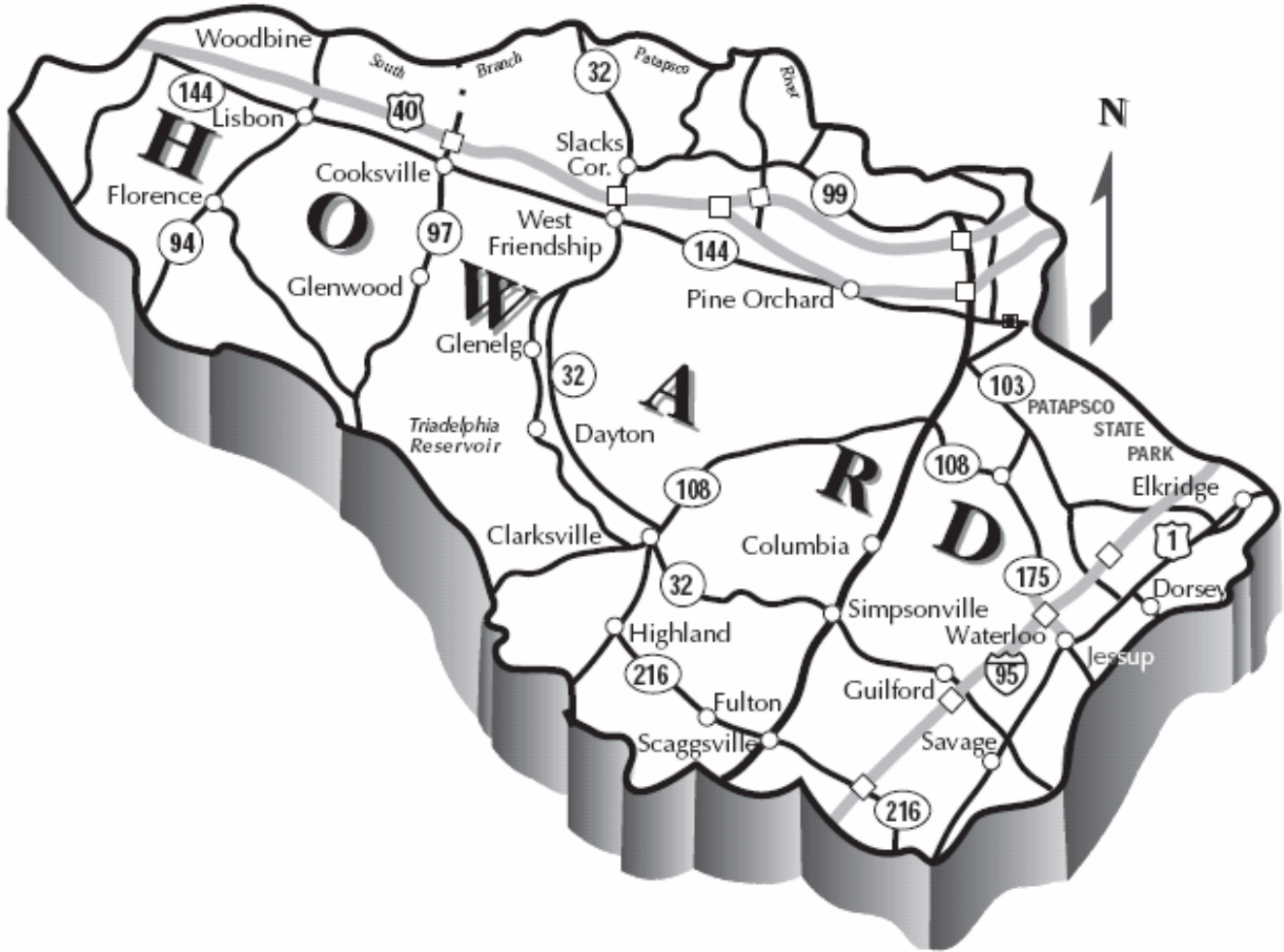

FEASIBILITY STUDY



June 2012

THE HOWARD COUNTY PUBLIC SCHOOL SYSTEM

Feasibility Study

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

June 2012

Howard County Board of Education

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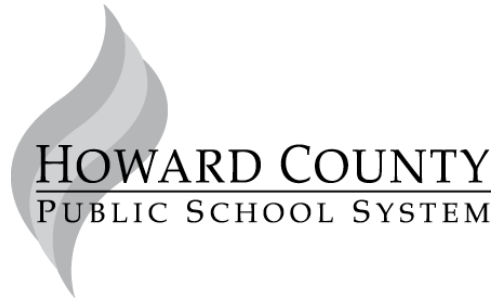
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June 14, 2012

To: Board of Education Members

From: Sydney L. Cousin, Superintendent

A handwritten signature in black ink, appearing to read "S. L. Cousin", is positioned to the right of the "From:" line.

Subject: June 2012 Feasibility Study – An Annual Review of Long-term Capital Planning and Redistricting Options

This document evaluates Long-Range Capital Improvement Program/Redistricting Plans for the school years 2013–2024. Site acquisition planning for needs beyond this period is also presented in the document. Staff provides recommended changes to the Capital Improvement Program for FY 2014 and suggested redistricting to support the Capital Improvement Program.

Elementary redistricting that would take effect at the start of the 2013–2014 school year is considered for this year. Other plans are included for future years. A goal of this study is to identify the best scenario for sequencing redistricting to make best use of capacity in a time of significant capital budget challenges. Some plans may be adjusted over the next year based upon observed conditions and feedback in the redistricting process. I believe this report promotes open discussion about goals for redistricting which allows for transparency in the long-range planning process.

I look forward to working with the Board of Education on the review of this document.

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I. Introduction

Each year, the Board of Education reviews capital planning options and redistricting scenarios through a feasibility study. 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 of Education'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.

This document presents a single staff recommendation. Other scenarios may be developed in future attendance area review processes. Plan assessments are included in an attempt to show how plans compare to the eleven policy considerations in Policy 6010 School Attendance Areas.

This is a planning document and the recommendations presented for review are not final. The conditions which have influenced past enrollment projections may change. New plans may be needed to react to population shifts or new residential development plans. 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. Redistricting proposals are not certain until approved by the Board of Education.

The recommendation in this document is presented for each organizational level (elementary, middle, and high) using a pre- and post-measures format. The pre-measures format shows the effect of projected enrollment without any redistricting. The pre-measures format also shows FY13 Capital Budget projects as approved. The post-measures format shows the impact of projected enrollment within a redistricting plan. The post-measures format includes capital projects recommended in this document for the FY14 Capital Budget. If these projects are not approved, other plans must be developed. These same reports and other tables are included in the electronic document [A Supplement to the 2012 Feasibility Study](#)¹.

The redistricting process includes the following:

Feasibility Study. 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 of Education will review the plan and set direction as appropriate during the capital budget presentations each year. In years where redistricting is anticipated, the Attendance Area Committee will critique the plan, providing review and comment to the Superintendent.

Recommending Redistricting Plans. In years where redistricting is planned, staff will refine the goal directed short- and long-range plan based on the most current set of projections that conform to System-Level-Process Requirements. The Attendance Area Committee will apply the direction set by the Board of Education, the System-Level-

¹ <http://www.hcpss.org/boundarylines/>
2012 Feasibility Study

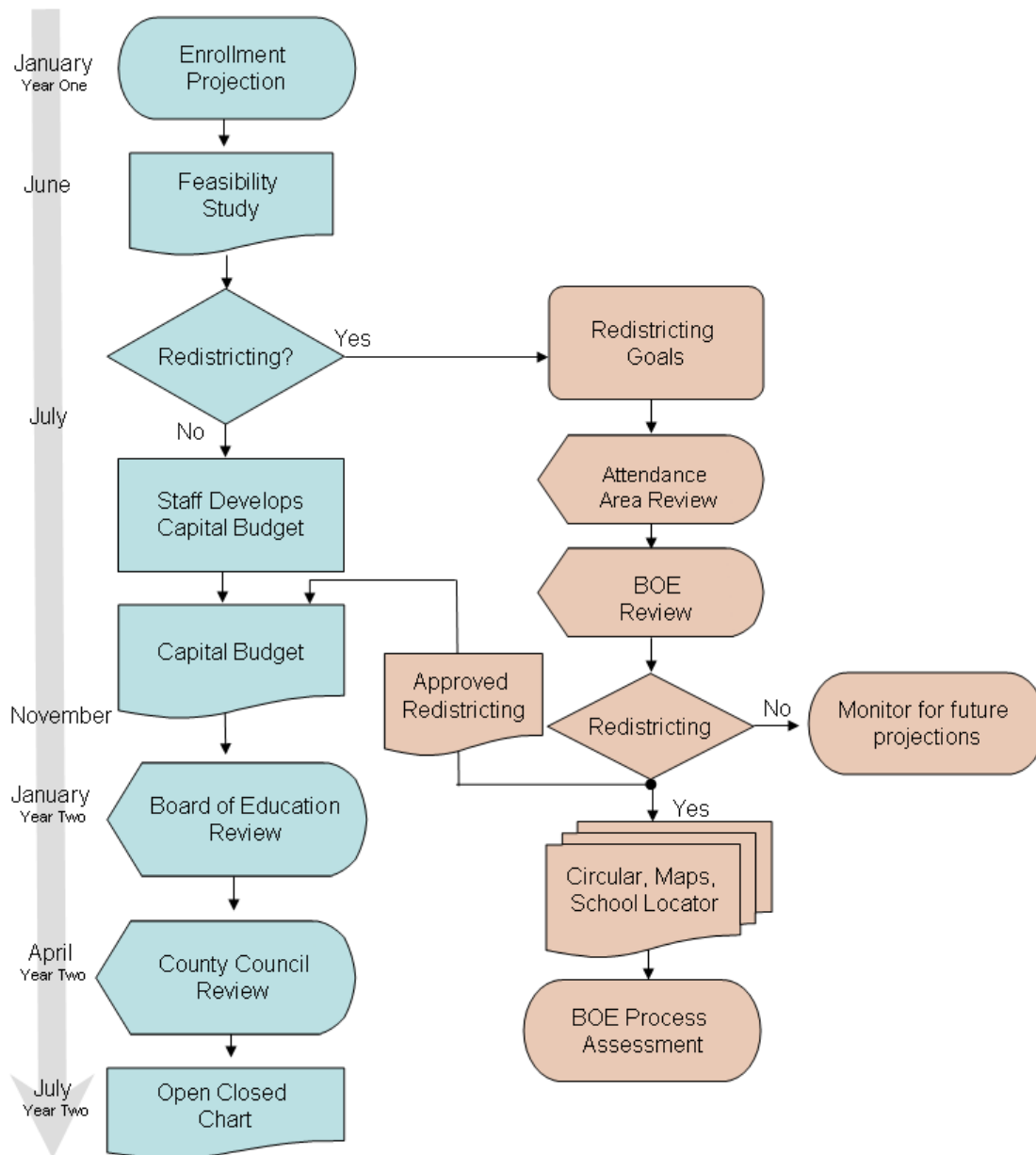
Process Requirements, and the standards and factors in Policy 6010. Staff will make modifications as appropriate. The plan will be presented at regional meetings, critiqued by the public, and adjusted as appropriate.

Approving Attendance Area Adjustments. In years where redistricting is occurring, the Board of Education will schedule public hearing(s) in accordance with Policy 2040 Public Participation in Meetings of the Board of Education on the proposed attendance area adjustments. Their deliberations will also include a public work session(s) with staff and the members of the Attendance Area Committee.

Assessing the Process. In years where redistricting is occurring, the Board of Education will assess the process at the end of the redistricting cycle. Modifications will be made as appropriate prior to the beginning of the next cycle.

After the feasibility study has introduced the new projection, tested redistricting scenarios, and recommended capacity adjustments, the capital budget is prepared. In years where redistricting is occurring, the capital budget and redistricting processes run in parallel, as illustrated in the following chart.

Figure 1. Capital Budget and Redistricting Process



II. Executive Summary

This feasibility study forms the basis for the development of the Capital Improvement Program (CIP). In September 2012 the FY 2014 Superintendent’s Proposed Capital Budget will be presented, which includes the five-year CIP. The following sections highlight staff considerations included in this study which may be included in the CIP.

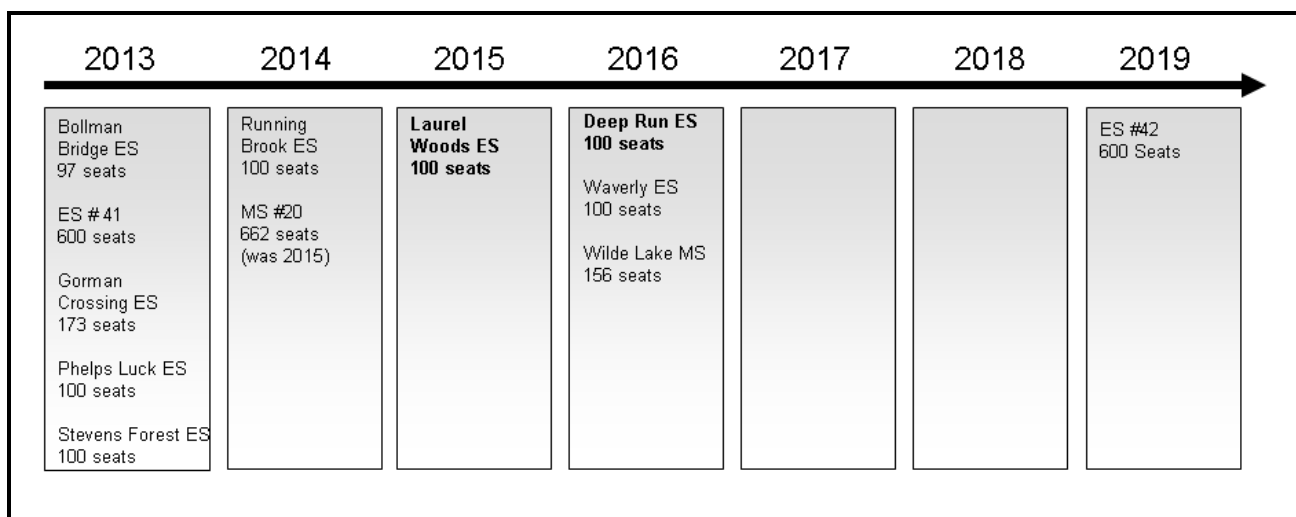
A. Capacities

Projections continue to support construction of the new Elementary School #41 to open in August 2013 at Ducketts Lane and the new Middle School #20 to open in August 2014 within the Oxford Square development. Even with the construction of ES #41, a second new elementary school in the eastern part of the county is needed as early as 2019. The additions and new schools approved as part of the FY 2013-2022 Long-Range Master Plan are included in the assumptions for this document. These include ES #41, Gorman Crossing ES, Phelps Luck ES, and Stevens Forest ES (construction starting this summer), MS #20 and Running Brook ES (design underway).

Longer term projects are included in the assumptions. For instance, the 100-seat addition at Waverly ES is to be funded in FY 2016 to help manage growth in Ellicott City from Turf Valley. An addition to Wilde Lake MS will be critical to help manage growth in student enrollment stemming from the Columbia Town Center development. ES #42 is supported by this projection to address future needs in both the Northeastern the Southeastern Regions. This study validates the need for all of the projects recently approved for the long range plan. Looking ahead to the next capital budget, the following new projects will be recommended for the FY 2014-2023 Long-Range Master Plan:

1. Deep Run ES Addition – Initial planning has been funded for the first major renovation to the school since it opened in 1991. Due to the continued growth in this area, a 100-seat addition should be planned as part of this project.
2. Laurel Woods ES Addition – Enrollment projections indicate additional capacity is needed at this school. The 100-seat addition should be planned for 2015.

Figure 2. Planned School Capacity (New recommendations in bold)



B. Redistricting Approach

Ideally, redistricting should be done as infrequently as possible moving as few students as necessary within the constraints listed in Policy 6010 School Attendance Areas. Redistricting is recommended for the Board of Education to consider in the fall of 2012, for implementation in August 2013. This would be the second year of movement in a comprehensive plan designed to coincide with the completion of new construction projects, including ES #41 and MS #20. The primary goal of the proposed 2013 redistricting plan is to relieve the Northeastern Region with the new capacity at ES #41. Other goals are to relieve Talbott Springs ES and Phelps Luck ES in the Columbia East Region using existing capacity, and to relieve Veterans ES by using existing capacity.

The staff recommendation is a result of an evaluation of multiple scenarios in a process completed over the last several months. Other proposals may be developed and evaluated by future Attendance Area Committees or in future feasibility studies. In many cases, staff recommendations are modified as a result of the Attendance Area Committee process and the Board of Education has ultimately adopted a different plan than was originally proposed in the feasibility study.

Board of Education policy standards recommend consideration of redistricting under certain conditions. While these conditions include opening a school or adjusting to some other change, the most likely trigger is when school capacity utilization projections fall outside the minimum or maximum target range of 90–110 percent school capacity over a period of time.

When redistricting is considered, Policy 6010 School Attendance Areas identifies eleven factors to be considered in the development of plans:

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. Changes 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 percent where possible)

Capacity utilization over time and the number of students redistricted are often given the most attention. The other factors are emphasized to different degrees. 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.

C. Recommendations

1. Plan must strike a balance between policy considerations.

Scenario testing over the years has shown how difficult it is to satisfy all eleven policy considerations equally for redistricting without creating a plan that moves a tremendous number of students. The recommendations presented in this report are analyzed in relation to these eleven considerations. This discussion will help to initiate the 2012 attendance area review process.

2. Comprehensive multi-year redistricting should continue.

The following schools are currently above 110 percent capacity utilization (based upon the official September 30, 2011, enrollment report), are also projected to see significant student population growth over the next several years, and have no approved capital plans for classroom additions which can entirely handle this growth. Consequently, these schools should be under consideration for potential redistricting:

- | | |
|-----------------------|----------------------|
| a) Bellows Spring ES | f) Waterloo ES |
| b) Deep Run ES | g) Bonnie Branch MS |
| c) Elkridge ES | h) Ellicott Mills MS |
| d) Talbott Springs ES | i) Murray Hill MS |
| e) Veterans ES | j) Howard HS |

In order to develop a viable redistricting plan, other school attending areas which are not part of the schools listed above may be included as part of the ultimate redistricting plan. Considerations and redistricting alternatives are discussed in Section IV and specific redistricting recommendations are listed in Section V of the document.

3. Long-term planning is needed for additional capacity.

Staff continues to work closely with Department of Planning and Zoning and Public Works staff to actively pursue land acquisition opportunities for school sites in the eastern part of the county. This study reaffirms the need for a second new elementary school in the east for 2019. Although this year's projection is slightly lower at the elementary level in 2019 than last year, experience has shown that obtaining sites is difficult so a site should be obtained soon for ES #42. Last year, this report recommended careful consideration of options for additional classroom seats at existing locations like Laurel Woods ES and Guilford ES in the FY13 Capital Budget. While redistricting approved to take effect in August 2012 addressed overcrowding issues at Guilford ES, an addition is still recommended for Laurel Woods ES.² Future growth will also occur in Columbia and Turf Valley. The plans for the Running Brook ES and Wilde Lake MS classroom additions will provide interim capacity for Columbia, though it is likely that an additional elementary facility³ will be required to support growth from the Columbia Town Center development in the next decade. Projections continue to support the need for elementary redistricting in 2016 to relieve

² An addition at Laurel Woods ES was discussed by the Board last November when the redistricting decision was made and a feasibility study for that addition is under way.

³ This could be Faulkner Ridge ES reopened. This could also be a new facility either at the Faulkner Ridge site or somewhere else in the Town Center vicinity.

overcrowding at Manor Woods ES associated with continuing Turf Valley growth. The addition at Waverly ES can maintain target capacity utilization until 2020. Considering the limited potential for expanding schools outside of the sewer service area, a Turf Valley school site should be obtained.

III. 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 assumptions.

A. Projections

Projections used for this study were generated in the spring of 2012. The projection model and methodology used by the Howard County Public School System (HCPSS) is based on historic cohort survival ratios—the number of students that “survive” from one grade level (cohort) to the next. Then the effects of new housing yields and the net effects of resale of existing housing stock and apartment turnover are added to the projection. Using the births and actual enrollment data history⁴, these variables are combined to project the total student enrollment at each school for September 30 of each future year. The projection is presented out to 2026 in this document, although it extends further into the future. It should be noted that the trends shown after the first five or six years are less reliable; however, certain decisions like site acquisition are appropriately informed by the later part of the projection.

