.0%
	Maryvale	HS-5	14.4%	3.1%
	Rock Creek Valley	HS-5	20.7%	25.4%
	Meadow Hall	K-5	17.8%	15.6%
	Barnsley	K-5	7.1%	8.1%
	Flower Valley	K-5	19.8%	19.4%
Seneca Valley Cluster	King	6-8	7.8%	3.0%
	Clemente	6-8	5.2%	7.6%

Cluster	School	Grades Served	Racial Dissimilarity to 3 Nearest	Socio-Economic Dissimilarity to 3 Nearest
	Seneca Valley	9-12	13.6%	14.7%
	McAuliffe	HS-5	5.0%	7.9%
	Ride	HS-5	20.1%	18.6%
	Lake Seneca	K-5	11.1%	11.6%
	Waters Landing	K-5	7.2%	3.1%
Sherwood Cluster	Parks	6-8	30.8%	27.4%
	Sherwood	9-12	37.0%	36.2%
	Brooke Grove	HS-5	14.6%	8.6%
	Sherwood	K-5	9.8%	2.0%
	Olney	K-5	3.6%	2.4%
	Greenwood	K-5	10.1%	9.8%
	Belmont	K-5	14.3%	10.0%
Thomas S. Wootton Cluster	Frost	6-8	9.9%	10.0%
	Wootton	9-12	19.6%	15.3%
	Lakewood	K-5	16.9%	10.5%
	Travilah	K-5	16.1%	9.9%
	Fallsmead	K-5	9.9%	6.9%
	Cold Spring	K-5	10.2%	6.9%
	DuFief	K-5	7.3%	9.7%
	Stone Mill	K-5	17.4%	9.1%
Walt Whitman Cluster	Pyle	6-8	13.4%	13.1%
	Whitman	9-12	26.5%	26.6%
	Bradley Hills	K-5	10.9%	5.6%
	Wood Acres	K-5	1.9%	2.8%
	Burning Tree	K-5	8.5%	0.9%
	Bannockburn	K-5	5.1%	0.4%
	Carderock Springs	K-5	6.6%	2.3%
Walter Johnson Cluster	Tilden	6-8	14.4%	14.6%
	North Bethesda	6-8	4.3%	3.6%
	Johnson	9-12	7.7%	7.3%
	Garrett Park	K-5	15.1%	18.1%
	Farmland	K-5	12.5%	6.3%
	Luxmanor	K-5	10.8%	8.8%
	Wyngate	K-5	10.0%	4.9%
	Ashburton	K-5	14.1%	5.7%
	Kensington-Parkwood	K-5	27.1%	22.8%
Watkins Mill Cluster	Montgomery Village	6-8	4.3%	9.3%
	Watkins Mill	9-12	15.4%	19.7%
	Whetstone	HS-5	5.2%	13.2%

Cluster	School	Grades Served	Racial Dissimilarity to 3 Nearest	Socio-Economic Dissimilarity to 3 Nearest
	Watkins Mill	HS-5	4.0%	10.5%
	South Lake	HS-5	7.8%	16.6%
	Stedwick	HS-5	7.8%	12.2%
Winston Churchill Cluster	Hoover	6-8	13.2%	15.5%
	Cabin John	6-8	13.7%	15.0%
	Churchill	9-12	12.0%	14.6%
	Beverly Farms	K-5	4.8%	0.8%
	Wayside	K-5	18.0%	2.4%
	Potomac	K-5	3.5%	1.5%
	Seven Locks	K-5	8.5%	0.9%
	Bells Mill	K-5	6.2%	1.5%

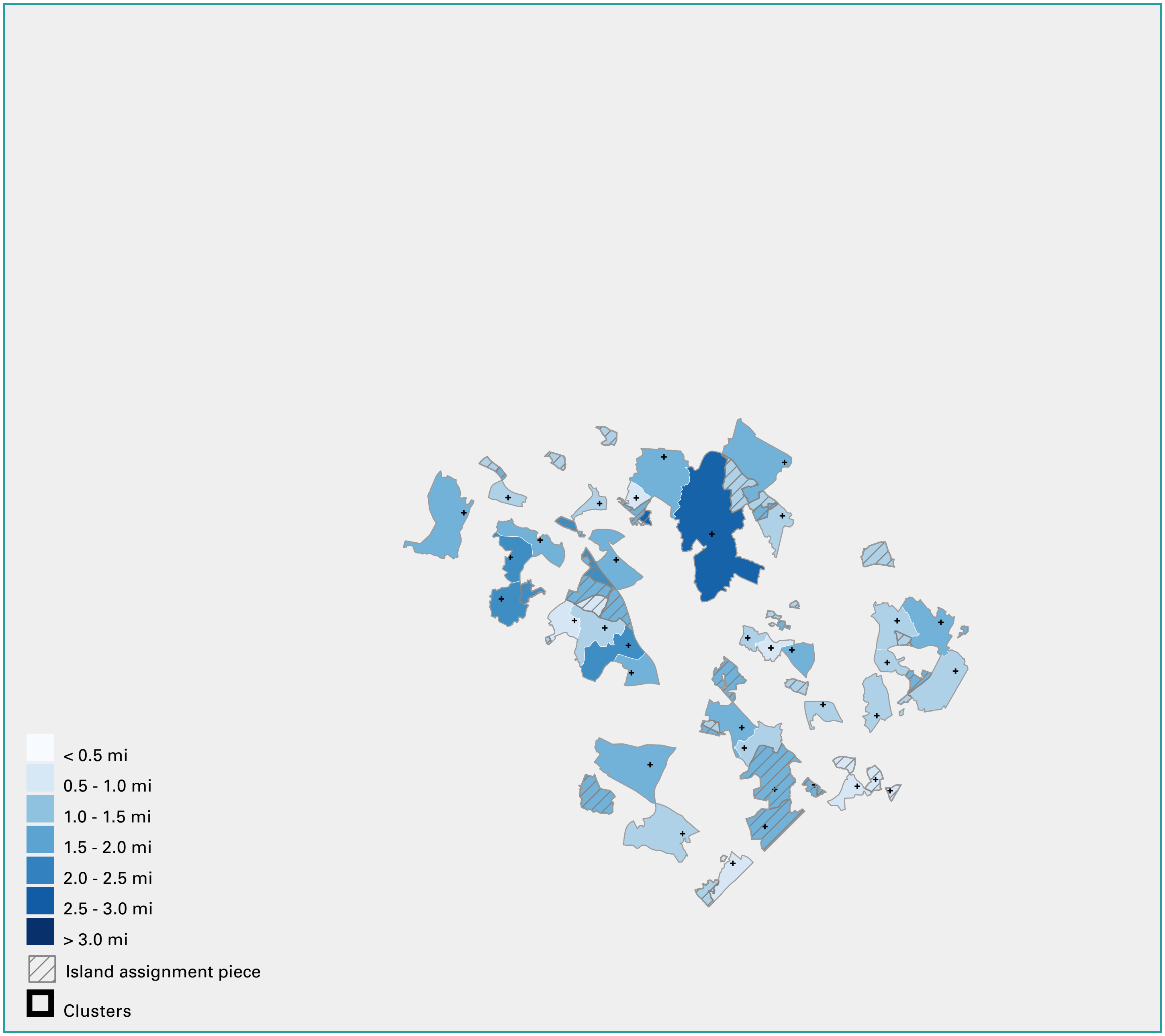
8.1 Appendix
Introduction & Analysis

D. Data Analysis
Proximity

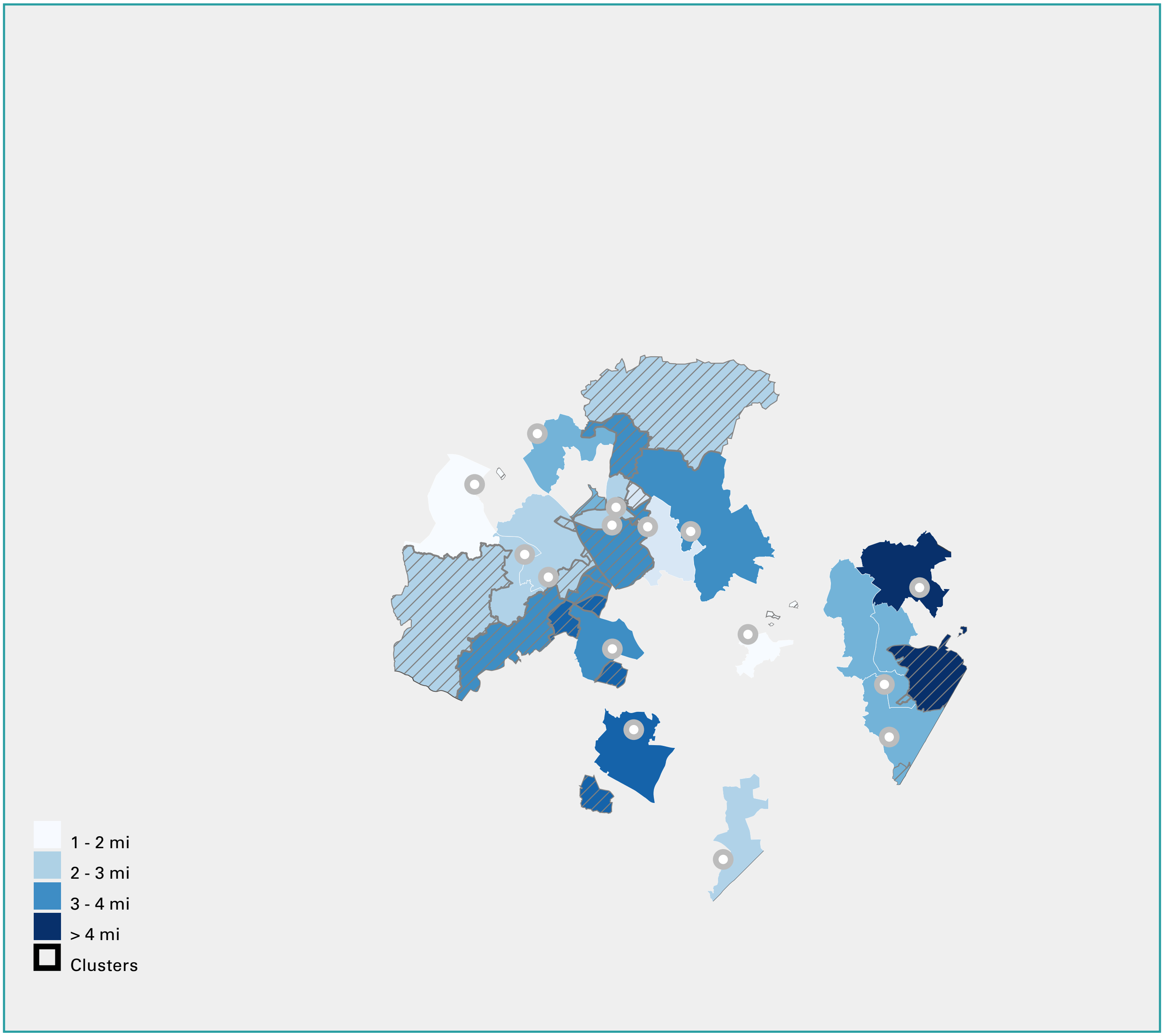
8.1

D.

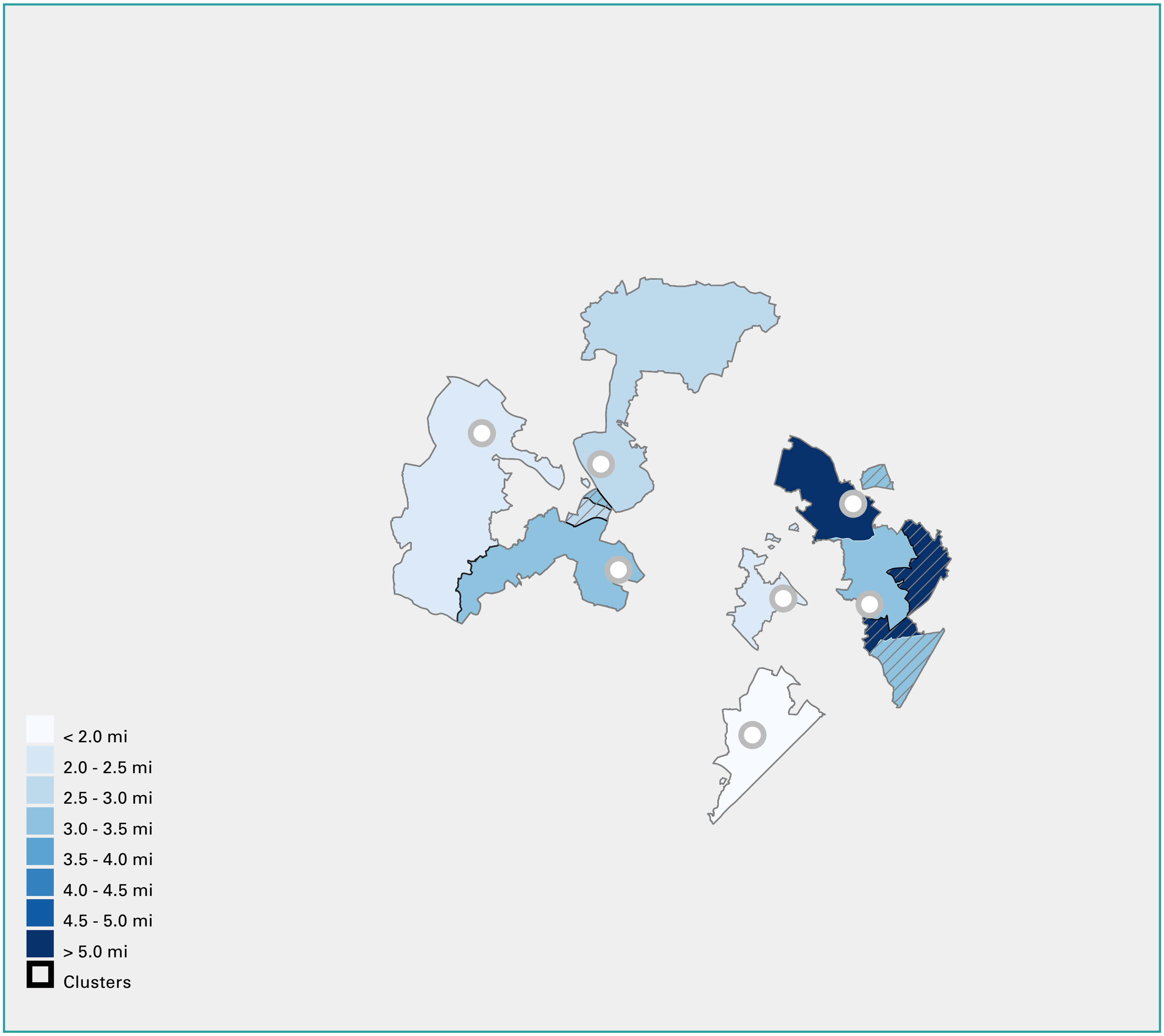
Appendix D1:
Average distance to school for island attendance areas



Elementary School



Middle Schools



High Schools

Appendix D2:
Proximity for island attendance areas

Elementary Schools

School	Average distance to school	Difference in average distance between island assignment areas	Number of assignment area pieces
Westbrook	0.68	0.00	2
Stone Mill	0.89	0.27	2
South Lake	1.13	3.47	3
Sligo Creek	0.87	0.54	2
Seven Locks	1.64	1.87	2
Sequoyah	2.99	1.90	2
Rosemont	1.68	1.48	3
Rosemary Hills	1.87	2.20	4
Ritchie Park	1.87	2.68	2
Resnik	1.78	2.13	2
Olney	1.42	1.27	2
Oak View	1.04	0.66	2
North Chevy Chase	1.32	1.18	2
New Hampshire Estates	0.61	0.71	2
Matsunaga	1.55	1.65	2
Marshall	2.00	2.28	3
Lakewood	1.46	1.88	2
Kensington-Parkwood	1.29	2.05	2
Jones Lane	2.28	4.35	2
Harmony Hills	0.89	0.47	2
Georgian Forest	1.84	1.10	2
Garrett Park	1.69	1.61	3
Galway	1.24	1.29	3
Flower Hill	0.74	1.00	3
Fallsmead	2.06	2.50	2
Fairland	1.99	1.61	3
Drew	1.19	3.11	2
Diamond	1.73	1.27	2
Clopper Mill	0.88	1.66	2
Chevy Chase	1.52	2.33	2
Cannon Road	1.37	2.20	3
Burnt Mills	1.13	0.71	2
Brookhaven	1.28	2.43	3
Belmont	1.64	1.28	2
Bannockburn	1.32	1.63	2
Arcola	1.08	0.76	2

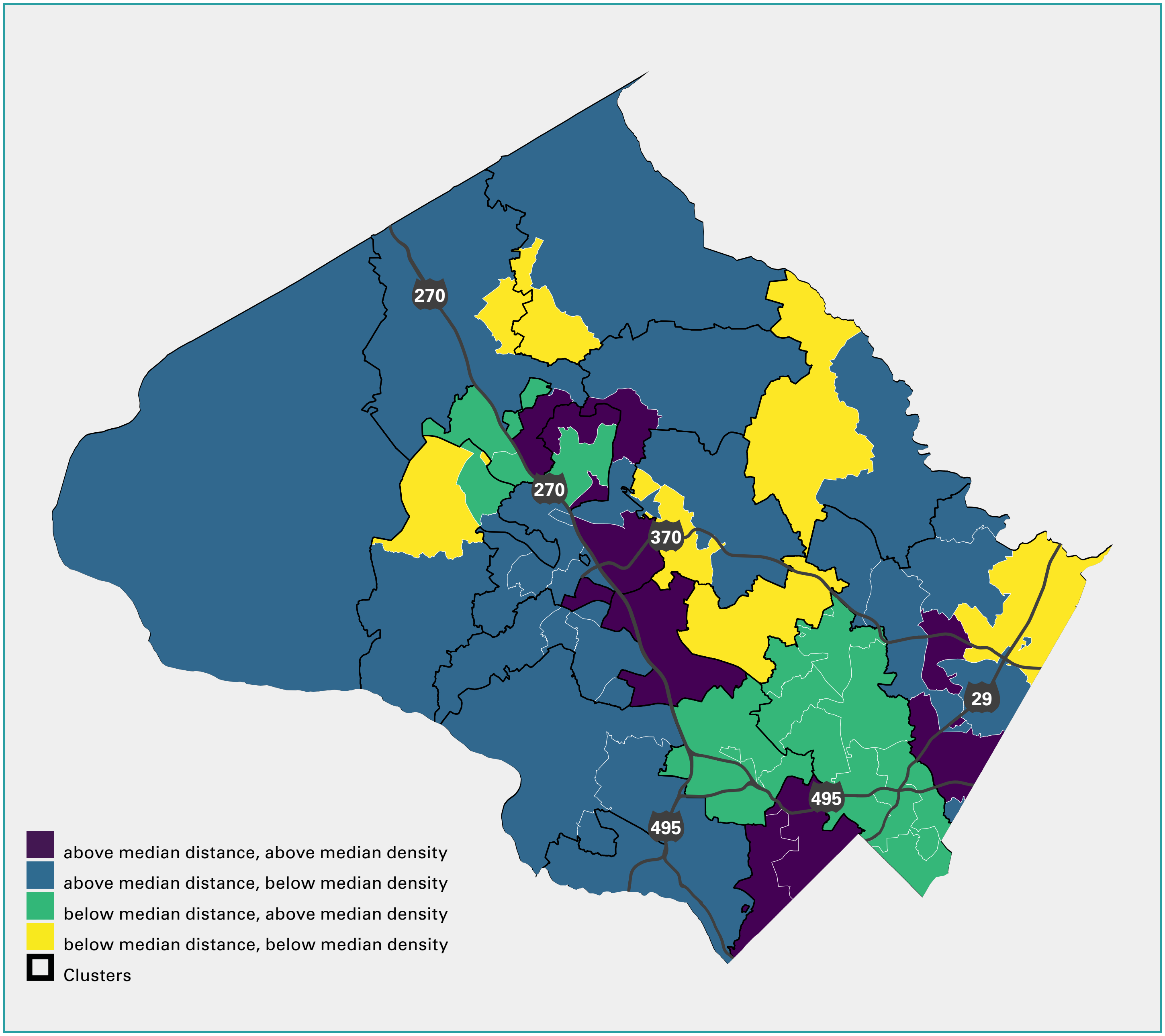
Middle Schools

School	Average distance to school	Difference in average distance between island assignment areas	Number of assignment area pieces
White Oak	3.02	1.97	2
Westland	2.15	0.00	2
Shady Grove	1.75	1.03	4
Ridgeview	2.33	1.01	3
Redland	3.29	0.60	2
Parkland	1.41	1.40	4
Neelsville	2.73	2.63	2
Lakelands Park	2.28	2.86	2
Kingsview	1.26	0.76	2
Key	2.50	3.25	3
Gaithersburg	2.23	4.76	2
Frost	3.09	2.96	3
Forest Oak	3.43	2.32	3
Cabin John	3.52	5.33	5
Briggs Chaney	4.18	3.56	5

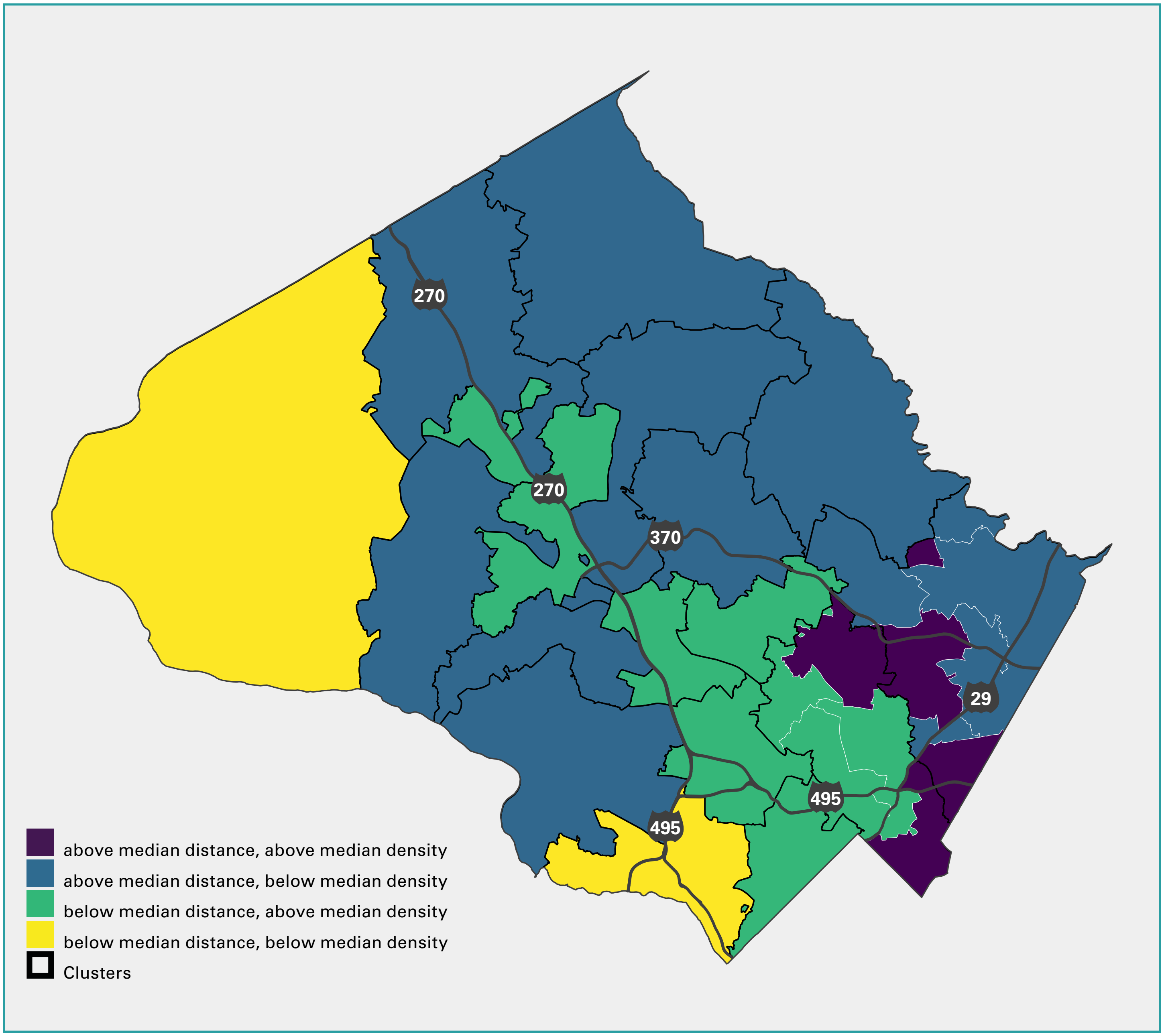
High Schools

School	Average distance to school	Difference in average distance between island assignment areas	Number of assignment area pieces
Wootton	3.20	0.46	2
Wheaton	1.56	2.42	4
Springbrook	3.27	3.99	3
Northwest	2.25	3.28	2
Gaithersburg	2.53	1.15	2
Blake	4.86	3.50	4
Bethesda-Chevy Chase	1.94	0.00	2

