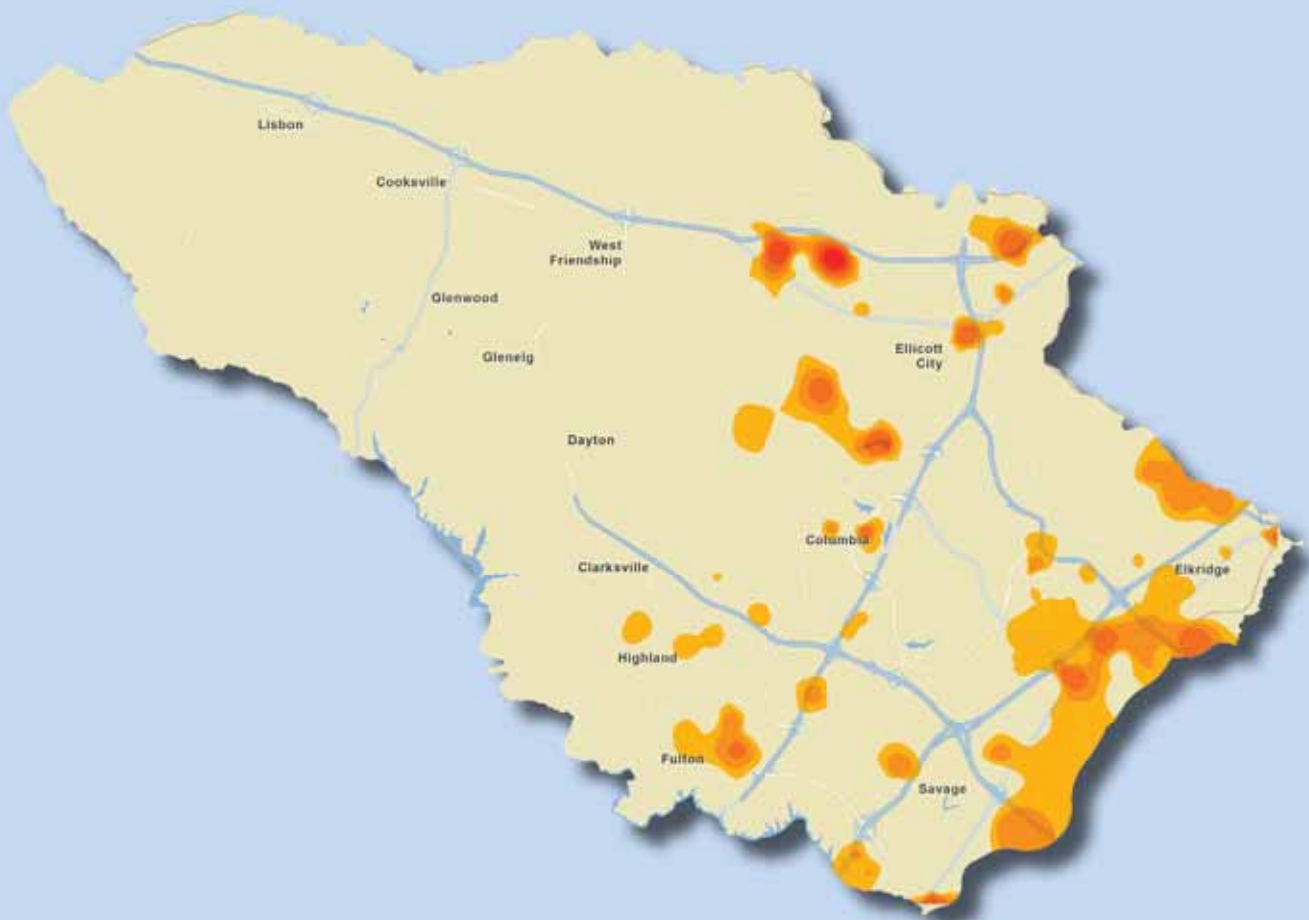


2016 Feasibility Study

An Annual Review of Long-Term Capital
Planning and Redistricting Options



Feasibility Study:
An Annual Review of Long-Term Capital
Planning and Redistricting Options

Superintendent

Renee A. Foose, Ed.D.

Board of Education

Elected Officials

Christine E. O'Connor, Chairman
Ellen Flynn Giles, Vice Chairman
Bess Altwerger, Ed.D.
Ann De Lacy
Sandra H. French
Janet Siddiqui, M.D.
Cynthia L. Vaillancourt

Student Member

Rachel S. Lin

Feasibility Study:
An Annual Review of Long-Term Capital
Planning and Redistricting Options

Prepared By
Office of School Planning
10910 Clarksville Pike
Ellicott City, Maryland 21042
410-313-6600

Camille Jones
Chief Operating Officer

Bruce Gist
Executive Director
Facilities, Planning, and Management

Joel A. Gallihue, AICP
Manager of School Planning

Tim Rogers
Planning Analyst

Jennifer Bubenko
Planning Specialist

This document is prepared in cooperation
with the Office of Budget and Finance
as pre-planning for the FY 2018 Capital Budget.

This is a publication of the Howard County Public School System.

Electronic copy of the 2016 Feasibility Study can be
found on the school system's website at www.hcpss.org.

Howard County Public School System
Board of Education

10910 Clarksville Pike
Ellicott City, Maryland 21042
Phone: 410.313.7194 • Fax: 410.313.6833
Group Board Member email: boe@hcpss.org



Christine E. O'Connor
Chairman

443.620.0122
christine_oconnor@hcpss.org
Term Expires 2018



Ellen Flynn Giles
Vice Chairman

443.535.9086
ellen_giles@hcpss.org
Term Expires 2016



Bess Altwerger, Ed.D.
Member

410.740.7195
bess_altwerger@hcpss.org
Term Expires 2018



Ann De Lacy
Member

301.922.4609
ann_delacy@hcpss.org
Term Expires 2016



Sandra H. French
Member

410.531.2394
sandra_french@hcpss.org
Term Expires 2018



Janet Siddiqui, M.D.
Member

410.313.7194
janet_siddiqui@hcpss.org
Term Expires 2016



Cynthia L. Vaillancourt
Member

443.996.7751
cynthia_vaillancourt@hcpss.org
Term Expires 2018



Rachel S. Lin
Student Member

student_member@hcpss.org
Term 2014–2015

Renee A. Foose, Ed.D.
Superintendent
Email: superintendent@hcpss.org

Linda T. Wise
Deputy Superintendent
linda_wise@hcpss.org

E. Grace Chesney
Chief Accountability Officer
echesney@hcpss.org

Camille B. Jones
Chief Operating Officer
camille_jones@hcpss.org

Helen Nixon
Chief Human Resource and Development Officer
helen_nixon@hcpss.org

Ebony Langford-Brown
Executive Director of School Improvement and
Secondary Curricular Programs
ebony_langford-brown@hcpss.org

Frank Eastham
Executive Director
School Improvement and Administration
frank_eastham@hcpss.org

Nancy FitzGerald
Executive Director
Special Education and Student Services
nancy_fitzgerald@hcpss.org

Bruce Gist
Executive Director
Facilities, Planning and Management
bruce_gist@hcpss.org

Beverly J. Davis
Executive Director
Budget and Finance
beverly_davis@hcpss.org

Caryn Lasser
Director
Executive Services
caryn_lasser@hcpss.org

Leslie Gilbert
Coordinator
Continuous Improvement
leslie_gilbert@hcpss.org

John White
Director
Communications
john_white@hcpss.org

Lauri Shropshire
Coordinator
Strategic Planning
lauri_shropshire@hcpss.org

Table of Contents

1	Introduction	1
2	Executive Summary	3
3	Planning Considerations	5
	Policy Guidance	6
	Alignment with Strategic Plan	7
	Relationship to Capital Budget	8
	Enrollment Projections	10
	Land Use	12
	Capacities	14
	HCPSS Facilities and Land Bank	16
4	Needs and Strategies	17
	Elementary Schools	
	Columbia East Region	18
	Columbia West Region	19
	Northeastern Region	20
	Northern Region	21
	Southeastern Region	22
	Western Region	23
	Middle Schools	
	Columbia East Region	24
	Columbia West Region	25
	Northeastern Region	26
	Northern Region	27
	Southeastern Region	28
	Western Region	29
	High Schools	
	Columbia East Region	30
	Columbia West Region	31
	Northeastern Region	32
	Northern Region	33
	Southeastern Region	34
	Western Region	35
5	Foreseeable Redistricting	36
6	Pre- and Post- Measure Charts	45

Feasibility Study:
An Annual Review of Long-Term Capital
Planning and Redistricting Options

Section 1

Introduction

Introduction

Each year the Board of Education (Board) of the Howard County Public School System (HCPSS) reviews capital planning options and redistricting scenarios through a feasibility study. The report has four goals:

1. Inform the long term planning process.
2. Facilitate discussion of decisions that may lay ahead.
3. Provide strategic information to the school system.
4. Prepare for scheduled redistricting.

The annual student enrollment projection is introduced in this report along with scenarios that are intended to provide a comprehensive look at suggested capital additions, renovations, and any attendance area adjustments that are anticipated within the ten-year Capital Improvement Program period. Plans examined in this document may only be implemented through the Board's approval of both the capital budget and any change to current school attendance areas. This report is the starting point for the annual process of developing the capital budget.

Experience has shown that by presenting this report annually, assumptions and trends can be given consideration on a regular basis and appropriate adjustments can be made to the capital budget or redistricting plans. New plans may be needed to react to population shifts or new residential development plans. This document makes note of scenarios that may be developed in future attendance area review processes. Full plan assessments will then be made in a future report prior to Board deliberation to show how those plans conform to Board policy.

Annual enrollment projections are used in short-term decision making, such as determining staffing and supplying schools. The allocation of relocatable classrooms is also made using projections. The projection is presented in a format similar to the Adequate Public Facilities Ordinance (APFO) chart. The "pre-measures" chart shows the effect of projected enrollment with capacity projects included in the Board approved FY 2017 Capital Budget. The "post-measures" chart gives a preliminary view of projected enrollment with new or accelerated capital projects recommended in this report.

Projects in the Capital Improvement Program that increase student capacity will be tested in the feasibility study with a redistricting plan consistent with Board policy on redistricting policy goals. Plans will be linked within and across organizational levels to form a short- and long-range redistricting plan. The Board will review the plan and set direction. In years when redistricting is anticipated, the Attendance Area Committee will evaluate the plan, providing review and comment to the Superintendent. At this time redistricting is not recommended until 2017 and will include the opening of New Elementary School #42 (ES #42).

The Office of School Planning maintains a portion of the HCPSS website with information relevant to the process. During redistricting the [School Planning page](#) is frequently updated with maps, reports, and meeting summary notes.

Feasibility Study:
An Annual Review of Long-Term Capital
Planning and Redistricting Options

Section 2

Executive Summary

Executive Summary

This feasibility study is an annual presentation containing reports of projected enrollment and feasible redistricting in compliance with Policy 6010 – School Attendance Areas. Since new capacity, either as additions or new facilities, factors into these considerations, this document forms the basis for the development of the Capital Improvement Program (CIP). The following sections highlight continuing considerations included in this study. In September 2016, the FY 2018 Superintendent's Proposed Capital Budget will be presented, which includes the five-year CIP. The additions and new schools approved as part of the FY 2017–2026 Long-Range Master Plan are included in the assumptions for this document.

The past two years are marked with constraints to local capital funding. These come despite recently approved general plan amendments and strong enrollment growth. Responding to these constraints requires adjustment to the long-range plan and perhaps redistricting. Every effort is made during the budget process to preserve existing capacity projects. This document provides some adjustments and interim measures.

The replacement of Wilde Lake MS is critical to help manage growth in student enrollment stemming from the Columbia Town Center development. The Swansfield ES addition also serves Downtown Columbia growth since feasible redistricting including Swansfield and Bryant Woods ES can relieve Running Brook ES. ES #42 is a high priority need to address future growth in both the Northeastern and the Southeastern Regions, and was approved for acceleration. Steady enrollment growth in the area has validated a recommendation to open this facility in 2018 at a site adjacent to Thomas Viaduct MS. The Board also approved use of the 788 seat elementary school prototype.

Recommendations:

1. Preserve funding to open Swansfield ES addition. With feasible redistricting, this capacity can help postpone the opening of a new elementary school most likely at the Faulkner Ridge site.
2. Preserve funding to open Waverly ES addition, but consider options to better use West Friendship ES and western capacity, perhaps with some interim capital investment, to help defer a new elementary school in the vicinity.
3. Consider alternative delivery of regional programs to open capacity at existing schools.
4. Consider redistricting at multiple levels in the same year to better align feeds.

Feasibility Study:
An Annual Review of Long-Term Capital
Planning and Redistricting Options

Section 3

Planning Considerations

This section identifies planning assumptions and considerations. The annual projection is developed with assumptions about enrollment growth that have evolved over the years. Other planning considerations involve implications for capital facilities. Some of the previous planning assumptions have been adjusted, while others have been added for this study. This section presents a discussion of the major components and adjustments included in this year's planning considerations.

Policy Guidance

This document is guided by Board Policy 6010. Projects in the Capital Improvement Program that increase student capacity will be tested in the feasibility study with a redistricting plan consistent with stated redistricting policy goals. Plans will be linked within and across organizational levels to form a short- and long-range redistricting plan. The Board will review the plan and set direction, as appropriate, during the capital budget presentations each year. Policy 6010 recommends consideration of redistricting under certain conditions such as the opening of a school or adjusting to some other change. When school capacity utilization projections fall outside the target capacity utilization range of 90 – 110 percent over a period of time, redistricting may be considered.

Redistricting is not planned until 2017. When redistricting is planned, staff will refine the goal-directed short- and long-range plan in the Feasibility Study based on the most current set of projections that conform to System-Level Process Requirements. The Superintendent will appoint an Attendance Area Committee to test alternate scenarios consistent with the direction set by the Board and the standards and factors in Policy 6010. Plans may be presented in regional meetings, and various methods will be used to collect additional input from the public. A Superintendent's plan that takes into account previous staff, committee, and community input is presented to the Board.

Figure 3.1

Policy 6010 School Attendance Areas – identifies redistricting factors for consideration

1. Educational welfare of the impacted students in both the sending and receiving schools
2. Frequency with which students are redistricted
3. Impact on the number of students bused and the distance bused-students travel
4. Cost
5. The demographic makeup and academic performance of students in both the sending and receiving schools
6. Number of students to be redistricted
7. Maintenance of feeder patterns
8. Change in a school's program capacity
9. Impact on specialized or regional programs
10. Functional and operational capacity of school infrastructures
11. Building utilization (90–110% where possible)

The Board evaluates the Superintendent's plan according to the standards of Policy 6010 which are listed above in Figure 3.1. In their deliberations they may consider new scenarios using these considerations. It is unlikely that one plan can fully satisfy all considerations. Capacity utilization over time and the number of students redistricted are considerations often given the most attention. The other factors are emphasized to different degrees, but all are given consideration. The distribution of enrollment growth and capacity is never perfect, so it can be difficult to make plans that satisfy all factors and move few students. Some are dissatisfied with the outcome, but most feedback affirms the process laid out in Policy 6010 as being transparent. Once a decision is made, a robust transition process is undertaken to facilitate students' adjustment to new school assignments.

Alignment with Strategic Plan

Vision 2018: *Fulfilling the Promise of Preparation* is the Board’s strategic plan to build an educational program that is among the best in the world. The feasibility study supports achievement of each goal in Vision 2018.

The anticipation of growth trends and planning for adequate permanent or temporary space is needed to serve student needs. When attendance area changes are necessary, a student-centered transition process is provided to welcome the students to the new school. These efforts are made to ensure every student achieves academic excellence in an inspiring, engaging, and supportive environment.



Input session for middle school redistricting.

Crucial decisions about budget and attendance areas must be the result of an open process that includes many stakeholders. Board decisions need to be informed by both the technical guidance of staff, and the concerns and desires of the families and community. For this reason, the Office of School Planning maintains an extensive web presence and supports many meetings of committees, PTAs, and other community groups. It is also necessary that the office serves as a liaison to various county and state agencies to communicate agency direction. These efforts ensure that families and the community are engaged and supported as partners in education.

Table 3.1 Strategic Plan Strategies Relevant to Feasibility Study

1.4.6 Configure physical space to facilitate learning.
2.1.2, 3.1.3, 4.6.2 Consistently include representatives from stakeholder groups in planning processes to inform school system actions and decisions.
2.1.6 Provide timely, relevant, and easily accessible information.
3.3.2 Tailor communications to user needs.
4.4.1 Utilize technology tools that are intuitive, efficient, effective across platforms, and requirements-driven in a standardized environment.
4.4.2 Streamline and automate organizational processes in alignment with industry best practices.
4.5.1 Refine central services to streamline operations, optimize efficiency and effectiveness, and facilitate collaboration.
4.5.2, 4.6.4 Utilize consistent performance management practices to plan, evaluate, and refine initiatives.
4.5.3 Implement continuous improvement practices, including quality control and process management, in every school and division.
4.6.1 Regularly consider research-based best practices.
4.6.3 Routinely benchmark with comparison organizations to analyze current practices and identify best practices.

Relationship to Capital Budget

Figure 3.2 Capital Budget and Redistricting Flow Chart

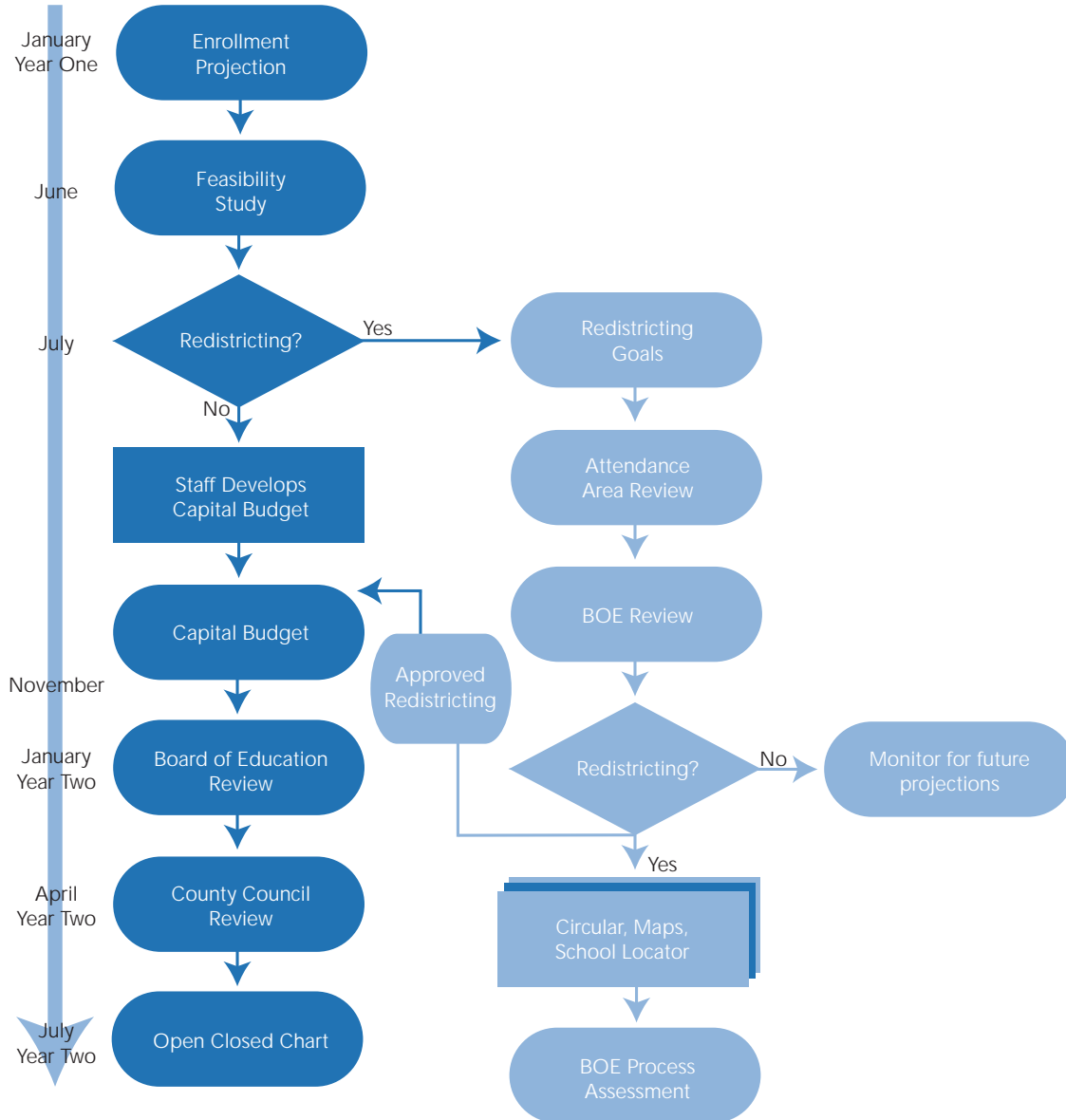


Figure 3.2 shows the redistricting process in the context of the capital budget. The Feasibility Study is presented as the capital budget is being prepared. The graphic shows that while redistricting may not take place annually, it is given consideration annually in the feasibility study.

