

FY 2018

Educational Facilities MASTER PLAN

and Amendments to the FY 2017–2022 Capital Improvements Program



Chapter 2

The Planning Environment

Facility plans are developed in a dynamic planning environment. The major driver for these plans, since the mid-1980s, has been an enrollment increase of over 68,000 students. Integral to this enrollment growth has been increased diversity, as seen in the wide range of cultures, language groups, and racial and ethnic populations that make up our cosmopolitan county.

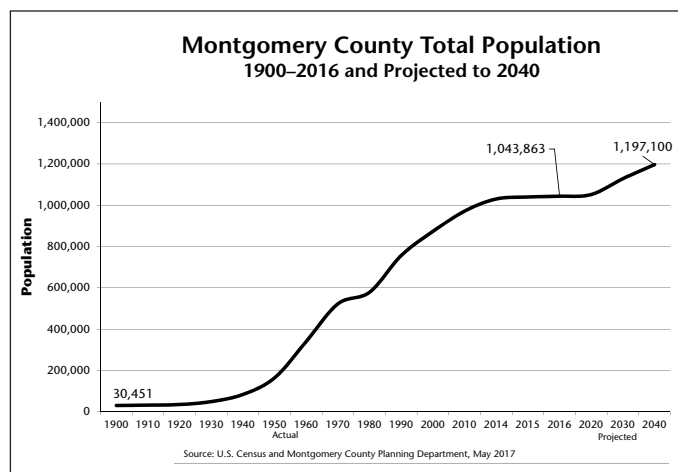
Enrollment growth since 2007 has been particularly strong. Enrollment has increased by 21,497 students in the nine-year period from 2007 to 2016. Most of this enrollment increase, 13,368 students, has occurred at elementary schools. This year, MCPS official enrollment totals 159,010 students, an increase of 2,563 students from the prior year. Total school system enrollment is projected to increase by 9,470 students by the 2022–2023 school year. The significant enrollment increases experienced in the past, and continuing on into the future, create major challenges for our school facilities and our capital program.

Funding for capital projects has not been sufficient to fully address elementary school enrollment increases, and 87 percent of the 389 relocatable classrooms are at elementary schools this year. The backlog of school capacity projects at the elementary school level will be compounded in the coming years as secondary schools receive the large cohort of current elementary school students.

Community Trends

Population

Demographic trends in Montgomery County are part of a national trend in large metropolitan areas where African Americans, Asians, and especially Hispanics, have accounted for most, if not all, of the suburban population growth since 1990. MCPS planners consult various sources to monitor county population trends, including the U.S. Census Bureau, the Maryland Department of Planning, and the Montgomery



County Planning Department. According to the U.S. Census, the total population of Montgomery County increased by 286,836 people between 1990 and 2016, from 757,027 people to 1,043,863 people. All of the county population growth since 1990, is due to increases in non-White race groups and the Hispanic ethnic group. Since 1990, the White, non-Hispanic population has decreased in the county by two percent, while the population of African Americans increased by 75 percent, the population of Asians increased by 118 percent, and the population of Hispanics of any race increased by 197 percent.

A significant share of the population increase in the county is the result of resident births outnumbering deaths by more than 2 to 1. For example, from 2010 through 2016, there were 82,196 births compared to 36,788 deaths in the county for a net natural increase in population of 45,408 residents. The other factor in population growth is immigration from outside the United States, which has countered the outflow of county population to other places. Between 2010 and 2016, international migration contributed 57,574 residents, while domestic migration resulted in a loss of 29,891 residents. Combined, population migration netted 27,683 more residents between 2010 and 2016. Because of international migration, the percentage of foreign-born residents in Montgomery County is greater than any other jurisdiction in Maryland and in the Washington metropolitan area. In 2015, one third of the County's population was born outside of the United States. Since 2010, the number of foreign-born residents increased by 28,695 or 9% to reach 343,195 people in 2015.