Appendix D3:
Population density and average distance to school, MS and HS maps



MIddle School



High Schools

Appendix D4:
Population density and average distance to school

Elementary Schools

Cluster	School	Distance to current school	Distance to nearest school	Population Density
Bethesda-Chevy Chase	Bethesda Elementary	0.68	0.68	6674
Bethesda-Chevy Chase	Chevy Chase Elementary	1.52	0.80	10884
Bethesda-Chevy Chase	Somerset Elementary	0.82	0.74	7995
Bethesda-Chevy Chase	Westbrook Elementary	0.68	0.68	6598
Bethesda-Chevy Chase	North Chevy Chase Elementary	1.32	0.79	6909
Bethesda-Chevy Chase	Rock Creek Forest Elementary	0.53	0.52	8488
Bethesda-Chevy Chase	Rosemary Hills Elementary	1.87	1.11	10884
Clarksburg	Little Bennett Elementary	0.95	0.88	338
Clarksburg	Snowden Farm Elementary	0.50	0.50	1307
Clarksburg	Wilson Wims Elementary	0.70	0.61	1983
Clarksburg	William B. Gibbs Jr. Elementary	1.07	0.87	2553
Clarksburg	Captain James E. Daly Elementary	0.93	0.70	4495
Clarksburg	Fox Chapel Elementary	0.71	0.62	5153
Clarksburg	Clarksburg Elementary	2.01	1.76	440
Col. Zadok Magruder	Cashell Elementary	0.65	0.65	2300
Col. Zadok Magruder	Candlewood Elementary	1.32	1.18	1538
Col. Zadok Magruder	Sequoyah Elementary	2.99	1.40	738
Col. Zadok Magruder	Mill Creek Towne Elementary	0.96	0.80	4343
Col. Zadok Magruder	Flower Hill Elementary	0.74	0.73	7574
Col. Zadok Magruder	Judith A. Resnik Elementary	1.78	0.95	1813
Damascus	Clearspring Elementary	1.46	1.18	1149
Damascus	Woodfield Elementary	1.04	1.02	1180
Damascus	Cedar Grove Elementary	1.61	0.77	1435
Damascus	Damascus Elementary	1.92	1.91	318
Damascus	Lois P. Rockwell Elementary	1.35	0.98	1674
Downcounty Consortium	Piney Branch Elementary	0.94	0.81	8168
Downcounty Consortium	Flora M. Singer Elementary	0.86	0.77	6473

Cluster	School	Distance to current school	Distance to nearest school	Population Density
Downcounty Consortium	Oakland Terrace Elementary	0.64	0.57	6773
Downcounty Consortium	Glen Haven Elementary	0.56	0.56	8542
Downcounty Consortium	Oak View Elementary	1.04	0.67	11474
Downcounty Consortium	Woodlin Elementary	0.94	0.84	8315
Downcounty Consortium	Pine Crest Elementary	1.35	0.78	7461
Downcounty Consortium	East Silver Spring Elementary	0.50	0.50	11314
Downcounty Consortium	Sligo Creek Elementary	0.87	0.75	10467
Downcounty Consortium	Takoma Park Elementary	1.05	0.88	8168
Downcounty Consortium	Rolling Terrace Elementary	0.39	0.39	14474
Downcounty Consortium	Montgomery Knolls Elementary	1.02	0.73	7461
Downcounty Consortium	Highland Elementary	0.57	0.57	10488
Downcounty Consortium	Strathmore Elementary	1.61	1.46	7906
Downcounty Consortium	Glenallan Elementary	0.90	0.88	4041
Downcounty Consortium	Brookhaven Elementary	1.28	1.08	5816
Downcounty Consortium	Kemp Mill Elementary	2.41	0.95	3785
Downcounty Consortium	Forest Knolls Elementary	0.91	0.84	6076
Downcounty Consortium	Harmony Hills Elementary	0.89	0.70	7884
Downcounty Consortium	Viers Mill Elementary	0.70	0.69	6573
Downcounty Consortium	Rock View Elementary	0.89	0.71	6762
Downcounty Consortium	Arcola Elementary	1.08	0.67	9381
Downcounty Consortium	Wheaton Woods Elementary	0.50	0.50	8036
Downcounty Consortium	Georgian Forest Elementary	1.84	1.22	4401
Downcounty Consortium	Highland View Elementary	0.56	0.54	6965

Cluster	School	Distance to current school	Distance to nearest school	Population Density
Downcounty Consortium	Sargent Shriver Elementary	0.61	0.56	8541
Downcounty Consortium	Weller Road Elementary	0.53	0.50	7483
Downcounty Consortium	New Hampshire Estates Elementary	0.61	0.43	11474
Downcounty Consortium	Bel Pre Elementary	1.73	1.54	7906
Gaithersburg	Laytonsville Elementary	2.30	1.96	318
Gaithersburg	Strawberry Knoll Elementary	0.70	0.59	8559
Gaithersburg	Summit Hall Elementary	0.84	0.82	9084
Gaithersburg	Rosemont Elementary	1.68	1.01	5847
Gaithersburg	Gaithersburg Elementary	0.66	0.65	8950
Gaithersburg	Washington Grove Elementary	1.34	1.04	4029
Gaithersburg	Goshen Elementary	1.20	1.01	3341
Northeast Consortium	Cresthaven Elementary	1.47	1.03	5932
Northeast Consortium	Dr. Charles R. Drew Elementary	1.19	0.91	1917
Northeast Consortium	Westover Elementary	1.24	0.97	2384
Northeast Consortium	Greencastle Elementary	0.92	0.90	7412
Northeast Consortium	Stonegate Elementary	1.83	1.54	1785
Northeast Consortium	Galway Elementary	1.24	1.12	4174
Northeast Consortium	William Tyler Page Elementary	1.13	1.08	3179
Northeast Consortium	Cannon Road Elementary	1.37	0.84	3537
Northeast Consortium	Burnt Mills Elementary	1.13	1.00	2884
Northeast Consortium	Jackson Road Elementary	1.33	1.25	3528
Northeast Consortium	Roscoe R. Nix Elementary	1.76	1.10	5932
Northeast Consortium	Burtonsville Elementary	1.65	1.57	1764
Northeast Consortium	Fairland Elementary	1.99	1.33	2945
Northeast Consortium	Cloverly Elementary	2.08	1.93	777
Northeast Consortium	JoAnn Leleck Elementary at Broad Acres	1.09	0.48	11686
Northwest	Clopper Mill Elementary	0.88	0.61	7411
Northwest	Germantown Elementary	0.67	0.62	5850
Northwest	Ronald McNair Elementary	0.82	0.72	4303
Northwest	Great Seneca Creek Elementary	0.83	0.72	2583
Northwest	Darnestown Elementary	1.71	1.56	386

Cluster	School	Distance to current school	Distance to nearest school	Population Density
Northwest	Spark M. Matsunaga Elementary	1.55	0.92	1302
Northwest	Diamond Elementary	1.73	1.18	3122
Poolesville	Poolesville Elementary	1.13	1.12	96
Poolesville	Monocacy Elementary	3.49	3.02	144
Quince Orchard	Thurgood Marshall Elementary	2.00	0.90	2017
Quince Orchard	Jones Lane Elementary	2.28	1.01	2773
Quince Orchard	Brown Station Elementary	0.69	0.68	3642
Quince Orchard	Fields Road Elementary	0.63	0.63	5368
Quince Orchard	Rachel Carson Elementary	1.01	0.79	4964
Richard Montgomery	College Gardens Elementary	0.84	0.81	3432
Richard Montgomery	Twinbrook Elementary	0.82	0.76	7462
Richard Montgomery	Beall Elementary	0.79	0.69	5220
Richard Montgomery	Ritchie Park Elementary	1.87	0.90	3573
Richard Montgomery	Bayard Rustin Elementary	0.89	0.76	3854
Rockville	Meadow Hall Elementary	0.70	0.61	4720
Rockville	Lucy V. Barnsley Elementary	1.01	0.90	4581
Rockville	Flower Valley Elementary	1.39	1.11	3381
Rockville	Rock Creek Valley Elementary	0.86	0.62	5434
Rockville	Maryvale Elementary	0.51	0.51	2644
Seneca Valley	Dr. Sally K. Ride Elementary	2.04	0.90	4303
Seneca Valley	S. Christa McAuliffe Elementary	0.87	0.87	7997
Seneca Valley	Waters Landing Elementary	0.75	0.73	6225
Seneca Valley	Lake Seneca Elementary	1.10	0.84	6350
Sherwood	Brooke Grove Elementary	0.63	0.60	3503
Sherwood	Sherwood Elementary	2.23	1.88	630
Sherwood	Greenwood Elementary	1.28	1.13	463
Sherwood	Olney Elementary	1.42	1.27	2759
Sherwood	Belmont Elementary	1.64	1.19	1672
Thomas S. Wootton	Lakewood Elementary	1.46	1.01	3502
Thomas S. Wootton	Travilah Elementary	1.16	1.16	1164
Thomas S. Wootton	Fallsmead Elementary	2.06	1.12	2688
Thomas S. Wootton	Cold Spring Elementary	0.56	0.50	3802
Thomas S. Wootton	Dufief Elementary	0.70	0.70	2892
Thomas S. Wootton	Stone Mill Elementary	0.89	0.87	4827

Cluster	School	Distance to current school	Distance to nearest school	Population Density
Walt Whitman	Wood Acres Elementary	0.81	0.79	3501
Walt Whitman	Burning Tree Elementary	1.13	0.95	2715
Walt Whitman	Bannockburn Elementary	1.32	1.00	2083
Walt Whitman	Carderock Springs Elementary	2.06	1.89	851
Walt Whitman	Bradley Hills Elementary	0.88	0.71	4938
Walter Johnson	Garrett Park Elementary	1.69	1.15	6763
Walter Johnson	Farmland Elementary	1.35	1.22	5864
Walter Johnson	Luxmanor Elementary	1.33	1.18	5196
Walter Johnson	Wyngate Elementary	0.94	0.79	4884
Walter Johnson	Ashburton Elementary	1.24	1.09	4783
Walter Johnson	Kensington Parkwood Elementary	1.29	0.88	5622
Watkins Mill	Watkins Mill Elementary	0.87	0.80	6883
Watkins Mill	Whetstone Elementary	1.03	0.88	6590
Watkins Mill	South Lake Elementary	1.13	0.68	7552
Watkins Mill	Stedwick Elementary	1.19	1.03	4444
Winston Churchill	Seven Locks Elementary	1.64	1.30	1463
Winston Churchill	Potomac Elementary	2.30	1.88	718
Winston Churchill	Wayside Elementary	1.62	1.05	1532
Winston Churchill	Bells Mill Elementary	0.83	0.83	2981
Winston Churchill	Beverly Farms Elementary	0.99	0.86	3161

Middle Schools

Cluster	School	Distance to current school	Distance to nearest school	Population Density
Bethesda-Chevy Chase	Westland Middle	2.15	1.79	7,057
Bethesda-Chevy Chase	Silver Creek Middle	2.58	2.21	4,721
Clarksburg	Rocky Hill Middle	2.46	2.19	685
Clarksburg	Neelsville Middle	2.73	1.61	5,184
Col. Zadok Magruder	Redland Middle	3.29	2.3	1,195
Col. Zadok Magruder	Shady Grove Middle	1.75	1.66	3,177
Damascus	John T. Baker Middle	2.4	2.36	547
Damascus	Hallie Wells Middle	1.18	1.13	1,530
Downcounty Consortium	Newport Mill Middle	1.19	1.01	7,440
Downcounty Consortium	A. Mario Loiederman Middle	1	0.98	7,446
Downcounty Consortium	Sligo Middle	1.34	1.11	7,800
Downcounty Consortium	Eastern Middle	1.3	1.22	8,702
Downcounty Consortium	Takoma Park Middle	1.11	1.08	9,097
Downcounty Consortium	Silver Spring International Middle	1.43	1.02	8,840
Downcounty Consortium	Col. E. Brooke Lee Middle	2.06	1.53	4,984
Downcounty Consortium	Argyle Middle	1.4	1.19	6,933
Downcounty Consortium	Parkland Middle	1.41	1.31	7,192
Gaithersburg	Gaithersburg Middle	2.23	1.82	1,280
Gaithersburg	Forest Oak Middle	3.43	1.92	4,825
Northeast Consortium	Briggs Chaney Middle	4.18	2.34	2,122
Northeast Consortium	White Oak Middle	3.02	2.08	2,666
Northeast Consortium	Francis Scott Key Middle	2.5	1.67	4,249
Northeast Consortium	Benjamin Banneker Middle	1.99	1.96	2,894
Northeast Consortium	William H. Farquhar Middle	3.14	2.43	947
Northwest	Kingsview Middle	1.26	1.23	1,944
Poolesville	John Poole Middle	2.88	2.68	116
Quince Orchard	Ridgeview Middle	2.33	2.02	3,067
Quince Orchard	Lakelands Park Middle	2.28	1.73	1,399
Richard Montgomery	Julius West Middle	2.19	2.01	4,309
Rockville	Earle B. Wood Middle	1.72	1.38	3,688
Seneca Valley	Roberto W Clemente Middle	1.74	1.23	6,937
Seneca Valley	Dr. Martin Luther King Jr. Middle	1.65	1.24	5,602
Sherwood	Rosa Parks Middle	1.9	1.86	1,068
Thomas S. Wootton	Robert Frost Middle	3.09	2.4	2,154
Walt Whitman	Thomas W. Pyle Middle	2.17	1.67	2,312
Walter Johnson	North Bethesda Middle	2.04	1.28	5,010
Walter Johnson	Tilden Middle	1.61	1.61	6,047
Watkins Mill	Montgomery Village Middle	1.04	1.04	6,451
Winston Churchill	Cabin John Middle	3.52	1.98	2,557
Winston Churchill	Herbert Hoover Middle	2.64	2.33	1,112

High Schools

Cluster	School	Distance to current school	Distance to nearest school	Population Density
Bethesda-Chevy Chase	Bethesda-Chevy Chase High	1.94	1.86	5,748
Clarksburg	Clarksburg High	2.52	1.99	1,045
Col. Zadok Magruder	Col. Zadok Magruder High	3.45	2.93	1,665
Damascus	Damascus High	2.83	2.49	635
Downcounty Consortium	John F. Kennedy High	2.67	2.14	5,984
Downcounty Consortium	Montgomery Blair High	2.41	2.41	9,927
Downcounty Consortium	Wheaton High	1.56	1.51	7,343
Downcounty Consortium	Northwood High	1.76	1.19	6,473
Downcounty Consortium	Albert Einstein High	2.01	1.54	7,536
Gaithersburg	Gaithersburg High	2.53	2.07	2,317
Northeast Consortium	Springbrook High	3.27	2.47	3,711
Northeast Consortium	James Hubert Blake High	4.86	2.29	2,103
Northeast Consortium	Paint Branch High	2.26	2.22	2,479
Northwest	Northwest High	2.25	1.72	1,471
Poolesville	Poolesville High	2.01	1.88	116
Quince Orchard	Quince Orchard High	2.20	1.94	3,670
Richard Montgomery	Richard Montgomery High	1.97	1.66	4,309
Rockville	Rockville High	1.84	1.69	3,688
Seneca Valley	Seneca Valley High	1.51	1.46	6,108
Sherwood	Sherwood High	3.65	3.40	917
Thomas S. Wootton	Thomas S. Wootton High	3.20	2.52	2,589
Walt Whitman	Walt Whitman High	2.11	2.09	2,312
Walter Johnson	Walter Johnson High	2.24	1.92	5,516
Watkins Mill	Watkins Mill High	1.94	1.80	6,061
Winston Churchill	Winston Churchill High	2.83	2.53	1,312

Appendix D5:
Average distance to school, average distance to closest school, and difference in distance between schools

Elementary Schools

School	Distance to current school (miles)	Distance to closest school (miles)	Number of closest schools	difference in distance between current school and closest school	percent students for whom current school is closest school	Difference in distance between current school and three closest schools
Bethesda Elementary	0.68	0.68	4	0.01	96.04%	-0.72
Chevy Chase Elementary	1.52	0.80	4	0.71	62.96%	-0.15
Somerset Elementary	0.82	0.74	5	0.08	71.16%	-0.40
Westbrook Elementary	0.68	0.68	2	0.00	99.69%	-0.95
North Chevy Chase Elementary	1.32	0.79	6	0.53	46.44%	-0.83
Rock Creek Forest Elementary	0.53	0.52	2	0.02	92.45%	-1.85
Rosemary Hills Elementary	1.87	1.11	4	0.75	36.60%	-0.21
Clarksburg Elementary	2.01	1.76	5	0.25	79.21%	-1.72
Fox Chapel Elementary	0.71	0.62	2	0.10	84.13%	-1.57
Captain James E. Daly Elementary	0.93	0.70	2	0.23	69.13%	-1.28
Little Bennett Elementary	0.95	0.88	5	0.07	67.29%	-2.23
William B. Gibbs Jr. Elementary	1.07	0.87	4	0.19	72.96%	-1.77
Wilson Wims Elementary	0.70	0.61	4	0.09	60.26%	-2.10
Snowden Farm Elementary	0.50	0.50	1	0.00	100.00%	-2.62
Beverly Farms Elementary	0.99	0.86	4	0.12	71.93%	-1.04
Wayside Elementary	1.62	1.05	3	0.58	69.65%	-1.40
Potomac Elementary	2.30	1.88	4	0.42	65.90%	-2.24
Seven Locks Elementary	1.64	1.30	6	0.34	53.48%	-1.98
Bells Mill Elementary	0.83	0.83	4	0.00	97.28%	-2.01
Lois P. Rockwell Elementary	1.35	0.98	5	0.37	26.93%	-2.13
Damascus Elementary	1.92	1.91	3	0.01	97.81%	-3.74
Cedar Grove Elementary	1.61	0.77	3	0.84	11.73%	-1.07
Woodfield Elementary	1.04	1.02	2	0.02	90.31%	-3.07
Clearspring Elementary	1.46	1.18	3	0.28	59.90%	-3.35
Sligo Creek Elementary	0.87	0.75	5	0.12	52.81%	-0.42
Piney Branch Elementary	0.94	0.81	3	0.13	69.58%	-0.24
Takoma Park Elementary	1.05	0.88	4	0.17	71.88%	-1.11
East Silver Spring Elementary	0.50	0.50	2	0.00	99.75%	-0.54
Pine Crest Elementary	1.35	0.78	2	0.56	48.36%	-0.03
Woodlin Elementary	0.94	0.84	6	0.10	69.31%	-0.58
Oak View Elementary	1.04	0.67	5	0.37	22.78%	-0.99

School	Distance to current school (miles)	Distance to closest school (miles)	Number of closest schools	difference in distance between current school and closest school	percent students for whom current school is closest school	Difference in distance between current school and three closest schools
Glen Haven Elementary	0.56	0.56	4	0.01	93.45%	-0.67
Oakland Terrace Elementary	0.64	0.57	3	0.07	72.26%	-0.59
Flora M. Singer Elementary	0.86	0.77	3	0.10	75.13%	-0.62
Rolling Terrace Elementary	0.39	0.39	3	0.00	96.19%	-1.46
Viers Mill Elementary	0.70	0.69	2	0.01	96.07%	-0.88
Highland Elementary	0.57	0.57	3	0.00	96.62%	-0.66
Montgomery Knolls Elementary	1.02	0.73	4	0.29	54.12%	-1.79
Weller Road Elementary	0.53	0.50	5	0.03	78.41%	-0.41
Sargent Shriver Elementary	0.61	0.56	5	0.04	78.91%	-0.49
Bel Pre Elementary	1.73	1.54	4	0.19	61.84%	-1.03
Highland View Elementary	0.56	0.54	4	0.02	79.74%	-1.12
Georgian Forest Elementary	1.84	1.22	6	0.62	9.14%	-0.43
Wheaton Woods Elementary	0.50	0.50	1	0.00	100.00%	-1.40
Arcola Elementary	1.08	0.67	6	0.41	46.66%	-0.20
New Hampshire Estates Elementary	0.61	0.43	5	0.18	57.69%	-2.02
Rock View Elementary	0.89	0.71	4	0.18	55.91%	-0.79
Harmony Hills Elementary	0.89	0.70	7	0.19	51.01%	-0.89
Forest Knolls Elementary	0.91	0.84	5	0.07	80.73%	-1.20
Kemp Mill Elementary	2.41	0.95	5	1.46	14.54%	0.47
Brookhaven Elementary	1.28	1.08	7	0.20	41.75%	-0.84
Glenallan Elementary	0.90	0.88	4	0.03	95.76%	-1.20
Strathmore Elementary	1.61	1.46	4	0.15	63.68%	-0.93
Laytonsville Elementary	2.30	1.96	4	0.34	43.96%	-0.82
Goshen Elementary	1.20	1.01	3	0.19	72.91%	-1.07
Washington Grove Elementary	1.34	1.04	7	0.30	15.44%	-0.26
Gaithersburg Elementary	0.66	0.65	2	0.02	95.71%	-0.80
Rosemont Elementary	1.68	1.01	7	0.67	22.74%	-0.13
Summit Hall Elementary	0.84	0.82	2	0.02	92.41%	-0.98
Strawberry Knoll Elementary	0.70	0.59	5	0.11	71.76%	-1.18
Garrett Park Elementary	1.69	1.15	4	0.54	45.28%	-0.17
Farmland Elementary	1.35	1.22	2	0.13	61.30%	-0.57
Luxmanor Elementary	1.33	1.18	4	0.15	69.76%	-0.54
Wyngate Elementary	0.94	0.79	4	0.15	56.37%	-1.26
Ashburton Elementary	1.24	1.09	5	0.15	69.33%	-1.31
Kensington Parkwood Elementary	1.29	0.88	6	0.41	51.86%	-0.73
Candlewood Elementary	1.32	1.18	3	0.14	69.32%	-0.99
Cashell Elementary	0.65	0.65	1	0.00	100.00%	-2.30
Judith A. Resnik Elementary	1.78	0.95	5	0.83	53.62%	-0.03