There are a number of ways to address enrollment growth. In some cases, new capacity or a capital project is the best solution. In other cases, a redistricting consistent with policy may allow better use of existing capacity. Sometimes a change to regional program location can open capacity. Relocatable buildings can also be used to relieve overcrowding. The process is ongoing but may be tracked through this document and the capital budget process.

Relationship to Capital Budget

The annual capital budget contains a capital improvement plan (CIP) and long-range master plan. Table 3.2 is a copy of the long-range master plan from the FY 2017 Board Requested Capital Budget. (The CIP is the first five years.) Capital projects are shown with anticipated funding phased out over future fiscal years. The feasibility study evaluates enrollment trends and discusses adjustments and changes that may be reflected in the CIP and Long Range Master Plan.

Table 3.2 Example of Long Range Master Plan

FY 2017-2026 Long-Range Master Plan

Board of Education's Approved May 31, 2016

(In Thousands)

Project	Approved Appropriations	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total Approp. plus FY17-FY26 Request
Wilde Lake MS Replacement School	\$ 29,092	\$ 14,285	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 45,377
Patuxent Valley MS Renovation	18,145	9,890	1,000	-	-	-	-	-	-	-	-	29,035
Swansfield ES Renovation/Addition	11,773	10,722	3,407	-	-	-	-	-	-	-	-	25,902
Waverly ES Renovation/Phase II Addition*	3,770	9,589	18,396	-	-	-	-	-	-	-	-	31,755
New ES #42	2,807	14,526	20,658	6,132	-	-	-	-	-	-	-	44,123
Oakland Mills MS Renovation*	-	-	9,131	11,131	7,566	-	-	-	-	-	-	27,828
New HS #13	-	-	3,300	9,950	23,250	27,500	36,500	27,525	10,500	9,950	-	138,525
Hammond HS Renovation	-	-	2,800	9,748	15,099	20,099	20,099	20,100	-	-	-	87,945
New ES #43	-	-	-	-	5,380	20,166	15,125	15,124	-	-	-	55,795
Ellicott Mills MS Addition	-	-	-	-	-	-	544	3,242	2,162	-	-	5,948
Oakland Mills HS Renovation	-	-	-	-	-	-	7,738	20,591	20,591	20,591	20,592	90,103
Centennial HS Renovation	-	-	-	-	-	-	-	7,652	24,443	24,443	16,295	72,833
New ES #44	-	-	-	-	-	-	-	-	5,380	20,166	15,125	40,671
New ES #45	-	-	-	-	-	-	-	-	-	5,380	20,166	25,546
New MS #21	-	-	-	-	-	-	-	-	-	-	4,446	4,446
Systemic Renovations/Modernizations	228,750	10,944	24,094	48,144	54,982	26,633	26,350	38,229	40,141	42,148	44,255	584,670
Roofing Projects	45,537	-	-	-	5,000	5,000	5,000	5,000	5,000	5,000	5,000	80,537
Playground Equipment	2,380	300	300	300	300	300	300	300	300	300	300	5,380
Relocatable Classrooms	17,410	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	32,410
Site Acquisition & Construction Reserve	20,836	-	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	38,836
Technology	34,486	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	84,486
School Parking Lot Expansions	4,200	-	600	600	600	600	600	600	600	600	600	9,600
Planning and Design	300	300	300	300	300	300	300	300	300	300	300	3,300
Barrier Free	5,428	200	200	200	200	200	200	200	200	200	200	7,428
TOTALS	\$ 424,914	\$ 77,256	\$ 94,686	\$ 95,005	\$ 121,177	\$ 109,298	\$ 121,256	\$ 147,363	\$ 118,117	\$ 127,628	\$ 135,779	\$ 1,572,479

* Planning funds received in Systemic Renovation Project

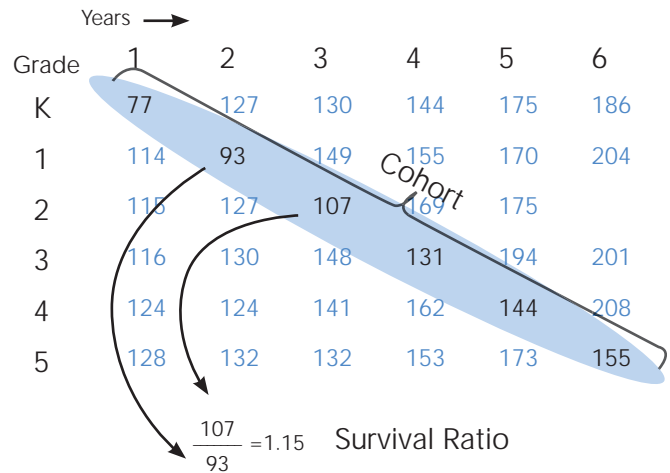
Ten-Year Long-Range Master Plan = \$1,147,565

Enrollment Projections

Projections used for this study were generated in the spring of 2016. The projection methodology used by the HCPSS is based on historic cohort survival ratios—the number of students in a “cohort” that “survive” from one grade level to the next. In Figure 3.3, a cohort-survival ratio is calculated from historic data. The rate of 1.15 can be used to predict how many second graders will result from the previous year’s first graders. Ratios from multiple years and all grade transitions are calculated for each school. Other effects, such as housing yields and apartment turnover, are added to the projection. These variables are combined to project enrollment for each school for September 30 of each future year.

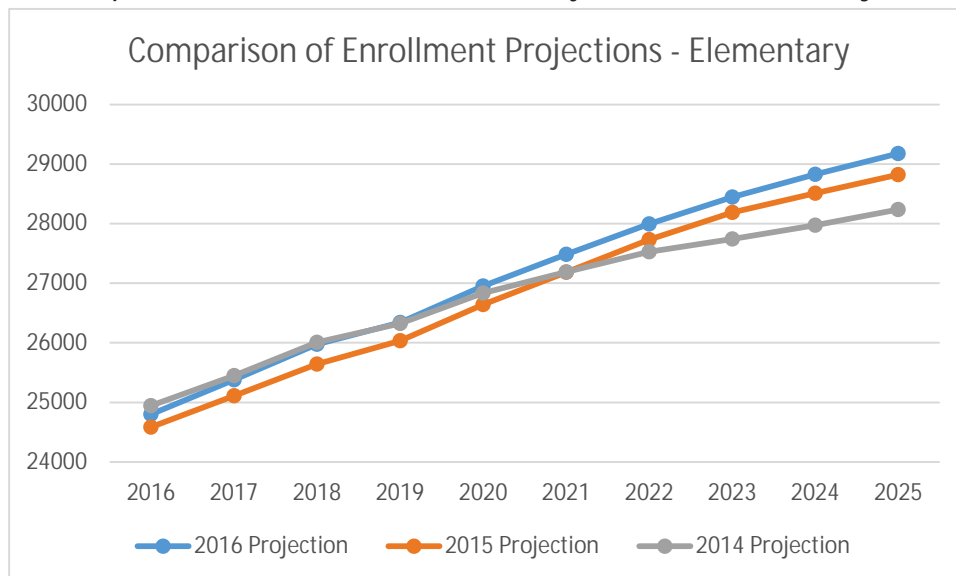
The projection is presented out to 2026 in this document. Certain decisions, such as site acquisition are appropriately informed by the latter part of the projection. Planning issues may become apparent by comparing the current projection to those made in previous years. The following charts use a ten-year series and present three consecutive annual projections.

Figure 3.3



As shown in Figure 3.4, the 2016 elementary projection includes a similar rate of enrollment growth in the near-term, while trending towards higher enrollment in the long-term view. The trend in the 2016 projection is for elementary enrollment to increase by 4,375 students by 2025. As a result of this enrollment growth, the capacity utilization of all elementary schools combined will begin to exceed 110 percent by 2022. Projects approved as part of the FY 2017 CIP can absorb most of this growth.

Figure 3.4 Comparison of Three Enrollment Projections - Elementary



Enrollment Projections

Figure 3.5 shows that the trend in the 2016 projection is for middle school enrollment to increase by 2,825 students by 2025. The 2016 middle school growth rate is higher than 2015 and very similar to 2014 in the long term. As a result of this enrollment growth, the capacity utilization of all middle schools combined will begin to exceed 110 percent beyond 2022. Most of the projected growth is in the east, and projects approved as part of the FY 2017 CIP can only partially absorb this growth.

Figure 3.5 Comparison of Three Enrollment Projections - Middle

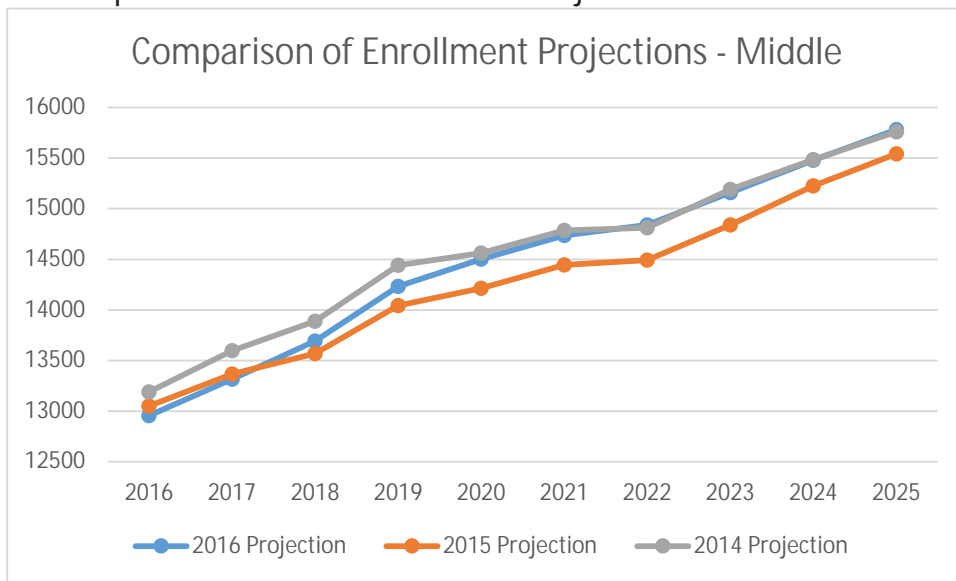
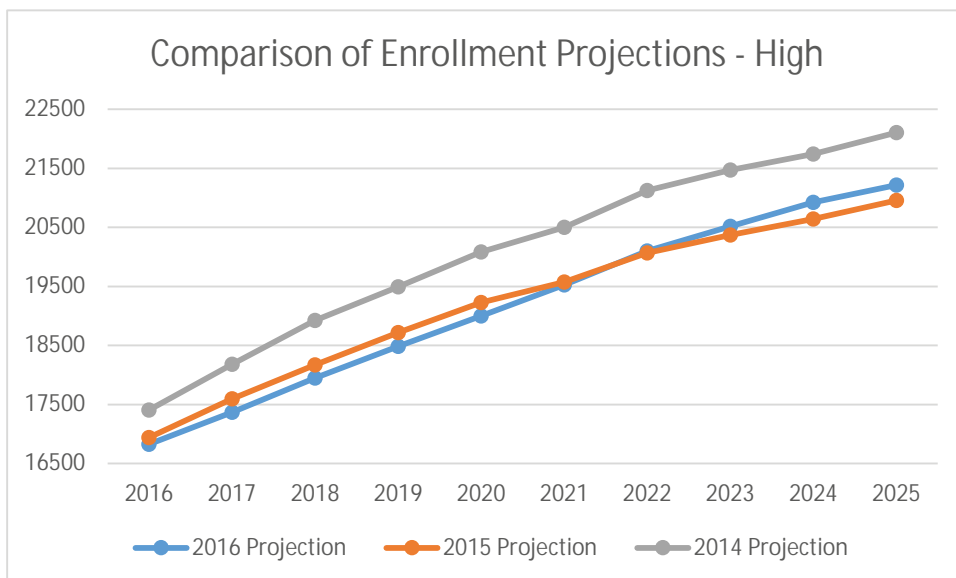


Figure 3.6 shows that the trend in the 2016 projection is for high school enrollment to increase by 4,393 students by 2025. In a similar trend to the 2015 projection, the capacity utilization of all high schools combined will begin to exceed 110 percent by 2020. Based on the long-term growth trends, land should be banked for future high school needs in the eastern part of the county.

Figure 3.6 Comparison of Three Enrollment Projections - High

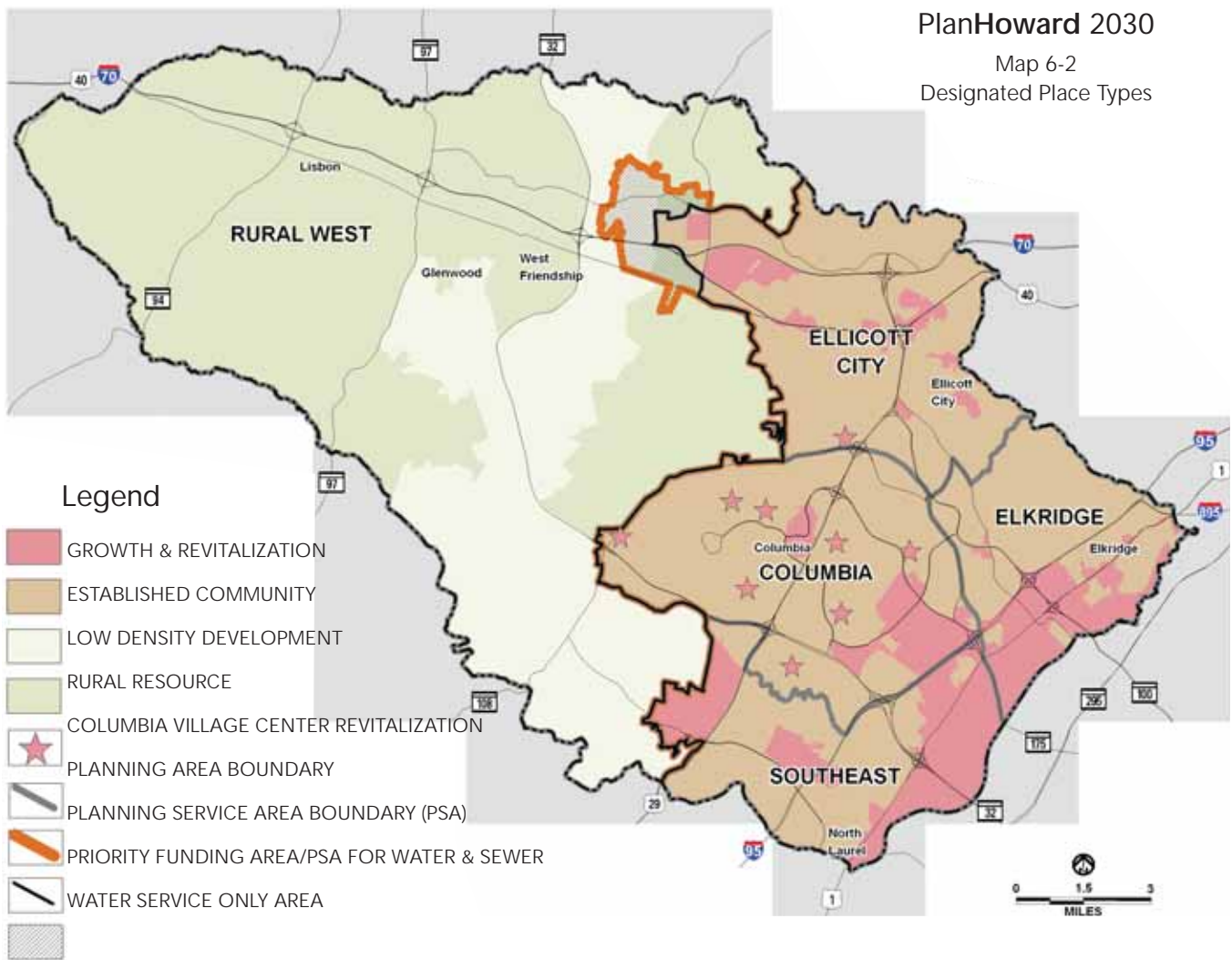


Land Use

Development is guided by the general plan and implemented with zoning. "PlanHoward 2030," the Howard County General Plan, sets priorities for growth and was adopted by the County Council in July 2012. Comprehensive zoning took effect in October 2013. As a result, new development is expected that will affect future school planning. These changes were not anticipated in the projections used for the redistricting to open Ducketts Lane ES. Land use changes are captured in the annual projection to facilitate analysis of options in this document and the capital budget.

The General Plan included the adoption of a designated places map. Figure 3.7 depicts the Designated Places map and is taken from the plan. Most future development, and anticipated school needs, are planned where the map shows "Growth and Revitalization" areas in pink. Generally these are in the eastern part of the county and the village centers of Columbia. Projected enrollment growth is associated with this future development.

Figure 3.7 Plan Howard 2030 Designated Places Map



Land Use

The FY 2017 – 2026 Long-Range Master Plan includes funding requested for new construction of four elementary schools, one middle school and one high school. Despite projections indicating these six new schools are needed, there are indications that capital funding will be constrained in the next few years.

The timing of residential development depends upon actual land development applications which can change. Projections are adjusted each year to account for phasing. The Department of Planning and Zoning provides the Office of School Planning with the amount of existing and projected housing units in the county by school planning unit. Future housing is calculated using a software tool that simulates the residential build-out of the County's remaining undeveloped residentially-zoned properties under real world conditions, such as the constraints imposed by current zoning of properties, the logistics of residential construction, and the growth limits of the County's General Plan. The output from this simulation informs the enrollment projection.

Figure 3.8 Recent development



Oxford Square construction.

Verde apartments at Howard Square.



Maple Lawn section shown in 2013 (left) and 2015 (right).

Capacities

Equitable evaluation of the impact of projected enrollment growth requires calculation of the capacities of schools. Capacities are not necessarily fixed to the capacity designed when a building first opened. Changes in use, program, and standards can effectively change capacity. Capacity methodologies have been reviewed at all three levels in recent years. This document expresses the projected enrollment by level and by school as a function of capacity utilization. Capacity utilization is the percentage of the building that will be utilized by the actual or projected enrollment. In the Pre- and Post-Measure Charts starting on page 45, the effect of considered plans on capacity utilization are depicted in tabular form.

The example below from the 2015 Feasibility Study, illustrates how capacity is shown in these charts. Figure 3.9 shows the effect of the larger capacity of the Wilde Lake MS replacement school. The capacity columns show the number of seats, which changes from 467 to 760 in 2017 when the replacement school opens. The corresponding calculation of the percentage utilization also changes, dropping from 128.3 percent to 85.3 percent in 2017.