Economy

The major economic event of the past ten years is commonly known as the "Great Recession." This deep recession officially lasted nearly two years, from December 2007 until June 2009. Even after the official end of the recession the economy remained weak and job growth was slow for several more years. Compared to other parts of the nation, data from the U.S. Bureau of Labor Statistics show that Montgomery County fared reasonably well during and after the recession. Whereas national unemployment peaked at 10 percent in October of 2009, Montgomery County's peak unemployment was six percent in January of 2010. By December 2015, national unemployment dropped to five percent and Montgomery County unemployment to 3.4 percent. Nevertheless, the county economy did experience a decline as a result of the recession. Resident employment in the county declined by about 6,400 between 2008 and 2009. Resident employment reached its lowest level in September 2009 to 492,226 residents, but has grown since to 533,100 residents in 2016.

Economic recovery in the county housing market also is evident. The weakest year for new residential starts was 2009, when only 966 units began construction. Considerable improvement has occurred each year since 2009. In 2016, 3,532 residential starts occurred. In the housing resale market, the weakest year was 2008, when 8,519 existing homes were sold. Sales per year have gradually increased such that in 2016, 12,896 existing homes were sold. Along with increased activity in both housing sectors have come rising prices. The median sales price of existing homes experienced a bubble that reached \$444,000 in 2007. After the recession hit, the median sales price dropped to \$340,000 in 2009. Median sales prices have gradually risen since the recession, and stood at \$409,700 in 2016.

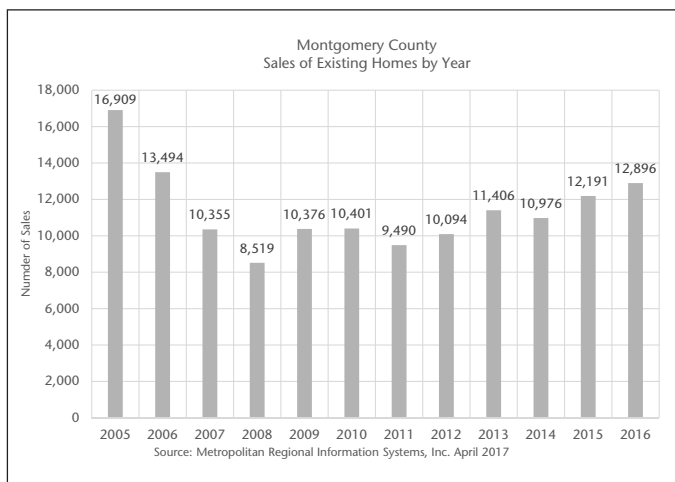
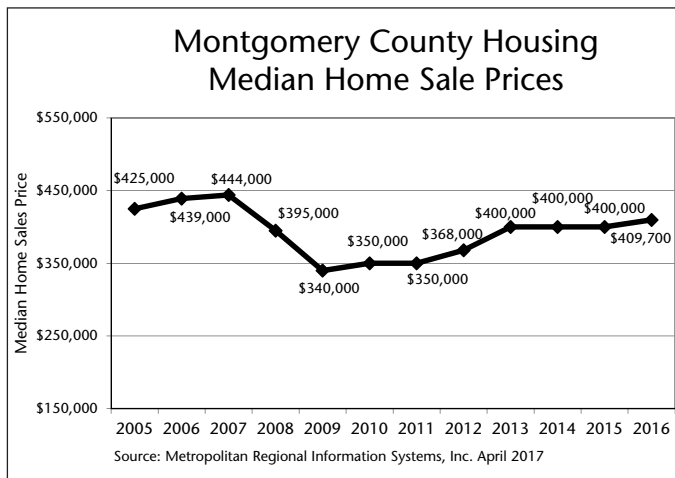
The recession has had long-lasting impacts on school system enrollment. These impacts are outlined below.

- First, labor force mobility slowed during the recession due to reduced opportunities for employment outside the county, resulting in less out-migration than is typical. Out-migration has moderated enrollment increases in the past by offsetting in-migration to the county. Due to reduced out-migration during the recession, net migration to MCPS increased, raising enrollment levels.
- Second, a number of households that experienced job losses in other parts of the country moved to

Montgomery County—either for better job prospects or to share housing with parents or relatives who live here.

