

**FAIRFAX COUNTY PLANNING COMMISSION  
SCHOOLS COMMITTEE  
THURSDAY, NOVEMBER 2, 2017**

PRESENT: Timothy J. Sargeant, Commissioner At-Large, Chairman  
Ellen J. Hurley, Braddock District  
Julie M. Strandlie, Mason District  
Earl L. Flanagan, Mount Vernon District  
Peter F. Murphy, Springfield District  
Phillip A. Niedzielski-Eichner, Providence District

ABSENT: James R. Hart, Commissioner At-Large

OTHERS: John C. Ulfelder, Dranesville District  
Kimberly Bassarab, Assistant Director, Planning Commission  
Inna Kangarloo, Senior Deputy Clerk, Planning Commission  
David Stinson, Planning Division (PD), Department of Planning and  
Zoning (DPZ)  
Marianne Gardner, PD, DPZ  
Karen Hogan, Facilities Planning Advisory Council, Fairfax County Public  
Schools (FCPS)  
Jessica Gillis, Department of Facilities and Transportation Services, FCPS  
Kevin Sneed, Department of Facilities and Transportation Services, FCPS

ATTACHMENTS:

- A. Career and Technical Education Certification Results Division
- B. FCPS CIP FY 2018-2022, Pages 15-27
- C. Industry Credential Data from 2016 Goal 1 Report

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Chairman Timothy Sargeant called the meeting to order at 7:01 p.m., in the Board of Supervisors Conference Room of the Fairfax County Government Center, 12000 Government Center Parkway, Fairfax, Virginia 22035.

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Jessica Gillis, Department of Facilities and Transportation Services, Fairfax County Public Schools (FCPS); and Kevin Sneed, Department of Facilities and Transportation Services, FCPS briefed the Committee on the schools projection methodologies. The presentation included the following topics:

- Long-term projection methodologies to account for housing lifecycle issues, demographic trends, aging housing stock and multiple occupancy of dwelling units;
- Impact of multifamily dwelling units on student yields; and
- Student yields resulting from the repurposing of office and commercial buildings to residential or live/work.

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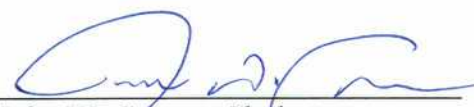
Chairman Sargeant discussed the next meeting date of November 30, 2017 to continue the discussion on projection methodologies.

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The meeting was adjourned at 8:04 p.m.  
Timothy J. Sargeant, Chairman

An audio recording of this meeting is available in the Planning Commission Office,  
12000 Government Center Parkway, Suite 330, Fairfax, Virginia 22035.

Minutes by: Inna Kangarloo  
Approved: April 25, 2018

  
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John W. Cooper, Clerk  
Fairfax County Planning Commission



## Career and Technical Education Certification Results Division

Certification	# Passed			
	2016-2017	2015-2016	2014-2015	2013-2014
A+ Essentials Examination	18	55	50	42
A+ Practical Application	<10	34	35	34
AAFCS: Fashion, Textiles, and Apparel				<10
ASE Certifications	180	141	201	163
Adobe Animate	<10			
Adobe Dreamweaver	21	14	<10	31
Adobe Flash	15	59	35	60
Adobe Illustrator	<10	<10	15	<10
Adobe InDesign	<10	21	16	<10
Adobe Photoshop	<10	43	38	14
Armed Services Vocational	33	65	341	
Autodesk And Certiport: AutoCAD Certified User	97	150	77	125
Autodesk And Certiport: Autodesk Inventor Certified User	98	135	34	16
Autodesk And Certiport: Revit Certified User		77	27	<10
Autodesk and Certiport: Revit Architecture	22			
Certified Clinical Medical Assisting (NHA)	78	40		45
Cisco - (ICND 100-101)		<10	<10	<10
Cisco - Certified Network Associate (640-802)			<10	
Cisco - Interconnecting Cisco Networking Devices Part 2	<10			
Cisco CCNA AcademyEOC Pass2 Lvl's 1-4	<10			
College Level Exam Program (CLEP): Financial Accounting			<10	
College Level Exam Program (CLEP): Introductory Business Law			<10	
CompTIA IT Fundamentals	134			
CompTIA Network+	<10	10		
CompTIA Security+	12	<10		
CompTIA Server+	<10			
Cosmetology State Board Exam	40	38	25	97
DANB Radiation Health and Safety	32	10	20	28
Emergency Medical Technician		26		26
Financial Literacy (WISE)	8,781	8,368	9,849	6,741
Firefighter Level I	13			
Firefighter Level II	13			
HVAC Core	14	12		
HVAC Level 1	12	10		
HVAC Level 2	<10	11		
HVAC Level 3	<10	<10		
HVAC Universal	<10			
MTA Certifications		46	92	273
Microsoft Access	98	61	25	32
Microsoft Excel	293	375	93	135
Microsoft Excel Expert	17	<10	<10	18
Microsoft OneNote	11			
Microsoft Outlook	21	31	29	19
Microsoft Powerpoint	698	689	334	435
Microsoft Sharepoint	<10	<10		
Microsoft Word	744	690	218	287
Microsoft Word Expert	26	32	11	21
NASM Certified Personal Trainer	17			
NOCTI - Accounting (Advanced)				26
NOCTI - Accounting (Basic)				198
NOCTI - Early Childhood Care and Education				29



**Career and Technical Education Certification Results  
Division**

Certification	# Passed			
	2016-2017	2015-2016	2014-2015	2013-2014
NOCTI - Education and Training				46
NOCTI - Electronics Technology				22
NOCTI - Hospitality Mgmt - Lodging				<10
NOCTI - Medical Assisting			37	
NOCTI - Pre-Engineering /Engineering Technology				289
National Career Readiness Certificate	<10			
National Professional Certification in Customer Service	716	461	558	946
National Professional Certification in Sales	23	30	32	92
Network Pro Certification	10			
Oracle	<10	<10	<10	<10
PC Pro Certification	11			
ParaPro Assessment	12			
Pharmacy Technician	101	122	109	95
Requirement Met by Competency	74			
Security Pro Certification	<10			
Servsafe	30	62	43	42
SkillsUSA: Carpentry				<10
SkillsUSA: Criminal Justice				95
SkillsUSA: Photography				<10
SkillsUSA: Power Equipment Technology				<10
SkillsUSA: Residential Wiring				<10
SkillsUSA: Television Video Production				<10
Workplace Readiness Skills for the Commonwealth	7,820	6,668	7,280	5,658
<b>Totals</b>	<b>20,188</b>	<b>18,591</b>	<b>19,595</b>	<b>16,050</b>

### Student Membership Projections Process

Each spring, FCPS produces a six-month projection for the upcoming fall. This includes a school-by-school, grade-by-grade projection. Additionally, FCPS produces a five-year projection set, for a total six-year projection cycle. The last year of this set is used for the annual Capital Improvement Program.