School	Distance to current school (miles)	Distance to closest school (miles)	Number of closest schools	difference in distance between current school and closest school	percent students for whom current school is closest school	Difference in distance between current school and three closest schools
Flower Hill Elementary	0.74	0.73	2	0.01	91.75%	-1.03
Mill Creek Towne Elementary	0.96	0.80	2	0.15	84.26%	-1.28
Sequoyah Elementary	2.99	1.40	7	1.59	31.14%	0.22
Twinbrook Elementary	0.82	0.76	4	0.06	82.56%	-0.58
Beall Elementary	0.79	0.69	3	0.10	79.36%	-0.87
Ritchie Park Elementary	1.87	0.90	5	0.97	51.66%	-0.25
College Gardens Elementary	0.84	0.81	2	0.03	97.48%	-1.13
Bayard Rustin Elementary	0.89	0.76	2	0.12	80.00%	-0.85
Burtonsville Elementary	1.65	1.57	2	0.08	79.19%	-1.90
Fairland Elementary	1.99	1.33	5	0.66	14.37%	-0.63
JoAnn Leleck Elementary at Broad Acres	1.09	0.48	4	0.60	82.88%	-1.38
Jackson Road Elementary	1.33	1.25	4	0.08	73.38%	-0.50
Roscoe R. Nix Elementary	1.76	1.10	3	0.66	52.74%	0.00
Cloverly Elementary	2.08	1.93	5	0.15	64.43%	-0.97
Burnt Mills Elementary	1.13	1.00	2	0.14	63.51%	-0.71
Cannon Road Elementary	1.37	0.84	4	0.53	55.31%	-0.50
William Tyler Page Elementary	1.13	1.08	3	0.04	76.67%	-1.43
Galway Elementary	1.24	1.12	4	0.11	91.62%	-1.87
Stonegate Elementary	1.83	1.54	5	0.29	64.83%	-1.21
Greencastle Elementary	0.92	0.90	4	0.02	92.93%	-2.04
Westover Elementary	1.24	0.97	3	0.27	60.42%	-1.16
Dr. Charles R. Drew Elementary	1.19	0.91	5	0.28	70.21%	-1.60
Cresthaven Elementary	1.47	1.03	3	0.44	21.38%	-0.87
Clopper Mill Elementary	0.88	0.61	4	0.27	68.37%	-0.53
Germantown Elementary	0.67	0.62	3	0.05	80.60%	-0.89
Ronald McNair Elementary	0.82	0.72	3	0.10	65.07%	-1.15
Great Seneca Creek Elementary	0.83	0.72	2	0.11	74.25%	-1.17
Darnestown Elementary	1.71	1.56	5	0.14	79.36%	-1.99
Spark M. Matsunaga Elementary	1.55	0.92	3	0.64	48.33%	-0.97
Diamond Elementary	1.73	1.18	4	0.55	36.60%	-0.64
Poolesville Elementary	1.13	1.12	2	0.01	99.38%	-8.03
Monocacy Elementary	3.49	3.02	5	0.47	73.20%	-5.36
Rachel Carson Elementary	1.01	0.79	3	0.23	84.10%	-0.49
Thurgood Marshall Elementary	2.00	0.90	5	1.11	31.79%	0.21
Jones Lane Elementary	2.28	1.01	3	1.27	55.32%	-0.05
Brown Station Elementary	0.69	0.68	2	0.01	94.58%	-2.05
Fields Road Elementary	0.63	0.63	2	0.00	98.80%	-1.92
Maryvale Elementary	0.51	0.51	1	0.00	100.00%	-0.81

School	Distance to current school (miles)	Distance to closest school (miles)	Number of closest schools	difference in distance between current school and closest school	percent students for whom current school is closest school	Difference in distance between current school and three closest schools
Meadow Hall Elementary	0.70	0.61	2	0.09	75.63%	-0.49
Lucy V. Barnsley Elementary	1.01	0.90	4	0.11	50.91%	-0.74
Flower Valley Elementary	1.39	1.11	4	0.27	61.48%	-0.64
Rock Creek Valley Elementary	0.86	0.62	4	0.24	47.09%	-1.10
Lake Seneca Elementary	1.10	0.84	3	0.27	63.27%	-0.71
Waters Landing Elementary	0.75	0.73	2	0.02	91.26%	-1.27
S. Christa McAuliffe Elementary	0.87	0.87	1	0.00	100.00%	-1.15
Dr. Sally K. Ride Elementary	2.04	0.90	4	1.14	43.62%	-0.23
Sherwood Elementary	2.23	1.88	6	0.35	54.50%	-1.14
Olney Elementary	1.42	1.27	4	0.15	56.46%	-1.40
Greenwood Elementary	1.28	1.13	5	0.15	55.29%	-2.29
Belmont Elementary	1.64	1.19	4	0.45	35.95%	-1.37
Brooke Grove Elementary	0.63	0.60	4	0.03	79.60%	-2.16
Whetstone Elementary	1.03	0.88	4	0.15	67.92%	-1.57
Watkins Mill Elementary	0.87	0.80	3	0.08	75.21%	-1.65
South Lake Elementary	1.13	0.68	3	0.44	79.57%	-0.89
Stedwick Elementary	1.19	1.03	4	0.16	84.99%	-1.51
Bradley Hills Elementary	0.88	0.71	4	0.16	67.39%	-0.76
Wood Acres Elementary	0.81	0.79	3	0.02	89.27%	-1.28
Burning Tree Elementary	1.13	0.95	6	0.18	67.18%	-0.98
Bannockburn Elementary	1.32	1.00	4	0.32	51.43%	-1.72
Carderock Springs Elementary	2.06	1.89	2	0.17	72.62%	-2.60
Lakewood Elementary	1.46	1.01	3	0.45	41.83%	-0.90
Travilah Elementary	1.16	1.16	3	0.00	97.56%	-1.70
Fallsmead Elementary	2.06	1.12	6	0.93	40.49%	-0.46
Cold Spring Elementary	0.56	0.50	3	0.05	74.65%	-1.86
Dufief Elementary	0.70	0.70	3	0.00	96.46%	-0.92
Stone Mill Elementary	0.89	0.87	3	0.02	93.32%	-1.37

Middle Schools

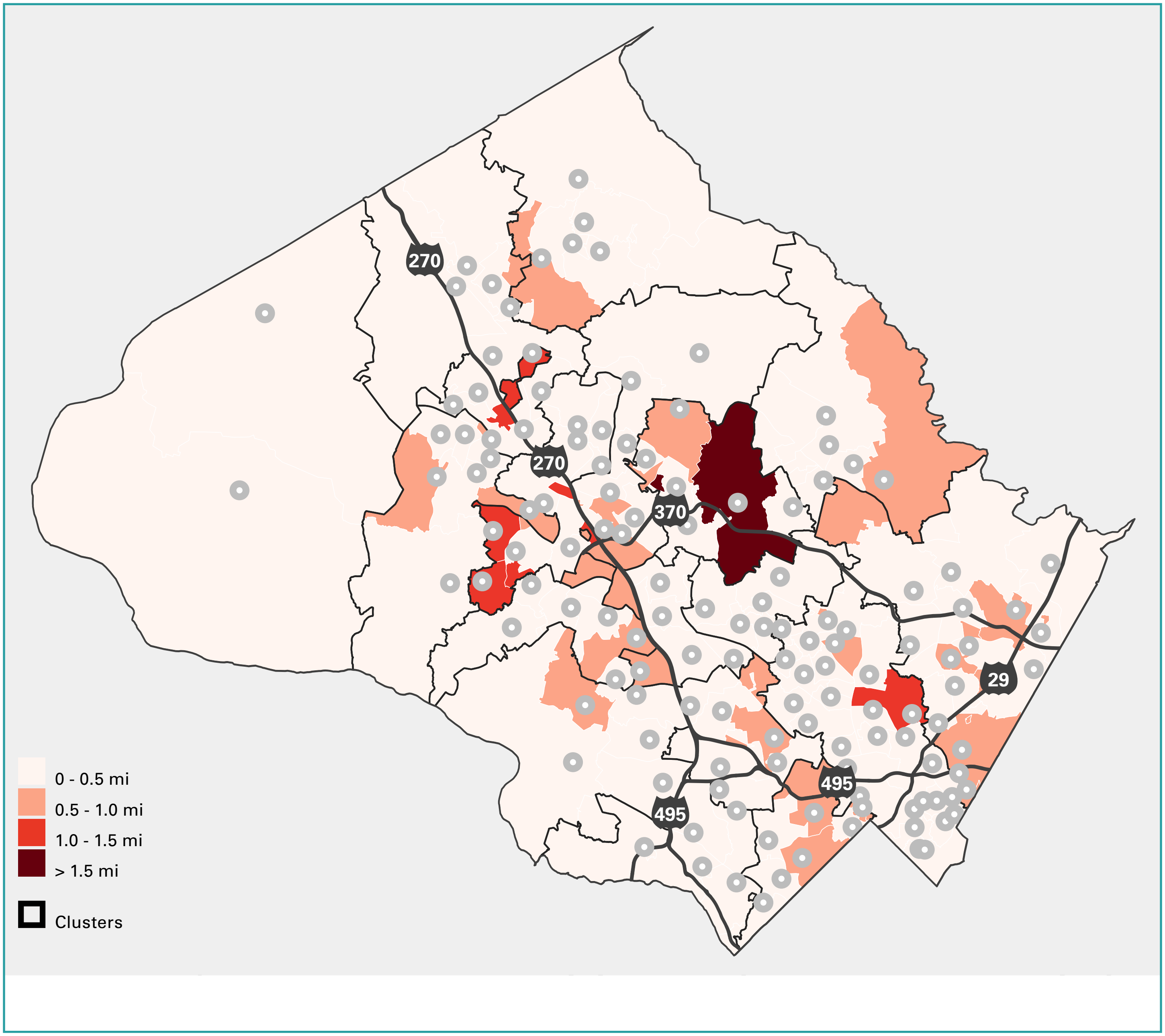
School	Distance to current school (miles)	Distance to closest school (miles)	Number of closest schools	difference in distance between current school and closest school	percent students for whom current school is closest school	Difference in distance between current school and three closest schools
Westland Middle	2.15	1.79	4	0.37	61.95%	-0.56
Silver Creek Middle	2.58	2.21	4	0.37	50.75%	-0.17
Neelsville Middle	2.73	1.61	3	1.12	54.69%	0.33
Rocky Hill Middle	2.46	2.19	5	0.27	65.03%	-0.60
Herbert Hoover Middle	2.64	2.33	4	0.31	63.59%	-0.47
Cabin John Middle	3.52	1.98	6	1.54	50.27%	0.82
Hallie Wells Middle	1.18	1.13	3	0.06	68.65%	-0.94
John T. Baker Middle	2.40	2.36	2	0.04	95.52%	-1.89
Silver Spring International Middle	1.43	1.02	4	0.41	58.00%	-0.40
Takoma Park Middle	1.11	1.08	3	0.04	89.82%	-0.74
Eastern Middle	1.30	1.22	2	0.08	85.38%	-0.40
Sligo Middle	1.34	1.11	3	0.23	74.77%	-1.70
A. Mario Loiederman Middle	1.00	0.98	3	0.02	93.55%	-1.46
Newport Mill Middle	1.19	1.01	4	0.18	70.63%	-1.70
Parkland Middle	1.41	1.31	3	0.11	61.92%	-0.30
Col. E. Brooke Lee Middle	2.06	1.53	5	0.53	24.35%	0.18
Argyle Middle	1.40	1.19	3	0.21	72.41%	-0.74
Forest Oak Middle	3.43	1.92	6	1.51	3.96%	0.73
Gaithersburg Middle	2.23	1.82	7	0.41	56.68%	-0.30
Tilden Middle	1.61	1.61	3	0.00	98.44%	-1.05
North Bethesda Middle	2.04	1.28	5	0.77	43.88%	-1.06
Shady Grove Middle	1.75	1.66	3	0.09	44.05%	-3.24
Redland Middle	3.29	2.30	7	0.99	14.72%	0.52
Julius West Middle	2.19	2.01	7	0.18	67.27%	-0.54
Francis Scott Key Middle	2.50	1.67	4	0.83	66.84%	-0.08
Benjamin Banneker Middle	1.99	1.96	2	0.03	95.66%	-1.95
Briggs Chaney Middle	4.18	2.34	5	1.84	18.36%	0.74
William H. Farquhar Middle	3.14	2.43	4	0.70	46.98%	-0.68
White Oak Middle	3.02	2.08	7	0.94	41.71%	0.05
Kingsview Middle	1.26	1.23	3	0.03	92.13%	-1.12
John Poole Middle	2.88	2.68	3	0.20	93.40%	-5.13
Ridgeview Middle	2.33	2.02	3	0.30	51.00%	-0.57
Lakelands Park Middle	2.28	1.73	6	0.55	30.66%	-1.62
Earle B. Wood Middle	1.72	1.38	5	0.33	46.82%	-0.39
Dr. Martin Luther King Jr. Middle	1.65	1.24	3	0.41	81.92%	-0.33
Roberto W Clemente Middle	1.74	1.23	3	0.51	38.20%	-0.24

School	Distance to current school (miles)	Distance to closest school (miles)	Number of closest schools	difference in distance between current school and closest school	percent students for whom current school is closest school	Difference in distance between current school and three closest schools
Rosa Parks Middle	1.90	1.86	2	0.04	88.32%	-2.36
Montgomery Village Middle	1.04	1.04	1	0.00	100.00%	-1.39
Thomas W. Pyle Middle	2.17	1.67	4	0.50	55.06%	-0.44
Robert Frost Middle	3.09	2.40	4	0.69	46.45%	-0.14

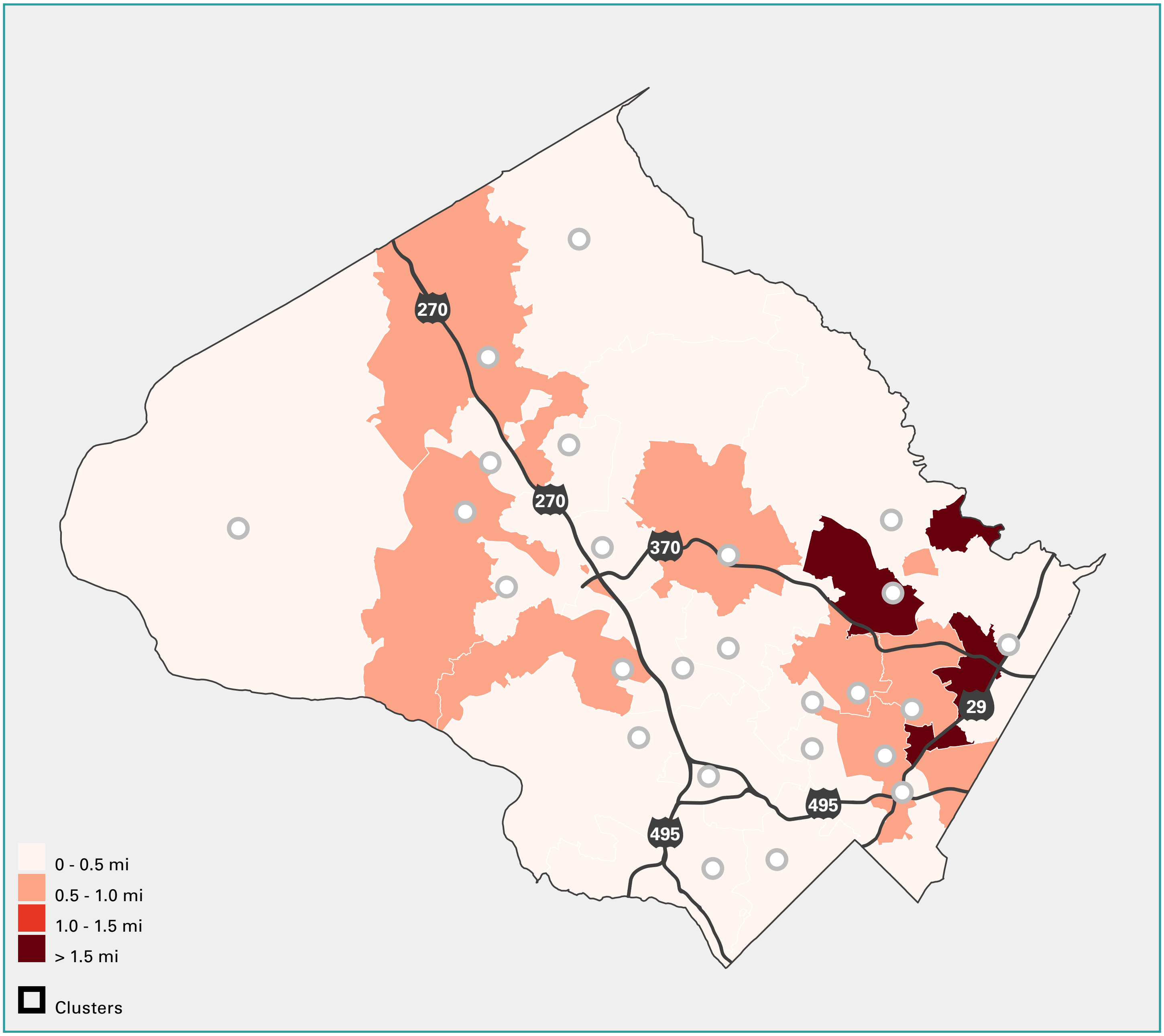
High Schools

School	Distance to current school (miles)	Distance to closest school (miles)	Number of closest schools	difference in distance between current school and closest school	percent students for whom current school is closest school	Difference in distance between current school and three closest schools
Bethesda-Chevy Chase High	1.94	1.86	4	0.07	81.78%	-1.55
Clarksburg High	2.52	1.99	5	0.53	66.88%	-5.75
Winston Churchill High	2.83	2.53	5	0.30	75.17%	-2.50
Damascus High	2.83	2.49	3	0.35	85.89%	-8.40
Montgomery Blair High	2.41	2.41	1	0.00	100.00%	-4.44
Wheaton High	1.56	1.51	4	0.04	89.02%	-2.60
Albert Einstein High	2.01	1.54	5	0.47	50.36%	-2.65
Northwood High	1.76	1.19	5	0.56	44.61%	-3.15
John F. Kennedy High	2.67	2.14	3	0.54	41.08%	-2.21
Gaithersburg High	2.53	2.07	6	0.46	68.49%	-3.79
Walter Johnson High	2.24	1.92	7	0.32	60.12%	-1.70
Col. Zadok Magruder High	3.45	2.93	3	0.51	49.37%	-3.23
Richard Montgomery High	1.97	1.66	5	0.31	58.00%	-0.66
Paint Branch High	2.26	2.22	4	0.04	94.83%	-2.79
James Hubert Blake High	4.86	2.29	7	2.57	23.05%	-0.17
Springbrook High	3.27	2.47	6	0.79	29.43%	-2.76
Northwest High	2.25	1.72	4	0.53	50.04%	-3.25
Poolesville High	2.01	1.88	4	0.14	95.41%	-6.08
Quince Orchard High	2.20	1.94	3	0.26	61.56%	-2.59
Rockville High	1.84	1.69	5	0.15	72.28%	-1.35
Seneca Valley High	1.51	1.46	3	0.05	88.45%	-4.49
Sherwood High	3.65	3.40	3	0.25	73.98%	-2.84
Watkins Mill High	1.94	1.80	2	0.15	77.88%	-4.35
Walt Whitman High	2.11	2.09	4	0.03	93.83%	-3.00
Thomas S. Wootton High	3.20	2.52	4	0.68	52.99%	-1.38

Appendix D6:
Difference in distance for ES and HS



Elementary Schools



High Schools

Appendix D7:
Percentage of students in walk zone vs. walkshed

Elementary Schools

School	% in walk zone	% in walk-shed	% difference for all schools all levels
Bethesda ES	7.56%	85.98%	78.43%
Rock Creek Forest ES	30.73%	100.00%	69.27%
Bells Mill ES	23.44%	75.72%	52.28%
Fields Road ES	34.03%	84.62%	50.58%
Germantown ES	36.19%	85.07%	48.88%
Woodlin ES	10.75%	55.98%	45.23%
Montgomery Knolls ES	20.98%	62.67%	41.69%
Somerset ES	36.38%	77.61%	41.23%
Sargent Shriver ES	52.73%	92.36%	39.63%
Burnt Mills ES	20.92%	60.23%	39.31%
Wood Acres ES	32.51%	71.62%	39.11%
Waters Landing ES	36.79%	73.24%	36.45%
East Silver Spring ES	53.13%	88.47%	35.34%
Twinbrook ES	46.43%	81.09%	34.66%
Arcola ES	16.29%	48.42%	32.13%
Harmony Hills ES	18.20%	49.61%	31.42%
Beall ES	41.06%	72.25%	31.19%
Mill Creek Towne ES	35.50%	66.45%	30.94%
Westbrook ES	59.50%	89.41%	29.91%
Little Bennett ES	42.65%	72.23%	29.58%
Maryvale ES	69.79%	99.15%	29.36%
Forest Knolls ES	42.19%	68.89%	26.71%
Wheaton Woods ES	73.67%	99.76%	26.09%
Fallsmead ES	20.00%	45.87%	25.87%
Highland View ES	72.15%	97.47%	25.32%
Bayard Rustin ES	43.57%	68.52%	24.95%
Jones Lane ES	19.91%	44.44%	24.54%
DuFief ES	50.88%	74.78%	23.89%
Strawberry Knoll ES	63.45%	87.06%	23.61%
Fox Chapel ES	47.83%	70.87%	23.04%
College Gardens ES	35.66%	58.60%	22.94%
New Hampshire Estates ES	54.55%	77.27%	22.73%
Wayside ES	23.14%	45.85%	22.71%
Brookhaven ES	27.83%	50.43%	22.61%
Ashburton ES	18.68%	40.60%	21.92%
Ritchie Park ES	28.39%	49.36%	20.97%

School	% in walk zone	% in walk-shed	% difference for all schools all levels
Bradley Hills ES	44.50%	65.05%	20.54%
North Chevy Chase ES	16.73%	37.05%	20.32%
Spark M. Matsunaga ES	11.80%	31.47%	19.67%
Cannon Road ES	32.38%	51.96%	19.58%
Olney ES	21.77%	40.84%	19.07%
Whetstone ES	39.25%	58.31%	19.06%
Wilson Wims ES	63.44%	81.64%	18.20%
Burning Tree ES	27.18%	44.62%	17.44%
Rolling Terrace ES	82.55%	99.54%	17.00%
Viers Mill ES	63.13%	79.72%	16.59%
Bannockburn ES	20.79%	37.20%	16.41%
Watkins Mill ES	55.87%	72.23%	16.36%
Roscoe R. Nix ES	22.19%	38.27%	16.07%
Kensington-Parkwood ES	30.00%	45.81%	15.81%
S. Christa McAuliffe ES	36.31%	51.65%	15.34%
Cashell ES	75.36%	90.36%	15.00%
Rachel Carson ES	42.42%	57.33%	14.91%
Oakland Terrace ES	73.48%	88.08%	14.60%
Flora M. Singer ES	53.50%	68.01%	14.51%
Greencastle ES	46.47%	60.92%	14.45%
Lois P. Rockwell ES	8.49%	22.28%	13.79%
Woodfield ES	45.35%	58.53%	13.18%
Poolesville ES	42.50%	55.63%	13.13%
Sligo Creek ES	49.37%	61.90%	12.53%
Piney Branch ES	38.13%	50.43%	12.31%
Flower Hill ES	63.66%	75.77%	12.11%
Glenallan ES	54.50%	66.37%	11.86%
Galway ES	31.47%	42.66%	11.20%
Greenwood ES	39.14%	49.51%	10.37%
Wyngate ES	50.07%	60.34%	10.27%
Stone Mill ES	48.49%	58.75%	10.26%
South Lake ES	69.77%	79.46%	9.69%
Chevy Chase ES	38.27%	47.84%	9.57%
Oak View ES	32.41%	41.67%	9.26%
Takoma Park ES	41.68%	50.44%	8.76%
Fairland ES	4.51%	12.70%	8.20%
Clearspring ES	24.26%	32.18%	7.92%
Luxmanor ES	13.55%	21.44%	7.89%
Laytonsville ES	2.20%	9.34%	7.14%
Flower Valley ES	21.95%	28.96%	7.01%
Rock Creek Valley ES	49.31%	56.23%	6.93%
Strathmore ES	6.67%	13.57%	6.90%