Figure 3.9 Capacity Chart Example

Post-Measures									
Aggregate Plan									
Chart reflects May 2015 Projections, Board of Education's FY 2017 Requested capacities and estimate									
	Capacity				2016-17		2017-18		
	2016	2017	2018	2019	Proj	% Util.	Proj	% Util.	
Columbia - East									
Lake Elkhorn MS	643	643	643	643	503	78.2	548	85.2	
Oakland Mills MS	506	506	506	506	434	85.8	438	86.6	
Region MS Totals	1149	1149	1149	1149	937	81.5	986	85.8	
Columbia - West									
Harpers Choice MS	506	506	506	506	574	113.4	595	117.6	C
Wilde Lake MS	R 467	760	760	760	599	128.3	C 648	85.3	
Region MS Totals	973	1266	1266	1266	1173	120.6	C 1243	98.2	

High school program capacities are a product of either 80 or 85 percent of the total number of teaching stations multiplied by 25 students, exclusive of special education classrooms, and factored with consideration that not all teaching stations can be scheduled for use every period of the school day. Further, special-use teaching stations may not be adaptable for academic programs even if the space is available for a period of the school day.

Middle school program capacities are a product of 95 percent of the total number of teaching stations multiplied by 20.5 students, exclusive of special education classrooms. Like high schools, not all teaching stations can be scheduled for use every period of the school day.

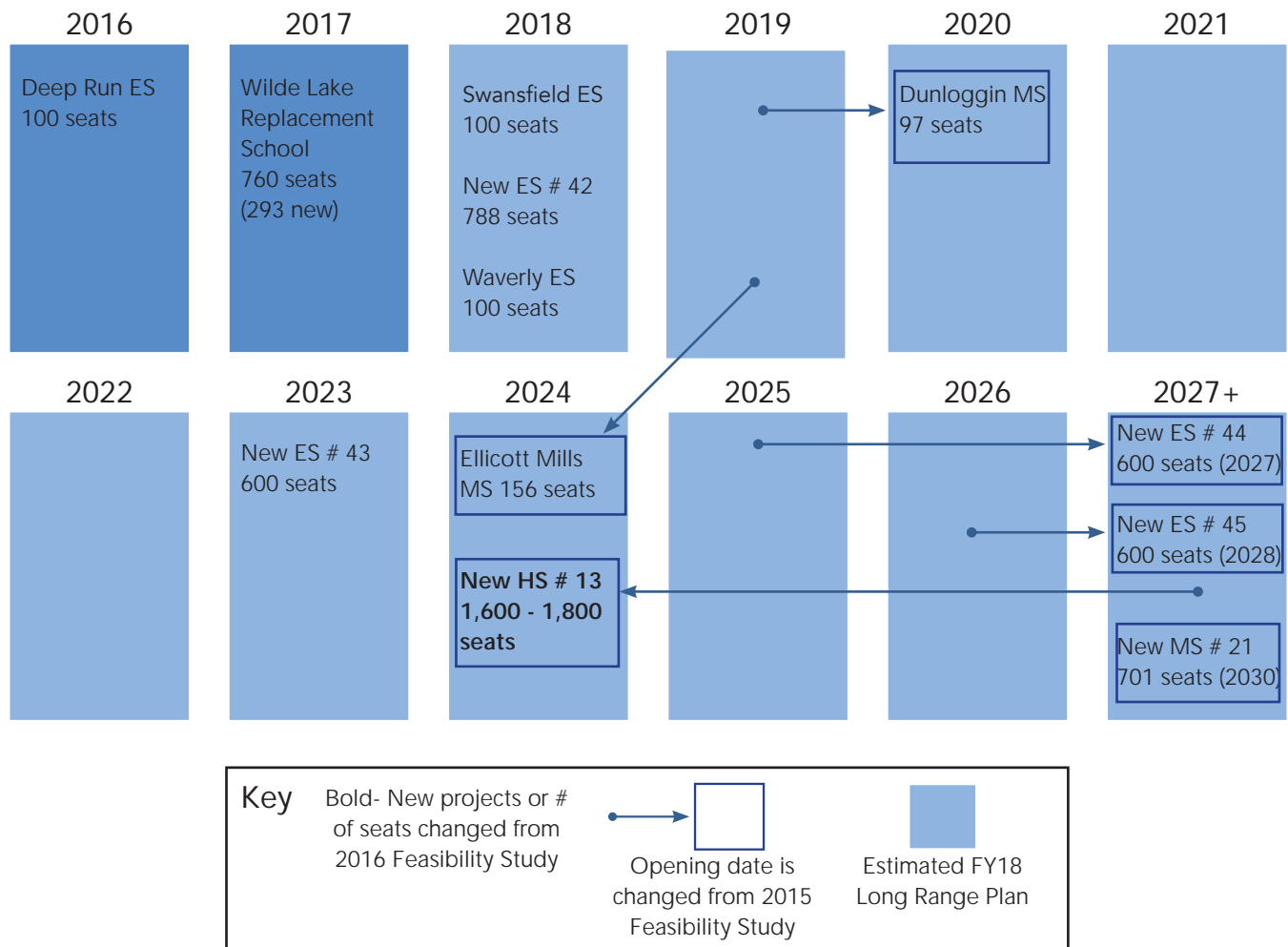
Elementary school program capacities are based on 22 students for each Kindergarten classroom, 19 students for each classroom in Grades 1 and 2, and 25 students for each classroom in Grades 3–5. Elementary school special education classroom capacities are established by the mandated student/teacher ratios for the various programs. Not included in the capacities for elementary schools are resource/instructional spaces that are utilized on a schoolwide basis where no one group of students

Capacities

is assigned exclusively. Some examples of spaces not included in the capacity are gymnasiums, cafeteriums, art rooms, music rooms, media centers, gifted and talented rooms, or rooms dedicated to regional programs such as Regional Early Childhood Centers or Pre-K.

The FY 2018 Capital Budget will include updates to the Long Range Plan. Figure 3.10 below shows changes in capacity projects from the 2015 Feasibility Study to the FY 2017 Board Approved Capital budget.

Figure 3.10 Capacity Projects



HCPSS Facilities and Land Bank

The HCPSS maintains well over seven million square feet of school facilities and other buildings in service of delivering the educational program and for use by the community. This document examines utilization of the 73 elementary, middle, and high schools, and anticipates future schools.

The HCPSS maintains sites for future school construction, commonly known as the “Land Bank.” Some properties are held by other parties for the future use by the Board for school construction and when needed, the Board may utilize these properties. Most existing school site reservations result from agreements made during Columbia planning and development. Howard County has aided the school system in the past through exchanges of county land where needed. Opportunities for additions to the land bank in eastern Howard County to host projects noted in Figure 3.10 on page 15 are under consideration. An elementary school site is also sought to accommodate Turf Valley development. The HCPSS will continue to reach out to local and state agencies as it searches for additional sites along the Route 1 Corridor and other areas of identified growth. Table 3.3 shows the inventory of school sites presented in the annual capital budget:

HCPSS School Facilities

- 73 schools
 - 41 elementary schools
 - 20 middle schools
 - 12 high schools
 - 3 education centers

Table 3.3 Land Bank

Owned Sites	Acreage	Location	Date Acquired	Cost
Sunny Spring Drive	10	Sunny Spring Drive	1974	\$1.00
Future MS Site	41	2865 Marriottsville Road	2007	\$1,700,00
New ES #42 Site	28 (combined)	7030 Banbury Drive	2013	\$4,200,000
Faulkner Ridge Center	9.01	Marble Faun Lane	1968	\$1.00

Reserved Sites	Acreage	Location
Clary's Forest	10	Little Patuxent near Bright Passage
Dickinson	11	Eden Brook Drive and Weather Worn Way
Dickinson	20	Sweet Hours Way east of Eden Brook Drive
Harper's Choice	5	Rivendell and Cedar Lane
Hopewell	10	Rustling Leaf and Deepage Drive
Huntington	11	Vollmerhausen Road east of Murray Hill Road

Feasibility Study:
An Annual Review of Long-Term Capital
Planning and Redistricting Options

Section 4

Needs and Strategies

Prior to examining future redistricting plans, it is necessary to review the implications of the new projection and identify needs and potential strategies. When school capacity utilization is outside of the acceptable range per Board Policy (90–110 percent), redistricting may be considered.

Elementary Schools Columbia East Region

Figure 4.1
Elementary schools of the Columbia East Region

Need:

No capacity is needed in the short term.

Strategy:

Continue to model enrollment projections in future studies.

Most schools in this region will substantially remain within target capacity utilization as a result of implemented redistricting and capital projects. Capacity increasing projects have recently been completed at Thunder Hill ES, Phelps Luck ES, and Stevens Forest ES. Thunder Hill ES will experience some crowding despite recent redistricting changes, but the anticipated rate of growth is not dramatic.

Relocatable classrooms have been installed and this condition will be monitored. Talbott Springs ES shows some crowding, which is also addressed with relocatable classrooms. A renovation is planned that may be an opportunity to gain capacity through construction swing space depending upon renovation design and the availability of funding.

Expanded PreK options have been considered for this region. In future capital budget discussions, this concept will be monitored.

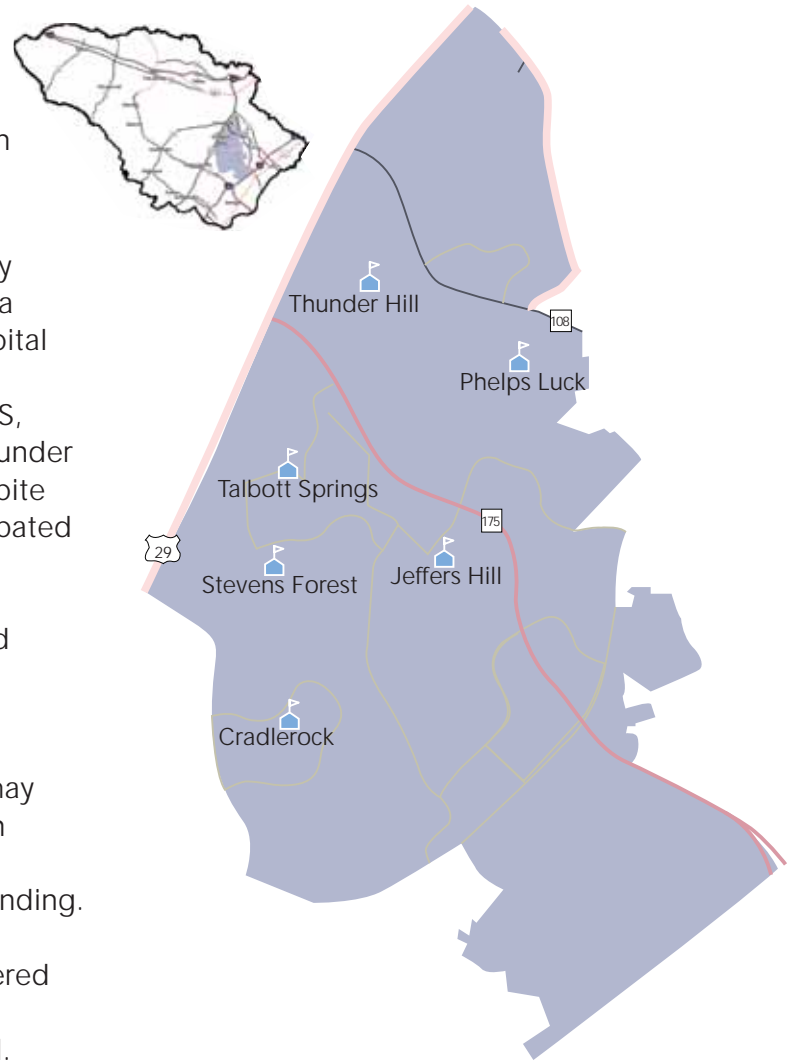


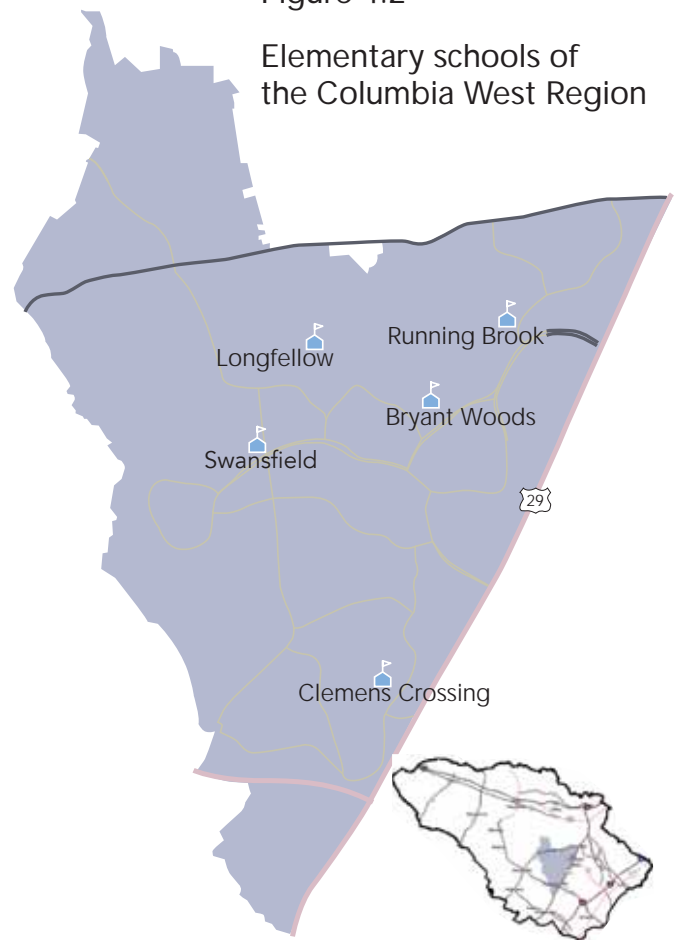
Table 4.1 Five Year elementary school utilization in the Columbia East Region

Columbia - East	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Cradlerock ES	440	398	110.6	442	398	111.1
Jeffers Hill ES	459	421	109.0	439	421	104.3
Phelps Luck ES	571	616	92.7	608	616	98.7
Stevens Forest ES	427	399	107.0	412	399	103.3
Talbott Springs ES	448	377	118.8	453	377	120.2
Thunder Hill ES	585	509	114.9	572	509	112.4
Region Totals	2930	2720	107.7	2926	2720	107.6

Elementary Schools Columbia West Region

Figure 4.2

Elementary schools of the Columbia West Region



Need:

The region will have enough capacity through 2020 despite growth at Running Brook ES.

Strategy:

Provide interim capacity within the region using the addition at Swansfield ES. Maintain Faulkner Ridge site for a future elementary school.

Investment in a 100-seat addition at Running Brook ES, which opened in August of 2014, as well as reevaluation of capacity following the renovation at Longfellow ES in August 2015, have been key capital projects for managing growth in this area. Even with this addition, Running Brook ES is expected to continue to outgrow capacity. A 100-seat addition is also planned at Swansfield ES and will open in 2018. A study of Columbia schools attached to the 2014 Feasibility Study recommended the Faulkner Ridge site for a new school. The combination of the additional capacity at these schools and redistricting will help to delay the need for a new school.

Table 4.2 Five Year elementary school utilization in the Columbia West Region

Columbia - West	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Bryant Woods ES	388	361	107.5	410	361	113.6
Clemens Crossing ES	520	521	99.8	593	521	113.8
Longfellow ES	444	512	86.7	420	512	82.0
Running Brook ES	505	515	98.1	806	515	156.5
Swansfield ES	612	521	117.5	587	621	94.5
Region Totals	2469	2430	101.6	2816	2530	111.3

Elementary Schools Northeastern Region

Need:
There is adequate capacity in this region until 2017.

Strategy:
Open Elementary School #42 in 2018.

Capacity utilization at Ducketts Lane ES will remain over 110 percent in 2017, even with the reassignment of regional programs to other locations. The region will exceed 115 percent utilization in 2023 and require close to 1,000 additional seats with crowding in subsequent years. This region, especially East of Interstate 95, is projected to have the most elementary enrollment growth. Accelerating the construction of Elementary School #42 to allow opening in 2018 was approved by the Board on March 26, 2015. This decision, with the change to the 788 seat model, helps respond to the growth trend. Relocatable capacity is being added to Ducketts Lane ES this summer.

Figure 4.3
Elementary schools of the Northeast Region



Table 4.3 Five Year elementary school utilization in the Northeast Region

Northeastern	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Bellows Spring ES	701	751	93.3	964	751	128.4
Deep Run ES	791	772	102.5	880	772	114.0
Ducketts Lane ES	820	770	106.5	1296	770	168.3
Elkrigde ES	808	760	106.3	828	760	108.9
Ilchester ES	647	653	99.1	660	653	101.1
Rockburn ES	621	672	92.4	681	672	101.3
Veterans ES	876	788	111.2	916	788	116.2
Waterloo ES	602	663	90.8	554	663	83.6
Worthington ES	527	590	89.3	444	590	75.3
Region Totals	6393	6419	99.6	7223	6419	112.5

Elementary Schools Northern Region

Need:

The region is currently at 110 percent capacity utilization, with enrollment growth projected at four out of six schools.

Strategy:

Monitor growth at Manor Woods ES and St. John's Lane ES.
 Complete the Waverly ES addition and plan for other new capacity.

Growth is projected at Manor Woods ES that will require redistricting and new capacity, depending upon the timing of the Turf Valley development. A key feature in capital planning for this development is the Phase II addition at Waverly ES. Opening this addition in 2018 can help relieve overcrowding at Manor Woods ES. Previous feasibility studies have planned for a new elementary school in Turf Valley and considered the possibility that this could serve as a replacement for West Friendship ES. Considering the constraints to the capital budget, this plan should be adjusted. It remains a sound practice to own land bank sites in the area, particularly a site in Turf Valley. In the interim West Friendship Elementary should be used to its fullest.

Figure 4.4

Elementary schools of the Northern Region



Table 4.4 Five Year elementary school utilization in the Northern Region

Northern	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Centennial Lane ES	752	647	116.2	785	647	121.3
Hollifield Station ES	733	694	105.6	825	694	118.9
Manor Woods ES	748	681	109.8	1368	681	200.9
Northfield ES	703	700	100.4	717	700	102.4
St Johns Lane ES	721	612	117.8	722	612	118.0
Waverly ES	698	638	109.4	615	738	83.3
Region Totals	4355	3972	109.6	5032	4072	123.6

Elementary Schools Southeastern Region

Need:
 Future enrollment growth is projected, primarily at Bollman Bridge ES and Forest Ridge ES.

Strategy:
 Open Elementary School #42 in 2018.
 Obtain a site for the land bank.

Schools in the region, with the exception of Forest Ridge ES, are projected below 110 percent utilization at the start of this coming school year. Growth at Forest Ridge ES was anticipated in the last redistricting. The recently announced land acquisition in this region can provide space for New Elementary School #43 as soon as capital funding becomes available.

In the interim, temporary capacity has been provided and more may be used in the near future. Growth continues in the region, supporting the opening of the next elementary school which is currently proposed for 2023.