Planning issues can become apparent by examining the consistency of the current projection to those made in previous years. When several years of enrollment projections are graphed, the basic trends are consistent in each of the projections. By using a ten-year series, these three consecutive annual projections share some years of data. This brings some stability to the projection but still allows the projections to indicate differences, so that changing trends can be apparent.

As shown in Figure 3, the 2012 elementary projection tracks fairly closely with the 2011 projection. Both the 2012 and 2011 projections are significantly higher than the 2010 projection. While the trend is very similar, the 2012 elementary projection is slightly higher than the 2011 elementary projection until 2017. In later years the 2012 projection is less intense than 2011. The ten-year trend in the 2012 projection is for elementary enrollment to increase by 2,761 students by 2021. As a result of this enrollment growth, the capacity utilization of all elementary schools combined will begin to exceed 110 percent by 2023. Projects approved as part of the FY13 CIP can absorb this growth with

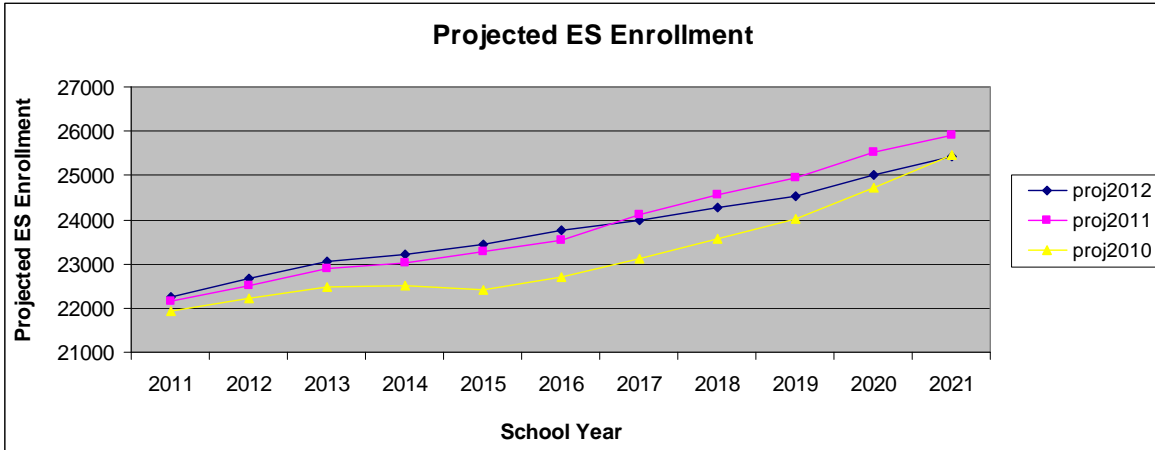
⁴ A five-year series, in this case September 30, 2007 through 2011 enrollments, is used in the projection.

some proposed additions noted in this document. Based on the long-term growth trends, a site for a future elementary school in the east should be banked.

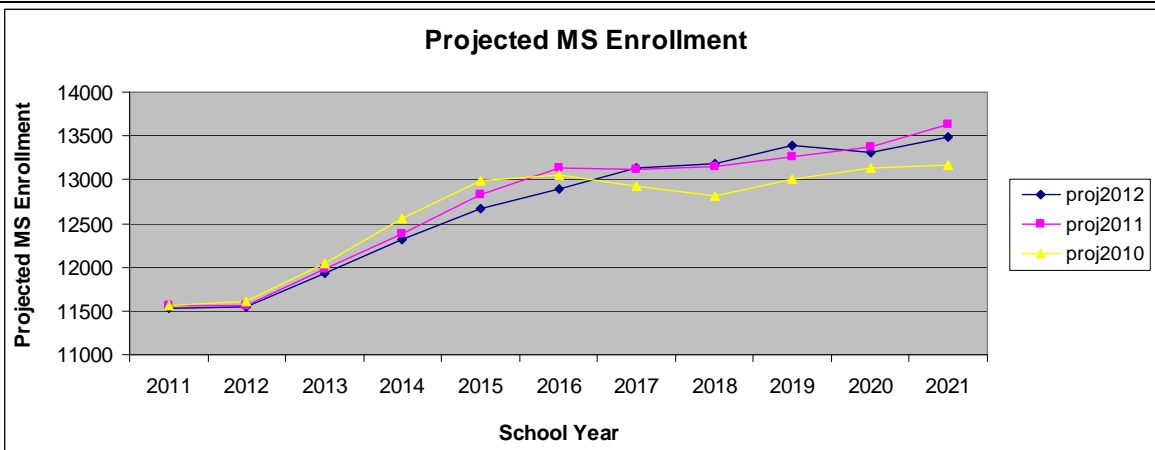
The 2012 projection for the middle level tracks fairly closely with the 2011 projection. The 2010 projection followed the same trend but was more abrupt in its changes. The trend in the 2012 projection is for middle enrollment to increase by 1,944 students by 2021. This is 872 students over the existing systemwide capacity of 12,617 and the capacity utilization of all middle schools combined will be over 112 percent. Over 80 percent of this projected growth is in the east, for which the 662 seat MS #20 is our primary response. For the remaining needs, redistricting should utilize western capacity as was done at the elementary level. Other capacity through additions during renovation should be studied.

The three projections for the high school level track fairly closely. After 2016 the 2012 projection trends lower than the 2011 projection. The trend in the 2012 projection is for high school enrollment to increase by 1,909 students by 2021. As a result of this enrollment growth, the capacity utilization of all high schools combined will begin to exceed 110 percent by 2023. Of this growth, 85 percent is in the Northeastern Region. Current system wide facilities can accommodate growth with some redistricting through this decade. Based on the long-term growth trends, land should be banked for future needs in the vicinity of the Northeastern Region.

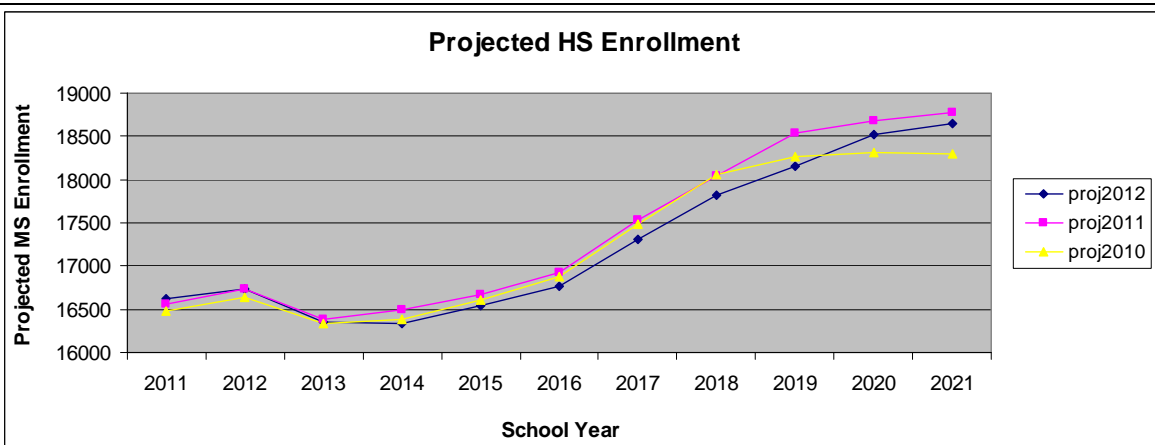
Figure 3. Comparison of Projections



The graphs on the left consider the elementary, middle, and high school projections for this year in comparison to the projections made for 2010 and 2011.



These overall depictions of the projection by level help to show general relationships in trends.



The 2012 projection tracks closely with the 2011 projection at all levels. Both 2011 and 2012 are significantly higher at the elementary level than 2010.

When developing the annual projection, School Planning staff reviews the differences between previous projections to determine if data inputs were correct or if any assumptions should be reconsidered. Projections are simply an organized way of making assumptions based upon available data. The explanation for differences between projections is a different set of data. Specific contributing factors to differences between projections include:

- 1. Changes in Development Horizon.** Each year Department of Planning and Zoning provides a housing projection for each school. New approvals or changes to phasing of existing projects can alter the timing and intensity of growth at specific schools.
- 2. Difficulty Projecting Kindergarten.** Kindergarten is typically the most difficult grade to project because the time between the data point (birth) and enrollment is five years as opposed to one for all other survival ratios. Another source of variation in the data set is changed eligibility time for kindergarten. The state requirement to provide full-day kindergarten also has impacted our data set as parents who used to pay for private full-day kindergarten switched to public school. These changes are mostly behind us and we now have a number of similar years to compare for developing projections. In theory these changes will have some impact on projections until the cohort which started kindergarten in 2004 graduates in 2017.
- 3. Changing Housing Yields.** For the past few years, staff has observed lower elementary pupil generation, particularly in the west, for single family detached housing units. Conversely, higher housing yields are being observed for multi-family units. This impacts the northeast and southeast where many such units are anticipated. Individual projections for each school help to capture local effects.
- 4. Changes in Cohort Survival Ratios.** With each new data set, the newest survival ratio is added to the five-year historical base. If it is different, as has been the case with enrollment that is not associated with move-ins, a new historical average results. The new average is then amplified throughout the model, meaning the projection, over time, can be sensitive to a relatively small change in the survival ratio. The more immediate impact to projected enrollment is the initial size of the cohort.
- 5. Changes at Feeder Schools.** If enrollment in an elementary school feeding a middle school increases or decreases, the effect can be magnified at the middle school, particularly if several feeder schools change in the same direction. The effect of the outgoing cohort may also have an impact.
- 6. Geographically Matched Data.** In the past, the Department of Planning and Zoning (DPZ) kept land use data manually using different basic geographic units from the planning polygons used by the Office of School Planning. This required some interpretation to transfer the data. Now DPZ provides their land use data using HCPSS planning polygons. With the implementation of the new student information management system, improvements to address data verification procedures have enhanced the quality of the data. In both circumstances, the increased precision has influenced the projection.

B. Capacities

Capital planning and Adequate Public Facilities Ordinance (APFO) regulatory review⁵ of development depend upon accurate capacity assessments and sound projections to derive capacity utilization projections. Capacities of schools dictate the calculation of capacity utilization percentage. This measure allows for a level comparison of the effect of projected enrollment. By Board of Education policy, a school with capacity utilization over 110 percent is referred to as *over-utilized* while a school below 90 percent capacity utilization is referred to as *under-utilized*.

Capacities have been actively studied since 2005. The systemwide facility assessment survey by Gilbert Architects has provided additional information relating to each level. Capacities for high schools were revised by the Board of Education in 2009. It is expected that minor adjustments will be made to existing elementary and middle school capacities on a case by case basis as classroom counts are validated using the facility assessment results and other internal validation methods. Redistricting planning at any level is more equitable with more accurate capacities assigned.

C. Regions

This study presents school information in six regions. The regions were originally designed to correspond to planning regions used by the county. As new facilities have been built, the school planning regions were not adjusted. The service areas of the six regions do not match up by level—elementary, middle and high. This disconnect, however, has not been a problem for developing projections and redistricting scenarios because modeling is done at the school and planning polygon level, with the results then summed for regions.

Howard County Department of Planning and Zoning has not needed HCPSS regions to align with their planning areas. The Adequate Public Facilities Ordinance Housing Unit Allocation charts allocate units based upon fixed planning areas. When new developments are proposed, the Adequate Public Facilities Ordinance School Test (elementary and middle) is based upon whether the assigned schools are open or closed. A region test is made at the elementary level only. The law closes a region to development if capacity utilization for the region exceeds 115 percent, even if the assigned elementary school does not exceed 115 percent. This condition is projected; however, by the time this condition occurs it is likely HCPSS will have taken steps to address the enrollment growth by building new capacity or redistricting.

The school regions remain important in making comparisons and discussion of the impact of real estate trends on student enrollment in different areas of the county. The regions serve a general purpose for identifying trends but staff can re-aggregate data in several logical grouping of schools to study specific matters. A recent example is evaluation of proposed development of Downtown Columbia.

⁵ Capacity is only relevant to APFO at the elementary and middle level. There is no high school capacity test.

D. Capital Planning and Sewer Service Area

Some of our facilities are outside of the sewer service area and require on-site treatment systems. For example, the Bushy Park Replacement Project required construction of a new shared septic system with Glenwood MS. This was due to the need to meet more stringent groundwater discharge permit requirements mandated by the Maryland Department of the Environment. HCPSS currently has different types of on-site waste water treatment systems in operation which include conventional septic systems and systems which manage or treat effluent prior to discharging into the fields. The most technically advanced and costly systems are membrane batch reactors (MBR) and sequencing batch reactors (SBR) which are essentially modular automated sewage treatment plants. Existing conventional septic facilities will eventually fail due to age or new standards will require costly improvements. The following facilities are operating with on-site wastewater treatment:

School (s)	System Type	Note
Glenelg HS	SBR	
Marriotts Ridge HS/Mount View MS	SBR	
Glenwood MS/Bushy Park ES	SBR	
Folly Quarter MS/Triadelphia Ridge ES	Septic with sand filtration	MBR under construction
Manor Woods ES	Septic with sand filtration	
West Friendship ES	Septic	
Dayton Oaks ES	SBR	

While the systems currently in place are well designed and maintained, there is no guarantee that future requirements for discharge will not be more stringent. For this reason, staff now considers new sites that would require on-site waste treatment to be a significant cost consideration. Future capital planning will seek projects that have access to public sewer, consistent with the Maryland Smart Growth Act, and local planning implementation which direct new residential growth into Priority Funding Areas within the sewer service area.

E. Land Bank

The HCPSS maintains a bank of sites⁶ for future school construction. For many years, most of the land bank consisted of school site reservations that came out of Columbia planning and development. Approximately 67 acres of land remain in reservation. Howard County has aided the school system in the past through exchanges of county land where needed. Earlier this year, site acquisitions occurred which allow ES #41 and MS #20 to be built to serve growth in the Route 1 Corridor. These acquisitions increased the land HCPSS owns by approximately 30 acres. HCPSS will continue to reach out to local and

⁶ The land bank is listed in the Capital Budget , in Appendix E on page 72.

state agencies as it searches for additional sites along the Route 1 Corridor and other areas of identified growth. To this end, the efforts of Howard County Government staff have been greatly appreciated. A full inventory of school sites is presented annually in the capital budget.

IV. Needs and Strategies

Prior to examining the redistricting plan it is necessary to review the implications of the new projection and identify needs and potential strategies.

A. Elementary School Section

When school capacity utilization is outside of the acceptable range (90–110 percent), staff presents plans in this document. At the countywide level, elementary capacity utilization is projected to remain between 90 percent and 110 percent for the next decade. While it is possible to balance all schools countywide, the surplus capacity and growing neighborhoods do not share the same geography. A surplus of capacity will remain in the Western Region due to lower than anticipated pupil generation rates and larger facilities. Some of this capacity was used to provide relief to the Southeastern Region in a redistricting approved in November 2011. The Northeastern, Northern, and Columbia East Regions have schools exceeding policy targets for capacity utilization. The Columbia West and Northeastern Regions are beginning to exceed 110 percent. Most of these needs will be addressed by redistricting proposed in this document to take effect in 2013 including the opening of ES #41. The growth in enrollment in these areas can be attributed first to new development and secondly to neighborhood turnover. Redistricting is recommended in the context of upcoming capacity projects with phases in 2013 and 2016. Future redistricting to open a second eastern elementary school will occur in 2019 or later.

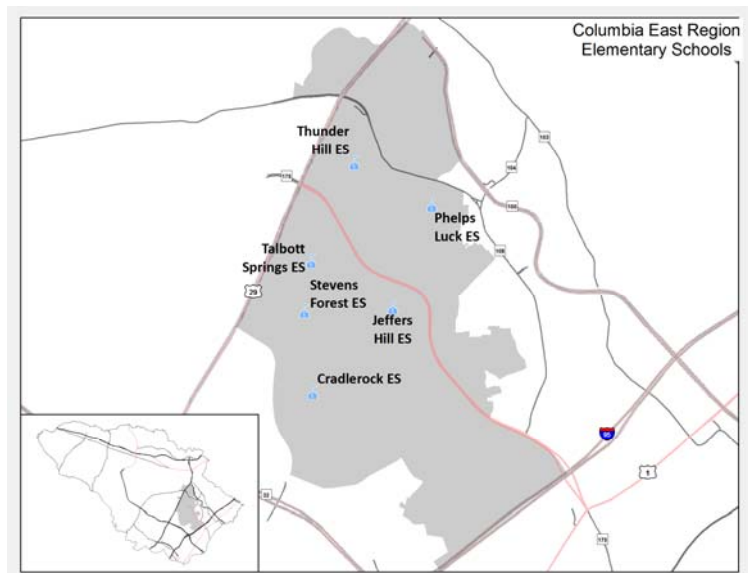
Columbia East Region

Need:

Capacity utilization is projected to be above 110% for Phelps Luck ES and Talbott Springs ES.

Strategy:

Classroom additions at Phelps Luck ES, Stevens Forest ES and Thunder Hill ES will be completed in 2013 and will be used to provide relief to both schools.



Phelps Luck ES and Talbott Springs ES are both significantly overcrowded. Talbott Springs ES currently hosts eight relocatable classrooms, with two more to be added in

August 2012. Phelps Luck ES is currently undergoing a major renovation which includes the addition of four classrooms; however, projections indicate that this additional space will be insufficient to accommodate the student population when completed in August 2013. When the additions at Stevens Forest ES and Thunder Hill ES are completed, both schools will have available space to relieve other schools in and around this region. Redistricting is recommended to take advantage of this capacity.

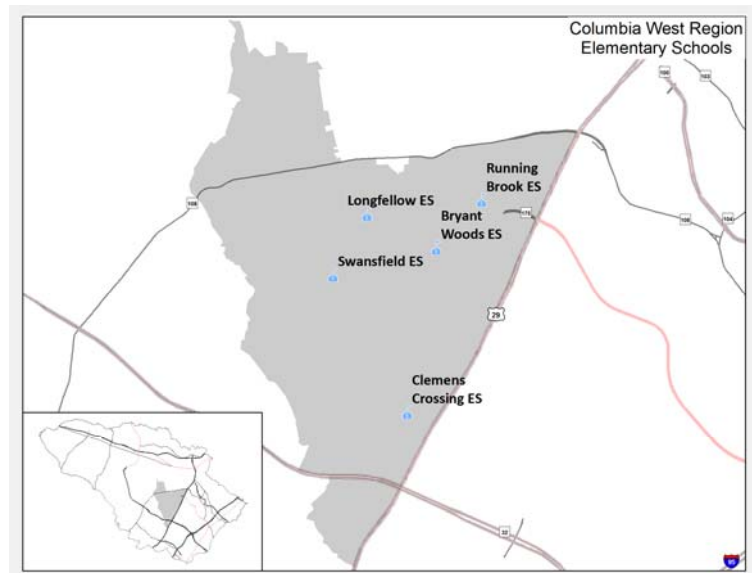
Columbia West Region

Need:

The Columbia Town Center development will impact this region, especially Running Brook ES. The region exceeds 110% by 2021 in this projection, ultimately requiring the need for an additional elementary school if pupil generation rates remain as forecast today.

Strategy:

Provide interim capacity with an addition at Running Brook ES.



The 2012 projection accounts for planned build-out of the Columbia Town Center project. A key capital project for managing interim growth is the Running Brook ES addition which is planned to open in August 2014. Even with this addition, Running Brook ES is expected to exceed 110 percent utilization by 2019. Previous feasibility studies considered the possibility of a plan to redistrict from Clemens Crossing ES to use capacity at Pointers Run ES. The resulting space at Clemens Crossing ES could then accept the southern portion of the Running Brook ES attending area where the Columbia Town Center growth is expected. Such a plan remains a possibility in the future.