- Third, decreases in the value of county housing placed many homeowners “under water” in mortgage debt. Consequently, households who might have moved to other parts of the country were forced to stay put. This, too, resulted in less out-migration than in-migration. (Related to the decrease in the value of housing has been a decrease in property tax revenues, which, in turn, has affected funding for school capital projects.)
- Fourth, many families that previously enrolled their children in county private schools were forced to rethink this financial expense. Therefore, for several years a marked increase in students enrolling in MCPS from county private schools further increased enrollment.

The recession impacts listed above compounded one another and resulted in the large enrollment increases the school system has experienced. However, there is one consequence of the recession that will moderate enrollment growth in the next few years. Due to economic uncertainty during the recession years and thereafter, household formation slowed and births decreased. Household formation and decisions on raising children are subject to one’s economic circumstances and outlook. The reduction in births occurred at the national as well as the local level and is now called the “baby recession.” In Montgomery County, 2007 was the peak year for county births, with 13,843 children born. As the recession hit, births went steadily down through 2013, when 13,022 children were born. As these smaller birth cohorts age into elementary schools, they are resulting in a leveling off of elementary school enrollment. However, in the long term, elementary enrollments will come back up if the stronger economic conditions present today are sustained. The declining birth trend stopped for the first time since 2007 in 2014, as county births rose to 13,214 children born. The slight decline has returned for the past two years with 13,100 births recorded in 2016. This birth cohort will enter MCPS in 2021.



Master Plans & Housing

New traditional suburban residential development is becoming the exception in the county. Clarksburg is the last large suburban community that will be built in the county. A number of large subdivisions in Clarksburg have been constructed and more are on the way. A new school cluster was formed in 2006, when Clarksburg High School opened to accommodate these new communities.

In the past, county development has been characterized by a separation of residential and commercial uses. Today, a desire to mix land uses and enliven communities is guiding new master plans and sector plans. New plans also are driven by the principle of “smart growth” that favors development in transit accessible corridors as a means to reduce reliance on the automobile. In addition, as the availability of land for residential development decreases, infill and redevelopment characterize new housing. Higher housing densities than seen in the past are needed to increase the supply of housing

and serve our growing population. Overall, today's land use planning is resulting in the urbanization of many county areas.

Plans for high-density residential projects have been adopted in recent years for Germantown, the Great Seneca Science Corridor, the White Oak Science Gateway, and at the Glenmont, Shady Grove, White Flint, and Wheaton METRO stations. In 2016, the Montgomery Village Master Plan and the Westbard Sector Plan were adopted. In addition, several plans are under development, including the Bethesda Downtown Sector, Greater Laytonsville Sector, and Rock Spring Master plans as well as the Grosvenor-Strathmore Metro Area Minor Master, Rockville Pike Neighborhood, and White Flint 2 sector plans. These plans focus on mid-rise and high-rise multi-family housing.

The market for these multi-family homes is generally driven by a combination of baby boomers reaching retirement age and downsizing, and the millennial generation seeking urban life-styles. Seventy-six percent of residential starts in 2015 were multi-family units. MCPS now coordinates with Montgomery Planning in annual studies of actual pupil generation rates by housing type. Pupil generation consistently show that multi-family developments result in less students compared to single family housing. MCPS participates in county and city land use planning to ensure adequate school sites are identified and impacts on enrollment are considered. (See Appendix P-1 for further information on the role of MCPS in land use plans.)

MCPS monitors housing activity in all school service areas through close coordination with the Development Applications and Regulatory Coordination Unit of the Montgomery County Planning Department, and comparable plan review departments in the cities of Gaithersburg and Rockville. Housing plans are factored into school enrollment projections according to building schedules provided by developers. If the economy sees further improvement, and mortgage interest rates stay low, the housing market could become even stronger.

Subdivision Staging Policy

The Montgomery County Subdivision Staging Policy is the tool the county uses to regulate subdivision approvals, ensuring they are commensurate with the availability of adequate transportation and school facilities. The policy includes an annual test of school adequacy that compares projected school enrollment to school capacity at elementary, middle, and high school levels for school cluster areas. The test also compares the individual school enrollment to school capacity at each individual school. The school test takes into account capital projects that will open within the six year Capital Improvements Program (CIP) timeframe.