Figure 4.5
 Elementary schools of the Southeastern Region

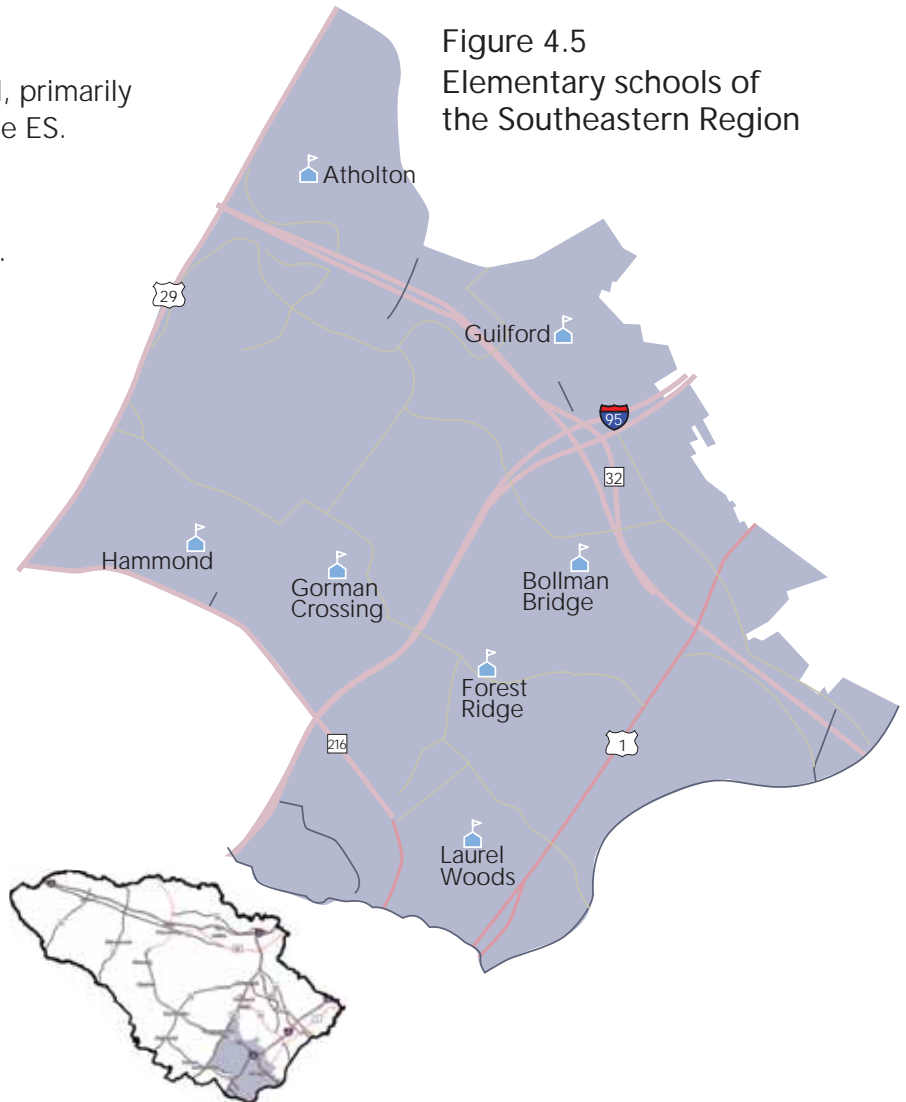
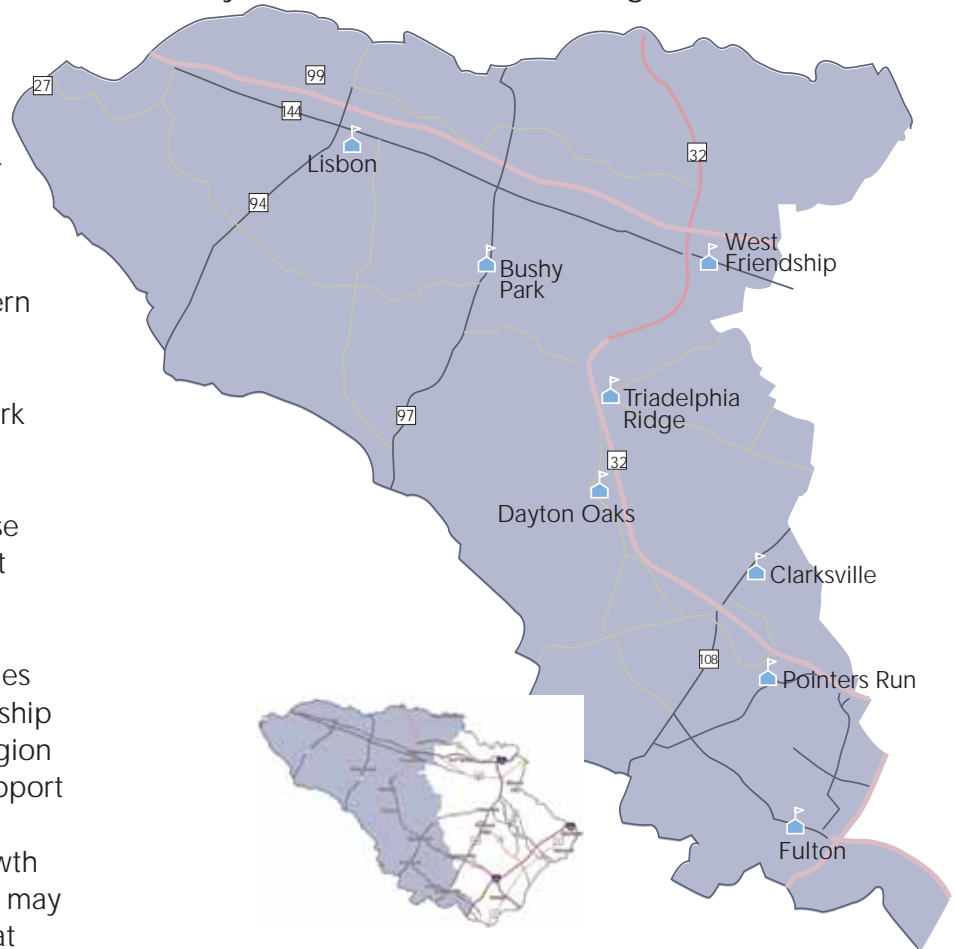


Table 4.5 Five Year elementary school utilization in the Southeastern Region

Southeastern	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Atholton ES	420	424	99.1	475	424	112.0
Bollman Bridge ES	669	666	100.5	753	666	113.1
Forest Ridge ES	760	669	113.6	936	669	139.9
Gorman Crossing ES	651	700	93.0	797	700	113.9
Guilford ES	480	465	103.2	476	465	102.4
Hammond ES	648	653	99.2	749	653	114.7
Laurel Woods ES	548	640	85.6	540	640	84.4
Region Totals	4176	4217	99.0	4726	4217	112.1

Elementary Schools Western Region

Figure 4.6
Elementary schools of the Western Region



Need:
Capacity is available which could be used to relieve other regions.

Strategy:
Monitor projections and consider scenarios that may better use capacity.

Elementary capacity in the Western Region exceeds need. Since the construction of Dayton Oaks ES and the replacement of Bushy Park ES, lower enrollment trends have been evident in the region. This trend seems to be tied to land use and housing value changes. West Friendship ES has consistently shown declining enrollment in recent projections. Previous studies examined closure of West Friendship ES, but needs in the Northern region and limited capital funds now support using Western region capacity to relieve the Northern region. Growth at Fulton ES and Pointers Run ES may be balanced with redistricting that includes Clarksville ES and Dayton Oaks ES.

Table 4.6 Five Year elementary school utilization in the Western Region

Western	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Bushy Park ES	591	788	75.0	527	788	66.9
Clarksville ES	443	612	72.4	374	612	61.1
Dayton Oaks ES	607	788	77.0	581	788	73.7
Fulton ES	827	788	104.9	1013	788	128.6
Lisbon ES	425	527	80.6	450	527	85.4
Pointers Run ES	722	744	97.0	882	744	118.5
Triadelphia Ridge ES	556	581	95.7	646	581	111.2
West Friendship ES	306	414	73.9	291	414	70.3
Region Totals	4477	5242	85.4	4764	5242	90.9

Middle Schools Columbia East Region

Need:
Some capacity exists in this region.

Strategy:
Monitor long-term needs.

Lake Elkhorn MS has some available capacity for the foreseeable future. Oakland Mills MS is also on target for many years.

Figure 4.7
Middle schools of the Columbia East Region

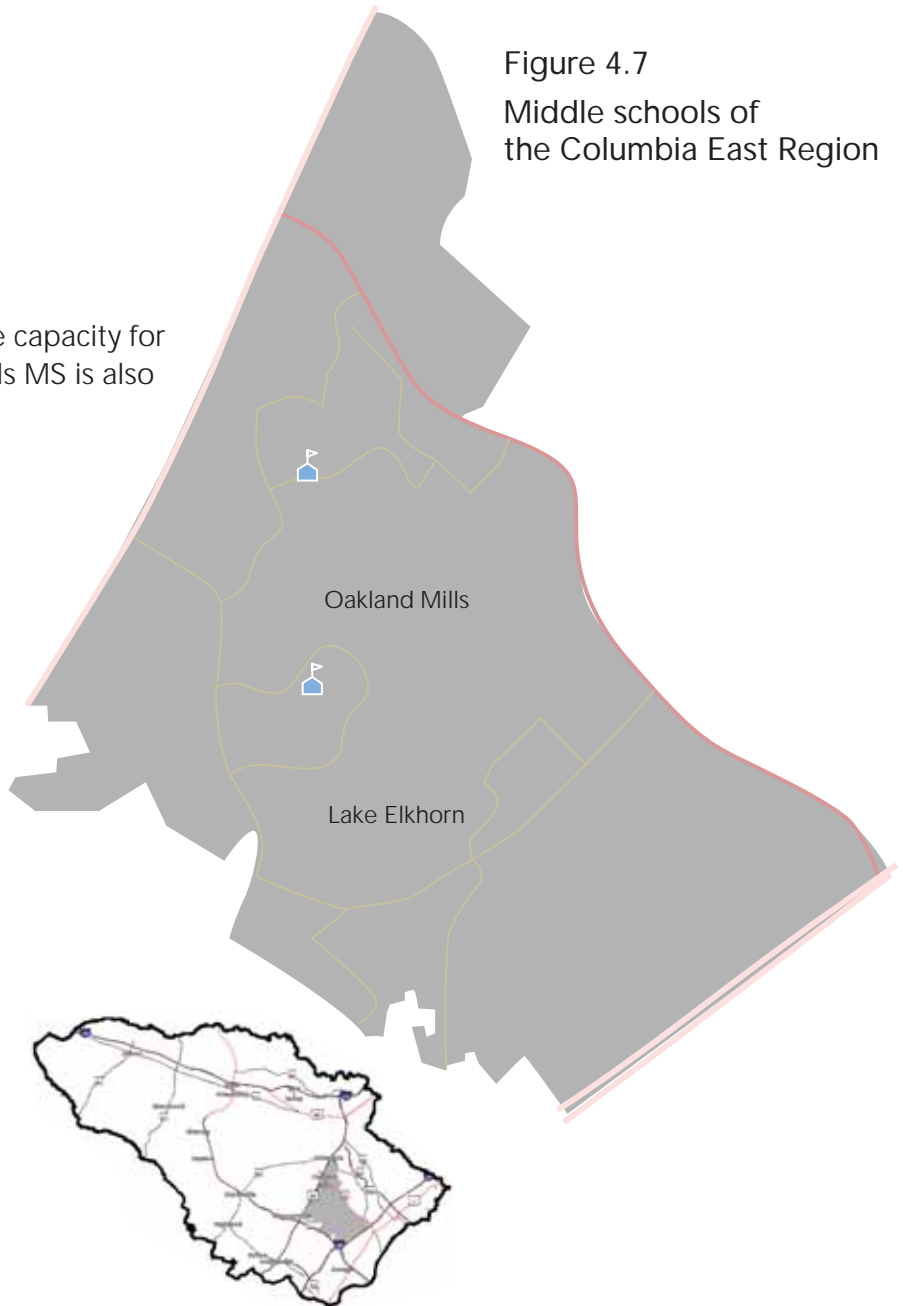


Table 4.7 Five Year middle school utilization in the Columbia East Region

Columbia - East	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Lake Elkhorn MS	491	643	76.4	542	643	84.3
Oakland Mills MS	465	506	91.9	501	506	99.0
(Region MS Totals)	956	1149	83.2	1043	1149	90.8

Middle Schools Columbia West Region

Need:
Enrollment exceeds 110 percent of regional capacity.

Strategy:
Utilize temporary capacity until the replacement school is built at Wilde Lake MS in 2017.

The Columbia West Region capacity utilization is now above 110 percent. This supports the decision to replace Wilde Lake MS, a project that is scheduled to open in 2017. The new school is planned to be 293 seats larger than the existing one, and will stay within target utilization until 2024, based on the current projection. The pre- and post- measure charts in Section 6 of this report show intermittent crowding at Harpers Choice MS. This will be monitored for relocatable classroom consideration.

Figure 4.8
Middle schools of the Columbia West Region

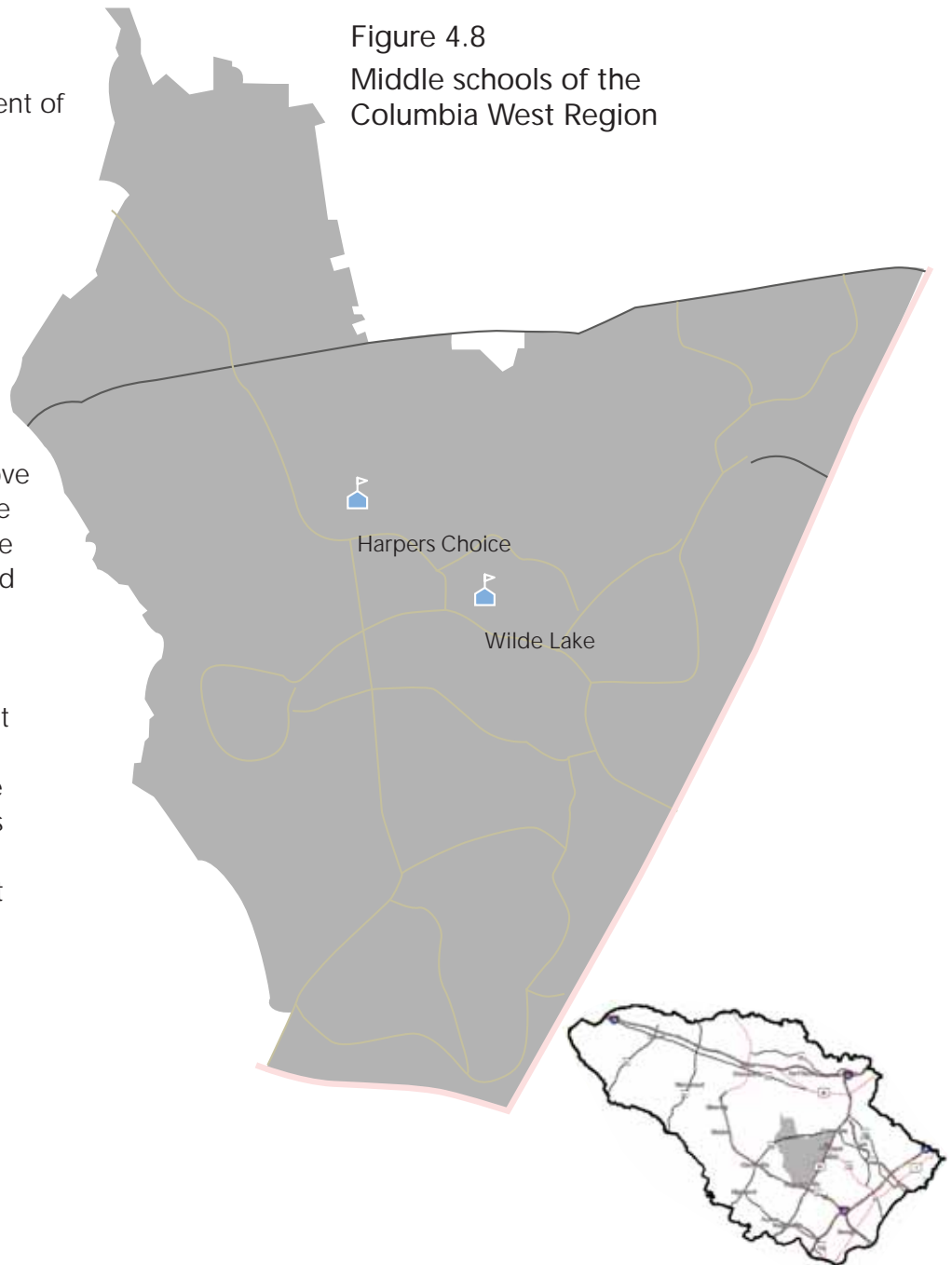


Table 4.8 Five Year middle school utilization in the Columbia West Region

Columbia - West	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Harpers Choice MS	574	506	113.4	660	506	130.4
Wilde Lake MS	545	467	116.7	700	760	92.1
(Region MS Totals)	1119	973	115.0	1360	1266	107.4

Middle Schools Northeastern Region

Need:
Enrollment growth continues in the region.

Strategy:
Projected crowding at Thomas Viaduct MS in the next decade will be monitored.

The opening of Thomas Viaduct MS relieved overcrowding at all schools except Ellicott Mills MS, which is slated for an addition of 156 seats in 2024. When elementary redistricting is considered to open ES #42, adjustments to middle schools should be considered. In the meantime, relocatable classrooms may be required until an alternative solution is implemented.

We are presently exploring program adjustments with Recreation and Parks which will yield additional capacity at Ellicott Mills MS. If capital funding prospects are improved, and addition at Ellicott Mills MS remains a priority.

Figure 4.9
Middle schools of the Northeastern Region



Table 4.9 Five Year middle school utilization in the Northeastern Region

Northeastern	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Bonnie Branch MS	727	662	109.8	737	662	111.3
Elkrigde Landing MS	701	779	90.0	703	779	90.2
Ellicott Mills MS	803	662	121.3	921	662	139.1
Mayfield Woods MS	705	798	88.3	948	798	118.8
Thomas Viaduct MS	638	701	91.0	923	701	131.7
(Region MS Totals)	3574	3602	99.2	4232	3602	117.5

Middle Schools Northern Region

Figure 4.10 Middle schools of the Northern Region

Need:
Enrollment exceeds 110 percent of regional capacity after 2018.

Strategy:
Monitor long-term needs.

In 2019 and beyond, the Northern Region is projected to be above the 110 percent capacity utilization guideline. Dunloggin MS and Patapsco MS are scheduled for systemic renovations in the next few years. Additional capacity should be considered as part of these renovations or the use of temporary capacity may be needed. When continued growth in the adjacent Northeast Region is factored in with the needs of this region, the land bank site on Marriottsville Road will probably be needed to serve as a future middle school.



Table 4.10 Five Year middle school utilization in the Northern Region

Northern	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Burleigh Manor MS	820	779	105.3	929	779	119.3
Dunloggin MS	642	565	113.6	673	662	101.7
Patapsco MS	698	643	108.6	765	643	119.0
(Region MS Totals)	2160	1987	108.7	2367	2084	113.6

Middle Schools Southeastern Region

Figure 4.11
Middle schools of the Southeastern Region

Need:
Enrollment growth is evident in the region.

Strategy:
Long-term growth trends in this region should be monitored.

Hammond MS and Murray Hill MS are projected to exceed 110 percent capacity utilization in 2020. Relocatable classrooms are available at both schools, which would manage this crowding through 2020. The region will also exceed 110 percent utilization in 2020 and enrollment will continue to gradually rise for the foreseeable future. Projected needs beyond this time period will be monitored.

