



APPROVED CAPITAL IMPROVEMENTS PROGRAM

Fiscal Years 2017-26



Prince William County

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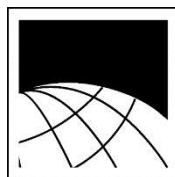
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Prince William County Public Schools

Capital Improvements Program Fiscal Years 2017-26

Table of Contents

Overview	1
Recent Accomplishments.....	2
Major Changes	2
Planning.....	3
Funding	4
New Schools, Additions, and Other Bond-Funded Projects	5
Site Acquisition.....	7
Site Acquisition Funding	8
Renovations/Renewals	9
Major Maintenance	10
Schedule of Renovations and Renewals	11
Middle School Turf Field Conversion	17
Summary	18
<i>Appendix A:</i> School Facility Summary.....	A-1 through A-4
<i>Appendix B:</i> Student Enrollment & Housing Data	B-1 through B-27
<i>Appendix C:</i> Identified School Sites	C-1 through C-9
<i>Appendix D:</i> School Construction Financial Data	D-1 through D-10
<i>Appendix E:</i> Energy Management	E-1 through E-8
<i>Appendix F:</i> Technology Improvements Program	F-1 through F-6

CAPITAL IMPROVEMENTS PROGRAM

Fiscal Years 2017-26

Prince William County Schools (PWCS) is the second largest of 132 school divisions in the Commonwealth of Virginia and the 38th largest school division in the country. The School Division provides services to over six percent of the state's student enrollment. The total 2015-16 enrollment is 87,253 students with permanent capacity for 89,815 students. This capacity is supplemented with 215 instructional portable classrooms. Permanent capacity is set to increase by 16,346 seats over the next ten years with completion of new school facility construction identified within this Capital Improvements Program (CIP).

PWCS is organized to focus on meeting the needs of its students and employees while managing 93 schools, along with administrative and support facilities. The CIP is a management tool for planning the capital improvements projects needed to house these students and employees adequately. It is an ongoing plan designed to address the need for construction of new school facilities, classroom additions to existing schools, site acquisition, renewals of existing facilities, and upgrading and maintaining the School Division's infrastructure. The CIP is a blueprint of work to be performed over the next ten-year period as determined in assessments of building needs, capacity, and utilization.

Faced with continuing growth in enrollment, the CIP enables the School Division to address the changing enrollment patterns and utilize facilities in ways that are consistent with world-class educational programs. As the CIP is reviewed and updated on an annual basis, long range plans are adjusted based on enrollment projections and fiscal limitations (debt service and budget constraints.)

The CIP addresses the need for new schools as well as renovations and/or additions to existing school facilities, providing general guidance for the next ten years. It is not an inventory of all the work that must be performed on school facilities over the next ten years. It is, rather, a specific budget for the first year of the program (FY 2017) combined with a more general planning schedule for four additional years (FY 2018-21) and then an estimate of projects needed for FY 2022-26. The projects designated for the first two years of the plan are the highest priority needs.

Strategic Plan

The Prince William County Schools' Strategic Plan provides administrators and School Board members a vehicle to measure progress. All schools and departments are aligned with the same goals, objectives, and measures. The Capital Improvements Program must meet the following objective of the Strategic Plan:

Objective 2.3: Enhance the appearance, condition, and capacity of physical plants, facilities, and equipment.

2.3.1 All School Division facilities will pass compliance audits and meet building code regulations.

This objective is addressed in two general program areas:

- New Construction - projects under construction and planned construction projects to include additions
- Renovations/Renewals/Maintenance - managing existing school building conditions

Recent Accomplishments

In the past five years seven new schools and fifteen additions have been constructed, costing nearly \$376 million and adding 9,775 student seats. The new schools included three elementary schools, one middle school, one high school, the PACE West replacement and a K-8 school.

The new Chris Yung Elementary School opened in September 2015, adding 924 student seats in western Prince William County. The addition at Featherstone Elementary School was completed and opened in September 2015, adding six classroom.

Major renewals of 9 schools were completed in the last five years at a cost of almost \$85 million. The renewals included Title IX improvements and energy infrastructure improvements. Nursing suites and secure entrances have been added to schools with renovations.

Additionally, we continue to assess and improve school safety, including multi-million dollar enhancements in new school design and upgrades to existing buildings by providing controlled access entryways.

Major Changes

Major changes from the 2016-25 CIP include:

- 13th High School (West) delayed one year from 2020 to 2021
- 14th High School delayed one year from 2022 to 2023
- Site Acquisition Funds for 13th and 14th High Schools added
- FY 17 Renewal and Renovations Funding added
- Elementary School East - PW Parkway delayed one year from 2018 to 2019
- Stonewall Middle School Addition (17 rooms) delayed one year from 2018 to 2019
- Western Bus Facility delayed one year from 2018 to 2019
- Pattie Elementary School Addition (10 rooms) - Consolidation/Building Renovation @ Washington-Reid moved forward one year from 2019 to 2018
- Elementary School Lake Ridge Area 2019 removed from CIP
- Elementary School Additions at Antietam Elementary School, Lake Ridge Elementary School and Springwoods Elementary School, (13 classrooms each) added to 2019
- Middle School at Potomac Shores moved forward one year from 2021 to 2020
- Elementary Addition Haymarket Area (6 rooms) delayed from 2021 to 2025
- Elementary School (Stonewall/Yorkshire Area) moved forward one year from 2023 to 2022
- Elementary School at Vint Hill Road delayed one year from 2023 to 2024
- Middle School (West - Linton Hall Area) delayed one year from 2023 to 2024
- Middle School (TBD) delayed from 2024 to 2026

Planning

Planning for capital improvements is an ongoing process to meet critical system-wide capacity demands associated with current and projected enrollment growth. Priorities shift as conditions change at individual facilities, as programs change, and as the student population totals change. The official student enrollment count for Prince William County Public Schools, as of September 30, 2015, is 87,253 students. From 2014 to 2015, total enrollment grew by 1,045 students, or 1.2 percent growth rate. This is compared to growth from 2013 to 2014 of 1,154 students, or 1.4 percent.

2016-17 enrollment is projected to be 88,216 students, an increase of 963 students overall. Examining student enrollment growth within school attendance areas, “Geographic Areas,” and school program capacities, guides the identification of the need for additional space for students. Possible solutions to overcrowding conditions include portable classrooms, relocation of special programs, changes in attendance area boundaries, additions, and the construction of new facilities.

Student enrollment projections are utilized for a variety of planning and decision-making functions, among which operational and capital budgeting needs are most prominent. The functional objective of the Student Housing program is to ensure the accurate preparation of information to enable decision-making with respect to the housing of Prince William County students. Individual school forecasts provide a snapshot of the anticipated changes that Prince William County Schools will encounter in the course of the current planning period.

Annually, the status of student housing is assessed for the next ten (10) years. This assessment includes determining the current availability of space for students, assessing current student enrollment, projecting future student enrollment, and preparing recommendations for current and future housing of students. During the next five years, student enrollment is projected to increase by an average annual rate of about 1.6 percent. This will result in about 7,033 additional students during this period. Building new school facilities and additions to existing school facilities addresses the overwhelming need for additional classrooms; where possible, additions are utilized as cost-effective alternatives to the construction of new facilities.

The School Division is preparing for the construction of the New Alternative Education School by replacing the current facilities now housing the students at Independent Hill School, PACE East, New Dominion, and New Directions. The plan is to disburse Independent Hill students to existing schools and replace PACE East, New Dominion, and New Directions facilities in 2018. This involves adding classrooms to new elementary construction, increasing classroom additions at east and west middle schools, and adding space with the construction of Colgan High School. This allows the students of Independent Hill School to be educated in the least restrictive environment. PACE East will move in the new Facility in January 2018 and New Dominion and

School Facility Totals

<i>School Type</i>	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Elementary Schools	55	55	55	57	57	57	57	58
Combined Schools	2	2	2	2	2	2	3	3
Middle Schools	15	15	15	15	16	16	16	16
High Schools	10	10	10	11	11	11	11	11
<i>Total (Regular Education)</i>	82	82	82	85	86	86	87	87
Special Education	4	4	3	3	3	3	3	3
Alternative Education	2	2	2	2	2	2	2	2
Total	88	88	87	90	91	91	92	93

Funding

This CIP is presented by the Superintendent as part of the annual budget and reviewed and adopted by the Prince William County School Board after a public hearing. The CIP is then presented to the Prince William Board of County Supervisors as part of the School Division's budget for funding appropriation. Once the budget is adopted by the Board of County Supervisors, it becomes the basis for the CIP during the fiscal year.

Prioritizing the work within the available funding to address the most critical needs is an ever-present challenge. Funds are included in the approved budget to support the CIP. The funding formula developed by the Associate Superintendent for Finance and Support Services provides targets for construction and maintenance expenditures.

It is impossible to address all School Division needs in a single year; therefore, a long-term approach is needed to balance expenditures with anticipated revenues. Funding for long-range plans is adjusted for Prince William County's overall bonding capacity to maintain a Triple A bond rating, as directed by the Prince William Board of County Supervisors.

"Proffered" funds also provide revenue. Proffers are residential rezoning applicant's monetary or in-kind contribution to the School Division to help mitigate the capital costs associated with residential development.

Proffer Funds Received by PWCS

<i>Fiscal Year Received</i>	<i>Amount</i>	<i>Purpose</i>
2015/16*	\$13,900,000	Construction projects, Portable classroom relocation
2014	\$7,676,500	Construction projects, Portable classroom relocation
2013	\$5,527,008	Construction and renewal projects, Portable classroom relocation/maintenance
2012	\$5,427,209	Construction and renewal projects, Portable classroom relocation/maintenance
2011	\$3,223,771	Construction and renewal projects, Portable classroom relocation/maintenance
2010	\$7,363,382	Construction and renewal projects, Portable classroom relocation/maintenance
2009	\$8,018,018	Construction and site acquisition, Renewal projects
2008	\$7,054,482	Construction and site acquisition, Renewal projects
2007	\$10,686,615	PACE West / Yorkshire replacement / various construction, Renewal projects
2006	\$9,799,063	Tyler addition construction, Various construction projects
2005	\$9,600,000	East and West sites, Administration Building, Construction
2003	\$2,200,000	Acquisition of the Williams ES site, Additions to Sudley ES and Bristow Run ES
2002	\$4,265,554	New construction/renewals, Land acquisition for Transportation Center Central, Middle school site at Four Year Trail
2001	\$1,000,000	Acquisition of 10th high school site
2000	\$876,680	New Marsteller MS clearing and grading, Improvement of the Gar-Field HS athletic fields
1999	\$980,000	Improvement of the Brentsville HS parking lot, tennis court and the bus loop
1998	\$1,600,000	Acquisition of Ashland ES site
1996	\$450,000	Acquisition of additional land for the Kingsbrooke ES site
1995	\$671,955	Acquisition of land for the Kingsbrooke ES site
1994	\$793,055	Lightner Road and Old Bridge Schools, Site Acquisition
Total	\$101,113,272	

*Proffer amount as of 3/2016

New Schools, Additions, and Other Bond-Funded Projects

<i>Scheduled Completion</i>	<i>Project</i>	<i>Cost</i>
<i>September 2016</i>	Wilson Elementary School/IHS Space	<i>Previously Funded / Under Construction</i>
	Site Acquisition Funds	
	Colgan High School/IHS	
	Rippon Middle Addition/IHS East (9 rooms)	
	Maintenance Facility	
	Total 2016	
<i>September 2017</i>	Kilby Elementary School Replacement	\$31,476,000
	Elementary School at Potomac Shores	\$29,374,000
	Belmont Elementary Addition (10 rooms)	\$8,667,000
	Henderson Elementary School Addition (10 rooms)	\$9,318,000
	Neabsco Elementary School Addition (8 rooms)	\$7,904,000
	Site Acquisition Funds - Elementary School	\$2,000,000
	Site Acquisition Funds - 13th High School	\$13,500,000
	Antietam Elementary School - Renewal	\$5,000,000
	McAuliffe Elementary School - Renewal	\$5,000,000
	Mullen Elementary School - Renewal	\$5,000,000
	Westridge Elementary School - Renewal	\$5,000,000
	Lake Ridge Middle School - Renewal	\$5,000,000
	Saunders Middle School - Renewal	\$6,175,000
	Total 2017	\$133,414,000
<i>September 2018</i>	Lake Ridge Middle School Addition (13 rooms)	\$12,937,000
	New Alternative Education School	\$35,850,000
	Pattie Elementary School Addition (10 rooms) - Consolidation / Building Renovation @ Washington-Reid	\$12,200,000
	Site Acquisition Funds - 14th High School	\$14,000,000
	Total 2018	\$74,987,000

New Schools, Additions, and Other Bond-Funded Projects

Scheduled Completion	Project	Cost
<i>September 2019</i>	Antietam Elementary School Addition (13 rooms)	\$10,384,000
	Lake Ridge Elementary School Addition (13 rooms)	\$10,884,000
	Springwoods Elementary School Addition (13 rooms)	\$11,884,000
	Elementary School East - PW Parkway	\$31,478,000
	Leesylvania Elementary School Addition (4 rooms)	\$6,770,000
	Special Needs Transportation Center @ New Dominion	\$2,000,000
	Stonewall Middle School Addition (17 rooms)	\$16,518,880
	Western Bus Facility	\$8,500,000
	Total 2019	\$98,418,880
<i>September 2020</i>	Middle School at Potomac Shores	\$59,904,000
	Total 2020	\$59,904,000
<i>September 2021</i>	Elementary School (Cherry Hill Area)	\$34,055,000
	13th High School (West)	\$125,486,000
	Total 2021	\$159,541,000
<i>September 2022</i>	Elementary School (Stonewall/Yorkshire Area)	\$35,419,000
	Total 2022	\$35,419,000
<i>September 2023</i>	14th High School (Mid-County)	\$132,791,000
	Total 2023	\$132,791,000
<i>September 2024</i>	Middle School (West - Linton Hall Area)	\$70,094,500
	Elementary School at Vint Hill Road	\$38,317,000
	Total 2024	\$108,411,500
<i>September 2025</i>	Elementary Addition Haymarket Area (6 rooms)	\$9,141,000
	Total 2025	\$9,141,000
<i>September 2026</i>	Middle School (TBD)	\$75,822,000
	Total 2026	\$75,822,000
<i>New Schools, Additions, and Other Projects TOTAL</i>		\$887,849,380

Note 1 - Sites needed by proffer or purchase (Current CIP includes limited site acquisition funds)

Note 2 - Activity Room Additions

-Dale City and Minnieville Elementary Schools will receive Activity Room additions with school renewals

-Funding to be remaining Bond Funds from New Construction and Addition projects

Site Acquisition

Land acquisition for school sites is challenging as prime undeveloped land is purchased or optioned by developers for high-profit future residential, commercial, and industrial development. Real estate costs continue to escalate, therefore PWCS must look further into the future and acquire sites now or pay higher premiums later.

School staff reviews county residential development plans and maintains a database containing the number of anticipated housing units and the stage of development. This information is used in making enrollment projections. The projected enrollments by geographic area determine future school locations and attendance areas. School sites acquired must be located and sized in accordance with the adopted Prince William County Comprehensive Plan.

Potential school sites are evaluated and should satisfy the following criteria:

- Located proximate to geographic location of projected student population to be served
- Access to transportation network
- Educational program requirements
- Availability of utilities
- State and local size requirements
- Soil and topographic conditions
- Grading and drainage conditions

Land acquisition will continue to figure prominently in this and future capital improvement budgets. Funding for school site acquisition comes from a combination of rezoning “proffered” funds or sites, bond funds, and the operating budget. “Proffered” funds contributions to the School Division help to offset the impact of new residential development on schools.

Proffers have become an increasingly significant factor in Prince William County’s land use regulation process. In 1990, as part of the Comprehensive Plan, Prince William County established level of service (LOS) criteria as a standard or bench-mark to measure the quantity and/or quality of service provided by a government agency. The LOS standards provide an objective justification for mitigation requests. The suggested voluntary monetary contribution amount for Schools was increased July 2014 (last update - July 2006).

In making efforts to acquire proffered sites, staff works cooperatively with developers of land to secure the best possible land or monetary contribution. Actual monetary amounts received by Prince William County Schools vary depending on the year a development was first proposed and the number and type of residential units to be constructed. Funds are received when individual units are permitted/built within the development and not in one lump sum.

Sixteen school sites have been acquired by proffers since 2000, with an estimated value of \$63,800,000. The School Division purchased 8 school sites since 2000, spending \$39,300,000. Site acquisition funding for the 13th and 14th high schools and an elementary school are included in PWCS Advertised Budget via bond funding.

Even with purchased and proffered sites, there are still six school sites and one bus facility location needed by 2026. If proffered school sites are not used, an additional number of sites would need to be acquired.

The location, character, and extent of all proposed public facilities must be consistent with Prince William County’s Comprehensive Plan as determined by the Prince William County Planning Commission and the Prince William Board of County Supervisors.

Site Acquisition Funding

<i>Year to Open</i>	<i>Year to Acquire</i>	<i>Planned School Facility</i>	<i>Property Status</i>	<i>Estimated Funds Required (Range in millions)</i>
2017	N/A	ES @ Potomac Shores	Proffered	N/A
2018	N/A	PACE East Replacement - Multi Space	PWCS Owned - Independent Hill	N/A
2019	2017	ES East (PW Parkway)	Site Needed	\$2.8-\$4.0
	N/A	Special Needs Transportation Center @ New Dominion	PWCS Owned	N/A
	2016	Western Transportation Facility	Site Needed	\$3.2-\$4.0
2020	N/A	MS East @ Potomac Shores	Proffered	N/A
2021	2019	ES (Cherry Hill Area)	Site Needed	\$3.0-\$5.0
	2016	13 th High School	Site Needed	\$10.6-\$17.0
2022	2019	ES (Stonewall/Yorkshire Area)	Site Needed	\$3.0-\$5.0
2023	2017-2018	14 th High School	Site Needed	\$11.0-\$17.0
2024	N/A	ES (Vint Hill Road)	Proffered-Avendale	N/A
	2019	MS West (Linton Hall Area)	Proffered-Avendale	N/A
			Otherwise Site Needed	\$5.7-\$7.2
2026	2022	MS (TBD)	Site Needed	\$5.9-\$7.5
Total Estimated Cost of Unfunded Sites				\$45.2 - \$66.7

Sites needed by proffer or purchase. Limited site acquisition funds identified in current CIP

Estimated range is based on PWC Proffer Guidelines and recent PWCS land acquisitions

Renovations/Renewals

New construction projects are only part of the CIP picture. Renovations/renewals are programmed to assure that all schools are safe, functional, and provide the facilities necessary to support the current educational programs regardless of the age of the building. School renewals are infrastructure improvements that are important to improve capacity, provide adequate activity spaces, and to meet current instructional needs such as technology and music.

Fifty-Four of the Division’s 93 school facilities are 25 years or older. The goal of the school renewal program is to renovate schools prior to 25 years of age since the last renewal. The older buildings are well-maintained but are in constant need of repair. They must be renewed to provide quality space, continuity, and stability for a *World-Class Education*. The projects contained in this plan are based on the planning, design review, and input from a team of in-house facility maintenance professionals, administration, school principals, and facility-condition evaluations conducted by architect and engineer consultants.

The Office of Facilities Services continues to meet these challenges head-on and to make dramatic improvements to the physical condition of schools. School building conditions are assessed annually and consideration of critical needs and prior facility upgrades are evaluated. Recent renewals allow for changing the emphasis from systems replacements to maintenance in areas such as roofing and paving repairs.

This CIP addresses the reduction of the backlog of renewal projects at older buildings, with age of each school building the first consideration. The order of renewals may be altered when major components are addressed with previous projects, accelerated deterioration conditions warrant, and with funding constraints. The Schedule of Renovations and Renewals includes annual dollars for kitchen upgrades, energy infrastructure improvements, HVAC equipment and controls upgrades, Title IX and technology improvements. Identification of portable classroom relocations and asphalt upgrades have been added. The list of capital projects identified provides a clear statement of school facility requirements that have been categorized within the limitation of projected funding.

Many of the older elementary schools were lacking activity rooms and have been added with the renewals. Three elementary schools are left to have activity rooms added and are scheduled for Fall 2016.

The FY 2017 budget includes Phase 1 funds for renewals at Antietam, McAuliffe, Mullen, and Westridge Elementary Schools and Lake Ridge and Saunders Middle Schools; roof repairs/replacements for Gar-Field and Hylton High Schools; and various kitchen upgrades, energy infrastructure improvements, HVAC upgrades, asphalt improvements, Technology Improvements and Title IX improvements.

<i>School Renewals / Major Infrastructure Renovations may include:</i>	
HVAC Systems	Lockers
Lighting	Roof Replacement
Electrical System	Flooring
Plumbing	Painting
Fire Alarm System	Technology
Security System	Casework
Telephone and Intercom Systems	Doors / Hardware
American Disability Act (ADA)	Site Improvements
Bleachers	Title IX Improvements
Elementary School P.E. Space	Clinic Improvements
Secure Access Improvements	

Budget – Renovations / Renewals

The School Division budgets for repairs and renewals using the National Building Research Board recommendations. The School Board recommends that 2 to 4 % of current replacement value of facilities be budgeted annually for repairs and renewals. The current replacement value of schools is approximately \$2,473,837,000.

Prince William County Schools has established an average annual renewal and repair target of 3% of the current replacement value of facilities with 1.5% for preventive maintenance and 1.5% for repairs and renewals. The amount targeted to be budgeted each year varies from approximately 2.2% to 3.4%, dependent upon the year of the Commonwealth of Virginia’s biennium funding. The target to be budgeted in FY 2017 for repairs, renovations, and maintenance is \$74,215,000 (3.0% of value), with the estimated budget for maintenance renovations, renewals, technology, and energy improvements in FY 2017 at \$84,682,000 (3.4% of value); \$31,175,000 bond funded.

Major Maintenance

To improve and maintain current facilities, each school is evaluated at 7-year intervals and major maintenance repairs are scheduled. Major maintenance may include:

<i>Typical Major Maintenance Activities</i>	
<i>7-Year Cycle</i>	<i>14-Year Cycle</i>
Carpeting (Partial)	Paint Exterior and Interior (Partial)
Paint Hallways, Offices, Exterior Doors, Kitchens (Partial)	Repave / Seal Coat Parking Lot, Paved Areas, and Tennis Courts
Seal Coat Paved Areas and Repaint	Re-key Interior and Exterior Doors
Minor HVAC Repairs	Repair / Replace Fencing and Backstops
Repair Concrete Sidewalks and Curbs	Carpeting (Partial)
Clean and Repair Storm Drains	Update Food Service Equipment (Partial)
Repair Fencing	Minor Roof Repairs
Electrical System Preventive Maintenance	Update Plumbing Fixtures
Trim Trees / Landscaping	Update Electrical Service
Re-Lamp Interior and Exterior Light Fixtures	Update HVAC Controls
	Minor Chiller Rebuilding
	Stage Lighting / Curtains

Based on restricted funding levels, many of these items will not be addressed

Repairs are made on an ‘as need’ basis until other funding sources become available

Schedule of Renovations and Renewals

Fiscal Year	Year Opened	Project	Proposed Funding
2016		Henderson Elementary School - Renewal (Funding Phase 2)	<i>Previously Funded/Under Construction</i>
		King Elementary School - Renewal (Funding Phase 2)	
		Lake Ridge Elementary School - Renewal (Funding Phase 2)	
		Loch Lomond Elementary School - Renewal Phase 2 (Funding Phase 2)	
		Springwoods Elementary School - Renewal (Funding Phase 2)	
		Kitchen HVAC Upgrades - Phase 2 of 2	
		Hylton High School - Roof Replacement (Funding Phase 1)	
		Lake Ridge Middle School - Roof Replacement	
		Kitchen - Upgrades	
		Energy Infrastructure Improvements	
		HVAC Equipment and Controls - Upgrades	
		Roof Replacements/Repairs (TBD)	
		Title IX Improvements	
		Technology Improvement Program - Upgrades	
	Total - Fiscal Year 2016		
2017	1990	Antietam Elementary School - Renewal (Funding Phase 1; Bond Funded also)	\$2,250,000
	1989	McAuliffe Elementary School - Renewal (Funding Phase 1; Bond Funded also)	\$2,250,000
	1990	Mullen Elementary School - Renewal (Funding Phase 1; Bond Funded also)	\$2,250,000
	1989	Westridge Elementary School - Renewal (Funding Phase 1; Bond Funded also)	\$2,250,000
	1989	Lake Ridge Middle School - Renewal (Funding Phase 1; Bond Funded also)	\$3,000,000
	1988	Saunders Middle School - Renewal (Funding Phase 1; Bond Funded also)	\$1,825,000
		Gar-Field High School - Roof Replacement (Partial)	\$1,500,000
		Hylton High School - Roof Replacement (Funding Phase 2)	\$2,150,000
		Kitchen - Upgrades	\$700,000
		Energy Infrastructure Improvements	\$1,000,000
		HVAC Equipment and Controls - Upgrades	\$1,551,000
		Asphalt Upgrades	\$1,050,000
		Portable Classroom Relocation	\$500,000
		Title IX Improvements	\$260,000
		Technology Improvement Program - Upgrades	\$2,500,000
	Total - Fiscal Year 2017		\$25,036,000

Schedule of Renovations and Renewals

Fiscal Year	Year Opened	Project	Proposed Funding
2018	1990	Antietam Elementary School - Renewal (Funding Phase 2)	\$2,000,000
		McAuliffe Elementary School - Renewal (Funding Phase 2)	\$2,000,000
		Mullen Elementary School - Renewal (Funding Phase 2)	\$1,950,000
		Westridge Elementary School - Renewal (Funding Phase 2)	\$1,950,000
		Lake Ridge Middle School - Renewal (Funding Phase 2)	\$2,600,000
		Saunders Middle School - Renewal (Funding Phase 2)	\$2,600,000
		River Oaks Elementary School - Renewal (Funding Phase 1)	\$6,000,000
		Beville Middle School - Roof Replacement	\$2,700,000
		Kitchen - Upgrades	\$330,000
		Asphalt Upgrades	\$756,000
		Portable Classroom Relocation	\$500,000
		Energy Infrastructure Improvements	\$1,000,000
		HVAC Equipment and Controls - Upgrades	\$800,000
		Title IX Improvements	\$270,000
		Technology Improvement Program - Upgrades	\$3,000,000
Total - Fiscal Year 2018			\$28,456,000
2019	1996	River Oaks Elementary School - Renewal (Funding Phase 2)	\$3,200,000
		Bennett Elementary School - Renewal (Funding Phase 1)	\$6,750,000
	1996	Leesylvania Elementary School - Renewal (Funding Phase 1)	\$6,750,000
	1994	Marshall Elementary School - Renewal (Funding Phase 1)	\$6,750,000
	1991	Montclair Elementary School - Renewal (Funding Phase 1)	\$6,655,000
	1995	Mountain View Elementary School - Renewal (Funding Phase 1)	\$6,750,000
	1995	Old Bridge Elementary School - Renewal (Funding Phase 1)	\$6,750,000
	1998	Penn Elementary School - Renewal (Funding Phase 1)	\$6,750,000
	2019	Benton Middle School - Roof Replacement (Funding Phase 1)	\$2,500,000
		Forest Park High School - Roof Replacement (Funding Phase 1)	\$2,500,000
		Rippon Middle School - Fenestration Improvements - Phase 1	\$1,055,000
		Kitchen - Upgrades	\$500,000
		Asphalt Upgrades	\$600,000
		Portable Classroom Relocation	\$500,000
		Energy Infrastructure Improvements	\$1,000,000
HVAC Equipment and Controls - Upgrades	\$850,000		

Schedule of Renovations and Renewals

Fiscal Year	Year Opened	Project	Proposed Funding
2019 <i>(cont.)</i>		Roof Replacements/Repairs (TBD)	\$850,000
		Title IX Improvements	\$280,000
		Technology Improvement Program - Upgrades	\$3,500,000
		Total - Fiscal Year 2019	\$64,490,000
2020		Bennett Elementary School - Renewal (Funding Phase 2)	\$3,300,000
		Leesylvania Elementary School - Renewal (Funding Phase 2)	\$3,300,000
		Marshall Elementary School - Renewal (Funding Phase 2)	\$3,300,000
		Montclair Elementary School - Renewal (Funding Phase 2)	\$3,300,000
		Mountain View Elementary School - Renewal (Funding Phase 2)	\$3,300,000
		Old Bridge Elementary School - Renewal (Funding Phase 2)	\$3,300,000
		Penn Elementary School - Renewal (Funding Phase 2)	\$3,300,000
		Benton Middle School - Roof Replacement (Funding Phase 2)	\$1,000,000
		Forest Park High School - Roof Replacement (Funding Phase 2)	\$1,000,000
		Portable Classroom Relocation	\$500,000
		Energy Infrastructure Improvements	\$1,000,000
		HVAC Equipment and Controls - Upgrades	\$1,000,000
		Roof Replacements/Repairs (TBD)	\$980,000
		Title IX Improvements	\$290,000
		Technology Improvement Program - Upgrades	\$4,000,000
	Total - Fiscal Year 2020	\$32,870,000	