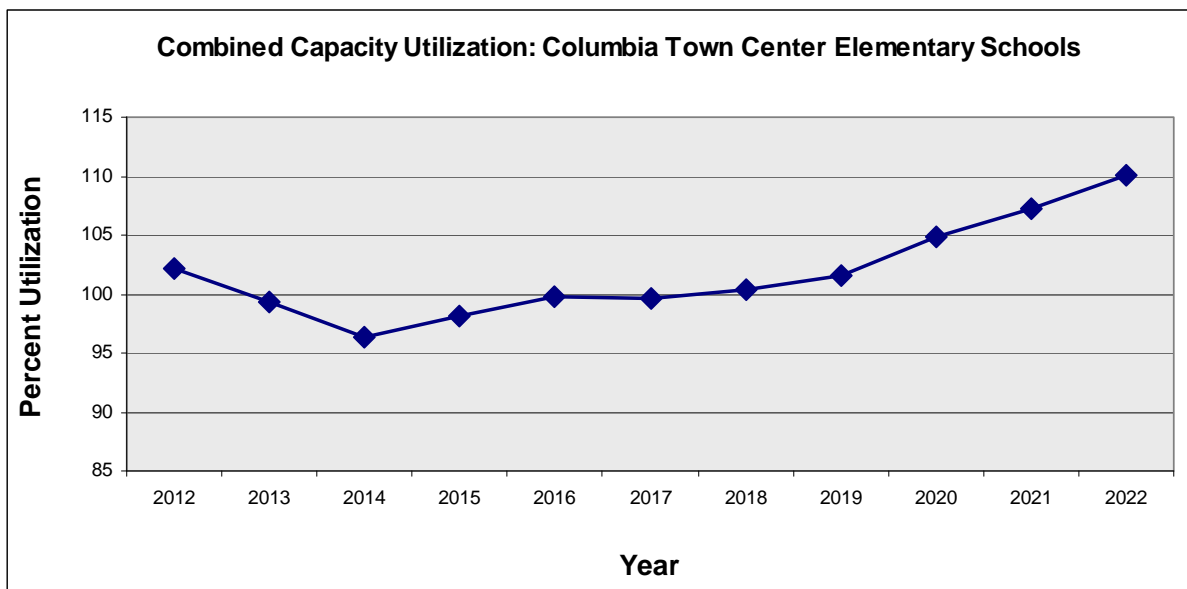
During the review of redistricting plans last year, the Board of Education heard from a group that had studied the Swansfield ES projection in 2011 and devised a redistricting plan which used Longfellow ES and Clarksville ES to relieve Swansfield ES. This plan also included changes from Wilde Lake MS to Clarksville MS and from Wilde Lake HS to River Hill HS. Since then, the September 30, 2011, official enrollment⁷ for Swansfield ES was lower than projected, and the 2012 projection for Swansfield ES incorporates this trend. Because of the lower projection, Swansfield ES is not recommended for redistricting this year.

While the Running Brook ES addition buys time in the Columbia West Region, some combination of new capacity and redistricting will be required to accommodate growth in the area. If pupil generation ratios appear lower than anticipated, plans can be adjusted.

⁷ 9/30/2011 enrollment at Swansfield ES was 537 with 101.7%, capacity utilization.

Figure 4 shows the combined utilization of the elementary schools surrounding Columbia Town Center. Utilization declines through 2014 showing the impact of new capacity at Stevens Forest ES and Running Brook ES. Redistricting proposed in 2013 as presented in this report balances capacity utilization of East Columbia schools. Redistricting in West Columbia is deferred. The effects of the Columbia Town Center Proposal can be absorbed with other anticipated development through the year 2021 when capacity utilization of this group of schools will exceed 110 percent. Capacity utilization for the group continues to grow until it appears to surpass 120 percent in 2027, which equates to 573 seats above 100 percent utilization. A redistricting strategy alone, which uses schools that are reasonably nearby, will not provide an adequate solution to accommodate the projected growth.

Figure 4. Columbia Town Center Elementary Schools



Faulkner Ridge Center, previously used as a staff development and training facility, was closed on July 1, 2011. Evaluation of using this site as swing school space during renovations of nearby schools is underway. Use of the site for a new school remains an option.

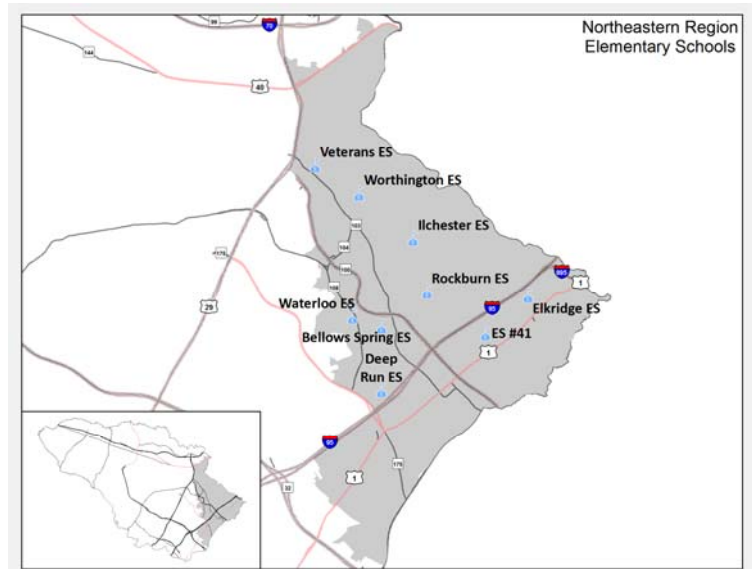
Northeastern Region

Need:

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

Strategy:

Redistrict to ES #41, which is under construction and will be ready to open in August 2013. This will primarily accommodate enrollment growth at Bellows Spring ES, Elkridge ES and Deep Run ES. Consider a second new school for 2019.



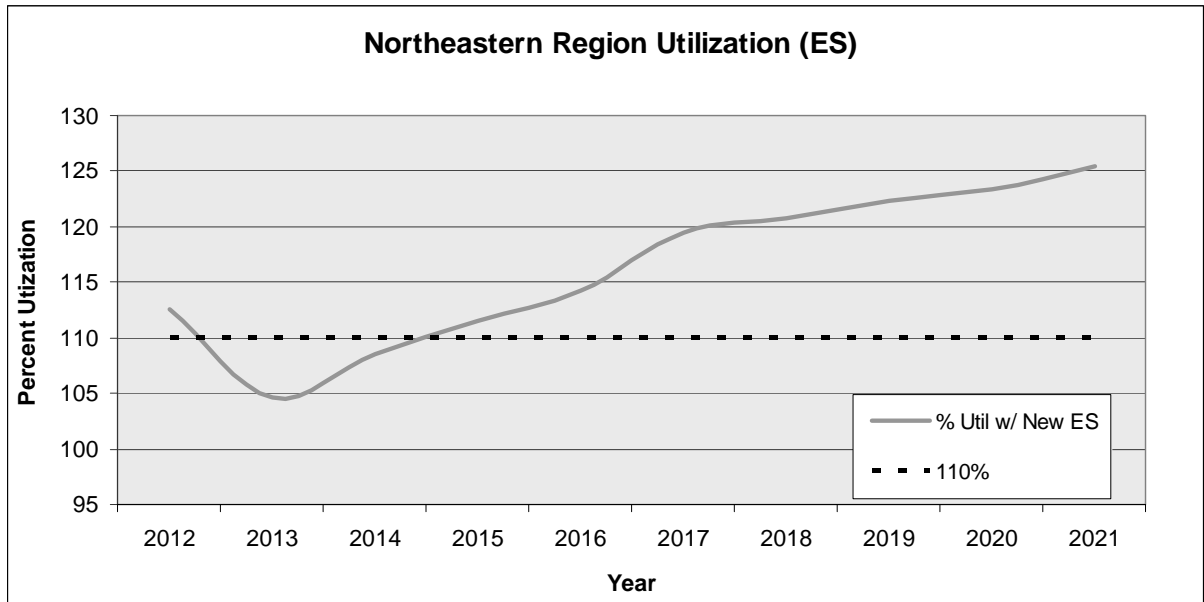
Bellows Spring ES exceeds 110 percent utilization at this time and will exceed 125 percent capacity utilization in 2013 with enrollment projected at nearly double its existing capacity in a decade. Deep Run ES and Elkridge ES and other schools adjacent to this area will also be severely impacted by new development in the Corridor Activity Center zoning along Route 1.

The redistricting plan summarized in Table 2 of this document is designed to open the new school in August 2013. The school attending area would be comprised of portions of Bellows Spring ES, Elkridge ES, and Rockburn ES attending areas. While Rockburn ES is not overcrowded, the ES #41 site is in the current Rockburn ES attending area. Redistricting to balance the removal of that neighborhood and to make the new capacity serve the entire region must include Rockburn ES. Other schools including but not limited to Deep Run ES and Waterloo ES will experience relief through comprehensive redistricting associated with the opening of this school.

Capacity utilization at Veterans ES is above 110 percent and clearly needs relief. For this reason redistricting in the northern part of the Veterans ES attending area is recommended to access capacity at Waverly ES through St. John's Lane ES. The original plan to open Veterans ES with the current attending area was based on projections made over five years ago. Subsequent projections have consistently indicated stronger growth trends at Veterans ES. For example, the net yield of students from apartment turnover in the Veterans ES attending area is now double what it was in 2007. It is now appropriate to reconsider boundaries given current and projected enrollment.

Figure 5 shows that capacity utilization in the region (includes ES #41) will exceed 110 percent in 2015 and growth continues through much of the projection confirming the need for a second school in this region as early as 2019.

Figure 5. Northeastern Region Elementary Utilization



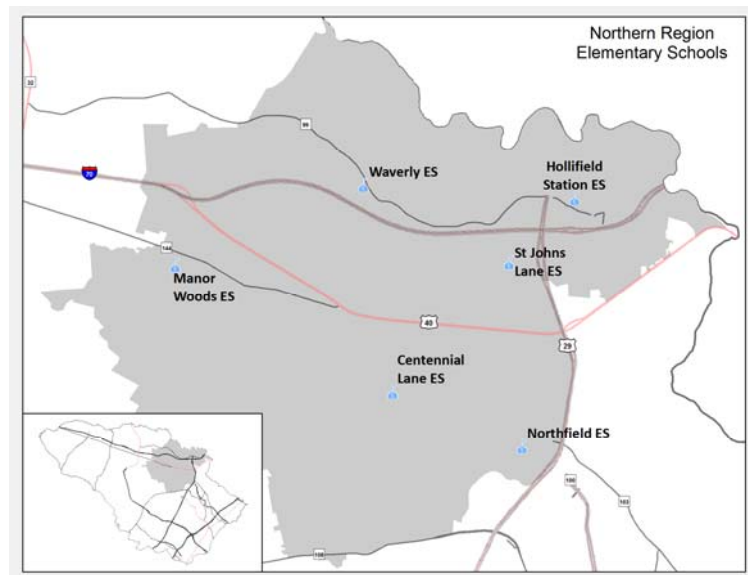
Northern Region

Need:

Manor Woods ES requires relief after 2015.

Strategy:

Consideration of redistricting or capital options in later years.



In the years beyond 2015, Manor Woods ES is projected to be above the 110 percent capacity utilization standard and trending above 200 percent. This condition has varied depending upon the timing of the Turf Valley development. A key feature of capital planning for this development is the Phase II addition at Waverly ES. Constructing this addition in 2015 and redistricting can help relieve overcrowding at Manor Woods ES. Growth at Veterans ES presents an additional challenge because a redistricting solution for Veterans ES is likely to increase Waverly ES enrollment. Even without this challenge, Waverly ES alone could not completely help Manor Woods ES in absorbing growth at Turf Valley. The proposed 2013 elementary redistricting scenario summarized in Table 2 on page 28 accesses capacity in the Western Region at West Friendship ES to help relieve

overcrowding at Veterans ES. Additional capacity at Bushy Park ES and Triadelphia Ridge ES is being reserved to help relieve Manor Woods ES in future redistricting plans, possibly as early as 2015. A new elementary school in Turf Valley that is sized to the current educational specifications is needed by 2020. This school could be a replacement for West Friendship ES. Much of the territory for existing schools will be bused no matter which school they are assigned, but a Turf Valley school could have an assigned walk area (HCPSS does not currently own a site within the Turf Valley development).

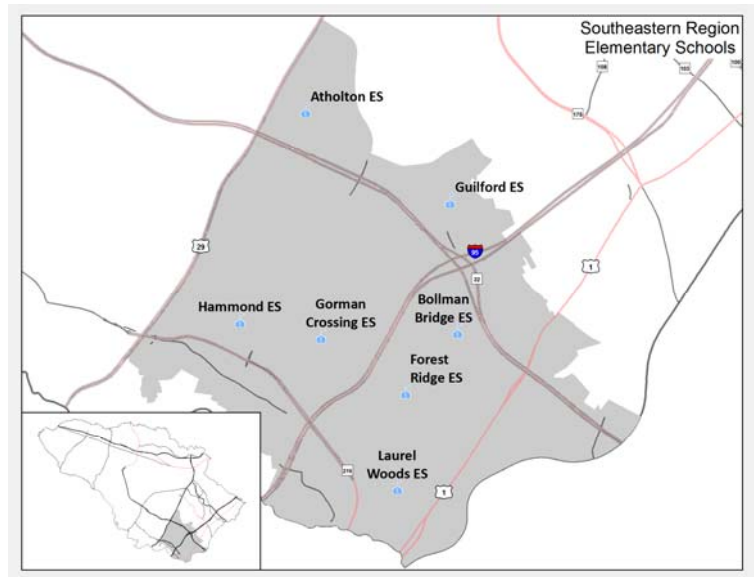
Southeastern Region

Need:

Future enrollment growth is projected. The approved 2012 redistricting plans acknowledged the need for additional capacity at Laurel Woods ES within the near term.

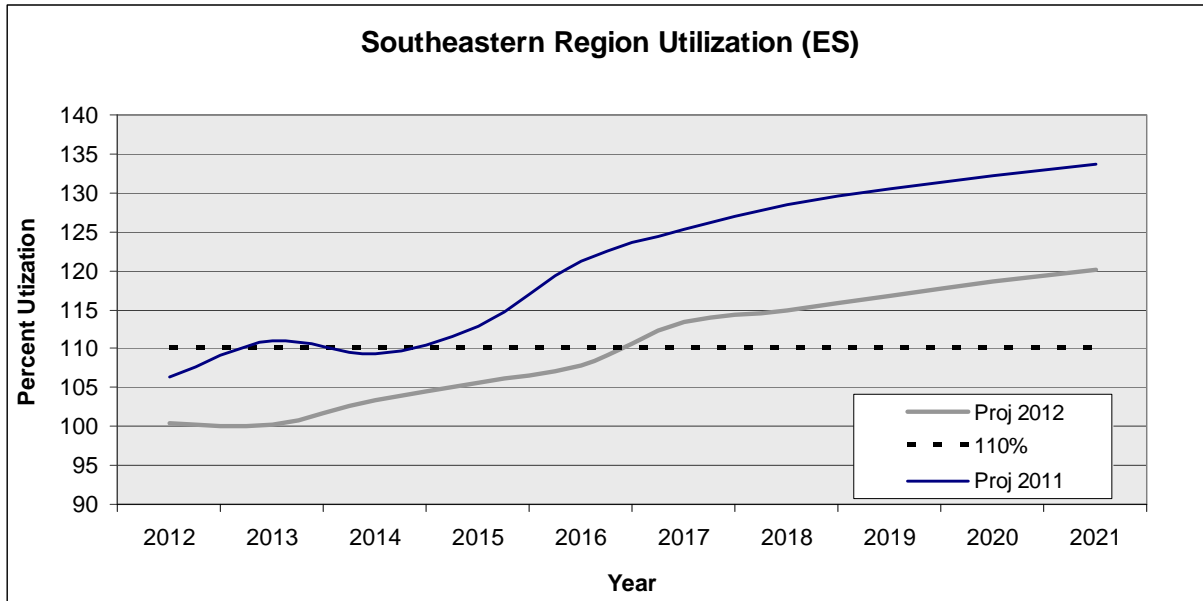
Strategy:

Redistricting approved in November 2011 will take effect this August and utilize available capacity in the Western Region. A large addition at Gorman Crossing ES is planned for August 2013. Seek sites and development opportunities for the long-term.



Elementary redistricting was approved in this region last November that will take effect in August 2012. The new projection indicates that this redistricting will serve the goal of balancing capacity in this region. Figure 6 (on the next page) indicates the effectiveness of the approved August 2012 redistricting plan. The 2012 projection reflects the post measures of the redistricting approved in November 2011. The 2011 projection was made before this redistricting was approved and reflects the higher enrollments of the current geography. All schools in the region are projected to open well below 110 percent utilization at the start of this coming school year. The region will not exceed 110 percent utilization until 2017. In evaluating the redistricting for Laurel Woods ES the Board determined that part of the growth should be addressed with an addition to the school. Growth continues in the region. Bollman Bridge ES will be at the leading edge of this regional growth and will dictate the need for the next elementary school currently planned for 2019.

Figure 6. Southeastern Region Elementary Utilization (Pre and post redistricting)



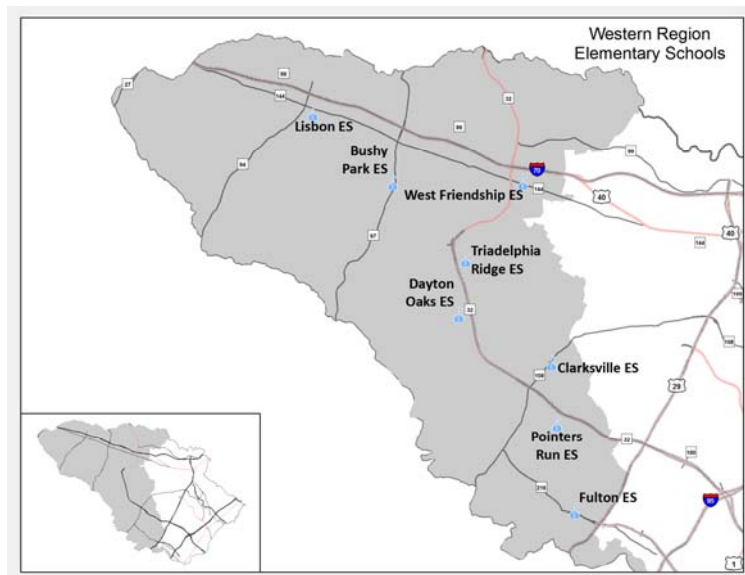
Western Region

Need:

More fully utilize capacity in the Western Region.

Strategy:

Redistricting from the Northern and Southeast Regions.



Elementary capacity in the Western Region exceeds need. Ten years ago, overcrowding in western elementary schools was significant. The September 30, 2000, enrollment report indicated that the region was at 120 percent capacity utilization. The construction of Dayton Oaks ES, the replacement of Bushy Park ES and lower enrollment trends for the region have lowered the overall capacity utilization, which is now approaching 70 percent for the region. The projections which preceded the construction of the new Bushy Park ES and Dayton Oaks ES anticipated larger pupil generation rates than the existing housing stock has produced. Redistricting plans outlined in the sections of this document which address the Northern Region anticipates using some of this capacity in other parts of the system as was done to balance the Southeastern Region. The plans presented in this document will be further evaluated as part of the Attendance Area Committee process to ensure proper balance and to avoid any return to the overcrowding of a decade ago.

West Friendship ES has consistently shown declining enrollment in recent projections. West Friendship ES operates with a septic system outside the sewer service area and could eventually be subject to more stringent requirements which may require expensive upgrades. In previous studies, an alternative approach to SBR or MBR upgrades examined the possibility of closing West Friendship ES and using existing capacity in the short term. Eventually a new school is likely in proximity to the Turf Valley development and within the sewer service area.

B. Middle School Section

At the countywide level, middle school capacity utilization reaches 110 percent in 2018. While it is possible to balance all schools countywide, the challenge has been that the capacity and enrollment growth do not share the same geography. The Columbia West Region exceeds 110 percent capacity utilization by 2014 and the Northern Region exceeds 110 percent by 2019. Columbia Town Center approval is taken into account in this projection. The Northeastern and Southeastern Regions combined exceed 110 percent capacity utilization in 2013. For this reason, MS #20 has been moved to 2014, a site has been selected at Oxford Square, and the project is in planning. The Western Region is within acceptable levels but there are specific schools exceeding policy targets. The Columbia East Region has surplus capacity.