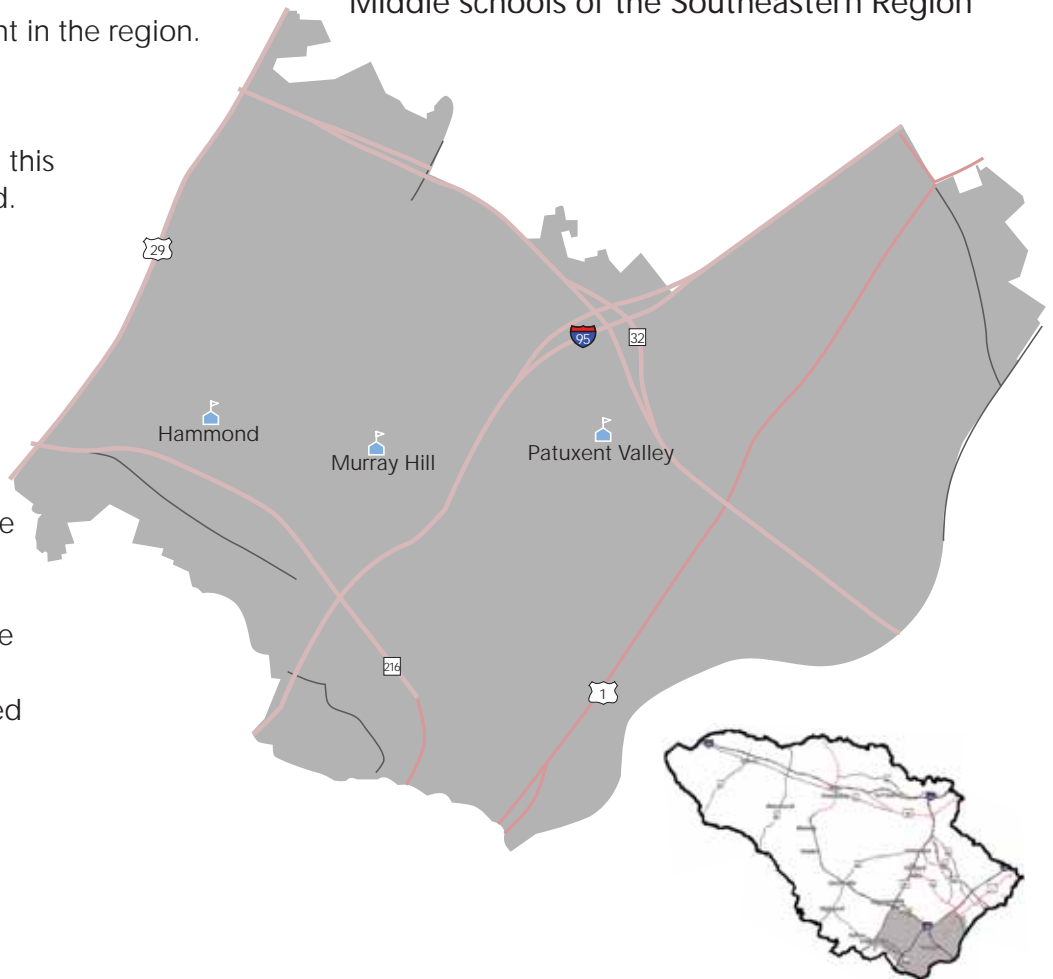


Table 4.11 Five Year middle school utilization in the Southeastern Region

Southeastern	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Hammond MS	597	604	98.8	737	604	122.0
Murray Hill MS	641	662	96.8	756	662	114.2
Patuxent Valley MS	675	760	88.8	707	760	93.0
(Region MS Totals)	1913	2026	94.4	2200	2026	108.6

Middle Schools Western Region

Need:
Some capacity exists in this region.

Strategy:
Monitor long-term needs. Continue to monitor projections for Lime Kiln MS.

Capacity utilization in the region remains within targets throughout the projection. A land bank site in the northeastern end of this region on Marriottsville Road must be retained for a new middle school, which will ultimately relieve crowding in the Northern and Columbia West Regions.

Figure 4.12
Middle schools of the Western Region



Table 4.12 Five Year middle school utilization in the Western Region

Western	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Clarksville MS	585	643	91.0	575	643	89.4
Folly Quarter MS	630	662	95.2	668	662	100.9
Glenwood MS	547	545	100.4	593	545	108.8
Lime Kiln MS	724	701	103.3	830	701	118.4
Mount View MS	749	798	93.9	866	798	108.5
(Region MS Totals)	3235	3349	96.6	3532	3349	105.5

High Schools Columbia East Region

Need:
Some capacity exists in this region.

Strategy:
Consider using available capacity to help accommodate Route 1 corridor growth.

The Columbia East Region high school is Oakland Mills HS. Capacity exists at this school for the foreseeable future. Capacity may be utilized in a plan to relieve the Northeastern Region, which includes Long Reach HS and Howard HS. Long-term planning discussions are likely to be framed by future additions to the land bank.

Figure 4.13
High school of the Columbia East Region

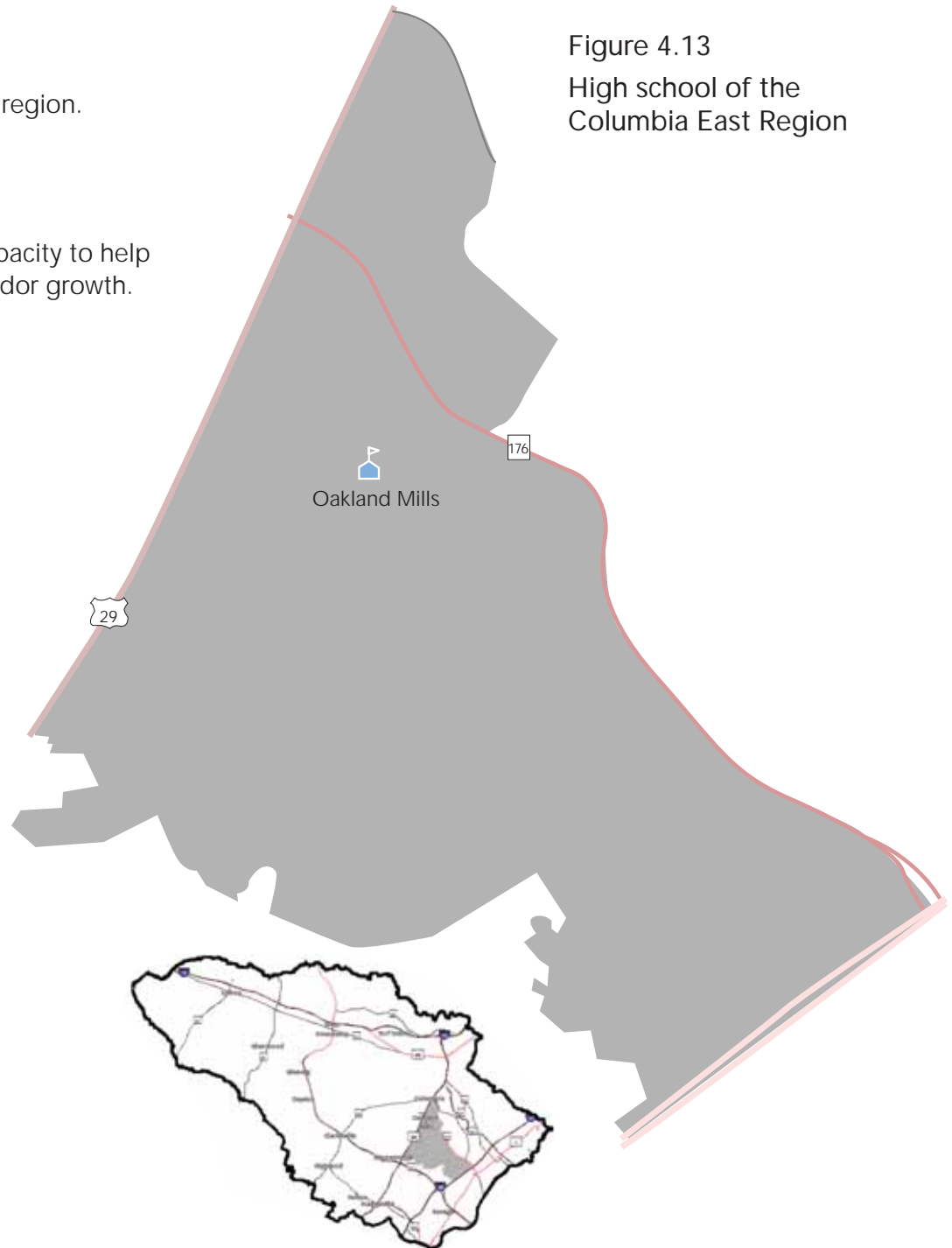


Table 4.13 Five Year high school utilization in the Columbia East Region

Columbia - East	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Oakland Mills HS	1162	1400	83.0	1238	1400	88.4

High Schools Columbia West Region

Need:

Capacity utilization is below 110 percent for Wilde Lake HS until 2022.

Strategy:

Monitor projections.

The Columbia West Region high school is Wilde Lake HS. The projection for this school remains between 90–110 percent utilization until 2022. With only a few classrooms of remaining capacity, plans to redistrict students into Wilde Lake HS should be avoided unless absolutely necessary. This projection models the effect of the Columbia Town Center development. Adequate capacity exists to accommodate growth at Wilde Lake HS until 2022.

Figure 4.14

High school of the Columbia West Region



Table 4.14 Five Year high school utilization in the Columbia West Region

Columbia - West	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Wilde Lake HS	1284	1424	90.2	1498	1424	105.2

High Schools Northeastern Region

Need:

Significant enrollment growth is projected. Available capacity in this region is not sufficient to absorb long-term projected enrollment growth.

Strategy:

Evaluate capital planning options including additions and acquisition of a future school site.

Howard HS and Long Reach HS serve the Northeastern Region. Howard HS exceeds 110 percent utilization. The region exceeds 110 percent capacity utilization and the projection shows continued growth, exceeding 120 percent by 2017. The school system has added temporary capacity to both schools and an additional relocatable classroom modular building will be installed at Long Reach HS this summer. Movement of regional programs may be considered. Projections indicate the eventual need for a new high school. For this reason, acquisition of a site large enough for a high school is necessary. In the interim, strategies such as redistricting, determining locations for regional programs and minor changes to school capacity should be revisited. Measures to delay the need for a new high school will save capital resources for other projects.

Figure 4.15
High schools of the Northeastern Region



Table 4.15 Five Year high school utilization in the Northeastern Region

Northeastern	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Howard HS	1855	1420	130.6	2157	1420	151.9
Long Reach HS	1595	1488	107.2	2201	1488	147.9
(Region HS Totals)	3450	2908	118.6	4358	2908	149.9

High Schools Northern Region

Need:

Capacity needs in the region have been addressed with the expansion of Mt. Hebron HS.

Strategy:

Monitor long-term needs.

The Northern Region has balanced capacity utilization until 2020. Centennial HS and Mt. Hebron HS will need to be monitored given the projected utilization rises above 110 percent in 2016. Capacity remains at Marriotts Ridge HS for this region and could potentially accommodate regional programs.

Figure 4.16
High schools of the Northern Region

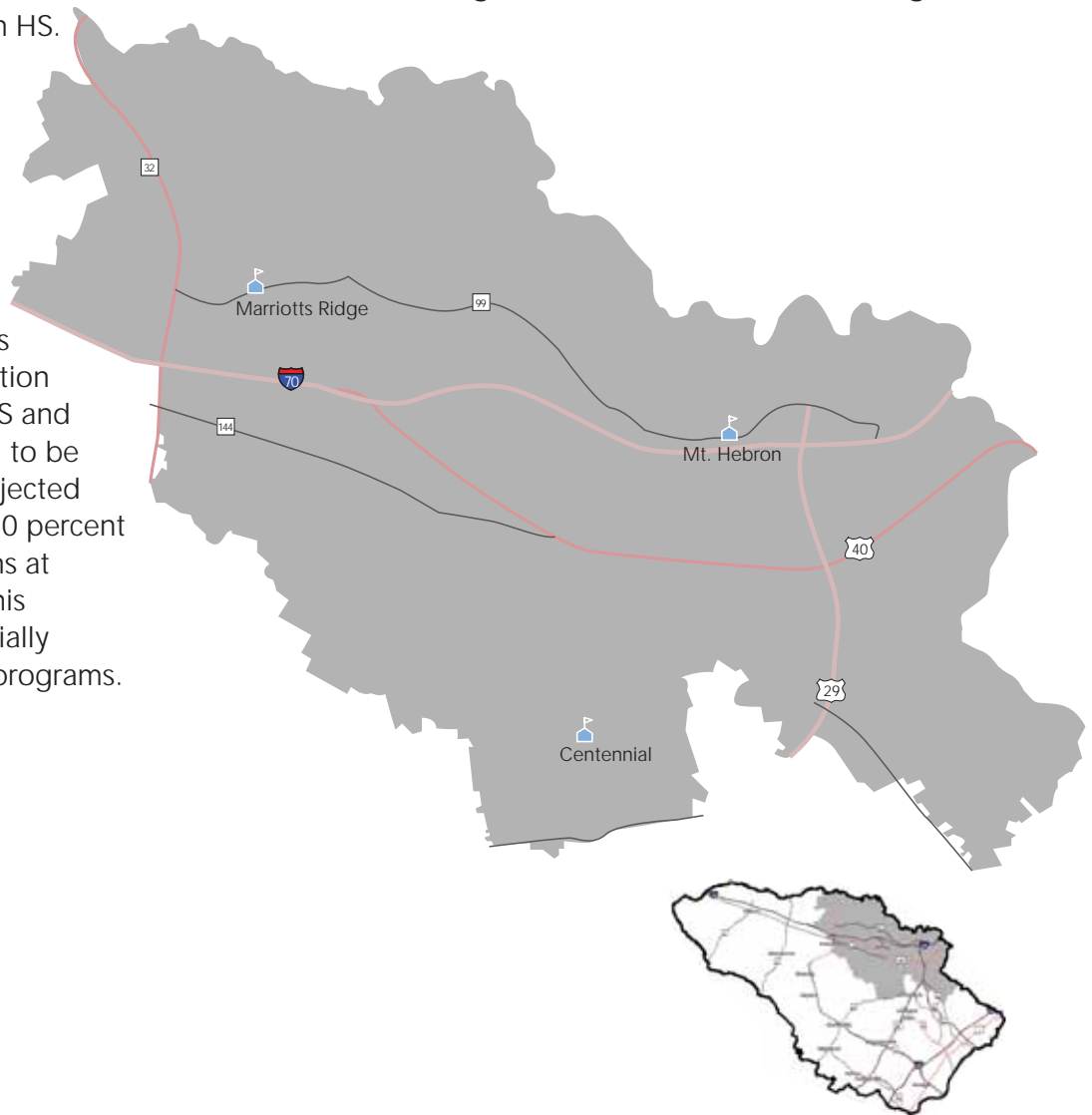


Table 4.16 Five Year high school utilization in the Northern Region

Northern	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Centennial HS	1511	1360	111.1	1722	1360	126.6
Marriotts Ridge HS	1218	1615	75.4	1408	1615	87.2
Mt Hebron HS	1594	1400	113.9	1783	1400	127.4
(Region HS Totals)	4323	4375	98.8	4913	4375	112.3

High Schools Southeastern Region

Need:
Capacity is adequate through 2017.

Strategy:
Monitor long-term needs.

The Southeastern Region exceeds 110 percent capacity utilization in 2018 and steadily increases later in the projection. Perhaps some capacity may be realized during the renovation of Hammond HS, but the existing facility is not matched to projected growth later in the long-range planning period. This future growth supports the recommendations of land banking a high school site and adding plans for a facility to the long-range plan. In the meantime, interim strategies like redistricting, considering alternative locations for regional programs, and minor changes to school capacity should be revisited. If any measures can delay the need for a new high school, capital resources can be saved for other projects.

Figure 4.17
High schools of the Southeastern Region

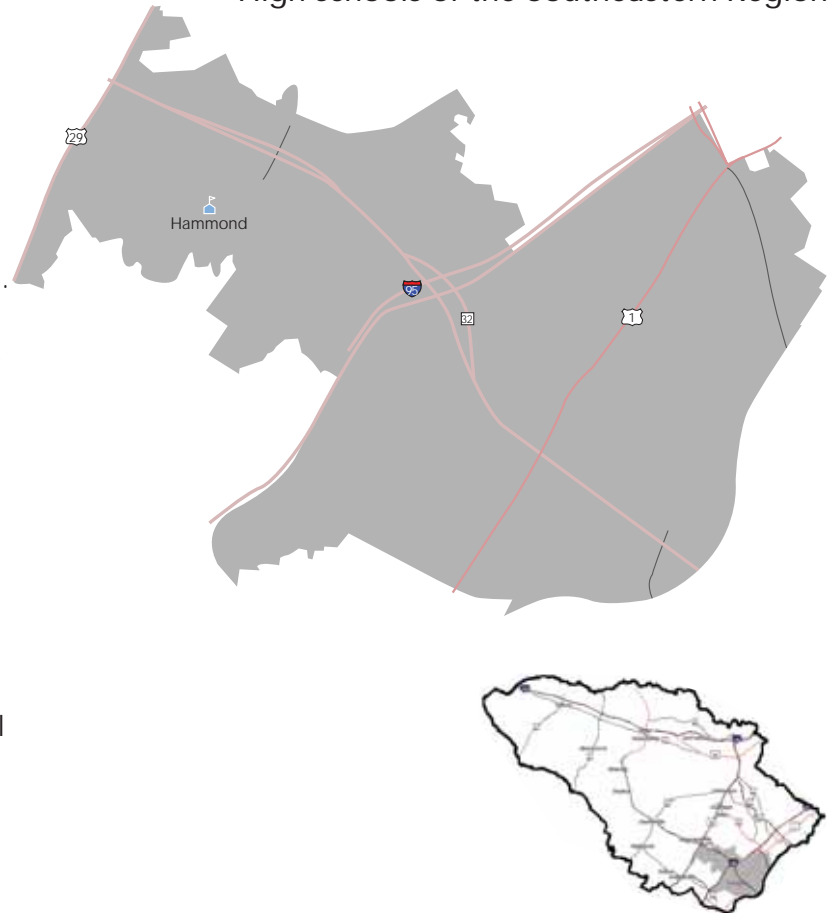


Table 4.17 Five Year high school utilization in the Southeastern Region

Southeastern	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Hammond HS	1289	1220	105.7	1561	1220	128.0

High Schools Western Region

Need:
Relief is needed at Reservoir HS after 2017.

Strategy:
Monitor long-term needs.

The Western Region does not exceed 110 percent capacity utilization until 2028, and no redistricting or major capital planning appears to be necessary through the decade. Reservoir HS and Atholton HS should be monitored because this projection indicates they will exceed 110 percent utilization in 2020 and 2023. Atholton HS capacity was recalculated and this document shows the recommended capacity of 1,460. The recalculation was done with the same methodology used in the high school capacity study approved by the Board on March 26, 2009. The primary objective of the addition was to balance programmatic deficiencies in the building. A small increase in capacity was observed. Some areas of the Reservoir HS attending area are part of the Route 1 corridor; eventually this growth may be addressed with a new high school.