Schedule of Renovations and Renewals

Fiscal Year	Year Opened	Project	Proposed Funding	
	1998	Bristow Run Elementary School - Renewal (Funding Phase 1)	\$7,950,000	
	2000	Signal Hill Elementary School - Renewal (Funding Phase 1)	\$7,950,000	
	2000	Benton Middle School - Renewal (Funding Phase 1)	\$8,950,000	
	1991	Beville Middle School - Renewal (Funding Phase 1)	\$8,950,000	
	2000	Forest Park High School - Renewal (Funding Phase 1)	\$12,500,000	
	1991	Hylton High School - Renewal (Funding Phase 1)	\$12,500,000	
2021		Transportation Bus Parking (TBD)	\$1,600,000	
		Rippon Middle School - Fenestration Improvements - Phase 2	\$1,300,000	
		Kitchen - Upgrades	\$710,000	
		Asphalt Upgrades	\$1,000,000	
		Portable Classroom Relocation	\$500,000	
		Energy Infrastructure Improvements	\$1,000,000	
		HVAC Equipment and Controls - Upgrades	\$1,400,000	
		Roof Replacements/Repairs (TBD)	\$2,681,000	
		Title IX Improvements	\$300,000	
		Technology Improvement Program - Upgrades	\$4,500,000	
		Total - Fiscal Year 2021		\$73,791,000
	2022		Bristow Run Elementary School - Renewal (Funding Phase 2)	\$3,100,000
			Signal Hill Elementary School - Renewal (Funding Phase 2)	\$3,100,000
		Benton Middle School - Renewal (Funding Phase 2)	\$3,200,000	
		Beville Middle School - Renewal (Funding Phase 2)	\$3,200,000	
		Forest Park High School - Renewal (Funding Phase 2)	\$4,853,000	
		Hylton High School - Renewal (Funding Phase 2)	\$4,853,000	
		Fenestration Improvements (TBD)	\$2,000,000	
		Kitchen - Upgrades	\$700,000	
		Asphalt Upgrades	\$1,000,000	
		Portable Classroom Relocation	\$500,000	
		Energy Infrastructure Improvements	\$1,000,000	
		HVAC Equipment and Controls - Upgrades	\$2,000,000	
		Roof Replacements/Repairs (TBD)	\$2,956,000	
	Title IX Improvements	\$310,000		
	Technology Improvement Program - Upgrades	\$5,000,000		
	Total - Fiscal Year 2022		\$37,772,000	

Schedule of Renovations and Renewals

Fiscal Year	Year Opened	Project	Proposed Funding
		Renewals (Funding Phase 1):	
	<u>2002</u>	Ashland Elementary School	
	<u>2001</u>	Cedar Point Elementary School	
	<u>2001</u>	Swans Creek Elementary School	
	<u>2002</u>	Marsteller Middle School	\$69,594,000
2023		Kitchen - Upgrades	\$1,700,000
		Asphalt Upgrades	\$1,000,000
		Portable Classroom Relocation	\$500,000
		Energy Infrastructure Improvements	\$1,000,000
		HVAC Equipment and Controls - Upgrades	\$2,000,000
		Roof Replacements/Repairs (TBD)	\$3,277,000
		Title IX Improvements	\$320,000
		Technology Improvement Program - Upgrades	\$5,500,000
		Total - Fiscal Year 2023	<i>\$84,891,000</i>
			Renewals (Funding Phase 2):
2024		Ashland Elementary School	
		Cedar Point Elementary School	
		Swans Creek Elementary School	
		Marsteller Middle School	\$24,225,000
		Fenestration Improvements (TBD)	\$2,000,000
		Kitchen - Upgrades	\$1,000,000
		Asphalt Upgrades	\$1,000,000
		Portable Classroom Relocation	\$500,000
		Energy Infrastructure Improvements	\$1,000,000
		HVAC Equipment and Controls - Upgrades	\$2,000,000
	Roof Replacements/Repairs (TBD)	\$5,477,000	
	Title IX Improvements	\$330,000	
	Technology Improvement Program - Upgrades	\$6,000,000	
	Total - Fiscal Year 2024	<i>\$43,532,000</i>	

Schedule of Renovations and Renewals

Fiscal Year	Year Opened	Project	Proposed Funding
		Renewals (Funding Phase 1):	
	<u>2003</u>	Alvey Elementary School	
	<u>2004</u>	Ellis Elementary School	
	<u>2002</u>	Bull Run Middle School	
		HS (TBD) and McCuin Transportation Center	\$79,281,000
		Fenestration Improvements (TBD)	\$2,000,000
		Kitchen - Upgrades	\$1,000,000
2025		Asphalt Upgrades	\$1,000,000
		Portable Classroom Relocation	\$500,000
		Energy Infrastructure Improvements	\$1,000,000
		HVAC Equipment and Controls - Upgrades	\$2,000,000
		Roof Replacements/Repairs (TBD)	\$4,211,000
		Title IX Improvements	\$340,000
		Technology Improvement Program - Upgrades	\$6,500,000
		Total - Fiscal Year 2025	\$97,832,000
		Renewals (Funding Phase 2):	
		Alvey Elementary School	
		Ellis Elementary School	
		Bull Run Middle School	
		HS (TBD) and McCuin Transportation Center	\$27,227,000
		Fenestration Improvements (TBD)	\$2,000,000
		Kitchen - Upgrades	\$2,000,000
2026		Portable Classroom Relocation	\$500,000
		Energy Infrastructure Improvements	\$1,000,000
		HVAC Equipment and Controls - Upgrades	\$2,000,000
		Roof Replacements/Repairs (TBD)	\$6,000,000
		Asphalt Upgrades	\$2,000,000
		Title IX Improvements	\$350,000
		Technology Improvement Program - Upgrades	\$7,000,000
		Total - Fiscal Year 2026	\$50,077,000
TOTAL (FY 2017-2026)			\$538,747,000

Turf Field Conversion

In 2015, the Prince William County Board of Supervisors directed the Department of Parks and Recreation to provide artificial turf fields with lights at five (5) Prince William County middle schools. The Board of County Supervisors' FY 16 approved budget provided the funding for the field conversions.

Facilities Services coordinated the design and construction of the turf field conversions. The construction projects were bid in March 2015 and construction was completed during the 2015 summer for field use in September. The turf fields are primarily used and programmed by the Department of Parks and Recreation. Middle School students have use of the fields during the school day.

<i>School</i>	<i>Field Converted</i>	<i>Project Costs</i>
Benton Middle School	Practice Field	\$2,218,000
Godwin Middle School	Stadium Field	
Graham Park Middle School	Stadium Field	\$3,610,000
Lake Ridge Middle School	Stadium Field	
Woodbridge Middle School	Stadium Field	
<i>TOTAL</i>		<i>\$5,828,000</i>

Summary

- Projected Growth in Students, Fiscal Years 2017-26 18,042
- Current Portable Classrooms 215
- Additional School Facilities 12
 - New Elementary Schools 5
 - New Middle Schools 3
 - New High Schools 2
 - Replacement Schools (*PACE East, Kilby Elementary*) 2
- Additional Classrooms (11 Schools) 117
 - Elementary School Classroom Additions (9 Schools) 87
 - Middle School Classroom Additions (2 Schools) 30
- Total Additional Capacity16,346
- New Schools, Additions, and Other Bond-Funded Projects
 - Construction of New Facilities and Additions \$ 827,174,380
 - Site Acquisition \$ 29,500,000
 - Renewals\$ 31,175,000
- Renovations and Renewals
 - Renewals \$ 473,197,000
 - Title IX Improvements \$ 3,050,000
 - Technology Improvements Program \$ 47,500,000
 - Energy Infrastructure Improvements \$ 10,000,000
 - Portable Classroom Purchase, Relocation and Maintenance \$ 5,000,000

TOTAL CAPITAL IMPROVEMENTS PROGRAM \$1,426,596,380

Capital Projects Funded Fiscal Year 2017	
○ Construction of new schools:	
* Kilby Elementary School Replacement	
*Elementary School @ Potomac Shores	
*Belmont Elementary School Addition	
*Henderson Elementary School Addition	
*Neabso Elementary School Addition	
○ Renewals & Repairs:	
* Phase 1 Funding - Antietam ES, McAuliffe ES, Mullen ES, Westridge ES, Lake Ridge MS, Saunders MS	
○ HVAC upgrades/repairs, Roof repairs/replacement, Kitchen upgrades, Asphalt upgrades	
○ Continue Title IX, Energy and Technology Improvements	

APPENDIX A

School Facility Information

School Facility Information

- School Facility Data by Facility Type
 - Elementary School, Combined School, Middle School, High School, Special School, Alternative School, Administrative, and Transportation use
 - School Name
 - Planning Capacity
 - Portable Classrooms 2015-16
 - Regular Classrooms
 - Year Opened
 - Year of Last and Next School Renovation
 - Year of any School Addition(s)
 - Building Square Feet
 - Site Acres

School Facility Information

Prince William County Schools

Elementary School	Planning Capacity	Portable Classrooms 2015-16	Regular Class-rooms	Year Opened	School Renovation		School Addition(s)			Building Square Feet	Site Acres
					Next	Last	Year	# Class-rooms	Year		
Alvey ES	780		41	2003	FY 25					83,084	20.2
Antietam ES	616	1	31	1990	FY 17					62,334	14.9
Ashland ES	900		46	2002	FY 23		2008	5		98,461	18.1
Bel Air ES	568	6	28	1968		2008	2008	8		53,712	15.0
Belmont ES	462	3	25	1967		2006	2006	4	2017	45,182	14.3
Bennett ES	780		40	1996	FY 19		2000	8		83,969	15.3
Bristow Run ES	780		40	1998	FY 21		2004	8		83,885	21.7
Buckland Mills ES	852		43	2006						89,936	15.0
Cedar Point ES	780		41	2001	FY 23					83,084	15.5
Coles ES	472	3	25	1968		2009				52,745	17.0
Dale City ES	496	5	25	1967		2006	2001	4		44,333	14.8
Dumfries ES	520	6	27	1918		2014	1989	8		44,925	10.0
Ellis ES	626	2	32	2004	FY 25					76,724	10.5
Enterprise ES	520	2	26	1978		2009				51,260	15.0
Featherstone ES	626	1	29	1961		2015	2015	6		56,246	12.0
Fitzgerald ES	852		46	2008						106,170	11.2
Glenkirk ES	780		41	2005						83,084	15.6
Gravelly ES	852		43	2008						95,314	18.0
Haymarket ES	948		44	2014						98,736	24.3
Henderson ES	592	2	29	1985		2015				56,653	14.9
Kerrydale ES	496	5	24	1973		2007				46,300	15.4
Kilby ES	414	2	24	1959		2001				39,412	12.8
King ES	520	2	26	1981		2015				57,546	15.2
Lake Ridge ES	544	7	27	1983		2015				59,904	15.1
Leesylvania ES	804	2	41	1996	FY 19					83,084	16.3
Loch Lomond ES	616		30	1962		2015	2013	4		58,278	10.7
Marshall ES	698		35	1994	FY 19		1999	4		62,700	24.2
Marumsc Hills ES	650	11	35	1966		2006	2006	2	2009	56,651	12.2
McAuliffe ES	568	1	28	1989	FY 17					59,517	15.1
Minnieville ES	544	6	28	1972		2005				53,028	15.2
Montclair ES	698		35	1991	FY 19		2008	4		70,928	15.9
Mountain View ES	698		35	1995	FY 19		2002	4		67,815	30.0
Mullen ES	876		43	1990	FY 17		1999	4	2013	82,219	15.0
Neabsco ES	626	5	33	1969		2009				58,354	12.8
Occoquan ES	520	6	26	1927		2002	2003	5		55,225	10.1
Old Bridge ES	626	1	32	1995	FY 19					74,433	17.9
Parks ES	780		41	2006						83,084	15.2
Pattie ES	698		36	1978		2013				53,767	15.0
Penn ES	780	3	39	1998	FY 19		2013	7		87,542	16.9
Piney Branch ES	924		44	2011						104,448	21.0
Potomac View ES	746	12	37	1964		2005	2005	4	2009	60,756	12.4
River Oaks ES	780	2	38	1990	FY 18		2014	7		80,618	15.2
Rockledge ES	650	2	31	1972		2007	2009	7		64,769	16.2
Signal Hill ES	780		41	2000	FY 21					83,084	24.5
Sinclair ES	876		42	1968		2009	2001	6	2013	75,698	15.0
Springwoods ES	592	7	28	1985		2015				58,221	15.1
Sudley ES	876	1	38	1972		2004	2013	10		73,457	14.0
Swans Creek ES	770	2	38	2001	FY 23		2012	6		86,934	18.5
Triangle ES	924		44	2010						103,679	18.9
Tyler ES	568		28	1968		2007	2007	4		56,014	25.5
Vaughan ES	698	7	36	1964		2005	2001	4	2009	58,967	13.6
Victory ES	852		43	2005						89,911	21.2
West Gate ES	770	2	36	1964		2009	2013	4		59,727	12.1
Westridge ES	712		34	1989	FY 17		2012	6		70,559	15.0
Williams ES	780	4	41	2004						83,084	13.6
Wood ES	924	1	44	2011						104,448	33.8
Yorkshire ES	948		46	2009						106,614	13.3
Yung ES	924		45	2015						107,273	20.8
Total	41,052	122	2,054					143	38	4,187,885	953.2

School Facility Information

Prince William County Schools

Combined School	Planning Capacity	Portable Classrooms 2015-16	Regular Class-rooms	Year Opened	School Renovation		School Addition(s)				Building Square Feet	Site Acres
					Next	Last	Year	# Class-rooms	Year	# Class-rooms		
Nokesville School, The	1,031		55	2014							141,832	48.2
Pennington Traditional	648		31	1969		2012					56,330	15.0
Porter Traditional	672		32	2004							71,245	16.9
Total	2,351		118								269,407	80.1

Middle School	Planning Capacity	Portable Classrooms 2015-16	Regular Class-rooms	Year Opened	School Renovation		School Addition(s)				Building Square Feet	Site Acres
					Next	Last	Year	# Class-rooms	Year	# Class-rooms		
Benton MS	1,464		76	2000	FY 21		2013	11			151,130	48.2
Beville MS	1,191		65	1991	FY 21	1998					134,140	42.1
Bull Run MS	1,233		65	2002	FY 25						135,309	39.4
Gainesville MS	1,233	5	65	2007							135,309	39.4
Godwin MS	982	2	54	1970		2010	2002	8			124,610	30.0
Graham Park MS	867	5	47	1963		2001	2001	4			110,514	21.9
Lake Ridge MS	1,191		65	1989	FY 17						132,258	34.1
Lynn MS	1,170		64	1964		2001					131,974	28.6
Marsteller MS	1,233	5	65	2002	FY 23						135,309	36.4
Parkside MS	1,453		74	1963		2000	2014	15			145,677	30.0
Potomac MS	1,464		76	2006			2013	11			151,130	36.4
Reagan MS	1,233		65	2012							134,765	41.9
Rippon MS	1,139	1	63	1967		2010	2016	8			132,607	30.2
Saunders MS	1,212		64	1988	FY 17						137,088	29.5
Stonewall MS	1,003	5	52	1964		2002					127,673	32.2
Woodbridge MS	1,066	4	56	1964		2003					124,511	37.4
Total	19,134	27	1,016					57	0		2,144,004	557.7

High School	Planning Capacity	Portable Classrooms 2015-16	Regular Class-rooms	Year Opened	School Renovation		School Addition(s)				Building Square Feet	Site Acres
					Next	Last	Year	# Class-rooms	Year	# Class-rooms		
Battlefield HS	2,053	12	101	2004							285,086	78.8
Brentsville HS	1,110		53	1965		2000	2000	9	1980		163,066	29.0
Forest Park HS	2,053		101	2000	FY 21						283,268	79.1
Freedom HS	2,053		101	2004							285,886	80.7
Gar-Field HS	2,839		128	1972		2003					353,742	91.5
Hylton HS	2,053	5	101	1991	FY 21						282,346	74.8
Osborn Park HS	2,430	6	115	1975		2006					328,386	56.1
Patriot HS	2,053	20	101	2011							320,124	60.0
Potomac HS	2,357		113	1981		2012	2013	30			273,329	75.1
Stonewall Jackson HS	2,409	3	117	1973		2005					328,540	56.6
Woodbridge HS	2,734		125	1974		2004					352,497	52.7
Total	24,144	46	1,156					39	0		3,256,270	734.4

Special School	Planning Capacity	Portable Classrooms 2015-16	Regular Class-rooms	Year Opened	School Renovation		School Addition(s)				Building Square Feet	Site Acres
					Next	Last	Year	# Class-rooms	Year	# Class-rooms		
Independent Hill SE / PACE East		8	20	1967							49,204	10.0
PACE West SE			21	2012							39,998	13.5
Woodbine SE		1	4	1953		1990					8,320	1.9
Total	0	9	45					0	0		97,522	25.4

Alternative School	Planning Capacity	Portable Classrooms 2015-16	Regular Class-rooms	Year Opened	School Renovation		School Addition(s)				Building Square Feet	Site Acres
					Next	Last	Year	# Class-rooms	Year	# Class-rooms		
New Directions Alt			13	2004							20,245	
New Dominion Alt		11	5	1975		1993					14,749	5.0
Total	0	11	18					0	0		34,994	5.0

School Facility Information

Prince William County Schools

Administrative	Planning Capacity	Portable Classrooms 2015-16	Regular Class-rooms	Year Opened	School Renovation		School Addition(s)				Building Square Feet	Site Acres
					Next	Last	Year	# Class-rooms	Year	# Class-rooms		
Ann Ludwig				1975							14,220	4.8
Independent Hill Complex				1968							139,947	34.2
Kelly Leadership Center				2008							145,747	20.0
Total	0	0	0					0		0	299,914	59.0

Transportation	Planning Capacity	Portable Classrooms 2015-16	Regular Class-rooms	Year Opened	School Renovation		School Addition(s)				Building Square Feet	Site Acres
					Next	Last	Year	# Class-rooms	Year	# Class-rooms		
McCuin Transportation Cntr				2002							8,400	11.5
Transportation Center Central				2005							14,934	29.9
Transportation Center East				2002							15,565	16.8
Transportation Cntr (Hooe Rd)				1979							28,028	20.0
Total	0	0	0					0		0	66,927	78.2

All Facilities	Planning Capacity	Portable Classrooms 2015-16	Regular Class-rooms	Year Opened	School Renovation		School Addition(s)				Building Square Feet	Site Acres
					Next	Last	Year	# Class-rooms	Year	# Class-rooms		
Total	86,681	215	4,407					239		38	10,356,923	2,493.0

APPENDIX B

Student Enrollment & Housing Data

Student Enrollment & Housing Data

- Student Enrollment Forecasting
 - Housing Unit Method
 - Grade Progression Ratio Method
- Alternative Solutions to School Overcrowding
- Student Enrollment Data: Current and Projected Enrollment
 - by School (Elementary, Middle, High, and Special/Alternative Education), School Years 2015-25
- Housing Units in Residential Development
 - by School (Elementary, Middle, and High)
- Historical and Projected Enrollment Data
- Student Enrollment Projections - Error Rate Analysis
- Portable Classrooms
- Various Charts and Graphs
- Geographic Areas – Map and Table

Student Enrollment Forecasting

Most forecasts share common features. They tend to be an extrapolation of the past, involve some level of judgment, and are inherently not perfect predictors of the future. These features contribute to why it's indispensable to continually evaluate the forecasting methods used and the accuracy of their projections. The primary goal in the enrollment forecasting process is to reduce statistical error so that the projections can become better predictors of future student enrollments, resulting in the ability to place greater confidence in them when planning future capital improvements. The forecasts rely on spatial and aspatial data that are manipulated and processed by Geographic Information System (GIS) software and statistical software packages, respectively. The methods used to produce student enrollment forecasts in PWCS are discussed in greater detail and communicated through flow charts in the following pages.

Methodology

The student enrollment forecasts are calculated combining two widely-used techniques in projecting student enrollment that are commonly referred to as the **Housing-Unit Method** and the **Grade Progression Method**. One caveat is that judgmental adjustments, which are common in forecasting, are often used to fine-tune the enrollment forecasts. The combination of statistical methods was chosen for two primary reasons. First, the model produced by them is supported by industry best practices and scholarly literature. Second, it is relatively inexpensive to produce. Each primary method is now discussed more extensively.

Housing-Unit Method

The Housing-Unit Method establishes a relationship between housing units and student enrollment. The relationship is calculated for a specific geography in PWC by dividing the number of students residing in the geographic region by the number of existing housing units. In PWCS, the resulting value is referred to as a Student Generation Factor. It can be interpreted as the number of students on average that housing units generated in a specific region. Factors are calculated at varying geographies (e.g., county-wide, elementary school attendance area, and Planning Zone) and for each housing unit type (e.g., single-family detached, townhouse, and multifamily). For future years, the projected ratio of students per housing unit, in concert with moving these ratios forward in time via the Grade Progression Ratio Method, is multiplied by the number of predicted housing units by year to produce the forecasts of total students in Prince William County Schools.

Grade Progression Ratio Method

The Grade Progression Ratio Method used in PWCS, is the weighted average of historical grade progression ratios. The calculated ratio for each grade level is multiplied by its corresponding grade level cohort for a particular year to project the subsequent year’s enrollment. An example below is provided to help explain the method.

Below is a table that tabulates the historical record of total sixth and seventh grade students for the current year (i.e., Year₍₀₎) and the previous three years. Beneath the table is Grade Progression Ratio Method used with the provided data. For the sake of simplicity, no weighting is included in the example calculation, although more recent years are weighted more significantly in the actual projections used in PWCS. Averaging progression ratios for multiple years in the progression ratio calculation lessens the effect of any given year on the forecast, effectively smoothing the historical data. The forecaster can adjust the number of years used to calculate the progression ratio with the intent of attempting to control for outliers and to include the previous years that are believed to most closely represent the years being forecasted.

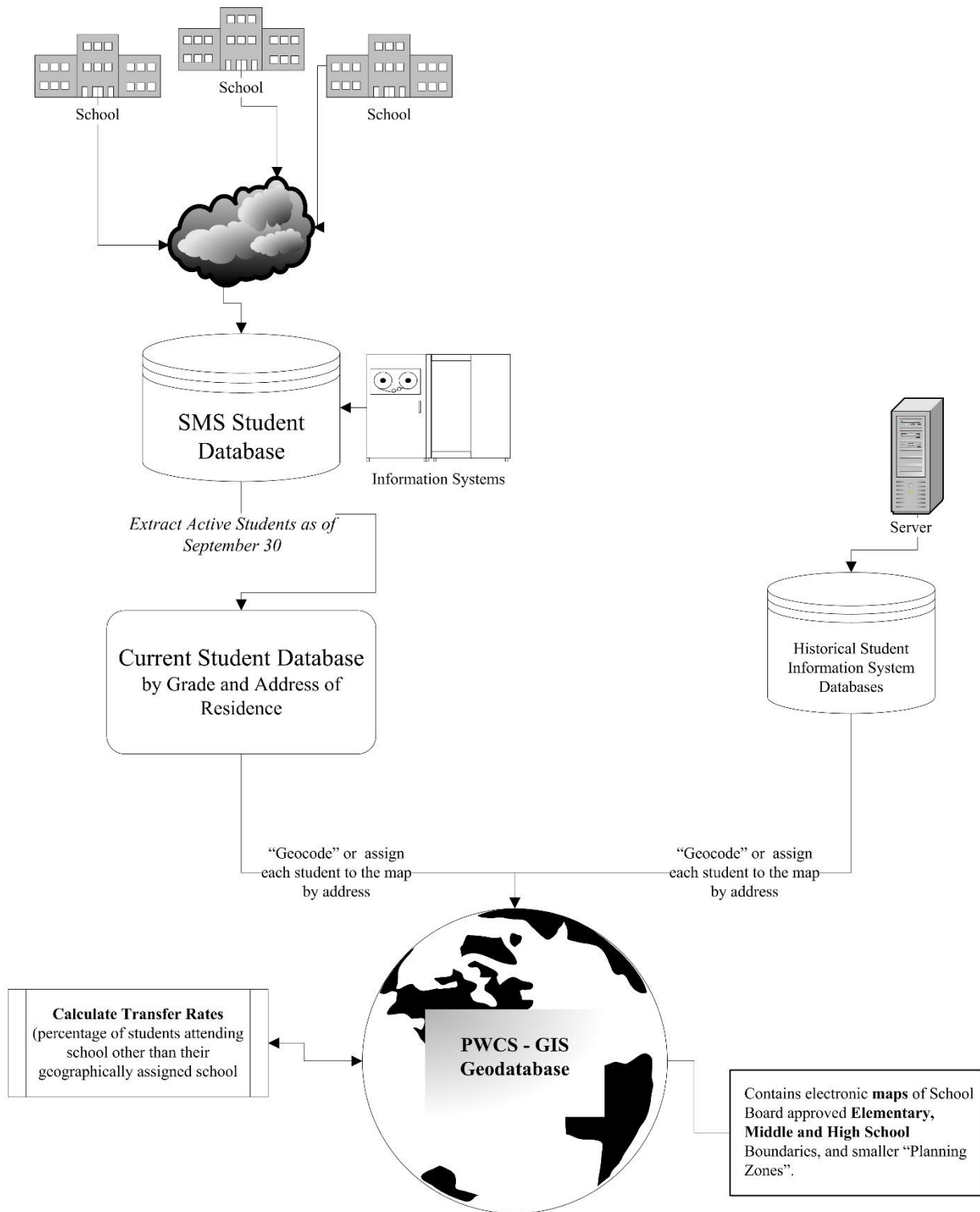
Grade	Year ₍₋₃₎	Year ₍₋₂₎	Year ₍₋₁₎	Year ₍₀₎	Progression Ratio	Year ₍₊₁₎
6 th	3,888	4,066	4,348	4,581		
7 th	N/A	4,024	4,184	4,525	1.0350	4,741

- Progression Ratio** = $(7^{\text{th}}_{\text{Year}(-2)} + 7^{\text{th}}_{\text{Year}(-1)} + 7^{\text{th}}_{\text{Year}(0)}) / (6^{\text{th}}_{\text{Year}(-3)} + 6^{\text{th}}_{\text{Year}(-2)} + 6^{\text{th}}_{\text{Year}(-1)})$
 $7^{\text{th}}_{\text{Year}(0)}$ indicates the 7th grade cohort of Current Year.
- Progression Ratio** = $(4,024 + 4,184 + 4,525) / (3,888 + 4,066 + 4,348) = 1.0350$
- Forecasted 7th Year₍₊₁₎ Student Enrollment** = $4,581 \times 1.0350 = 4,741$

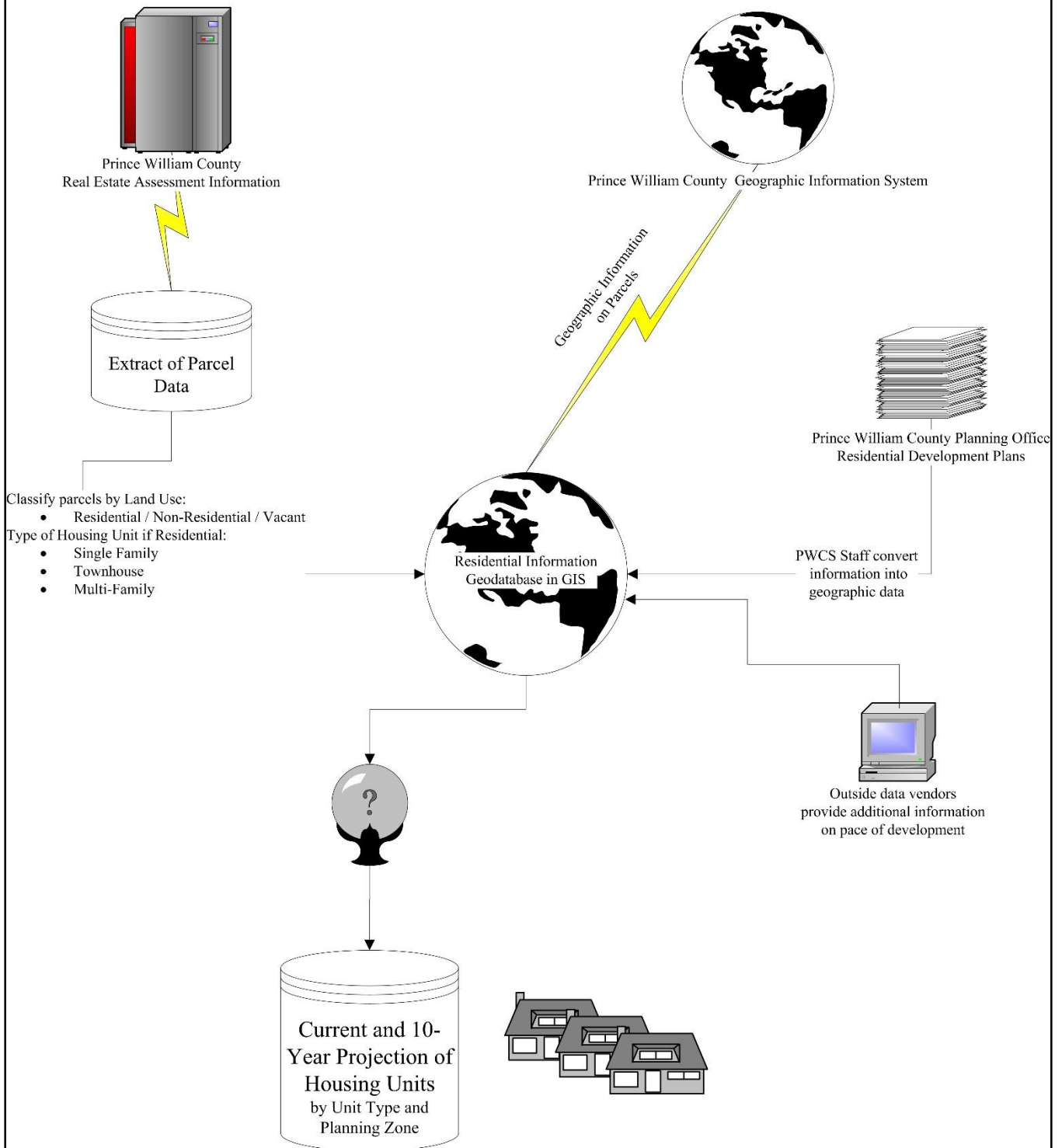
Student Enrollment Forecast Accuracy

The model used to project student enrollment in PWCS is effective, and with accurate data and correctly forecasted parameters, can provide reasonably accurate forecasts of future. Historically, it has yielded smaller errors at larger geographies. An average error of less than 1% has been associated with the Divisionwide one-year projections since the mid-1990s. Success at the school level, a relatively smaller geography, has varied by school. See charts on page B-16 and B-17 for historical error rates.