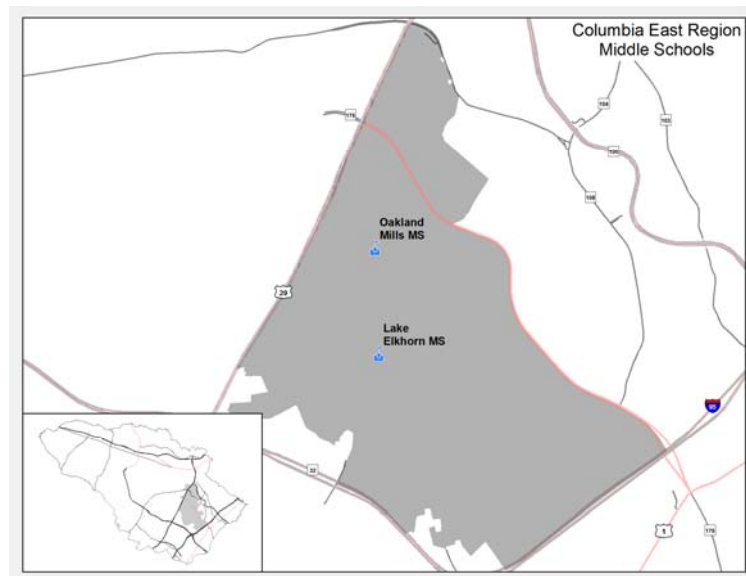
Columbia East Region

Need:

Some capacity exists in this region.

Strategy:

Monitor long-term needs.



Both Lake Elkhorn MS and Oakland Mills MS have available capacity for the foreseeable future. These schools are geographically positioned to provide some relief to schools in the Northeastern Region, but the enrollment of Northeastern Region schools including Bonnie Branch MS, Elkrige Landing MS, and Mayfield Woods MS continues to increase throughout the projection well above any available capacity in Columbia East.

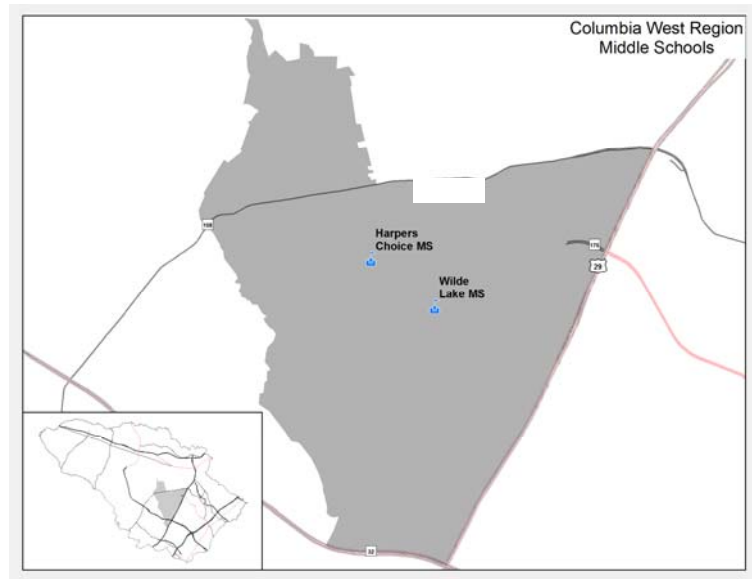
Columbia West Region

Need:

Enrollment does not exceed 110% of regional capacity until 2014.

Strategy:

Utilize redistricting to manage capacity needs until a new Western MS is required late in the projection.



The Columbia West Region begins to show capacity utilization above 110 percent in 2014 and the condition continues for the rest of the projection. Wilde Lake MS begins to need relief starting in 2013, and an addition is planned as part of the renovation of that school, which is scheduled to begin in 2015. It is possible that some relief can also be provided by redistricting to Clarksville MS, for which the projection indicates a declining enrollment trend.

Northeastern Region

Need:

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

Strategy:

Long-term growth trends in this region can only be accommodated by the opening of a MS #20, which is currently scheduled to be constructed and ready to open in August 2014.

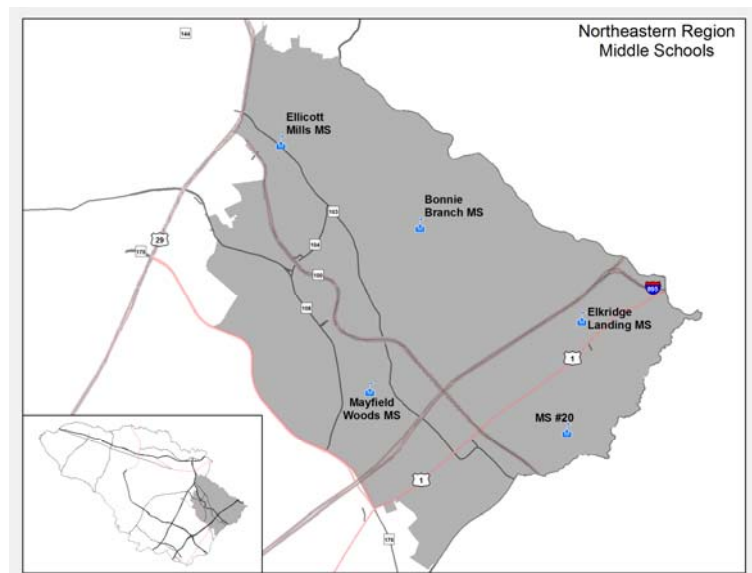
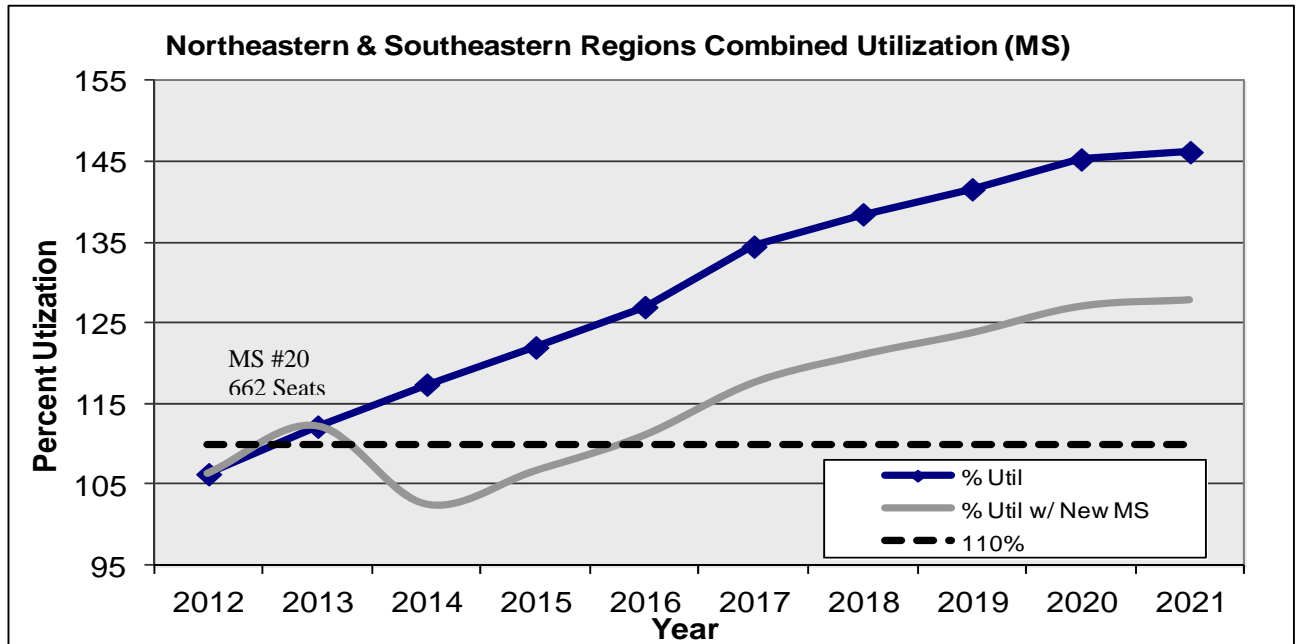


Figure 7 shows the need for a new middle school to serve the Northeastern and Southeastern Regions, which continue to climb above 110 percent utilization after the year 2016 (includes MS #20). The two regions are combined in this graphic because most of the need is focused in the Route 1 Corridor. It is likely that the school to be built at

Oxford Square can relieve both regions. The later years of the projection seem to indicate the need for more capacity within the long-range plan and should be monitored in future planning analysis. For now the projection certainly supports acquisition or development of additional school site options in the Route 1 Corridor through agreements with other agencies or developers.

Figure 7. Northeastern & Southeastern Regions Combined Utilization (MS)



While a site for MS #20 has been selected at Oxford Square, additional sites should be secured in the east for the land bank.

Ellicott Mills MS will exceed 110 percent capacity utilization in 2012. All of the other schools in the region exceed 110 percent utilization by 2013. While there is available capacity in the Columbia East Region, using it does not appear to be a viable permanent solution. Relocatable classrooms will be used as required until MS #20 opens.

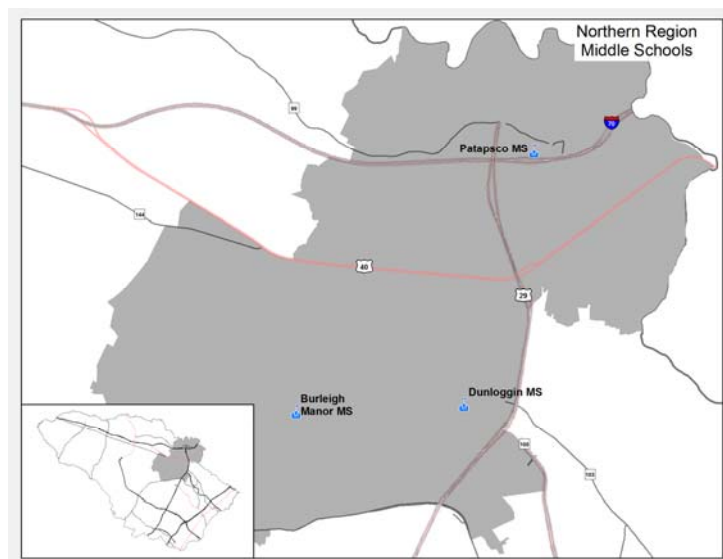
Northern Region

Need:

Enrollment does not exceed 110% of regional capacity until 2019.

Strategy:

Monitor long-term needs.



In the years beyond 2019, the Northern Region is projected to be above the 110 percent capacity utilization guideline, with between 200–300 seats needed in the region through 2020. When continued growth in the adjacent Northeast Region is factored in with the need in this region, the land bank site on Marriottsville Road will probably be needed to serve as a middle school in the future.

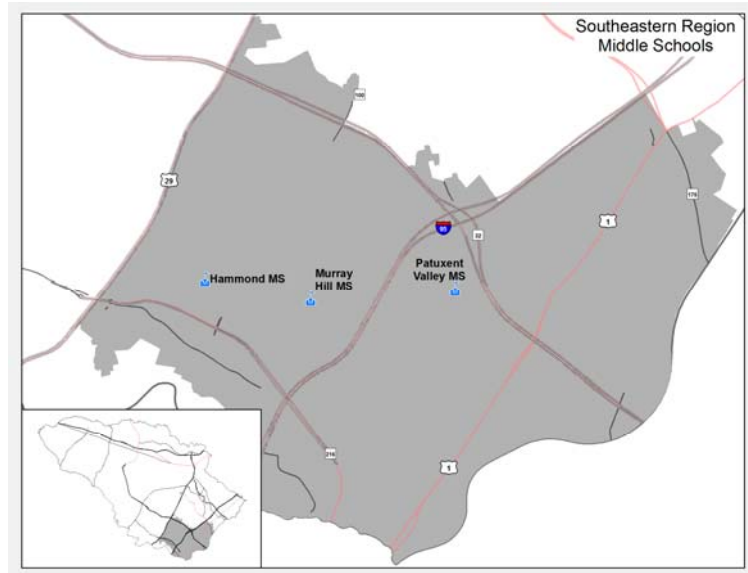
Southeastern Region

Need:

Significant enrollment growth is projected. Available capacity in this region, as well as adjacent regions, is not sufficient to absorb long-term projected enrollment growth.

Strategy:

Long-term growth trends in this region can only be accommodated by the opening of MS #20, which is currently scheduled to be constructed and ready to open in August 2014.



Murray Hill MS will exceed 110 percent utilization in 2012 and Patuxent Valley MS exceeds 110 percent capacity utilization in 2015. The region exceeds 110 percent utilization in 2018 and continues to rise for the foreseeable future. As in the Northeastern Region, new development on Route 1 is affecting these projections. As was discussed in the section for the Northeastern Region, the opening of MS #20 will serve both the Northeastern and Southeastern Regions, and will address most of the need expected in the region through the end of this decade. Projected needs beyond this time period will be monitored.

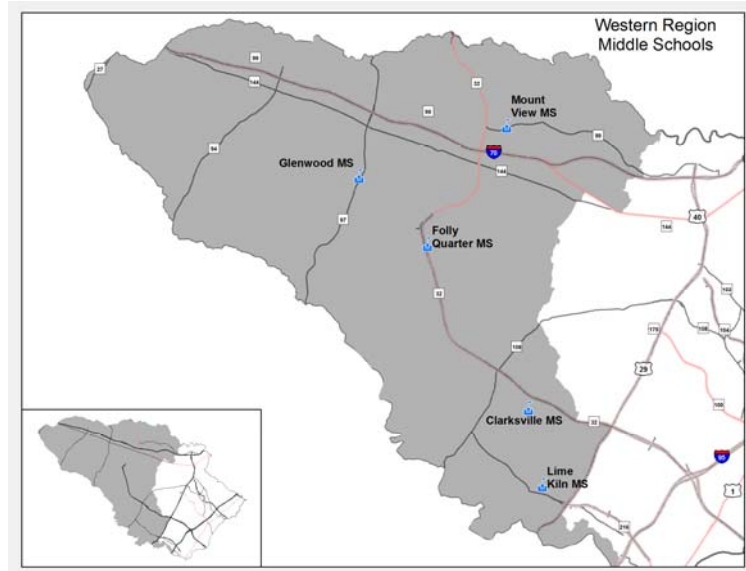
Western Region

Need:

Mount View MS exceeds 110% capacity utilization in 2016.

Strategy:

Monitor long-term needs.



Capacity utilization in the region remains within targets throughout the projection. Mount View MS is projected to exceed 110 percent capacity utilization in 2016 and will require relief. This was discussed at length with the 2009 Attendance Area Committee and a number of redistricting plans involving Folly Quarter MS were considered. Some argued that the growth at Mount View MS was not a strong enough trend to warrant action. Others argued that if change wasn't made soon it will be more difficult later. The planned middle school redistricting for 2014 does not include redistricting in this area. This document has evaluated a 2016 elementary redistricting that would provide relief to Manor Woods ES. A similar plan could be evaluated at the middle school level in a future study. The use of the Marriottsville Road site for a new Western MS will ultimately serve to relieve Mount View MS as well as the Northern and Columbia West Regions.

C. High School Section

Countywide high school capacity utilization meets policy targets until 2023. While the capacity exists to balance all schools countywide, the challenge has been that the capacity and enrollment growth do not share the same geography. The Northeastern Region, comprised of Howard HS and Long Reach HS, exceeds 110 percent capacity utilization by 2015. This is followed by Centennial HS and Wilde Lake HS, schools with adjoining attending areas, in 2016 and 2019, respectively. The Western Region includes Reservoir HS which exceeds 110 percent capacity utilization by 2018. Capacity does exist within the Western Region to relieve Reservoir HS. Mt Hebron HS in the Northern Region will not exceed 110 percent capacity utilization of its expanded capacity until 2024.

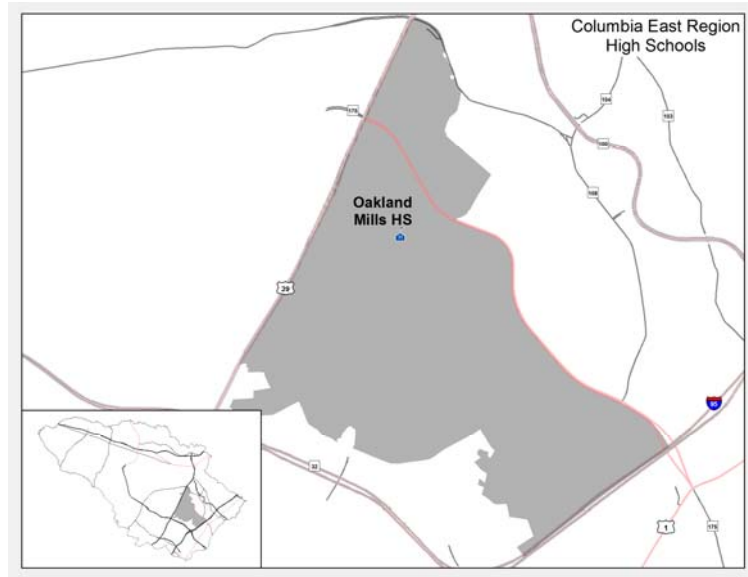
Columbia East Region

Need:

Some capacity exists in this region.

Strategy:

Consider using capacity to help absorb 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 to relieve the Northeastern Region, which includes Long Reach HS and Howard HS. Redistricting plans shown in this document for 2016 extend the Oakland Mills HS attendance area east to take on part of the Route 1 Corridor. The resulting attendance area would be more elongated but high schools are regional facilities, by nature. It should be noted that three more enrollment projections and feasibility studies come before a decision is likely on this redistricting. Long-term planning discussions are likely to be framed by future additions to the land bank.

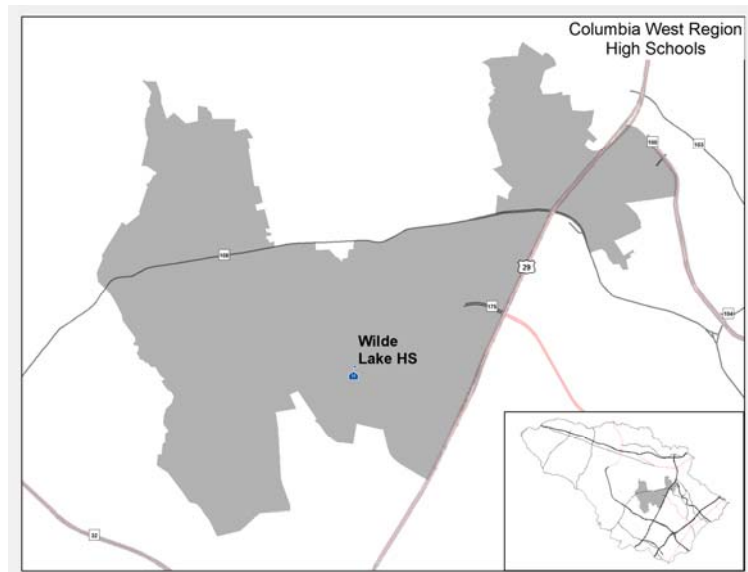
Columbia West Region

Need:

Capacity utilization is below 110% for Wilde Lake HS until 2019, the one school in this region.

Strategy:

Monitor Columbia Town Center Proposal. Only redistrict into this region if absolutely necessary.



The Columbia West Region high school is Wilde Lake HS. The projection for this school remains between 90–110 percent utilization until 2019. 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 proposal and adequate capacity exists to accommodate growth at Wilde Lake HS until 2019.

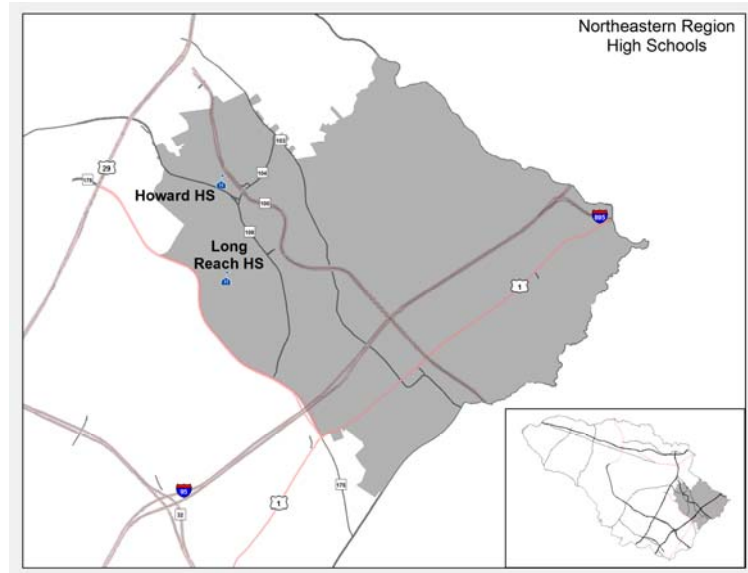
Northeastern Region

Need:

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

Strategy:

Consider movement of JROTC program from Howard HS in August 2013. Plan redistricting with Long Reach HS and Oakland Mills HS for 2016. Evaluate capital planning options of additions and banking a future school site.