Figure 4.18
High schools of the Western Region

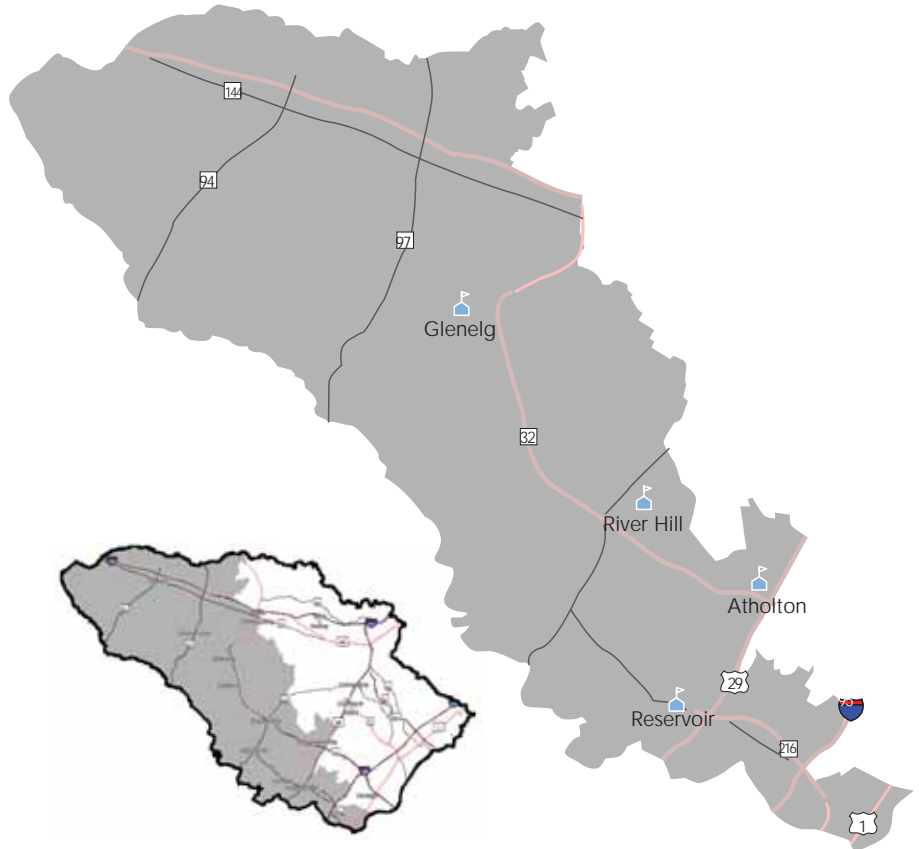


Table 4.18 Five Year high school utilization in the Western Region

Western	2016			2021		
	Projected Pop.	Capacity	Projected Utilization	Projected Pop.	Capacity	Projected Utilization
Atholton HS	1401	1460	96.0	1556	1460	106.6
Glenelg HS	1201	1420	84.6	1301	1420	91.6
Reservoir HS	1498	1551	96.6	1813	1551	116.9
River Hill HS	1216	1488	81.7	1287	1488	86.5
(Region HS Totals)	5316	5919	89.8	5957	5919	100.6

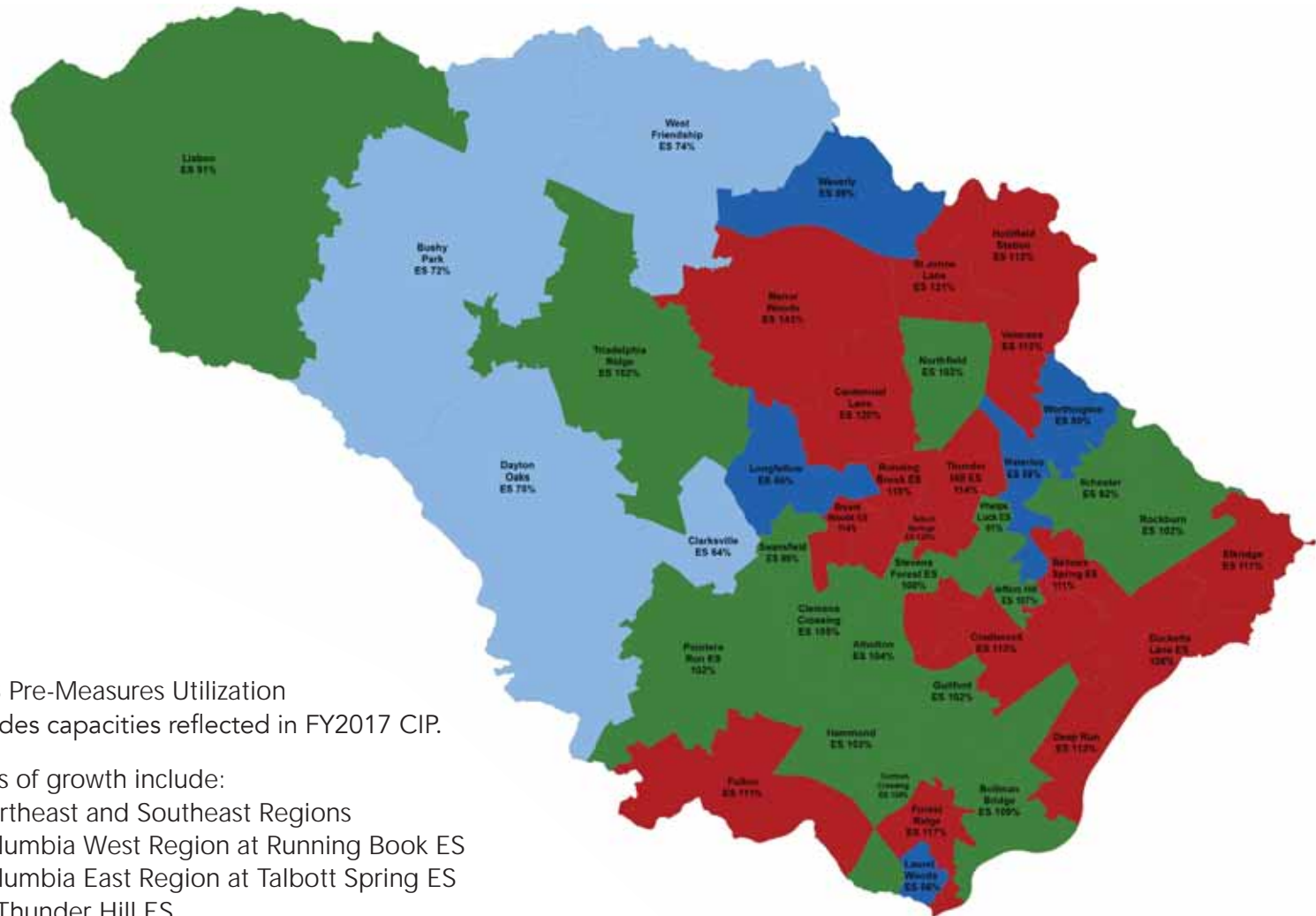
Feasibility Study:
An Annual Review of Long-Term Capital
Planning and Redistricting Options

Section 5

Foreseeable Redistricting

This report does not recommend any redistricting until 2017 when redistricting is needed to open ES # 42. Redistricting would follow the publication of the June 2017 Feasibility Study. The process would be conducted between June and November 2017 and take effect at the beginning of the 2018 school year.

Foreseeable Elementary Redistricting



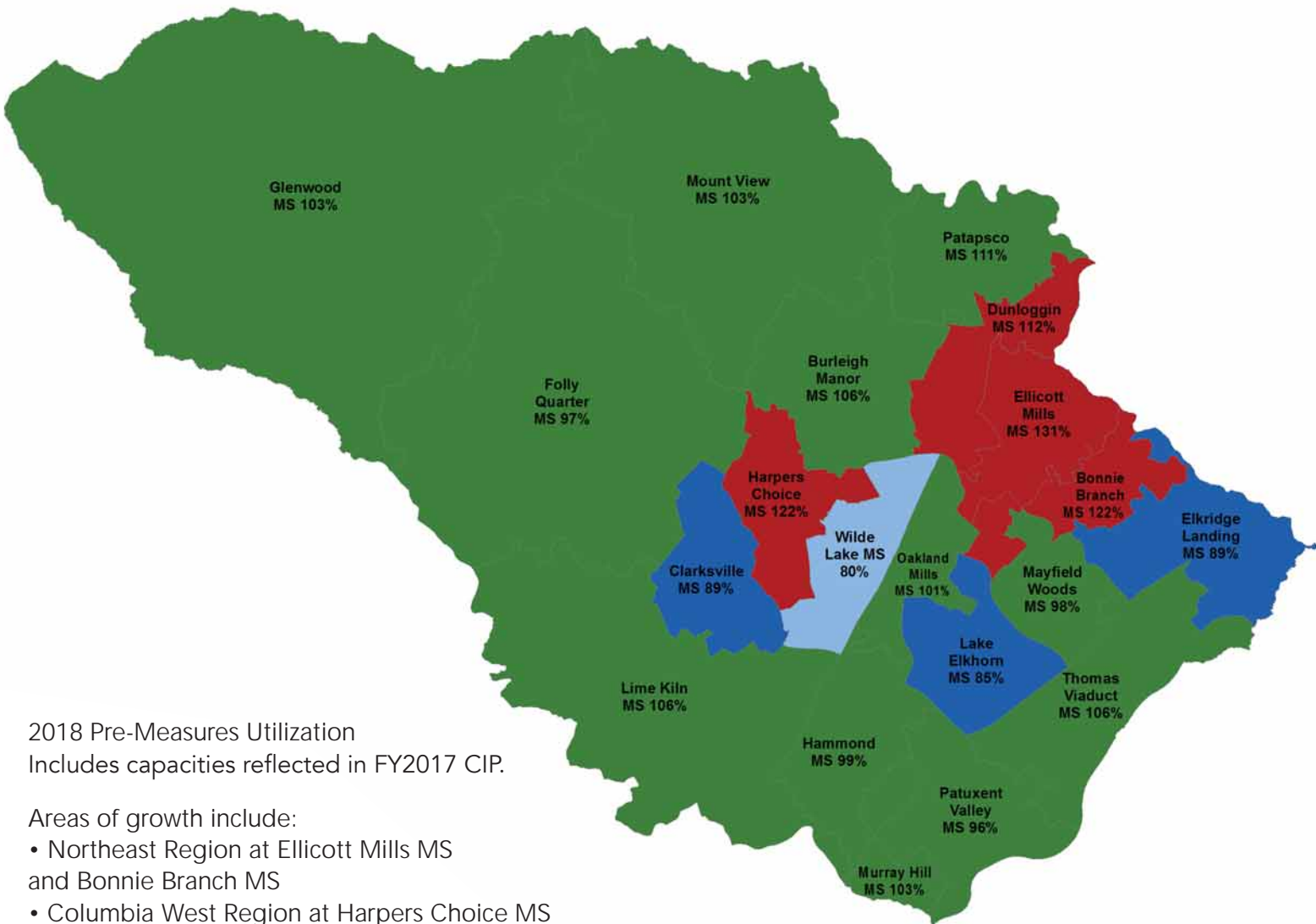
2018 Pre-Measures Utilization
Includes capacities reflected in FY2017 CIP.

Areas of growth include:

- Northeast and Southeast Regions
- Columbia West Region at Running Book ES
- Columbia East Region at Talbot Spring ES and Thunder Hill ES
- Northern Region at Manor Woods ES as well as Centennial Lane ES, St. Johns Lane ES, and Hollifield Station ES

Most available capacity is in the west.

Foreseeable Middle Redistricting



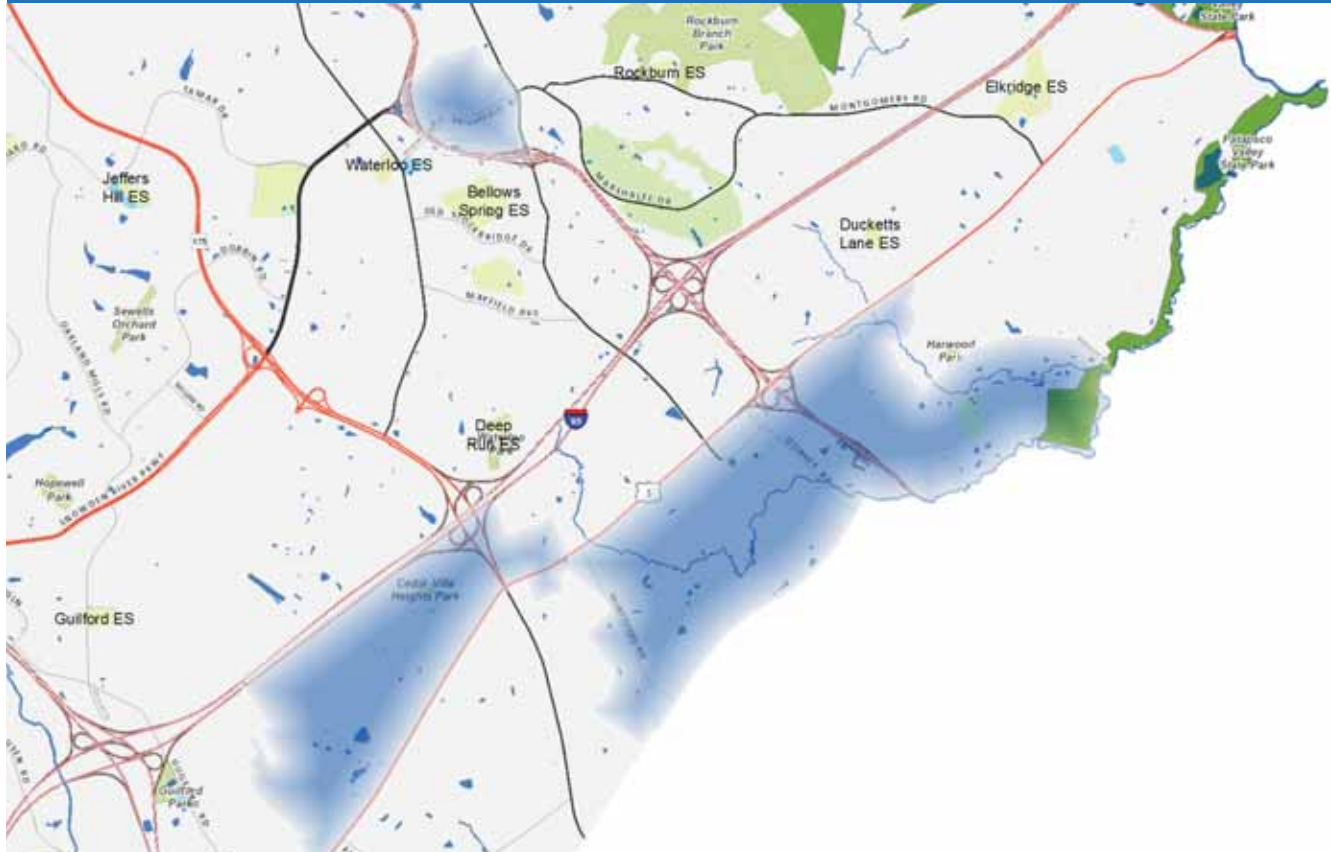
2018 Pre-Measures Utilization
Includes capacities reflected in FY2017 CIP.

Areas of growth include:

- Northeast Region at Ellicott Mills MS and Bonnie Branch MS
- Columbia West Region at Harpers Choice MS
- Northern Region at Patapsco MS

Some available capacity is in the east but unlike the elementary level, western middle schools are at target utilization.

Elementary School Redistricting - ES # 42



Opening ES # 42 will allow relief of Ducketts Lane ES and other schools in the Northeast region. The school will be located adjacent to Thomas Viaduct MS. Any redistricting plan may involve a combination of schools including Bollman Bridge ES, Ducketts Lane ES, and Forest Ridge ES. Table 5.1 illustrates one possible scenario for testing purposes only. This plan was anticipated when the redistricting to open Ducketts Lane was planned, so most students come from Ducketts Lane ES. Ducketts Lane ES capacity utilization would be reduced from a projected 137 percent utilization to a projected 80 percent utilization, depending on regional program assignments. This plan considers neighborhoods like Oxford Square, Lennox Park, and Howard Square, as well as Cedars and Washington Manor for ES # 42. Rockburn ES attending area has included a somewhat distant neighborhood, in the vicinity of Mission Road, which may also be considered for ES # 42. This frees up Rockburn ES to receive the Brightfield area from Bellows Spring ES. Actual redistricting plans would be decided in the fall of 2017.

Table 5.1 ES # 42 Redistricting

Sending	Receiving	Appx. # Students
Bellows Spring	Rockburn	79
Ducketts Lane	New ES # 42	434
Rockburn	New ES # 42	178
Total		691

Elementary School Redistricting - Columbia West



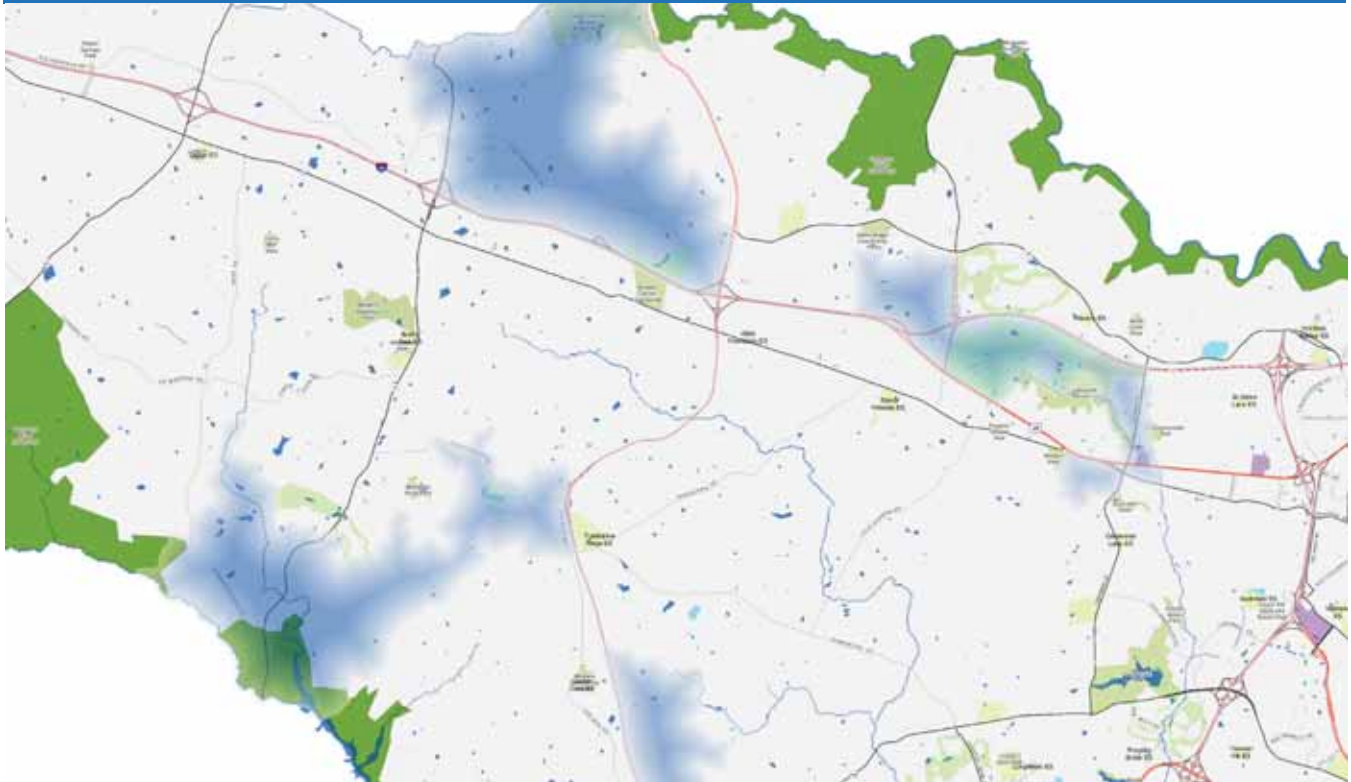
The FY 2017 Long-Range Master Plan includes a new elementary school that may serve this area in 2027 as ES # 44. The Howard County Planning Board has suggested this area be served by ES # 43, which is slated for opening in 2023 in the Long Range Plan. Either way, funding constraints are likely to dictate a later opening. The Columbia schools study attached to the *2014 Feasibility Study* identified the best location for this school to be where the Faulkner Ridge Center building is presently located.

Since capacity is needed prior to any likely funding of this new school, an interim plan is needed. Interim Columbia West elementary school redistricting will take advantage of capacity in the region and is anticipated to occur in 2018, depending upon the opening of the Swansfield addition. A recent addition at Running Brook ES is not sufficient to contain expected growth. Existing capacity at the other schools, including the addition at Swansfield ES, will facilitate redistricting within the region. Some small feeds are anticipated with interim redistricting, but they can be resolved when ES # 44 opens.