School	% in walk zone	% in walk-shed	% difference for all schools all levels
JoAnn Leleck ES at Broad Acres	78.95%	85.63%	6.69%
Westover ES	28.75%	35.42%	6.67%
Washington Grove ES	14.19%	20.79%	6.60%
Beverly Farms ES	44.56%	50.88%	6.32%
Clopper Mill ES	66.89%	73.06%	6.16%
Weller Road ES	88.57%	94.62%	6.05%
Candlewood ES	15.07%	20.27%	5.21%
Stonegate ES	42.07%	47.13%	5.06%
Meadow Hall ES	70.08%	74.79%	4.71%
Captain James Daly ES	62.66%	67.28%	4.62%
Thurgood Marshall ES	26.49%	31.09%	4.61%
Farmland ES	27.86%	32.34%	4.48%
Bel Pre ES	6.31%	10.39%	4.07%
Garrett Park ES	19.35%	23.38%	4.03%
Diamond ES	13.06%	17.01%	3.95%
Summit Hall ES	51.79%	55.38%	3.59%
Kemp Mill ES	15.05%	17.86%	2.81%
Great Seneca Creek ES	65.79%	68.41%	2.62%
Cedar Grove ES	0.86%	3.44%	2.58%
Brown Station ES	76.72%	79.21%	2.49%
Pine Crest ES	24.03%	26.52%	2.49%
Goshen ES	12.42%	14.66%	2.24%
Cresthaven ES	12.83%	15.04%	2.21%
Rosemary Hills ES	29.76%	31.95%	2.19%
Rock View ES	56.71%	58.72%	2.00%
Dr. Sally K. Ride ES	40.57%	42.29%	1.71%
William T. Page ES	47.28%	48.94%	1.65%
Lakewood ES	22.79%	24.26%	1.47%
Judith A. Resnik ES	46.25%	47.29%	1.04%
Ronald McNair ES	64.04%	65.07%	1.03%
Highland ES	100.00%	100.00%	0.00%
Glen Haven ES	100.00%	100.00%	0.00%
William B. Gibbs Jr. ES	65.41%	65.41%	0.00%
Cold Spring ES	100.00%	100.00%	0.00%
Belmont ES	27.71%	27.71%	0.00%
Snowden Farm ES	100.00%	100.00%	0.00%
Stedwick ES	49.67%	47.46%	-2.21%
Lucy V. Barnsley ES	38.32%	34.53%	-3.79%
Georgian Forest ES	14.53%	10.61%	-3.91%
Rosemont ES	4.37%	0.00%	-4.37%
Jackson Road ES	28.98%	24.41%	-4.58%

School	% in walk zone	% in walk-shed	% difference for all schools all levels
Brooke Grove ES	98.85%	93.68%	-5.17%
Dr. Charles R. Drew ES	65.37%	59.72%	-5.65%
Gaithersburg ES	84.42%	76.62%	-7.79%
Lake Seneca ES	61.33%	48.27%	-13.07%

Middle Schools

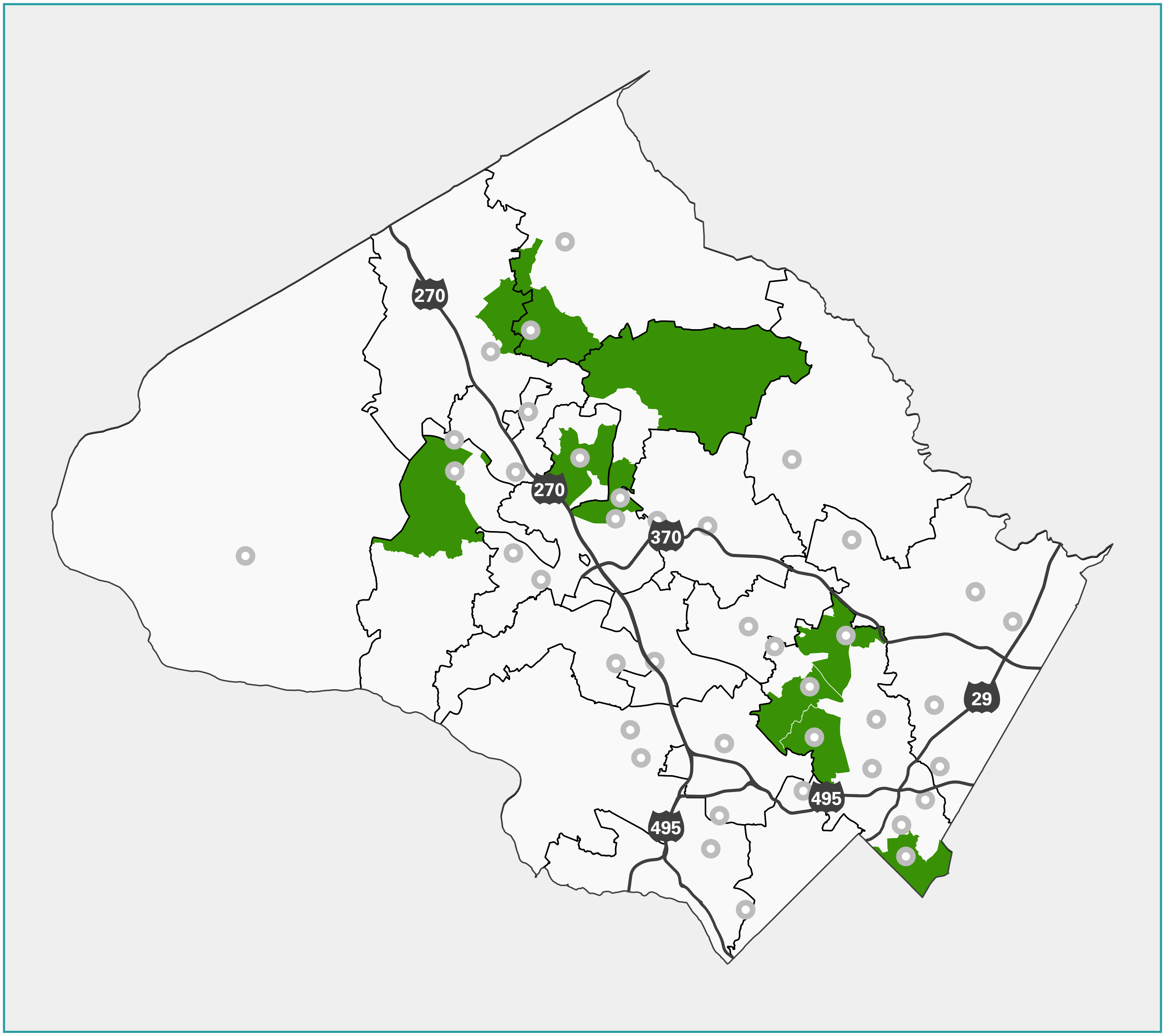
School	% in walk zone	% in walkshed	% difference for all schools all levels
Silver Spring International MS	23.24%	66.52%	43.28%
Eastern MS	49.08%	89.53%	40.45%
Shady Grove MS	12.64%	46.28%	33.64%
Tilden MS	9.67%	39.89%	30.22%
A. Mario Loiederman MS	54.07%	80.99%	26.91%
Martin Luther King, Jr MS	30.09%	56.74%	26.65%
Thomas W. Pyle MS	18.13%	43.15%	25.02%
Takoma Park MS	55.19%	78.62%	23.43%
Sligo MS	46.25%	69.37%	23.12%
Newport Mill MS	59.13%	77.40%	18.27%
White Oak MS	10.06%	28.26%	18.19%
Benjamin Banneker MS	3.97%	21.14%	17.17%
Francis Scott Key MS	8.61%	25.23%	16.62%
Julius West MS	16.29%	31.68%	15.39%
Kingsview MS	53.29%	68.37%	15.07%
Westland MS	21.73%	35.54%	13.80%
Argyle MS	50.53%	62.96%	12.43%
Rosa Parks MS	26.96%	38.95%	12.00%
Cabin John MS	20.36%	31.69%	11.33%
Earle B. Wood MS	25.91%	37.21%	11.31%
Col. E. Brooke Lee MS	14.25%	24.69%	10.45%
Herbert Hoover MS	27.36%	37.74%	10.38%
North Bethesda MS	21.93%	32.10%	10.17%
Silver Creek MS	5.99%	16.13%	10.14%
Rocky Hill MS	7.18%	17.15%	9.97%
Parkland MS	39.27%	48.17%	8.90%
William H. Farquhar MS	0.16%	9.03%	8.87%
Montgomery Village MS	76.44%	83.31%	6.87%
John Poole MS	21.11%	26.65%	5.54%
Redland MS	1.16%	6.47%	5.31%
Ridgeview MS	16.60%	20.98%	4.38%
Briggs Chaney MS	7.40%	10.99%	3.59%
Forest Oak MS	5.79%	9.35%	3.56%

School	% in walk zone	% in walkshed	% difference for all schools all levels
Robert Frost MS	20.78%	21.97%	1.19%
Lakelands Park MS	34.82%	35.69%	0.87%
Roberto Clemente MS	34.34%	34.85%	0.51%
Gaithersburg MS	55.54%	55.96%	0.42%
Hallie Wells MS	74.11%	69.09%	-5.01%

High Schools

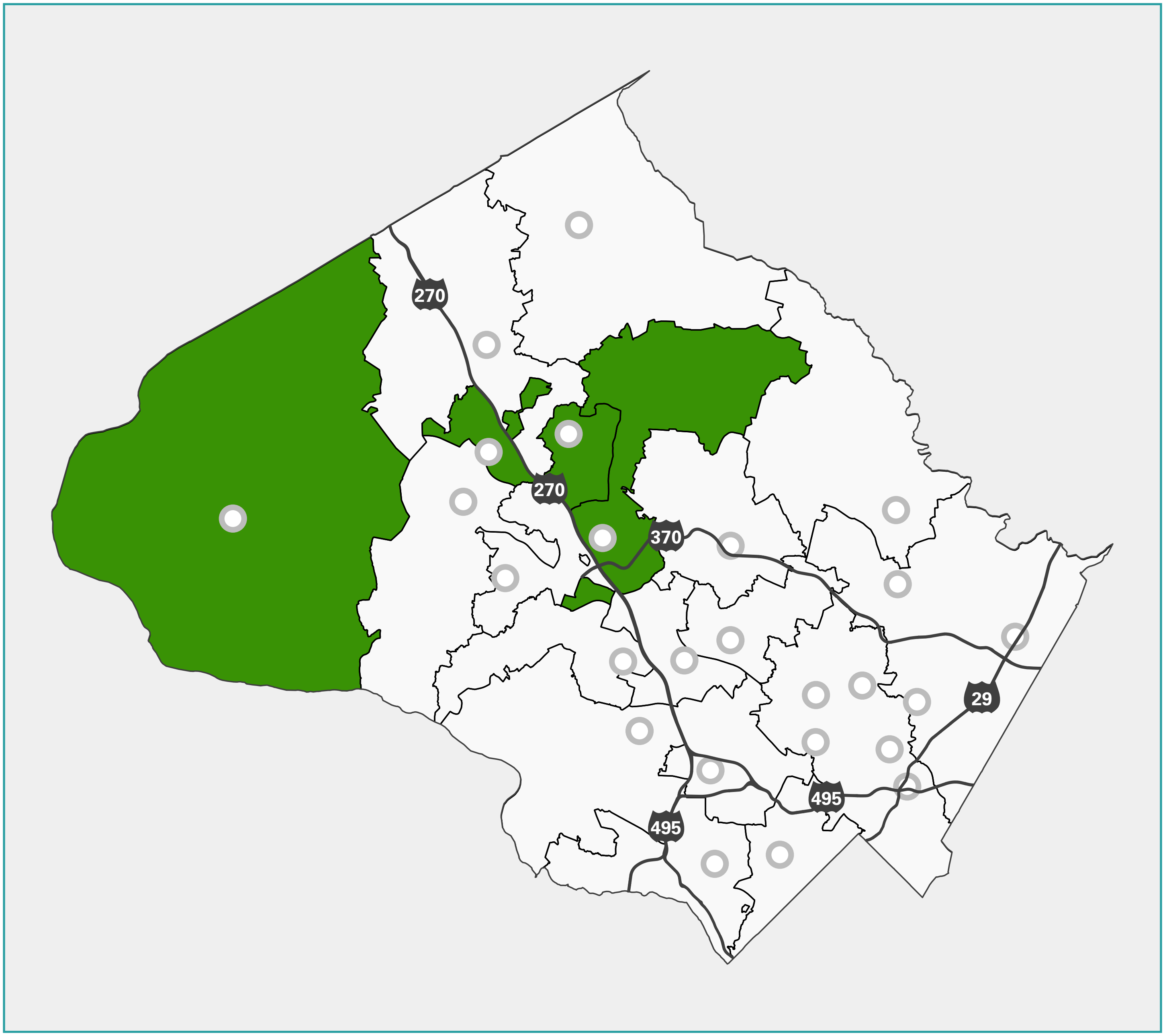
School	% in walk zone	% in walkshed	% difference for all schools all levels
Walt Whitman HS	22.95%	61.76%	38.81%
Paint Branch HS	3.05%	35.86%	32.81%
Damascus HS	4.48%	30.58%	26.10%
Clarksburg HS	21.44%	46.65%	25.20%
Montgomery Blair HS	8.10%	31.22%	23.12%
Walter Johnson HS	17.57%	40.68%	23.11%
Poolesville HS	53.08%	75.57%	22.50%
Rockville HS	40.83%	61.61%	20.77%
Bethesda-Chevy Chase HS	30.40%	48.56%	18.16%
Winston Churchill HS	34.05%	45.84%	11.78%
Sherwood HS	2.49%	10.69%	8.20%
John F. Kennedy HS	18.82%	26.18%	7.36%
Wheaton HS	44.60%	49.20%	4.60%
Springbrook HS	15.89%	20.10%	4.21%
Seneca Valley HS	72.32%	76.29%	3.97%
Richard Montgomery HS	48.57%	51.89%	3.32%
Gaithersburg HS	51.70%	54.26%	2.57%
Albert Einstein HS	44.43%	45.15%	0.71%
Quince Orchard HS	43.64%	43.73%	0.10%
Northwood HS	40.26%	40.20%	-0.06%
Watkins Mill HS	55.05%	53.89%	-1.16%
Thomas S. Wootton HS	27.74%	25.54%	-2.20%
Northwest HS	47.00%	44.62%	-2.38%

Appendix D8:
Walk distance ranges for students with at least 50% of students in walk zone



Middle Schools

The green schools are cases where more than 50% of students live within the walk zone but are on average more than half a mile away from school.



High Schools

The green schools are cases where more than 50% of students live within the walk zone but are on average more than half a mile away from school.

Appendix D9:
Choice and Magnet Programs

Elementary Schools

School	Distance from choice to current school (miles)	Percent of students that are choice students	Distance to current school (miles)	Difference in distance from choice (miles)
Fox Chapel Elementary	3.90	17.97%	0.71	3.18
Maryvale Elementary	6.68	54.37%	0.51	6.17
Cold Spring Elementary	4.50	35.15%	0.56	3.94
Burnt Mills Elementary	4.45	19.59%	1.13	3.31
William Tyler Page Elementary	6.90	24.78%	1.13	5.77
Bayard Rustin Elementary	6.49	22.32%	0.89	5.60
Chevy Chase Elementary	3.81	29.50%	1.52	2.29
Lucy V. Barnsley Elementary	3.52	26.54%	1.01	2.51
Sligo Creek Elementary	3.37	38.65%	0.87	2.50
Mill Creek Towne Elementary	3.71	26.20%	0.96	2.76
Potomac Elementary	8.98	6.43%	2.30	6.68
Clearspring Elementary	4.83	20.32%	1.46	3.37
Dr. Charles R. Drew Elementary	5.55	28.78%	1.19	4.36
Takoma Park Elementary	4.02	5.28%	1.05	2.96
Pine Crest Elementary	4.12	23.69%	1.35	2.77
Oak View Elementary	2.30	22.12%	1.04	1.26
Rock Creek Forest Elementary	5.55	45.68%	0.53	5.02

Middle Schools

School	Distance from choice to current school (miles)	Percent of students that are choice students	Distance to current school (miles)	Difference in distance from choice (miles)
Dr. Martin Luther King Jr. Middle	5.51	15.61%	1.65	3.86
Roberto W Clemente Middle	5.19	20.86%	1.74	3.45
Herbert Hoover Middle	7.73	6.56%	2.64	5.09
Westland Middle	9.44	9.74%	2.15	7.28
Gaithersburg Middle	5.03	12.08%	2.23	2.80
Silver Spring International Middle	3.84	17.60%	1.43	2.41
Takoma Park Middle	8.67	27.81%	1.11	7.56
Eastern Middle	6.38	27.68%	1.30	5.08
A. Mario Loiederman Middle*	3.91	57.10%	1.00	2.90
Parkland Middle*	4.07	64.63%	1.41	2.66
Argyle Middle*	4.13	60.75%	1.40	2.73

* includes students from within the Middle School Magnet Consortium

8.2 **Appendix** Community Engagement

8.2.

Appendix 1A:
Regional Community Meeting Summary Reports

Regional Community Meeting 1: Gaithersburg High School

Date: December 4, 2019

Location: Gaithersburg High School, 101 Education Blvd, Gaithersburg, MD 20877

Attendance: Approximately 300 community members
Twenty-five volunteer, experienced table facilitators

Format: Focused, concise presentations
Abbreviated and targeted small group discussions to deepen the conversation
Ideas captured on worksheets by table facilitators for input to future stages of the process
Polling to gather participant feedback

Themes from Participant Feedback:

a. Lens #1 - School Utilization

What do participants see? What do they think might be causing over- and under-utilization?

- Disparities in usage appear to be based on geography
- People move to areas where schools are better, and that leads to overcrowding
- Elementary schools have the biggest overcrowding challenges
- Enrollment projections are consistently off, underestimated
- Challenges in utilization are tied to ongoing development in the county; also see it tied to "poor planning"
- Population growth is occurring, especially in areas of the county where development is more intensive
    - In particular, seeing fast growth in the Hispanic population
    - Building of new schools doesn't seem to be occurring fast enough in response to the growth; too limited
- Consider how to increase academic quality across the schools
- Concerned or unsure that boundary changes will really impact academic quality and performance positively and solve the disparities that currently exist

b. Lens #2 - Student Body Diversity

What do participants see? What stands out in the presentation/data?

- Certain parts of the county have greater concentrations of diversity than others
- Please clarify the difference between Board indicating they will weigh diversity more heavily in their recent decision, but that this analysis will treat it equally to utilization and capacity
- MCPS needs to factor in *far more than* FARMS data regarding diversity
    - See too much emphasis on FARMS
    - Concern that MCPS is using too narrow a definition for diversity
    - Recommend that other diversity factors could include – race, gender, language, ethnicity, religion, etc.
    - See dimensions like cultural diversity as more important than socioeconomic diversity
- Wonder whether there is a correlation between FARMS and school performance
    - Concern about whether the data actually proves that moving kids from low to high performing schools improves grades; and vice versa
- See a need to provide more resources for schools with higher percentages of ever-FARMS students; provide resources more equitably
- Not clear how moving FARMS students further away helps them
- Have concerns about busing, especially increased distances for busing
- Needs to factor in the impact that boundary changes would have on communities and families in this process

c. Lens #3 - Proximity to Schools

What do participants see? What might explain differences in proximity?

- Proximity is very important, as is prioritizing community schools
- Busing time matters, and perhaps matters as much if not more than walk sheds
- Concern that county is considering forced busing
- Major concerns around potential of increased travel time
    - Concerns about the secondary impact that increased travel time has on commutes, time for family, after-school activities, etc.
- Students thrive where they feel safe and comfortable

d. Intersection of Three Lenses

How are these three lenses interconnected?

- Concern whether all 3 lenses treated equally
- Need to do better planning around schools and school construction
- Concern about transparency regarding the data being used; want to see the data, not just the analysis of the data
- Continued concerns about future busing
- Re-emphasized the desire to preserve neighborhood schools
- Re-emphasized the concern that boundary changes will have a negative impact on kids and families
- Want to see "common sense" solutions

e. Input about MCPS Critical Events, History; Final Questions & Concerns

Input

- See significant growth in enrollment in MCPS in recent decades
- See significant growth in diversity of MCPS students of color (Black, Hispanic, Asian) and a decline in the percentage of white students

What Else?

- Concerned about
  - Future busing
  - The Board's lack of transparency in general and in particular around boundary studies and this analysis
  - The recent Clarksburg/Seneca Valley decision
- Unclear about
  - The difference between boundary change versus bus-in/bus-out
  - Why the Board is doing this analysis, i.e., about what problem it is trying to solve
- Didn't like the polling question re: # of boundary changes from past 25 years; felt manipulated

Regional Community Meeting 2: Julius West Middle School

Date: December 7, 2019

Location: Julius West Middle School, 10 651 Great Falls Rd, Rockville, MD 20850

Attendance: Approximately 400 community members
Twenty-five volunteer, experienced table facilitators

Format: Focused, concise presentations
Abbreviated and targeted small group discussions to deepen the conversation
Ideas captured on worksheets by table facilitators for input to future stages of the process
Polling to gather participant feedback

Themes from Participant Feedback:

a. Lens #1 - School Utilization

What is your perspective on utilization? Are there other ways we should analyze this issue?

- Concerned with the lack of transparency in this process
- Skeptical about the Board of Education in this process
- Don't want redistricting in the county; parents chose homes by where the schools were located – don't want that to change
- Concerned about possibility of forced busing in the future

b. Lens #2 - Student Body Diversity

What is your perspective on student diversity? What are central challenges? What else should we analyze for this issue?

- Need to expand how "diversity" will be analyzed in this process
- Ever FARMS does not define diversity
- MCPS needs to factor in far more than FARMS data regarding diversity
    - Too much emphasis on FARMS
    - MCPS is using too narrow a definition for diversity

    - Other diversity factors might include – race, gender, language, ethnicity, religion, etc.
- Concerned about what happens to a student's performance when they move from a high performing school to a low performing one.
- Need to clarify difference between the Board weighing diversity more heavily (based on recent decision), but that in this analysis diversity is treated *equally* with the other lenses
- Concerns about busing, increased use of busing, and busing for longer distances
- Don't believe evidence that increased diversity is a positive for school performance

c. Lens #3 - Proximity to Schools

What is your perspective on proximity to schools? What are central challenges? What else should we analyze for this issue?