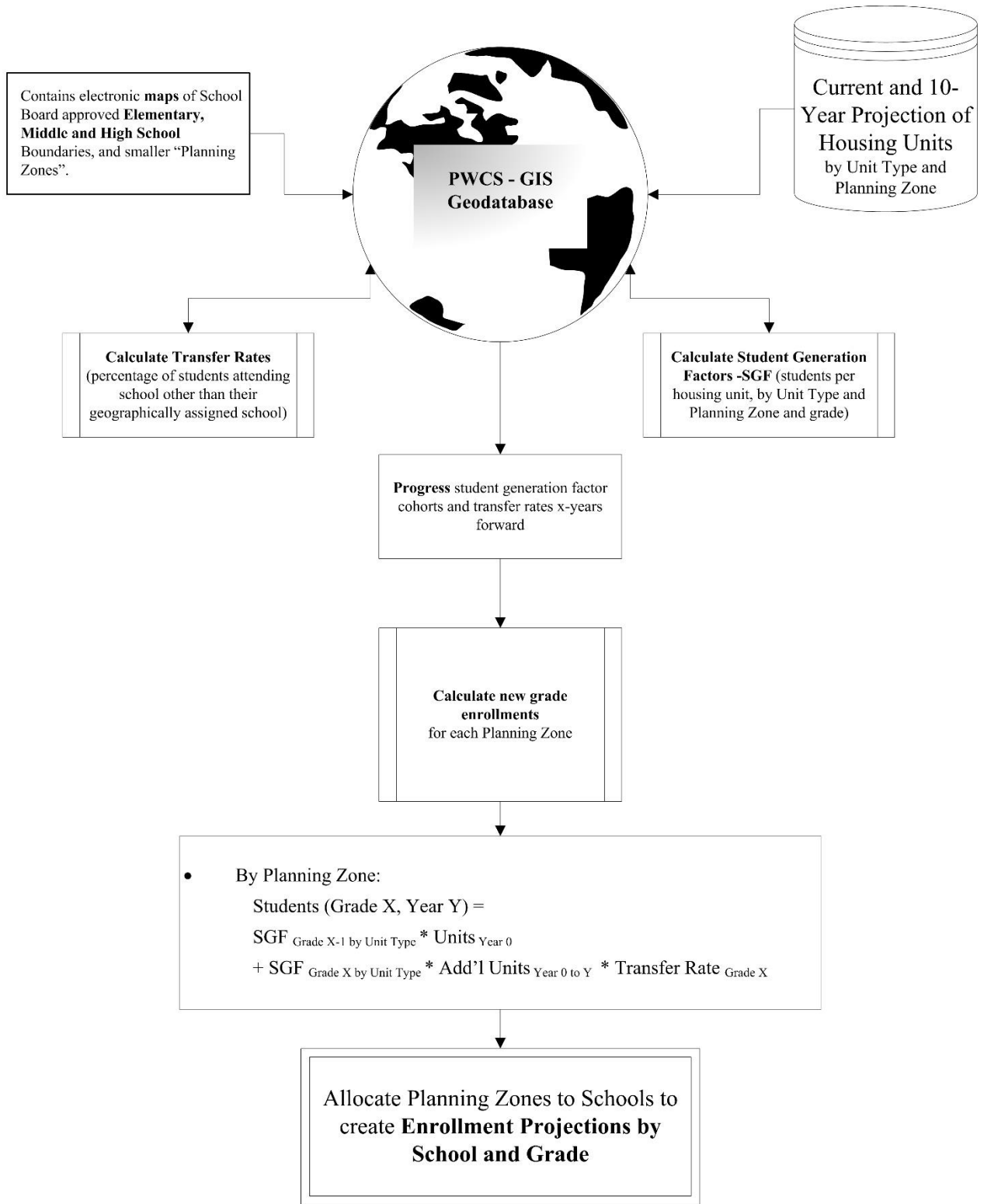
Analysis of Student Information



Analysis of Housing Unit Information



Preparation of Student Enrollment Forecasts



Alternative Solutions to School Overcrowding

There are several general methods that have been considered to alleviate overcrowding in schools.

- Boundary changes - For the opening of new schools or to shift student populations
- Optimization of boundaries so all available space in the county will be used
- Placement of portable classrooms
- New construction
- Freezing transfers
- Program changes – Examples:
 - Shifting eighth grade to a high school with unused space;
 - Moving PK Special Education programs;
 - Increasing pupil/teacher ratio;
 - Split shift.
- Year-Round Schooling

The method chosen for relieving overcrowding at a given school is determined by several criteria. These criteria include continuity and quality of educational program; maintenance of contiguous communities; transportation considerations; using centerline on divided highways when possible; and topographical features.

Student Enrollment Data: Current and Projected Enrollment
Elementary Schools
SY 2015-16 to SY 2025-26

Elementary School	Available Space		2015-16			2016-17			2020-21			2025-26		
	Capacity	Portable Classrooms	Students	+/-	% Util	Students	+/-	% Util	Students	+/-	% Util	Students	+/-	% Util
Alvey	780		676	104	86.7%	639	141	81.9%	698	82	89.5%	754	26	96.7%
Antietam	616	1	635	-19	103.1%	654	-38	106.2%	647	-31	105.0%	689	-73	111.8%
Ashland	900		969	-69	107.7%	727	173	80.7%	742	158	82.4%	805	95	89.4%
Bel Air	568	6	586	-18	103.2%	519	49	91.4%	515	53	90.7%	549	19	96.6%
Belmont	462	3	448	14	97.0%	431	31	93.4%	473	-11	102.4%	743	-281	160.8%
Bennett	780		686	94	87.9%	712	68	91.3%	776	4	99.5%	889	-109	114.0%
Bristow Run	780		657	123	84.2%	633	147	81.2%	639	141	81.9%	697	83	89.3%
Buckland Mills	852		688	164	80.8%	689	163	80.8%	746	106	87.6%	891	-39	104.6%
Cedar Point	780		622	158	79.7%	572	208	73.3%	585	195	75.0%	623	157	79.9%
Coles	472	3	507	-35	107.4%	448	24	94.9%	429	43	90.8%	462	10	97.8%
Dale City	496	5	440	56	88.7%	422	74	85.2%	443	53	89.4%	473	23	95.3%
Dumfries	520	6	530	-10	101.9%	525	-5	101.0%	531	-11	102.1%	570	-50	109.5%
Ellis	626	2	620	6	99.0%	654	-28	104.5%	670	-44	107.0%	723	-97	115.5%
Enterprise	520	2	484	36	93.1%	434	86	83.5%	456	64	87.7%	486	34	93.4%
Featherstone	626	1	574	52	91.7%	588	38	94.0%	569	57	90.8%	606	20	96.8%
Fitzgerald	852		837	15	98.2%	889	-37	104.4%	990	-138	116.2%	1,125	-273	132.1%
Glenkirk	780		745	35	95.5%	723	57	92.7%	764	16	97.9%	824	-44	105.6%
Gravelly	852		764	88	89.7%	740	112	86.8%	779	73	91.4%	893	-41	104.8%
Haymarket	948		686	262	72.4%	720	228	75.9%	797	151	84.1%	985	-37	103.9%
Henderson	592	2	596	-4	100.7%	603	-11	101.9%	596	-4	100.8%	636	-44	107.4%
Kerrydale	496	5	508	-12	102.4%	498	-2	100.4%	507	-11	102.3%	540	-44	108.9%
Kilby	414	2	412	2	99.5%	408	6	98.4%	398	16	96.1%	541	-127	130.8%
King	520	2	509	11	97.9%	441	79	84.8%	465	55	89.4%	498	22	95.8%
Lake Ridge	544	7	605	-61	111.2%	590	-46	108.5%	615	-71	113.0%	655	-111	120.4%
Leesylvania	804	2	783	21	97.4%	769	35	95.7%	818	-14	101.8%	943	-139	117.3%
Loch Lomond	616		531	85	86.2%	533	83	86.5%	565	51	91.7%	612	4	99.4%
Marshall	698		615	83	88.1%	603	95	86.4%	606	92	86.9%	648	50	92.9%
Marumscot Hills	650	11	767	-117	118.0%	820	-170	126.2%	863	-213	132.8%	920	-270	141.5%
McAuliffe	568	1	461	107	81.2%	455	113	80.1%	480	88	84.5%	511	57	89.9%
Minnieville	544	6	626	-82	115.1%	524	20	96.4%	547	-3	100.6%	610	-66	112.1%
Montclair	698		603	95	86.4%	554	144	79.4%	574	124	82.2%	617	81	88.4%
Mountain View	698		573	125	82.1%	557	141	79.8%	553	145	79.2%	600	98	86.0%
Mullen	876		704	172	80.4%	714	162	81.6%	736	140	84.1%	958	-82	109.4%
Neabsco	626	5	570	56	91.1%	569	57	90.9%	596	30	95.2%	638	-12	102.0%
Nokesville School, The	592		536	56	90.5%	531	61	89.8%	587	5	99.2%	775	-183	131.0%
Ocoquan	520	6	633	-113	121.7%	631	-111	121.3%	639	-119	122.8%	683	-163	131.4%
Old Bridge	626	1	733	-107	117.1%	764	-138	122.0%	734	-108	117.2%	782	-156	124.9%
Parks	780		792	-12	101.5%	697	83	89.4%	704	76	90.2%	754	26	96.7%
Pattie	698		709	-11	101.6%	691	7	99.0%	710	-12	101.8%	757	-59	108.4%
Penn	780	3	801	-21	102.7%	803	-23	102.9%	865	-85	110.8%	960	-180	123.1%
Pennington	405		405	0	100.0%	405	0	100.0%	405	0	100.0%	405	0	100.0%
Piney Branch	924		757	167	81.9%	771	153	83.4%	787	137	85.2%	917	7	99.2%
Porter	420		418	2	99.5%	420	0	100.0%	420	0	100.0%	420	0	100.0%
Potomac View	746	12	836	-90	112.1%	879	-133	117.8%	910	-164	122.0%	980	-234	131.4%
River Oaks	780	2	768	12	98.5%	786	-6	100.7%	771	9	98.9%	855	-75	109.7%
Rockledge	650	2	632	18	97.2%	651	-1	100.1%	653	-3	100.5%	696	-46	107.0%
Signal Hill	780		690	90	88.5%	712	68	91.3%	817	-37	104.8%	971	-191	124.5%
Sinclair	876		741	135	84.6%	753	123	85.9%	773	103	88.3%	824	52	94.1%
Springwoods	592	7	705	-113	119.1%	737	-145	124.4%	738	-146	124.6%	786	-194	132.8%
Sudley	876	1	702	174	80.1%	705	171	80.5%	705	171	80.5%	751	125	85.7%
Swans Creek	770	2	737	33	95.7%	776	-6	100.8%	1,222	-452	158.7%	1,879	-1,109	244.1%
Triangle	924		783	141	84.7%	782	142	84.7%	787	137	85.1%	859	65	92.9%
Tyler	568		517	51	91.0%	481	87	84.7%	493	75	86.8%	537	31	94.6%
Vaughan	698	7	795	-97	113.9%	854	-156	122.4%	896	-198	128.4%	995	-297	142.5%
Victory	852		708	144	83.1%	723	129	84.9%	834	18	97.9%	888	-36	104.3%
West Gate	770	2	543	227	70.5%	549	221	71.3%	552	218	71.6%	587	183	76.3%
Westridge	712		737	-25	103.5%	748	-36	105.1%	751	-39	105.5%	803	-91	112.8%
Williams	780	4	981	-201	125.8%	1,034	-254	132.6%	1,039	-259	133.2%	1,169	-389	149.8%
Wilson	924					753	171	81.5%	802	122	86.8%	873	51	94.5%
Wood	924	1	926	-2	100.2%	940	-16	101.7%	952	-28	103.1%	1,051	-127	113.8%
Yorkshire	948		808	140	85.2%	871	77	91.9%	914	34	96.4%	975	-27	102.9%
Yung	924		660	264	71.4%	688	236	74.5%	700	224	75.7%	1,428	-504	154.5%
Total	42,469 ¹	122	40,070	2,399 ³	96.5% ³	40,512	2,881	93.4%	42,347	1,046	97.6%	48,095	-4,702	110.8%
	43,393 ²													

Note:

¹ 2015 total elementary school capacity

² Total elementary school capacity that includes capacity of Wilson ES

³ Figures are calculated based on the 2015 total elementary school capacity

Student Enrollment Data: Current and Projected Enrollment
 Elementary Schools – Additional Space to be Constructed
 SY 2015-16 to SY 2025-26

Elementary School	2015-16			2016-17			2020-21			2025-26		
	Students	+/-	% Util	Students	+/-	% Util	Students	+/-	% Util	Students	+/-	% Util
2017												
<i>Belmont Elementary Addition (10 rooms)</i>									240			240
<i>Elementary School (East - Potomac Shores)</i>									924			924
<i>Henderson Elementary School Addition (10 rooms)</i>									240			240
<i>Kilby Elementary School Replacement</i>									510			510
<i>Neabsco Elementary Addition (8 rooms)</i>									192			192
2018												
<i>Pattie Elementary Addition (10 rooms)</i>									240			240
2019												
<i>Antietam Elementary Addition (13 rooms)</i>									312			312
<i>Elementary School (East - PW Parkway Area)</i>									924			924
<i>Lake Ridge Elementary Addition (13 rooms)</i>									312			312
<i>Leesylvania Elementary Addition (4 rooms)</i>									96			96
<i>Springwoods Elementary Addition (13 rooms)</i>									312			312
2021												
<i>Elementary School (East - Cherry Hill Area)</i>												924
2022												
<i>Elementary School (West - Stonewall Area)</i>												924
2024												
<i>Elementary School (West - Vint Hill Road ES)</i>												924
2025												
<i>Haymarket Area Addition (6 rooms)</i>												144
Sum of Additional Seats									4,302			7,218
Total	40,070	2,399	94.4%	40,512	2,881	93.4%	42,347	5,348	88.8%	48,095	2,516	95.0%

Student Enrollment Data: Current and Projected Enrollment
Middle Schools
SY 2015-16 to SY 2025-26

Middle School	Available Space		2015-16			2016-17			2020-21			2025-26		
	Capacity	Portable Classrooms	Students	+/-	% Util	Students	+/-	% Util	Students	+/-	% Util	Students	+/-	% Util
Benton	1,464		1,341	123	91.6%	1,311	153	89.5%	1,091	373	74.5%	1,116	348	76.2%
Beville	1,191		1,087	104	91.3%	1,117	74	93.8%	1,227	-36	103.0%	1,231	-40	103.4%
Bull Run	1,233		1,196	37	97.0%	1,206	27	97.8%	1,216	17	98.6%	1,257	-24	101.9%
Gainesville	1,233	5	1,381	-148	112.0%	1,401	-168	113.6%	1,445	-212	117.2%	1,687	-454	136.8%
Godwin	982	2	1,094	-112	111.4%	1,111	-129	113.2%	1,177	-195	119.8%	1,207	-225	123.0%
Graham Park	867	5	1,015	-148	117.1%	1,084	-217	125.0%	1,115	-248	128.6%	1,148	-281	132.4%
Lake Ridge	1,191		1,220	-29	102.4%	1,219	-28	102.3%	1,293	-102	108.6%	1,302	-111	109.3%
Lynn	1,170		1,035	135	88.5%	1,066	104	91.1%	1,300	-130	111.1%	1,467	-297	125.4%
Marsteller	1,233	5	1,297	-64	105.2%	1,356	-123	110.0%	1,267	-34	102.8%	1,329	-96	107.8%
Nokesville School, The	439		329	110	74.9%	355	84	80.8%	354	85	80.8%	444	-5	101.1%
Parkside	1,453		1,224	229	84.2%	1,241	212	85.4%	1,542	-89	106.1%	1,604	-151	110.4%
Pennington	243		243	0	100.0%	243	0	100.0%	243	0	100.0%	243	0	100.0%
Porter	252		267	-15	106.0%	252	0	100.0%	252	0	100.0%	252	0	100.0%
Potomac	1,464		1,183	281	80.8%	1,181	283	80.7%	1,527	-63	104.3%	1,865	-401	127.4%
Reagan	1,233		1,281	-48	103.9%	1,243	-10	100.8%	1,308	-75	106.1%	1,428	-195	115.8%
Rippon	1,139	1	1,187	-48	104.2%	1,227	-88	107.8%	1,448	-309	127.1%	1,584	-445	139.0%
Saunders	1,212		1,159	53	95.6%	1,098	114	90.6%	1,215	-3	100.2%	1,155	57	95.3%
Stonewall	1,003	5	1,171	-168	116.7%	1,160	-157	115.7%	1,450	-447	144.6%	1,436	-433	143.1%
Woodbridge	1,066	4	1,294	-228	121.4%	1,340	-274	125.7%	1,565	-499	146.8%	1,611	-545	151.1%
Total	20,068	27	20,004	64	99.7%	20,224	-156	100.8%	22,048	-1,980	109.9%	23,373	-3,305	116.5%
<i>Rippon Middle/IHS West (8/1 room addition, 2016)</i>														
							168			168			168	
<i>Lake Ridge MS Addition (13 rooms, 2018)</i>														
										273			273	
<i>Stonewall MS Addition (17 rooms, 2019)</i>														
										357			357	
<i>Middle School (East - Potomac Shores, 2020)</i>														
										1,464			1,464	
<i>Middle School (West - Linton Hall Area, 2024)</i>														
													1,464	
<i>Sum of Additional Seats</i>														
							168			2,262			3,726	
Total	20,068	27	20,004	64	99.7%	20,224	12	99.9%	22,048	282	98.7%	23,373	421	98.2%

Student Enrollment Data: Current and Projected Enrollment
High Schools
SY 2015-16 to SY 2025-26

High School	Available Space		2015-16			2016-17			2020-21			2025-26		
	Capacity	Portable Classrooms	Students	+/-	% Util	Students	+/-	% Util	Students	+/-	% Util	Students	+/-	% Util
Battlefield	2,053	12	2,698	-645	131.4%	2,783	-730	135.6%	3,000	-947	146.1%	3,199	-1,146	155.8%
Brentsville	1,110		1,114	-4	100.4%	993	117	89.5%	909	201	81.9%	1,024	86	92.3%
Colgan	2,053					1,506	547	73.3%	2,472	-419	120.4%	2,238	-185	109.0%
Forest Park	2,053		2,227	-174	108.5%	2,191	-138	106.7%	2,074	-21	101.0%	1,948	105	94.9%
Freedom	2,053		2,086	-33	101.6%	2,082	-29	101.4%	2,391	-338	116.5%	3,151	-1,098	153.5%
Gar-Field	2,839		2,527	312	89.0%	2,501	338	88.1%	2,723	116	95.9%	3,221	-382	113.5%
Hylton	2,053	5	2,436	-383	118.6%	2,088	-35	101.7%	1,808	245	88.1%	1,619	434	78.9%
Osborn Park	2,430	6	2,804	-374	115.4%	1,951	479	80.3%	1,684	746	69.3%	1,707	723	70.2%
Patriot	2,053	20	2,766	-713	134.7%	2,673	-620	130.2%	2,661	-608	129.6%	3,023	-970	147.3%
Potomac	2,357		1,886	471	80.0%	1,985	372	84.2%	2,438	-81	103.4%	3,545	-1,188	150.4%
Stonewall Jackson	2,409	3	2,444	-35	101.4%	2,559	-150	106.2%	3,093	-684	128.4%	4,333	-1,924	179.9%
Woodbridge	2,734		2,874	-140	105.1%	2,825	-91	103.3%	3,239	-505	118.5%	3,294	-560	120.5%
Total	24,144 ¹	46	25,861	-1,717 ³	107.1% ³	26,146	51	99.8%	28,492	-2,295	108.8%	32,305	-6,108	123.3%
	26,197 ²													
<i>13th High School - West (2021)</i>														
													2,053	
<i>14th High School - East (2023)</i>														
													2,053	
<i>Sum of Additional Seats</i>														
													4,106	
Total	24,144 ¹	46	25,861	-1,717 ³	107.1% ³	26,146	51	99.8%	28,492	-2,295	108.8%	32,305	-2,002	106.6%

Note:

- ¹ Total high school capacity that excludes capacity of Colgan HS
- ² Total high school capacity that includes capacity of Colgan HS
- ³ Figures are calculated based on the 2015 total high school capacity

Student Enrollment Data: Current Enrollment
Special Education and Alternative Schools
SY 2015-16

Special Education and Alternative School	2015-16	
	Portable Classrooms	Students
Independent Hill SE	0	30
PACE East SE	8	79
PACE West SE	0	82
Pre-School Child Find	0	90
School Based Pre-K	0	379
Woodbine SE	1	65
New Directions Alt	0	459
New Dominion Alt	11	71
TJHS Regional Magnet	0	64
Total	20	1,319

<i>Wilson Elementary (IHS East -1 room addition, 2016)</i>
<i>Rippon Middle Addition (IHS East -1 room addition, 2016)</i>
<i>Colgan HS (IHS 2 room addition, 2016)</i>
<i>New Alternative Education School (2018)</i>

Portable Classrooms: Current and Historical Totals
By School Type, 1998 to 2015

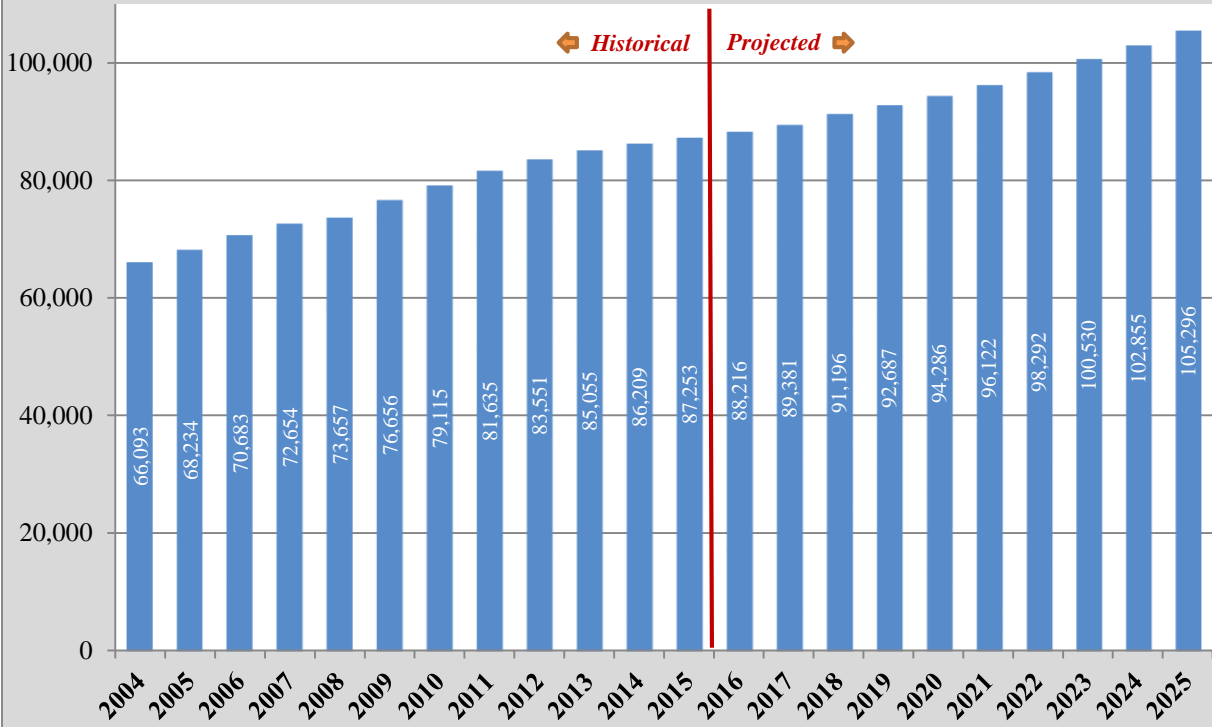
Year	Elementary	Middle	High	Alternative	Special Education	Total
1998	101	21	28	0	5	155
1999	109	25	25	0	5	164
2000	118	31	5	10	5	169
2001	122	37	2	10	5	176
2002	130	26	2	10	5	173
2003	141	16	2	10	5	174
2004	168	19	2	10	5	204
2005	185	40	5	10	5	245
2006	179	27	8	10	5	229
2007	184	20	14	10	10	238
2008	171	20	21	10	10	232
2009	150	21	36	10	7	224
2010	145	21	37	10	10	223
2011	132	31	21	10	10	204
2012	136	29	18	10	9	202
2013	126	23	30	11	9	199
2014	121	22	37	11	9	200
2015	122	27	46	11	9	215

Note: Portable classrooms used for instructional purposes.

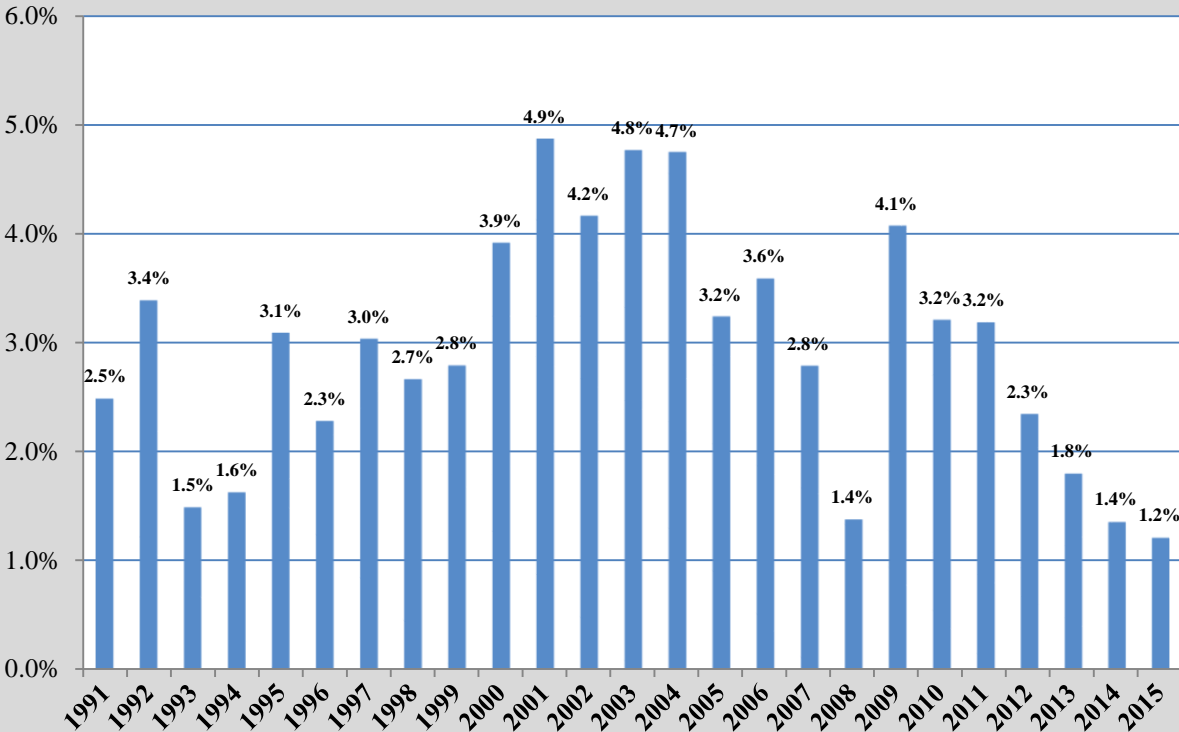
Student Enrollment Data: Historical and Projected 1966-2025