Howard HS and Long Reach HS serve the Northeastern Region. Howard HS already is exceeding 110 percent utilization. In 2015 the region will exceed 110 percent capacity utilization and the trend is to steadily worsen through the projection, exceeding 120 percent by 2017.

Removing a regional program may be a reasonable interim strategy. Howard HS currently hosts a regional Junior Reserve Officer Training Corps (JROTC) program. Another JROTC program is nearby at Oakland Mills HS. Marriotts Ridge HS was designed to host a JROTC but does not have a program. If the program were moved from Howard HS to Marriotts Ridge HS, the three regional programs would be accessible to a wider geography and enrollment levels could be maintained at current levels through 2014. When the Howard JROTC program was last examined, more than half of the attendees were from the Howard attending area, this suggests that a program elsewhere might draw students out of Howard and provide some capacity relief.

Redistricting between Howard HS, Long Reach HS, and Oakland Mills HS can provide some improved capacity utilization. Oakland Mills HS represents the best interim option for capacity relief; however, it can only provide about 150 seats. Additional redistricting to balance the remaining needs requires difficult choices to use the available capacity at

Marriotts Ridge HS. It should be noted that three more enrollment projections and feasibility studies come before a decision is likely on this redistricting. Long-term planning discussions are likely to be framed by future additions to the land bank. In the long-term (after 2020), this projection indicates that approximately 800 seats are needed in the Northeastern Region. For this reason it is recommended that the land bank include a site large enough for a high school.

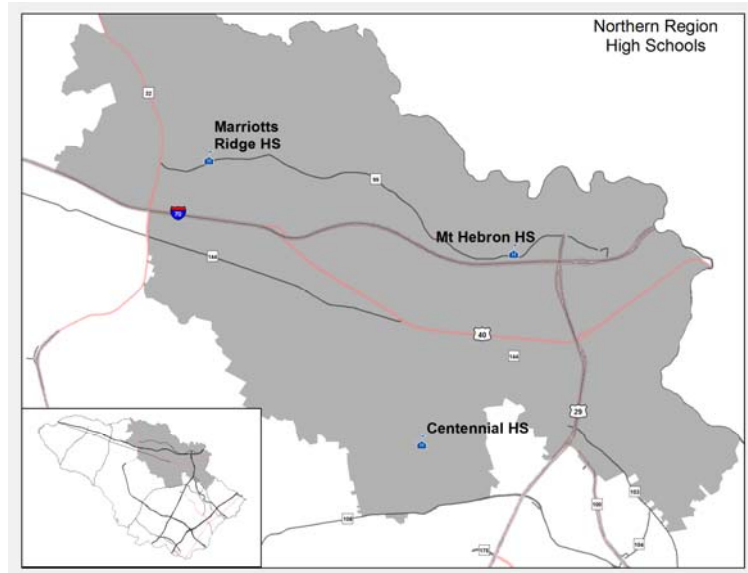
Northern Region

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 for most of the projection. Centennial HS will need to be monitored given the projected utilization above 110 percent after 2017. A recommendation to move the JROTC program from Howard HS to Marriotts Ridge HS has been suggested in this document.

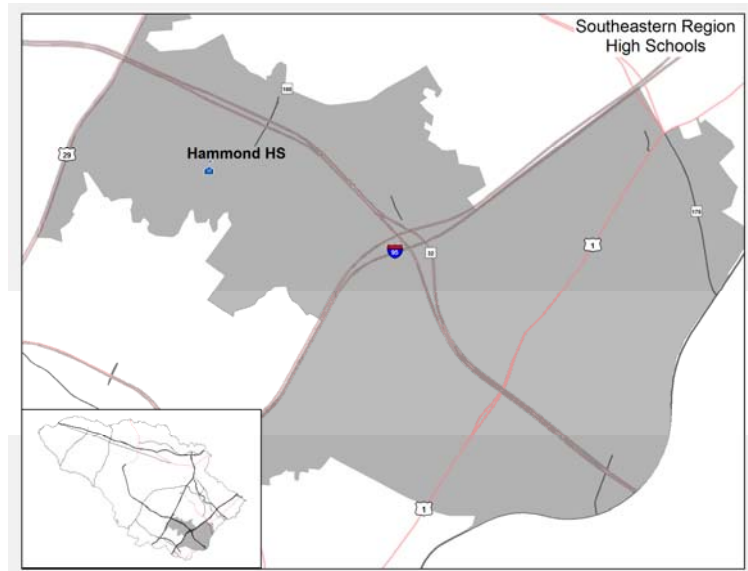
Southeastern Region

Need:

Capacity is adequate through 2021.

Strategy:

Monitor long-term needs.



The Southeastern Region exceeds 110 percent capacity utilization in 2021 and steadily increases later in the projection. For now the existing facility is matched to projected growth within most of the long-range planning period but future projections should be monitored.

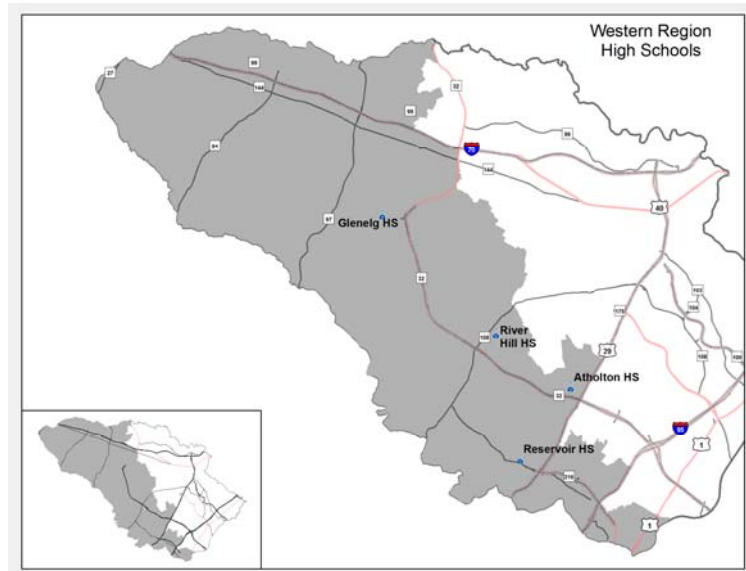
Western Region

Need:

Relief is needed at Reservoir HS after 2018.

Strategy:

Monitor long-term needs.



The Western Region does not exceed 110 percent capacity utilization, and no redistricting or major capital planning appears to be necessary for the next decade. Reservoir HS should be monitored because this projection indicates it will exceed 110 percent utilization by 2018.

V. Specific Recommendations for Phased Redistricting

This report breaks redistricting into phases for 2013, 2014, and 2016. This approach is designed to take advantage of timing for new capacity already underway and allow time to space out new capacity needs.

A. 2013 – New Elementary School Capacity – Comprehensive Elementary School Redistricting

The 2013 elementary redistricting plan is designed to create a new attending area for ES #41, which is being built in accordance with the recently approved elementary educational specification of 600 seats plus a pre-kindergarten program capacity of 80. This redistricting plan is also designed to relieve Talbott Springs ES by taking advantage of existing capacity in the Columbia East and Northeastern Regions, as well as relieving overcrowding at Veterans ES. The plan is modular in nature, allowing any of the three major components of the plan to be executed independently. The staff recommendation is that the complete plan outlined in Table 2 be implemented.

Table 2. 2013 Elementary School Redistricting			
Sending	Receiving	Polygons	# Students
Bellows Spring ES	New ES #41	33, 35, 1033, 1035, 2035, 4035	132
Bellows Spring ES	Rockburn ES	83, 84, 1083	123
Bellows Spring ES	Waterloo ES	76, 1076	166
Deep Run ES	Bellows Spring ES	80	95
Deep Run ES	Waterloo ES	78, 79, 1079, 1080	138
Elkridge ES	New ES #41	36,1036, 2043	171
Ilchester ES	Rockburn ES	95, 1085, 1095, 2085, 2095, 3085	186
Phelps Luck ES	Jeffers Hill ES	264	26
Phelps Luck ES	Thunder Hill ES	311	76
Rockburn ES	Elkridge ES	44, 92	27
Rockburn ES	Ilchester ES	91	42
Rockburn ES	New ES #41	37, 1037, 2037	156
St John's Lane ES	Waverly ES	160, 161, 162, 1160, 1161, 1162, 2161	239
Talbott Springs ES	Stevens Forest ES	96	160
Thunder Hill ES	Northfield ES	148, 276, 1148, 2148	132
Veterans ES	Hollifield Station ES	105, 1105, 1308	110
Veterans ES	St John's Lane ES	106, 191, 1106	230
Waterloo ES	Bellows Spring ES	1266	101
Waterloo ES	Ilchester ES	74, 2074	59
Waterloo ES	New ES #41	266	86
Waterloo ES	Thunder Hill ES	100, 1100	110
Waterloo ES	Worthington ES	98, 1098	103
Waverly ES	West Friendship ES	166, 4169, 6169, 7169	86
Worthington ES	Ilchester ES	1094, 2093, 3093, 4093	112
		Total	2,866

B. 2014 – New Middle School Capacity – Middle School Redistricting

This redistricting is designed to make a new attending area for MS #20. The school would provide relief to Mayfield Woods MS and Patuxent Valley MS. In turn these schools can provide relief to Elkridge Landing MS and Murray Hill MS. The enrollment data will be reviewed again in next year's projections before a final recommendation is made in 2013. The comprehensive redistricting plan balances capacity throughout the system and addresses changes made in 2012 and 2013 at the elementary level to remove many small feeds (a net reduction of ten small feeds with three others improved). In 2020, five years after this plan would take effect, eight schools would be over 110 percent, where eleven would have been over 110 percent with no changes.

Table 3. 2014 Middle School Redistricting			
Sending	Receiving	Polygons	# Students
Bonnie Branch MS	Elkridge Landing MS	83, 1083, 1091, 2091, 3091	84
Bonnie Branch MS	Lake Elkhorn MS	261, 264, 1261	27
Bonnie Branch MS	Mayfield Woods MS	76, 1076	75
Dunloggin MS	Ellicott Mills MS	111, 1111, 2111	22
Dunloggin MS	Patapsco MS	104, 105, 308, 1104, 1105, 1308, 2308	161
Elkridge Landing MS	New MS #20	36, 37, 1036, 1037, 2037, 2043	188
Ellicott Mills MS	Bonnie Branch MS	67, 1067, 1074	48
Ellicott Mills MS	Dunloggin MS	103, 217, 1102, 1103	100
Ellicott Mills MS	Oakland Mills MS	65, 1065, 2065	45
Glenwood MS	Folly Quarter MS	212, 213	48
Hammond MS	Lime Kiln MS	8, 221, 1008, 1221, 1227, 2221	126
Mayfield Woods MS	Lake Elkhorn MS	71, 1071, 2071, 3071	53
Mayfield Woods MS	New MS #20	33, 35, 82, 266, 1033, 1035, 1082, 1266, 2035, 2082, 3035, 4035	200
Mayfield Woods MS	Bonnie Branch MS	70, 1070, 2070	45
Mount View MS	Folly Quarter MS	170, 178, 179, 1170, 1178, 1179, 2170	99
Mount View MS	Glenwood MS	224, 229, 231, 232, 1229, 1231, 2229	60
Murray Hill MS	Patuxent Valley MS	1, 12, 46, 116, 260, 267, 272, 1001, 1046, 1116, 1260, 1272, 2046, 3046	255
Oakland Mills MS	Hammond MS	56, 1056, 2056, 3056	54
Patapsco MS	Mount View MS	160, 161, 162, 1160, 1161, 1162, 2161	128
Patuxent Valley MS	Lake Elkhorn MS	1048, 2048	10
Patuxent Valley MS	Hammond MS	17, 18, 1017, 1018	84
Patuxent Valley MS	New MS #20	26, 27, 30, 32, 48, 1026, 1027, 1030, 1032, 2030, 3048	177
Wilde Lake MS	Clarksville MS	61, 130, 1130	28
		Total	2,117

C. 2016 – Elementary School Redistricting

This redistricting is designed to relieve Manor Woods ES and position West Friendship ES to serve as a Turf Valley holding school. This redistricting is planned for 2016 because the addition to Waverly ES will not open until 2016 and an early opening is not a likely CIP change. The plan utilizes available Western Region capacity at Bushy Park ES and Triadelphia Ridge ES. Ultimately a new school built in accordance with the elementary educational specification of 600 seats is needed and is likely to be built in Turf Valley.

Table 4. 2016 Elementary School Redistricting			
Sending	Receiving	Polygons	# Students
Manor Woods ES	Triadelphia Ridge ES	178, 179, 1178, 1179	74
Manor Woods ES	Waverly ES	164, 167, 1164	141
Manor Woods ES	West Friendship ES	304, 305, 1304, 1305	117
West Friendship ES	Bushy Park ES	224, 229, 231, 232, 1229, 1231, 2229	74
		Total	406

D. 2016 – High School Redistricting

Redistricting between Howard HS, Long Reach HS, and Oakland Mills HS is recommended as an interim measure for capacity relief. Other more comprehensive redistricting plans may be considered. It should be noted that three more enrollment projections and feasibility studies come before a decision is likely on this redistricting. Long-term planning discussions are likely to be framed by future additions to the land bank.

Table 5. 2016 High School Redistricting			
Sending	Receiving	Polygons	# Students
Hammond HS	Atholton HS	273	1
Howard HS	Long Reach HS	38, 39, 42, 124, 277, 300, 1038, 1124, 1300, 2038	270
Howard HS	Oakland Mills HS	261, 1261	23
Long Reach HS	Oakland Mills HS	33, 35, 266, 1033, 1035, 1266, 2035, 3035, 4035	175
		Total	469

VI. Evaluation

A. Scoring Methodology

This section evaluates the recommendation for 2013 redistricting. The supplement for this document includes an evaluation from the perspectives of the individual changes after the middle school redistricting is completed in 2014, and after the elementary and high school redistricting is completed in 2016. The evaluation of the plan is based upon the considerations listed in Policy 6010 School Attendance Areas. This policy is published on the HCPSS website.⁸ Scorecards comparing the plan at each level (elementary, middle, and high) help show how the plan fares in light of the criteria for consideration set by Policy 6010 and are included in the Supplement to the 2012 Feasibility Study. These include explanations and other tabulations of the effects of the 2012 proposal and the aggregate plan. Should additional plans be proposed, they can be evaluated in the same manner.

Plans are also evaluated under two capacity utilization measures. The first is the 115 percent capacity utilization standard for the Adequate Public Facilities Ordinance (APFO) school test. The second is the 90 percent to 110 percent capacity utilization target in Policy 6010 School Attendance Areas. Impacts of the suggested strategy in this feasibility study are illustrated in a pre- and post-measures approach which is attached to this document.

B. 2013 – Elementary School Redistricting

The proposed plan results in the students receiving Free and Reduced-Price Meals Services (FARMS) and the Maryland School Assessments (MSA) score distribution staying about the same among all schools at the elementary level. A strength of the plan is that the number of schools projected to have improved utilization in 2013 is increased. The plan indicates target utilization would be a weakness in 2023 however this plan is proposed anticipating a number of future capital projects, of which ES #42 in the east is most important. In the 2012–2023 time period, the average number of years that schools are below 90 percent utilization is reduced. Also for this period, the average number of years that schools are over 110 percent is reduced. These are indicators of better systemwide capacity use.

Given the scope of redistricting that is proposed by this plan, the average proximity to schools is slightly lower. This plan would most likely have similar costs to the present transportation cost based upon a preliminary evaluation by Pupil Transportation staff. A number of factors including bell times, multi-level bus assignments, and fuel costs will factor into the actual cost and are difficult to determine at this time.

The plan results in movement of approximately 12.4 percent of elementary enrollment. This plan proposes to move 2,866 students. By way of comparison, the comprehensive elementary redistricting last year moved a projected 1,157 students. A recent local benchmark to consider for redistricting a single level can also be found in the Harford County Public School System. Harford County Public School System approved

⁸ <http://www.hcpss.org/board/policies/6010.pdf>

elementary redistricting for the 2011–2012 school year. Approximately 1,900 elementary students, representing 11 percent of the Harford County Public School System elementary population, transferred to new schools.

The plan eliminates one of five existing islands (non-contiguous attending areas) at the elementary level. The reason to avoid islands is that contiguous attendance areas improve the sense of community and may expand walking areas. Some islands have not been eliminated because it appeared to be a less disruptive scenario that still balanced capacity.

Plans should avoid moving students more than once within five years at the elementary level. The summary of all plans discussed in this document is included in the supplement and also indicates no movement twice at the same level. This plan does not propose to move any students more than once at the elementary level in a five-year period. The last redistricting in this area occurred in 2007 to open Veterans ES and involved the movement of approximately 1,185 students. The youngest students that were impacted by this plan are already in middle school. Even the incoming kindergarteners in 2007, who were not technically impacted by the redistricting, will have risen to sixth grade when the proposed plan takes effect.

In past years when redistricting was discussed, concerns were articulated to the Board that students who were impacted by the elementary redistricting would also be impacted by the middle school redistricting. For this reason and capacity concerns, the Board directed staff to shift the MS #20 schedule from opening in 2015 to 2014. Now, because the openings of the schools are in consecutive years, a rising fifth grader directly impacted by elementary redistricting will simply rise into the new middle school assignment and complete three years at the same middle school.

The plan increases small feeds from elementary to middle school which is a weakness. However, the net result of this plan and the proposed 2014 middle school redistricting plan would be a reduction in the total number of small feeds. One “double small feed” (geography where the feed is below 15 percent at both levels) is eliminated by this plan. The use of available capacity at existing schools reduces the average number of years schools have a capacity utilization below 90 percent, and the opening of ES #41 helps to reduce the average number of years schools have over 110 percent capacity utilization from 2013–2024.

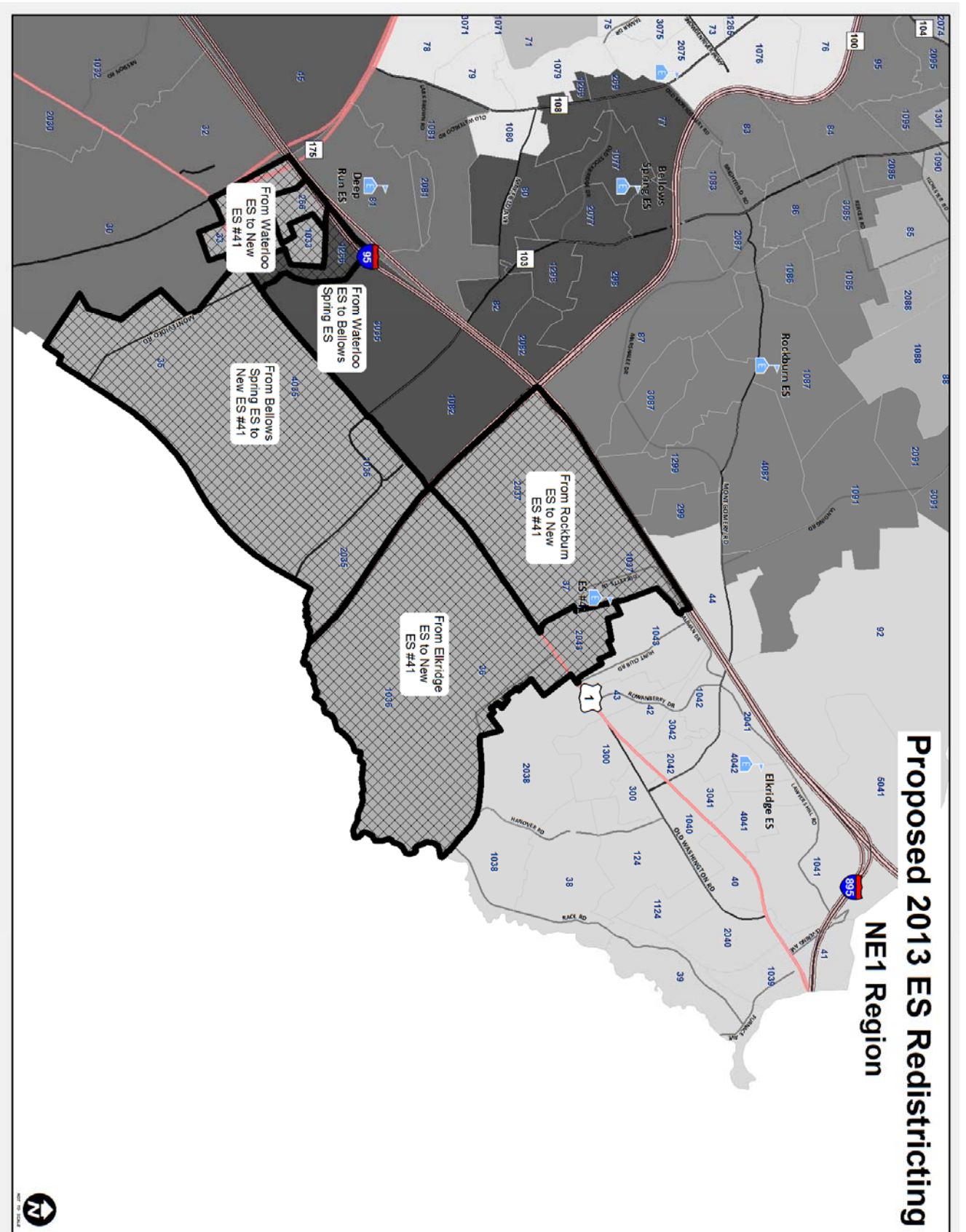
The most significant strengths of this plan are the opening of ES #41 as a walk-able neighborhood school, an improved balance of elementary capacity utilization over the next decade, and an eventual reduction in small feeds.