The FCPS student membership projections process involves a variety of steps.

#### 1. Analysis of historical trends, themes, and patterns at the school system level, pyramid level, and school level

Examples of factors that are considered:

- Total student membership is compared to historical patterns of membership.
- Fairfax County and City of Fairfax births (by elementary school boundary) are compared to the kindergarten class five years later. These ratios are compared to historical patterns of birth to kindergarten ratios.
- Kindergarten class membership is compared to the previous school year's exiting 12th grade class. These numbers are compared to the past school system patterns.
- Each grade level cohort of students is compared to itself in previous years to understand the difference in grade level cohort membership over time. This is referred to as "cohort progression." Ratios are developed to communicate the "survival rate" of each cohort as it ages through the school system. This is compared to past school system patterns.
- Fairfax County and City of Fairfax population and housing trends are considered to better understand local and regional economic conditions.
- Migration patterns of students entering and exiting the school system are compared to the prior year, as well as to historical patterns of migration.

#### 2. Development of student membership projections from elementary schools to middle schools to high schools

- Entry into elementary school considers school specific historical birth to kindergarten ratios. The ratios are compared to births from five years prior in each school's boundary.

- Entry into middle school and high school considers historical ratios of residing cohorts of students in a school's boundary compared to their membership at the school. These ratios are applied to rising cohorts in the school's boundary.
- Past "cohort survival ratios" are combined with new information to "age" each cohort through successive grades ahead. Multi-year averages of grade level progression are considered when projecting for upcoming school years.
- New housing developments are considered and student yield ratios are determined to estimate how many new students may come from such housing. FCPS uses forecast housing data from Fairfax County for consideration of new housing in the projection cycle.
- Modifications and adjustments are made, as needed, to account for other factors which may influence a particular school's membership. Examples of this include: boundary phasing decisions, new housing completions that may yield students in the upcoming projection year (as noted above), other relevant information unique to a specific school or group of schools.

#### 3. Special program student membership projections are factored into projections

- Unique programs are considered as they may impact school specific membership.
- School-by-school projections from various specialists are received for: level IV advanced academic programs (AAP), special education (level 2 or self-contained), FECEP/Head Start, preschool resource, alternative high schools, alternative programs, and ESOL transitional high schools.

The five-year projections used in this CIP have been modified to include elements of an improved projection methodology that is currently being developed by FCPS. This methodology blends two concepts. The first concept advances student cohorts, school-by-school and grade-by-grade, in relationship to historical ratios of student progression from each school. The second concept considers where students reside as related to the school boundaries where they would be assigned. This blended method will continue to be developed, tested, and fully implemented in the spring of 2017.



## Monitoring Membership Impacts From New Housing

FCPS monitors new residential development as part of the following processes:

1. Development Review-Comprehensive Plan/Planning Study Review Process
2. Development Review-Rezoning Review/Proffer Process
3. Student Membership Projections Process

These steps are further detailed below.

### Development Review: Comprehensive Plan/Planning Study Review Process:

FCPS staff works with Fairfax County to determine the impact planned new housing would have on school facilities. In addition to the estimated student yields from the planned housing, recommendations for future school facilities needs are provided to county staff. Formal school impact analysis memos are sent to the county's Department of Planning and Zoning. These are also distributed to the appropriate school principals, regional offices, and School Board members.

The Office of Facilities Planning Services works with the county's Department of Planning and Zoning and other county agencies in long range planning initiatives. Recent planning studies which have been undertaken include those related to metro rail expansion in areas such as Tysons Corner, Reston, and the Route 28 corridor, as well as redevelopment efforts in areas such as Bailey's Crossroads, Seven Corners, Springfield Mall, and Richmond Highway. It is important to note these studies are often the first step for planned new housing and are typically designed with long-term planning horizons.

### Development Review: Rezoning Review/Proffer Process

As part of the Rezoning Review process, the FCPS Office of Facilities Planning Services works with the county to determine the impact proposed new housing would have on school facilities. Countywide student yield ratios are used to estimate the number of students from the proposed housing, in conformance with the Residential Development Criteria Implementation Motion (effective January 7, 2003) that was adopted by the Fairfax County Board of Supervisors. Further, as permitted by state code, recommendations for monetary proffers and/or school facilities needs are provided to county staff in conformance with the implementation motion.

Formal school impact analysis memos are sent to the county's Department of Planning and Zoning. These are also distributed to the appropriate school principals, regional offices, and School Board members.

Rezoning is often a key first step in the development process for new housing. Upon rezoning approval, additional plan and permit approvals are needed before construction can begin. It is common for a site with an approved rezoning to take several months, or even years, to begin the plan and permit process.

### Student Membership Projections Process

Each year, data from Fairfax County Integrated Parcel Life Cycle System (IPLS) provides the FCPS Office of Facilities Planning Services with the location and number of current housing units, as well as forecasted housing units, projected by the county. These data are reviewed to determine whether students from new (forecast) housing should be included as part of school membership projections in every boundary, and if so, by how many students and in which projected school years. Student yield ratios based on the local high school pyramid are used to project students from forecasted housing units.

Further, as part of the Development Review process, FCPS uses Geographic Information System (GIS) map layers to plot and track residential development to provide for a more cumulative and comprehensive review of development impacts on county schools, which improves long-range planning for the needs of school facilities.





## Assessment of Facility Capacity

### School Capacity: Information and Assessment

Understanding and accurately capturing school capacity is important to ensuring the most efficient use of school facilities and capital funds. Knowing how many students a school can accommodate allows FCPS to quickly assess appropriate program placement and to develop student accommodation solutions. Accurate school capacity assessments help to ensure that classroom spaces are sized appropriately and spaces are designed with flexibility in order to meet the needs of multiple and/or changing instructional programs. Beyond current programmatic and membership challenges, accurate capacity assessments are necessary to formulate long-term facility plans.

As a follow-up to the 2007 DeJong Capacity Study and the 2008 implementation of a new methodology for school capacity calculation, FCPS provided detailed school capacity and facility information on the public website in the form of a Facility and Enrollment Dashboard, which may be found at: <https://www.fcps.edu/enrollmentdashboard>. The methodology used to calculate capacity for each school type can be found at: <https://www.fcps.edu/enrollmentdashboard> under the link "Methodology and Calculation."

### School Capacity Model

It is important to note that school capacity is measured differently depending upon the school type. For instance, elementary schools are calculated based upon the number of core classrooms and self-contained special education rooms. While some middle schools are team taught, which limits the amount of students to the quantity of rooms required to support a team, others follow the departmental teaching model and need to be assessed similarly to high schools. High school capacity is far more complex than that in elementary and middle schools. The capacity of a high school is based upon the required core programs and the various elective options available.