Year	School Type				Total	Annual Change	
	Elementary	Middle	High	Special Education		Number	Percentage
1966	11,361	5,242	4,511	133	21,247		
1967	11,782	5,843	4,991	83	22,699	1,452	6.8%
1968	13,083	6,488	5,641	97	25,309	2,610	11.5%
1969	14,266	7,164	6,496	97	28,023	2,714	10.7%
1970	15,377	7,873	7,008	106	30,364	2,341	8.4%
1971	15,794	8,368	8,053	107	32,322	1,958	6.4%
1972	15,975	8,738	8,741	107	33,561	1,239	3.8%
1973	16,583	9,498	9,464	80	35,625	2,064	6.1%
1974	19,462	9,865	10,338	148	39,813	4,188	11.8%
1975	19,538	10,261	10,800	201	40,800	987	2.5%
1976	18,693	9,799	10,277	238	39,007	-1,793	-4.4%
1977	16,626	9,041	10,463	309	36,439	-2,568	-6.6%
1978	15,378	8,466	10,729	273	34,846	-1,593	-4.4%
1979	16,166	8,344	10,918	286	35,714	868	2.5%
1980	15,385	8,465	10,993	310	35,153	-561	-1.6%
1981	15,429	8,757	11,031	367	35,584	431	1.2%
1982	15,141	8,775	10,927	382	35,225	-359	-1.0%
1983	15,334	8,701	11,128	401	35,564	339	1.0%
1984	15,598	8,438	11,464	383	35,883	319	0.9%
1985	16,326	8,273	11,844	447	36,890	1,007	2.8%
1986	17,130	8,414	11,850	526	37,920	1,030	2.8%
1987	18,143	8,460	12,010	611	39,224	1,304	3.4%
1988	19,334	8,730	11,883	703	40,650	1,426	3.6%
1989	20,130	9,060	11,652	692	41,534	884	2.2%
1990	20,702	9,320	11,638	686	42,346	812	2.0%
1991	20,984	9,861	11,846	709	43,400	1,054	2.5%
1992	21,768	10,212	12,178	712	44,870	1,470	3.4%
1993	21,605	10,654	12,501	779	45,539	669	1.5%
1994	21,826	10,733	12,822	900	46,281	742	1.6%
1995	22,473	11,085	13,329	825	47,712	1,431	3.1%
1996	22,886	11,327	13,828	760	48,801	1,089	2.3%
1997	23,529	11,636	14,366	751	50,282	1,481	3.0%
1998	24,044	11,744	14,839	994	51,621	1,339	2.7%
1999	24,690	12,212	15,292	868	53,062	1,441	2.8%
2000	25,653	12,774	16,079	633	55,139	2,077	3.9%
2001	26,814	13,445	16,881	683	57,823	2,684	4.9%
2002	27,717	14,256	17,558	698	60,229	2,406	4.2%
2003	28,820	15,035	18,525	719	63,099	2,870	4.8%
2004	30,101	15,580	19,652	760	66,093	2,994	4.7%
2005	31,286	15,623	20,448	877	68,234	2,141	3.2%
2006	32,704	15,748	21,228	1,003	70,683	2,449	3.6%
2007	33,858	16,040	21,792	964	72,654	1,971	2.8%
2008	34,428	16,273	21,930	1,027	73,657	1,003	1.4%
2009	36,055	17,034	22,328	1,239	76,656	2,999	4.1%
2010	37,261	17,700	22,857	1,298	79,115	2,459	3.2%
2011	38,436	18,351	23,500	1,348	81,635	2,520	3.2%
2012	39,269	18,902	24,015	1,365	83,551	1,916	2.3%
2013	39,538	19,473	24,665	1,379	85,055	1,504	1.8%
2014	39,920	19,703	25,249	1,337	86,209	1,154	1.4%
2015	40,070	20,004	25,861	1,319	87,253	1,045	1.2%
2016	40,512	20,224	26,146	1,334	88,216	963	1.1%
2017	40,759	20,243	27,030	1,349	89,381	1,165	1.3%
2018	41,324	21,117	27,390	1,364	91,196	1,815	2.0%
2019	41,628	21,743	27,935	1,381	92,687	1,491	1.6%
2020	42,347	22,048	28,492	1,400	94,286	1,599	1.7%
2021	43,183	22,224	29,293	1,421	96,122	1,836	1.9%
2022	44,219	22,336	30,296	1,441	98,292	2,170	2.3%
2023	45,554	22,659	30,847	1,470	100,530	2,237	2.3%
2024	46,780	22,809	31,771	1,495	102,855	2,325	2.3%
2025	48,095	23,373	32,305	1,523	105,296	2,441	2.4%

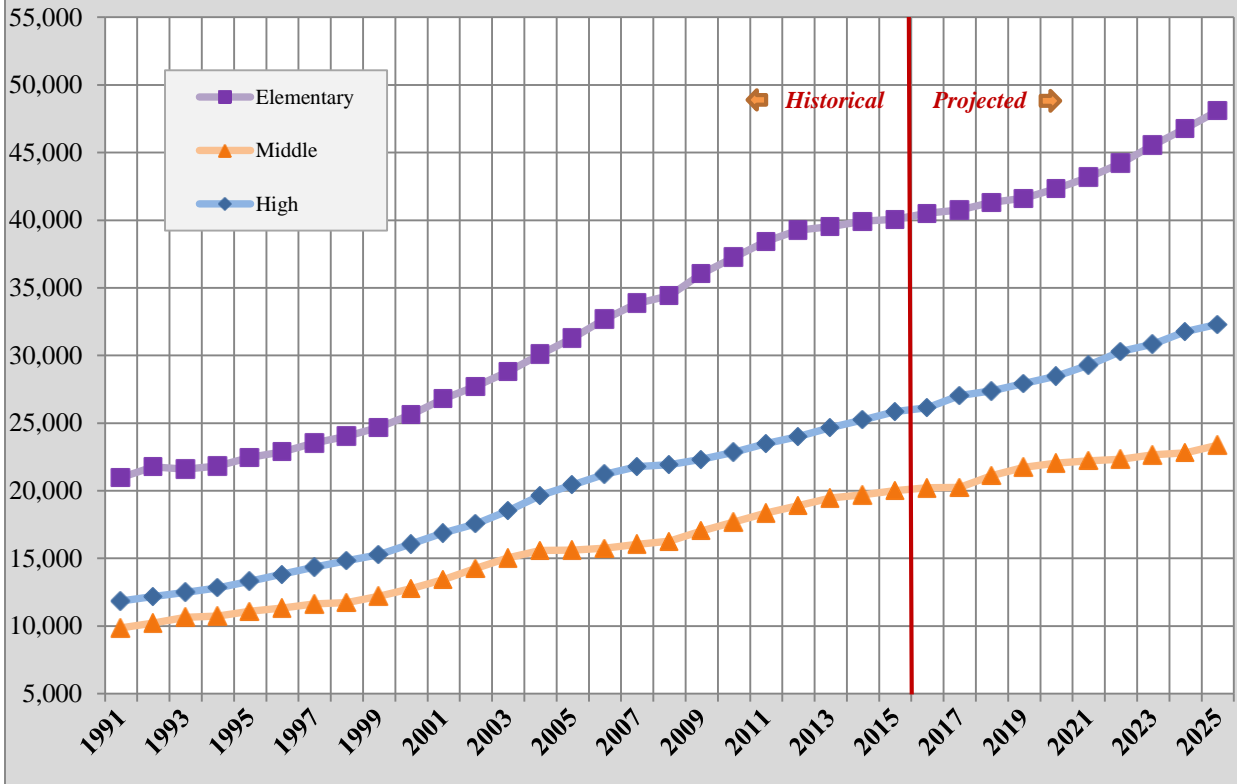
Prince William County Public Schools Historical and Projected Enrollment



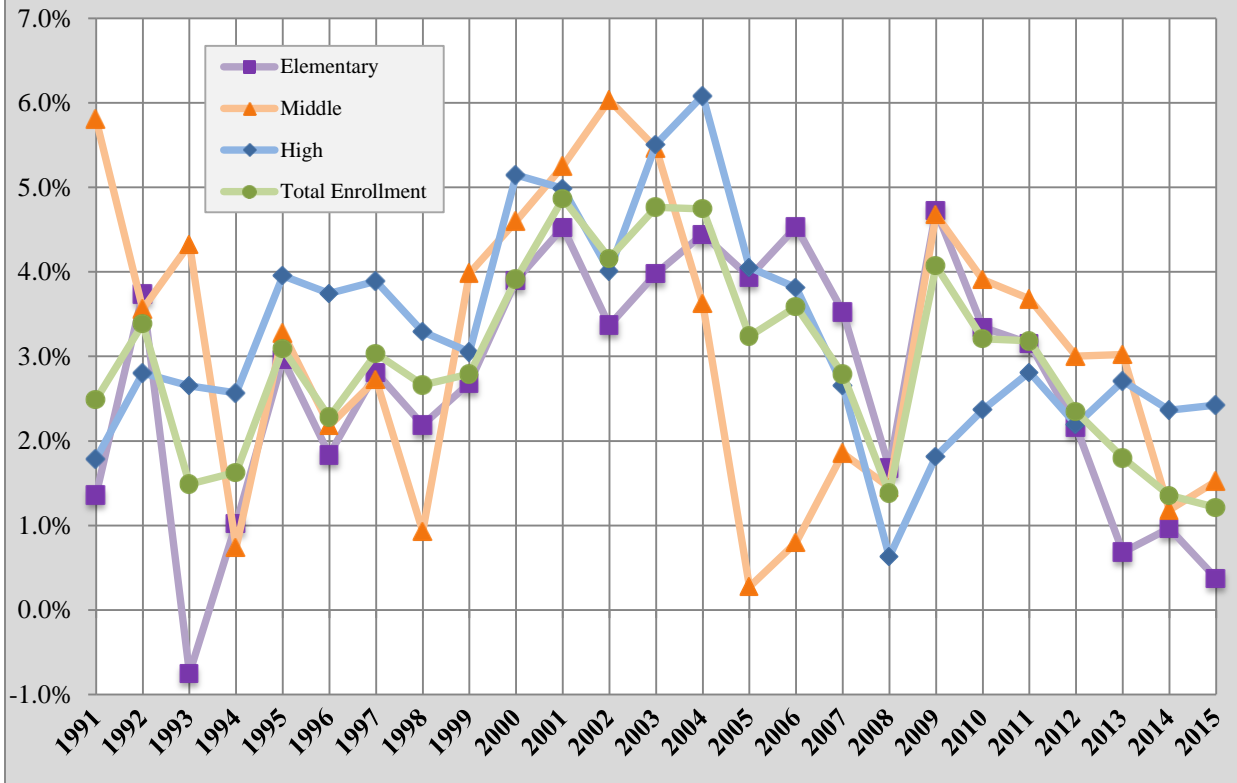
Prince William County Public Schools Annual Percentage Change in Enrollment



Prince William County Public Schools Historical and Projected Enrollment by School Level

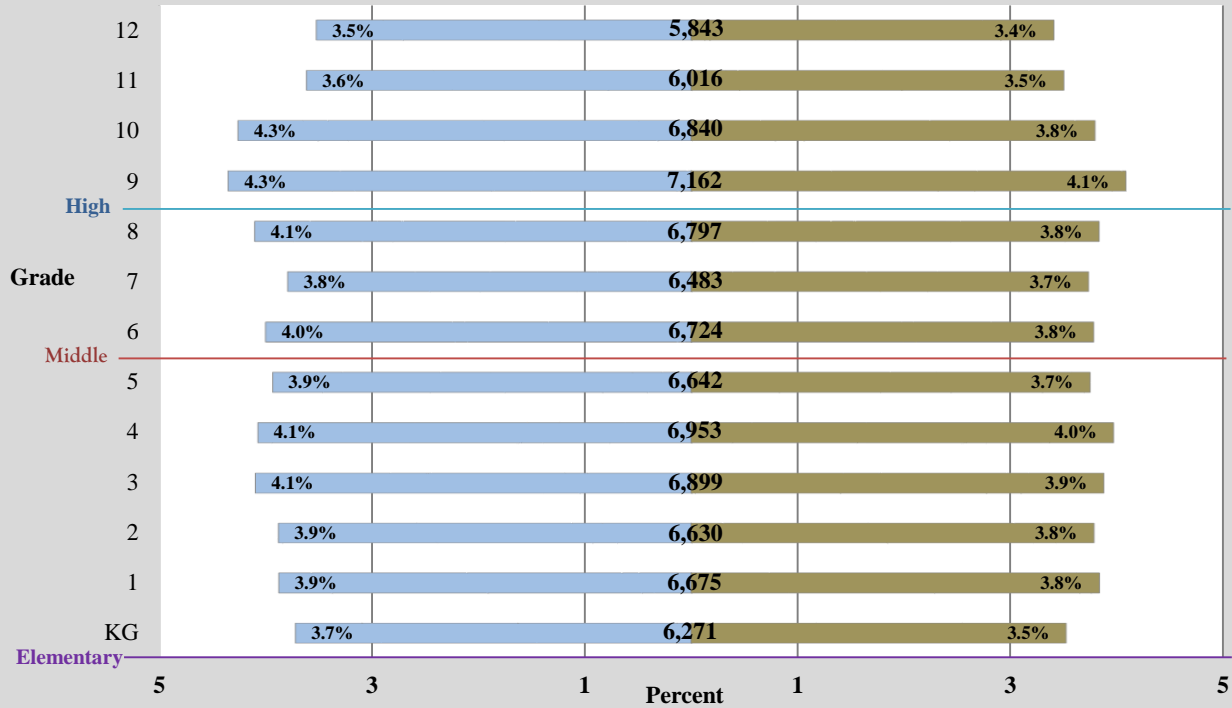


Prince William County Public Schools Annual Percentage Change in Enrollment by School Level

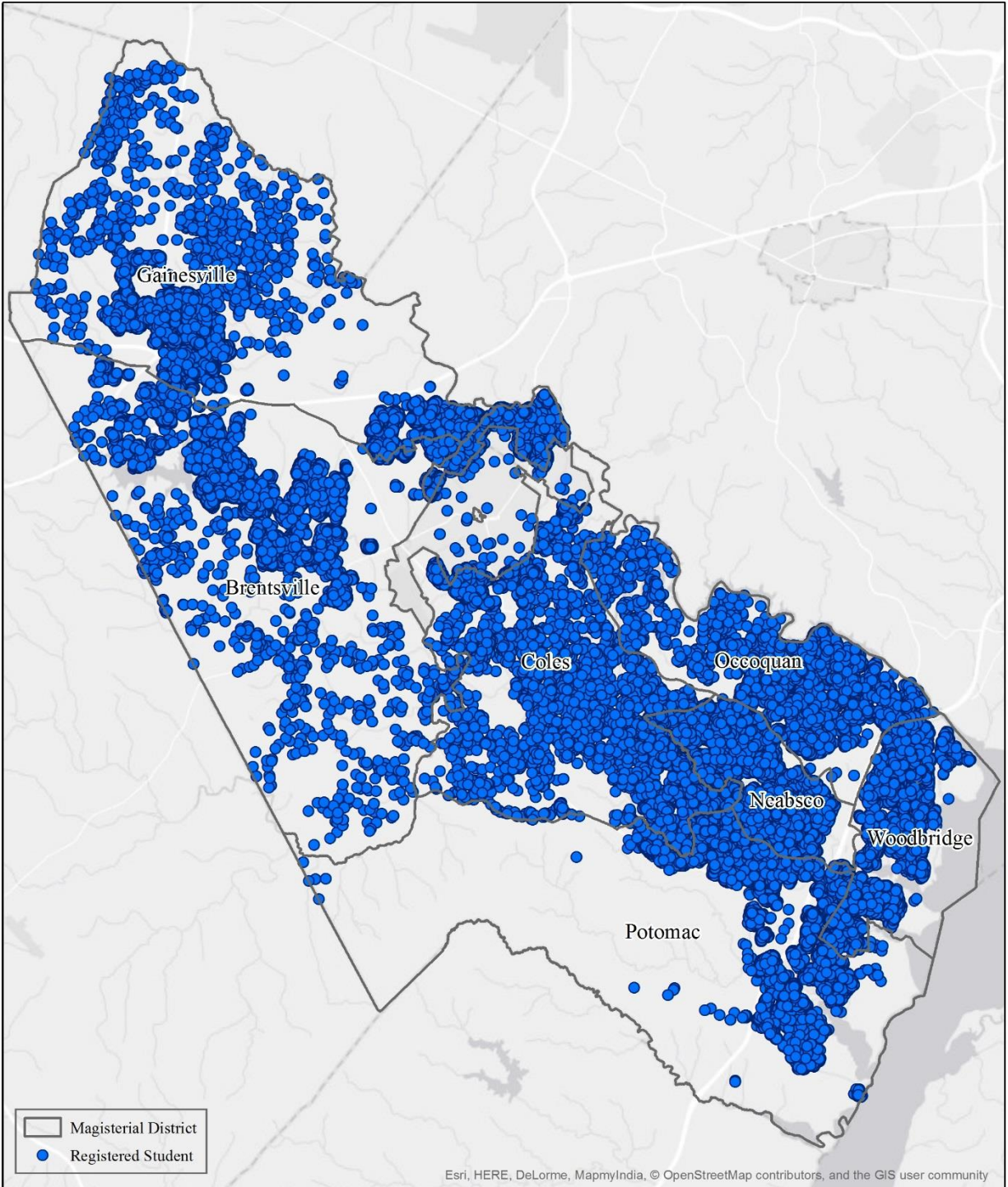


Prince William County Public Schools Grade-Gender Distribution

■ Males(%) ■ Females(%)



Source: September 30, 2015, PWCS Student



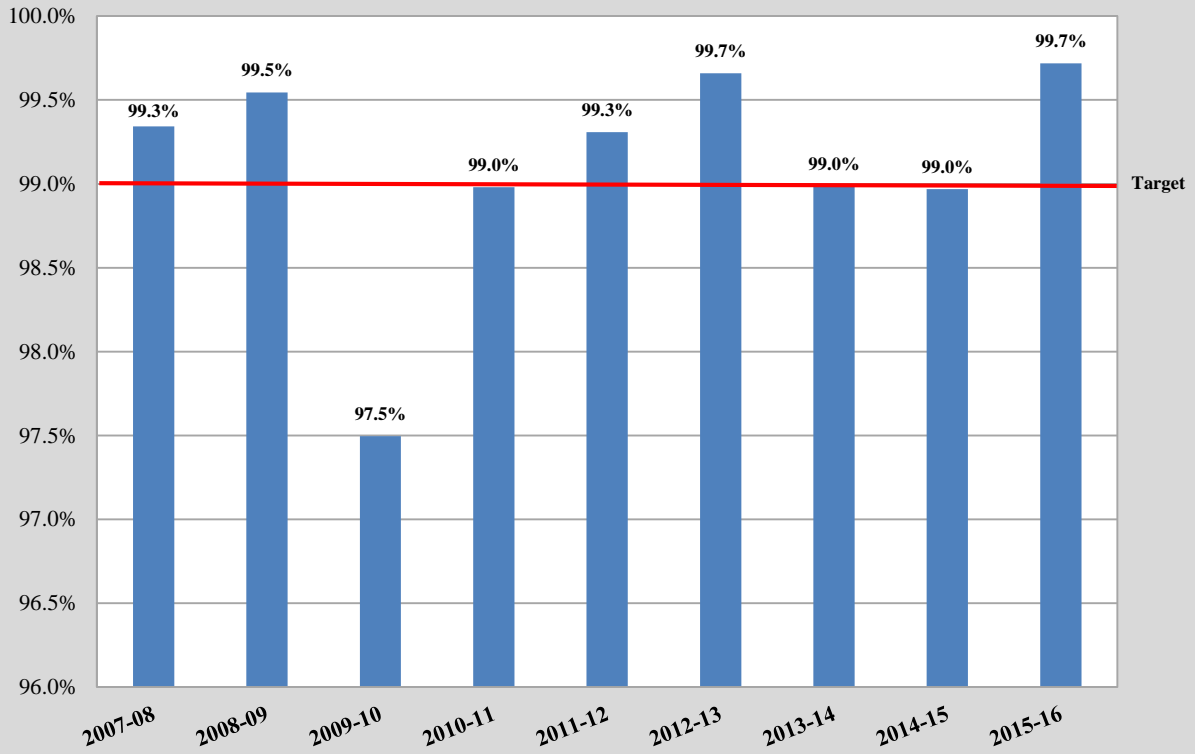
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Student Enrollment Projections Error Rate Analysis

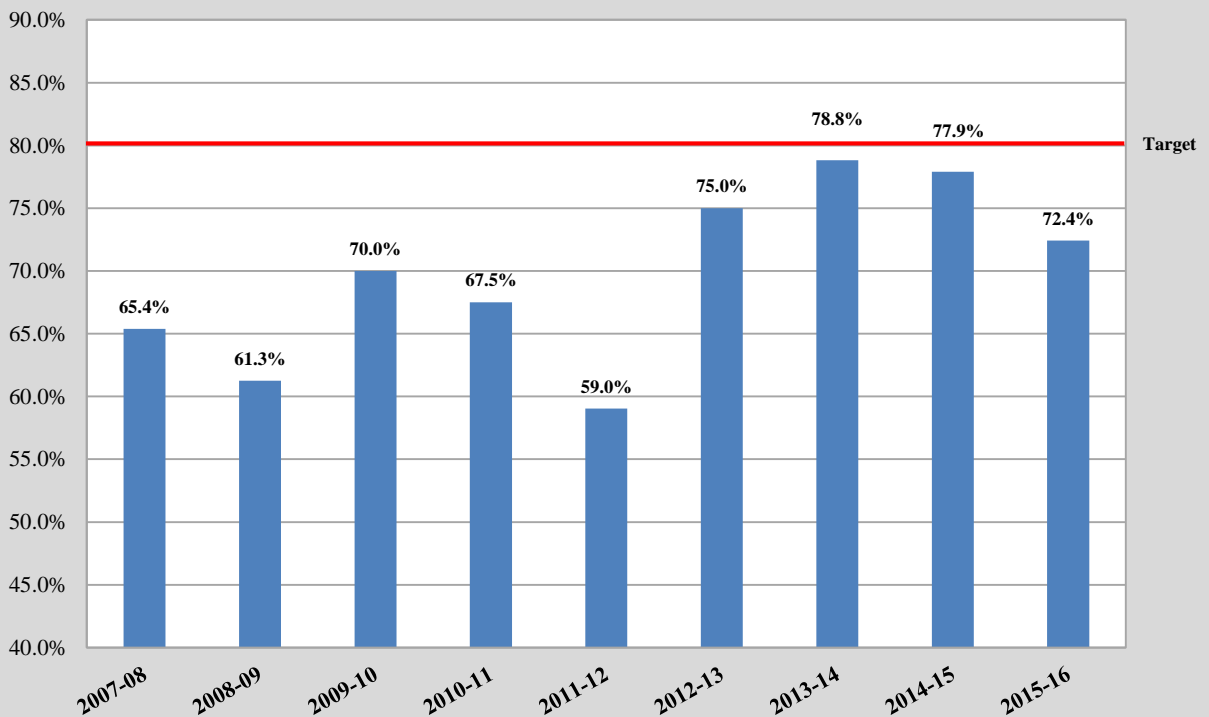
School Year	Actual Student Enrollment	Student Enrollment Projections								
		One Year Before			Two Years Before		Four Years Before		Five Years Before	
		Projection	Difference	% Error *	Projection	% Error *	Projection	% Error *	Projection	% Error *
1995-96	47,712	47,162	(550)	1.17%	47,255	0.97%	50,589	-5.69%	49,543	-3.70%
1996-97	48,041	47,991	(50)	0.10%	46,928	2.37%	49,765	-3.46%	50,738	-5.32%
1997-98	49,531	48,939	(592)	1.21%	49,033	1.02%	54,650	-9.37%	52,475	-5.61%
1998-99	50,627	50,785	158	-0.31%	49,865	1.53%	48,731	3.89%	50,746	-0.23%
1999-00	53,062	52,546	(516)	0.98%	53,102	-0.08%	52,567	0.94%	51,330	3.37%
2000-01	55,139	54,269	(870)	1.60%	53,352	3.35%	53,038	3.96%	53,831	2.43%
2001-02	57,823	57,026	(797)	1.40%	55,763	3.69%	54,788	5.54%	54,930	5.27%
2002-03	60,229	59,916	(313)	0.52%	58,829	2.38%	55,688	8.15%	57,231	5.24%
2003-04	63,109	62,391	(718)	1.15%	61,962	1.85%	58,059	8.70%	57,541	9.68%
2004-05	66,093	65,721	(372)	0.57%	64,321	2.75%	62,185	6.28%	59,639	10.82%
2005-06	68,234	68,988	754	-1.09%	68,181	0.08%	64,709	5.45%	63,717	7.09%
2006-07	70,683	70,211	(472)	0.67%	71,511	-1.16%	67,804	4.25%	66,393	6.46%
2007-08	72,654	72,187	(467)	0.65%	71,866	1.10%	71,555	1.54%	69,488	4.56%
2008-09	73,657	73,321	(336)	0.46%	73,592	0.09%	75,914	-2.97%	74,270	-0.83%
2009-10	76,656	74,736	(1,920)	2.57%	75,393	1.68%	74,840	2.43%	77,888	-1.58%
2010-11	79,115	78,308	(807)	1.03%	75,996	4.10%	75,226	5.17%	75,433	4.88%
2011-12	81,635	81,070	(565)	0.70%	79,866	2.21%	77,238	5.69%	76,766	6.34%
2012-13	83,551	83,837	286	-0.34%	82,941	0.74%	79,079	5.66%	80,203	4.17%
2013-14	85,055	85,926	871	-1.01%	86,191	-1.32%	83,659	1.67%	80,801	5.26%
2014-15	86,209	87,108	899	-1.03%	88,420	-2.50%	86,614	-0.47%	85,436	0.90%
2015-16	87,253	87,500	247	-0.28%	89,458	-2.46%	90,898	-4.01%	88,440	-1.34%
(MPE) Mean Percentage Error				0.43%		0.86%		1.82%		2.65%
(MAPE) Mean Absolute Percentage Error				0.84%		2.04%		4.26%		4.56%

*A negative forecast error indicates that the projection was greater than the actual value.

Prince William County Public Schools
Divisionwide Projection Accuracy



Prince William County Public Schools
Percentage of Schools Within 5% Error



Housing Units in Residential Development
By Elementary School Attendance Area and Stage of Development
September 2015

Elementary School	Active				Planned				Rezoning Submitted				Total
	SF	TH	MF	Total	SF	TH	MF	Total	SF	TH	MF	Total	
Alvey	141			141									141
Ashland	6			6	65			65					71
Belmont							720	720			1,522	1,522	2,242
Bennett	11	239		250	125	218		343	28	60		88	681
Bristow Run					4			4	34	39		73	77
Buckland Mills		59	66	125		177		177	338	130		468	770
Coles	30			30	21			21					51
Dale City					4			4					4
Dumfries	5		126	131					13			13	144
Ellis									270			270	270
Featherstone					11			11					11
Fitzgerald	94		407	501	38	398		436	18			18	955
Glenkirk	67			67	4			4					71
Gravelly	258			258	119			119					377
Haymarket	119	237		356	231		216	447		87	36	123	926
Kilby							148	148			527	527	675
King	63			63	78			78					141
Leesylvania		68		68			550	550					618
Loch Lomond			73	73		102		102					175
Marshall	13			13	5			5	23			23	41
Marumscos Hills			408	408									408
McAuliffe		4		4									4
Minnieville											144	144	144
Montclair					7			7	43			43	50
Mountain View	11			11					69			69	80
Mullen							20	20			788	788	808
Neabsco		36		36									36
Nokesville School, The	333			333	125			125	1,076			1,076	1,534
Occoquan			36	36	21			21					57
Old Bridge					4			4					4
Parks					11			11	10			10	21
Penn	240	12		252	15			15	12	57		69	336
Piney Branch	61	94	96	251						302	80	382	633
Potomac View		30	88	118		25		25					143
River Oaks										112		112	112
Rockledge							216	216					216
Signal Hill	66	103	296	465	245	76		321	168	104	72	344	1,130
Swans Creek	319		123	442	890	1,100	1,711	3,701	16		135	151	4,294
Triangle	61	12		73	49			49					122
Tyler			11	11			86	86		85	120	205	302
Vaughan			201	201	139			139	17			17	357
Victory		33	648	681									681
Westridge	25			25									25
Williams	80			80							332	332	412
Wilson	83		52	135	29	30	163	222	39			39	396
Wood	18			18					10	139		149	167
Yorkshire	11		539	550	12			12					562
Yung	38			38	68			68	864	2,455	1,106	4,425	4,531
Total	2,153	927	3,170	6,250	2,320	2,126	3,830	8,276	3,048	3,570	4,862	11,480	26,006

Note:
Active = Rezoning approved by Board of County Supervisors and site development permit issued
Planned = Rezoning approved by Board of County Supervisors and proposed plans submitted
Rezoning Submitted = rezoning application submitted, CPA request submitted or initiated (if applicable), or no recent progress has occurred

Housing Units in Residential Development
By Middle School Attendance Area and Stage of Development
September 2015

Middle School	Active				Planned				Rezoning Submitted				Total
	SF	TH	MF	Total	SF	TH	MF	Total	SF	TH	MF	Total	
Benton	306	12		318	135			135	35			35	488
Beville	63			63	78			78		57		57	198
Bull Run	31		11	42			86	86	229	1,340	426	1,995	2,123
Gainesville	166	94	744	1,004	76			76	704	1,502	880	3,086	4,166
Godwin		36	52	88	4	30	163	197					285
Graham Park	66	12	126	204	49			49	13			13	266
Lynn		30	325	355	21	25	868	914			2,049	2,049	3,318
Marsteller	18	33		51			20	20	44	178	788	1,010	1,081
Nokesville School, The	333			333	125			125	1,076			1,076	1,534
Parkside	88	342	908	1,338	382	396		778	466	164	72	702	2,818
Potomac	399	68	123	590	890	1,100	1,711	3,701	16	112	467	595	4,886
Reagan	498	296	66	860	350	177	216	743	338	217	36	591	2,194
Rippon	94		815	909	49	398	550	997	18			18	1,924
Saunders	71	4		75	18			18	92			92	185
Woodbridge	20			20	143		216	359	17		144	161	540
Total	2,153	927	3,170	6,250	2,320	2,126	3,830	8,276	3,048	3,570	4,862	11,480	26,006

Note:

Active = Rezoning approved by Board of County Supervisors and site development permit issued
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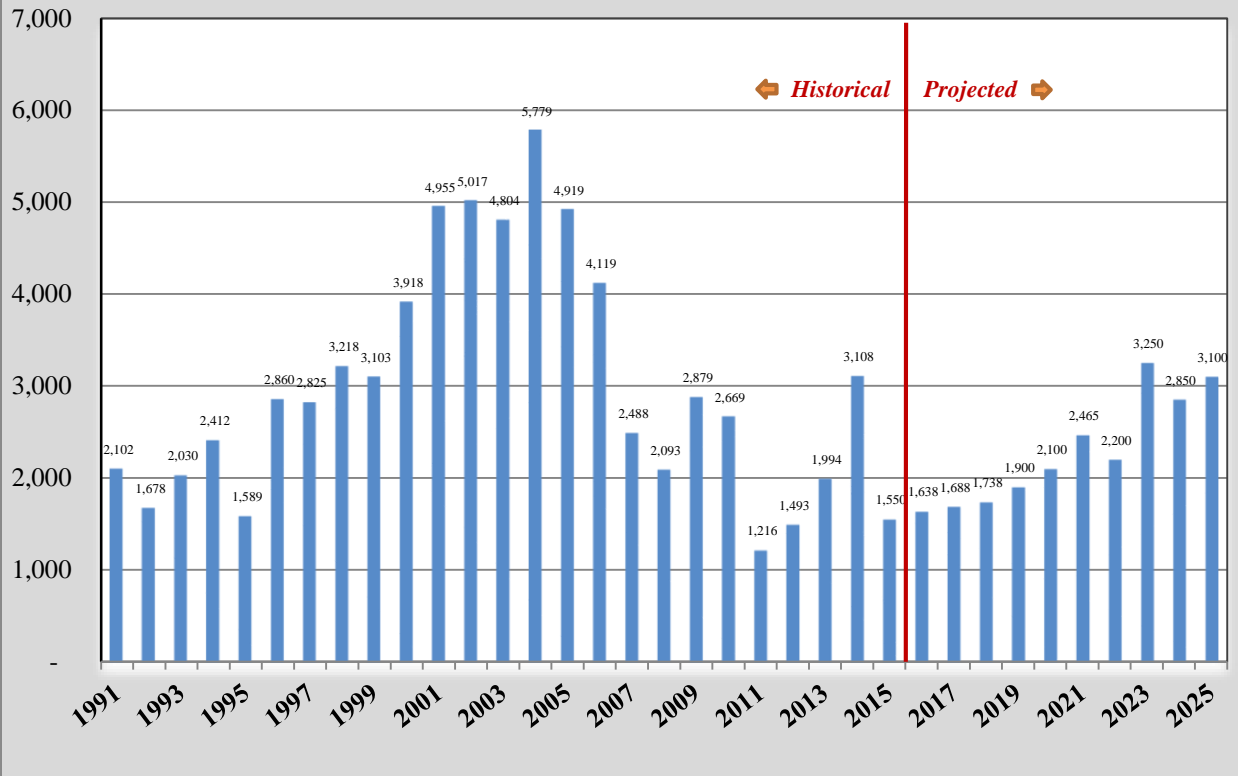
Housing Units in Residential Development
By High School Attendance Area and Stage of Development
September 2015

High School	Active				Planned				Rezoning Submitted				Total
	SF	TH	MF	Total	SF	TH	MF	Total	SF	TH	MF	Total	
Battlefield	529	237	11	777	350	71	302	723	407	1,172	156	1,735	3,235
Brentsville	333			333	164			164	1,076			1,076	1,573
Colgan	383	12		395	198			198	23	57		80	673
Forest Park	11	12	126	149	11			11	13			13	173
Freedom		30	1,104	1,134	11	423	1,418	1,852	18		1,522	1,540	4,526
Gar-Field	20	36	52	108	154	30	163	347	17		144	161	616
Hylton	51	4		55	11			11	92			92	158
Osborn Park	88	342	835	1,265	358	294		652	208	164	72	444	2,361
Patriot	85	59	66	210	8	106		114	44	308	80	432	756
Potomac	554	68	123	745	966	1,100	1,711	3,777	16	112	467	595	5,117
Stonewall Jackson	99	127	817	1,043	68	102	20	190	1,134	1,757	1,894	4,785	6,018
Woodbridge			36	36	21		216	237			527	527	800
Total	2,153	927	3,170	6,250	2,320	2,126	3,830	8,276	3,048	3,570	4,862	11,480	26,006

Note:

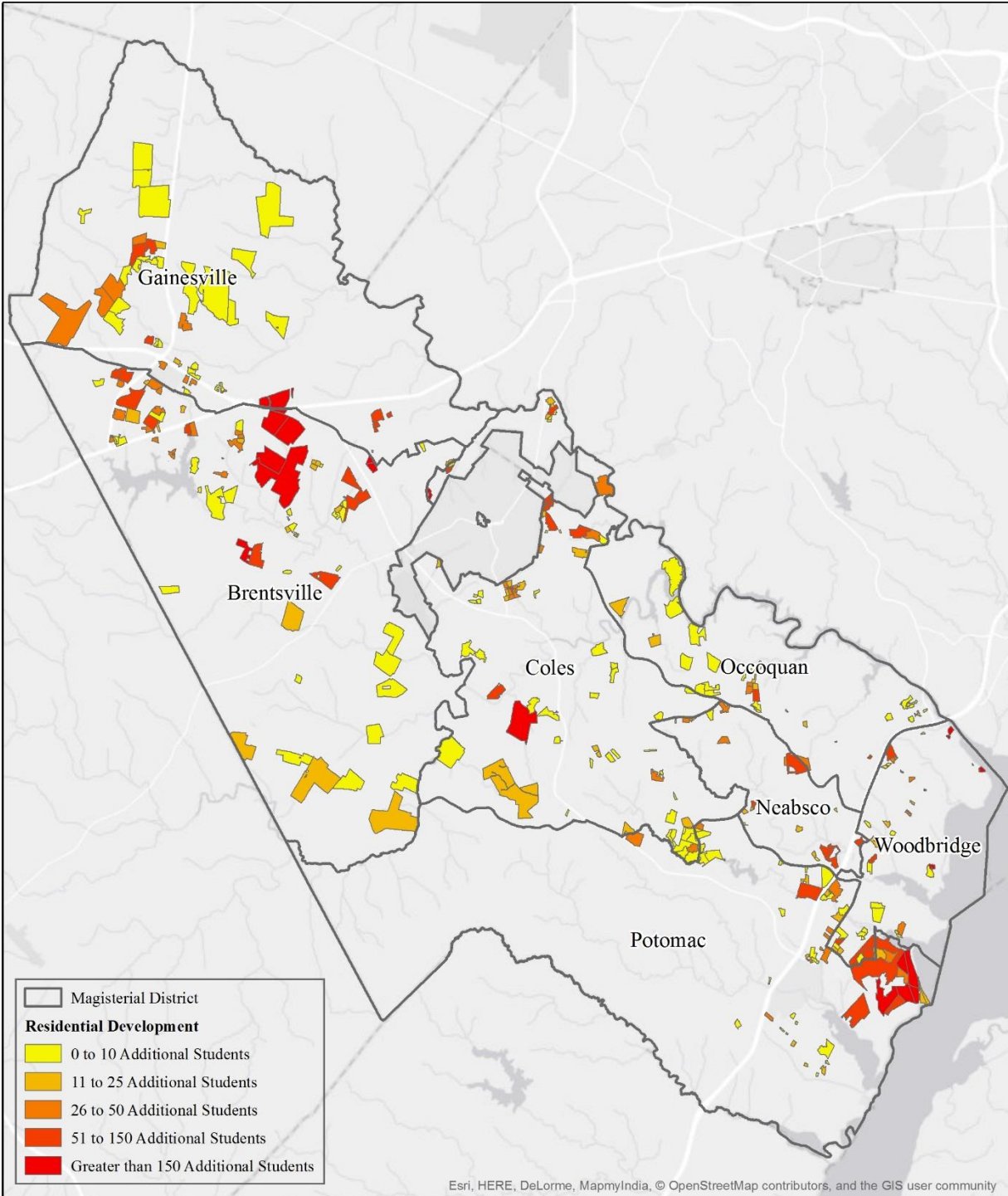
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Prince William County Historical and Projected Annual Housing Unit Change



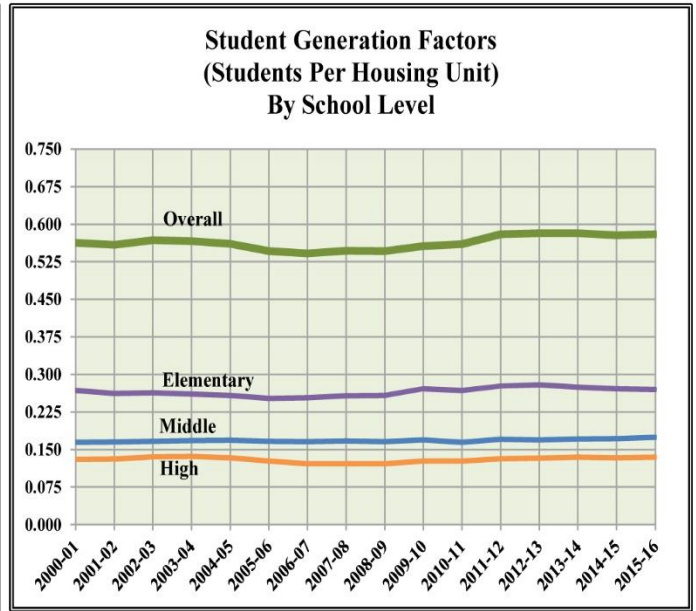
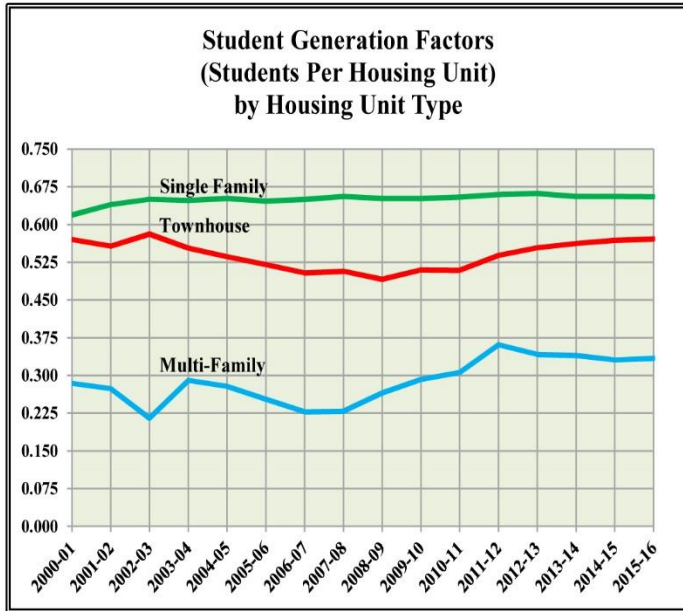


Additional Students Generated by Residential Development (2016-25)



Office of Facilities Services / Created by Matthew Townsend / April 2016

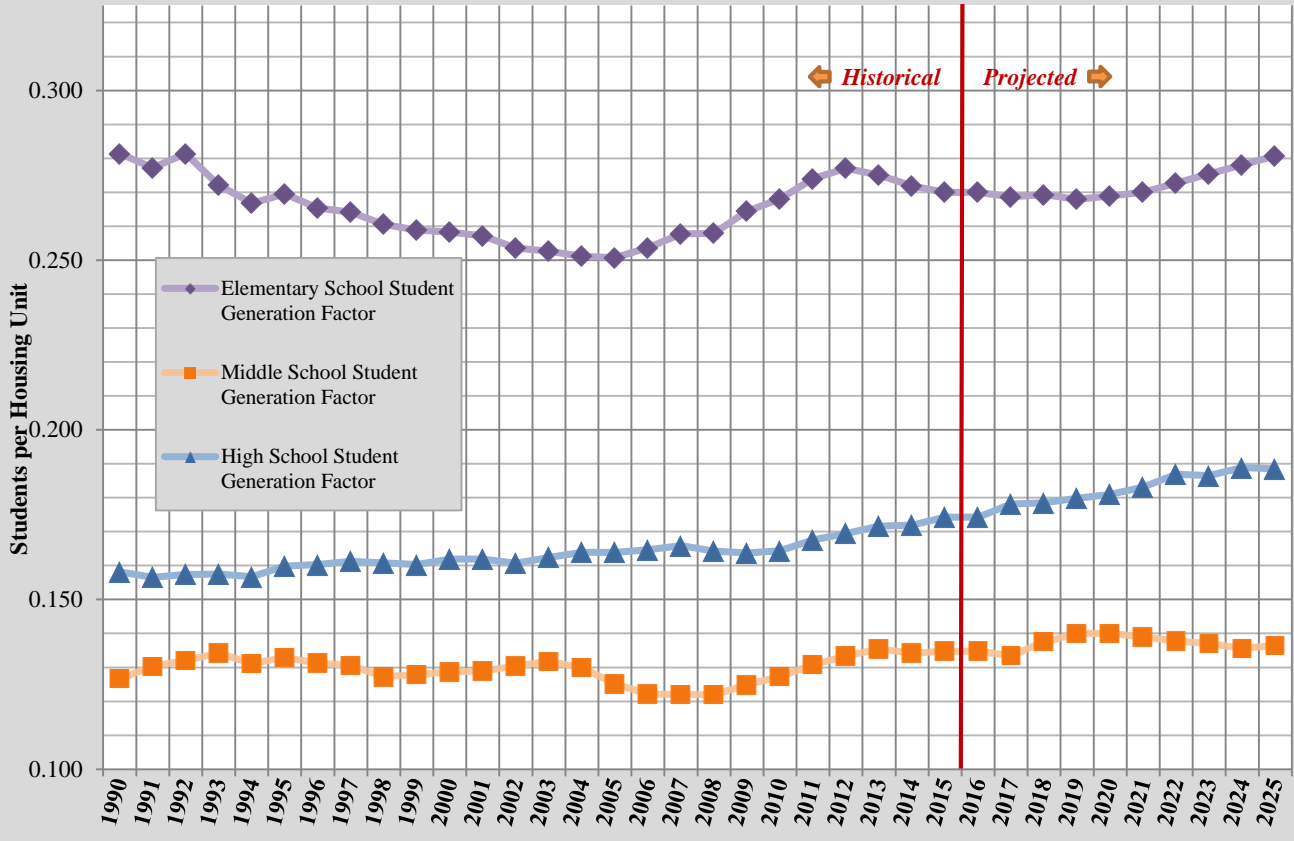
Student Generation Factors by School Level and Housing Unit Type



Historical Data					
2015-16	School Type	Unit Type			Total
		Single Family	Townhouse	Multi-Family	
	Elementary	0.290	0.283	0.181	0.270
	Middle	0.157	0.129	0.068	0.135
	High	0.208	0.159	0.085	0.174
Total	0.655	0.572	0.334	0.580	
2007-08	School Type	Unit Type			Total
		Single Family	Townhouse	Multi-Family	
	Elementary	0.299	0.253	0.121	0.258
	Middle	0.150	0.109	0.046	0.122
	High	0.208	0.145	0.062	0.167
Total	0.656	0.507	0.229	0.547	
2013-14	School Type	Unit Type			Total
		Single Family	Townhouse	Multi-Family	
	Elementary	0.294	0.284	0.185	0.275
	Middle	0.156	0.127	0.074	0.135
	High	0.206	0.151	0.082	0.172
Total	0.656	0.562	0.340	0.582	
2005-06	School Type	Unit Type			Total
		Single Family	Townhouse	Multi-Family	
	Elementary	0.289	0.251	0.135	0.252
	Middle	0.152	0.118	0.056	0.127
	High	0.206	0.151	0.062	0.167
Total	0.647	0.520	0.253	0.546	
2011-12	School Type	Unit Type			Total
		Single Family	Townhouse	Multi-Family	
	Elementary	0.300	0.275	0.195	0.277
	Middle	0.154	0.119	0.075	0.132
	High	0.206	0.145	0.092	0.171
Total	0.660	0.539	0.361	0.580	
2003-04	School Type	Unit Type			Total
		Single Family	Townhouse	Multi-Family	
	Elementary	0.285	0.271	0.161	0.261
	Middle	0.158	0.131	0.065	0.136
	High	0.204	0.152	0.066	0.168
Total	0.648	0.553	0.290	0.566	
2009-10	School Type	Unit Type			Total
		Single Family	Townhouse	Multi-Family	
	Elementary	0.300	0.257	0.157	0.272
	Middle	0.150	0.110	0.061	0.128
	High	0.202	0.144	0.074	0.170
Total	0.652	0.510	0.292	0.556	
2001-02	School Type	Unit Type			Total
		Single Family	Townhouse	Multi-Family	
	Elementary	0.282	0.281	0.162	0.262
	Middle	0.154	0.129	0.055	0.132
	High	0.203	0.148	0.058	0.165
Total	0.640	0.557	0.274	0.559	

Note: The 'Student Generation Factor' is a mathematical representation of the relationship between housing units in Prince William County and the number of students enrolled in Prince William County Public Schools on September 30 of each year. In other words, it is the number of enrolled students per total number of housing units by type.

Prince William County Public Schools Student Generation Factors

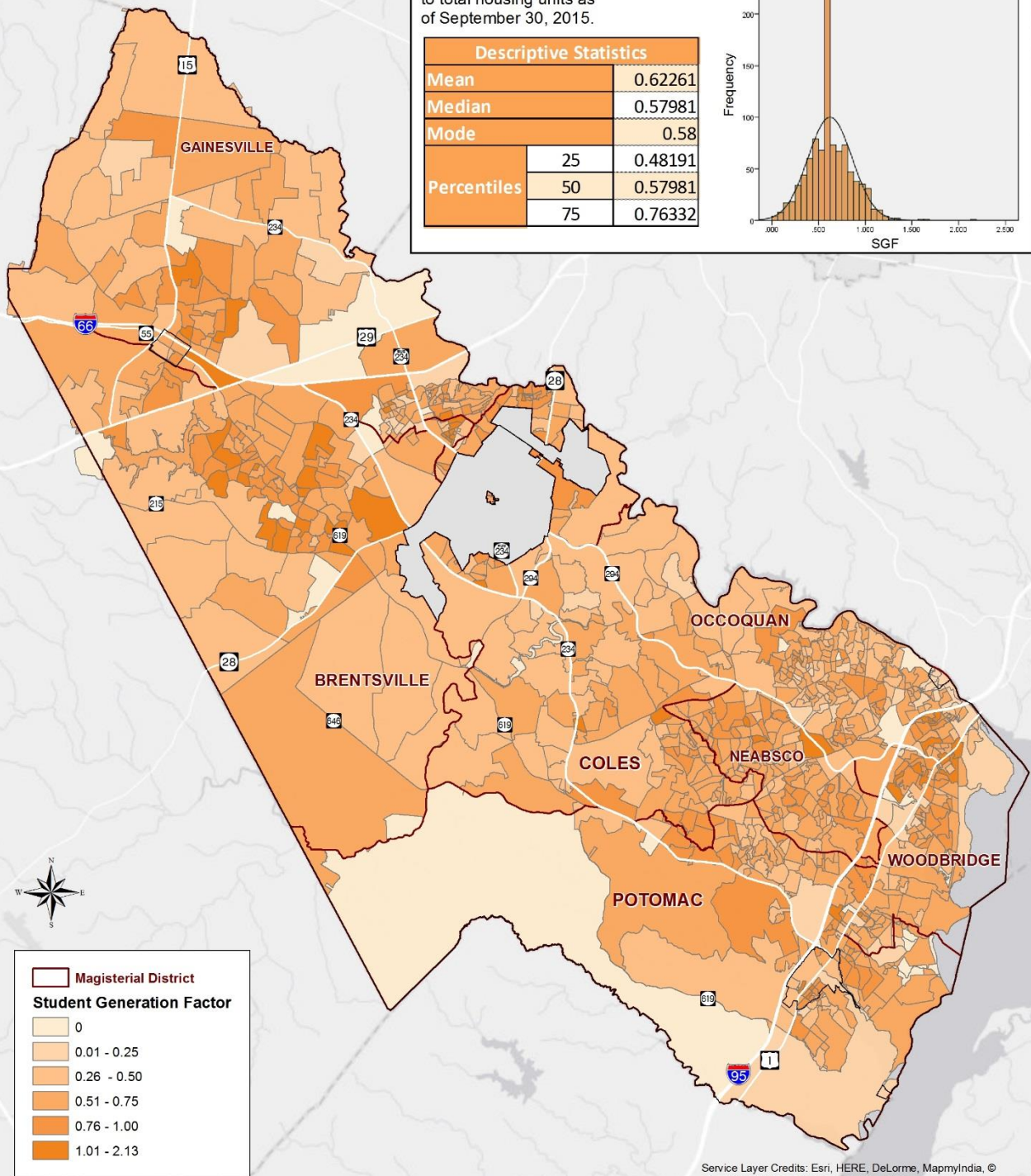
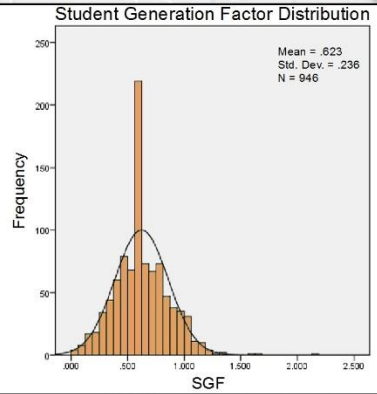




2015-16 Student Generation Factor by Planning Zone

Student Generation Factor (SGF):
Ratio of enrolled students
to total housing units as
of September 30, 2015.

Descriptive Statistics		
Mean	0.62261	
Median	0.57981	
Mode	0.58	
Percentiles	25	0.48191
	50	0.57981
	75	0.76332



Data Sources:
MagDist11_Poly.shp PZ15c.shp
Summed_SGF_by_PZ.dbf



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Prepared by Robert D Boyd, GIS Analyst I
Prince William County Public Schools
Office of Facilities Services
March 2016

Document Path: C:\Users\BoydRD\Desktop\Working\2016 Data Requests\2016 SGF by Planning Zone Map\2015-16 SGF by Planning Zone.mxd

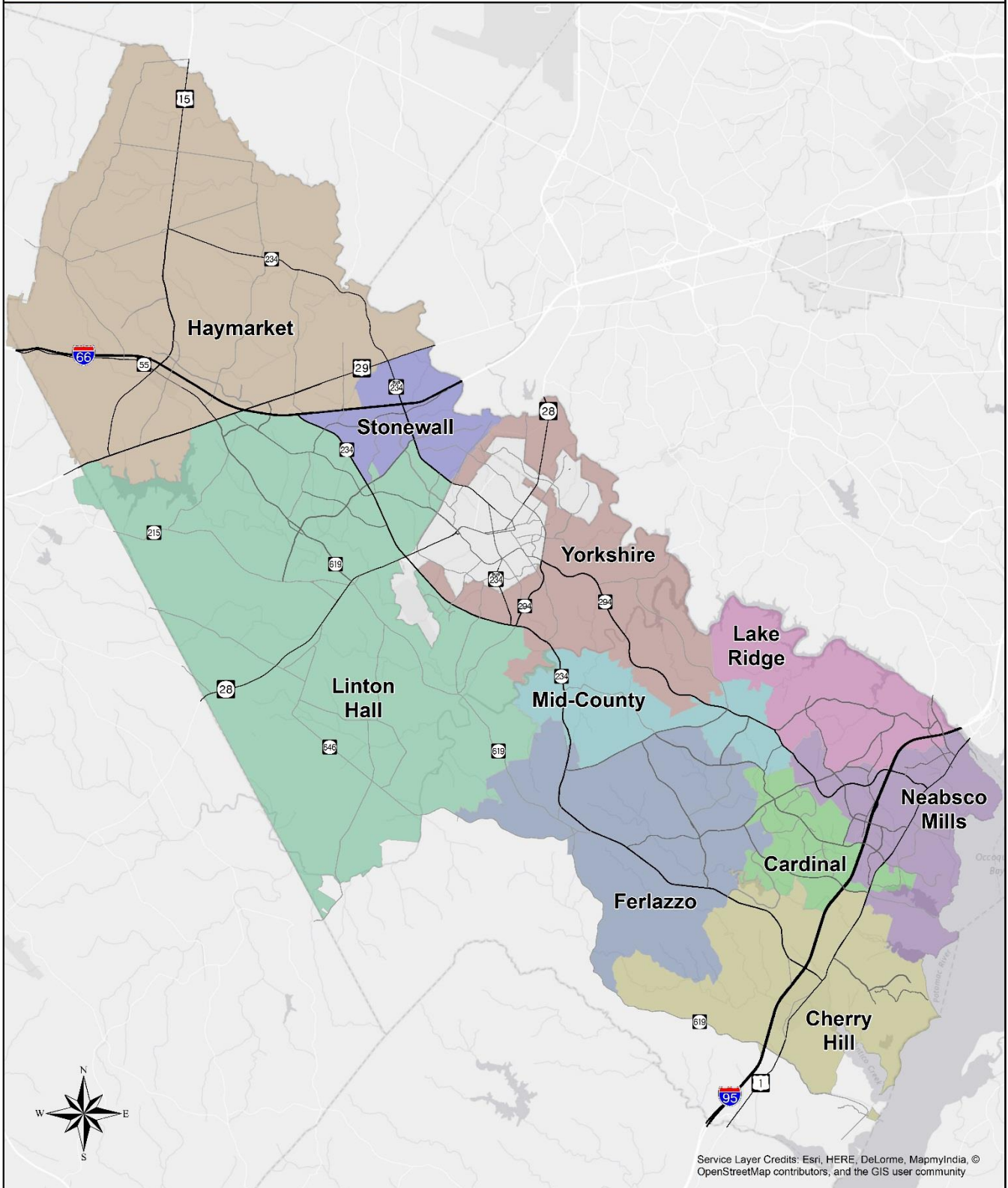
Elementary Schools
By CIP Geographic Areas

Geographic Area	Schools
Cardinal Area	Bel Air ES
	Dale City ES
	Fitzgerald ES
	Henderson ES
	Minnieville ES
	Neabsco ES
Cherry Hill Area	Dumfries ES
	Pattie ES
	River Oaks ES
	Swans Creek ES
	Triangle ES
	Williams ES
Ferlazzo Area	Ashland ES
	Coles ES
	Enterprise ES
	King ES
	McAuliffe ES
	Montclair ES
	Parks ES
	Wilson ES
Haymarket Area	Alvey ES
	Buckland Mills ES
	Gravelly ES
	Haymarket ES
	Mountain View ES
	Tyler ES
Lake Ridge Area	Antietam ES
	Lake Ridge ES
	Occoquan ES
	Old Bridge ES
	Rockledge ES
	Springwoods ES
	Westridge ES
Linton Hall Area	Bristow Run ES
	Cedar Point ES
	Ellis ES
	Glenkirk ES
	Nokesville School, The
	Piney Branch ES
	Victory ES
	Wood ES
Yung ES	

Geographic Area	Schools
Mid-County Area	Kerrydale ES
	Marshall ES
	Penn ES
Neabsco Mills / Northern Route 1	Belmont ES
	Featherstone ES
	Kilby ES
	Leesylvania ES
	Marumsco Hills ES
	Potomac View ES
Stonewall Area	Vaughan ES
	Mullen ES
	Sinclair ES
	Sudley ES
Yorkshire Area	West Gate ES
	Bennett ES
	Loch Lomond ES
	Signal Hill ES
	Yorkshire ES



CIP Geographic Areas



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DATA SOURCES
 PWCS: CIP_Geor_Area_2015
 PWC: Road Centerlines (April 2015)



Prepared By Robert D Boyd, GIS Analyst I
 Prince William County Schools
 Office of Facilities Services
 April 2015

Fall Membership By Virginia School Division

Division Name	Division Membership, PK- Grade 12					Change 2011 to 2015			
	2015-16	2014-15	2013-14	2012-13	2011-12	Number	Rank in Virginia	Percent	Rank in Virginia
Alexandria City Public Schools	14,857	14,359	13,723	13,256	12,514	2,343	5	18.7%	1
Arlington County Public Schools	25,365	24,561	23,500	22,544	21,894	3,471	4	15.9%	5
Charlottesville City Public Schools	4,382	4,356	4,340	4,236	4,175	207	22	5.0%	20
Chesapeake City Public Schools	39,944	39,715	39,750	39,644	39,484	460	14	1.2%	36
Chesterfield County Public Schools	59,705	59,754	59,214	58,886	59,231	474	13	0.8%	37
Culpeper County Public Schools	8,135	8,079	8,083	7,865	7,812	323	19	4.1%	25
Fairfax County Public Schools	185,856	185,563	183,438	180,634	177,619	8,237	2	4.6%	22
Falls Church City Public Schools	2,519	2,465	2,426	2,274	2,183	336	18	15.4%	6
Fauquier County Public Schools	11,155	11,167	11,147	11,068	11,248	-93	83	-0.8%	60
Fredericksburg City Public Schools	3,532	3,466	3,457	3,359	3,270	262	21	8.0%	11
Harrisonburg City Public Schools	5,924	5,635	5,392	5,212	5,051	873	7	17.3%	2
Henrico County Public Schools	51,534	50,972	50,569	50,083	49,654	1,880	6	3.8%	26
Loudoun County Public Schools	76,251	73,438	70,844	68,253	65,641	10,610	1	16.2%	3
Manassas City Public Schools	7,605	7,476	7,242	7,276	7,154	451	15	6.3%	15
Manassas Park City Public Schools	3,443	3,359	3,216	3,123	3,019	424	16	14.0%	8
Prince William County Public Schools	87,823	86,664	85,476	83,877	81,955	5,868	3	7.2%	13
Spotsylvania County Public Schools	23,731	23,887	23,838	23,768	23,817	-86	79	-0.4%	51
Stafford County Public Schools	28,098	27,807	27,461	27,475	27,350	748	8	2.7%	31
Virginia Beach City Public Schools	69,777	70,121	70,556	70,292	70,978	-1,201	133	-1.7%	69
State Totals	1,284,680	1,280,978	1,274,265	1,265,967	1,259,611	25,069		2.0%	

Source: Virginia Department of Education, Fall Membership Report.