Table 5.2 Interim Columbia West Elementary Redistricting

Sending	Receiving	Appx. # Students
Bryant Woods	Clemens Crossing	131
Bryant Woods	Longfellow	73
Clemens Crossing	Swansfield	107
Running Brook	Bryant Woods	151
Total		462

Elementary School Redistricting - Northern and Western



New development of Turf Valley is projected to add 2,000 homes by 2024 and yield nearly 700 new elementary school students. This development is presently in the Manor Woods ES attending area, which is projected to exceed 110 percent utilization in 2017, and cannot serve the anticipated growth. ES #45, a new elementary school in or near Turf Valley, is eventually needed. Much of the attending areas for existing schools in the Northern and Western regions will be bused regardless of the school assignment, but a Turf Valley school could have an assigned walk area. Capital funding challenges are likely to further delay ES #45 which is already shown in the FY 2017 Long Range Master Plan for funding beginning in FY 2025 and completion likely in 2028.



Future development is in the Manor Woods ES attending area which is projected to exceed 110% utilization in 2017.

Since the FY 2018 Long Range Master Plan is expected to shift projects further into the future, interim measures are necessary. Nearby West Friendship ES and Bushy Park ES have capacity, and a 100 seat addition has been planned for Waverly ES in 2018.



West Friendship ES has over 100 open seats.

Elementary School Redistricting - Northern and Western



The second phase addition to Waverly ES will help relieve crowding in the Northern Region.



Bushy Park ES could contain Northern Region growth with some adjustments to other western attending areas.

A number of scenarios have been evaluated. Many would require West Friendship ES to take on higher enrollment. Such plans would probably necessitate investment in wastewater treatment capacity and temporary classrooms at West Friendship ES.

Another interim strategy may borrow from the approach used between ES #41 and ES #42. In that case, the Mission Road area was assigned to Rockburn ES temporarily until new capacity opens through ES #42 or ES #43. Staff has modeled a similar idea, which, would send new Turf Valley neighborhoods to Bushy Park ES. Adjustments among other western schools could create enough space at Bushy Park ES to contain this growth. A particular benefit of this plan is that West Friendship ES capacity is used, but the school would not be overcrowded, avoiding temporary capacity or other investment. Chronic excess capacity further west at Bushy Park ES and Dayton Oaks ES is also used. Such a plan requires fewer students to be reassigned than a plan that avoids creating such attendance "islands."

Table 5.3 Northern and Western Elementary Redistricting

Sending	Receiving	Appx. # of Students
Bushy Park	West Friendship	69
Bushy Park	Dayton Oaks	118
Dayton Oaks	Triadelphia Ridge	30
Manor Woods	Bushy Park	194
Manor Woods	Waverly	51
Manor Woods	West Friendship	96
Triadelphia Ridge	Dayton Oaks	94
Waverly	West Friendship	1
Total		653

Long Range Plan Considerations

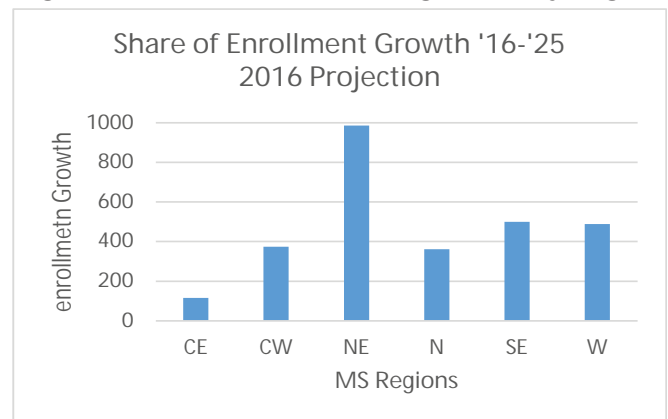


Thomas Viaduct ES opened in August of 2014

The opening of Thomas Viaduct MS has eased the near term crowding concerns in the Route 1 corridor, particularly the Northeast Region. Future enrollment growth is expected. By 2022, the middle school level is projected to exceed 110 percent capacity utilization. The largest share of enrollment growth is in the northeast region, followed by the northern and southeast regions. The Northeast and Southeast regions are projected to be overcrowded. Site acquisition efforts are underway for MS #21, and an addition is planned for Ellicott Mills MS, but funding is not certain.

Feasible redistricting of approximately 600 students could bring more schools within target utilization using only existing capacity. Small feeds could be reduced, especially if the redistricting is conducted with elementary redistricting to open ES #42. Such a plan does not suggest additions at Ellicott Mills MS and renovations at other schools are not necessary. Evaluation of plans will continue in future feasibility studies.

Figure 5.1 Middle school growth by region



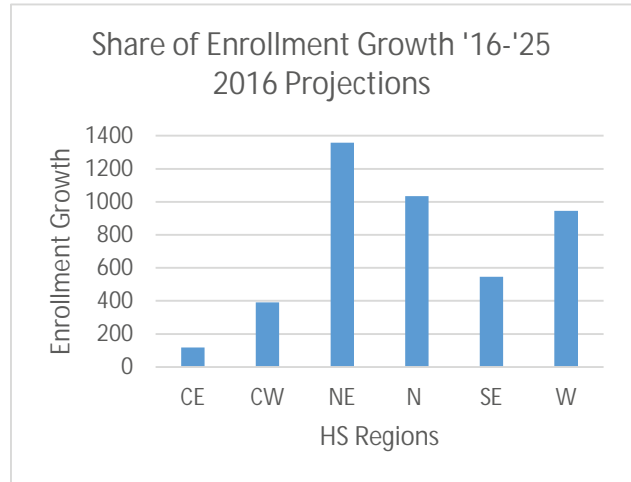
An addition is planned for Ellicott Mills MS in 2024. If deferred, some capacity exists in nearby regions.

Long Range Plan Considerations



Howard HS is in the region projected to receive the largest share of enrollment growth.

Figure 5.2 High school growth by region



Howard HS is experiencing overcrowding. Capacity needs are also projected for Long Reach HS and Hammond HS. The small amount of capacity at Oakland Mills HS is not sufficient to balance these needs. The trends eventually point to the need for a new high school. A land bank site is being sought for schools in the east which appears to be of adequate size to allow three schools, one of each level. Designation of school sites is addressed in Board Policy 6000.

The long-range plan recommended completion of HS #13 in 2024, but a funding delay is probable. As an interim measure, a nine classroom modular building was installed at Howard HS. It is likely that the review of the current redistricting process may generate different options and alternatives. A broad evaluation of regional programming assignments or other measures could include consideration of existing capacity at four of the 12 high schools. Such a discussion does not mean a new high school is off the table, but it could bring relief from crowding much earlier than even the most optimistic HS # 13 opening date.



Hammond HS serves the Southeast Region.



The Atholton HS renovation was recently completed.

Feasibility Study:
An Annual Review of Long-Term Capital
Planning and Redistricting Options

Section 6

Pre- and Post- Measure Charts

The effects of some scenarios tested for this report on capacity utilization are depicted in tabular form on the following pages. The tables are presented for each organizational level (elementary, middle, and high) using a pre-/post-measures format. The pre-measures format shows the effect of projected enrollment without any redistricting. The pre-measures format also shows FY 2017 capital projects as approved.

The post-measures format shows the impact of projected enrollment with some redistricting plans discussed in this document. These plans include elementary redistricting and a middle school redistricting scenario that uses existing capacity. It is premature to provide specifics since changes may develop before the June 2018 Feasibility Study. The post-measures format includes capital projects recommended in this document for the FY 2018 Capital Budget as shown in Table 3.2 on page 9. If these projects are not approved, other plans must be developed.

ELEMENTARY SCHOOLS - Data for Demonstrative Purposes Only

Capacity Utilization Rates with Board of Education's Approved FY 2017 Capital Budget Projects - Not Test for APFO

Chart reflects May 2016 Projections, Board of Education's FY 2017 approved capacities, and no redistricting.

	Capacity				2017-18		2018-19		2019-20		2020-21		2021-22		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28							
	2017	2018	2019	2020	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.						
Columbia - East	398	398	398	398	440	110.6	449	112.8	434	109.0	442	111.1	442	111.1	439	110.3	440	110.6	455	114.3	468	117.6	465	116.8	463	116.3	C					
Cradlerock ES	421	421	421	421	451	107.1	448	106.4	442	105.0	440	104.5	439	104.3	437	103.8	439	104.3	441	104.8	450	106.9	455	108.1	462	109.7						
Jeffers Hill ES	616	616	616	616	565	91.7	553	89.8	565	91.7	588	95.5	608	98.7	624	101.3	632	102.6	636	103.2	643	104.4	655	106.3	666	108.1						
Phelps Luck ES	399	399	399	399	422	105.8	409	102.5	401	100.5	413	103.5	412	103.3	415	104.0	416	104.3	415	104.0	423	106.0	428	107.3	433	108.5						
Stevens Forest ES	377	377	377	377	450	119.4	C	446	118.3	C	457	121.2	C	457	121.2	C	453	120.2	C	449	119.1	C	453	120.2	C	466	123.6	C				
Talbot Springs ES	509	509	509	509	599	117.7	C	588	115.5	C	587	115.3	C	571	112.2	572	112.4	564	110.8	561	110.2	572	112.4	577	113.4	585	114.9	594	116.7	C		
Thunder Hill ES																																
Region Totals	2720	2720	2720	2720	2927	107.6	2893	106.4	2886	106.1	2911	107.0	2926	107.6	2928	107.6	2941	108.1	2985	109.7	3023	111.1	3057	112.4	3094	113.8						
Columbia - West																																
Bryant Woods ES	361	361	361	361	397	110.0	406	112.5	416	115.2	C	412	114.1	410	113.6	411	113.9	412	114.1	415	115.0	423	117.2	C	428	118.6	C	430	119.1	C		
Clemens Crossing ES	521	521	521	521	526	101.0	545	104.6	566	108.6	590	113.2	593	113.8	609	116.9	C	611	117.3	C	608	116.7	C	605	116.1	C	611	117.3	C	634	121.7	C
Longfellow ES	512	512	512	512	445	86.9	445	86.9	430	84.0	423	82.6	420	82.0	413	80.7	413	80.7	413	80.7	414	80.9	421	82.2	424	82.8	430	84.0				
New ES #44	NS	0	0	0																												
Running Brook ES	515	515	515	515	539	104.7	605	117.5	C	668	129.7	C	724	140.6	C	806	156.5	C	868	168.5	C	945	183.5	C	1001	194.4	C	1044	202.7	C		
Swansfield ES	A	521	621	621	611	117.3	C	615	99.0	599	96.5	597	96.1	587	94.5	597	96.1	601	96.8	602	96.9	609	98.1	617	99.4	623	100.3					
Region Totals	2430	2530	2530	2530	2518	103.6	2616	103.4	2679	105.9	2746	108.5	2816	111.3	2898	114.5	2982	117.9	3040	120.2	3102	122.6	3156	124.7	3216	96.9						
Northeastern																																
Bellows Spring ES	751	751	751	751	755	100.5	830	110.5	874	116.4	C	926	123.3	C	964	128.4	C	969	129.0	C	975	129.8	C	971	129.3	C	953	126.9	C	925	123.2	C
Deep Run ES	772	772	772	772	831	107.6	868	112.4	876	113.5	872	113.0	880	114.0	866	112.2	877	113.6	878	113.7	881	114.1	892	115.5	C	910	117.9	C				
Ducketts Lane ES	770	770	770	770	940	122.1	C	1045	135.7	C	1129	146.6	C	1204	156.4	C	1296	168.3	C	1370	177.9	C	1404	182.3	C	1448	188.1	C	1470	190.9	C	
Elkridge ES	760	760	760	760	817	107.5	837	110.1	834	109.7	843	110.9	828	108.9	810	106.6	812	106.8	823	108.3	877	115.4	C	882	116.1	C	907	119.3	C			
Ilchester ES	653	653	653	653	625	95.7	598	91.6	584	89.4	595	91.1	660	101.1	687	105.2	717	109.8	724	110.9	722	110.6	707	108.3	681	104.3						
New ES #42	NS	0	788	788																												
Rockburn ES	653	653	653	653	645	98.8	660	101.1	665	101.8	678	103.8	681	104.3	722	110.6	747	114.4	803	123.0	C	837	128.2	C	888	136.0	C	945	144.7	C		
Veterans ES	788	788	788	788	881	111.8	898	114.0	913	115.9	C	937	118.9	C	916	116.2	C	912	115.7	C	900	114.2	906	115.0	887	112.6	881	111.8	913	115.9	C	
Waterloo ES	663	663	663	663	591	89.1	597	90.0	560	84.5	572	86.3	554	83.6	554	83.6	554	83.6	551	83.1	565	85.2	572	86.3	579	87.3						
Worthington ES	590	590	590	590	508	86.1	477	80.8	445	75.4	439	74.4	444	75.3	452	76.6	462	78.3	478	81.0	498	84.4	501	84.9	489	82.9						
Region Totals	6400	7188	7188	7188	6593	103.0	6810	94.7	6880	95.7	7066	98.3	7223	100.5	7342	102.1	7448	103.6	7582	105.5	7690	107.0	7758	107.9	7850	109.2						
Northern																																
Centennial Lane ES	647	647	647	647	773	119.5	C	772	119.3	C	800	123.6	C	786	121.5	C	785	121.3	C	799	123.5	C	786	121.5	C	795	122.9	C	801	123.8	C	
Hollifield Station ES	694	694	694	694	768	110.7	789	113.7	805	116.0	C	823	118.6	C	825	118.9	C	833	120.0	C	818	117.9	C	831	119.7	C	833	120.0	C	869	125.2	C
Manor Woods ES	681	681	681	681	841	123.5	C	976	143.3	C	1089	159.9	C	1225	179.9	C	1368	200.9	C	1487	218.4	C	1606	235.8	C	1677	246.3	C	1693	248.6	C	
New ES #45	NS	0	0	0																												
Northfield ES	700	700	700	700	723	103.3	720	102.9	711	101.6	715	102.1	717	102.4	724	103.4	718	102.6	738	105.4	762	108.9	771	110.1	818	116.9	C					
St Johns Lane ES	612	612	612	612	709	115.8	C	736	120.3	C	733	119.8	C	721	117.8	C	722	118.0	C	737	120.4	C	747	122.1	C	739	120.8	C	754	123.2	C	
Waverly ES	A	638	738	738	672	105.3	669	90.7	643	87.1	637	86.3	615	83.3	606	82.1	607	82.2	606	82.1	627	85.0	643	87.1	653	88.5						
Region Totals	3972	4072	4072	4072	4486	112.9	4662	114.5	4781	117.4	4907	120.5	5032	123.6	5186	127.4	5282	129.7	5386	132.3	5470	134.3	5567	136.7	5657	138.9	C					
Southeastern																																
Atholton ES	424	424	424	424	444	104.7	443	104.5	467	110.1	479	113.0	475	112.0	480	113.2	490	115.6	C	501	118.2	C	494	116.5	C	501	118.2	C	509	120.0	C	
Bollman Bridge ES	666	666	666	666	706	106.0	725	108.9	730	109.6	739	111.0	753	113.1	781	117.3	C	805	120.9	C	819	123.0	C	827	124.2	C	829	124.5	C	840	126.1	C
Forest Ridge ES	669	669	669	669	798	119.3	C	794	118.7	C	852	127.4	C	909	135.9	C	936	139.9	C	978	146.2	C	1030	154.0	C	1062	158.7	C	1085	162.2	C	
Gorman Crossing ES	700	700	700	700	705	100.7	750	107.1	734	104.9	780	111.4	797	113.9	807	115.3	C	795	113.6	774	110.6	778	111.1	796	113.7	786	112.3					
Guilford ES	465	465	465	465	473	101.7	472	101.5	480	103.2	471	101.3	476	102.4	470	101.1	530	114.0	542	116.6	C	542	116.6	C	537	115.5	C	537	115.5	C		
Hammond ES	653	653	653	653	667	102.1	675	103.4	679	104.0	704	107.8	749	114.7	815	124.8	C	844	129.2	C	876	134.2	C	918	140.6	C	929	142.3	C			
Laurel Woods ES	640	640	640	640	561	87.7	552	86.3	534	83.4	532	83.1	540	84.4	545	85.2	547	85.5	553	86.4	554	86.6	571	89.2	576	90.0						
New ES #43	NS	0	0	0				</																								

MIDDLE SCHOOLS - Data for Demonstrative Purposes Only																												
Capacity Utilization Rates with Board of Education's Approved FY 2017 Capital Budget Projects - Not Test for APFO																												
Chart reflects May 2016 Projections, Board of Education's FY 2017 approved capacities, and no redistricting.																												
	Capacity				2017-18		2018-19		2019-20		2020-21		2021-22		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28			
	2017	2018	2019	2020	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.		
Columbia - East																												
Lake Elkhorn MS	643	643	643	643	523	81.3	545	84.8	547	85.1	542	84.3	542	84.3	543	84.4	542	84.3	556	86.5	562	87.4	576	89.6	579	90.0		
Oakland Mills MS	506	506	506	506	479	94.7	513	101.4	515	101.8	511	101.0	501	99.0	512	101.2	522	103.2	510	100.8	509	100.6	509	100.6	515	101.8		
Region MS Totals	1149	1149	1149	1149	1002	87.2	1058	92.1	1062	92.4	1053	91.6	1043	90.8	1055	91.8	1064	92.6	1066	92.8	1071	93.2	1085	94.4	1094	95.2		
Columbia - West																												
Harpers Choice MS		506	506	506	506	590	116.6	C 616	121.7	C 637	125.9	C 639	126.3	C 660	130.4	C 630	124.5	C 627	123.9	C 615	121.5	C 616	121.7	C 617	121.9	C 613	121.1	C
Wilde Lake MS	R	760	760	760	760	608	80.0	606	79.7	649	85.4	669	88.0	700	92.1	739	97.2	755	99.3	821	108.0	877	115.4	C 922	121.3	C 950	125.0	C
Region MS Totals		1266	1266	1266	1266	1198	94.6	1222	96.5	1286	101.6	1308	103.3	1360	107.4	1369	108.1	1382	109.2	1436	113.4	1493	117.9	C 1539	121.6	C 1563	123.5	C
Northeastern																												
Bonnie Branch MS		662	662	662	662	769	116.2	C 805	121.6	C 800	120.8	C 757	114.4	737	111.3	750	113.3	779	117.7	C 790	119.3	C 805	121.6	C 813	122.8	C 833	125.8	C
Elkridge Landing MS		779	779	779	779	708	90.9	697	89.5	702	90.1	679	87.2	703	90.2	707	90.8	738	94.7	735	94.4	742	95.3	754	96.8	781	100.3	
Ellicott Mills MS	A	662	662	662	662	852	128.7	C 870	131.4	C 914	138.1	C 905	136.7	C 921	139.1	C 902	136.3	C 899	135.8	C 857	104.8	825	100.9	809	98.9	824	100.7	
Mayfield Woods MS		798	798	798	798	742	93.0	781	97.9	855	107.1	906	113.5	948	118.8	C 963	120.7	C 969	121.4	C 995	124.7	C 978	122.6	C 989	123.9	C 974	122.1	C
New MS #21	NS	0	0	0	0																							
Thomas Viaduct MS		701	701	701	701	691	98.6	746	106.4	821	117.1	C 895	127.7	C 923	131.7	C 949	135.4	C 1037	147.9	C 1125	160.5	C 1210	172.6	C 1245	177.6	C 1282	182.9	C
Region MS Totals		3602	3602	3602	3602	3762	104.4	3899	108.2	4092	113.6	4142	115.0	4232	117.5	C 4271	118.6	C 4422	122.8	C 4502	119.8	C 4560	121.3	C 4610	122.7	C 4694	124.9	C
Northern																												
Burleigh Manor MS		779	779	779	779	812	104.2	824	105.8	854	109.6	897	115.1	C 929	119.3	C 949	121.8	C 986	126.6	C 1025	131.6	C 1076	138.1	C 1096	140.7	C 1138	146.1	C
Dunloggin MS	A	565	565	565	662	613	108.5	631	111.7	639	113.1	652	98.5	673	101.7	674	101.8	689	104.1	672	101.5	667	100.8	654	98.8	675	102.0	
Patapsco MS		643	643	643	643	722	112.3	711	110.6	714	111.0	727	113.1	765	119.0	C 758	117.9	C 762	118.5	C 758	117.9	C 778	121.0	C 793	123.3	C 799	124.3	C
Region MS Totals		1987	1987	1987	2084	2147	108.1	2166	109.0	2207	111.1	2276	109.2	2367	113.6	2381	114.3	2437	116.9	C 2455	117.8	C 2521	121.0	C 2543	122.0	C 2612	125.3	C
Southeastern																												
Hammond MS		604	604	604	604	585	96.9	599	99.2	637	105.5	694	114.9	737	122.0	C 799	132.3	C 818	135.4	C 836	138.4	C 876	145.0	C 886	146.7	C 895	148.2	C
Murray Hill MS		662	662	662	662	660	99.7	679	102.6	722	109.1	766	115.7	C 756	114.2	712	107.6	712	107.6	747	112.8	752	113.6	781	118.0	C 769	116.2	C
Patuxent Valley MS		760	760	760	760	645	84.9	727	95.7	722	95.0	746	98.2	707	93.0	744	97.9	768	101.1	782	102.9	785	103.3	815	107.2	851	112.0	
Region MS Totals		2026	2026	2026	2026	1890	93.3	2005	99.0	2081	102.7	2206	108.9	2200	108.6	2255	111.3	2298	113.4	2365	116.7	C 2413	119.1	C 2482	122.5	C 2515	124.1	C
Western																												
Clarksville MS		643	643	643	643	561	87.2	570	88.6	608	94.6	619	96.3	575	89.4	537	83.5	508	79.0	533	82.9	537	83.5	549	85.4	544	84.6	
Folly Quarter MS		662	662	662	662	660	99.7	643	97.1	668	100.9	667	100.8	668	100.9	662	100.0	670	101.2	688	103.9	686	103.6	684	103.3	668	100.9	
Glenwood MS		545	545	545	545	564	103.5	564	103.5	594	109.0	602	110.5	593	108.8	560	102.8	565	103.7	575	105.5	605	111.0	606	111.2	608	111.6	
Lime Kiln MS		701	701	701	701	740	105.6	744	106.1	799	114.0	801	114.3	830	118.4	C 838	119.5	C 854	121.8	C 864	123.3	C 892	127.2	C 899	128.2	C 892	127.2	C
Mount View MS		798	798	798	798	791	99.1	821	102.9	837	104.9	829	103.9	866	108.5	912	114.3	958	120.1	C 996	124.8	C 1004	125.8	C 1039	130.2	C 1036	129.8	C
Region MS Totals		3349	3349	3349	3349	3316	99.0	3342	99.8	3506	104.7	3518	105.0	3532	105.5	3509	104.8	3555	106.2	3656	109.2	3724	111.2	3777	112.8	3748	111.9	
Countywide Totals		13379	13379	13379	13476	13315	99.5	13692	102.3	14234	106.4	14503	107.6	14734	109.3	14840	110.1	15158	112.5	15480	113.6	15782	115.8	16036	117.6	16226	119.0	