Modular additions continue to be counted towards capacity while trailer classrooms do not. Classroom trailers will continue to remain on site in many schools where small capacity deficits or even capacity surplus exists, largely due to lack of funding to remove and store elsewhere, and due to changes in programs which require specialized spaces within school buildings. Trailer relocations, however, will take place when additional trailers are needed to accommodate an increase in membership at specific schools.

Having determined the overall methodology that would be used to determine capacity for high, middle, and elementary schools, it is then necessary to determine how each individual school is using space. FCPS is very meticulous in assessing the capacity of each school by conducting a site survey of each building. The Office of Facilities Planning Services has two dedicated Capacity Architects who survey the current use of every space within our schools. With this specific information, the capacity of each school is determined based upon building design, unique characteristics, and program utilization. Thus, two schools with the same exact physical characteristics can have very different capacities depending upon the programs that are assigned to those schools. Capacities can change from year to year based upon programs and changes made by the School Board, such as an increase or decrease in class size.

Expanded facility and membership information for all schools may be viewed at the following link: <https://www.fcps.edu/enrollmentdashboard> under the link "Facility & Enrollment Dashboard." In a dashboard-style format, the website provides membership and projection updates for individual schools with projection and capacity updates provided as needed to reflect program changes, modifications to the physical school building, or changes to educational specifications on class size. The capacity model is used to help identify critical capacity surpluses and deficits. The capacity assessments for all schools will serve to inform and direct facilities planning activities such as identifying schools that should be closed to transfers; prioritizing temporary/permanent classrooms or building additions; and guide new program placement and boundary changes.

### **Temporary Classroom Needs**

Fairfax County Public Schools has established a supplemental capacity method to accommodate students through the temporary provision of portable classroom trailers. This resource allows the School Board to maintain intended student-per-classroom and per-instructor ratios despite short-term fluctuations in school memberships.

Portable classroom trailers are in use to address student membership and program requirements at schools and centers where the buildings themselves lack sufficient capacity. FCPS is implementing multiple strategies to reduce the number of students who would otherwise receive instruction in temporary facilities. These include architectural modification of existing spaces to provide additional instructional areas, expanding capacity as part of a school renovation, relocating modular additions as permanent construction is completed, and shared use of School Aged Child Care (SACC) classrooms during the regular school day.

### **Membership and Capacity Comparisons**

To be effective as a planning tool, comparisons between membership and capacity should be performed at three levels: countywide, by regions, and by individual schools. Comparisons at the latter two levels are included in the attached region data.

### **Countywide Comparison**

FCPS compares five-year projected capacity by level and by geographic areas. This helps inform analysis about membership trends and trends in surplus and deficit capacity throughout the entire school system. It also helps identify projected capacity needs throughout the school system.

### **School Level Comparisons**

A better understanding of FCPS' ability to accommodate students and their instructional needs emerges by reviewing the circumstances at individual schools. Comparisons of school capacity and projected membership for individual schools at all levels are presented in the following region analysis summaries.

Note that the impact of funded new schools (if any) is not reflected in this analysis since the effect for any one school cannot be determined until the new boundary is drawn. Although additional capacity provided by a modular building is included in the analysis, the benefits of any temporary classroom allocated to the schools is not reflected as they are not part of permanent building capacity.



## Factors that Influence Student Enrollment and Projections

Various factors influence the overall annual student enrollment and projections. These demographic factors include:

- Overall population trends in Fairfax County
- Overall housing development trends in Fairfax County
- Overall economic conditions in Fairfax County
- Number of births in Fairfax County as compared to the number of kindergarten students who enter the school system five years later
- New students who come to Fairfax County Public Schools as compared to those who withdraw from the school system (also known as in-migration and out-migration)

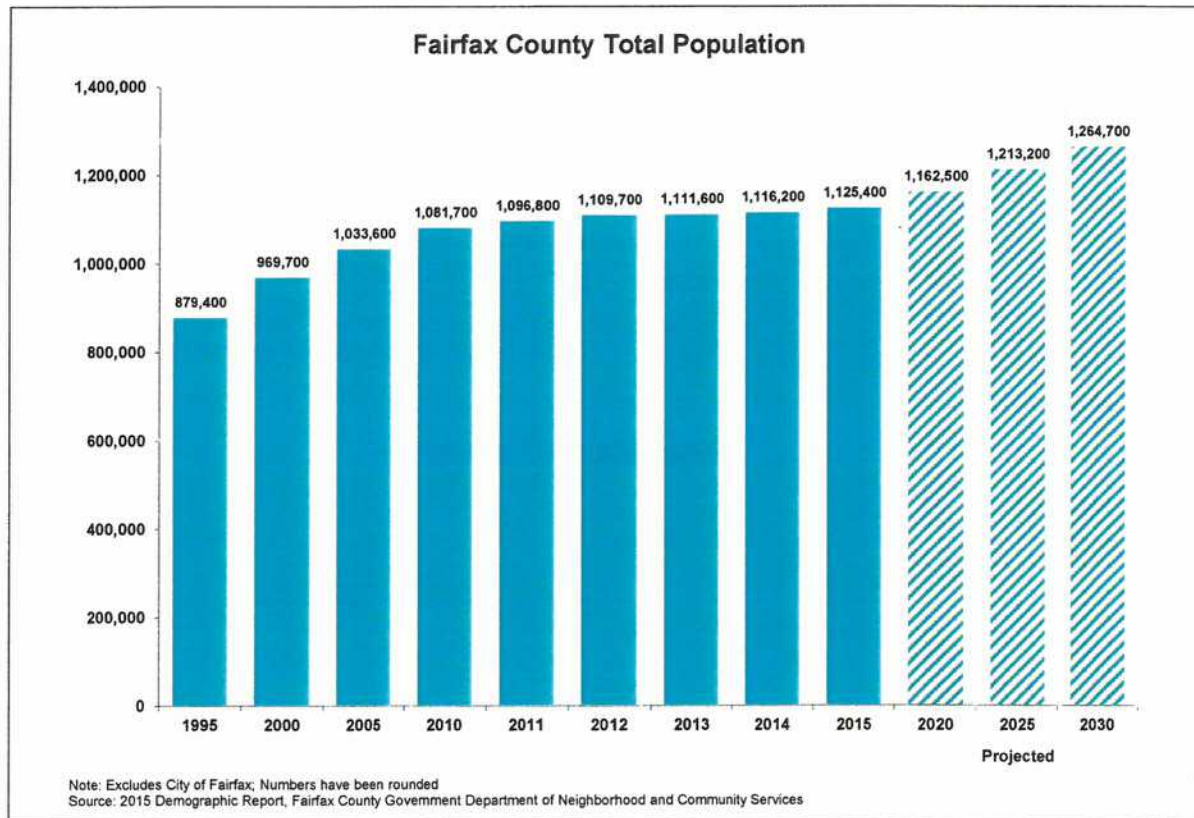
School-by-school enrollment and projections are also influenced by:

- Phasing of boundary adjustments
- Phasing of program change adjustments
- Program needs
- Student transfers

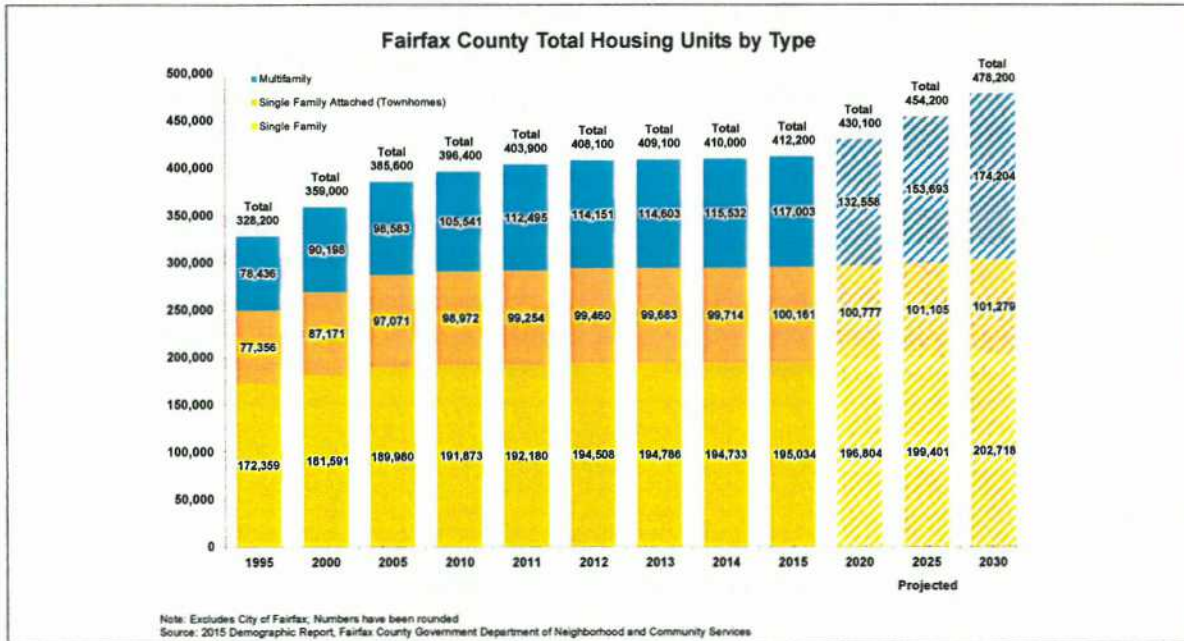
Staff in Fairfax County Public Schools analyzes these data sets as part of the annual projections process.

The following graphs show the most recently updated data sets available to FCPS which influence the overall student enrollment and projections.