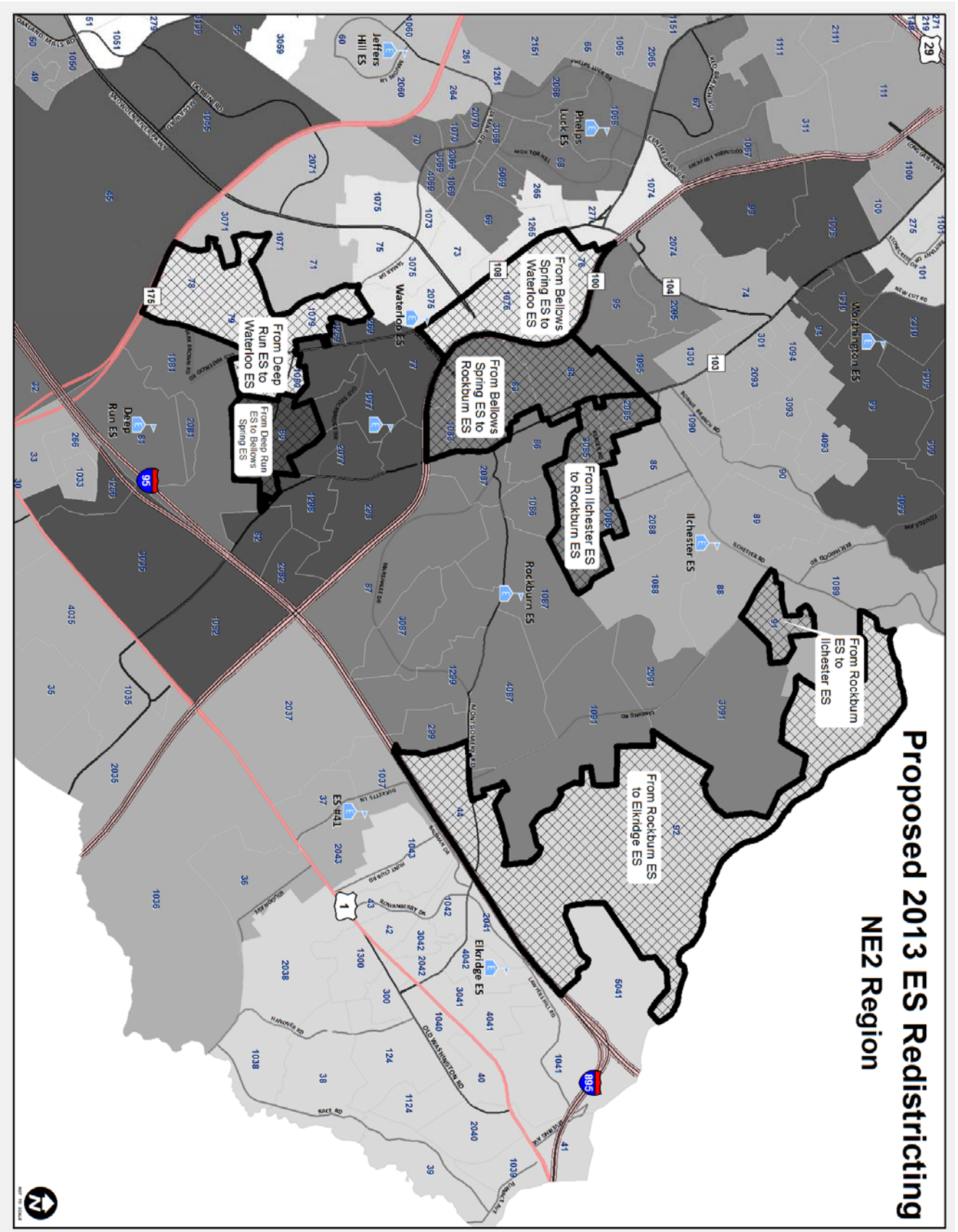
Table 6. 2013 Plan Assessment

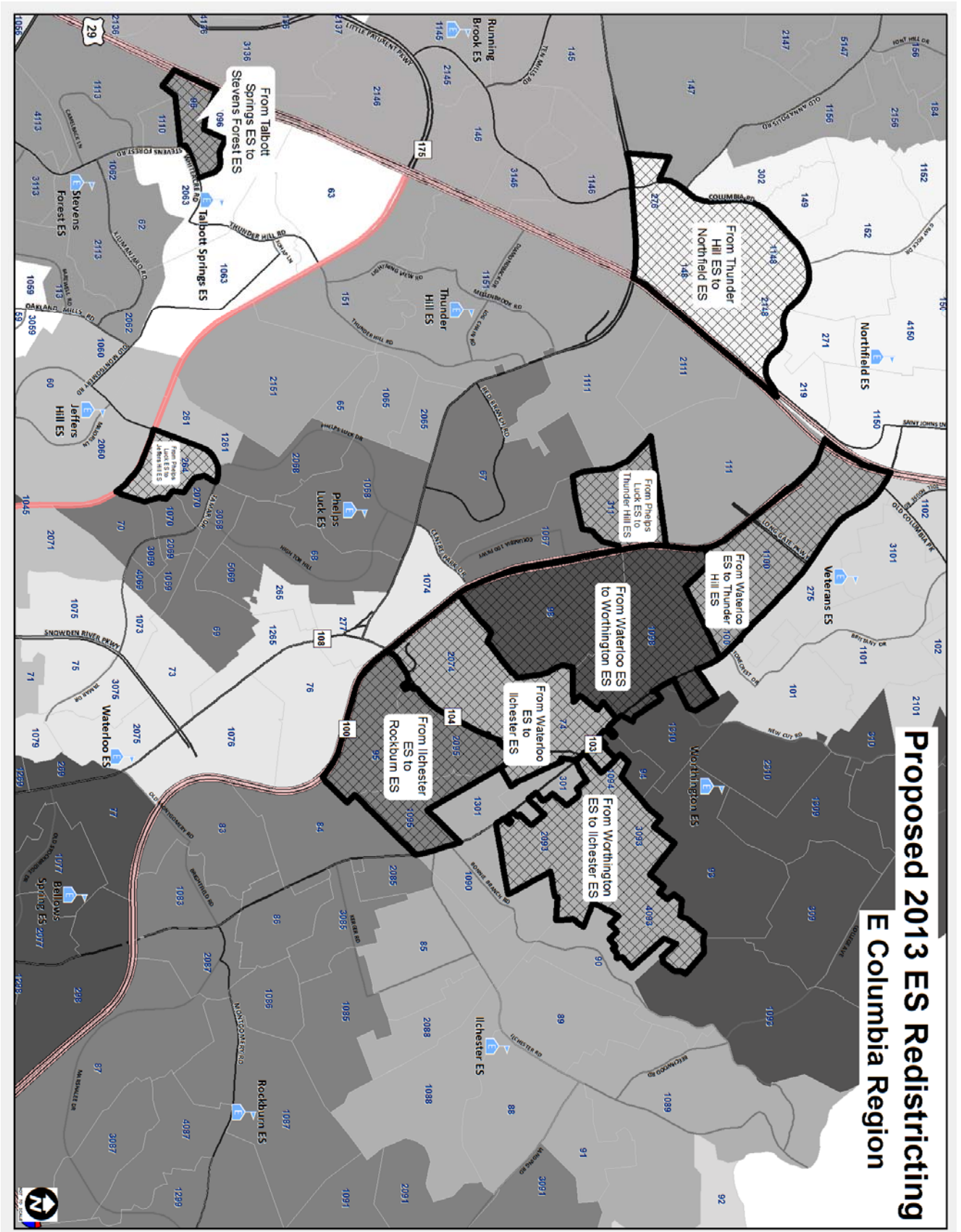
Elementary School Summary		Current	Aggregate Plan	Assessment Criteria
Balance FARMS %	(ES Average = 19%)	19.4%	20.0%	Standard Deviation reduced by 25% or more = Strength; increased by 25% or more = Weakness; otherwise Negligible
	StdDev	16.24	16.67	
			NEGLIGIBLE	
Balance MSA Reading Pass Rate	(ES Average = 93%)	93.0%	92.9%	Standard Deviation reduced by 25% or more = Strength; increased by 25% or more = Weakness; otherwise Negligible
	StdDev	4.83	4.82	
			NEGLIGIBLE	
Balance MSA Math Pass Rate	(ES Average = 94%)	94.0%	93.9%	Standard Deviation reduced by 25% or more = Strength; increased by 25% or more = Weakness; otherwise Negligible
	StdDev	4.56	4.63	
			NEGLIGIBLE	
Consecutive Years Under 110%	# of Schools Strengthened	NA	8	Mean increased by 1.0 or more = Strength; reduced by 1.0 or more = Weakness; otherwise Negligible
	# of Schools Weakened	NA	4	
	Mean	7.4	8.1	
			NEGLIGIBLE	
Target Utilization Changed Schools 2013	# of Schools Strengthened	NA	18	Changes result in schools 90-110% = Strength; Changes result in schools outside of 90-110% = Weakness; otherwise Negligible
	# of Schools Weakened	NA	1	
			STRENGTH	
Target Utilization Changed Schools 2023	# of Schools Strengthened	NA	8	Changes result in schools 90-110% = Strength; Changes result in schools outside of 90-110% = Weakness; otherwise Negligible
	# of Schools Weakened	NA	11	
			WEAKNESS	
Proximity to School	# of Schools Strengthened	NA	10	Mean reduced by 100 or more = Strength; increased by 100 or more = Weakness; otherwise Negligible
	# of Schools Weakened	NA	9	
	Mean	5722	5646	
	(smaller # = closer set of polygons)		NEGLIGIBLE	
Non-Contiguous Attendance Areas	Number of "Islands"	4	3	"After" count lower than "Before" = Strength; "After" higher = Weakness; otherwise Negligible
			STRENGTH	
Transportation Costs	(ES Avg Rating = 0.00) (pos=savings; neg=cost)	NA	0.02	Mean increased = Strength; mean reduced = Weakness; otherwise Negligible
			STRENGTH	
Students Moved	Number	NA	2866	% of enrollment greater than 10% = High Movement, 5% to 10% = Moderate Movement, less than 5% = Low Movement
	% of Enrollment	NA	12.4%	
			HIGH MOVEMENT	
Students moved too soon after last move	Number	NA	0	% of enrollment greater than 3% = High Movement, greater than 0% to 3% = Moderate Movement, 0% = No Movement
	% of Enrollment	NA	0.0%	
			NO MOVEMENT	
Small ES-to-MS Feeds (under 15%)	# of Small Feeds	18	21	"After" count lower than "Before" = Strength; "After" higher = Weakness; otherwise Negligible
			WEAKNESS	
Double Small Feeds	# of Double Small Feeds	3	2	"After" count lower than "Before" = Strength; "After" higher = Weakness; otherwise Negligible
			STRENGTH	
Low Utilization (Under 90%) 2012-2023	Per-school Average Years	3.9	2.6	Mean reduced by 0.1 or more = Strength; increased by 0.1 or more = Weakness; otherwise Negligible
			STRENGTH	
High Utilization (Over 110%) 2012-2023	Per-school Average Years	4.5	3.9	Mean reduced by 0.1 or more = Strength; increased by 0.1 or more = Weakness; otherwise Negligible
			STRENGTH	
Strength	Moderate	Weakness		

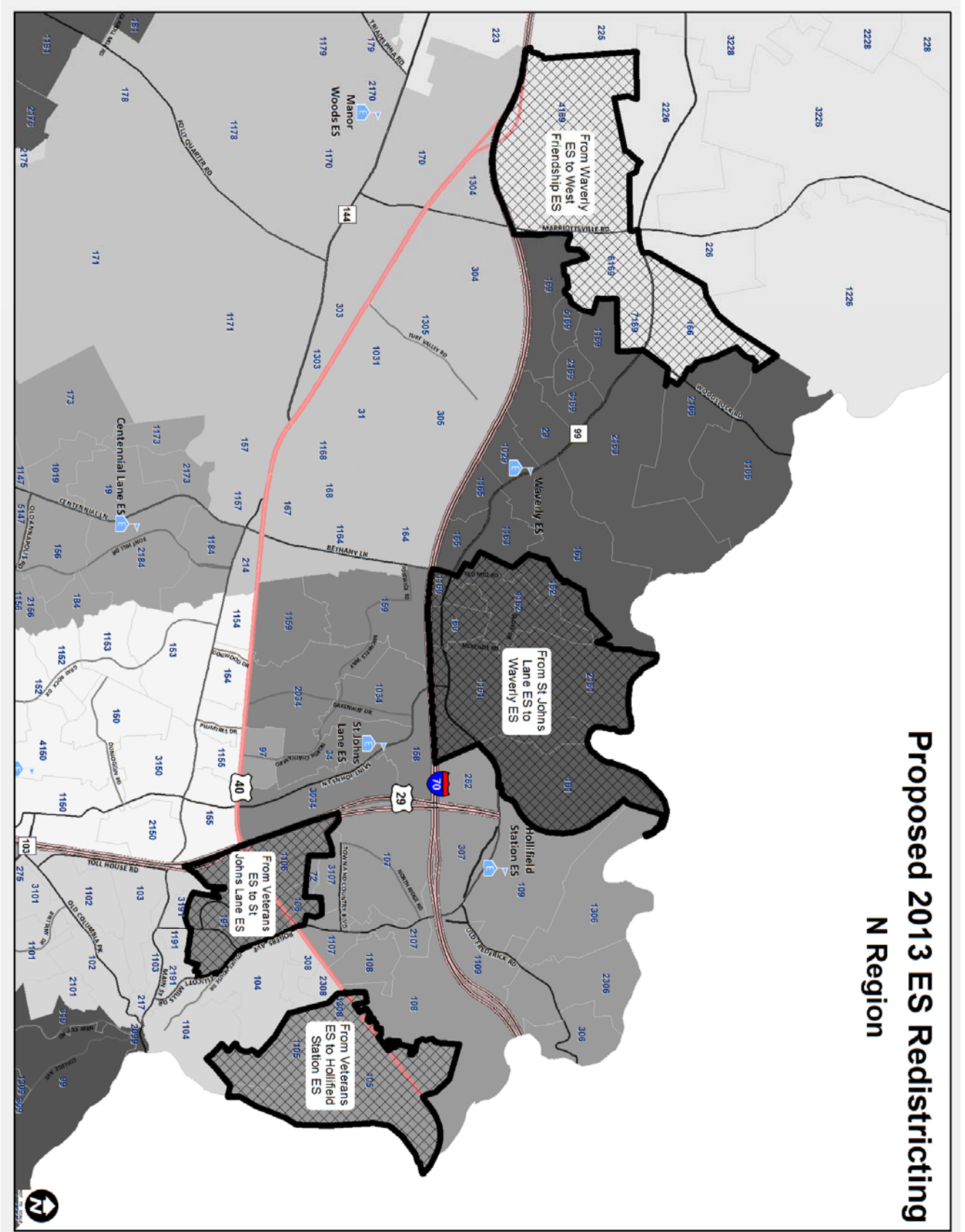
VII. Maps

On the following pages the staff-proposed plans are mapped. It should be noted that none of these maps represent approved plans. Should any redistricting be approved by the Board of Education in November 2012, it would take effect in August 2013 with any applicable phasing. Plans for future years, such as those recommended in this document, would also require Board of Education approval in the fall of the year before they are to take effect. By that time conditions may change and a different plan may be the better option. Long-term plans are presented in an effort to have a transparent planning process and to provide context for the capital budgeting process.