Note: Excluded from the September 30 Fall Membership count are special education preschool pupils, pupils in hospitals, clinics or detention homes and local

APPENDIX C

Identified Capital Improvement Sites

Identified Capital Improvement Sites

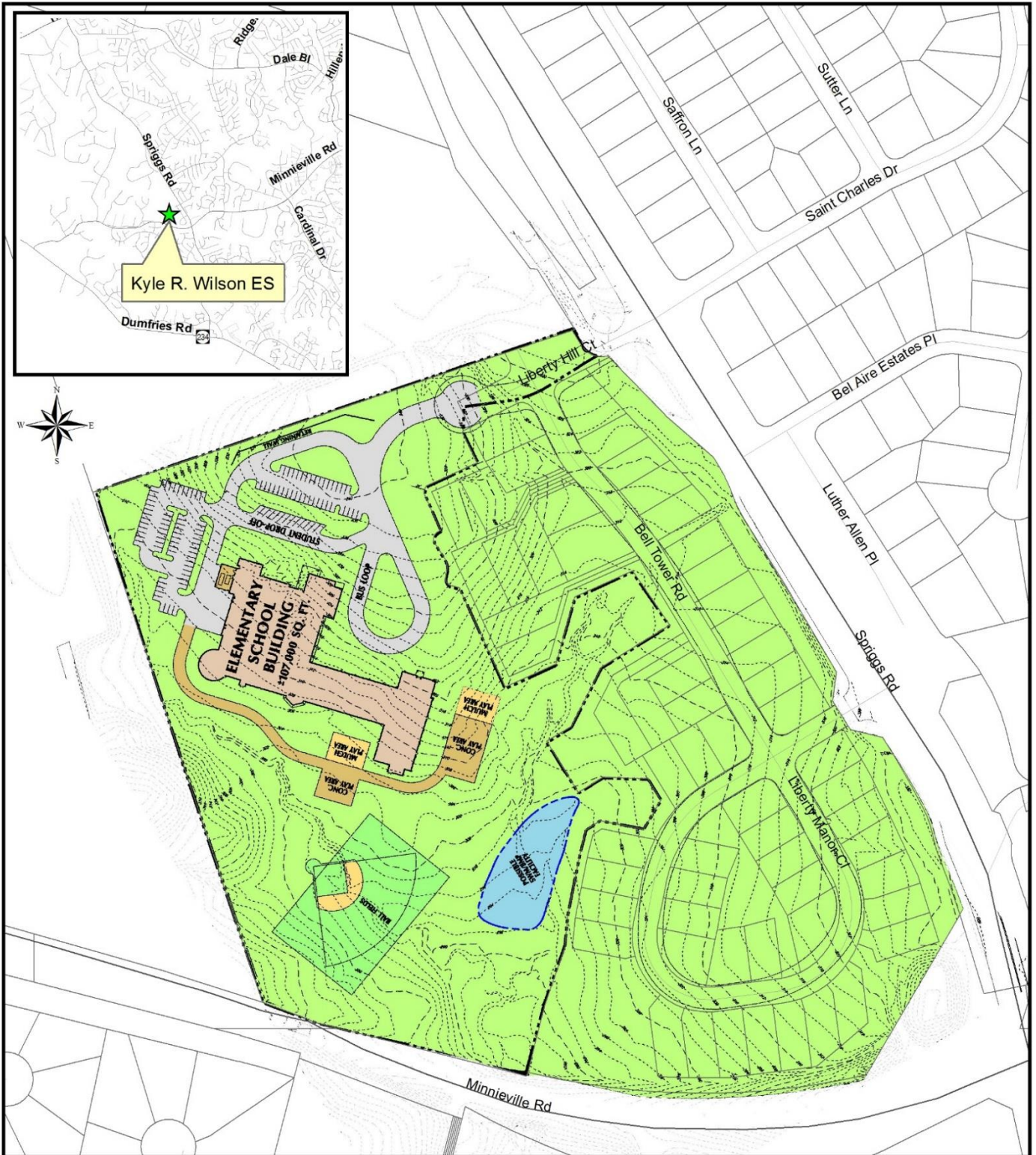
- Overall Map of Sites Identified in the Capital Improvements Program
 - Kyle R. Wilson Elementary School (2016)
 - Colgan High School (2016)
 - Maintenance Building at Independent Hill Site (2016)
 - Potomac Shores Elementary School (2017)
 - Kilby Elementary School Replacement (2017)
 - New Alternative Education School (2018)
 - Potomac Shores Middle School (2020)
 - Elementary School at Vint Hill Road (2024)

Capital Improvement Site Maps

Appendix C details the capital improvement sites that have been acquired by the School Division. The year the facilities are to open at the identified site is shown on the site map and on the overall map (C-2).



Wilson Elementary School
Opens August 2016



Prepared by Robert Boyd, GIS Analyst I
 Prince William County Schools
 Office of Facilities Services
 March 2016



Colgan High School
Opens August 2016

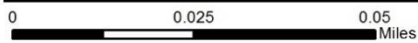
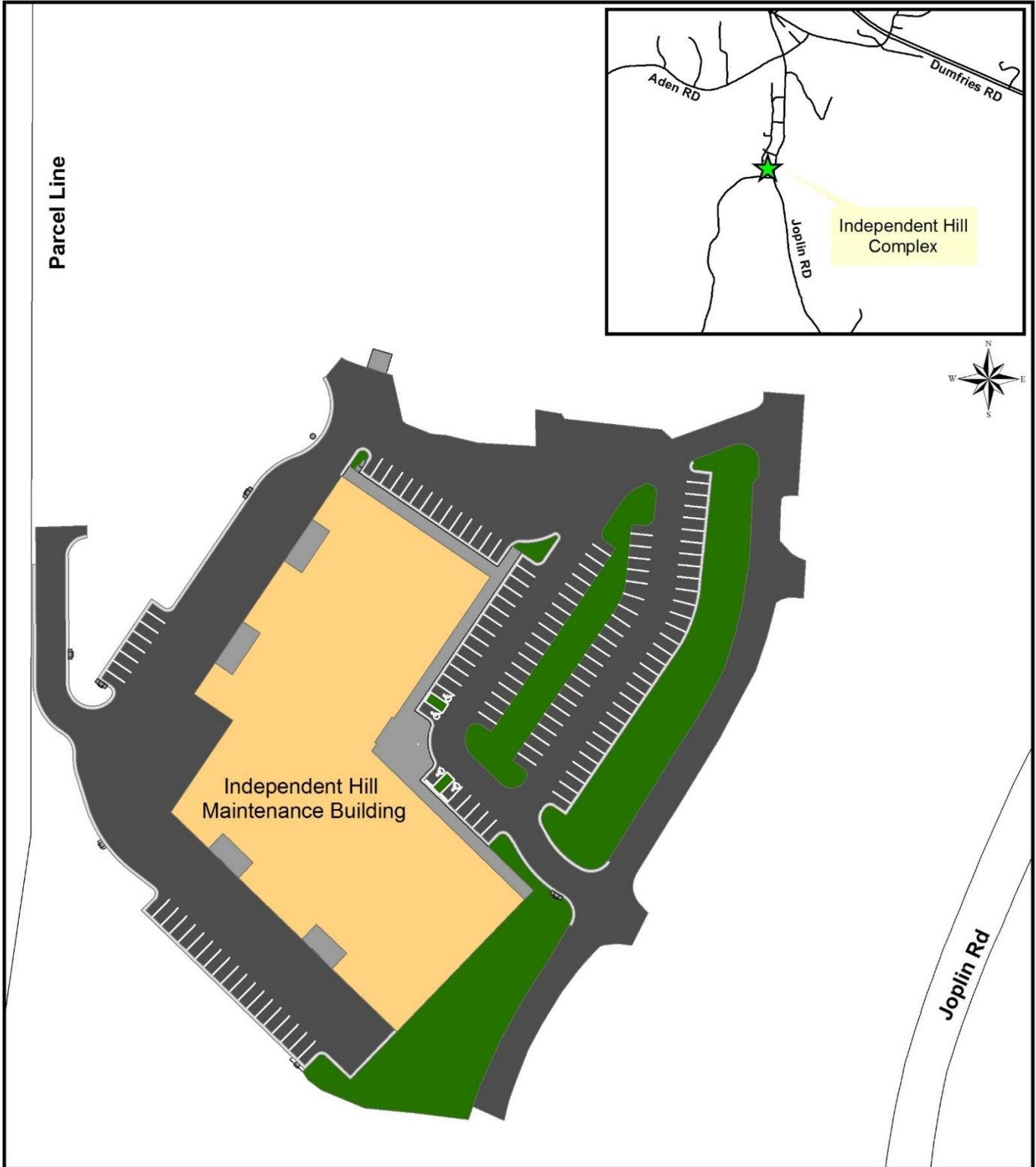


Prepared by Robert Boyd, GIS Analyst I
 Prince William County Public Schools
 Office of Facilities Services
 March 2016

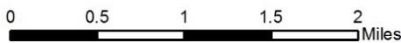
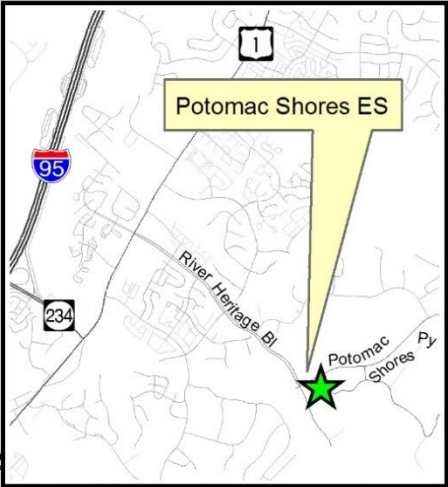
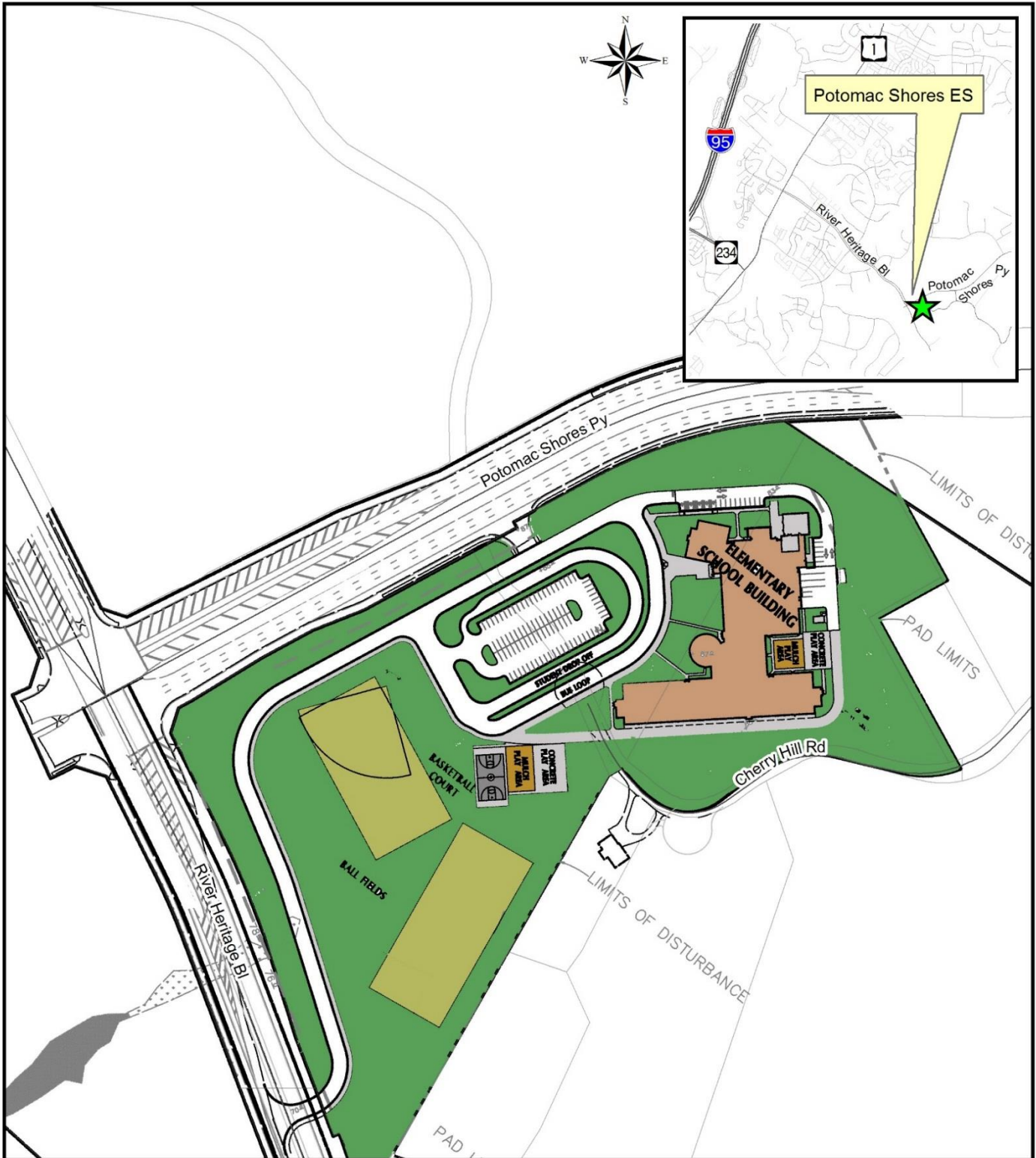


Independent Hill Maintenance Building

Opens 2016



Prepared by Robert Boyd, GIS Analyst I
Prince William County Public Schools
Office of Facilities Services
March 2016

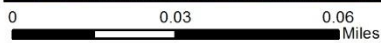
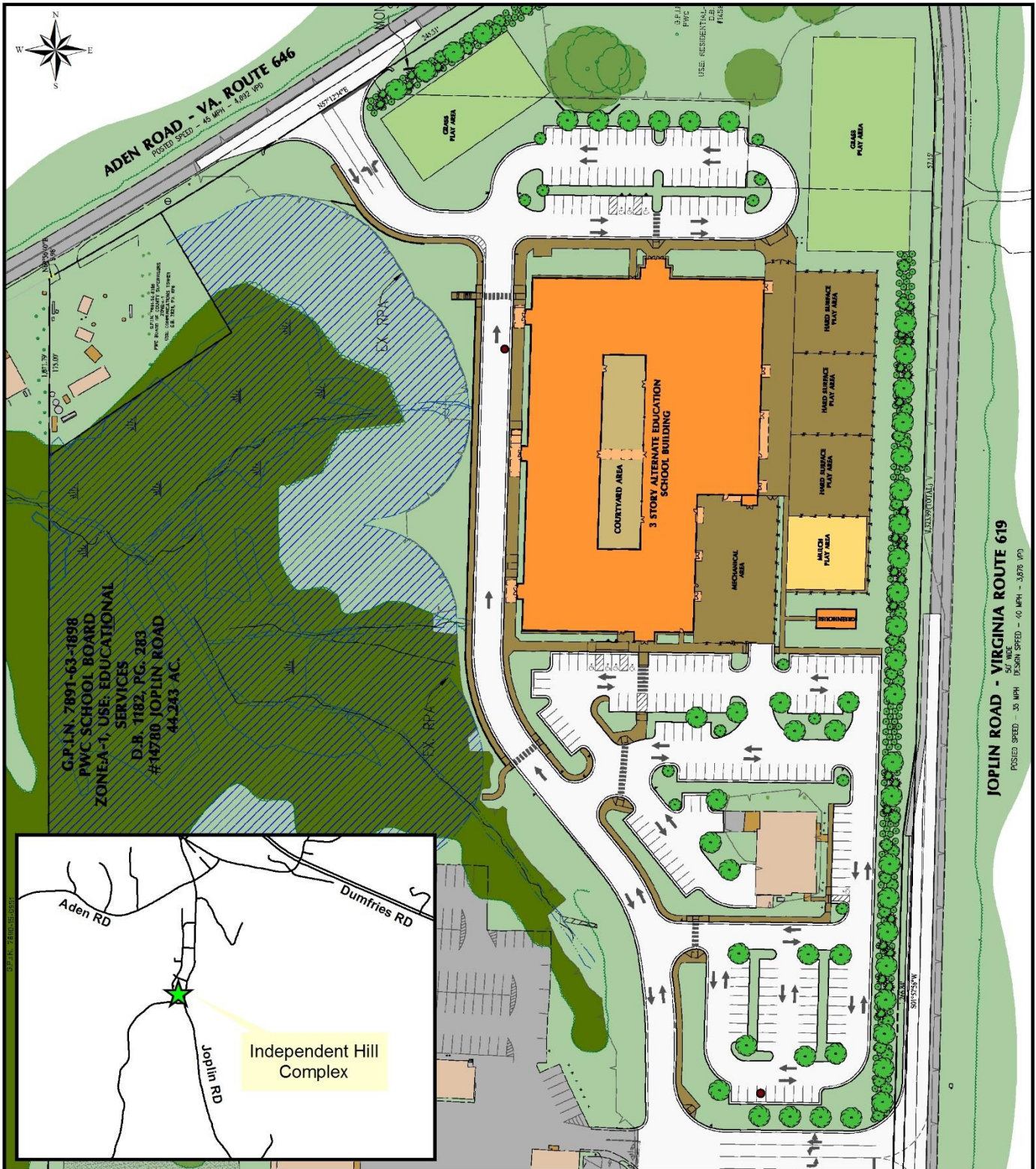


Prepared by Robert Boyd, GIS Analyst I
 Prince William County Public Schools
 Office of Facilities Services
 March 2016



New Alternative Education School

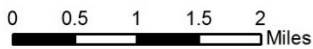
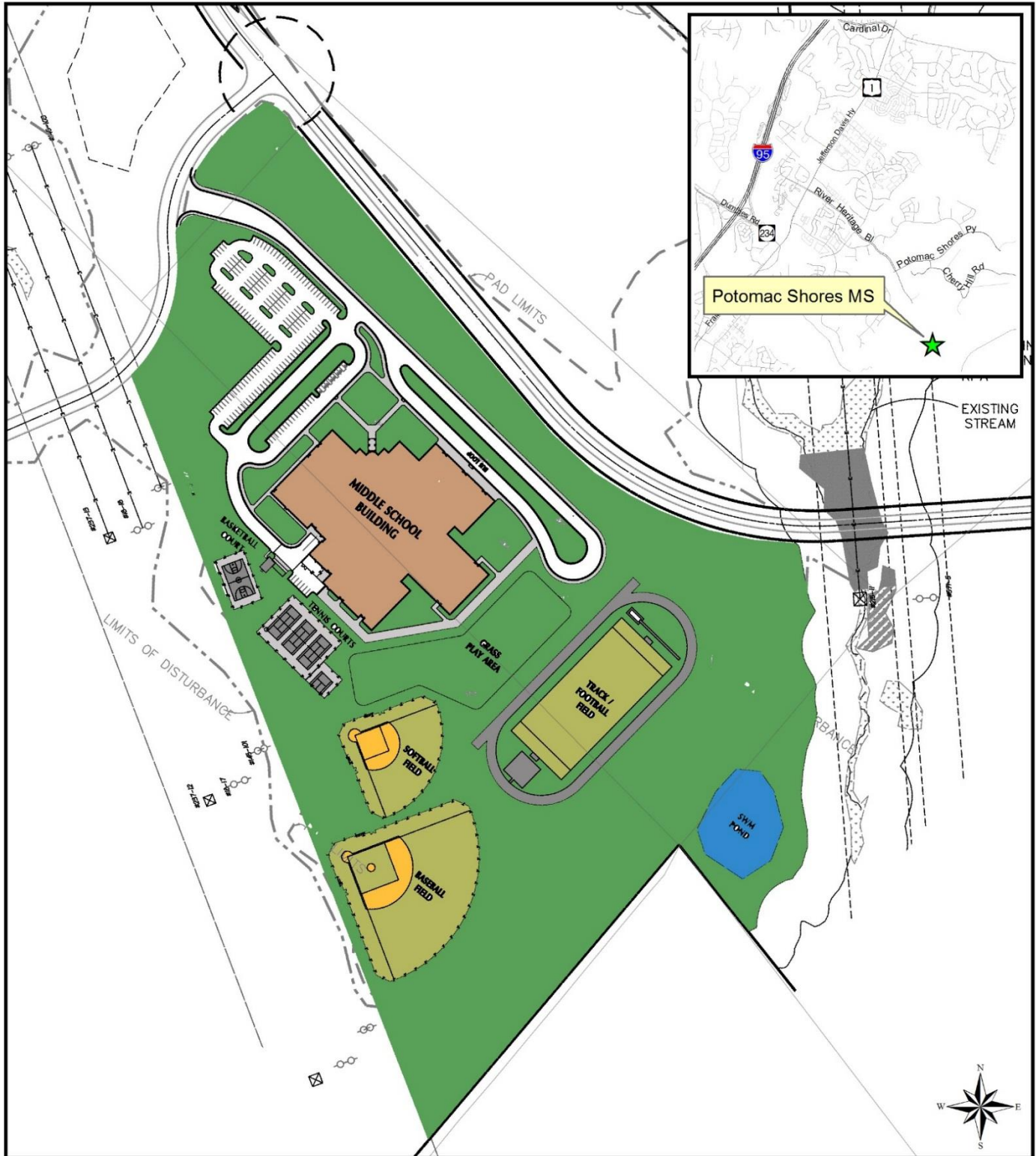
Opens 2018



Prepared by Robert Boyd, GIS Analyst I
Prince William County Public Schools
Office of Facilities Services
March 2016

Potomac Shores Middle School

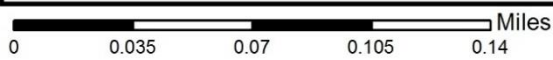
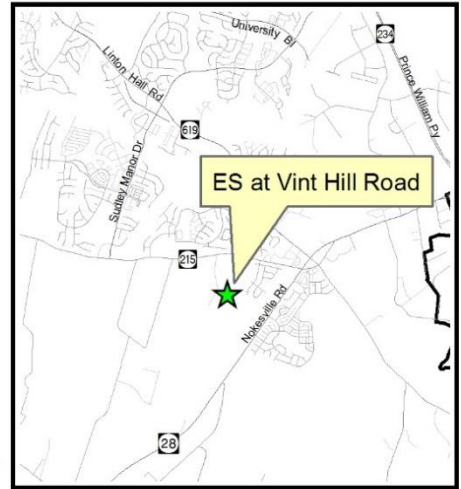
Opens 2020



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 Prince William County Public Schools
 Office of Facilities Services
 March 2016

Elementary School at Vint Hill Road

Opens 2024



Prepared by Robert Boyd, GIS Analyst I
 Prince William County Public Schools
 Office of Facilities Services
 March 2016

APPENDIX D

School Construction Financial Data

School Construction Financial Data

- School Construction Projects by Types of Expenditures
- Report of Bond Expenditures
- Commonwealth of Virginia Comparative School Construction Cost Data
 - New Elementary Schools
 - New Middle Schools
 - New High Schools
- Elementary School Construction Cost Comparatives

School Construction Projects by Types of Expenditures

School Construction Projects Types of Expenditures *FY2012 to FY2016*

PWCS Project Name	Opening Date	CIP Construction Project Budget	Construction Expenditures							Total Construction Expenditures	Operating Fund / Start Up Costs ⁷	Site Acquisition Costs ⁸	Total Project Costs
			Construction Contract Bid ¹	Project Costs Outside of Construction Contract					Total Project Costs Outside of Construction Contract				
				Construction Contract Change Order Costs ²	Temporary Employees ³	Engineering Services ⁴	Furnishings & Equipment ⁵	Other Non-Construction Contract Costs ⁶					
"Potomac Shores" Elementary	Sep-17	\$ 29,374,000	\$ 20,831,000						\$ -		\$ -		
Kilby Elementary Replacement	Sep-17	\$ 31,476,000	\$ 21,888,000		\$ 64,710	\$ 1,240,793		\$ 245,784	\$ 1,551,287		\$ -	\$ 135,398	
Wilson Elementary	Sep-16	\$ 28,534,000	\$ 20,753,000		\$ 33,389	\$ 1,093,418	\$ 5,389	\$ 392,216	\$ 1,524,412		\$ 425,000	\$ -	
Maintenance Facility	Sep-16	\$ 11,444,000	\$ 8,074,000		\$ 55,086	\$ 931,356		\$ 101,959	\$ 1,088,401		\$ -		
Colgan High School	Sep-16	\$ 110,943,000	\$ 97,907,000		\$ 346,352	\$ 4,998,274	\$ 151,712	\$ 1,629,125	\$ 7,125,463		\$ 1,988,547	\$ 8,785,796	
Yung Elementary	Sep-15	\$ 25,987,000	\$ 20,286,000	\$ 213,356	\$ 197,660	\$ 1,004,729	\$ 1,213,456	\$ 769,017	\$ 3,398,218	\$ 23,684,218	\$ 419,000	\$ 3,345,844	\$ 27,449,062
Haymarket Elementary	Sep-14	\$ 27,663,000	\$ 18,788,000	\$ (262,583)	\$ 135,764	\$ 1,133,312	\$ 1,120,361	\$ 993,391	\$ 3,120,245	\$ 21,908,245	\$ 339,295	\$ 16,679	\$ 22,264,219
Nokesville School, The	Sep-14	\$ 31,000,000	\$ 28,402,000	\$ 149,976	\$ 124,920	\$ 2,252,698	\$ 1,363,551	\$ 2,197,079	\$ 6,088,224	\$ 34,490,224	\$ 230,000	\$ 236,665	\$ 34,956,889
PACE West Special	Sep-12	\$ 11,526,000	\$ 7,698,000	\$ 265,453	\$ 154,054	\$ 755,007	\$ 644,474	\$ 686,834	\$ 2,505,821	\$ 10,203,821	\$ -	\$ 93,537	\$ 10,297,358
Reagan Middle	Sep-12	\$ 26,382,000	\$ 18,914,000	\$ 500,381	\$ 188,871	\$ 1,018,825	\$ 2,178,833	\$ 1,138,259	\$ 5,025,169	\$ 23,939,169	\$ 719,000	\$ 4,261	\$ 24,662,430
Patriot High	Sep-11	\$ 84,110,000	\$ 70,699,000	\$ 1,683,390	\$ 288,976	\$ 4,334,084	\$ 3,892,000	\$ 2,667,044	\$ 12,865,494	\$ 83,564,494	\$ 1,640,000	\$ 7,391,771	\$ 92,596,265
T. Clay Wood Elementary	Sep-11	\$ 18,494,000	\$ 13,859,000	\$ 456,286	\$ 169,805	\$ 996,299	\$ 1,243,359	\$ 213,240	\$ 3,078,989	\$ 16,937,989	\$ 302,000	\$ -	\$ 17,239,989
Piney Branch Elementary	Sep-11	\$ 21,224,000	\$ 15,799,000	\$ 416,944	\$ 112,149	\$ 1,088,068	\$ 1,246,023	\$ 571,677	\$ 3,434,861	\$ 19,233,861	\$ 302,000	\$ 4,252,663	\$ 23,788,524

¹ Construction contract to build the facility; may include site preparation work, road improvements, and other construction items as specified in the bid documents

² Change orders include errors and omissions, charges initiated by the owner, inspection outcomes, school-based staff generated changes, and unanticipated site conditions

³ On-site construction project managers, custodial services

⁴ Architectural and Engineering Services, traffic analyses, environmental analyses, archeological studies

⁵ Outfitting costs for desks, smart-boards, office furniture, computers, servers, athletic and PE equipment, lab equipment, and other equipment that is not part of the physical structure of the building

⁶ Utility Fees, easements, traffic signalization, inspection services, stormwater fees, wetlands mitigation and monitoring, erosion controls, and other unclassified expenses

⁷ Expendable Equipment and Materials to include: instructional supplies, office supplies, instruction kits, textbooks, library books, glassware, P.E. equipment, uniforms for athletics / music programs, etc., as well as the salaries of the principal and bookkeeper during the initial startup period

⁸ Purchase of properties, easements, rights of way, and associated settlement and title fees

Bond Expenditure Data

Bond Issuance: Virginia Public School Authority 2016 (V16A)

Bond Issuance	Project Name	Anticipated /Estimated Cost in CIP	Adjustments - Year 1	Adjustments - Year 2	Resulting Project Amount
		<i>Original Bond Disbursement</i>			
V16A	Kilby Elementary School Replacement	\$ 24,476,000			\$ 24,476,000
V16A	Elementary School (Potomac Shores)	\$ 27,374,000			\$ 27,374,000
V16A	Belmont Elementary Addition (10 rooms)	\$ 8,267,000			\$ 8,267,000
V16A	Henderson Elementary School Addition (10 rooms)	\$ 8,918,000			\$ 8,918,000
V16A	Neabsco Elementary School Addition (8 rooms)	\$ 7,504,000			\$ 7,504,000
V16A	13th High School -- Site Acquisition Funds	\$ 13,500,000			\$ 13,500,000
V16A	Elementary School - Site Acquisition Funds	\$ 2,000,000			\$ 2,000,000
V16A	Antietam Elementary School - Renewal	\$ 5,000,000			\$ 5,000,000
V16A	McAuliffe Elementary School - Renewal	\$ 5,000,000			\$ 5,000,000
V16A	Mullen Elementary School - Renewal	\$ 5,000,000			\$ 5,000,000
V16A	Westridge Elementary School - Renewal	\$ 5,000,000			\$ 5,000,000
V16A	Lake Ridge Middle School - Renewal	\$ 5,000,000			\$ 5,000,000
V16A	Saunders Middle School - Renewal	\$ 6,175,000			\$ 6,175,000
V16A	Lake Ridge Middle School Addition (13 rooms) - A&E	\$ 1,000,000			\$ 1,000,000
V16A	PACE East Replacement/Multi-Space - A&E and initial construction	\$ 5,000,000			\$ 5,000,000
V16A	Pattie Elementary School Addition (10 rooms) - Consolidation / Building Renovation @ Washington-Reid - A&E	\$ 900,000			\$ 900,000
V16A	Special Needs Transportation Center @ New Dominion - A&E	\$ 300,000			\$ 300,000
V16A	Middle School (Potomac Shores) - A&E	\$ 3,000,000			\$ 3,000,000
V16A	13th High School (West) - A&E	\$ 2,000,000			\$ 2,000,000
Total		\$ 135,414,000	\$ -	\$ -	\$ 135,414,000

Bond Issuance:
Virginia Public School Authority 2015 (V15A)