- Proximity is the most important issue. It impacts:
    - Quality of life
    - Commutes
    - Participation in after school activities
- Proximity is very important, as is prioritizing community schools
- Proximity must include time to travel to school
- Proximity also helps with parent engagement
- Very concerned about the potential of increased travel time; major concerns about busing long distances
- Concerned about travel time and the secondary impact that has on commutes, time for family, after-school activities, etc.
- Busing time matters, and perhaps matters as much if not more than walk sheds
- Buses are a problem – they run late; not enough drivers; breakdown; call pollution

d. Intersection of Three Lenses

How are these three lenses interconnected?

- Strong interest in seeing proximity prioritized
- Strong interest as well in ensuring that all variables are weighed equally
- Concerned about the negative impact boundary changes will have on kids

e. Input about MCPS Critical Events, History; Final Questions & Concerns

Input

- See significant growth in enrollment in MCPS in recent decades
- See significant growth in diversity of MCPS students of color (Black, Hispanic, Asian) and a decline in the percentage of white students

What Else?

- Concerned about:
  - How data is collected
  - The WXY contract & scope; why is what is shared tonight different from what's online? Creates more distrust; Need to see revised RFP and scope
  - Whether options and recommendations will be provided on boundaries; this is what the scope on the website says
  - Having to send kids to schools that are not near their neighborhoods; people chose houses/neighborhoods largely because of the schools their kids would go to
  - What the ultimate goal of this analysis is
  - MCPS not being focused on quality of education in this process
  - This process is moving too fast; finishing by June is too soon
- Lack of clarity about what process will be to actually make boundary changes
- People don't trust the Board
- Mistrust about the data; want to see the raw data; want to know how the data will be analyzed
- Upset about the decisions re: Clarksburg/Seneca Valley boundary study; and how those decisions were made; this increased distrust
- Need an online forum for this analysis too
- Need more transparency in this process; need to put all information online; make the whole analysis transparent
- Need more student voices in this process
- Conduct a survey to get additional feedback
- Loudest people in the room took over in disrespectful way; it was rude and obnoxious

Responses to Polling Questions

There was no polling at this meeting

Regional Community Meeting 3: White Oak Middle School

Date: December 14, 2019

Location: White Oak Middle School, 12201 New Hampshire Ave, Silver Spring, MD 20904

Attendance: Approximately 225 community members
Twenty-three volunteer, experienced table facilitators

Format: Focused, concise presentations
Abbreviated and targeted small group discussions to deepen the conversation
Ideas captured on worksheets by table facilitators for input to future stages of the process
Polling to gather participant feedback

Themes from Participant Feedback:

a. Lens #1 - School Utilization

What feedback do you have on utilization? What else should we be factoring in?

- Concerned with overcrowding in some elementary (and other) schools
- Concerned about use of portables throughout the system, even in "under-utilized" schools
- Need to understand the relationship between over-/under-utilization and the deployment of teachers (& staff) across the school system
- Believe that there have been flawed predictions historically with MCPS enrollment projections
- Need to build more schools; need better planning around this
- Need to be aware that programs drive enrollment (quality, #, type, etc.), which needs to be factored in
- Families purchase houses based on the location of schools and that reality should be considered in this analysis
- This analysis takes place in a much larger county context that includes county housing policy, transportation (roads) policy, where development occurs – and will occur in the future. MCPS must be ready to figure out what happens when more growth occurs in areas that are already overcrowded

b. Lens #2 - Student Body Diversity

What feedback do you have on student body diversity? What else should we be factoring in?

- Clarify difference between the Board weighing diversity more heavily (per recent decision), yet for this analysis it is treated equally
- Certain parts of the county have greater concentrations of diversity than others
- Diversity needs to be defined more broadly than ever FARMS
  - Need also to look at racial and cultural diversity, and ESL and special needs populations
  - Need a common understanding of what is meant by diversity in this analysis
- Schools with higher Ever-FARMS populations need more resources
- Need to factor in a better level of support for immigrant/ESOL populations
- Need to improve education/academic programs in all schools rather than trying to do it through boundary changes
- Concerned with trying to solve socioeconomic disparities through boundary changes
- Concerned about the validity of the data that proves moving kids from low to high performing schools improves grades; and vice versa

c. Lens #3 - Proximity to Schools

What do participants see? What might explain differences in proximity?

- Want to ensure that magnet and specialty programs (and consortia) fit into this analysis
- Need to not just look at distance but time factors too
- Concerned about longer commutes for children
- Must consider traffic patterns into this part of the analysis
- Consortia are important in the school system, but wonder how they might affect the analysis of boundaries in this project
- Need to emphasize the safety of children in decisions being made
  - Safety not just on buses but also on walking/walkability
- Need to look at where housing growth/new developments will occur in the county

d. Intersection of Three Lenses

How are these three lenses interconnected?

- Need to equalize resources so all students have same opportunity to a great education
- All lenses should be of equal weight (even though BoE says diversity is top one)

e. Input about MCPS Critical Events, History; Final Questions & Concerns

Input

- See significant growth in enrollment in MCPS in recent decades
- See significant growth in diversity of MCPS students of color (Black, Hispanic, Asian) and a decline in the percentage of white students

What Else?

- Would like WXY to provide recommendations for boundary changes
- Need more transparency re: the whole process and the data; data needs to be public
- Unclear why the Board is doing this analysis, i.e., what problem it is trying to solve
- If you do conduct part of this analysis online, make sure data isn't skewed by highly organized groups during that part of the process

Regional Community Meeting 4: Montgomery Blair High School

Date: January 11, 2020

Location: Montgomery Blair High School, 51 University Blvd E, Silver Spring, MD 20901

Attendance: Approximately 400 community members

Thirty-five volunteer, experienced table facilitators

Format: Focused, concise presentations

Abbreviated and targeted small group discussions to deepen the conversation

Ideas captured on worksheets by table facilitators for input to future stages of the process

Polling to gather participant feedback

Themes from Participant Feedback:

a. Lens #1 - School Utilization

What feedback do you have on utilization? What else should we be factoring in?

- Not clear how utilization intersects or is affected by MCPS choice, magnet and other specialized programs; wonder whether some of these programs should be moved to under-utilized schools
- MCPS needs to build more schools; and be clear about how and when that happens; and/or MCPS needs to fix and grow the size of existing schools
- Not clear why the islands have occurred in the first place and why MCPS still has them
- Not clear how underutilization nor overutilization occur – need to understand better the history of decisions that led to this
- MCPS needs to do a better job at accurately projecting or predicting future population growth and enrollment growth
- A number of clusters look like they have been gerrymandered
- Utilization is impacted by new developments, the density of housing in certain places in the county, and lack of affordable housing; as a result, in many places development doesn't align well with utilization
- Concern with extensive and long-term use of portables at numerous schools; also very unclear where and how portables are factored into this analysis
- Overcrowding in schools appears to be more prevalent in down county
- Unclear about how utilization and:

- Access to resources intersect
- Performance intersect
- Ever FARMs intersect

- Need to know whether there is a correlation between overcrowding/overutilization and student success
- MCPS needs to allocate resources for schools more effectively
- Need to understand better how student-teacher ratios and class size intersect with utilization in both over and underutilized schools

b. Lens #2 - Student Body Diversity

What feedback do you have on student body diversity? What else should we be factoring in?

- It appears that there are higher Ever FARMs rates at the elementary school level
- Need to analyze other aspects of diversity including:
  - Ethnicity
  - Race
  - Cultural
  - Children with disabilities and who need special education
  - ESOL
  - Country of origin
  - Family education background
- Numerous participants question whether Ever FARMs is the right variable to use for diversity
- MCPS needs to provide more resources at schools who serve high percentages of Ever FARMs students (and for schools that are underperforming)
- Believe that there is low participation in specialized programs by racial, ethnic, and low SES students
- There has been a big growth in immigrant communities in recent years
- Concern that an increase in Ever FARMs students in schools could cause students/families to move or go to school elsewhere (e.g., private schools)
- Need a clearer definition from MCPS for diversity as it relates to this analysis
- Need to understand the history of boundary decisions and how it relates to the varying Ever FARMs rates across schools
- Need to engage the Latino community in greater numbers in this process
- Need to engage students in greater numbers in this process
- Need to understand how new home construction impacts diversity in MCPS schools
- Would like to see the interrelationship between school location and property values
- Need to understand how over- and under-utilization intersects with the lack of diversity in schools where that is the case
- The County (and MCPS) needs to balance new housing development with the need for more or expanded schools
- Need to expand choice and magnet programs, in particular, to be more inclusive of the school population
- Believe that there is a stigma associated with FARMs

- Need to understand how diversity intersects with student performance
- Need to understand how diversity intersects with proximity

c. Lens #3 - Proximity to Schools

What feedback do you have on proximity to schools? What else should we be factoring in?

- Need to understand the impact of development and population growth on proximity to schools
- Would like to know what the percentage of students is who do not attend the school closest to them at each level
- The maps show clusters that look like the boundaries have been gerrymandered
- Would like to see the historical data on proximity to schools
- The analysis needs to include mileage, travel time, and travel patterns
- Need to factor in bike routes, walk routes, use of public transportation, availability of safe paths
- Proximity is important, especially at the elementary school level
- Unclear what the relationship is between proximity to schools and a family's willingness to travel (e.g., specialized programs)
- Unclear about the relationship regarding proximity to school with regard to choice and specialized programs
- Need to look at the relationship between proximity and housing patterns (both current and planned)
- Need to be clearer on how it is determined where to build new schools
- Proximity to schools and the amount of travel time required to get to schools can have a big impact on family and student well-being
- Travel distance to schools often has the biggest impact on those families/students with the fewest resources
- Some viewed proximity as highly important; others viewed it as of low importance

d. Intersection of Three Lenses

How are these three lenses interconnected?

- Need to understand the differences for how the three lenses intersect by school, cluster, and different levels of school (i.e., elementary, middle, high)
- Need to understand the impact of 3 lenses together and the resources required
- While conducting this analysis, need to keep in mind the importance of providing high quality education for <u>all</u> students
- Need to understand more clearly how consortia will be factored in across the lenses
- Need to know what metrics will be used for diversity and proximity (as has already been done for utilization)

e. Input about What Needs to Get Clarified and any Additional Issues or Concerns

Clarifications

- We want to see recommendations on boundaries, especially after investing so much money into the analysis
- It is not clear at all when decisions will be made as a result of this analysis. Nor is it clear how those decisions will be made, or what happens next, after the report is submitted
- We believe travel time should be included in this analysis as a part of proximity
- Make sure you engage with underrepresented groups/populations and target harder-to-reach communities, especially Latinos
- A wide range of comments about diversity, race, socio-economics, and Ever FARMS and how those each get factored into a boundary analysis

What Else?

- Need to directly involve hard-to-reach groups, especially populations for whom English is a second language
- Need to reach out to the Latino community to engage in this process
- Need to reach out to a wide range of students to provide input into this process
- Would like to know how boundary analysis intersects with school and student performance
- Need to understand how choice and magnet programs are factored in
- MCPS needs to look at how resources are distributed across schools
- Need to understand more clearly what the impact of future population growth will be on MCPS and boundaries
- Would like WXY to provide recommendations for boundary changes

Regional Community Meeting 5: Northwestern High School

Date: January 14, 2020

Location: Northwestern High School, 13501 Richter Farm Rd, Germantown, MD 20874

Attendance: Approximately 375 community members

Thirty-five volunteer, experienced table facilitators

Format: Focused, concise presentations

Abbreviated and targeted small group discussions to deepen the conversation

Ideas captured on worksheets by table facilitators for input to future stages of the process

Polling to gather participant feedback

Themes from Participant Feedback:

a. Lens #1 - School Utilization

What feedback do you have on utilization? What else should we be factoring in?

- MCPS needs to build more schools
- Concerned about how enrollment projections impact utilization; need for better community planning; projections need to be tied to future development and future population growth in the county
- Need to include traffic and travel time and make it a priority
- Need to continuously plan for expansion of the school system – specifically expansion of existing schools
- Need to analyze boundaries more regularly so that not dealing with the problem of over- and under-utilization
- Need to include student-teacher ratios in schools

b. Lens #2 - Student Body Diversity

What feedback do you have on student body diversity? What else should we be factoring in?

- Skeptical about (and, in some cases, opposed to) the use of FARMs-related/socioeconomic status data
- Need to use other diversity measures instead of or in addition to Ever FARMS; especially racial diversity (“race rather than poverty”)

- Want to know if there is a link between Ever FARMs/socioeconomic data and overcrowded schools
- Want to see more resources for FARMs students/schools
- Schools are already perceived as diverse (racially)
- Develop a better and clearer definition for diversity
- Need to understand, better, the relationship between diversity and school/student performance

c. Lens #3 - Proximity to Schools

What feedback do you have on proximity to schools? What else should we be factoring in?

- Traffic is more indicative of proximity than distance; need to account for driving/travel/bus time
- Place a high value on community schools ("assign kids to closer schools")
- Proximity should be considered primary (although a few tables considered it secondary)
- Maximize walkers, put a cap on distance for busing
- Need to understand dhow magnet and specialized programs factor in to proximity
- Distrust the school system
- Measure the costs to the environment of busing

d. Intersection of Three Lenses

How are these three lenses interconnected?

- Balance all three factors but realize they may be difficult to weigh equally
- Concerned regarding the data and the model being transparent, accurate and valid
- Concerned about Ever FARMs as a measure

e. Input about What Needs to Get Clarified and any Additional Issues or Concerns

<u>Clarifications</u>

- Concerned that the analysis is not looking at travel time or traffic
- Concerned about the data and the model – not complex enough, not clear about the data sources, nor how the data will be used
- Desire for this process and for MCPS to be more transparent with parents; don't currently trust the school system
- Concerned about what the end result will be of this analysis – "everybody knows something will happen"
- Questions regarding the analysis, the need for it, the need for a consultant, and the qualifications of the selected consultant

<u>What Else?</u>

Regional Community Meeting 6: Walter Johnson High School

Date: January 23, 2020

Location: Northwestern High School, 6400 Rock Spring Drive, Bethesda, MD 20814

Attendance: Approximately 600 community members
Forty volunteer, experienced table facilitators

Format: Focused, concise presentations
Abbreviated and targeted small group discussions to deepen the conversation
Ideas captured on worksheets by table facilitators for input to future stages of the process
Polling to gather participant feedback
Q&A – 30 minutes near the end of the meeting

Themes from Participant Feedback:

a. Lens #1 - School Utilization

What feedback do you have on utilization? What else should we be factoring in?

- Concerns about the use of portables currently
- Concerns about poor planning of schools and utilization in the face of the county's population growth; need to project more accurately and further out into the future
- Need for strong coordination with County planning office to address population growth and housing growth and its impact on school utilization
- Lack of clarity about why there is underutilization in any schools
- Concern about what data is being used for the utilization analysis
- Questions about student-teacher ratios, class sizes, and their relationship to utilization
- If moving kids due to utilization needs, school system needs to ensure the minimal disruption for students impacted by that
- Wonder whether there is a relationship between under-utilization and the age of (older) facilities
- Wonder whether there is a relationship between lower performing schools and under-utilized schools
- Wonder whether there is data about what happens to students when they move from higher performing to lower performing schools
- Clear that MCPS needs to build more schools

- Numerous overutilized elementary schools near underutilized elementary schools
- Need to dedicate more resources (teachers, programs, etc.) to underutilized schools
- Wonder how much longer older facilities will be able to be used as schools
- Wonder what the impact of choice and magnet schools and consortium schools is on utilization

b. Lens #2 - Student Body Diversity

What feedback do you have on student body diversity? What else should we be factoring in?

- Ever FARMs is not a good measure of student diversity; concerned that it is not a real indicator of socioeconomic status
- High FARMs/high poverty schools should receive additional resources/greater investments
- Not clear about what definition is being used for diversity. Needs to be broad and include factors like race, culture/ethnicity, ESOL, country of origin, religion, etc.
- If using socioeconomic data, use FARMs, not Ever FARMs
- Concerned about busing primarily to solve diversity issues in the county
- Recognize that the County is already very diverse and so is MCPS
- Concerned that magnet and specialty schools are not attracting diverse students
- Skeptical about diversity research; specifically, no research on FARMs/Ever FARMs diversity

c. Lens #3 - Proximity to Schools

What feedback do you have on proximity to schools? What else should we be factoring in?

- Concerned regarding the impact on issues like before care, after care, extracurricular programs, parental engagement, etc.
- MCPS needs to make a commitment to neighborhood schools
- Don't like the reality of split articulation in the school system
- Are against busing students further than already being bused
- Need to ensure MCPS focuses on travel time and traffic in this part of the analysis
- Unclear about where choice and specialty programs as well as consortia fit into this part of the analysis
- Concerned about the environmental impact of additional busing
- Unclear and concerned about so many kids not attending their closest schools currently
- Proximity lens is the most important
- Want to see that students are kept in the same cluster
- Need to factor in to this part of the analysis natural barriers, major roads, etc.

d. Intersection of Three Lenses

How are these three lenses interconnected?

- Analysis is missing assignment stability; needs to be included
- Need to ensure MCPS studies impact of traffic
- Concerned about losing parental and community involvement if kids attend schools further away
- Align school construction with new development in the county; build more schools
- All three lenses are important but hard to determine how to align as they are likely to be in conflict or counteracting one another
- Proximity is most important
- Diversity doesn't belong as a lens
- Need to consider safety issues in this part of the analysis
- Need to invest more resources for schools that need them

e. Input about What Needs to Get Clarified and any Additional Issues or Concerns

Clarifications

- Not clear on the criteria for selecting the consultant
- Concerned about the amount of money invested in this analysis
- Concerned about what data is being used, where the data comes from, how old the data is, etc.
- Not clear where student performance and overall quality of education fit in to this analysis
- Not clear about what happens next, after analysis is completed

What Else?

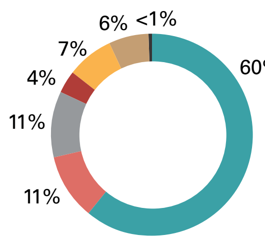
- Must include new housing and commercial development (i.e., future growth) into the analysis – when and where it will occur; also, the need for affordable housing in the county
- Unclear where student performance, quality of education, school performance fits in – and concerned that metrics being used don't measure quality
- The 3 lenses should be treated equally
- Emphasize proximity and need for community schools
- Need to see metrics and thresholds for both diversity and proximity
- Concerned about what the impact of future boundary changes will be on home and property values
- Don't see anything about stability of assignments, but this lens is important

Appendix 1B:
Regional Communtiy Meeting Live Polling Data

This page includes a summary of polling data from each regional community meeting.

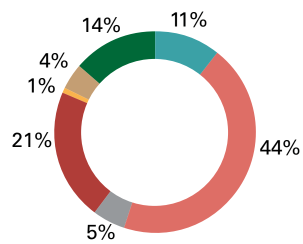
Summary of all meetings

Q1. Select all of those that apply to you:



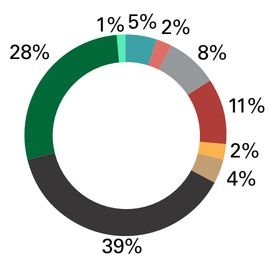
- I am a Pre-K-12 student but not in MCPS
- I am a Pre-K-12 student in MCPS
- I don't have children but care about our county
- I am a parent/guardian of children of Pre-K-12 age in private schools
- I am a parent/guardian who used to have children in MCPS
- I am a parent/guardian with kids who are not in MCPS
- I am a parent/guardian with kids currently in MCPS

Q3. I consider myself:



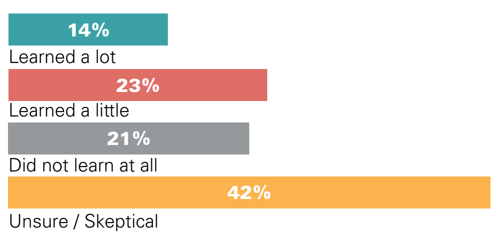
- African-American/Black
- Caucasian/ White
- Hispanic or Latino
- Asian American or Pacific Islander
- Native American
- More than One race
- I don't care to say

Q2. Which of these best describes where you live:

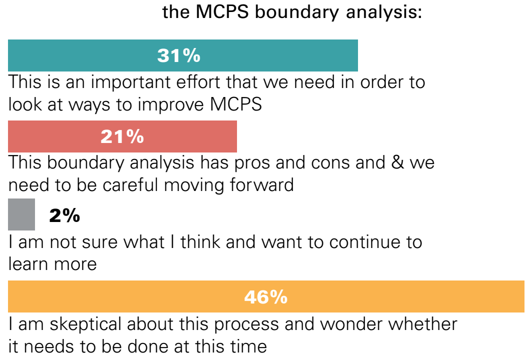


- Southeast: in the vicinity of Colesville, Fairland + Burtonsville
- South: In the vicinity of Sliver Spring, Takoma Park, Wheaton + White Oak
- Southwest: In the vicinity of Bethesda, Chevy Chase + Potomac
- East: In the vicinity of Colesville, Fairland + Burtonsville
- Central: In the vicinity of of Rockville + Derwood
- North Central: In the vicinity of Gaithersburg + Montgomery Village
- Northeast: In the vicinity of Damascus + Clarksburg
- Northwest: In the vicinity of Poolsville, Dickerson, Boyds + Germantown
- I live outside Montgomery County, but connected to the county in other ways

Q4. Which statement best describes your experience in terms of how much you learned:

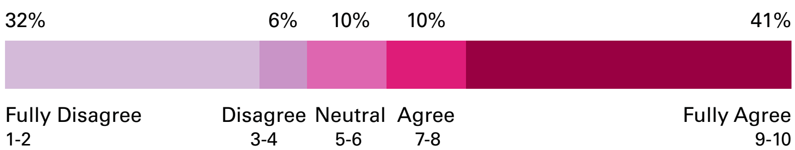


Q5. Which statement best summarizes your view of the MCPS boundary analysis:



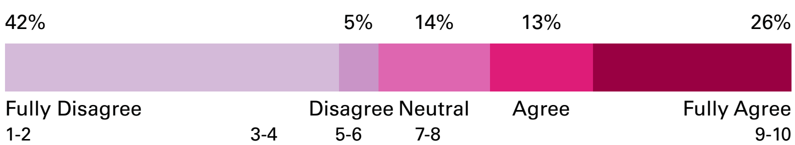
Summary of all meetings

Q6. Is it a good idea to review the school boundaries occasionally to make sure they are up to date with the growth of the district? (Scale of 1-10) (multiple choice)



This question was asked in Jan 11th, Jan14th and Jan 23rd.

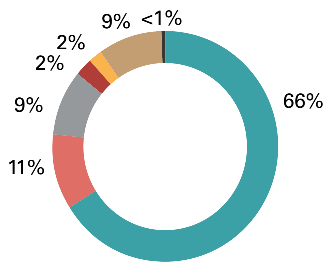
Q7. I have felt heard today and have had a chance to express my views, hopes, and concerns. (Scale 1-10) (multiple choice)



This question was asked in Jan 11th, Jan14th and Jan 23rd.