'A' includes additions as reflected in FY 2017 CIP for grades 6-8

'R' = Replacement school scheduled to open August 2017

'NS' New School proposed in FY 2017 Capital Budget

MIDDLE SCHOOLS - Data for Demonstrative Purposes Only

Capacity Utilization Rates with Proposed FY 2018 Capital Budget Projects - Not Test for APFO

Chart reflects May 2016 Projections, potential FY 2018 requested capacities and estimated redistricting.

	Capacity				2017-18		2018-19		2019-20		2020-21		2021-22		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28							
	2017	2018	2019	2020	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.						
Aggregate Plan																																
Columbia - East																																
Lake Elkhorn MS	643	643	643	643	523	81.3	672	104.5	679	105.6	674	104.8	675	105.0	679	105.6	678	105.4	693	107.8	697	108.4	697	108.4	712	110.7	710	110.4				
Oakland Mills MS	506	506	506	506	479	94.7	630	124.5 C	641	126.7 C	647	127.9 C	639	126.3 C	653	129.1 C	663	131.0 C	647	127.9 C	644	127.3 C	641	126.7 C	641	126.7 C	650	128.5 C	650	128.5 C		
Region MS Totals	1149	1149	1149	1149	1002	87.2	1302	113.3	1320	114.9	1321	115.0	1314	114.4	1332	115.9 C	1341	116.7 C	1340	116.6 C	1341	116.7 C	1341	116.7 C	1353	117.8 C	1360	118.4 C	1360	118.4 C		
Columbia - West																																
Harpers Choice MS	506	506	506	506	590	116.6 C	616	121.7 C	637	125.9 C	639	126.3 C	660	130.4 C	630	124.5 C	627	123.9 C	615	121.5 C	616	121.7 C	617	121.9 C	617	121.9 C	617	121.9 C	613	121.1 C	613	121.1 C
Wild Lake MS	R 760	760	760	760	608	80.0	606	79.7	649	85.4	669	88.0	700	92.1	739	97.2	755	99.3	821	108.0	877	115.4 C	922	121.3 C	922	121.3 C	950	125.0 C	950	125.0 C		
Region MS Totals	1266	1266	1266	1266	1198	94.6	1222	96.5	1286	101.6	1308	103.3	1360	107.4	1369	108.1	1382	109.2	1436	113.4	1493	117.9 C	1539	121.6 C	1539	121.6 C	1563	123.5 C	1563	123.5 C		
Northeastern																																
Bonnie Branch MS	662	662	662	662	769	116.2 C	751	113.4	745	112.5	705	106.5	684	103.3	697	105.3	725	109.5	735	111.0	749	113.1	756	114.2	774	116.9 C	774	116.9 C	774	116.9 C	774	116.9 C
Elkridge Landing MS	779	779	779	779	708	90.9	766	98.3	775	99.5	754	96.8	779	100.0	784	100.6	817	104.9	816	104.7	823	105.6	838	107.6	867	111.3	867	111.3	867	111.3		
Ellicott Mills MS	A 662	662	662	662	852	128.7 C	694	104.8	725	109.5	713	107.7	727	109.8	712	107.6	709	107.1	675	82.5	652	79.7	640	78.2	653	79.8	653	79.8	653	79.8		
Mayfield Woods MS	798	798	798	798	742	93.0	780	97.7	860	107.8	914	114.5	965	120.9 C	982	123.1 C	1003	125.7 C	1043	130.7 C	1038	130.1 C	1053	132.0 C	1044	130.8 C	1044	130.8 C	1044	130.8 C		
New MS #21	NS 0	0	0	0																												
Thomas Viaduct MS	701	701	701	701	691	98.6	643	91.7	704	100.4	769	109.7	787	112.3	808	115.3 C	880	125.5 C	952	135.8 C	1027	146.5 C	1056	150.6 C	1090	155.5 C	1090	155.5 C	1090	155.5 C		
Region MS Totals	3602	3602	3602	3602	3762	104.4	3634	100.9	3809	105.7	3855	107.0	3942	109.4	3983	110.6	4134	114.8	4221	112.3	4289	114.1	4343	115.6 C	4428	117.8 C	4428	117.8 C	4428	117.8 C		
Northern																																
Burleigh Manor MS	779	779	779	779	812	104.2	824	105.8	854	109.6	897	115.1 C	929	119.3 C	949	121.8 C	986	126.6 C	1025	131.6 C	1076	138.1 C	1096	140.7 C	1138	146.1 C	1138	146.1 C	1138	146.1 C	1138	146.1 C
Dunloggin MS	A 565	565	565	662	613	108.5	697	123.4 C	712	126.0 C	725	128.0 C	748	133.0 C	746	132.7 C	762	135.1 C	743	132.2	734	130.9	719	128.6	741	131.9	741	131.9	741	131.9		
Patapsco MS	643	643	643	643	722	112.3	648	100.8	652	101.4	666	103.6	701	109.0	694	107.9	699	108.7	697	108.4	716	111.4	730	113.5	735	114.3	735	114.3	735	114.3		
Region MS Totals	1987	1987	1987	2084	2147	108.1	2169	109.2	2218	111.6	2288	109.8	2378	114.1	2389	114.6	2447	117.4 C	2465	118.3 C	2526	121.2 C	2545	122.1 C	2614	125.4 C	2614	125.4 C				
Southeastern																																
Hammond MS	604	604	604	604	585	96.9	554	91.7	589	97.5	640	106.0	681	112.7	738	122.2 C	756	125.2 C	772	127.8 C	810	134.1 C	820	135.8 C	829	137.3 C	829	137.3 C	829	137.3 C		
Murray Hill MS	662	662	662	662	660	99.7	644	97.3	685	103.5	728	110.0	719	108.6	677	102.3	678	102.4	711	107.4	716	108.2	744	112.4	732	110.6	732	110.6				
Patuxent Valley MS	760	760	760	760	645	84.9	762	100.3	759	99.9	784	103.2	744	97.9	779	102.5	802	105.5	818	107.6	821	108.0	852	112.1	888	116.8 C	888	116.8 C				
Region MS Totals	2026	2026	2026	2026	1890	93.3	1960	96.7	2033	100.3	2152	106.2	2144	105.8	2194	108.3	2236	110.4	2301	113.6	2347	115.8 C	2416	119.2 C	2449	120.9 C	2449	120.9 C				
Western																																
Clarksville MS	643	643	643	643	561	87.2	538	83.7	574	89.3	585	91.0	543	84.4	508	79.0	480	74.7	504	78.4	508	79.0	520	80.9	516	80.2	516	80.2				
Folly Quarter MS	662	662	662	662	660	99.7	643	97.1	668	100.9	667	100.8	668	100.9	662	100.0	670	101.2	688	103.9	686	103.6	684	103.3	668	100.9						
Glenwood MS	545	545	545	545	564	103.5	564	103.5	594	109.0	602	110.5	593	108.8	560	102.8	565	103.7	575	105.5	605	111.0	606	111.2	608	111.6	608	111.6				
Lime Kiln MS	701	701	701	701	740	105.6	744	106.1	799	114.0	801	114.3	830	118.4 C	838	119.5 C	854	121.8 C	864	123.3 C	892	127.2 C	899	128.2 C	892	127.2 C	892	127.2 C				
Mount View MS	798	798	798	798	791	99.1	916	114.8	933	116.9 C	924	115.8 C	962	120.6 C	1005	125.9 C	1049	131.5 C	1086	136.1 C	1095	137.2 C	1131	141.7 C	1128	141.4 C	1128	141.4 C				
Region MS Totals	3349	3349	3349	3349	3316	99.0	3405	101.7	3568	106.5	3579	106.9	3596	107.4	3573	106.7	3618	108.0	3717	111.0	3786	113.0	3840	114.7	3812	113.8	3812	113.8				
Countywide Totals	13379	13379	13379	13476	13315	99.5	13692	102.3	14234	106.4	14503	107.6	14734	109.3	14840	110.1	15158	112.5	15480	113.6	15782	115.8	16036	117.6	16226	119.0	16226	119.0				

*A includes additions as reflected in FY 2018 CIP for grades 6-8

R = Replacement school scheduled to open August 2017

Pre-Measures		HIGH SCHOOLS - Data for Demonstrative Purposes Only																									
		Capacity Utilization Rates with Board of Education's Approved FY 2017 Capital Budget Projects - Not Test for APFO																									
		Chart reflects May 2016 Projections, Board of Education's FY 2017 approved capacities, and no redistricting.																									
		Capacity				2017-18		2018-19		2019-20		2020-21		2021-22		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	
		2017	2018	2019	2020	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.
Columbia - East		1400	1400	1400	1400	1160	82.9	1124	80.3	1174	83.9	1179	84.2	1238	88.4	1275	91.1	1258	89.9	1276	91.1	1280	91.4	1272	90.9	1284	91.7
Oakland Mills HS																											
Columbia - West																											
Wilde Lake HS		1424	1424	1424	1424	1327	93.2	1382	97.1	1419	99.6	1480	103.9	1498	105.2	1574	110.5	1617	113.6	1648	115.7	1675	117.6	1665	116.9	1696	119.1
Northeastern																											
Howard HS		1420	1420	1420	1420	1944	136.9	1986	139.9	2075	146.1	2125	149.6	2157	151.9	2176	153.2	2178	153.4	2162	152.3	2164	152.4	2185	153.9	2215	156.0
Long Reach HS		1488	1488	1488	1488	1724	115.9	1867	125.5	1969	132.3	2070	139.1	2201	147.9	2328	156.5	2436	163.7	2540	170.7	2644	177.7	2713	182.3	2819	189.4
New HS #13		NS	0	0	0																						
Region HS Totals		2908	2908	2908	2908	3668	126.1	3853	132.5	4044	139.1	4195	144.3	4358	149.9	4504	154.9	4614	162.0	4702	164.0	4808	166.3	4898	168.3	5034	171.3
Northern																											
Centennial HS		1360	1360	1360	1360	1586	116.6	1621	119.2	1661	122.1	1709	125.7	1722	126.6	1763	129.6	1810	133.1	1860	136.8	1882	138.4	1927	141.7	1958	144.0
Marriotts Ridge HS		1615	1615	1615	1615	1254	77.6	1293	80.1	1327	82.2	1379	85.4	1408	87.2	1464	90.7	1484	91.9	1532	94.9	1588	98.3	1617	100.1	1687	104.5
Mt Hebron HS		1400	1400	1400	1400	1657	118.4	1696	121.1	1738	124.1	1765	126.1	1783	127.4	1816	129.7	1831	130.8	1867	133.4	1887	134.8	1903	135.9	1906	136.1
Region HS Totals		4375	4375	4375	4375	4497	102.8	4610	105.4	4726	108.0	4853	110.9	4913	112.3	5043	115.3	5125	117.1	5259	120.2	5357	122.4	5447	124.5	5551	126.9
Southeastern																											
Hammond HS		1220	1220	1220	1220	1333	109.3	1387	113.7	1461	119.8	1483	121.6	1561	128.0	1645	134.8	1689	138.4	1787	146.5	1835	150.4	1881	154.2	1945	159.4
Western																											
Atholton HS		1360	1360	1360	1360	1434	105.4	1466	107.8	1467	107.9	1514	111.3	1556	114.4	1601	117.7	1669	122.7	1683	123.8	1706	125.4	1706	125.4	1750	128.7
Glennelg HS		1420	1420	1420	1420	1173	82.6	1241	87.4	1249	88.0	1256	88.5	1301	91.6	1289	90.8	1313	92.5	1325	93.3	1303	91.8	1316	92.7	1350	95.1
Reservoir HS		1551	1551	1551	1551	1536	99.0	1630	105.1	1689	108.9	1759	113.4	1813	116.9	1875	120.9	1910	123.1	1944	125.3	1970	127.0	1983	127.9	2019	130.2
River Hill HS		1488	1488	1488	1488	1238	83.2	1255	84.3	1255	84.3	1280	86.0	1287	86.5	1292	86.8	1320	88.7	1297	87.2	1283	86.2	1258	84.5	1260	84.7
Region HS Totals		5819	5819	5819	5819	5381	92.5	5592	96.1	5660	97.3	5809	99.8	5957	102.4	6057	104.1	6212	106.8	6249	107.4	6262	107.6	6263	107.6	6379	109.6
Countywide Totals		17146	17146	17146	17146	17366	101.3	17948	104.7	18484	107.8	18999	110.8	19525	113.9	20098	117.2	20515	119.3	20921	121.5	21217	123.1	21426	124.2	21889	126.7
		NS' New School proposed in FY 2017 Capital Budget																									

HIGH SCHOOLS - Data for Demonstrative Purposes Only																										
Aggregate Plan Capacity Utilization Rates with Proposed FY 2018 Capital Budget Projects - Not Test for APFO																										
Chart reflects May 2016 Projections, potential FY 2018 requested capacities and estimated redistricting.																										
	Capacity				2017-18		2018-19		2019-20		2020-21		2021-22		2022-23		2023-24		2024-25		2025-26		2026-27		2027-28	
	2017	2018	2019	2020	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.	Proj	% Util.
Columbia - East																										
Oakland Mills HS	1400	1400	1400	1400	1160	82.9	1124	80.3	1174	83.9	1179	84.2	1238	88.4	1275	91.1	1258	89.9	1276	91.1	1280	91.4	1272	90.9	1284	91.7
Columbia - West																										
Wide Lake HS	1424	1424	1424	1424	1327	93.2	1382	97.1	1419	99.6	1480	103.9	1498	105.2	1574	110.5	1617	113.6	1648	115.7	1675	117.6	1665	116.9	1696	119.1
Northeastern																										
Howard HS	1420	1420	1420	1420	1944	136.9	1986	139.9	2075	146.1	2125	149.6	2157	151.9	2176	153.2	2178	153.4	2162	152.3	2164	152.4	2185	153.9	2215	156.0
Long Reach HS	1488	1488	1488	1488	1724	115.9	1867	125.5	1969	132.3	2070	139.1	2201	147.9	2328	156.5	2436	163.7	2540	170.7	2644	177.7	2713	182.3	2819	189.4
New HS #13	NS	0	0	0																						
Region HS Totals	2908	2908	2908	2908	3668	126.1	3853	132.5	4044	139.1	4195	144.3	4358	149.9	4504	154.9	4614	162.0	4702	164.0	4808	166.3	4898	168.3	5034	171.3
Northern																										
Centennial HS	1360	1360	1360	1360	1586	116.6	1621	119.2	1661	122.1	1709	125.7	1722	126.6	1763	129.6	1810	133.1	1860	136.8	1882	138.4	1927	141.7	1958	144.0
Marriotts Ridge HS	1615	1615	1615	1615	1254	77.6	1293	80.1	1327	82.2	1379	85.4	1408	87.2	1464	90.7	1484	91.9	1532	94.9	1588	98.3	1617	100.1	1687	104.5
Mt Hebron HS	1400	1400	1400	1400	1657	118.4	1696	121.1	1738	124.1	1765	126.1	1783	127.4	1816	129.7	1831	130.8	1867	133.4	1887	134.8	1903	135.9	1906	136.1
Region HS Totals	4375	4375	4375	4375	4497	102.8	4610	105.4	4726	108.0	4853	110.9	4913	112.3	5043	115.3	5125	117.1	5259	120.2	5357	122.4	5447	124.5	5551	126.9
Southeastern																										
Hammond HS	1220	1220	1220	1220	1333	109.3	1387	113.7	1461	119.8	1483	121.6	1561	128.0	1645	134.8	1689	138.4	1787	146.5	1835	150.4	1881	154.2	1945	159.4
Western																										
Atholton HS	1460	1460	1460	1460	1434	98.2	1466	100.4	1467	100.5	1514	103.7	1556	106.6	1601	109.7	1669	114.3	1683	115.3	1706	116.8	1706	116.8	1750	119.9
Glenelg HS	1420	1420	1420	1420	1173	82.6	1241	87.4	1249	88.0	1256	88.5	1301	91.6	1289	90.8	1313	92.5	1325	93.3	1303	91.8	1316	92.7	1350	95.1
Reservoir HS	1551	1551	1551	1551	1536	99.0	1630	105.1	1689	108.9	1759	113.4	1813	116.9	1875	120.9	1910	123.1	1944	125.3	1970	127.0	1983	127.9	2019	130.2
River Hill HS	1488	1488	1488	1488	1238	83.2	1255	84.3	1255	84.3	1280	86.0	1287	86.5	1292	86.8	1320	88.7	1297	87.2	1283	86.2	1258	84.5	1260	84.7
Region HS Totals	5919	5919	5919	5919	5381	90.9	5592	94.5	5660	95.6	5809	98.1	5957	100.6	6057	102.3	6212	105.0	6249	105.6	6262	105.8	6263	105.8	6379	107.8
Countywide Totals	17246	17246	17246	17246	17366	100.7	17948	104.1	18484	107.2	18999	110.2	19525	113.2	20098	116.5	20515	119.9	20921	121.9	21217	123.5	21426	124.8	21889	127.5

NS' New School proposed in FY 2018 Capital Budget