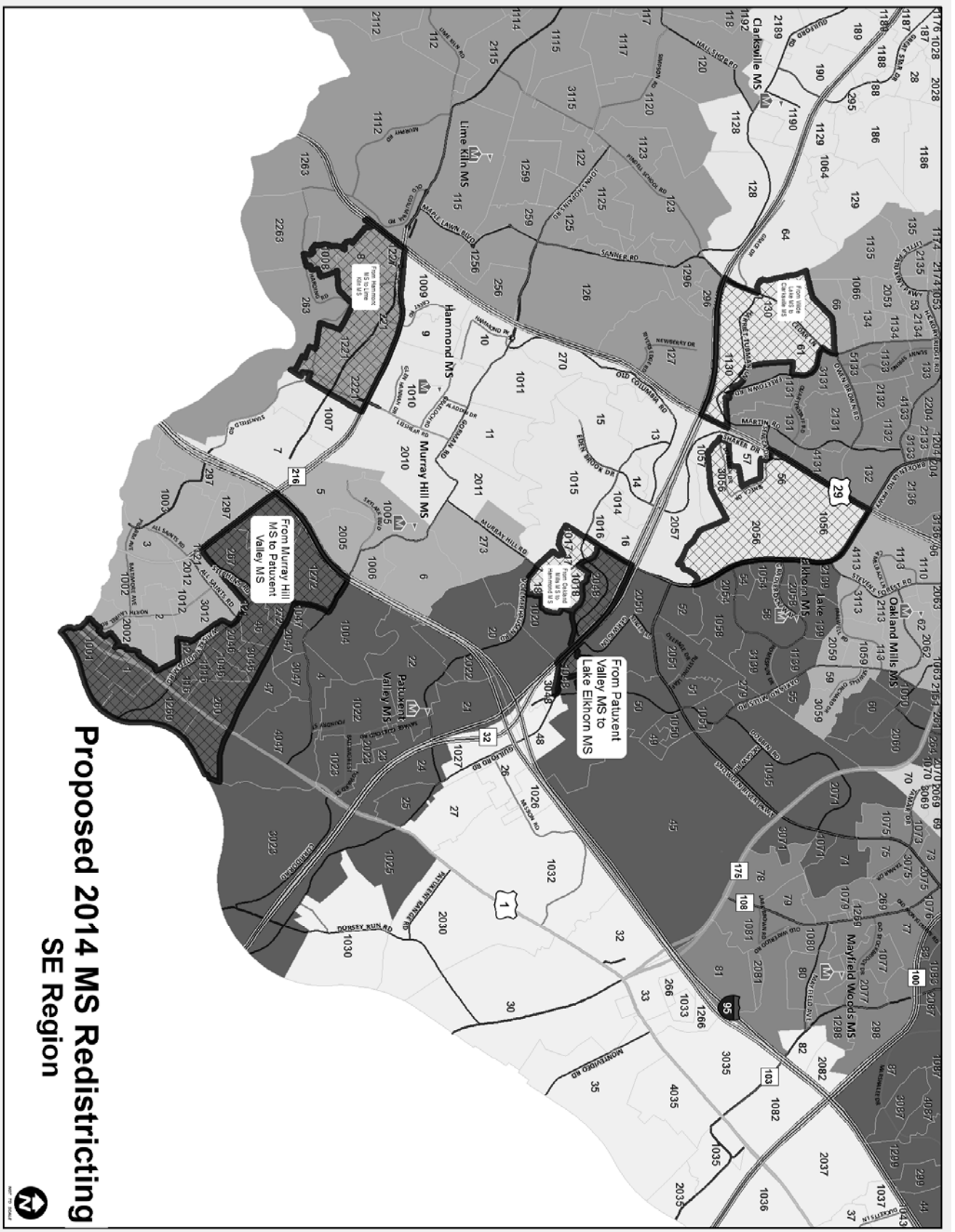


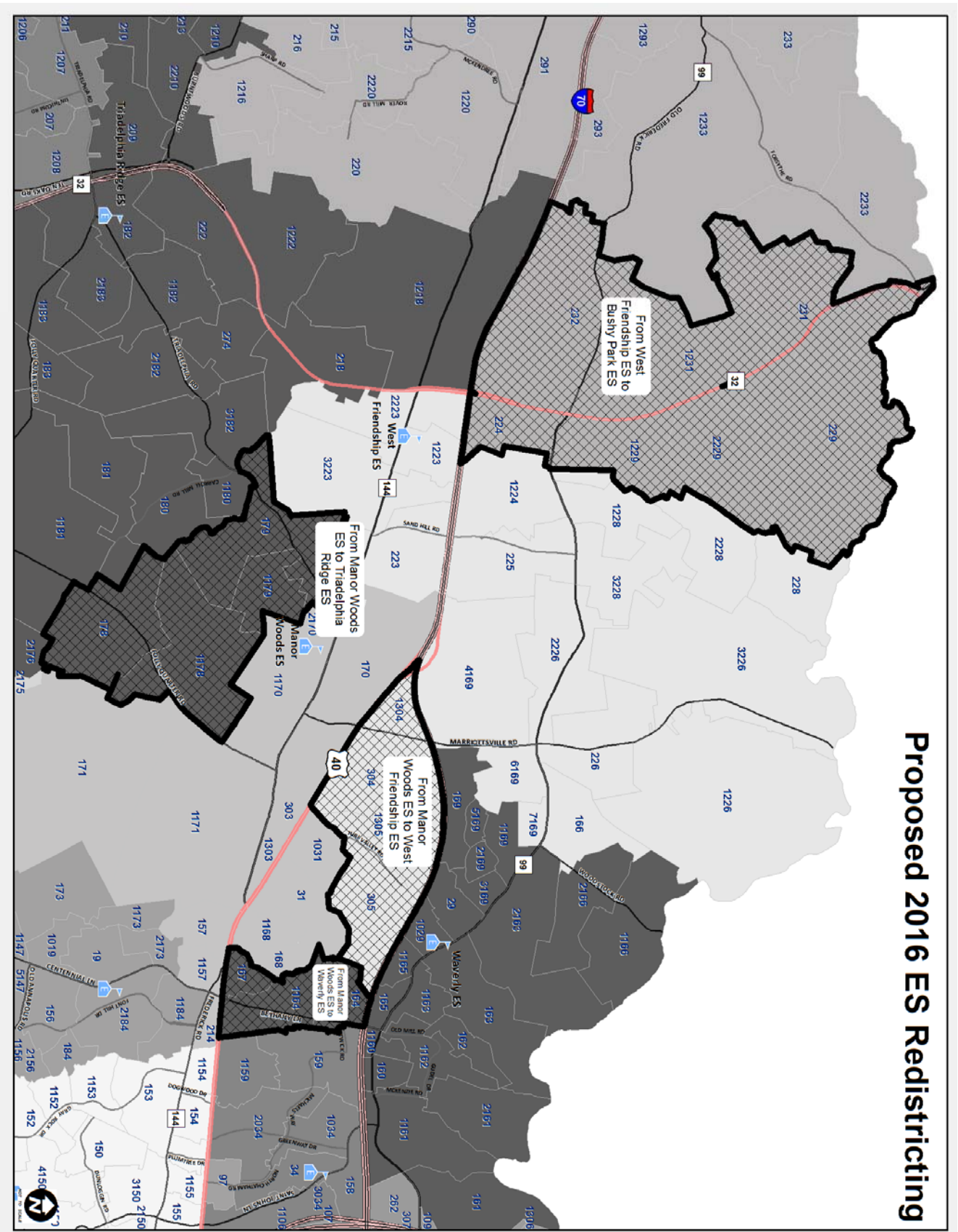




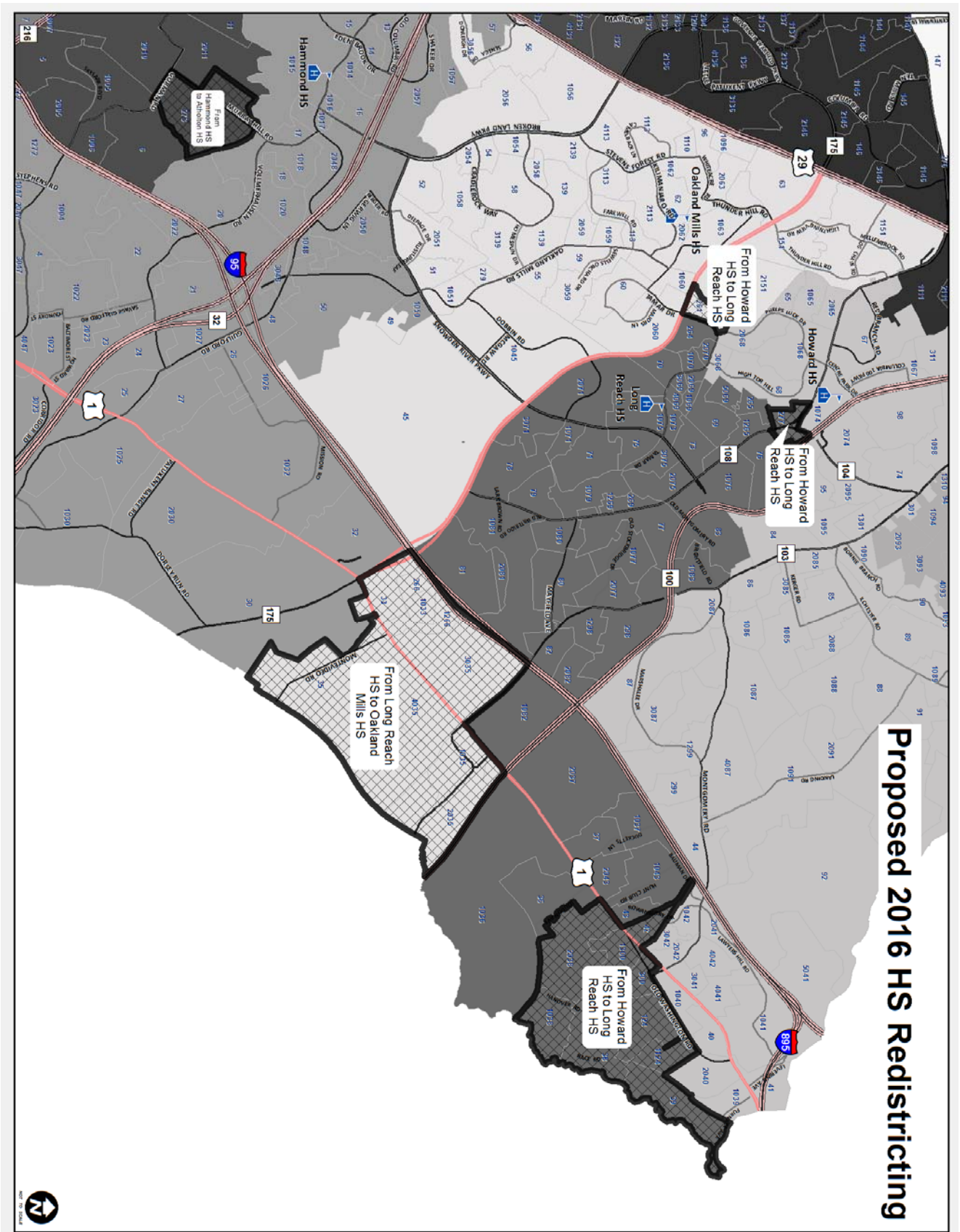


Map 6 – 2014 Middle School Redistricting Southeastern Region View





Proposed 2016 ES Redistricting



VIII. Pre- and Post-Measures

On the following pages the effect of the staff proposed plans on capacity utilization are depicted in tabular form. The recommendation in this document is 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 FY13 capital projects as approved. The post-measures format shows the impact of projected enrollment within a redistricting plan. The post-measures format includes capital projects recommended in this document for the FY14 Capital Budget (as shown in Figure 2). If these projects are not approved, other plans must be developed. These same reports and other tables are included in the electronic document [A Supplement to the 2012 Feasibility Study](#).

Capacity Utilization Rates with Board of Education's Approved FY 2013 Capital Budget Projects - Not Test for APFO

Chart reflects May 2012 Projections, Board of Education's FY 2013 approved capacities, and no restructuring.

Region	School	2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22		2022-23		2023-24		
		Capacity	Proj % Util.	Capacity	Proj % Util.	Capacity	Proj % Util.	Capacity	Proj % Util.	Capacity	Proj % Util.	Capacity	Proj % Util.	Capacity	Proj % Util.	Capacity	Proj % Util.	Capacity	Proj % Util.	Capacity	Proj % Util.	Capacity	Proj % Util.	
Columbia - East	Columbia ES	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	
	Chandler ES	421	421	421	421	421	421	421	421	421	421	421	421	421	421	421	421	421	421	421	421	421	421	
	Jeffers Hill ES	640	640	640	640	640	640	640	640	640	640	640	640	640	640	640	640	640	640	640	640	640	640	
	Phelps Luck ES	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	
	Stevens Forest ES	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	443	
	Talbot Springs ES	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468
	Thunder Hill ES	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892
	Region Totals	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892	2892
	Columbia - West	Bryant Woods ES	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355	355
		Cherry Crossing ES	522	522	522	522	522	522	522	522	522	522	522	522	522	522	522	522	522	522	522	522	522	522
Longfellow ES		418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	418	
Running Brook ES		405	405	405	405	405	405	405	405	405	405	405	405	405	405	405	405	405	405	405	405	405	405	
Swansfield ES		528	528	528	528	528	528	528	528	528	528	528	528	528	528	528	528	528	528	528	528	528	528	528
Region Totals		2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228	2228
Northern		Bellevue Spring ES	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782	782
		Deep Run ES	601	601	601	601	601	601	601	601	601	601	601	601	601	601	601	601	601	601	601	601	601	601
		Elkridge ES	779	779	779	779	779	779	779	779	779	779	779	779	779	779	779	779	779	779	779	779	779	779
		Elkridge ES	617	617	617	617	617	617	617	617	617	617	617	617	617	617	617	617	617	617	617	617	617	617
	New ES #41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Rockburn ES	667	667	667	667	667	667	667	667	667	667	667	667	667	667	667	667	667	667	667	667	667	667	
	Valeau ES	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	
	Valeriano ES	594	594	594	594	594	594	594	594	594	594	594	594	594	594	594	594	594	594	594	594	594	594	
	Worthington ES	516	516	516	516	516	516	516	516	516	516	516	516	516	516	516	516	516	516	516	516	516	516	
	Region Totals	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	5924	
Northeastern	Centennial Lane ES	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	628	
	Highfield Station ES	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647	
	Marion Woods ES	672	672	672	672	672	672	672	672	672	672	672	672	672	672	672	672	672	672	672	672	672	672	
	Northfield ES	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	
	St. Johns Lane ES	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	
	Waverly ES	A	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675	675
	Region Totals	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907	3907
	Southeastern	Alton ES	387	387	387	387	387	387	387	387	387	387	387	387	387	387	387	387	387	387	387	387	387	387
		Bollman Bridge ES	A	663	663	663	663	663	663	663	663	663	663	663	663	663	663	663	663	663	663	663	663	663
		Forest Ridge ES	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626	626
Gorman Crossing ES		A	713	713	713	713	713	713	713	713	713	713	713	713	713	713	713	713	713	713	713	713	713	
Gulford ES		A	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482	
Hammond ES		A	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	597	
Laurel Woods ES		540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	
New ES #42		NS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Region Totals		3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	3988	
Western		Blairstown Park ES	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788
	Chilwaukee ES	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	634	
	Dayton Oaks ES	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	788	
	Lifton ES	772	772	772	772	772	772	772	772	772	772	772	772	772	772	772	772	772	772	772	772	772	772	
	Pointers Run ES	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	553	
	Triadelphia Ridge ES	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	544	
	West Friendship ES	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	
	Region Totals	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	5251	
	Countrywide Totals	24190	24290	24290	24390	24390	24390	24390	24390	24390	24390	24390	24390	24390	24390	24390	24390	24390	24390	24390	24390	24390	24390	

A: includes additions as reflected in FY 2013 CIP for grades K-5
 NS: New School proposed in FY 2013 Capital Budget

MIDDLE SCHOOLS - Data for Demonstrative Purposes Only
Capacity Utilization Rates with Board of Education's Approved FY 2013 Capital Budget Projects - Not Test for APFO

Chart reflects May 2012 Projections, Board of Education's FY 2013 approved capacities, and no redistricting.

	Capacity			2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22		2022-23		2023-24		
	2013	2014	2015	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	526	526	526	469	87.3	444	84.4	450	85.6	462	87.8	482	91.6	513	97.5	532	101.1	529	100.6	521	99.0	509	96.9	515	97.9	
Oakland Mills MS	506	506	506	402	87.0	422	91.3	477	94.3	494	97.6	512	101.2	546	107.9	556	109.9	535	105.7	518	102.4	512	101.2	520	102.8	
Region MS Totals	1032	1032	1032	899	87.1	906	87.8	927	89.8	956	92.6	994	96.3	1059	102.6	1088	105.4	1064	103.1	1039	100.7	1021	98.9	1035	100.3	
Columbia - West																										
Harpers Choice MS	584	584	584	539	92.3	577	98.8	617	105.7	655	112.2	663	113.5	659	112.8	650	111.3	639	109.4	649	111.1	649	111.1	653	111.8	
Wildcat Lake MS	506	506	506	559	110.5	573	113.2	567	112.1	549	108.5	529	104.4	578	114.2	598	118.2	578	114.2	598	114.2	603	115.2	619	122.3	
Region MS Totals	1090	1090	1090	1098	100.7	1150	105.5	1184	108.6	1204	109.6	1239	113.6	1237	113.5	1248	114.5	1217	112.1	1247	114.4	1252	115.8	1274	117.3	
Northwestern																										
Bonnie Branch MS	662	662	662	783	118.3	779	117.7	802	121.1	823	124.3	862	130.2	867	131.0	888	134.1	854	129.0	874	132.0	872	131.7	894	133.5	
Elkridge Landing MS	662	662	662	747	112.8	796	120.2	822	124.2	812	122.7	826	124.8	799	120.7	793	119.8	791	119.5	828	125.1	862	130.2	873	131.9	
Ellicott Mills MS	662	662	662	807	121.9	800	120.8	820	123.9	849	128.2	900	136.0	919	138.8	933	140.9	941	142.1	950	143.5	946	142.9	932	140.8	
Mayfield Woods MS	662	662	662	796	116.7	833	122.1	912	133.7	953	133.7	1009	147.9	1061	155.6	1121	164.4	1167	171.1	1206	176.8	1199	175.8	1195	175.2	
New MS #20	NS	0	662	NS	0	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	
Region MS Totals	2668	3330	3330	3133	117.4	3208	96.3	3356	100.8	3437	103.2	3597	108.0	3646	109.5	3735	112.2	3753	112.7	3858	115.9	3879	116.5	3914	117.5	
Northern																										
Burleigh Manor MS	662	662	662	675	102.0	725	109.5	725	109.5	739	111.6	728	110.0	735	111.0	747	112.8	750	113.3	770	116.3	786	118.7	803	121.3	
Dunloughin MS	662	662	662	544	82.2	560	84.6	590	89.1	616	93.1	640	96.7	647	97.7	665	100.5	666	100.6	692	104.5	698	103.9	695	105.0	
Palapasco MS	662	662	662	609	92.0	622	94.0	667	100.8	642	97.0	642	97.0	621	93.8	624	94.3	603	91.1	618	93.4	626	94.6	656	99.1	
Region MS Totals	1986	1986	1986	1828	92.0	1907	96.0	1982	99.8	1987	100.6	2010	101.2	2003	100.9	2036	102.5	2019	101.7	2080	104.7	2100	105.7	2154	108.5	
Southeastern																										
Hammond MS	506	506	506	521	103.0	581	114.8	611	120.8	643	127.1	638	126.1	646	127.7	664	131.2	698	137.9	716	141.5	731	144.5	733	144.9	
Murphy Hill MS	662	662	662	822	124.2	923	139.4	950	143.5	1031	155.7	1064	160.7	1115	168.4	1167	176.3	1239	187.2	1238	187.0	1230	185.8	1231	186.0	
Paluxey Valley MS	662	662	662	660	99.7	669	99.5	666	100.6	702	106.0	727	109.8	746	112.7	771	116.5	789	119.2	838	126.6	862	128.7	881	133.1	
Region MS Totals	1830	1830	1830	2003	109.5	2163	118.2	2227	121.7	2376	129.8	2429	132.7	2507	137.0	2602	142.2	2726	149.0	2792	152.6	2813	153.7	2845	155.5	
Western																										
Clarksville MS	662	662	662	605	91.4	604	91.2	596	88.5	544	82.2	517	78.1	475	71.8	440	66.5	367	55.4	331	50.0	330	49.8	340	51.4	
Folly Quarter MS	584	584	584	522	89.4	512	87.7	542	92.8	529	90.6	543	93.0	506	86.6	504	86.3	473	81.0	474	81.2	468	80.1	468	80.1	
Glenwood MS	584	584	584	554	94.9	565	96.7	573	98.1	553	94.7	520	89.0	484	82.9	475	81.3	467	80.0	471	80.7	482	82.5	509	87.2	
Line Kim MS	701	701	701	581	82.9	560	79.9	553	78.9	538	76.7	520	74.2	484	70.5	497	70.9	480	68.5	467	66.6	480	68.6	463	66.0	
Mount View MS	662	662	662	706	106.6	740	111.8	732	110.6	755	115.6	767	115.9	775	117.1	764	115.4	747	112.8	730	110.3	734	110.9	750	113.3	
Region MS Totals	3193	3193	3193	2968	93.0	2981	93.4	2986	93.5	2929	91.7	2867	89.8	2734	85.6	2680	83.9	2534	79.4	2473	77.5	2474	77.5	2530	79.2	
Countywide Totals	11799	12461	12461	11929	101.1	12315	98.8	12662	101.6	12899	102.2	13136	104.1	13187	104.5	13389	106.1	13313	105.5	13489	106.9	13550	107.4	13780	109.2	

NS: New School proposed in FY 2013 Capital Budget

HIGH SCHOOLS - Data for Demonstrative Purposes Only

Chart reflects May 2012 Projections, Board of Education's FY 2013 approved capacities, and no redistricting.