Bond Issuance	Project Name	Anticipated /Estimated Cost in CIP	Adjustments - Year 1	Adjustments - Year 2	Resulting Project Amount
		<i>Original Bond Disbursement</i>			
V15A	12th High School	\$ 49,971,500			\$ 49,971,500
V15A	Elementary School - Ferlazzo	\$ 27,534,000	\$ (1,000,000)		\$ 26,534,000
V15A	Independent Hill Maintenance Facility	\$ 10,000,000			\$ 10,000,000
V15A	Rippon Middle Addition	\$ 7,110,000			\$ 7,110,000
V15A	Kilby ES Replacement	\$ 6,000,000			\$ 6,000,000
V15A	PACE East Replacement	\$ 2,000,000			\$ 2,000,000
V15A	Elementary School - Potomac Shores - A/E	\$ 2,000,000			\$ 2,000,000
V15A	Henderson ES Addition - A/E	\$ 400,000			\$ 400,000
V15A	Belmont ES Addition - A/E	\$ 400,000			\$ 400,000
V15A	Neabsco ES Addition - A/E	\$ 400,000			\$ 400,000
V15A	Site Acquisition	\$ -	\$ 1,000,000		\$ 1,000,000
Total		\$ 105,815,500	\$ -	\$ -	\$ 105,815,500

Bond Issuance:
Virginia Public School Authority 2014 (V14A)

Bond Issuance	Project Name	Anticipated /Estimated Cost in CIP	Adjustments - Year 1	Adjustments - Year 2	Resulting Project Amount
		<i>Original Bond Disbursement</i>			
V14A	Elementary School - Devlin Road	\$ 25,937,000		\$ (300,000)	\$ 25,637,000
V14A	Featherstone Elementary Addition (6 rooms)	\$ 8,531,000			\$ 8,531,000
V14A	12th High School/IHS (Mid-County)	\$ 49,971,500	\$ (3,000,000)		\$ 46,971,500
V14A	Elementary School/IHS (East - Ferlazzo)	\$ 2,000,000	\$ (850,000)		\$ 1,150,000
V14A	Rippon Middle Addition/IHS East (9 rooms)	\$ 350,000			\$ 350,000
V14A	Maintenance Facility	\$ 1,444,000			\$ 1,444,000
V14A	Kilby Elementary School Replacement	\$ 1,000,000			\$ 1,000,000
V14A	Kerrydale ES - Activity Room	\$ -	\$ 1,500,000	\$ -	\$ 1,500,000
V14A	Enterprise ES - Activity Room	\$ -	\$ 1,500,000	\$ -	\$ 1,500,000
V14A	Potomac Shores MS - site	\$ -	\$ 850,000	\$ -	\$ 850,000
V14A	Dale City ES - Activity Room	\$ -		\$ 150,000	\$ 150,000
V14A	Minnieville ES - Activity Room	\$ -		\$ 150,000	\$ 150,000
Total		\$ 89,233,500	\$ -	\$ -	\$ 89,233,500

**Bond Issuance:
Virginia Public School Authority 2013 (V13A)**

Bond Issuance	Project Name	Anticipated /Estimated Cost in CIP	Adjustments - Year 1	Adjustments - Year 2	Resulting Project Amount
		Original Bond Disbursement			
V13A	Nokesville School, The - Building, New	\$ 11,000,000			\$ 11,000,000
V13A	Haymarket ES - Building, New	\$ 27,663,000	\$ (1,320,000)	\$ (3,454,000)	\$ 22,889,000
V13A	Dumfries ES - Renewal	\$ 3,825,000		\$ 684,000	\$ 4,509,000
V13A	River Oaks ES - Addition	\$ 5,913,000	\$ 700,000	\$ (470,000)	\$ 6,143,000
V13A	Parkside MS - Addition	\$ 10,559,000			\$ 10,559,000
V13A	12th HS Site - Building, New	\$ 8,000,000	\$ 570,000	\$ 3,000,000	\$ 11,570,000
V13A	Featherstone ES - A/E, Addition	\$ 300,000	\$ 50,000		\$ 350,000
V13A	Kerrydale ES - Activity Room	\$ -	\$ -	\$ 80,000	\$ 80,000
V13A	Enterprise ES - Activity Room	\$ -	\$ -	\$ 80,000	\$ 80,000
V13A	Tyler ES - Activity Room	\$ -	\$ -	\$ 80,000	\$ 80,000
Total		\$ 67,260,000	\$ -	\$ -	\$ 67,260,000

**Bond Issuance:
Virginia Public School Authority 2012 (V12A)**

Bond Issuance	Project Name	Anticipated /Estimated Cost in CIP	Adjustments - Year 1	Adjustments - Year 2	Resulting Project Amount
		Original Bond Disbursement			
V12A	Potomac HS - Renewal/Addition	\$ 7,655,000	\$ 500,000		\$ 8,155,000
V12A	Pattie ES - Renewal	\$ 3,806,000	\$ (36,000)	\$ (100,000)	\$ 3,670,000
V12A	Loch Lomond ES - Addition	\$ 5,950,000	\$ 871,000	\$ (350,000)	\$ 6,471,000
V12A	Mullen ES - Addition	\$ 5,700,000	\$ 302,000	\$ (600,000)	\$ 5,402,000
V12A	Nokesville K-8 - Building, New	\$ 14,000,000	\$ 3,630,000		\$ 17,630,000
V12A	Penn ES - Addition	\$ 5,817,000	\$ (971,000)	\$ (550,000)	\$ 4,296,000
V12A	River Oaks ES - A/E, Addition	\$ 300,000	\$ 36,000	\$ (26,000)	\$ 310,000
V12A	Sinclair ES - Addition	\$ 6,260,000	\$ (33,000)		\$ 6,227,000
V12A	Sudley ES - Addition	\$ 6,100,000	\$ (118,000)	\$ (174,000)	\$ 5,808,000
V12A	West Gate ES - Addition	\$ 3,140,000	\$ 1,002,000		\$ 4,142,000
V12A	Benton MS - Addition	\$ 7,247,000	\$ (2,635,000)		\$ 4,612,000
V12A	Parkside MS - A/E, Addition	\$ 500,000			\$ 500,000
V12A	Potomac MS - Addition	\$ 7,770,000	\$ (2,548,000)		\$ 5,222,000
V12A	12th site - A/E	\$ 3,000,000			\$ 3,000,000
V12A	Loch Lomond ES - Renewal, A/E			\$ 350,000	\$ 350,000
V12A	Henderson ES - Renewal, A/E			\$ 350,000	\$ 350,000
V12A	King ES - Renewal, A/E			\$ 350,000	\$ 350,000
V12A	Lake Ridge ES - Renewal, A/E			\$ 350,000	\$ 350,000
V12A	Springwoods ES - Renewal, A/E			\$ 350,000	\$ 350,000
V12A	Devlin Road ES - Building, New, A/E			\$ 50,000	\$ 50,000
Total		\$ 77,245,000	\$ -	\$ -	\$ 77,245,000

**Bond Issuance:
Virginia Public School Authority 2011 (V11A)**

Bond Issuance	Project Name	Anticipated /Estimated Cost in CIP	Adjustments - Year 1	Adjustments - Year 2	Resulting Project Amount
		Original Bond Disbursement			
V11A	A&E Mullen, Sinclair, Sudley, West Gate, Loch Lomond	\$ 1,500,000	\$ 100,000		\$ 1,600,000
V11A	Bus Parking (Gar-Field HS)	\$ 1,009,000			\$ 1,009,000
V11A	PACE West SE	\$ 8,026,000		\$ (20,000)	\$ 8,006,000
V11A	Piney Branch Elementary	\$ 5,000,000	\$ (1,750,000)	\$ (730,000)	\$ 2,520,000
V11A	Potomac HS Addition	\$ 7,655,000			\$ 7,655,000
V11A	Reagan Middle	\$ 12,150,000		\$ (1,900,000)	\$ 10,250,000
V11A	Swans Creek	\$ 4,765,000	\$ (450,000)	\$ (1,365,925)	\$ 2,949,075
V11A	T. Clay Wood Elementary	\$ 4,000,000	\$ (450,000)	\$ (850,000)	\$ 2,700,000
V11A	Westridge ES Addition	\$ 4,130,000	\$ 450,000		\$ 4,580,000
V11A	Nokesville K-8 School (A&E)		\$ 500,000	\$ (203,053)	\$ 296,947
V11A	Penn Elementary School Addition (A&E)		\$ 350,000		\$ 350,000
V11A	Benton Middle School Addition (A&E)		\$ 450,000		\$ 450,000
V11A	Potomac Middle School Addition (A&E)		\$ 350,000		\$ 350,000
V11A	Parkside Middle School Addition (A&E)		\$ 450,000	\$ (65,075)	\$ 384,925
V11A	Devlin Road Elementary Site (A&E)			\$ 750,000	\$ 750,000
V11A	Haymarket Drive ES Site (A&E)			\$ 100,000	\$ 100,000
V11A	Occoquan ES Activity Room (A&E)			\$ 100,000	\$ 100,000
V11A	Dumfries ES Renewal (A&E)			\$ 300,000	\$ 300,000
V11A	Potomac HS Renewal / Addition			\$ 2,931,000	\$ 2,931,000
V11A	Occoquan ES Activity Room			\$ 953,053	\$ 953,053
	Total	\$ 48,235,000	\$ -	\$ -	\$ 48,235,000

**Bond Issuance:
Virginia Public School Authority 2010 (V10A)**

Bond Issuance	Project Name	Anticipated /Estimated Cost in CIP	Adjustments - Year 1	Adjustments - Year 2	Resulting Project Amount
		Original Bond Disbursement			
V10A	Linton Hall Road Elementary	\$ 16,224,000	\$ (200,000)	\$ (100,000)	\$ 15,924,000
V10A	Patriot High School	\$ 37,285,000		\$ (500,000)	\$ 36,785,000
V10A	Reagan Middle	\$ 14,232,000	\$ (500,000)	\$ 46,960	\$ 13,778,960
V10A	T. Clay Wood Elementary	\$ 14,494,000	\$ (200,000)	\$ (350,000)	\$ 13,944,000
V10A	Haymarket Drive Elementary (A&E)		\$ 900,000	\$ (141,275)	\$ 758,725
V10A	Patriot High School (A&E)			\$ 44,315	\$ 44,315
V10A	Potomac High School - Renewal/Addition			\$ 1,000,000	\$ 1,000,000
	Total	\$ 82,235,000	\$ -	\$ -	\$ 82,235,000

Commonwealth of Virginia Comparative School Construction Cost Data

New Elementary Schools 2008-09 through 2014-15

Year	Project #	Name	Grades	Division	Contract Award Date	Maximum Operating Capacity	Building Cost	Site Cost	Total ² Cost	Total Sq Ft	Sq Ft/ Pupil	Total Cost/ Sq Ft	Building Only Cost/Sq Ft	Total Cost/ Pupil
2014-15	137-139	New Lexington Elementary	PK-5	Lexington City	Aug-14	480	\$12,500,000	\$1,605,000	\$14,105,000	53,804	112	\$262.16	\$232.32	\$29,385
	053-103	ES-27	K-5	Loudoun County	Apr-15	1,012	\$18,903,548	\$4,491,800	\$23,395,348	105,757	105	\$221.22	\$178.75	\$23,118
	117-13	Magruder Elementary Repl	K-5	Newport News City	Jul-14	916	\$20,371,304	\$2,444,695	\$22,815,999	97,612	107	\$233.74	\$208.70	\$24,908
	075-111	Ferlazzo Elementary	K-5	Prince William County	Mar-15	921	\$16,753,000	\$4,000,000	\$20,753,000	106,354	115	\$195.13	\$157.52	\$22,533
	132-09	John Kerr Elementary	PK-5	Winchester City	Apr-14	853	\$15,030,000	\$1,565,000	\$16,595,000	94,000	110	\$176.54	\$159.89	\$19,455
2013-14	075-110	Devlin Road Elementary	K-5	Prince William Co	Dec-13	905	\$16,186,000	\$4,100,000	\$20,286,000	107,273	119	\$189.11	\$150.89	\$22,415
2012-13	075-108	Haymarket Elementary	K-5	Prince William Co	Feb-13	868	\$14,396,000	\$4,392,000	\$18,788,000	99,135	114	\$189.52	\$145.22	\$21,645
	139-58	South Salem	K-5	Salem City	Apr-12	600	\$13,235,950	\$1,667,250	\$14,903,200	90,913	152	\$163.93	\$145.59	\$24,839
	086-76	New Elementary ³	PK-5	Smyth Co	Nov-11	603	\$11,122,199	\$4,078,016	\$15,200,215	83,717	139	\$181.57	\$132.85	\$25,208
2011-12	043-97	West Area ES #9	K-5	Henrico Co	Jun-11	788	\$11,394,069	\$1,473,256	\$12,867,325	78,400	99	\$164.12	\$145.33	\$16,329
	053-38	Moorefield Station	K-5	Loudoun Co	Apr-12	988	\$15,393,220	\$3,449,571	\$18,842,791	105,951	107	\$177.84	\$145.29	\$19,072
	053-100	Discovery	K-5	Loudoun Co	Apr-12	988	\$14,951,844	\$3,954,311	\$18,906,155	105,951	107	\$178.44	\$141.12	\$19,136
	123-50	Oak Grove ⁴	K-5	Richmond City	Sep-11	704	\$14,857,440	\$2,103,216	\$16,960,656	90,810	129	\$186.77	\$163.61	\$24,092
	123-110	Broad Rock/Bellemeade ⁵	K-5	Richmond City	Sep-11	704	\$16,849,512	\$2,495,489	\$19,345,001	90,810	129	\$213.03	\$185.55	\$27,479
2010-11	029-78	Lacey	K-6	Fairfax Co	Jul-10	935	\$11,880,100	\$1,868,900	\$13,749,000	98,590	105	\$139.46	\$120.50	\$14,705
	029-99	Graham Road	PK-6	Fairfax Co	Sep-10	400	\$10,121,565	\$369,435	\$10,491,000	81,354	203	\$128.95	\$124.41	\$26,228
	053-53	Frederick Douglass	K-5	Loudoun Co	Apr-11	940	\$16,685,000	\$5,206,000	\$21,891,000	100,477	107	\$217.87	\$166.06	\$23,288
2009-10	121-148	Simondale	PK-5	Portsmouth City	Nov-09	780	\$11,066,000	\$3,100,000	\$14,166,000	80,000	103	\$177.08	\$138.33	\$18,162
	128-72	College Park ⁶	K-5	Va Beach City	Jan-10	616	\$14,738,600	\$3,184,000	\$17,922,600	94,231	153	\$190.20	\$156.41	\$29,095
	80-53	Mason Cove	PK-5	Roanoke Co	Dec-09	336	\$7,763,717	\$2,073,341	\$9,837,058	52,530	156	\$187.27	\$147.80	\$29,277
	60-2	Prices' Fork	PK-5	Montgomery Co	Jan-10	838	\$13,666,750	\$1,933,250	\$15,600,000	106,300	127	\$146.75	\$128.57	\$18,616
	75-104	Kettle Run	K-5	Prince William Co	Mar-10	889	\$12,476,000	\$1,383,000	\$13,859,000	104,829	118	\$132.21	\$119.01	\$15,589
	75-105	Linton Hall	K-5	Prince William Co	May-10	889	\$13,281,981	\$2,527,726	\$15,809,707	104,829	118	\$150.81	\$126.70	\$17,784
2008-09	5A-8A	Moss Knuckols ⁷	PK-5	Louisa Co	Sep-08	792	\$10,569,784	\$2,822,216	\$13,392,000	85,620	108	\$156.41	\$123.45	\$16,909
	131-19A	9th Elementary ⁸	PK-5	Williamsburg/JC Co	Nov-08	730	\$15,958,569	\$1,882,650	\$17,841,219	93,247	128	\$191.33	\$171.14	\$24,440
	60-3A	Elliston Shawsville ⁹	PK-5	Montgomery Co	Nov-08	838	\$15,920,182	\$2,685,818	\$18,606,000	106,300	127	\$175.03	\$149.77	\$22,203
	53-45A	Buffalo Trail ¹⁰	K-5	Loudoun Co	Jan-09	989	\$10,714,000	\$5,639,290	\$16,353,290	102,141	103	\$160.11	\$104.89	\$16,535

* The final report for 2013-14 will be generated after June 30, 2014.

1 - Division operating capacity may differ from SOL maximum capacity. Pre-kindergarten classrooms counted at 16 students, grades K-3 classrooms counted at 24:1, grades 4-5 classrooms counted at 25:1.

2 - Usually includes construction, site development, water system, sewage disposal, built-in equipment and demolition. A&E fees, value engineering, construction management fees, cost of site, loose equipment, and furniture are excluded.

3 - Site cost include \$270,000 for egress road and \$924,000 for off site utilities.

4 - Excludes cost of community center, and includes cost for the demolition of the existing building.

5 - Includes cost of demolition of old school building.

6 - Site cost includes \$135,000 for demolition of existing school and abatement work.

7 - Includes on-site sewage treatment plant and on-site water system.

8 - Site cost was split proportionally with new middle school being built on same site.

9 - Includes \$321,690 for off-site sewer, force main and pump station.

10 - Includes off-site developer cost for \$1,931,290 which is in the general contract.

New Middle Schools 2008-09 through 2014-15

Year	Project #	Name	Grades	Division	Contract Award Date	Maximum ¹ Operating Capacity	Building Cost	Site Cost	Total ² Cost	Total Sq Ft	Sq Ft/ Pupil	Total Cost/ Sq Ft	Building Only Cost/Sq Ft	Total Cost/ Pupil
2014-15	034-53	Frederick County Middle	6-8	Frederick County	Nov-15	921	\$35,592,328	\$5,907,672	\$41,500,000	186,163	202	\$222.92	\$191.19	\$45,060
	036-802	New Page Middle	6-8	Gloucester County	Sep-15	738	\$18,931,000	\$3,922,763	\$22,853,763	118,237	160	\$193.29	\$160.11	\$30,967
2013-14	101-09	Jefferson-Houston	PK-8	Alexandria City	Jun-13	805	\$31,961,348	\$4,695,397	\$36,656,745	124,500	155	\$294.43	\$256.72	\$45,536
2012-13	053-104	Trailside	6-8	Loudoun Co	Jun-12	1,154	\$26,874,012	\$3,221,898	\$30,095,910	175,064	152	\$171.91	\$153.51	\$26,080
	123-77	Martin Luther King ³	6-8	Richmond City	Apr-12	847	\$27,306,636	\$2,835,518	\$30,142,154	149,600	177	\$201.48	\$182.53	\$35,587
2011-12	075-107	Nokesville K-8 School	K-8	Prince William Co	Jun-12	924	\$22,602,000	\$5,800,000	\$28,402,000	141,832	153	\$200.25	\$159.36	\$30,738
2010-11		<i>No Projects Reported</i>												
2009-10	75-103A	Ronald Reagan Middle	6-8	Prince William Co	Feb-10	1,102	\$15,265,478	\$3,648,522	\$18,914,000	133,480	121	\$141.70	\$114.37	\$17,163
	29-231A	South County	6-8	Fairfax Co	Mar-10	1,172	\$19,293,100	\$2,656,900	\$21,950,000	176,021	150	\$124.70	\$109.61	\$18,729
	53-58A	J. Michael Lunsford	6-8	Loudoun Co	Jan-10	1,351	\$24,145,000	\$4,281,000	\$28,426,000	177,880	132	\$159.80	\$135.74	\$21,041
2008-09	43-95A	West Area ⁴	6-8	Henrico Co	Aug-08	1,000	\$19,715,150	\$3,500,000	\$23,215,150	120,024	120	\$193.42	\$164.26	\$23,215
	131-19.1	4th Middle School ⁵	6-8	Williamsburg/JC Co	Nov-09	830	\$26,031,431	\$3,822,350	\$29,853,781	145,458	175	\$205.24	\$178.96	\$35,968
	128-43A	Great Neck ⁶	6-8	Va Beach City	Jul-09	1,212	\$28,706,998	\$6,320,002	\$35,027,000	223,260	184	\$156.89	\$128.58	\$28,900
	68-4A	Orange ⁷	6-8	Orange Co	Feb-09	1,295	\$24,947,000	\$5,460,000	\$30,407,000	169,320	131	\$179.58	\$147.34	\$23,480

* The final report for 2013-14 will be generated after June 30, 2014.

1 - Division operating capacity may differ from SOL maximum capacity. State SOL capacity based on a pupil teacher ratio of 25:1 in core classrooms.

2 - Usually includes construction, site development, water system, sewage disposal, built-in equipment and demolition. A&E fees, value engineering, construction management fees, cost of site, loose equipment, and furniture are excluded.

3 - Cost include \$400,000 for site and building demolition, and a 2,835 square foot auxiliary gym.

4 - Building cost includes technology system and storage shed. Site cost includes \$185,000 traffic signal.

5 - Site cost split proportionally with new elementary school being built on the same site.

6 - Site cost includes \$611,420 for demolition of existing middle school building and asbestos abatement.

7 - Site cost includes \$2,060,000 for water, sewer, water tank, and road widening.

New High Schools 2008-09 through 2014-15

Year	Project #	Name	Grades	Division	Contract Award Date	Maximum ¹ Operating Capacity	Building Cost	Site Cost	Total ² Cost	Total Sq Ft	Sq Ft/ Pupil	Total Cost/ Sq Ft	Building Only Cost/Sq Ft	Total Cost/ Pupil
2014-15	115-13	New Heritage High	9-12	Lynchburg City	Apr-14	1,452	\$42,544,428	\$20,879,572	\$63,424,000	266,151	183	\$238.30	\$159.85	\$43,680
	096-101	Union High School	9-12	Wise County	Nov-11	863	\$23,562,210	\$943,772	\$24,505,982	126,508	147	\$193.71	\$186.25	\$28,396
	096-103	Central High School	9-12	Wise County	Nov-11	863	\$25,082,622	\$411,396	\$25,494,018	126,508	147	\$201.52	\$198.27	\$29,541
2013-14	054-60	Louisa County High School	9-12	Louisa County	Jul-13	2,011	\$46,473,432	\$2,059,570	\$48,533,002	272,834	136	\$177.88	\$170.34	\$24,134
	053-106	Twelfth High School	9-12	Prince William County	Dec-13	2,140	\$78,907,000	\$19,000,000	\$97,907,000	425,176	199	\$230.27	\$185.59	\$45,751
	053-106	New Huguenot High School	9-12	Richmond City	Jun-12	1,574	\$51,991,220	\$10,283,262	\$62,274,482	253,821	161	\$245.35	\$204.83	\$39,564
	053-106	Stafford High School Repl	9-12	Stafford County	Jun-13	2,102	\$50,715,200	\$9,106,800	\$59,822,000	281,653	134	\$212.40	\$180.06	\$28,460
2012-13	053-106	HS-6 at Loudoun Valley Estates II	9-12	Loudoun County	Feb-13	1,949	\$56,548,276	\$6,971,776	\$63,520,052	283,422	145	\$224.12	\$199.52	\$32,591
	060-83	Blacksburg High School	9-12	Montgomery County	Jul-11	1,650	\$47,258,625	\$7,621,578	\$54,880,203	293,286	178	\$187.12	\$161.13	\$33,261
	060-65	New Auburn High School	9-12	Montgomery County	Jul-11	853	\$27,985,261	\$4,261,737	\$32,246,998	180,940	212	\$178.22	\$154.67	\$37,804
2011-12	128-107	Kellum Replacement ³	9-12	Va Beach City	Aug-11	2,000	\$58,909,096	\$15,013,694	\$73,922,790	350,952	175	\$210.64	\$167.86	\$36,961
2010-11	007-45	Wakefield	9-12	Arlington Co	May-11	2,173	\$77,389,376	\$11,000,623	\$88,389,999	382,102	176	\$231.33	\$202.54	\$40,676
	022-31	NEW Clarke County	9-12	Clarke Co	Jul-10	884	\$19,550,000	\$3,750,000	\$23,300,000	162,050	183	\$143.78	\$120.64	\$26,357
	053-37	John Champe ⁴	9-12	Loudoun Co	Jan-11	1,955	\$40,996,000	\$19,766,000	\$60,762,000	275,574	141	\$220.49	\$148.77	\$31,080
2009-10		<i>No Projects Reported</i>												
2008-09	43-96A	Henrico #1 ⁵	9-12	Henrico Co	Oct-08	1,868	\$50,700,000	\$7,133,623	\$57,833,623	255,000	137	\$226.80	\$198.82	\$30,960
	53-20A	Tuscarora ⁶	9-12	Loudoun Co	Dec-08	1,895	\$45,071,040	\$11,000,000	\$56,071,040	279,426	147	\$200.67	\$161.30	\$29,589
	53-59A	Woodgrove ⁷	9-12	Loudoun Co	Jan-09	1,651	\$44,375,000	\$9,500,000	\$53,875,000	251,915	153	\$213.86	\$176.15	\$32,632
	32-20A	Fluvanna ⁸	9-12	Fluvanna Co	Mar-09	1,633	\$44,379,363	\$12,486,637	\$56,866,000	314,389	193	\$180.88	\$141.16	\$34,823
	75-102A	11th High School	9-12	Prince William Co	Jan-09	2,041	\$58,655,600	\$12,043,400	\$70,699,000	312,067	153	\$226.55	\$187.96	\$34,639

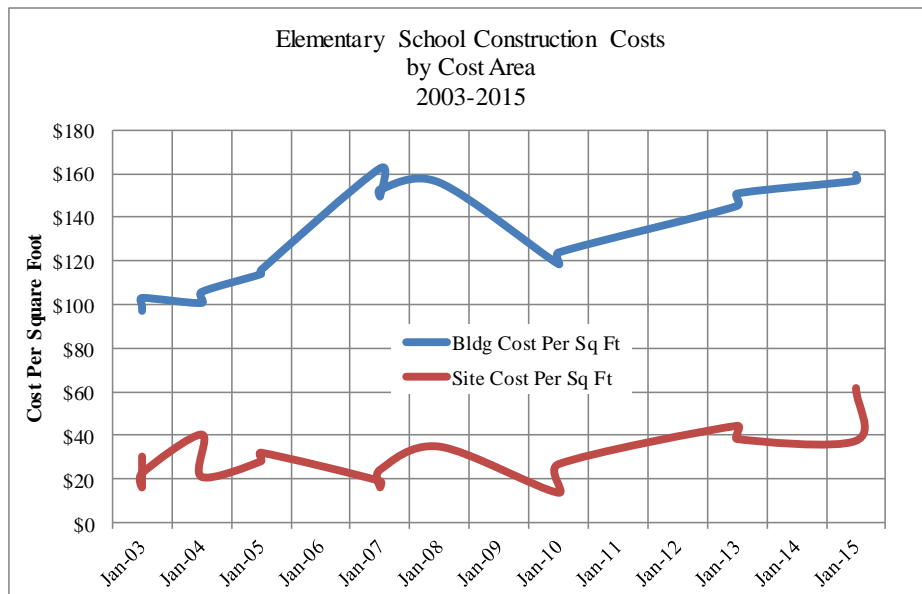
- 1 - Division operating capacity may differ from SOL maximum capacity. State operating capacity is generally based on a pupil teacher ratio of 25:1 in all program areas, at 90 percent.
- 2 - Usually includes construction, site development, water system, sewage disposal, built-in equipment and demolition. A&E fees, value engineering, construction management fees, cost of site, loose equipment, and furniture are excluded.
- 3 - Project cost includes required road widening, new turning lanes, football stadium, track, play fields, and other outside practice facilities.
- 4 - \$3,250,000 for required off-site road improvements.
- 5 - Total cost includes field house at \$1,480,000 and terrazzo flooring at \$300,500.
- 6 - Heavy grading, rock removal, as well as environmental issues increased site cost.
- 7 - On-site water and sewer systems were additional site costs.
- 8 - The base high school capacity is 1,633 students. The building includes spaces for career, technical and vocational programs for 100 additional students and core support facilities were sized for an additional 250 students.

Elementary School Construction Cost Data

Prince William County Schools 2003-04 through 2014-15

Elementary School	Building Square Footage	School Construction Contract			Building Cost		Site Cost	
		Bid Date	Bid Contract Total	Contract Cost Per Sq Ft	Bldg Cost Total	Bldg Cost Per Sq Ft	Site Cost Total	Site Cost Per Sq Ft
Kilby ES Repl.	98,976	Mar-15	\$21,888,000	\$221.14	\$15,788,000	\$159.51	\$6,100,000	\$61.63
Ferlazzo	106,854	Feb-15	\$20,753,000	\$194.22	\$16,753,000	\$156.78	\$4,000,000	\$37.43
Devlin Road	107,273	Dec-13	\$20,286,000	\$189.11	\$16,186,000	\$150.89	\$4,100,000	\$38.22
Haymarket ⁵	99,135	Jan-13	\$18,788,000	\$189.52	\$14,396,000	\$145.22	\$4,392,000	\$44.30
Wood ⁴	104,958	Feb-10	\$13,859,000	\$132.04	\$12,437,000	\$118.50	\$1,422,000	\$13.55
Piney Branch	104,958	Feb-10	\$15,799,000	\$150.53	\$12,999,000	\$123.85	\$2,800,000	\$26.68
Triangle	103,679	Feb-08	\$19,769,000	\$190.68	\$16,169,000	\$155.95	\$3,600,000	\$34.72
Yorkshire	106,614	Jun-07	\$18,863,000	\$176.93	\$16,292,000	\$152.81	\$2,571,000	\$24.12
Gravelly	95,074	Feb-07	\$17,250,000	\$181.44	\$15,449,000	\$162.49	\$1,801,000	\$18.94
Fitzgerald ³	106,170	Feb-07	\$17,580,000	\$165.58	\$15,880,000	\$149.57	\$1,700,000	\$16.01
Buckland Mills	89,911	Feb-05	\$12,765,000	\$141.97	\$10,245,000	\$113.95	\$2,520,000	\$28.03
Parks	83,084	Feb-05	\$12,277,000	\$147.77	\$9,622,000	\$115.81	\$2,655,000	\$31.96
Glenkirk	83,084	Feb-04	\$11,711,000	\$140.95	\$8,364,000	\$100.67	\$3,347,000	\$40.28
Victory ²	89,911	Feb-04	\$11,380,000	\$126.57	\$9,505,000	\$105.72	\$1,875,000	\$20.85
Williams ¹	83,084	Feb-03	\$10,570,000	\$127.22	\$8,061,000	\$97.02	\$2,509,000	\$30.20
Elis	76,724	Feb-03	\$8,869,000	\$115.60	\$7,638,000	\$99.55	\$1,231,000	\$16.04
Porter	71,245	Feb-03	\$8,945,000	\$125.55	\$7,338,000	\$103.00	\$1,607,000	\$22.56

- 1 Actual bid was 12.570. Approximately 2.0 million is for site work associated with adjacent middle school. For project comparison purposes bid amount and site sq. ft. amounts have been adjusted accordingly.
 2 This site was pre-graded by the developer, value approximately 1.2 million. For project comparison purposes add 13.35 to project sq. ft. cost and to site sq. ft. cost.
 3 This site was pre-graded by the developer, value approximately 700K. For project comparison purposes add 6.59 to project sq. ft. cost and to site sq. ft. cost.
 4 This site was pre-graded which included partial utilities infrastructure and bus loop as part of the adjacent high school project, value approximately 650K. For project comparison purposes add 6.19 to project sq. ft. cost and to site sq. ft. cost.
 5 This site was heavily wooded and contained \$845k in offsite utility / roadwork cost.