### Population



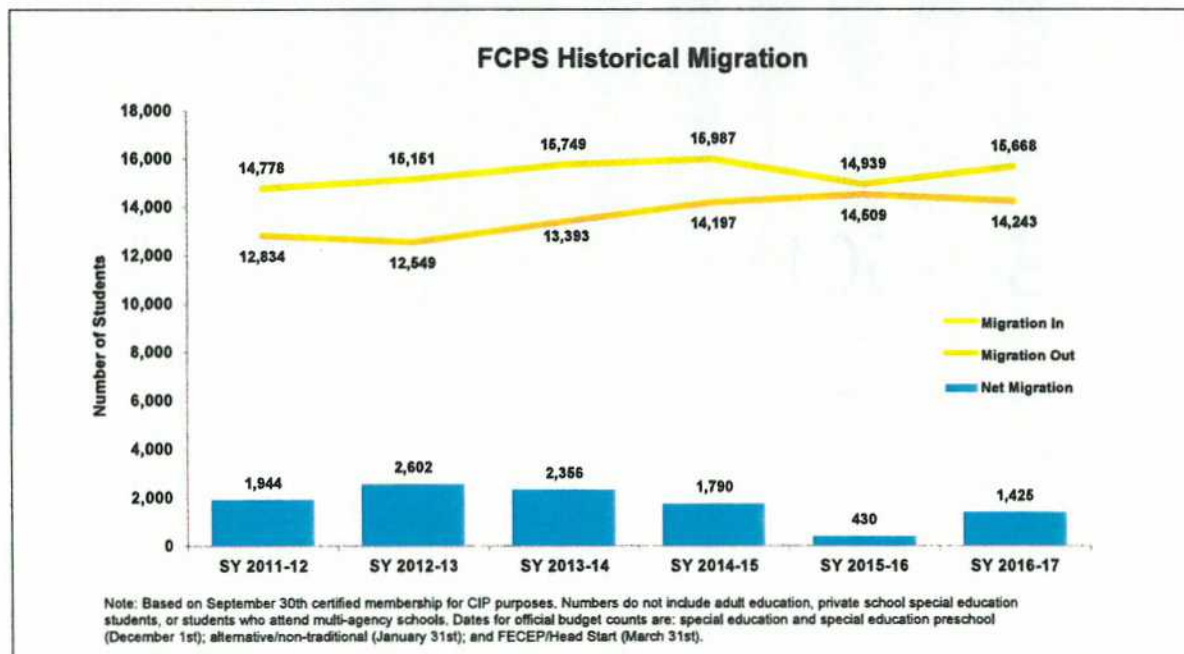
## Housing



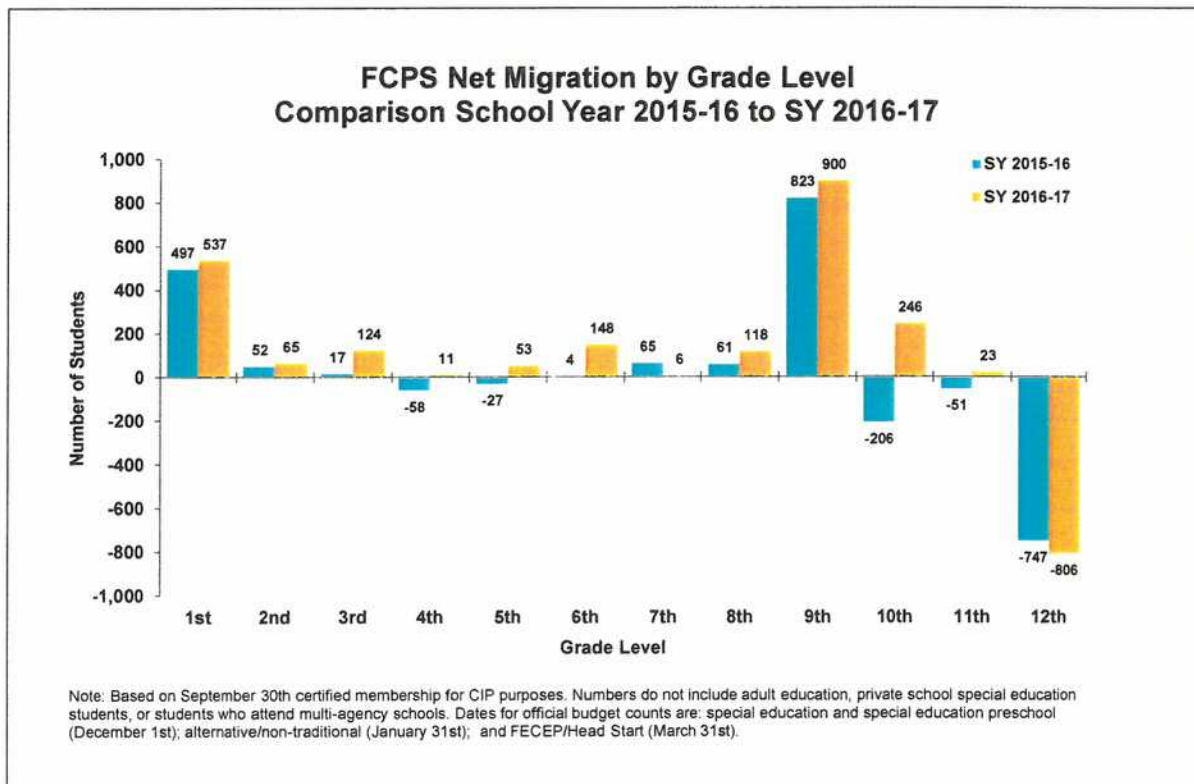
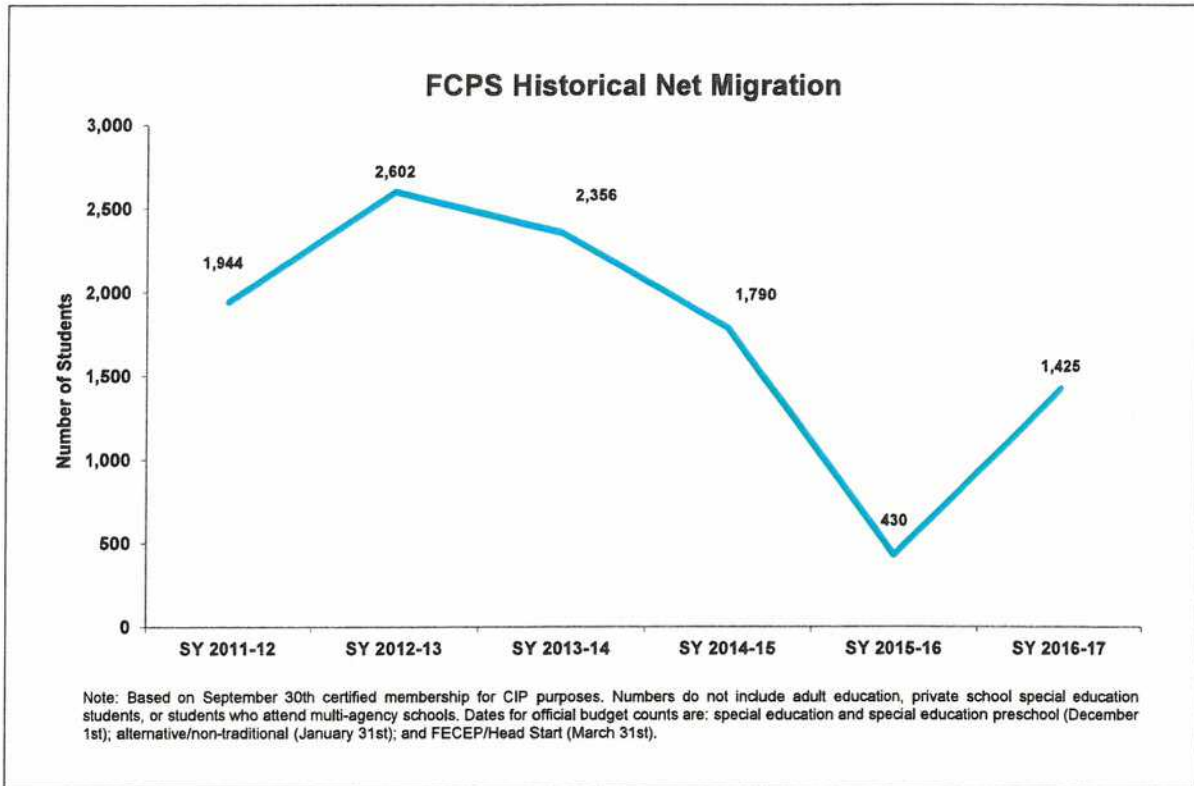
## Student Migration

Migration is the comparison of enrolled students in Fairfax County Public Schools from year to year. It provides an understanding of the number of new students who enter the school system as related to the number of students who withdraw from the school system as of September 30th enrollment each year. A variety of factors influence this figure such as the job

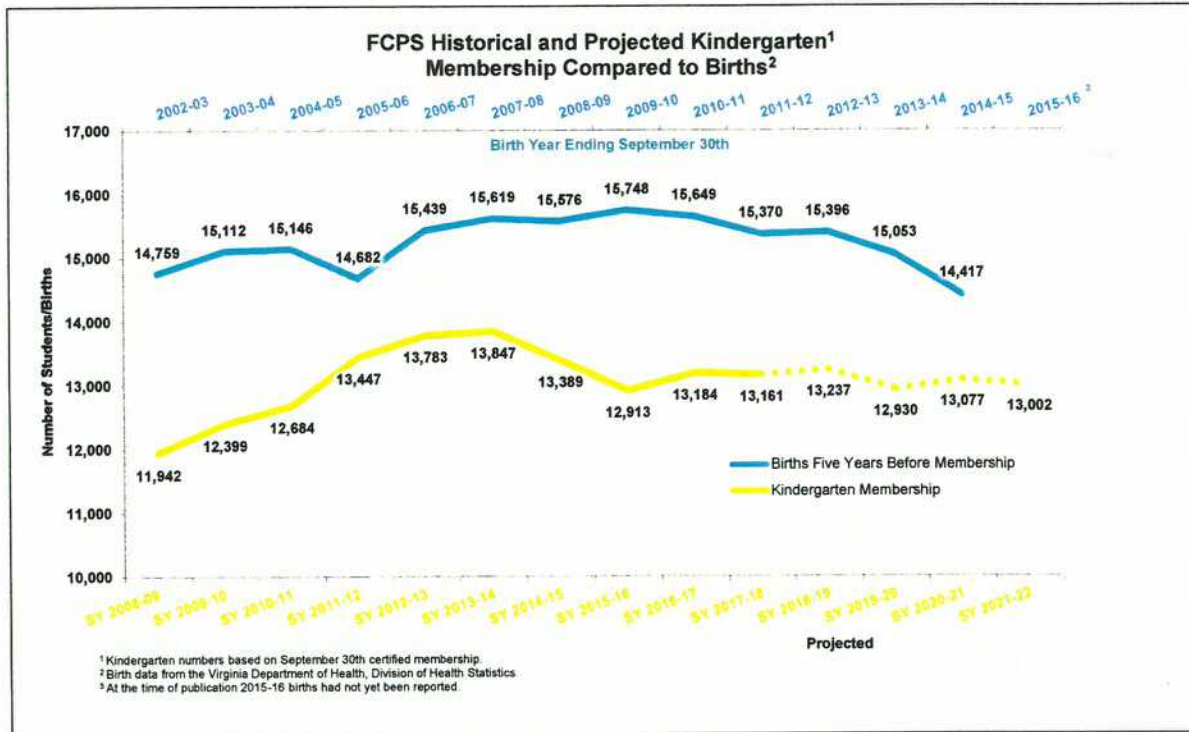
market, housing, economy. Net migration accounts for new students who enter into the school system minus the number of students who withdraw from the school system (excluding kindergarten students). It is a critical factor in understanding changes in enrollment over time, projections, grade level trends, and school-by-school projection accuracy. The following graphs display historical and current migration trends.