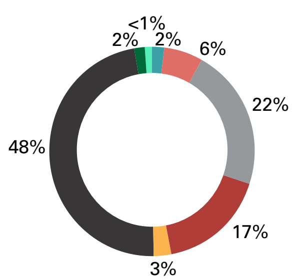
Dec 4th Meeting (5 Questions asked)

Q1. Select all of those that apply to you:



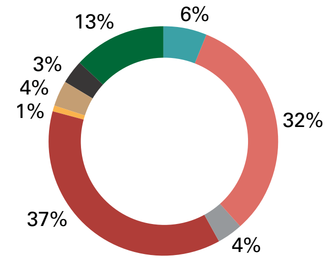
- I am a Pre-K-12 student but not in MCPS
- I am a Pre-K-12 student in MCPS
- I don't have children but care about our county
- I am a parent/guardian of children of Pre-K-12 age in private schools
- I am a parent/guardian who used to have children in MCPS
- I am a parent/guardian with kids who are not in MCPS
- I am a parent/guardian with kids currently in MCPS

Q2. Which of these best describes where you live:



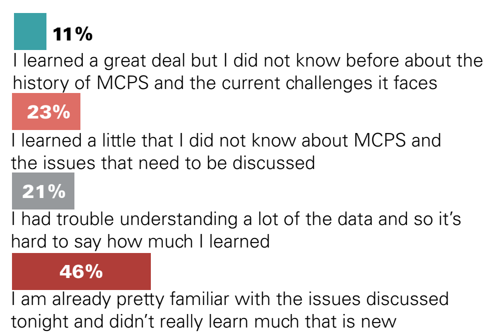
- South: In the vicinity of Sliver Spring, Takoma Park, Wheaton + White Oak
- Southwest: In the vicinity of Bethesda, Chevy Chase + Potomac
- East: In the vicinity of Colesville, Fairland + Burtonsville
- Central: In the vicinity of of Rockville + Derwood
- North Central: In the vicinity of Gaithersburg + Montgomery Village
- Northeast: In the vicinity of Damascus + Clarksburg
- Northwest: In the vicinity of Poolsville, Dickerson, Boyds + Germantown
- I live outside Montgomery County, but connected to the county in other ways

Q3. I consider myself:

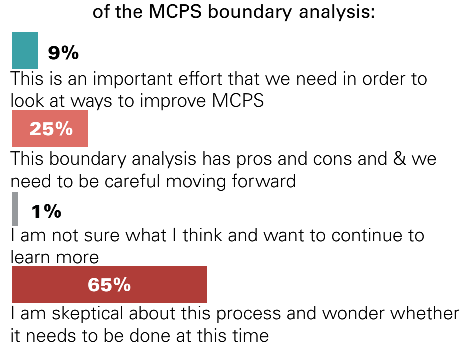


- African-American/Black
- Caucasian/ White
- Hispanic or Latino
- Asian American or Pacific Islander
- Native American
- More than One race
- Other (Only in Dec 4th meeting)
- I don't care to say

Q4. Which statement best describes your experience in terms of how much you learned:

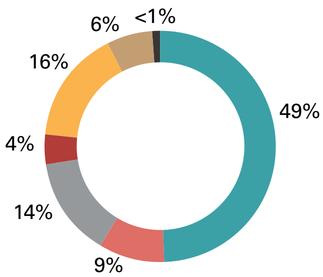


Q5. Which statement best summarizes your view of the MCPS boundary analysis:



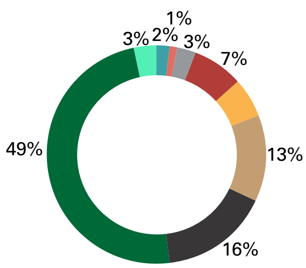
Dec 14th Meeting (5 Questions Asked)

Q1. Select all of those that apply to you:



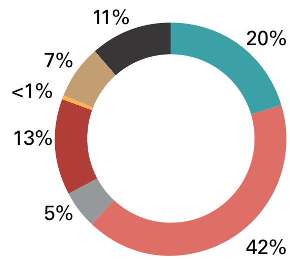
- I am a Pre-K-12 student but not in MCPS
- I am a Pre-K-12 student in MCPS
- I don't have children but care about our county
- I am a parent/guardian of children of Pre-K-12 age in private schools
- I am a parent/guardian who used to have children in MCPS
- I am a parent/guardian with kids who are not in MCPS
- I am a parent/guardian with kids currently in MCPS

Q2. Which of these best describes where you live:



- Southeast: in the vicinity of Colesville, Fairland + Burtonsville
- South: In the vicinity of Sliver Spring, Takoma Park, Wheaton + White Oak
- Southwest: In the vicinity of Bethesda, Chevy Chase + Potomac
- East: In the vicinity of Colesville, Fairland + Burtonsville
- Central: In the vicinity of of Rockville + Derwood
- North Central: In the vicinity of Gaithersburg + Montgomery Village
- Northeast: In the vicinity of Damascus + Clarksburg
- Northwest: In the vicinity of Poolsville, Dickerson, Boyds + Germantown
- I live outside Montgomery County, but connected to the county in other ways

Q3. I consider myself:



- African-American/Black
- Caucasian/ White
- Hispanic or Latino
- Asian American or Pacific Islander
- Native American
- More than One race
- I don't care to say

Q4. Which statement best describes your experience in terms of how much you learned:

24%
I learned a great deal that I did not know before about the history of MCPS and the current challenges it faces

30%
I learned a little that I did not know about MCPS and the issues that need to be discussed

9%
I had trouble understanding a lot of the data and so it's hard to say how much I learned

20%
I am already pretty familiar with the issues discussed tonight and didn't really learn much that is new

17%
I am skeptical about this process and wonder whether it needs to be done at this time (not asked on Dec 4th)

Q5. Which statement best summarizes your view of the MCPS boundary analysis:

This is an important effort that we need in order to look at ways to improve MCPS

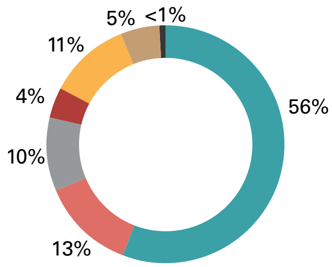
23%
This boundary analysis has pros and cons and & we need to be careful moving forward

3%
I am not sure what I think and want to continue to learn more

23%
I am skeptical about this process and wonder whether it needs to be done at this time

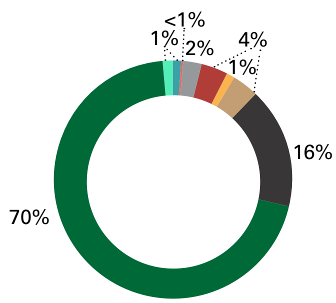
Jan 11th Meeting

Q1. Select all of those that apply to you:



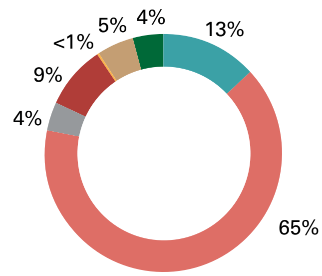
- I am a Pre-K-12 student but not in MCPS
- I am a Pre-K-12 student in MCPS
- I don't have children but care about our county
- I am a parent/guardian of children of Pre-K-12 age in private schools
- I am a parent/guardian who used to have children in MCPS
- I am a parent/guardian with kids who are not in MCPS
- I am a parent/guardian with kids currently in MCPS

Q2. Which of these best describes where you live:



- Southeast: in the vicinity of Colesville, Fairland + Burtonsville
- South: In the vicinity of Sliver Spring, Takoma Park, Wheaton + White Oak
- Southwest: In the vicinity of Bethesda, Chevy Chase + Potomac
- East: In the vicinity of Colesville, Fairland + Burtonsville
- Central: In the vicinity of of Rockville + Derwood
- North Central: In the vicinity of Gaithersburg + Montgomery Village
- Northeast: In the vicinity of Damascus + Clarksburg
- Northwest: In the vicinity of Poolsville, Dickerson, Boyds + Germantown
- I live outside Montgomery County, but connected to the county in other ways

Q3. I consider myself:



- African-American/Black
- Caucasian/ White
- Hispanic or Latino
- Asian American or Pacific Islander
- Native American
- More than One race
- I don't care to say

Q4. Which statement best describes your experience in terms of how much you learned:

25%
I learned a great deal that I did not know before about the history of MCPS and the current challenges it faces

39%
I learned a little that I did not know about MCPS and the issues that need to be discussed

5%
I had trouble understanding a lot of the data and so it's hard to say how much I learned

16%
I am already pretty familiar with the issues discussed tonight and didn't really learn much that is new

15%
I am skeptical about this process and wonder whether it needs to be done at this time (not asked on Dec 4th)

Q5. Which statement best summarizes your view of the MCPS boundary analysis:

This is an important effort that we need in order to look at ways to improve MCPS

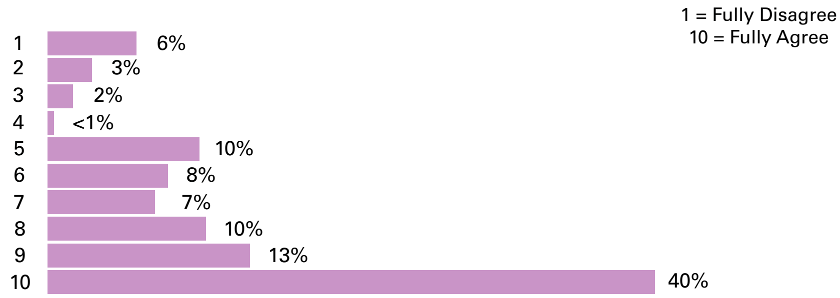
17%
This boundary analysis has pros and cons and & we need to be careful moving forward

2%
I am not sure what I think and want to continue to learn more

11%
I am skeptical about this process and wonder whether it needs to be done at this time

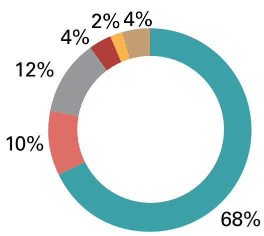
Q6. Is it a good idea to review the school boundaries occasionally to make sure they are up to date with the growth of the district? (Scale of 1-10) (multiple choice)

Q7. I have felt heard today and have had a chance to express my views, hopes, and concerns. (Scale 1-10) (multiple choice)



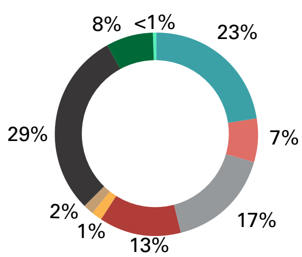
Jan 14th Meeting

Q1. Select all of those that apply to you:



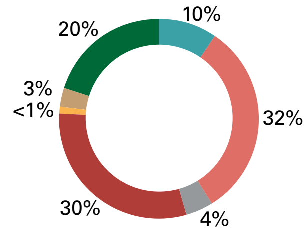
- I am a Pre-K-12 student but not in MCPS
- I am a Pre-K-12 student in MCPS
- I don't have children but care about our county
- I am a parent/guardian of children of Pre-K-12 age in private schools
- I am a parent/guardian who used to have children in MCPS
- I am a parent/guardian with kids who are not in MCPS
- I am a parent/guardian with kids currently in MCPS

Q2. Which of these best describes where you live:



- Southeast: in the vicinity of Colesville, Fairland + Burtonsville
- South: In the vicinity of Sliver Spring, Takoma Park, Wheaton + White Oak
- Southwest: In the vicinity of Bethesda, Chevy Chase + Potomac
- East: In the vicinity of Colesville, Fairland + Burtonsville
- Central: In the vicinity of of Rockville + Derwood
- North Central: In the vicinity of Gaithersburg + Montgomery Village
- Northeast: In the vicinity of Damascus + Clarksburg
- Northwest: In the vicinity of Poolsville, Dickerson, Boyds + Germantown
- I live outside Montgomery County, but connected to the county in other ways

Q3. I consider myself:



- African-American/Black
- Caucasian/ White
- Hispanic or Latino
- Asian American or Pacific Islander
- Native American
- More than One race
- I don't care to say

Q4. Which statement best describes your experience in terms of how much you learned:

5%
I learned a great deal that I did not know before about the history of MCPS and the current challenges it faces

14%
I learned a little that I did not know about MCPS and the issues that need to be discussed

8%
I had trouble understanding a lot of the data and so it's hard to say how much I learned

15%
I am already pretty familiar with the issues discussed tonight and didn't really learn much that is new

58%
I am skeptical about this process and wonder whether it needs to be done at this time (not asked on Dec 4th)

Q5. Which statement best summarizes your view of the MCPS boundary analysis:

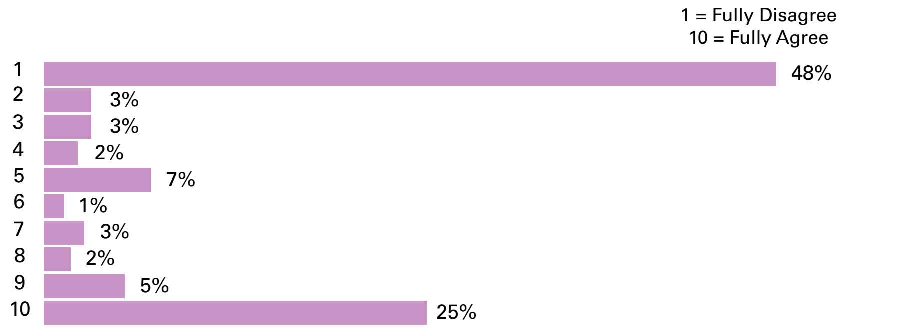
18%
This is an important effort that we need in order to look at ways to improve MCPS

14%
This boundary analysis has pros and cons and & we need to be careful moving forward

2%
I am not sure what I think and want to continue to learn more

65%
I am skeptical about this process and wonder whether it needs to be done at this time

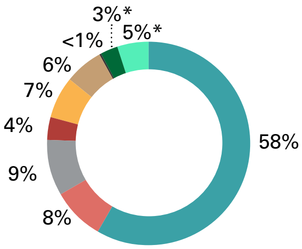
Q6. Is it a good idea to review the school boundaries occasionally to make sure they are up to date with the growth of the district? (Scale of 1-10) (multiple choice)



Q7. I have felt heard today and have had a chance to express my views, hopes, and concerns. (Scale 1-10) (multiple choice)

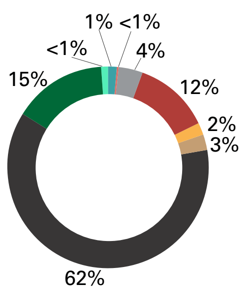
Jan 23rd Meeting (Combined)

Q1. Select all of those that apply to you:



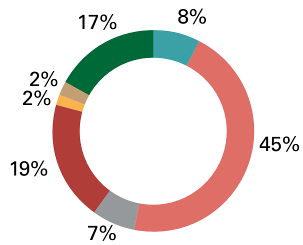
- I am a Pre-K-12 student but not in MCPS
- I am a Pre-K-12 student in MCPS
- I don't have children but care about our county
- I am a parent/guardian of children of Pre-K-12 age in private schools
- I am a parent/guardian who used to have children in MCPS
- I am a parent/guardian with kids who are not in MCPS
- I am a parent/guardian with kids currently in MCPS
- I am a teacher or staff with MCPS* (not asked in other meetings)
- Other* (not asked in other meetings)

Q2. Which of these best describes where you live:



- Southeast: in the vicinity of Colesville, Fairland + Burtonsville
- South: In the vicinity of Sliver Spring, Takoma Park, Wheaton + White Oak
- Southwest: In the vicinity of Bethesda, Chevy Chase + Potomac
- East: In the vicinity of Colesville, Fairland + Burtonsville
- Central: In the vicinity of of Rockville + Derwood
- North Central: In the vicinity of Gaithersburg + Montgomery Village
- Northeast: In the vicinity of Damascus + Clarksburg
- Northwest: In the vicinity of Poolsville, Dickerson, Boyds + Germantown
- I live outside Montgomery County, but connected to the county in other ways

Q3. I consider myself:



- African-American/Black
- Caucasian/ White
- Hispanic or Latino
- Asian American or Pacific Islander
- Native American
- More than One race
- I don't care to say

Q4. Which statement best describes your experience in terms of how much you learned:

10%
I learned a great deal that I did not know before about the history of MCPS and the current challenges it faces

16%
I learned a little that I did not know about MCPS and the issues that need to be discussed

5%
I had trouble understanding a lot of the data and so it's hard to say how much I learned

17%
I am already pretty familiar with the issues discussed tonight and didn't really learn much that is new

53%
I am skeptical about this process and wonder whether it needs to be done at this time (not asked on Dec 4th)

Q5. Which statement best summarizes your view of the MCPS boundary analysis:

16%
This is an important effort that we need in order to look at ways to improve MCPS

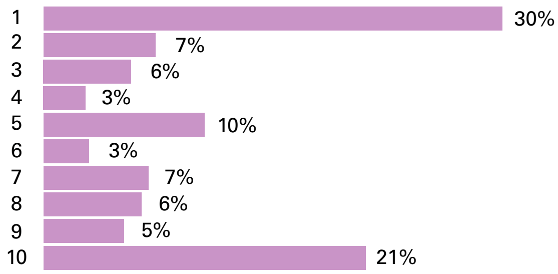
22%
This boundary analysis has pros and cons and & we need to be careful moving forward

3%
I am not sure what I think and want to continue to learn more

59%
I am skeptical about this process and wonder whether it needs to be done at this time

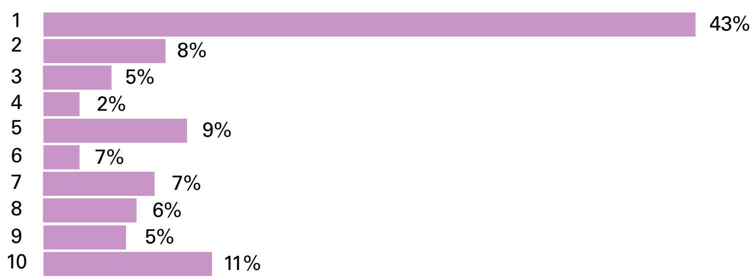
Q6. Is it a good idea to review the school boundaries occasionally to make sure they are up to date with the growth of the district? (Scale of 1-10) (multiple choice)

1 = Fully Disagree
10 = Fully Agree



Q7. I have felt heard today and have had a chance to express my views, hopes, and concerns. (Scale 1-10) (multiple choice)

1 = Fully Disagree
10 = Fully Agree



Appendix 1D. Sample Facilitator Worksheet

FACILITATOR WORKSHEET

(use both sides)

Table Discussion: Table Intros

- Is there anything our table needs clarified about the boundary analysis process at this point?

Table Discussion: UTILIZATION

- What feedback do you have for us about school utilization as part of this boundary analysis?

- What else should we include in this analysis?

1

Table Discussion: DIVERSITY

- What feedback do you have for us about student diversity as part of this boundary analysis?

- What else should we include in this analysis?

2

Table Discussion: PROXIMITY

- What feedback do you have for us about proximity to schools as part of this boundary analysis?

- What else should we include in this analysis?

Table Discussion: Intersection of the 3 Topics (Utilization, Diversity and Proximity)

- What are the most important things to keep in mind about the way these three issues – school utilization, school body diversity, and proximity to schools – are interconnected?

- Is there anything else we may have missed that you think we should know?

3

Appendix 1E. Sample Participant Worksheet

Maryland's Largest School District

MONTGOMERY COUNTY PUBLIC SCHOOLS

Expanding Opportunity and Unleashing Potential

montgomeryschoolsmd.org/boundary-analysis/

PARTICIPANT WORKSHEET

Table Discussion: Table Introductions

- Is there anything our table needs clarified about the boundary analysis process at this point?

Table Discussion: UTILIZATION

- What feedback do you have for us about school utilization as part of this boundary analysis?

- What else should we include in this analysis?

1

Table Discussion: DIVERSITY

- What feedback do you have for us about student diversity as part of this boundary analysis?

- What else should we include in this analysis?

Table Discussion: PROXIMITY

- What feedback do you have for us about proximity to schools as part of this boundary analysis?

- What else should we include in this analysis?

Table Discussion: Intersection of the 3 Topics (Utilization, Diversity and Proximity)

- What are the most important things to keep in mind about the way these three issues – school utilization, school body diversity, and proximity to schools – are interconnected?

- Is there anything else we may have missed that you think we should know?

Appendix 2A: Interviews – Format and Questions

Below is a detailed summary of interview format and questions asked.

Part I

The interviews begin with a short explanation of the boundary analysis and the issues to be discussed. Interviewers explain what will--and will not--be in the report to the Board of Education. This includes a short explanation of the three focus areas:

1. facility utilization
2. student demographics and diversity
3. geography and access to schools

Part II – Boundary Analysis Discussions

- What do you think are the most pressing challenges MCPS faces as it works to achieve effective utilization of facilities, student body diversity and convenient access to schools?
- Utilization: What do you think people need to know about facilities utilization and capacity in order to have an effective conversation about the issue?
- Diversity: Do you have any suggestions about what data on demographics and student body diversity people need to understand in order to have a good conversation on that topic?
- Access: What type of information do people need in order to understand the choices we face in access to schools and transportation?
- Public Meeting: What are the main things we need to do at the public meetings to make them effective and productive?
- Next Steps: Do you have any other comments or suggestions for us as we work with MCPS to get public input on the districtwide boundary analysis?

Part III – Community Outreach

- Broad Representation: Which groups in Montgomery County are particularly important to have represented at the public meetings?
- Key Stakeholders: Are there specific organizations or key individuals you want us to invite to the public meetings? If so, do you have contact information for those groups and/or individuals?
- Hard to Reach Groups: Which segments of the Montgomery County population that ought to be involved in the boundary analysis discussion are least likely to attend? Do you have any suggestions of what to do or

who to contact in order to get those people involved?

- Next Steps: Do you have any other general suggestions or comments about how to get Montgomery County residents effectively involved in the boundary analysis process?

Appendix 2B: Student Engagement – Comments and Questions from Virtual Meeting

The following is a list of comments and questions submitted virtually during the virtual student meeting, held February 20, 2020.

Link to virtual meeting: https://www.youtube.com/watch?v=YOtBaoGMpQc

- Would a change in consortia (DCC or NEC) be a possibility in school assignments?
- When will the final changes be posted? Will there be any programs or such to help new students?
- What is being done about the overcrowding at Blair?
- am not happy about the boundary analysis. Why will switching schools and making transportation harder for students benefit people overall?
- As a rising senior, if I were to switch schools, would I have to meet their graduation requirement, or would I be excused and follow my previous schools' requirements.
- If a person attending one school is currently in a program that's specifically offered at their original school, is moved to another school that doesn't have the required classes, will the student lose their ability to complete a program?
- My school is the result of some terrible districting. It is practically the definition of intra school segregation. The boundaries were totally drawn to promote the white population, two of the schools that feed into Gaithersburg are simply not within a reasonable distance. Most kids from Maryvale commute from Rockville and the kids from Laytonsville have insane bus rides from 30 minutes to an hour. How is this ok? Kids from Maryvale don't even get activity buses. Laytonsville Elementary has to have PTA meetings to convince parents to not COSA to baker or go private in fear of sending their children to Gaithersburg or "the gang school" How is this ok? The Maryvale kids are indirectly isolated within the school.
- What is the time frame for decisions to be made? And what is the goal year to implement changes?
- Is there a limit on how far a student can be relocated?
- Why use ever-FARMS as opposed to current FARMS?
- My school does not seem overcrowded currently, will there be more students coming to mine?
- Is there a chance that I could be bussed across boundary lines?