APPENDIX E

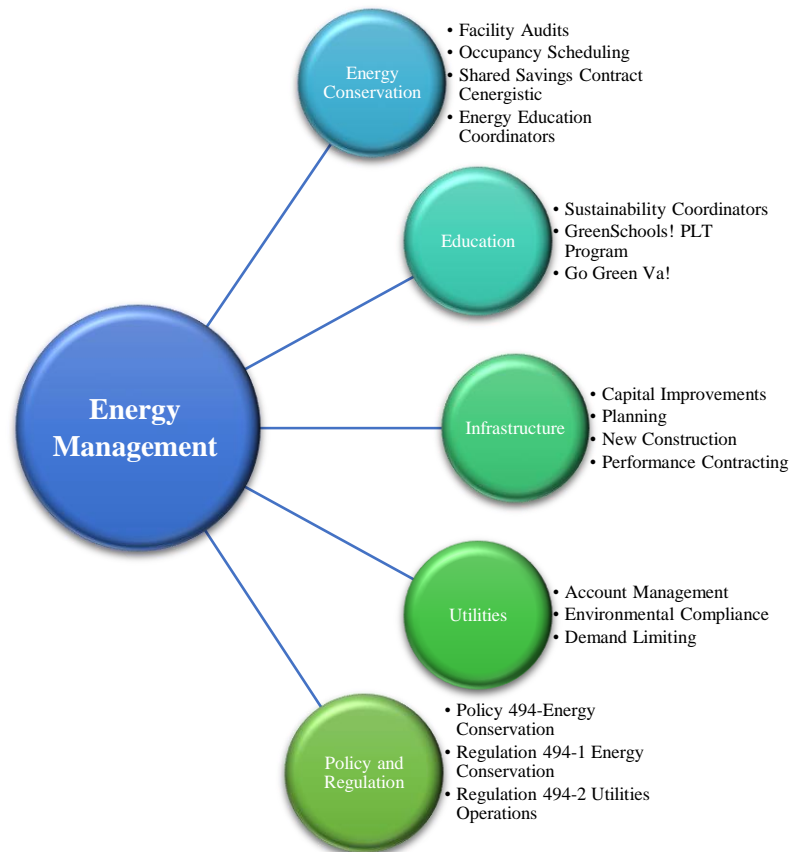
Energy Management

Energy Management

Energy Management in Prince William County Public Schools (PWCS) utilizes a multifaceted approach to energy stewardship and conservation. Policy 494 states that the School Board will embrace energy conservation and believes it to be the responsibility of the School Board to conserve energy and natural resources. While support and program oversight are the responsibility of the Office of Facilities Services, each school or facility has designated a site administrator who will be accountable for energy conservation.

Implementation of the energy conservation program is done through a team led by the Office of Facilities Services' Administrative Coordinator, Energy Management, and Energy Education Coordinator(s), in accordance with Regulation 494-1. All decisions related to the implementation of this policy are firmly grounded in common sense.

Accurate records of energy consumption and cost are maintained by the Office of Facilities Services for each site to provide verifiable performance results on the goals and progress of the energy conservation program.



Energy Conservation

Energy Education Coordinators

Energy Education Coordinators work to establish accountability for energy consumption at every level in the organization. These individuals are responsible for developing and monitoring the organization's energy management program, under School Board approved policies and regulations, for the purpose of reducing utility consumption.

Basic areas of responsibility include: administration and recordkeeping, accountability, reporting, program implementation, promoting organizational employee involvement, and validating energy management system compliance to the energy policy and guidelines. Energy Education Coordinators use EnergyCAP software to monitor energy usage trends.

The role of the Energy Education Coordinators is instrumental in the success of the energy conservation program and helping retain funds where they are most important – in the classroom.

Facility Audits

Sites within PWCS will be visited by an Energy Education Coordinator regularly. Audits conducted during the normal school week will assess the ability of staff to interpret and apply Policy 494 and Regulation 494-1. Audits will primarily be conducted after hours and during periods of low occupancy. Each site will also be reviewed during holiday periods, Code Red, and Code Green closings as well as extended shutdown periods such as the winter break, spring break, and summer vacation.

Facility Occupancy Scheduling

Facility use and scheduling is a critical component of energy management in PWCS. Each facility is assessed for its occupancy and use patterns in order to identify periods of inactivity and low usage. Mechanical systems are then programmed through automated building control systems to reduce mechanical operation and therefore energy consumption during periods of low usage. Schedules are reviewed regularly with site based administrators and adjusted for seasonal patterns and system performance. School locations conducting events scheduled before or after normal school hours are required to enter these activities into “FacilityDirect” software. Per Regulation 494-1, “Energy Conservation”, HVAC settings will revert to those designated for an unoccupied state after hours, during weekends and on holidays. If heating or air conditioning is needed for a scheduled activity, staff is required to check the HVAC box to indicate as such in the request. Failure to do so will result in no available HVAC service. Events are entered no later than a week in advance, so that the service can be scheduled in a timely manner.

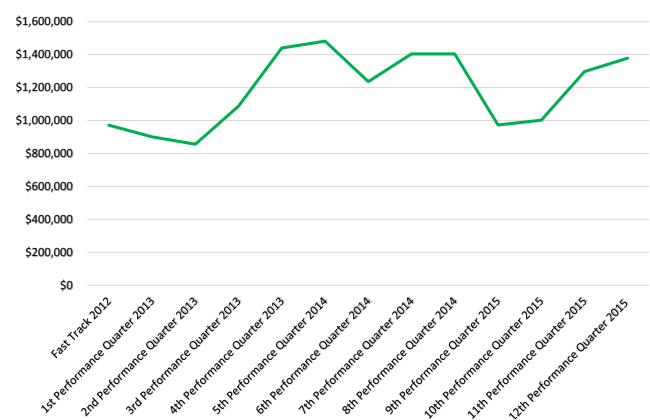
Energy Conservation Savings July 2012 – January 2016

Period	Month	Savings		Period Totals
		\$	%	
Fast Track 2012	July - December	\$972,940	9.20%	\$972,490
1st Performance Quarter 2013	January	\$239,204	12.40%	\$900,538
	February	\$257,109	13.70%	
	March	\$404,225	21.90%	
2nd Performance Quarter 2013	April	\$282,294	16.60%	\$856,669
	May	\$296,806	15.80%	
	June	\$277,569	16.00%	
3rd Performance Quarter 2013	July	\$421,649	24.10%	\$1,088,007
	August	\$364,009	20.20%	
	September	\$302,349	15.60%	
4th Performance Quarter 2013	October	\$318,782	17.40%	\$1,440,759
	November	\$525,571	25.50%	
	December	\$596,406	26.60%	
5th Performance Quarter 2014	January	\$539,822	23.00%	\$1,482,347
	February	\$452,904	20.50%	
	March	\$489,621	23.90%	
6th Performance Quarter 2014	April	\$497,820	26.10%	\$1,235,917
	May	\$377,847	19.60%	
	June	\$360,250	18.00%	
7th Performance Quarter 2014	July	\$556,611	30.20%	\$1,404,501
	Aug	\$447,495	23.50%	
	September	\$400,395	19.20%	
8th Performance Quarter 2014	October	\$399,337	21.00%	\$1,404,849
	November	\$461,759	22.60%	
	December	\$543,753	24.30%	
9th Performance Quarter 2015	January	\$434,855	18.90%	\$973,575
	February	\$159,523	6.80%	
	March	\$379,197	18.30%	
10th Performance Quarter 2015	April	\$365,954	19.20%	\$1,002,068
	May	\$322,329	15.70%	
	June	\$313,785	15.00%	
11th Performance Quarter 2015	July	\$515,107	26.10%	\$1,297,622
	August	\$433,737	21.20%	
	September	\$348,778	16.30%	
12th Performance Quarter 2015	October	\$446,182	22.20%	\$1,378,587
	November	\$430,901	21.10%	
	December	\$501,504	25.20%	
13th Performance Quarter 2016	January	\$549,750	22.60%	\$549,750
Total Program Savings		\$15,988,129	18.70%	

Cenergistic, Inc.

In June 2012, PWCS entered into a shared savings contract with Cenergistic, Inc. to generate savings based on behavioral changes and operational strategic planning. The contractor has assisted with staffing recommendations, EnergyCAP software integration, and program methodology. The term of this contract is five years and will expire in 2017. Savings shared through this agreement are compared to a baseline of utility expenses from the 2011-2012 school year. PWCS retains 65% of the savings attributable to this program.

Energy Conservation Savings July 2012 – December 2015



Education

Sustainability Coordinators

Sustainability is the dedicated effort of an organization, working together, to reduce the use of finite resources. By evaluating everything from the materials used in the construction of our new schools and renovations, to enhanced storm water management, sustainable purchasing, energy efficiency and environmental literacy in the classroom, we as a group can decrease the negative impact our activities have on our world, starting today.

The role of a Sustainability Coordinator is not an intense one, but it is very important. Sustainability Coordinators function as ambassadors on behalf of the Energy Management division, conveying our collective message of environmental leadership to each individual site. Each coordinator will be encouraged to create opportunities for discussions about sustainability and energy conservation. The Office of Facilities Services will provide tools for the development of a sustainable culture within each school. Volunteers requiring recertification points could potentially earn up to 5 hours for participation as a site based Sustainability Coordinator.

Project Learning Tree

The Office of Facilities Services incorporates education into the overall strategic plan for the School Division. Energy Management staff support the development and implementation of GreenSchools! modules that focus on Energy, Water, Waste and Recycling, and Environmental Quality. Modules are registered with the Office of Student Learning and the Professional Learning Catalog under SCI 706. Participants requiring recertification points receive 5 hours for participation in the annual training workshop.

GreenSchools! investigations bolster science, technology, engineering, and math (STEM) education while promoting sustainable schools. They provide students with opportunities to actively engage in scientific inquiry as they solve real-world environmental issues at their school. PLT GreenSchools! is a program of the American Forest Foundation, in partnership with the 50-state PLT network, the U.S. Forest Service, the Corporation for National and Community Service, and many other national, state, and local partners.

Go Green Va.!

The Go Green Va.! program is sponsored by the Virginia School Board Association. The program requires annual documentation and planning for issues relating to environmental stewardship, energy management, indoor air quality and education of students in the classroom regarding sustainable strategies. PWCS has participated since 2009 earning both the Certified Green School Division award and the Silver Green School certification. This year PWCS was awarded the Platinum Green Schools Division certification and recognized as an overall Green Schools Challenge winner.

Utilities

Account Management

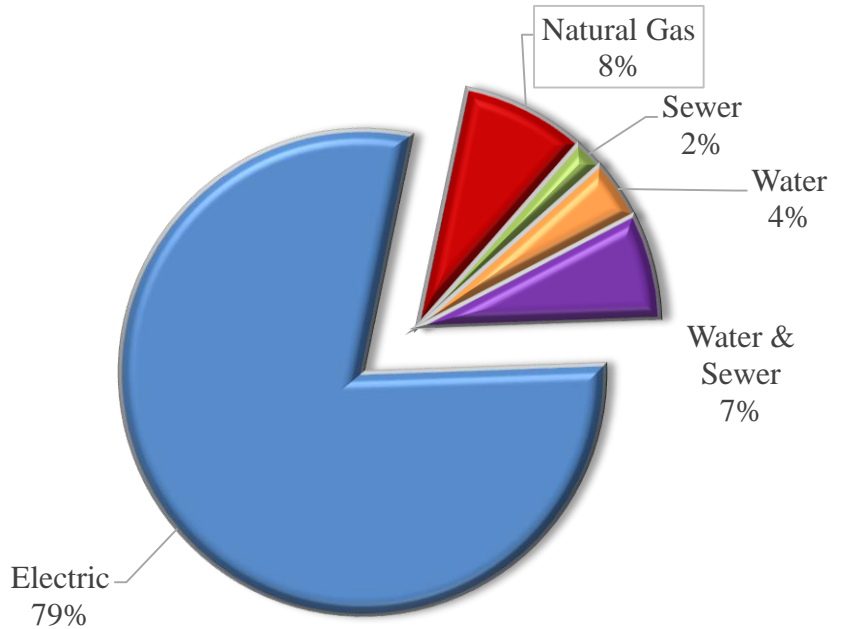
Regulation 494-2 establishes responsibilities and operating procedures for the management of utilities by the Office of Facilities Services. It is the responsibility of staff to provide operating utilities and technical services supporting the proper maintenance and operation of school facilities. All utility invoices are processed using customized software called "EnergyCap". The Administrative Coordinator, Energy Management functions as the liaison for third party contracts and utilities provided by private corporations and companies.

Utilities covered by this provision include:

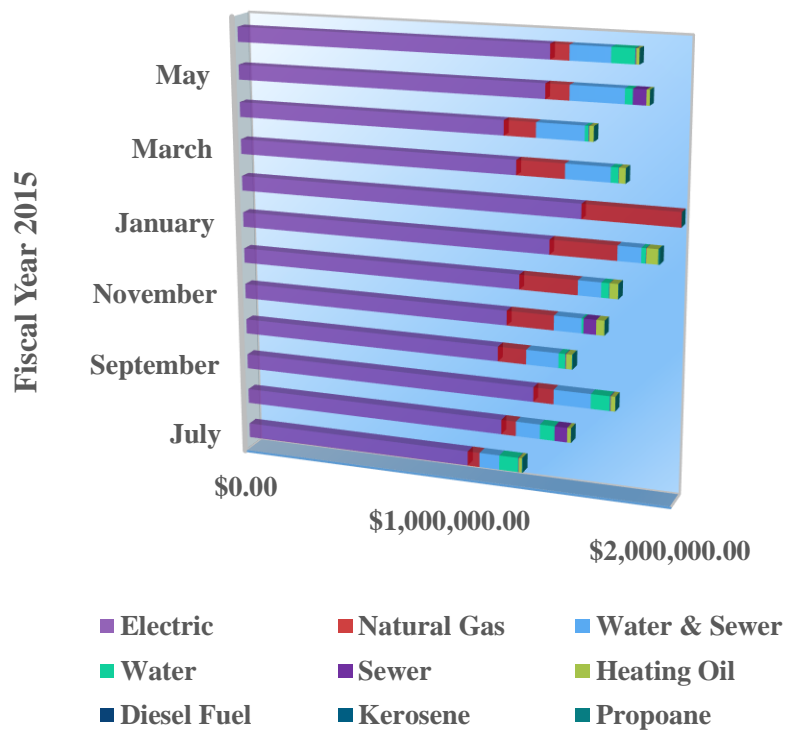
- Heating Fuels
- Electrical Services
- Water and Sewer Services
- Motorized Fuels

Utility bill data for all PWCS sites is now available for access by the public through the PWCS Energy Management website.

Monthly Utility Expenditures By Commodity *Fiscal Year 2015*



Expenditures by Month



Environmental Compliance

Prior to procurement, delivery or payment of any heating and/or motorized fuels, the Administrative Coordinator, Energy Management ensures coordination with the Administrative Coordinator, Environmental Services, to verify proper delivery techniques, inspect spill control methods, and verify quantity delivered.

Demand Limiting

Due to the constraints of available electrical utility capacity and required demand, it has become essential for utility providers at times to control the distribution of electricity. Demand limiting engages customers to reduce their personal or corporate consumption when possible, during critical times, so as not to overload the electrical grid. Utilities sub-contract the administration of demand limiting programs. Enrollment in such programs means utility customers may be notified of a critical period and subsequently, voluntarily, curtail usage where possible. A rebate is provided based on the extent of curtailment pursued. These peak periods are generally during the summer.

Over summer break, demand limiting presents a great opportunity for Prince William County Schools to pursue the benefits of demand limiting as a potential revenue source. Our facilities currently operate on a reduced schedule during these times.

Energy Infrastructure Improvements

Energy Infrastructure Fund

The PWCS Capital Improvement Program calls for a portion of the anticipated energy conservation savings to be directed towards continued investment in infrastructure improvements capable of generating additional savings and greater efficiency. Utilizing Energy Infrastructure Improvement funding allocated in the CIP creates sustainable facility improvements that serve a wide range of priorities within the Office of Facilities Services while creating measureable Return on Investment (ROI).

The Energy Management division has endeavored to work with a variety of stakeholders from throughout the School Division to identify priorities.

Applicable infrastructure improvements include:

- Conversion of heating systems from fuel oil to natural gas to reduce point of use cost.
- Building management control system installation, upgrades and modernization
- Lighting control systems.
- Lifecycle modernization/replacement of inefficient and poorly performing mechanical systems.
- Building envelope improvements for better insulated entry points, windows and exterior cladding.
- Sustainability focused enhancements designed to maximize educational opportunities derived directly from school facility sites (e.g. activity trails, ecological studies, civil engineering/ land survey training, renewable energy).

Anticipated Energy Infrastructure Funding Priorities Fiscal Years 2017-2021

Energy Infrastructure Improvement Project	FISCAL YEAR				
	2017	2018	2019	2020	2021
Building Automation Improvements	150,000	150,000	150,000	150,000	150,000
Boiler Fuel Conversions	200,000	200,000	200,000	200,000	200,000
Lighting Control Systems	150,000	150,000	50,000	50,000	50,000
Mechanical Infrastructure (Supplemental Heating, Cooling, Dehumidification)	300,000	300,000	400,000	400,000	400,000
Building Envelope/Thermal Insulation	200,000	200,000	100,000	100,000	100,000
Third-Party Energy Audits			100,000	100,000	100,000
TOTAL	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000

**Energy Infrastructure Improvement Projects
Fiscal Years 2016 and 2017**

FY 2016	
Location	Project Scope
All Sites	Expand Interval and Demand Management Program with Enernoc to enable more real time data analysis
Mountain View Elementary	Install Natural Gas and Decommission Fuel Oil Storage System
Bel Air	Lighting Upgrade to Energy Efficient T8
Occoquan Elementary	DX Based Cooling system with Variable Flow Refrigerant System
Brentsville HS	Evaluate GeoThermal HVAC Potential
IHC Building 51	Replace Windows
Division-Wide	Demand Defrost as Opposed to Timed
Hylton High School	Dishwasher Replacement
Building Envelope Maintenance	Weather-stripping, Doors and Hardware

FY 2017	
Location	Project Scope
All Sites	Expand Interval and Demand Management Program to enable more real time data analysis
Parkside Middle School	Convert Hybrid BAS to Siemens.
Mountain View Elementary	Replace Domestic Hot Water Heaters and Boilers Complete Natural Gas Installation
Stonewall Middle	Exterior Lighting Replacement
Godwin, Graham Park, Fred Lynn, Neabsco, Potomac High School, Potomac Middle School, Rippon Middle School	Gym Lighting Upgrades - \$82,500
Division-Wide	Boiler Maintenance Program
Division-Wide	PC Power Management
Division-Wide	Third-Party Energy Audits

Performance Contracting

PWCS has endeavored to utilize all available tools at our disposal in our efforts to reduce facility operating costs. Executive Order 48, issued by the Governor of Virginia in 2008, created a contract that all state and public bodies may use for the assessment and improvement of energy consuming infrastructure. This arrangement aids in the reduction of lengthy competition as the contractors on the approved contract have been pre-qualified at the state level. Performance Contracting is specifically appropriate for aiding jurisdictions in lifecycle cost analysis and payback analysis. These two formulary tools are used in the study of a construction projects' anticipated financial performance. Performance Contractors can thereby propose to provide financing on behalf of Owners by allocating future savings toward the cost of the project.

New Construction

The Office of Facilities Services is committed to the construction of energy efficient, highly performing facilities. Energy Management team members regularly review all energy consuming systems during the design and development of any building construction, renovation or alteration.

The Administrative Coordinator, Energy Management provides final coordination with the Supervisor of Construction for energy management related specifications and construction details.

The Energy Management Division is committed to year round advocacy for conservation efforts in PWCS.

APPENDIX F

Technology Improvements Program

TECHNOLOGY IMPROVEMENTS PROGRAM

The Technology Improvements Program includes projected funding from PWCS five-year budget plan, state refresh, federal E-Rate, and school 50/50 match. This is not expected to be sufficient to fully implement the proposed program until the out-years of the 10-year plan.

- While replacement schedules have been established for all Divisionwide technologies, some equipment is not fully-funded for replacement (e.g., interactive whiteboards, tablets, printers)
- Federal E-Rate funding is expected to decline and have greater restrictions on its use
- As part of long-term plan, local PWCS funding includes increases of \$500,000 annually



The new, comprehensive planning approach, includes:

- VoIP (Voice over Internet Protocol) school telephone and LAN/WLAN systems upgrades/replacements
- Data center/school upgrades/replacements (e.g., servers, back-up systems, storage, disaster recovery)
- Network infrastructure/bandwidth upgrades/replacements
- Computer refresh
- Maintains/upgrades/replaces existing systems
- Recommended instructional technology improvements to be determined
- New student information system, due to end-of-life by the vendor

Projected Implementation Costs

Comprehensive Technology Improvement Program	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
VoIP/LAN/WLAN School Upgrades/Replacements	\$ 2,500,000	\$ 1,700,000	\$ 1,600,000	\$ 1,800,000	\$ 1,667,000
Data Center/School Upgrades/Replacements	\$ 1,200,000	\$ 1,115,000	\$ 95,000	\$ 95,000	\$ 870,000
Network/Infrastructure/Bandwidth Upgrades/Replacements	\$ 800,000	\$ 1,885,000	\$ 1,305,000	\$ 662,000	\$ 1,305,000
Computer Refresh	\$ 4,090,000	\$ 3,828,000	\$ 5,301,000	\$ 6,244,000	\$ 5,459,000
Student Information System (once purchased, ongoing costs will be part of the ITS operating budget)			\$ 5,000,000		
PROJECTED ESTIMATED TOTALS	\$ 8,590,000	\$ 8,528,000	\$ 13,301,000	\$ 8,801,000	\$ 9,301,000

- With ever-changing technologies, it is difficult to project implementation plans beyond FY 2020
- When revenue is insufficient to cover expenses, items in the age-based computer refresh will be delayed until future years, unless 50/50 school matching funds exceed expectations
- The non-fully-funded equipment would cost an additional \$3.5 million (on average) annually (e.g., \$1.3 million for interactive whiteboards, tablets, and printers and \$2 million for computers)



**Tentative Local Area Network (LAN)/Wireless Area Network (WLAN)/Voice Over IP
Upgrades**

2016-17 School Year (FY17)			
School	LAN	WLAN	VoIP
Buckland Mills Elementary	\$64,165	\$71,585	
Mountain View Elementary			\$45,000
Old Bridge Elementary	\$48,249	\$62,580	\$45,000
Potomac View Elementary	\$41,320	\$61,285	\$45,000
Sudley Elementary	\$54,154	\$63,875	\$54,183
Bull Run Middle	\$125,000	\$104,467	
Gainesville Middle	\$92,317	\$103,172	\$72,938
Marsteller Middle	\$109,845	\$109,647	\$72,938
Saunders Middle	\$121,206	\$103,172	\$65,504
Stonewall Middle		\$104,467	
Woodbridge Middle	\$112,095	\$108,352	43,777
Porter Traditional	\$52,110	\$67,272	\$10,000
Battlefield High		\$165,847	
Total	\$820,461	\$1,125,721	\$454,340
Grand Total			\$2,400,522

2017-18 School Year (FY18)			
School	LAN	WLAN	VoIP
Antietam Elementary	\$39,138	\$56,695	\$37,597
Mountain View Elementary	\$62,900	\$57,400	
Kerrydale Elementary	\$48,249	\$58,695	\$45,000
Kilby Elementary	\$21,271	\$53,515	\$45,000
Minnieville Elementary	\$32,925	\$57,400	\$45,000
Occoquan Elementary			\$45,000
Pattie Elementary	\$45,000	\$57,340	\$45,000
Swans Creek Elementary	\$68,350	\$70,350	
Parkside Middle	\$31,500	\$107,057	\$72,938
Graham Park Middle		\$92,812	
Potomac Middle	\$131,217	\$107,057	\$72,938
Total	\$480,550	\$718,321	\$408,473
Grand Total			\$1,607,344

2018-19 School Year (FY19)			
School	LAN	WLAN	VoIP
Mary Williams Elementary	\$74,356		\$45,000
Rockledge Elementary	\$37,732	\$65,170	\$45,000
Sinclair Elementary	\$64,345	\$65,110	\$45,000
Tyler Elementary	\$30,530	\$57,400	\$45,000
Vaughan Elementary	\$53,254	\$88,480	\$45,000
Washington Reid	\$65,000	\$42,472	\$45,000
West Gate Elementary	\$41,320	\$59,990	\$45,000
West Ridge Elementary	\$35,925	\$62,580	\$45,000
Woodbine Preschool	\$6,505	\$38,092	\$45,000
Forest Park High		\$165,907	
WAN Core Switch Upgrades			
Edward Kelly Leadership Center		\$50,000	
Independent Hill Complex		\$30,000	
Osborn Park High		\$40,000	
Total	\$408,967	\$645,201	\$405,000
Grand Total			\$1,579,168

2019-20 School Year (FY20)			
School	LAN	WLAN	VoIP
Alvey Elementary	\$74,356	\$69,055	\$55,000
Antietam Elementary		\$58,695	\$55,000
Ashland Elementary			\$55,000
Bel Air Elementary	\$53,254	\$52,220	\$55,000
Belmont Elementary	\$38,238	\$54,810	\$55,000
Bennett Elementary	\$57,705	\$70,350	\$55,000
Coles Elementary	\$43,243	\$57,400	\$55,000
Dale City Elementary	\$60,290	\$57,400	\$55,000
Rosa Parks	\$74,356	\$65,110	\$45,000
Benton Middle	\$114,155	\$112,237	\$75,646
Beville Middle		\$103,172	
Total	\$515,597	\$700,449	\$560,646
Grand Total			\$1,776,692

2020-21 School Year (FY21)			
School	LAN	WLAN	VoIP
Leesylvania Elementary	\$48,249	\$65,170	\$45,000
Marshall Elementary	\$58,260	\$62,580	\$45,000
McAuliffe Elementary	\$37,227	\$57,400	\$45,000
Marumscos Hills	\$27,777	\$61,285	\$45,000
Montclair Elementary	\$48,249	\$67,700	\$45,000
Mullen Elementary	\$46,749	\$65,170	\$45,000
Neabsco Elementary	\$53,254	\$54,810	\$45,000
New Dominion	\$20,000	\$65,400	\$10,000
Fred Lynn Middle	\$84,817	\$107,057	\$66,944
Lake Ridge Middle	\$77,317	\$104,467	\$61,818
Total	\$501,899	\$711,039	\$453,762
Grand Total			\$1,666,700

2021-22 School Year (FY22)			
School	LAN	WLAN	VoIP
Bristow Run Elementary	\$53,254	\$67,760	\$45,000
Buckland Mills Elementary		\$71,585	\$45,000
Cedar Point Elementary		\$67,760	\$45,000
Enterprise Elementary	\$48,249	\$54,810	\$45,000
Glenkirk Elementary	\$58,260	\$69,055	\$45,000
Signal Hill Elementary	\$57,705	\$67,760	\$45,000
Suella Ellis Elementary			\$45,000
T. Clay Wood Elementary	\$55,460	\$72,500	
Victory Elementary	\$48,249	\$71,645	
Westridge Elementary		\$62,580	\$45,000
Pennington Traditional		\$64,682	\$10,000
Bull Run Middle		\$104,467	\$70,553
Rippon Middle	\$130,317	\$105,702	\$65,504
Total	\$451,494	\$880,306	\$506,057
Grand Total			\$1,837,857

Completed Upgrades			
School	LAN	WLAN	VoIP
Ann Ludwig		X	
Ashland ES		X	
Chris Yung ES	X	X	X
Dumfries ES			X
Ellis ES		X	
Featherstone ES	X		X
Ferlazzo ES	X	X	X
Fitzgerald ES			X
Gravelly ES			X
Haymarket ES	X	X	X
Henderson ES	X		X
King ES	X		X
Loch Lomond ES	X	X	X
The Nokesville School	X	X	X
Occoquan ES		X	
Springwoods ES	X		X
Williams ES		X	
Yorkshire ES			X
Beville MS	X	X	X
Godwin MS	X	X	X
Graham Park MS	X		X
Reagan MS			X
Stonewall MS	X		X
Battlefield HS	X	X	X
Brentsville HS	X	X	X
Colgan HS	X	X	X
Forest Park HS	X		X
Freedom HS	X	X	X
Gar-Field HS	X	X	X
Hylton HS	X	X	X
Osborn Park HS	X	X	X
Patriot HS	X	X	X
Potomac HS	X	X	X
Stonewall Jackson HS	X	X	X
Woodbridge HS	X	X	X
PACE East			X
PACE West			X
KLC	X	X	X
IHC	X	X	X
Transportation East			X
Transportation West			X
Transportation Central			X
Transportation Hooe Rd			X
Totals	27	25	38