## Births





## Current State and Future Outlook

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The next section of the Capital Improvement Program includes information that changes each year in response to actual September 30th enrollment and the most recent student enrollment projections. Actual September 30th enrollment is the first year of the six-year student enrollment projection set.

Components of this section show information about the "current state" and "future state" of FCPS based on this most recent enrollment and projection information. Specifically, data will be shared about current enrollment along with the most recent five-year enrollment projections based on current enrollment, current capacity along with anticipated capacity as impacted by the enrollment projections, and any capacity changes due to capital construction.

This section also contains the Capital Construction Cash Flow. This chart details how much money has been spent on each of the listed projects, how much approved bond-funded money is planned to be spent in the future, and how much unfunded money (from future bonds) is needed to complete all projects. FCPS is limited to spending \$155M per year on capital construction with funds from the Fairfax County Bond. Citizens consider a new bond every two years. Construction and renovations take place in three stages: planning, permitting, and construction. Because of this, elementary schools typically take four years to complete, while middle/high schools typically

take six years to complete. Construction additions typically take four years for planning, permitting, and construction. Lastly, relocating modular additions typically takes two years for permitting and construction.

Capital construction projects, as will be shown in more detail, are those related to new school construction, capacity enhancements, renovations, and site acquisition for future FCPS needs. Modular relocations are funded through the general construction fund. The Capital Construction Cash Flow order is based on the 2008 Study Final Rankings Chart order along with projects that are needed to accommodate expected student enrollment growth.

At the conclusion of the section, a Priority Recommended Boundary Adjustment chart shows boundary adjustments that are needed in order for FCPS to use new capacity that has been built through the capital program.

## Student Membership and Projections

Each year, Fairfax County Public Schools produces a six-year projection set that is used for capital planning. Student counts for FECEP/Head Start, special education pre K-12, general education, advanced academic programs, alternative programs, alternative centers, ESOL transitional high schools, and post graduate students are included in CIP figures because school system facilities house these students. All counts used for CIP historical and projected membership are based on certified September 30th membership in the identified school year. It is important to note that historical membership and projected membership figures for CIP planning do not include counts of students who receive services through multi-agency programs, private school special education, and adult education, since school facility capacity calculations do not include these counts.

The following charts and graphs provide both historical and projected membership. The CIP five-year student membership projections show an overall contracted growth in the future forecast. This is a change from the higher growth levels experienced in Fairfax County Public Schools in recent years. The primary causes for this projected contraction of growth are smaller entering kindergarten cohorts and a decline in net migration. The projections include indicators that elementary aged student membership will decrease in the future due to smaller entering cohorts replacing larger exiting cohorts. Middle school and high school will experience moderated growth. This is due to the fact that larger cohorts of students currently in the upper elementary school grades will progress into middle school and high school during the upcoming five-year period.

**FCPS Five-Year Projections School Year 2017-18 through School Year 2021-22**

School Type	Membership	Projections				
	SY 2016-17	SY 2017-18	SY 2018-19	SY 2019-20	SY 2020-21	SY 2021-22
Elementary <sup>1</sup>	99,094	99,372	99,140	98,522	97,992	97,869
Middle <sup>1</sup>	28,800	29,426	29,855	30,197	30,511	29,972
High <sup>1</sup>	56,545	57,053	57,552	58,084	59,058	59,911
ES, MS, HS Sub-Total	184,439	185,851	186,547	186,803	187,561	187,752
Special Education Centers <sup>2</sup>	623	608	641	640	661	686
Preschool Resource	798	924	800	808	791	787
Alternative School Programs <sup>3</sup>	688	682	691	695	689	681
Alternative Court Programs <sup>4</sup>	215	231	228	224	239	240
ESOL Transitional HS	439	478	494	480	486	486
CIP Planning Total	187,202	188,774	189,401	189,650	190,427	190,632
Adult HS, Multi-Agency, Private School Spec Ed.	821	848	834	827	859	865
Total	188,023	189,622	190,235	190,477	191,286	191,497

1 - Membership numbers include: general education, special education, AAP, FECEP/Head Start and preschool (wherever applicable) students.

2 - Membership numbers include: Burke School, Cedar Lane School, Kilmer Center, Key Center, Pulley Center, Quander Road School, and Davis Center students.

3 - Membership numbers include: alternative high schools; alternative learning centers; Achievement, Integrity and Maturity (AIM) students.

4 - Membership numbers include: interagency students.

All membership and projection numbers based on September 30th certified membership.