8.3 Appendix
Summary Table

Summary Table

Cluster	School Name	Grades Served	Total Students	Pct. Asian	Pct. Black	Pct. Hispanic	Pct. Other	Pct. White	Pct. FARMS	Pct. Ever-FARMS	Pct. ESOL	Pct. Ever-ESOL	Utilization: School Capacity	Utilization: Utilization Rate	Diversity: Racial Dissimilarity to 3 Nearest	Diversity: Socio-eccon Dissimilarity to 3 Nearest	Proximity: Avg. Dist to School	Proximity: Avg. Dist to Closest	Proximity: Pct. Students in Walk Zone
Bethesda-Checy Chase Cluster	North Chevy Chase Elementary	3-5	259	7.3%	21.2%	11.6%	5.0%	54.8%	18.9%	25.1%	7.7%	15.4%	358	72.3%	12.3%	5.8%	1.3	0.8	16.7%
	Westbrook Elementary	K-5	341	5.6%	0.6%	14.9%	7.4%	71.5%	0.6%	0.9%	3.7%	7.1%	547	62.3%	9.2%	4.7%	0.7	0.7	59.5%
	Chevy Chase Elementary	3-5	466	8.7%	17.6%	10.2%	8.2%	55.3%	17.4%	20.4%	8.2%	14.5%	473	98.5%	8.5%	7.5%	1.5	0.8	38.3%
	Rosemary Hills Elementary	HS-2	570	5.3%	25.2%	14.2%	5.3%	50.1%	22.3%	25.4%	10.7%	15.1%	628	90.8%	18.7%	7.6%	1.9	1.1	29.8%
	Somerset Elementary	K-5	582	9.5%	7.1%	13.5%	8.5%	61.4%	7.3%	10.9%	19.9%	24.6%	515	113.0%	2.8%	2.7%	0.8	0.7	36.4%
	Bethesda Elementary	K-5	666	18.9%	7.2%	15.0%	8.1%	50.8%	8.6%	12.7%	17.6%	22.7%	560	118.9%	12.5%	2.5%	0.7	0.7	7.6%
	Rock Creek Forest Elementary	K-5	760	7.5%	16.8%	32.7%	6.1%	36.8%	22.2%	27.3%	16.8%	22.4%	667	113.9%	19.3%	1.8%	0.5	0.5	30.7%
	Westland Middle	6-8	808	7.3%	7.8%	18.2%	7.3%	59.4%	7.2%	10.9%	5.6%	16.8%	1105	73%	6.4%	2.5%	2.2	1.8	21.7%
	Silver Creek Middle	6-8	887	6.3%	21.4%	19.5%	5.1%	47.7%	24.6%	30.9%	8.9%	25.6%	935	95%	17.3%	7.6%	2.6	2.2	6.0%
	Bethesda-Chevy Chase High	9-12	2259	5.4%	14.2%	17.1%	5.6%	57.7%	10.8%	21.4%	6.8%	20.6%	2457	92%	12.9%	4.6%	1.9	1.9	30.4%
Clarksburg Cluster	Fox Chapel Elementary	HS-5	613	15.1%	25.1%	44.5%	5.0%	10.3%	49.3%	60.0%	31.0%	46.4%	683	89.8%	11.2%	18.4%	0.7	0.6	47.8%
	Captain James E. Daly Elementary	HS-5	618	6.6%	35.0%	50.4%	2.6%	5.4%	73.0%	82.1%	41.7%	51.7%	523	118.2%	12.4%	19.7%	0.9	0.7	62.7%
	William B. Gibbs Jr. Elementary	K-5	621	27.3%	28.1%	18.7%	7.6%	18.3%	30.1%	39.6%	16.5%	26.1%	719	86.4%	32.6%	30.9%	1.1	0.9	65.4%
	Clarksburg Elementary	K-5	624	35.0%	24.6%	14.8%	8.8%	16.7%	15.4%	23.6%	19.0%	28.5%	311	200.6%	10.4%	8.2%	2.0	1.8	N/A
	Little Bennett Elementary	K-5	637	27.4%	20.7%	17.7%	8.3%	25.9%	14.1%	20.5%	10.2%	19.4%	624	102.1%	14.6%	3.9%	0.9	0.9	42.6%
	Snowden Farm Elementary	K-5	644	49.4%	18.5%	10.4%	4.3%	17.4%	10.7%	13.2%	9.3%	16.4%	774	83.2%	14.4%	12.5%	0.5	0.5	100.0%
	Wilson Wims Elementary	K-5	768	41.6%	16.6%	13.0%	5.3%	23.5%	9.0%	13.4%	5.5%	15.1%	739	103.9%	7.7%	5.7%	0.7	0.6	63.4%
	Rocky Hill Middle	6-8	883	29.6%	25.0%	17.1%	7.1%	21.2%	20.1%	33.8%	4.6%	29.6%	1020	87%	19.8%	23.5%	2.5	2.2	7.2%
	Neelsville Middle	6-8	945	8.6%	30.2%	52.9%	3.2%	5.1%	67.3%	84.3%	22.0%	57.8%	956	99%	31.8%	38.1%	2.7	1.6	N/A
	Clarksburg High	9-12	2472	22.0%	29.6%	26.4%	4.6%	17.3%	26.4%	48.4%	7.0%	35.3%	2034	122%	17.9%	13.6%	2.5	2.0	21.4%
Col. Zadok Magruder Cluster	Cashell Elementary	HS-5	343	7.1%	15.9%	19.6%	12.8%	44.6%	20.3%	28.4%	7.1%	12.5%	339	101.2%	9.9%	7.3%	0.7	0.7	75.4%
	Sequoyah Elementary	K-5	376	11.6%	12.2%	49.7%	5.7%	20.8%	46.8%	55.1%	35.7%	48.1%	508	74.0%	24.2%	22.1%	3.0	1.4	N/A
	Candlewood Elementary	K-5	387	17.5%	13.5%	15.9%	6.1%	46.9%	18.0%	24.4%	15.9%	25.2%	515	75.1%	23.3%	13.9%	1.3	1.2	15.1%
	Flower Hill Elementary	HS-5	458	11.7%	26.9%	48.0%	6.2%	7.2%	57.7%	71.4%	37.3%	48.8%	493	92.9%	5.1%	8.9%	0.7	0.7	63.7%
	Mill Creek Towne Elementary	HS-5	507	13.2%	19.7%	38.5%	8.2%	20.4%	33.7%	44.7%	21.9%	38.5%	336	150.9%	4.6%	7.5%	1.0	0.8	35.5%
	Shady Grove Middle	6-8	575	12.7%	20.6%	41.0%	4.2%	21.5%	42.9%	62.6%	15.7%	45.2%	854	67%	13.1%	7.7%	1.7	1.7	12.6%
	Judith A. Resnik Elementary	HS-5	602	11.0%	27.2%	43.5%	4.6%	13.7%	52.7%	62.7%	33.1%	41.9%	493	122.1%	10.4%	12.8%	1.8	1.0	46.3%
	Redland Middle	6-8	635	11.3%	22.5%	39.5%	6.7%	20.0%	42.5%	59.7%	13.5%	42.2%	765	83%	13.0%	11.1%	3.3	2.3	1.2%
	Col. Zadok Magruder High	9-12	1700	12.5%	17.6%	40.2%	4.7%	25.0%	32.8%	54.3%	11.4%	44.6%	1941	88%	2.3%	3.0%	3.4	2.9	N/A
Damascus Cluster	Woodfield Elementary	K-5	355	7.0%	5.2%	21.0%	5.9%	60.9%	16.2%	20.7%	8.9%	13.7%	381	93.2%	25.2%	4.5%	1.0	1.0	45.3%
	Damascus Elementary	K-5	362	2.4%	5.7%	37.0%	6.3%	48.7%	28.1%	38.5%	18.5%	24.5%	355	102.0%	29.0%	13.4%	1.9	1.9	N/A
	Cedar Grove Elementary	K-5	418	43.5%	14.3%	11.5%	5.4%	25.3%	7.2%	12.8%	8.2%	18.9%	402	104.0%	16.5%	10.9%	1.6	0.8	0.9%
	Lois P. Rockwell Elementary	K-5	454	8.2%	11.9%	24.7%	9.0%	46.1%	20.4%	26.5%	10.6%	18.6%	530	85.7%	15.8%	3.2%	1.4	1.0	8.5%
	Clearspring Elementary	HS-5	589	13.6%	18.1%	23.3%	7.1%	37.9%	25.4%	33.5%	8.7%	15.6%	642	91.7%	17.9%	4.6%	1.5	1.2	24.3%

Downcounty Consortium

School Name	Grades Served	Total Students	Pct. Asian	Pct. Black	Pct. Hispanic	Pct. Other	Pct. White	Pct. FARMS	Pct. Ever-FARMS	Pct. ESOL	Pct. Ever-ESOL	Utilization: School Capacity	Utilization: Utilization Rate	Diversity: Racial Dissimilarity to 3 Nearest	Diversity: Socio-eccon Dissimilarity to 3 Nearest	Proximity: Avg. Dist to School	Proximity: Avg. Dist to Closest	Proximity: Pct. Students in Walk Zone
John T. Baker Middle	6-8	830	6.0%	11.2%	29.0%	5.4%	48.4%	20.8%	36.0%	3.1%	21.4%	741	112%	32.4%	14.3%	2.4	2.4	N/A
Hallie Wells Middle	6-8	873	36.1%	19.5%	13.0%	6.9%	24.4%	14.9%	23.9%	2.0%	23.1%	982	89%	23.6%	28.6%	1.2	1.1	74.1%
Damascus High	9-12	1354	9.8%	12.1%	23.7%	5.3%	48.9%	14.8%	33.5%	3.8%	23.1%	1543	88%	37.1%	29.3%	2.8	2.5	4.5%
Pine Crest Elementary	3-5	413	4.7%	27.0%	37.7%	6.3%	24.2%	45.5%	58.1%	23.4%	43.3%	404	102.2%	5.9%	6.6%	1.3	0.8	24.0%
Oak View Elementary	3-5	423	2.4%	12.0%	66.1%	2.2%	17.3%	71.4%	76.0%	41.6%	66.3%	335	126.3%	25.3%	27.5%	1.0	0.7	32.4%
Highland View Elementary	HS-5	434	2.0%	30.7%	29.7%	3.4%	34.2%	41.8%	52.8%	32.7%	44.0%	288	150.7%	21.2%	9.1%	0.6	0.5	72.2%
Brookhaven Elementary	HS-5	467	8.6%	29.6%	51.1%	2.8%	8.0%	66.9%	80.7%	39.2%	57.5%	470	99.4%	21.5%	27.1%	1.3	1.1	27.8%
Montgomery Knolls Elementary	HS-2	470	4.8%	26.9%	47.6%	4.0%	16.7%	58.6%	65.1%	44.9%	53.2%	537	87.5%	14.6%	11.5%	1.0	0.7	21.0%
New Hampshire Estates Elementary	HS-2	482	3.6%	14.5%	75.2%	2.7%	3.9%	87.6%	90.0%	67.6%	81.2%	493	97.8%	22.7%	22.2%	0.6	0.4	54.5%
Strathmore Elementary	3-5	483	4.8%	38.3%	45.0%	2.9%	9.0%	63.3%	79.3%	38.6%	59.5%	439	110.0%	29.7%	15.4%	1.6	1.5	6.7%
Kemp Mill Elementary	HS-5	486	0.9%	12.4%	80.6%	1.2%	4.9%	87.6%	92.1%	51.9%	71.5%	458	106.1%	28.3%	35.3%	2.4	0.9	15.1%
East Silver Spring Elementary	HS-5	498	2.7%	52.6%	20.7%	4.1%	20.0%	49.4%	59.1%	25.1%	37.5%	577	86.3%	29.9%	31.5%	0.5	0.5	53.1%
Wheaton Woods Elementary	HS-5	504	7.1%	24.6%	62.5%	1.8%	3.9%	78.9%	87.4%	51.3%	72.0%	766	65.8%	11.0%	13.9%	0.5	0.5	73.7%
Glen Haven Elementary	HS-5	510	6.9%	21.9%	49.3%	5.6%	16.3%	54.7%	66.1%	33.3%	44.4%	556	91.7%	7.8%	11.4%	0.6	0.6	100.0%
Oakland Terrace Elementary	K-5	531	4.7%	14.2%	33.9%	9.0%	38.1%	26.6%	35.4%	15.6%	21.2%	487	109.0%	12.6%	17.6%	0.6	0.6	89.3%
Woodlin Elementary	K-5	554	5.9%	26.6%	17.4%	9.2%	40.9%	19.4%	27.2%	11.5%	17.0%	489	113.3%	11.8%	8.1%	0.9	0.8	10.8%
Highland Elementary	HS-5	555	6.0%	8.2%	73.9%	3.0%	8.8%	74.7%	80.5%	46.4%	63.3%	540	102.8%	6.7%	8.3%	0.6	0.6	100.0%
Viers Mill Elementary	HS-5	582	9.2%	8.8%	67.8%	3.1%	11.2%	64.8%	71.8%	48.1%	60.8%	743	78.3%	2.1%	3.7%	0.7	0.7	63.1%
Takoma Park Elementary	K-2	613	2.6%	30.5%	15.7%	8.3%	42.9%	27.4%	33.7%	21.8%	23.8%	629	97.5%	23.5%	18.5%	1.1	0.9	41.7%
Bel Pre Elementary	K-2	613	4.9%	31.6%	52.3%	4.5%	6.6%	62.3%	71.5%	44.7%	49.0%	640	95.8%	22.4%	17.9%	1.7	1.5	6.3%
Georgian Forest Elementary	HS-5	626	2.3%	24.7%	63.6%	2.5%	6.8%	73.8%	87.8%	46.2%	62.7%	670	93.4%	11.0%	4.8%	1.8	1.2	14.5%
Piney Branch Elementary	3-5	650	3.3%	31.5%	16.5%	7.3%	41.4%	25.0%	36.0%	14.2%	27.6%	611	106.4%	22.2%	20.7%	0.9	0.8	38.1%
Rock View Elementary	HS-5	655	11.2%	9.6%	46.2%	6.2%	26.8%	37.8%	51.4%	25.0%	32.9%	636	103.0%	4.5%	7.3%	0.9	0.7	56.7%
Sligo Creek Elementary	K-5	680	4.4%	25.6%	10.9%	7.8%	51.2%	8.3%	14.6%	9.4%	11.8%	664	102.4%	34.2%	48.2%	0.9	0.8	49.4%
Flora M. Singer Elementary	K-5	683	6.9%	13.3%	34.2%	8.3%	37.3%	37.4%	44.5%	26.3%	34.2%	680	100.4%	7.9%	4.5%	0.9	0.8	53.5%
Newport Mill Middle	6-8	702	7.7%	14.0%	54.4%	7.4%	16.5%	48.2%	69.2%	19.7%	52.7%	850	83%	11.2%	6.0%	1.2	1.0	59.1%
Sligo Middle	6-8	722	7.5%	18.5%	41.9%	4.0%	28.1%	41.7%	53.7%	15.4%	46.3%	941	77%	11.7%	12.5%	1.3	1.1	46.2%
Sargent Shriver Elementary	K-5	744	5.8%	11.1%	78.5%	2.3%	2.3%	82.9%	89.7%	52.2%	68.8%	660	112.7%	6.5%	8.4%	0.6	0.6	52.7%
Harmony Hills Elementary	HS-5	745	4.8%	15.0%	76.4%	0.6%	3.2%	80.5%	90.4%	52.6%	71.7%	709	105.1%	17.1%	9.1%	0.9	0.7	18.2%
Weller Road Elementary	HS-5	747	5.5%	5.8%	82.7%	2.3%	3.7%	81.3%	89.5%	54.8%	75.7%	772	96.8%	10.9%	3.6%	0.5	0.5	88.6%
Glenallan Elementary	HS-5	747	11.8%	30.1%	44.8%	3.2%	10.1%	55.6%	65.1%	26.8%	43.1%	747	100.0%	23.5%	12.5%	0.9	0.9	54.5%
Arcola Elementary	K-5	749	5.8%	20.0%	68.7%	1.9%	3.5%	74.1%	85.2%	48.0%	64.2%	651	115.1%	7.9%	5.8%	1.1	0.7	16.3%
Forest Knolls Elementary	K-5	755	5.4%	14.2%	38.2%	8.8%	33.4%	29.7%	37.3%	16.7%	24.9%	529	142.7%	24.4%	35.5%	0.9	0.8	42.2%

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Downcounty Consortium	Col. E. Brooke Lee Middle	6-8	771	7.3%	23.5%	64.0%	2.3%	2.9%	64.7%	85.5%	22.5%	65.1%	727	106%	18.2%	18.3%	2.1	1.5	14.2%
	Rolling Terrace Elementary	HS-5	775	2.3%	13.4%	75.0%	1.4%	7.9%	78.3%	83.0%	58.9%	72.7%	729	106.3%	12.4%	6.5%	0.4	0.4	82.5%
	A. Mario Loiederman Middle	6-8	999	4.0%	15.0%	64.3%	3.4%	13.2%	57.5%	75.8%	22.1%	59.3%	871	115%	13.9%	4.7%	1.0	1.0	54.1%
	Eastern Middle	6-8	1010	7.8%	18.6%	50.8%	3.8%	19.1%	53.9%	65.6%	22.1%	54.7%	1012	100%	18.1%	18.3%	1.3	1.2	49.1%
	Argyle Middle	6-8	1024	8.8%	25.8%	55.6%	2.6%	7.3%	56.3%	76.8%	15.3%	59.6%	897	114%	11.0%	8.1%	1.4	1.2	50.5%
	Parkland Middle	6-8	1142	14.9%	22.1%	51.7%	3.1%	8.2%	52.4%	74.4%	13.6%	61.3%	948	120%	11.4%	5.1%	1.4	1.3	39.3%
	Silver Spring International Middle	6-8	1153	5.4%	21.2%	42.9%	4.8%	25.7%	40.7%	53.7%	16.0%	42.6%	1107	104%	8.7%	1.6%	1.4	1.0	23.2%
	Takoma Park Middle	6-8	1162	14.4%	34.3%	17.1%	5.1%	29.1%	27.0%	39.6%	7.8%	31.2%	939	124%	28.3%	18.6%	1.1	1.1	55.2%
	Northwood High	9-12	1808	5.0%	24.1%	54.0%	3.1%	13.7%	47.6%	71.1%	23.4%	56.0%	1508	120%	11.0%	9.5%	1.8	1.2	40.3%
	Albert Einstein High	9-12	1820	7.9%	16.7%	48.4%	3.8%	23.2%	37.2%	62.1%	18.4%	51.6%	1629	112%	15.4%	12.9%	2.0	1.5	44.4%
	John F. Kennedy High	9-12	1830	6.8%	24.5%	62.5%	1.3%	4.8%	49.0%	80.8%	26.9%	69.6%	1794	102%	13.5%	11.6%	2.7	2.1	18.8%
	Wheaton High	9-12	2193	11.5%	19.8%	57.3%	2.4%	9.1%	48.4%	73.5%	21.7%	66.8%	2234	98%	7.3%	3.9%	1.6	1.5	44.6%
	Montgomery Blair High	9-12	3227	14.0%	24.0%	33.8%	4.3%	23.9%	32.9%	52.4%	17.4%	43.4%	2889	112%	23.2%	22.2%	2.4	2.4	8.1%
Gaithersburg Cluster	Laytonsville Elementary	K-5	392	7.0%	15.9%	23.4%	8.1%	45.7%	14.5%	20.2%	9.7%	15.3%	447	87.7%	35.3%	42.1%	2.3	2.0	2.2%
	Washington Grove Elementary	HS-5	462	4.6%	19.1%	63.2%	3.3%	9.7%	65.3%	76.9%	54.1%	69.0%	613	75.4%	6.0%	10.2%	1.3	1.0	14.2%
	Goshen Elementary	K-5	571	11.9%	22.7%	42.9%	3.8%	18.7%	45.8%	54.6%	24.4%	35.8%	594	96.1%	9.8%	12.3%	1.2	1.0	12.4%
	Rosemont Elementary	HS-5	647	8.8%	29.4%	46.7%	6.2%	8.9%	57.2%	68.6%	38.7%	53.6%	568	113.9%	27.8%	22.5%	1.7	1.0	4.4%
	Strawberry Knoll Elementary	HS-5	651	11.3%	26.7%	43.5%	5.8%	12.6%	41.4%	57.6%	23.5%	36.0%	459	141.8%	17.6%	32.7%	0.7	0.6	63.4%
	Summit Hall Elementary	HS-5	702	2.9%	18.5%	74.1%	1.9%	2.6%	80.1%	89.0%	59.0%	72.1%	457	153.6%	8.8%	8.3%	0.8	0.8	51.8%
	Gaithersburg Elementary	HS-5	866	1.6%	14.5%	79.6%	1.3%	3.0%	85.4%	91.0%	51.7%	70.1%	737	117.5%	14.6%	9.9%	0.7	0.6	84.4%
	Gaithersburg Middle	6-8	877	6.7%	20.1%	54.3%	5.9%	13.1%	49.0%	68.1%	21.7%	51.8%	1009	87%	5.3%	8.9%	2.2	1.8	55.5%
	Forest Oak Middle	6-8	950	5.6%	24.0%	57.9%	2.9%	9.7%	57.2%	78.0%	21.2%	59.7%	955	99%	7.5%	4.8%	3.4	1.9	5.8%
	Gaithersburg High	9-12	2412	6.7%	21.5%	56.7%	3.1%	12.0%	43.0%	73.2%	25.5%	58.3%	2443	99%	25.9%	24.0%	2.5	2.1	51.7%
Northeast Consortium	Westover Elementary	K-5	316	15.9%	40.3%	19.0%	8.5%	16.3%	22.9%	29.1%	9.3%	20.2%	266	118.8%	20.0%	26.1%	1.2	1.0	28.8%
	Cannon Road Elementary	K-5	412	9.0%	34.2%	48.5%	4.3%	4.0%	60.8%	71.1%	16.8%	38.2%	518	79.5%	20.3%	11.6%	1.4	0.8	32.4%
	Roscoe R. Nix Elementary	HS-2	483	10.7%	33.7%	49.7%	1.8%	4.1%	68.9%	79.1%	55.4%	60.7%	503	96.0%	6.3%	8.4%	1.8	1.1	22.2%
	Dr. Charles R. Drew Elementary	HS-5	498	13.6%	46.4%	23.1%	5.0%	11.9%	45.7%	54.1%	19.1%	31.8%	496	100.4%	9.9%	10.1%	1.2	0.9	65.4%
	Stonegate Elementary	HS-5	501	15.5%	30.9%	22.0%	10.7%	20.9%	22.7%	26.4%	9.8%	18.1%	385	130.1%	6.4%	11.9%	1.8	1.5	42.1%
	Cresthaven Elementary	3-5	505	6.1%	33.8%	55.0%	1.5%	3.7%	70.6%	83.8%	46.8%	64.1%	454	111.2%	3.5%	6.8%	1.5	1.0	12.8%
	Cloverly Elementary	K-5	511	14.5%	22.5%	27.5%	7.5%	28.0%	18.9%	29.1%	18.0%	25.7%	461	110.8%	23.2%	25.0%	2.1	1.9	N/A
	Burnt Mills Elementary	HS-5	579	5.4%	56.7%	26.1%	4.8%	7.0%	62.5%	69.3%	19.8%	31.4%	392	147.7%	19.4%	7.7%	1.1	1.0	20.9%
	Fairland Elementary	HS-5	596	6.3%	58.5%	26.0%	4.7%	4.5%	61.4%	73.8%	18.4%	29.5%	648	92.0%	7.1%	8.2%	2.0	1.3	4.5%
	Burtonsville Elementary	K-5	605	11.6%	59.4%	18.1%	4.3%	6.6%	43.4%	52.2%	12.1%	21.2%	493	122.7%	8.7%	20.0%	1.6	1.6	N/A