Capacity Utilization Rates with Board of Education's Approved FY 2013 Capital Budget Projects - Not Test for APFO

	2013	2014	2015	2016	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
	Capacity	Proj % Util.	Capacity	Proj % Util.	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	109.9	109.9	110.0	110.9	116.7	116.5	121.5	128.4	131.6	138.7	135.4
Oakland Mills HS	1400	1400	1400	1400	78.5	78.1	78.6	79.2	83.4	83.2	86.8	90.3	94.0	97.6	96.7
Columbia - West	1424	1424	1424	1424	132.2	135.4	139.4	144.5	151.7	156.6	163.1	168.6	167.7	170.2	169.5
Wildie Lake HS	1424	1424	1424	1424	92.8	95.1	97.9	101.5	106.5	110.0	114.5	118.4	117.8	119.5	119.0
Northwestern	1420	1488	1488	1488	169.2	174.2	1801	1867	1944	1995	2041	2096	2116	2136	2147
Howard HS	1420	1488	1488	1488	119.2	122.7	126.8	131.5	136.9	140.5	143.7	147.6	149.0	150.4	151.2
Long Reach HS	1488	1488	1488	1488	93.3	96.4	98.5	104.9	110.7	116.8	122.6	125.6	129.0	132.9	135.9
Region HS Totals	2908	2908	2908	2908	308.0	317.7	3266	3428	3591	3733	3865	3965	4036	4114	4169
Region HS Totals	2908	2908	2908	2908	105.9	109.3	112.3	117.9	123.5	128.4	132.9	136.3	138.8	141.5	143.4
Northern	1360	1615	1615	1615	141.3	143.0	1499	1538	1597	1651	1672	1723	1750	1778	1807
Centennial HS	1360	1615	1615	1615	103.9	105.1	110.2	113.1	117.4	121.4	122.9	126.7	128.7	130.7	132.9
Mariott's Ridge HS	1615	1615	1615	1615	75.9	73.9	76.2	78.0	81.5	83.5	83.7	85.9	85.1	86.1	84.6
ML Hedden HS	1280	1400	1400	1400	112.4	143.1	102.2	1378	98.4	140.0	100.0	143.0	102.1	146.8	104.9
Region HS Totals	4255	4375	4375	4375	407.7	405.5	427.7	4108	4198	4344	4544	4632	4660	4689	4683
Region HS Totals	4255	4375	4375	4375	95.8	92.7	93.9	96.0	99.3	102.1	103.9	105.9	106.5	107.2	107.3
Southeastern	1220	1220	1220	1220	127.3	121.7	120.2	118.4	120.5	124.3	128.9	132.4	135.8	141.7	144.4
Hammond HS	1220	1220	1220	1220	104.3	99.8	98.5	97.0	98.8	101.9	105.7	108.5	111.3	116.1	118.4
Western	1360	1420	1420	1420	143.0	140.8	140.3	139.1	142.5	144.3	142.7	144.7	141.4	139.5	138.9
Alton HS	1360	1420	1420	1420	105.1	103.5	103.2	102.3	104.8	106.1	104.9	106.4	104.0	102.6	102.1
Glendy HS	1420	1420	1420	1420	88.0	88.9	87.7	83.2	82.3	84.0	82.5	80.6	78.1	74.0	72.4
Reservoir HS	1551	1551	1551	1551	94.1	94.8	100.6	102.6	109.0	116.8	120.6	124.6	126.4	133.8	137.7
River Hill HS	1488	1488	1488	1488	91.6	87.6	85.3	82.7	81.1	80.0	76.9	76.1	72.5	70.4	65.7
Region HS Totals	5819	5819	5819	5819	550.2	544.5	547.8	539.4	549.2	563.7	561.3	565.7	559.4	553.6	553.0
Region HS Totals	5819	5819	5819	5819	94.6	93.6	94.1	92.7	94.4	96.9	96.5	97.2	96.1	95.3	95.0
Countywide Totals	17026	17146	17146	17146	1635.3	1634.2	1654.8	1675.8	1731.6	1781.2	1815.7	1852.8	1864.1	1882.5	1888.5
Countywide Totals	17026	17146	17146	17146	96.0	95.3	96.5	97.7	101.0	103.9	105.9	108.1	108.7	109.8	110.1

ELEMENTARY SCHOOLS - Data for Demonstrative Purposes Only
Capacity Utilization Rates with Proposed FY 2014 Capital Budget Projects - Not Test for APFO

Region	School	2013		2014		2015		2016		2017		2018		2019		2020		2021		2022		2023		2024				
		Cap	U	Cap	U	Cap	U	Cap	U	Cap	U	Cap	U	Cap	U	Cap	U	Cap	U	Cap	U	Cap	U	Cap	U			
Columbia - East	Columbia - East	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024			
	Chadlerock ES	487	487	487	487	442	90.8	473	97.1	478	98.2	485	99.6	504	103.5	505	103.7	496	101.8	511	104.9	524	107.6	538	110.5	554	113.8	
	Jeffers Hill ES	421	421	421	421	395	93.8	392	93.1	399	92.6	383	91.0	369	87.6	367	88.8	366	86.9	374	88.8	381	90.5	384	91.6	390	92.6	
	Phelps Luck ES	640	640	640	640	631	98.6	644	100.6	671	104.8	664	103.8	664	103.8	664	103.8	664	103.8	664	103.8	664	103.8	664	103.8	664	103.8	
	Stevens Forest ES	433	433	433	433	457	105.5	451	104.2	457	105.5	454	104.8	443	102.3	443	102.3	443	102.3	443	102.3	443	102.3	443	102.3	443	102.3	
	Talbot Springs ES	443	443	443	443	485	109.5	493	111.3	509	114.9	505	114.0	496	112.0	482	108.8	482	108.8	482	108.8	482	108.8	482	108.8	482	108.8	
	Thunder Hill ES	468	468	468	468	462	98.7	474	101.3	482	103.0	482	103.0	473	101.1	462	98.7	460	98.3	465	99.4	472	100.9	483	103.2	492	105.1	
	Region Totals	2892	2892	2892	2892	2872	99.3	2927	101.2	2982	103.1	2976	102.9	2940	101.7	2889	99.9	2873	99.3	2920	101.0	2958	102.3	3010	104.1	3066	106.0	
	Columbia - West	Columbia - West	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		
		Bryant Woods ES	355	355	355	355	361	101.7	372	104.8	376	105.9	391	110.1	391	110.1	402	113.2	407	114.6	410	115.5	422	118.9	429	120.8	435	122.5
Clemens Crossing ES		522	522	522	522	512	98.1	498	95.4	497	95.2	492	94.3	481	92.1	476	91.2	469	89.8	487	93.3	495	94.8	507	97.1	520	99.6	
Longfellow ES		418	418	418	418	420	100.5	426	101.9	429	102.6	421	100.7	410	98.1	413	98.8	424	101.4	427	102.2	424	101.4	429	102.6	435	104.1	
Running Brook ES		405	405	405	405	386	95.3	397	97.6	420	104.8	456	90.3	484	96.8	529	104.8	572	113.3	619	122.6	655	129.7	689	136.4	713	141.2	
Swanfield ES		528	528	528	528	605	114.6	598	113.3	602	114.0	603	114.2	608	115.2	613	116.1	613	116.1	613	116.1	613	116.1	613	116.1	613	116.1	
Region Totals		2228	2228	2228	2228	2284	102.5	2291	98.4	2324	99.8	2363	101.5	2374	102.0	2433	104.5	2479	106.5	2556	109.8	2619	112.5	2655	115.3	2741	117.7	
Northwestern		Northwestern	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		
		Bellevue Spring ES	762	762	762	762	732	96.1	770	101.0	810	106.3	849	111.4	893	117.2	941	123.5	970	127.3	1006	132.0	1024	134.4	1039	136.4	1054	138.3
		Deep Run ES	601	601	601	601	584	97.2	634	105.5	678	112.5	695	99.1	719	102.6	709	101.1	687	98.0	675	96.3	667	95.1	688	98.1	718	102.4
	Elkridge ES	779	779	779	779	754	96.8	763	97.9	773	99.2	791	101.5	791	101.5	812	104.2	849	108.0	868	111.4	884	113.5	896	115.0	909	116.7	
	Ilchester ES	617	617	617	617	643	104.2	658	102.9	625	101.3	625	101.3	623	101.0	634	102.8	637	103.2	672	108.9	696	112.8	740	119.9	776	125.8	
	New ES #41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	Rockburn ES	667	667	667	667	724	108.5	714	107.0	707	105.8	705	105.7	709	105.8	739	123.2	778	129.7	800	133.3	825	137.5	849	141.5	889	143.2	
	Valerians ES	788	788	788	788	788	100.0	788	100.0	788	100.0	788	100.0	788	100.0	788	100.0	788	100.0	788	100.0	788	100.0	788	100.0	788	100.0	
	Valerians ES	594	594	594	594	542	91.2	569	95.8	583	98.1	604	101.7	626	105.4	641	107.9	642	108.1	644	108.4	644	108.4	643	108.2	646	109.4	
	Warrington ES	516	516	516	516	514	99.6	538	104.3	594	103.5	629	102.5	618	100.4	510	98.8	503	97.5	496	96.1	496	96.1	502	97.3	522	101.2	
Region Totals	5924	5924	5924	5924	5749	97.0	5946	100.4	6100	103.0	6249	103.7	6372	105.8	6527	108.3	6516	99.9	6715	101.4	6786	102.4	6918	104.4	7059	106.6		
Northern	Northern	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024			
	Centennial Lane ES	628	628	628	628	695	110.7	690	109.9	697	111.0	704	112.1	699	111.3	686	109.2	699	111.3	704	112.1	693	110.4	707	112.6	720	114.6	
	Hollfield Station ES	688	688	688	688	753	109.4	759	110.3	762	110.8	773	112.4	785	114.1	805	117.0	828	120.3	845	122.8	856	124.4	871	126.6	878	127.6	
	Manor Woods ES	647	647	647	647	690	106.6	690	106.6	731	113.0	474	73.3	505	78.1	632	82.2	559	86.4	604	93.4	607	100.0	669	103.4	682	105.4	
	Northfield ES	672	672	672	672	742	110.4	721	107.3	704	104.8	698	103.9	687	102.2	696	103.6	681	101.3	698	103.9	708	105.4	726	108.0	756	112.5	
	St. Johns Lane ES	597	597	597	597	549	92.0	552	92.5	566	94.9	571	95.6	570	95.5	572	95.8	563	94.3	567	95.0	562	94.1	565	94.6	575	96.3	
	Valerity ES	675	675	675	675	705	104.4	684	101.3	674	99.9	798	103.0	779	100.5	789	99.2	781	98.2	784	101.2	805	103.9	840	108.4	864	111.5	
	Region Totals	3907	3907	3907	3907	4123	105.5	4096	104.8	4134	105.8	4018	100.3	4025	100.4	4060	101.3	4091	102.1	4202	104.9	4271	103.6	4378	109.3	4475	111.7	
	Southeastern	Southeastern	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		
		Arlington ES	387	387	387	387	346	89.4	341	88.1	343	88.6	344	88.9	353	91.2	351	90.7	362	93.5	368	92.5	357	92.2	363	93.8	368	95.1
Bohlerin Bridge ES		663	663	663	663	732	110.4	770	116.1	814	122.8	849	128.1	885	133.5	923	139.2	941	141.9	961	144.9	951	143.4	940	141.8	930	140.3	
Forest Ridge ES		626	626	626	626	665	106.2	670	107.0	706	112.8	714	114.1	739	118.1	768	122.7	792	126.5	804	128.4	804	128.4	799	127.6	798	127.5	
German Crossing ES		713	713	713	713	646	90.6	697	97.8	721	101.1	765	107.3	776	108.8	783	109.8	786	110.2	782	109.7	789	110.7	793	111.2	813	114.0	
Gulford ES		462	462	462	462	439	95.0	441	95.5	439	95.0	445	96.3	439	95.0	440	95.8	420	90.9	415	89.8	411	89.0	410	88.7	420	90.9	
Hammond ES		597	597	597	597	610	102.2	619	103.7	611	102.3	617	103.4	631	105.7	659	110.4	688	115.2	733	122.8	787	131.8	837	140.2	889	148.9	
Laurel Woods ES		540	540	540	540	556	103.0	582	107.8	581	90.8	570	89.1	601	93.9	601												

Post-Measures
 Aggregate Plan
 Chart reflects May 2012 Projections, Board of Education's FY 2014 Requested capacities and redistricting as listed in June 2012 Feasibility Study.
MIDDLE SCHOOLS - Data for Demonstrative Purposes Only
 Capacity Utilization Rates with Proposed FY 2014 Capital Budget Projects - Not Test for APFO

Region	MS	Capacity																											
		2013	2014	2015	2016	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24													
Columbia - East	Lake Elkhorn MS	526	526	526	526	103.4	477	90.7	500	95.1	519	98.7	543	103.2	550	104.6	562	106.8	563	107.0	583	110.8	579	110.1	582	110.6			
	Oakland Mills MS	506	506	506	506	87.0	440	87.0	453	89.5	469	92.7	488	96.4	508	100.4	539	106.5	550	108.7	531	104.9	516	102.0	510	100.8	516	102.0	
	Region MS Totals	1032	1032	1032	1032	95.3	994	95.3	930	90.1	969	93.9	1007	97.6	1051	101.8	1089	105.5	1112	107.8	1094	106.0	1099	106.5	1089	105.5	1098	106.4	
Columbia - West	Lake Elkhorn MS	584	584	584	584	78.6	459	78.6	534	91.4	545	93.3	568	96.5	579	99.1	611	104.6	631	108.0	628	107.5	620	106.2	607	103.9	612	104.8	
	Wildie Lake MS	506	506	506	506	110.5	559	110.5	545	107.7	539	106.5	522	78.9	548	82.8	550	83.1	568	85.8	550	83.1	569	86.0	584	88.2	616	93.1	
	Region MS Totals	1090	1090	1090	1246	93.4	1018	93.4	1079	99.0	1084	99.4	1080	86.7	1127	90.4	1161	93.2	1199	96.2	1178	94.5	1189	95.4	1191	95.6	1228	98.6	
Northeastern	Bonnie Branch MS	662	662	662	662	118.3	783	118.3	686	103.6	708	106.9	726	109.7	762	115.1	763	115.3	779	117.7	750	113.3	763	115.3	759	114.7	788	119.0	
	Ellicott Mills MS	662	662	662	662	121.9	807	121.9	629	95.0	644	97.3	665	100.5	702	106.0	715	108.0	726	109.7	732	110.6	739	111.6	735	111.0	724	109.4	
	Folly Quarter MS	662	662	662	662	78.9	662	78.9	659	99.5	689	104.1	679	102.6	690	104.2	650	98.2	645	97.4	612	92.4	611	92.3	606	91.5	610	92.1	
New MS #20	Mayfield Woods MS	682	682	682	682	116.7	796	116.7	610	89.4	665	97.5	694	101.8	736	107.9	774	113.5	816	119.6	841	123.3	867	127.1	858	125.8	856	125.5	
	New MS #20	NS	0	662	662				565	85.3	595	89.9	617	93.2	651	98.3	666	100.6	702	106.0	720	108.8	759	114.7	777	117.4	793	119.8	
	Region MS Totals	2668	2668	3330	3330	109.0	2908	109.0	2584	96.9	3301	99.1	3381	101.5	3541	106.3	3568	107.1	3668	110.2	3665	109.8	3739	112.3	3735	112.2	3771	113.2	
Northern	Burleigh Manor MS	662	662	662	662	102.0	675	102.0	725	109.5	725	109.5	739	111.6	728	110.0	735	111.0	747	112.8	750	113.3	770	116.3	786	118.7	803	121.3	
	Elkridge Landing MS	662	662	662	662	34.6	229	34.6	155	23.4	177	26.7	174	26.3	175	26.4	173	26.1	191	28.9	154	23.3	155	23.4	172	26.0	178	26.9	
	Palatocco MS	662	662	662	662	92.0	609	92.0	655	98.9	702	106.0	692	104.5	702	106.0	691	104.4	700	105.7	687	103.8	706	106.6	714	107.9	740	111.8	
Region MS Totals		1986	1986	1986	1986	76.2	1513	76.2	1535	77.3	1604	80.8	1605	80.8	1605	80.8	1599	80.5	1638	82.5	1591	80.1	1631	82.1	1672	84.2	1721	86.7	
	Southeastern	Harpers Choice MS	506	506	506	506	106.5	539	106.5	577	114.0	617	121.9	655	129.4	663	131.0	659	130.2	660	128.5	639	126.3	649	128.3	649	128.3	653	129.1
		Murray Hill MS	662	662	662	662	124.2	822	124.2	688	100.9	689	104.1	750	113.3	776	117.2	813	122.8	850	128.4	802	136.3	899	136.8	895	135.2	896	135.3
Paluxent Valley MS		662	662	662	662	93.7	643	93.7	643	97.1	652	98.5	692	104.5	714	107.9	740	111.8	767	115.9	803	121.3	836	126.3	844	127.5	861	130.1	
Region MS Totals		1830	1830	1830	1830	110.4	2021	110.4	1888	103.2	1958	107.0	2097	114.6	2153	117.7	2212	120.9	2267	123.9	2344	128.1	2384	130.3	2388	130.5	2410	131.7	
	Western	Clarksville MS	662	662	662	662	91.4	605	91.4	632	95.5	614	92.7	571	86.3	545	82.3	504	76.1	470	71.0	395	59.7	360	54.4	360	54.4	373	56.3
		Glenwood MS	584	584	584	584	94.9	554	94.9	577	98.8	582	99.7	567	97.1	535	91.6	502	86.0	493	84.4	484	82.9	484	82.9	494	84.6	523	88.6
Hammond MS		584	584	584	521	89.2	593	101.5	617	105.7	647	110.8	642	109.9	652	111.6	668	114.4	682	118.5	713	122.1	731	122.1	725	124.1	731	125.2	
Region MS Totals	Line Kiln MS	701	701	701	701	82.9	581	82.9	686	97.9	686	97.9	678	96.7	660	94.2	638	91.0	644	91.9	636	90.7	625	89.2	620	88.4	623	88.9	
	Mount View MS	662	662	662	662	106.6	706	106.6	709	107.1	712	107.6	733	110.7	736	111.2	738	111.5	731	110.4	711	107.4	704	106.3	708	106.9	725	109.5	
	Region MS Totals	3193	3193	3193	3193	92.9	2867	92.9	3197	100.1	3211	100.6	3196	100.1	3118	97.7	3034	95.0	3006	94.1	2918	91.4	2886	90.4	2907	91.0	2975	93.2	
Countywide Totals		11799	11799	12461	12817	11411	96.7	11213	95.0	12127	97.3	12366	98.0	12595	99.8	12663	100.4	12890	102.2	12780	101.3	12928	102.5	12982	102.9	13203	104.6		

A: Includes additions as reflected in FY 2014 CIP for grades 6-8
 NS: New School proposed in FY 2014 Capital Budget

Post-Measures
Aggregate Plan

Chart reflects May 2012 Projections, Board of Education's FY 2014 Requested capacities, and redistricting as listed in June 2012 Feasibility Study.

HIGH SCHOOLS - Data for Demonstrative Purposes Only
Capacity Utilization Rates with Proposed FY 2014 Capital Budget Projects - Not Test for APFO

	2013	2014	2015	2016	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	
	Capacity	Capacity	Capacity	Capacity	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	1099	78.5	1094	78.1	1100	78.6	1307	93.4	1379	98.5	1392	99.4
Oakland Mills HS																
Columbia - West	1424	1424	1424	1424	1322	92.8	1354	95.1	1394	97.9	1445	101.5	1517	106.5	1566	110.0
Wide Lake HS																
Northeastern	1420	1420	1420	1420	1692	119.2	1742	122.7	1801	126.8	1574	110.8	1641	115.6	1687	118.8
Howard HS																
Long Reach HS	1488	1488	1488	1488	1388	93.3	1435	96.4	1465	98.5	1656	111.3	1738	116.8	1819	122.2
Region HS Totals	2908	2908	2908	2908	3080	105.9	3177	109.3	3266	112.3	3230	111.1	3379	116.2	3506	120.6
Northern	1360	1360	1360	1360	1413	103.9	1430	105.1	1499	110.2	1538	113.1	1597	117.4	1651	121.4
Centennial HS																
Marrion's Ridge HS	1615	1615	1615	1615	1225	75.9	1194	73.9	1231	76.2	1260	78.0	1317	81.5	1349	83.5
McHebron HS	1280	1280	1400	1400	1439	112.4	1431	111.8	1378	98.4	1400	100.0	1430	102.1	1468	104.9
Region HS Totals	4265	4265	4375	4375	4077	95.8	4055	95.3	4108	93.9	4198	96.0	4344	99.3	4468	102.1
Southeastern	1220	1220	1220	1220	1273	104.3	1217	99.8	1202	98.5	1183	97.0	1203	98.6	1241	101.7
Hammond HS																
Western	1360	1360	1360	1360	1430	105.1	1408	103.5	1403	103.2	1392	102.4	1427	104.9	1445	106.3
Amnion HS																
Glennville HS	1420	1420	1420	1420	1250	88.0	1263	88.9	1246	87.7	1182	83.2	1169	82.3	1193	84.0
Reservoir HS	1551	1551	1551	1551	1459	94.1	1471	94.8	1560	100.6	1591	102.6	1691	109.0	1811	116.8
River Hill HS	1488	1488	1488	1488	1363	91.6	1303	87.6	1269	85.3	1230	82.7	1207	81.1	1190	80.0
Region HS Totals	5819	5819	5819	5819	5502	94.6	5445	93.6	5478	94.1	5395	92.7	5494	94.4	5639	96.9
Countywide Totals	17026	17026	17146	17146	16353	96.0	16342	96.0	16548	96.5	16758	97.7	17316	101.0	17812	103.9