### FCPS Historical and Projected Student Membership

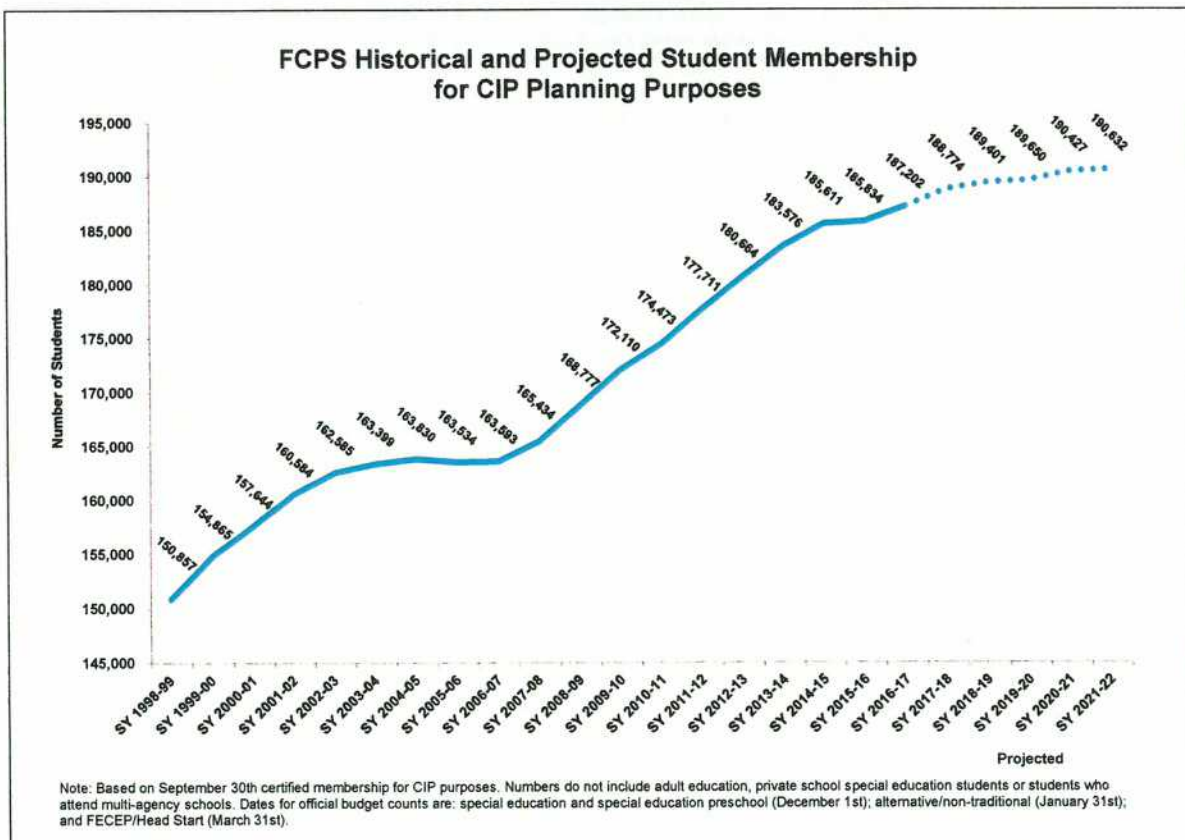
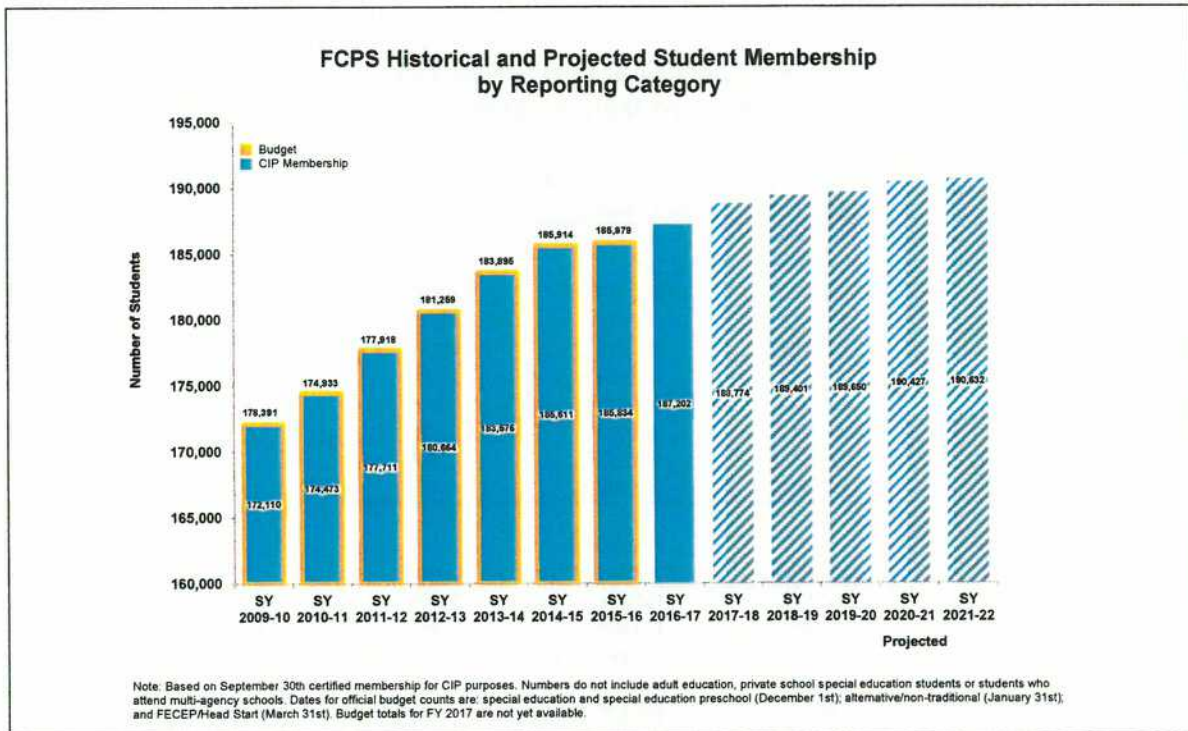
School Year 2007-08 through School Year 2016-17

School Year	CIP Membership	Growth
2007-08	165,434	
2008-09	168,777	3,343
2009-10	172,110	3,333
2010-11	174,473	2,363
2011-12	177,711	3,238
2012-13	180,664	2,953
2013-14	183,576	2,912
2014-15	185,611	2,035
2015-16	185,834	223
2016-17	187,202	1,368

#### Projected

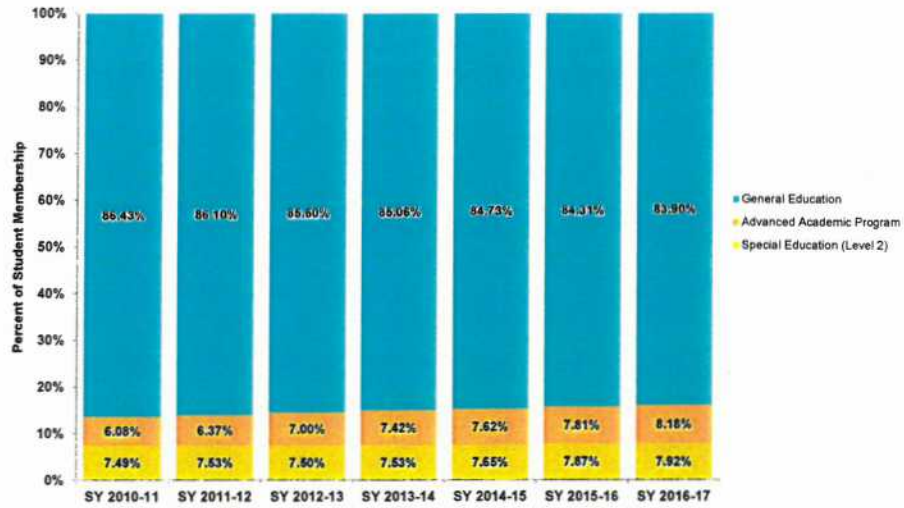
School Year	CIP Membership	Growth
2017-18	188,774	1,572
2018-19	189,401	627
2019-20	189,650	249
2020-21	190,427	777
2021-22	190,632	205

Note: Based on September 30th certified membership for CIP purposes. Numbers do not include adult education, private school special education students or students who attend multi-agency schools. Dates for official budget counts are: special education and special education preschool (December 1st); alternative/non-traditional (January 31st); and FECEP/Head Start (March 31st).