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Northeast Consortium	William Tyler Page Elementary	HS-5	615	12.6%	46.0%	24.4%	5.1%	11.9%	38.6%	47.3%	15.6%	26.7%	392	156.9%	11.8%	21.6%	1.1	1.1	47.3%
	William H. Farquhar Middle	6-8	694	16.1%	25.0%	17.6%	4.4%	36.8%	14.5%	28.8%	3.8%	22.0%	784	89%	24.0%	30.8%	3.1	2.4	0.2%
	Greencastle Elementary	HS-5	721	8.0%	68.4%	20.0%	1.3%	2.2%	67.9%	75.6%	16.2%	24.8%	591	122.0%	9.1%	14.3%	0.9	0.9	46.5%
	Jackson Road Elementary	HS-5	732	8.6%	50.6%	35.5%	1.8%	3.5%	75.2%	83.1%	32.9%	47.0%	699	104.7%	8.0%	22.2%	1.3	1.3	29.0%
	Galway Elementary	HS-5	763	8.3%	60.0%	25.2%	2.5%	4.0%	56.8%	68.1%	28.6%	42.5%	744	102.6%	4.9%	7.1%	1.2	1.1	31.5%
	White Oak Middle	6-8	845	8.0%	31.0%	54.1%	2.4%	4.5%	64.4%	81.3%	22.6%	59.4%	992	85%	12.1%	12.6%	3.0	2.1	10.1%
	JoAnn Leleck Elementary at Broad Acres	HS-5	874	2.4%	11.2%	84.9%	1.0%	0.4%	89.0%	94.0%	70.9%	87.1%	715	122.2%	42.6%	22.1%	1.1	0.5	78.9%
	Benjamin Banneker Middle	6-8	905	9.3%	65.4%	19.4%	3.0%	2.9%	50.1%	72.6%	6.9%	33.3%	824	110%	22.2%	6.7%	2.0	2.0	4.0%
	Briggs Chaney Middle	6-8	937	10.6%	54.7%	25.2%	3.6%	5.9%	48.5%	69.5%	7.8%	40.6%	926	101%	18.1%	8.3%	4.2	2.3	7.4%
	Francis Scott Key Middle	6-8	1004	9.0%	43.5%	41.8%	3.0%	2.7%	58.0%	82.2%	15.7%	47.3%	960	105%	22.0%	14.7%	2.5	1.7	8.6%
	Springbrook High	9-12	1748	12.9%	37.1%	41.0%	2.7%	6.3%	48.6%	72.0%	17.7%	51.2%	2135	82%	15.9%	7.8%	3.3	2.5	15.9%
	James Hubert Blake High	9-12	1795	10.4%	40.8%	29.1%	4.0%	15.7%	35.1%	58.2%	3.4%	31.4%	1743	103%	6.7%	4.2%	4.9	2.3	N/A
	Paint Branch High	9-12	1997	12.3%	60.4%	20.2%	2.9%	4.2%	33.9%	64.7%	3.2%	36.6%	2020	99%	28.6%	10.2%	2.3	2.2	3.1%
Northwest Cluster	Darnestown Elementary	K-5	323	11.8%	5.6%	6.9%	4.9%	70.8%	2.8%	4.5%	4.2%	6.6%	432	74.8%	28.7%	26.1%	1.7	1.6	N/A
	Germantown Elementary	K-5	325	15.4%	35.1%	24.4%	7.5%	17.6%	35.5%	43.4%	14.7%	24.0%	304	106.9%	7.4%	8.4%	0.7	0.6	36.2%
	Clopper Mill Elementary	HS-5	539	8.4%	33.2%	48.4%	4.0%	6.2%	61.5%	72.3%	30.3%	43.5%	496	108.7%	19.8%	19.9%	0.9	0.6	66.9%
	Great Seneca Creek Elementary	K-5	594	12.2%	33.8%	25.8%	7.8%	20.4%	36.9%	48.8%	19.7%	27.7%	556	106.8%	14.7%	3.5%	0.8	0.7	65.8%
	Spark M. Matsunaga Elementary	K-5	710	39.3%	19.0%	16.0%	6.1%	19.6%	20.0%	28.2%	9.7%	20.3%	584	121.6%	18.8%	11.8%	1.6	0.9	11.8%
	Diamond Elementary	K-5	792	51.5%	7.9%	10.2%	5.8%	24.6%	7.5%	11.1%	21.2%	36.4%	679	116.6%	36.2%	31.1%	1.7	1.2	13.1%
	Ronald McNair Elementary	HS-5	828	28.2%	26.8%	17.8%	7.1%	20.1%	24.0%	32.4%	17.4%	29.7%	626	132.3%	4.0%	6.2%	0.8	0.7	64.0%
	Kingsview Middle	6-8	983	28.2%	26.8%	15.1%	6.0%	23.7%	23.3%	35.3%	4.2%	29.8%	1041	94%	28.0%	31.2%	1.3	1.2	53.3%
	Northwest High	9-12	2624	21.5%	24.3%	22.9%	5.0%	26.2%	22.5%	41.7%	3.2%	30.3%	2286	115%	18.8%	18.6%	2.3	1.7	47.0%
Poolesvile Cluster	Monocacy Elementary	K-5	151	2.8%	2.8%	14.7%	9.1%	70.6%	16.1%	22.4%	5.6%	8.4%	219	68.9%	41.1%	2.8%	3.5	3.0	N/A
	John Poole Middle	6-8	390	6.7%	5.9%	13.2%	5.4%	68.7%	12.9%	19.4%	1.8%	9.8%	468	83%	44.2%	25.9%	2.9	2.7	21.1%
	Poolesville Elementary	K-5	489	7.2%	5.4%	13.0%	9.5%	64.9%	12.4%	15.3%	6.6%	9.9%	539	90.7%	29.0%	6.1%	1.1	1.1	42.5%
	Poolesville High	9-12	1207	33.2%	5.8%	7.9%	5.2%	47.9%	6.5%	14.2%	0.5%	16.7%	1170	103%	37.6%	32.8%	2.0	1.9	53.1%
Quince Orchard Cluster	Jones Lane Elementary	K-5	442	7.7%	9.1%	32.3%	7.3%	43.6%	28.2%	32.5%	23.0%	28.6%	516	85.7%	12.3%	7.6%	2.3	1.0	19.9%
	Fields Road Elementary	HS-5	487	14.0%	17.4%	33.9%	6.1%	28.5%	36.9%	44.3%	19.7%	29.0%	435	112.0%	14.8%	3.6%	0.6	0.6	34.0%
	Thurgood Marshall Elementary	K-5	622	14.7%	18.9%	29.6%	4.4%	32.5%	33.6%	43.2%	20.7%	27.9%	552	112.7%	21.7%	23.2%	2.0	0.9	26.5%
	Brown Station Elementary	HS-5	637	11.7%	26.4%	49.3%	3.9%	8.7%	62.1%	75.7%	37.1%	47.2%	761	83.7%	20.0%	25.4%	0.7	0.7	76.7%
	Ridgeview Middle	6-8	784	11.5%	15.9%	31.1%	4.3%	37.2%	30.2%	42.3%	10.2%	30.3%	955	82%	15.8%	9.5%	2.3	2.0	16.6%
	Rachel Carson Elementary	HS-5	893	18.1%	6.3%	20.6%	7.5%	47.5%	18.3%	21.6%	14.8%	20.6%	692	129.0%	23.2%	2.3%	1.0	0.8	42.4%

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	Lakelands Park Middle	6-8	1200	15.2%	15.7%	24.7%	6.7%	37.7%	21.4%	35.6%	9.4%	27.5%	1130	106%	9.9%	5.0%	2.3	1.7	34.8%
	Quince Orchard High	9-12	2160	13.0%	15.8%	28.6%	4.4%	38.2%	24.1%	41.6%	10.3%	32.3%	1791	121%	12.2%	2.1%	2.2	1.9	43.6%
Richard Montgomery Cluster	Ritchie Park Elementary	K-5	401	15.7%	12.7%	12.2%	8.0%	51.4%	8.7%	11.2%	9.7%	13.5%	388	103.4%	19.8%	4.1%	1.9	0.9	28.4%
	Beall Elementary	HS-5	531	13.8%	14.8%	21.9%	9.0%	40.4%	24.9%	30.8%	15.3%	22.2%	639	83.1%	12.2%	3.5%	0.8	0.7	41.1%
	Twinbrook Elementary	HS-5	558	10.9%	9.1%	65.4%	3.8%	10.9%	66.6%	77.3%	51.1%	64.0%	548	101.8%	28.9%	30.8%	0.8	0.8	46.4%
	College Gardens Elementary	HS-5	634	19.7%	20.9%	18.9%	8.5%	32.1%	16.4%	23.4%	14.9%	22.2%	678	93.5%	17.6%	25.9%	0.8	0.8	35.7%
	Bayard Rustin Elementary	K-5	719	26.2%	9.2%	28.6%	9.5%	26.5%	30.5%	36.2%	22.9%	33.8%	744	96.6%	17.9%	15.0%	0.9	0.8	43.6%
	Julius West Middle	6-8	1382	18.4%	15.9%	27.4%	6.1%	32.3%	27.3%	40.0%	9.5%	34.0%	1432	97%	14.3%	16.1%	2.2	2.0	16.3%
	Richard Montgomery High	9-12	2507	24.8%	16.8%	23.6%	5.6%	29.2%	19.6%	35.4%	8.6%	32.7%	2241	112%	15.5%	15.0%	2.0	1.7	48.6%
Rockville Cluster	Meadow Hall Elementary	K-5	409	8.2%	8.8%	60.2%	5.3%	17.5%	53.8%	67.9%	34.0%	49.3%	375	109.1%	17.8%	15.6%	0.7	0.6	70.1%
	Rock Creek Valley Elementary	HS-5	436	16.8%	9.8%	37.0%	7.2%	29.3%	29.5%	38.6%	24.5%	37.2%	460	94.8%	20.7%	25.4%	0.9	0.6	49.3%
	Flower Valley Elementary	K-5	499	7.0%	16.0%	26.0%	9.0%	42.0%	21.4%	30.6%	18.6%	25.2%	416	120.0%	19.8%	19.4%	1.4	1.1	21.9%
	Maryvale Elementary	HS-5	625	10.3%	25.2%	29.5%	8.2%	26.8%	37.7%	44.3%	23.1%	33.2%	626	99.8%	14.4%	3.1%	0.5	0.5	69.8%
	Lucy V. Barnsley Elementary	K-5	737	12.8%	12.6%	35.5%	7.6%	31.5%	30.8%	40.2%	15.5%	28.7%	652	113.0%	7.1%	8.1%	1.0	0.9	38.3%
	Earle B. Wood Middle	6-8	994	11.6%	11.6%	45.9%	5.3%	25.7%	37.7%	55.2%	12.2%	41.2%	944	105%	20.5%	20.5%	1.7	1.4	25.9%
	Rockville High	9-12	1442	10.2%	12.3%	42.1%	4.2%	31.2%	25.9%	50.3%	13.5%	41.6%	1535	94%	12.7%	7.0%	1.8	1.7	40.8%
Seneca Valley Cluster	Dr. Sally K. Ride Elementary	HS-5	502	13.5%	36.6%	36.1%	5.3%	8.5%	51.2%	62.9%	26.0%	34.2%	467	107.5%	20.1%	18.6%	2.0	0.9	40.6%
	Lake Seneca Elementary	K-5	514	4.0%	33.8%	44.8%	5.0%	12.5%	55.8%	71.8%	30.8%	41.5%	425	120.9%	11.1%	11.6%	1.1	0.8	61.3%
	S. Christa McAuliffe Elementary	HS-5	554	7.2%	37.1%	33.8%	7.8%	14.2%	50.1%	63.7%	27.4%	35.0%	771	71.9%	5.0%	7.9%	0.9	0.9	36.3%
	Waters Landing Elementary	K-5	659	4.3%	40.4%	37.6%	4.0%	13.7%	51.7%	64.6%	25.0%	34.1%	776	84.9%	7.2%	3.1%	0.8	0.7	36.8%
	Dr. Martin Luther King Jr. Middle	6-8	764	12.7%	33.6%	34.9%	6.2%	12.7%	44.6%	61.2%	9.6%	39.0%	914	84%	7.8%	3.0%	1.6	1.2	30.1%
	Seneca Valley High	9-12	1232	9.7%	36.3%	36.0%	4.1%	13.9%	40.7%	68.2%	14.1%	41.1%	1330	93%	13.6%	14.7%	1.5	1.5	72.3%
	Roberto W Clemente Middle	6-8	1289	21.3%	29.9%	31.2%	5.9%	11.7%	37.3%	56.4%	9.2%	35.3%	1231	105%	5.2%	7.6%	1.7	1.2	34.3%
Sherwood Cluster	Belmont Elementary	K-5	348	7.0%	9.0%	10.8%	6.4%	66.8%	5.2%	9.6%	2.0%	4.4%	425	81.9%	14.3%	10.0%	1.6	1.2	27.7%
	Brooke Grove Elementary	HS-5	464	13.6%	26.3%	10.6%	7.0%	42.5%	19.2%	26.8%	7.9%	12.2%	518	89.6%	14.6%	8.6%	0.6	0.6	98.9%
	Greenwood Elementary	K-5	521	8.3%	10.0%	12.1%	7.9%	61.8%	9.4%	10.7%	5.6%	9.8%	584	89.2%	10.1%	9.8%	1.3	1.1	39.1%
	Sherwood Elementary	K-5	524	9.9%	18.8%	16.2%	11.0%	44.2%	13.6%	20.3%	8.6%	13.4%	529	99.1%	9.8%	2.0%	2.2	1.9	N/A
	Olney Elementary	K-5	683	12.9%	15.2%	13.8%	7.5%	50.6%	16.9%	22.6%	10.7%	16.1%	606	112.7%	3.6%	2.4%	1.4	1.3	21.8%
	Rosa Parks Middle	6-8	868	10.5%	13.7%	13.3%	6.5%	56.0%	12.7%	21.9%	1.6%	15.2%	961	90%	30.8%	27.4%	1.9	1.9	27.0%
	Sherwood High	9-12	1965	11.5%	15.8%	18.8%	5.1%	48.8%	13.6%	28.2%	12.0%	23.2%	2171	91%	37.0%	36.2%	3.7	3.4	2.5%
Wootton Cluster	Dufief Elementary	K-5	316	32.5%	9.4%	7.7%	12.0%	38.5%	4.7%	6.8%	6.8%	15.0%	427	74.0%	7.3%	9.7%	0.7	0.7	50.9%
	Cold Spring Elementary	K-5	332	41.2%	3.6%	5.2%	8.8%	41.2%	0.0%	1.5%	1.5%	10.9%	458	72.5%	10.2%	6.9%	0.6	0.5	100.0%
	Travilah Elementary	K-5	341	46.5%	6.5%	10.3%	4.7%	32.1%	7.1%	9.1%	8.8%	21.8%	526	64.8%	16.1%	9.9%	1.2	1.2	N/A
	Lakewood Elementary	K-5	461	48.5%	11.0%	8.9%	8.2%	23.4%	4.4%	7.5%	12.2%	19.9%	556	82.9%	16.9%	10.5%	1.5	1.0	22.8%

Cluster	School Name	Grades Served	Total Students	Pct. Asian	Pct. Black	Pct. Hispanic	Pct. Other	Pct. White	Pct. FARMS	Pct. Ever-FARMS	Pct. ESOL	Pct. Ever-ESOL	Utilization		Diversity		Proximity		
													School Capacity	Utilization Rate	Racial Dissimilarity to 3 Nearest	Socio-econ Dissimilarity to 3 Nearest	Avg. Dist to School	Avg. Dist to Closest	Pct. Students in Walk Zone
Wootton Cluster	Fallsmead Elementary	K-5	565	35.0%	10.6%	9.5%	5.9%	39.0%	6.3%	12.0%	11.5%	19.2%	551	102.5%	9.9%	6.9%	2.1	1.1	20.0%
	Stone Mill Elementary	K-5	588	48.6%	13.2%	7.4%	5.2%	25.6%	9.5%	13.0%	14.3%	24.4%	694	84.7%	17.4%	9.1%	0.9	0.9	48.5%
	Robert Frost Middle	6-8	1029	38.9%	11.2%	7.5%	4.8%	37.6%	5.6%	11.5%	2.7%	26.0%	1084	95%	9.9%	10.0%	3.1	2.4	20.8%
	Thomas S. Wootton High	9-12	2116	37.7%	8.1%	7.6%	4.9%	41.6%	5.2%	13.6%	1.8%	24.6%	2142	99%	19.6%	15.3%	3.2	2.5	27.7%
Walt Whitman Cluster	Carderock Springs Elementary	K-5	366	15.9%	2.8%	11.6%	8.8%	60.8%	0.9%	2.3%	6.8%	12.5%	406	90.1%	6.6%	2.3%	2.1	1.9	N/A
	Bannockburn Elementary	K-5	461	11.3%	4.8%	10.9%	6.3%	66.7%	2.0%	2.6%	5.4%	11.1%	364	126.6%	5.1%	0.4%	1.3	1.0	20.8%
	Burning Tree Elementary	K-5	470	21.6%	4.2%	8.8%	5.6%	59.8%	2.7%	3.2%	10.5%	14.2%	378	124.3%	8.5%	0.9%	1.1	0.9	27.2%
	Bradley Hills Elementary	K-5	566	15.2%	2.3%	6.5%	10.2%	65.7%	0.7%	1.2%	6.9%	9.2%	663	85.4%	10.9%	5.6%	0.9	0.7	44.5%
	Wood Acres Elementary	K-5	649	10.3%	3.3%	12.8%	7.2%	66.4%	1.6%	3.0%	6.9%	10.7%	725	89.5%	1.9%	2.8%	0.8	0.8	32.5%
	Thomas W. Pyle Middle	6-8	1534	14.1%	3.1%	10.5%	7.8%	64.5%	1.3%	3.3%	3.1%	14.4%	1285	119%	13.4%	13.1%	2.2	1.7	18.1%
	Walt Whitman High	9-12	2040	13.9%	3.5%	8.6%	6.5%	67.6%	1.8%	4.3%	2.1%	11.9%	1857	110%	26.5%	26.6%	2.1	2.1	23.0%
Walter Johnson Cluster	Kensington Parkwood Elementary	K-5	643	9.3%	6.3%	12.8%	10.0%	61.6%	7.1%	9.8%	6.2%	11.4%	757	84.9%	27.1%	22.8%	1.3	0.9	30.0%
	Luxmanor Elementary	K-5	678	23.7%	14.4%	23.4%	5.7%	32.7%	15.1%	24.4%	30.8%	43.4%	409	165.8%	10.8%	8.8%	1.3	1.2	13.6%
	Wyngate Elementary	K-5	742	13.5%	4.4%	11.7%	9.7%	60.7%	2.5%	3.5%	8.0%	11.6%	776	95.6%	10.0%	4.9%	0.9	0.8	50.1%
	Garrett Park Elementary	K-5	802	16.6%	12.3%	24.1%	8.7%	38.4%	15.3%	22.7%	21.7%	31.1%	776	103.4%	15.1%	18.1%	1.7	1.1	19.4%
	Farmland Elementary	K-5	856	31.0%	6.6%	10.3%	3.8%	48.3%	5.8%	9.1%	22.1%	31.8%	714	119.9%	12.5%	6.3%	1.4	1.2	27.9%
	Ashburton Elementary	K-5	923	17.4%	16.5%	17.4%	9.5%	39.2%	10.9%	15.2%	14.4%	21.8%	789	117.0%	14.1%	5.7%	1.2	1.1	18.7%
	Tilden Middle	6-8	990	17.3%	12.4%	21.0%	5.0%	44.2%	13.4%	25.2%	10.0%	34.6%	1001	99%	14.4%	14.6%	1.6	1.6	9.7%
	North Bethesda Middle	6-8	1233	12.4%	9.7%	13.0%	8.6%	56.4%	7.8%	13.2%	4.9%	17.7%	1233	100%	4.3%	3.6%	2.0	1.3	21.9%
	Walter Johnson High	9-12	2748	14.1%	10.5%	17.1%	6.4%	51.9%	8.2%	19.0%	5.5%	23.4%	2321	118%	7.7%	7.3%	2.2	1.9	17.6%
Watkins Mill Cluster	Stedwick Elementary	HS-5	538	6.0%	27.7%	49.8%	6.0%	10.6%	59.8%	70.2%	37.7%	50.2%	688	78.2%	7.8%	12.2%	1.2	1.0	49.7%
	Watkins Mill Elementary	HS-5	731	7.1%	25.8%	59.2%	4.7%	3.2%	69.0%	87.3%	54.6%	63.3%	641	114.0%	4.0%	10.5%	0.9	0.8	55.9%
	Whetstone Elementary	HS-5	742	8.2%	24.9%	56.5%	3.6%	6.8%	70.6%	78.0%	45.4%	57.3%	750	98.9%	5.2%	13.2%	1.0	0.9	39.3%
	Montgomery Village Middle	6-8	791	7.6%	26.7%	57.0%	3.4%	5.4%	65.0%	86.5%	20.1%	58.3%	865	91%	4.3%	9.3%	1.0	1.0	76.4%
	South Lake Elementary	HS-5	897	5.6%	19.6%	71.0%	2.7%	1.1%	84.8%	91.6%	60.6%	72.0%	694	129.3%	7.8%	16.6%	1.1	0.7	69.8%
	Watkins Mill High	9-12	1597	8.7%	26.8%	55.5%	3.1%	5.9%	52.7%	81.6%	24.3%	62.5%	1947	82%	15.4%	19.7%	1.9	1.8	55.0%
Winston Churchill Cluster	Potomac Elementary	K-5	376	32.2%	9.1%	8.6%	8.6%	41.6%	3.2%	5.9%	5.1%	10.7%	425	88.5%	3.5%	1.5%	2.3	1.9	N/A
	Seven Locks Elementary	K-5	425	26.1%	8.9%	10.6%	5.2%	49.2%	4.9%	6.1%	7.3%	13.6%	424	100.2%	8.5%	0.9%	1.6	1.3	N/A
	Wayside Elementary	K-5	500	47.6%	6.8%	4.5%	7.1%	34.0%	4.9%	5.3%	9.0%	18.6%	648	77.2%	18.0%	2.4%	1.6	1.0	23.1%
	Beverly Farms Elementary	K-5	585	32.6%	7.6%	8.9%	6.4%	44.5%	5.7%	8.9%	9.1%	16.0%	689	84.9%	4.8%	0.8%	1.0	0.9	44.6%
	Bells Mill Elementary	K-5	642	28.6%	10.5%	8.8%	7.7%	44.4%	6.9%	9.8%	7.7%	17.5%	626	102.6%	6.2%	1.5%	0.8	0.8	23.4%
	Cabin John Middle	6-8	1040	36.6%	10.9%	7.3%	6.1%	39.1%	5.8%	10.8%	2.4%	21.6%	1057	98%	13.7%	15.0%	3.5	2.0	20.4%
	Herbert Hoover Middle	6-8	1045	38.2%	6.9%	8.5%	5.6%	40.8%	3.5%	7.3%	1.4%	16.5%	1139	92%	13.2%	15.5%	2.6	2.3	27.4%
	Winston Churchill High	9-12	2275	31.2%	9.1%	7.4%	5.9%	46.4%	4.3%	8.5%	0.7%	16.7%	1986	115%	12.0%	14.6%	2.8	2.5	34.1%

MCPS Districtwide Boundary Analysis

Interim Report