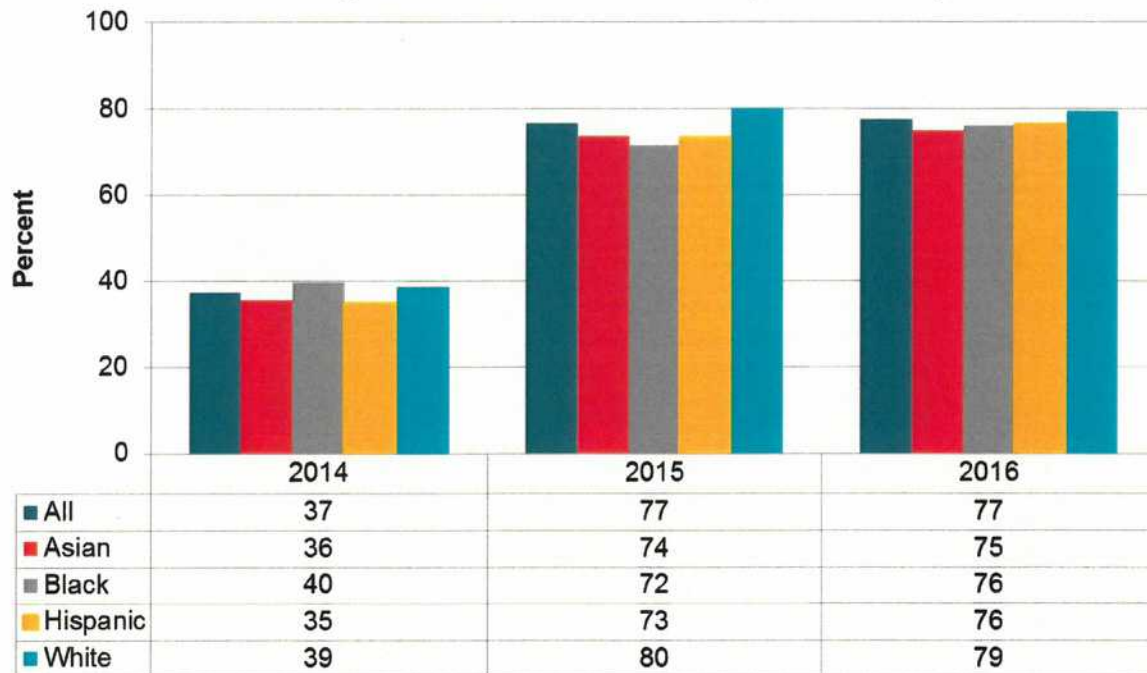


FCPS Historical K-12 Student Membership by Program



Note: Based on September 30th certified membership for CIP purposes. Numbers do not include adult education, private school special education students or students who attend multi-agency schools.

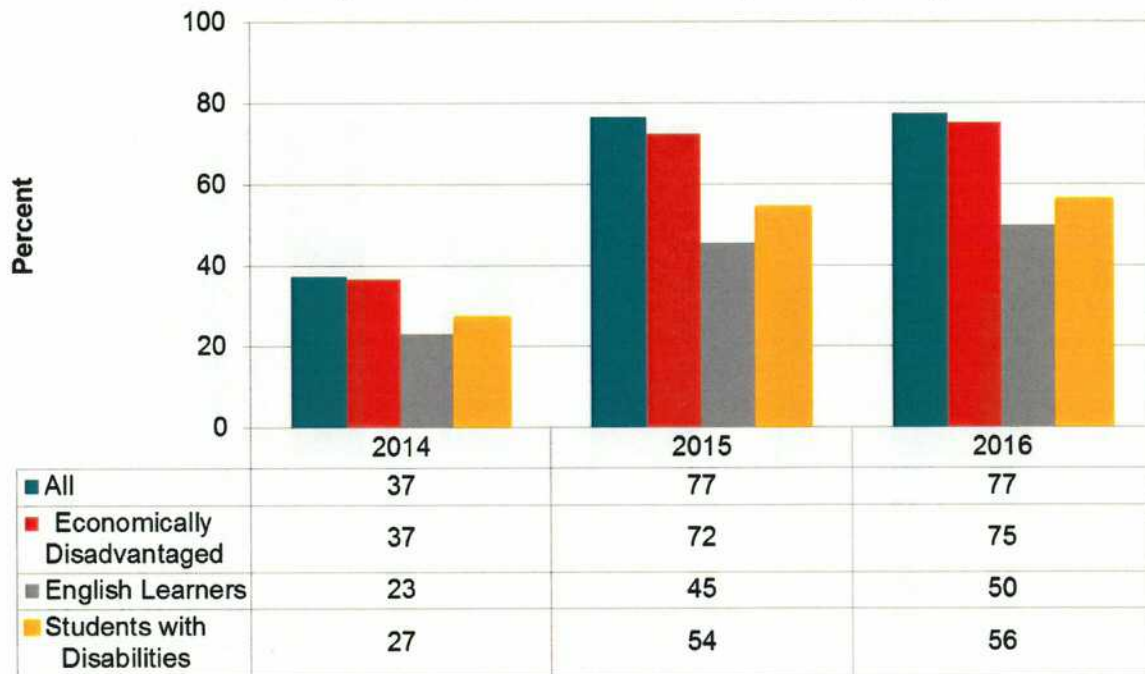
### Percent of Graduates Passing at Least One Industry Credential Test—by Ethnicity



While the overall percentage of students passing at least one industry credential has remained consistent since last year, the percentage of Asian, black, and Hispanic students passing at least one industry credential have increased and the percent of white students has decreased by one percentage point. Current seniors who entered ninth grade in 2013-14 are the first class required to earn an industry credential for a Standard Diploma.



## Percent of Graduates Passing at Least One Industry Credential Test—by Subgroup



The percentage of students who are economically disadvantaged, English learners, and students with disabilities passing at least one industry credential test have all increased since 2015.