The annual school adequacy test threshold for clusters is 120 percent utilization of program capacity in the sixth year of the CIP timeframe. When projected enrollment exceeds 120 percent of program capacity it may cause a moratorium on additional residential development in that cluster. The schools are tested individually based on the sixth year of the CIP. The schools test threshold has two criteria. Middle school service areas with a student enrollment that exceed a threshold of 180

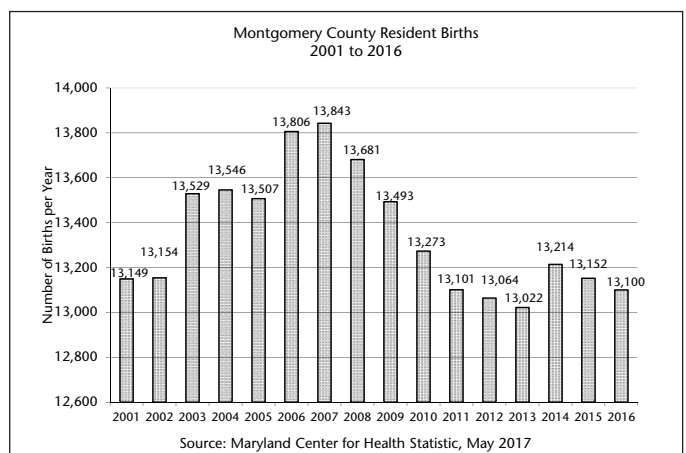
seats over program capacity and have utilization rates greater than 120 percent are placed in moratorium. Elementary school service areas with a student enrollment that exceed a threshold of 110 seats over program capacity and have utilization rates greater than 120 percent are placed in moratorium. The County Council may include "placeholder projects" in the CIP to avoid residential moratorium.

Five clusters exceed the 120 percent threshold for moratorium but are open conditionally due to the inclusion in the CIP of placeholder projects. Results of the FY 2018 school test are summarized in the table, "Draft Results of Subdivision Staging Policy School Test for FY 2018". More detailed tables that show the FY 2018 school test results may be found in Appendix D. Additional information on the role of MCPS with respect to the Subdivision Staging Policy can be found in Appendix C-1. The FY 2018 school test presented in this document will be adopted on July 1, 2017 and incorporates the enrollment projections found in this document and capital projects that were approved by the County Council in May 2017.

Student Population Trends

Resident births, the aging of the student population, and migration are the basic factors that create enrollment change at MCPS. The dip in births mentioned previously and known as the "baby recession" will result in a plateauing of elementary enrollment in the next six years. The number of births reported in 2016 equates to an average of 36 children born per day to Montgomery County mothers. The upturn in county births in 2014—numbering 13,214 births—was followed by two years of only slightly lower births.

The movement up through the grades by students, termed the "aging of the student population," is the second driver of enrollment change. When the size of the kindergarten is larger than that of Grade 12, then there is a natural increase in total enrollment from one year to the next. During the 2015–2016 school year, there were 11,434 kindergarteners and 10,275 Grade 12 students. The difference between the two grades was 1,159 students. Therefore, in the 2016–2017 school year, a large part of the one-year increase in enrollment of 2,563 students from the 2015–2016 school year was caused by existing students aging up, as Grade 12 students exiting the system were replaced by a



larger group of kindergarten students entering it. During the next six years, the historic trend of larger kindergarten enrollments and smaller Grade 12 enrollments is a source of enrollment growth in middle schools and high schools.

Migration, the third driver of enrollment change, depends on the regional economy, housing costs, and international events. All of these factors have a significant degree of volatility and make movement into and out of MCPS fluctuate from year to year. Records of MCPS student entries and withdrawals show that typically 12,000 to 13,000 new students enter the system each year, while a similar number of students exit the system each year. (These figures do not include students entering kindergarten or students exiting the system at graduation.) In the past eight years, net migration-related entries into MCPS have exceeded withdrawals by an average of 1,464 students, resulting in increases in enrollment.

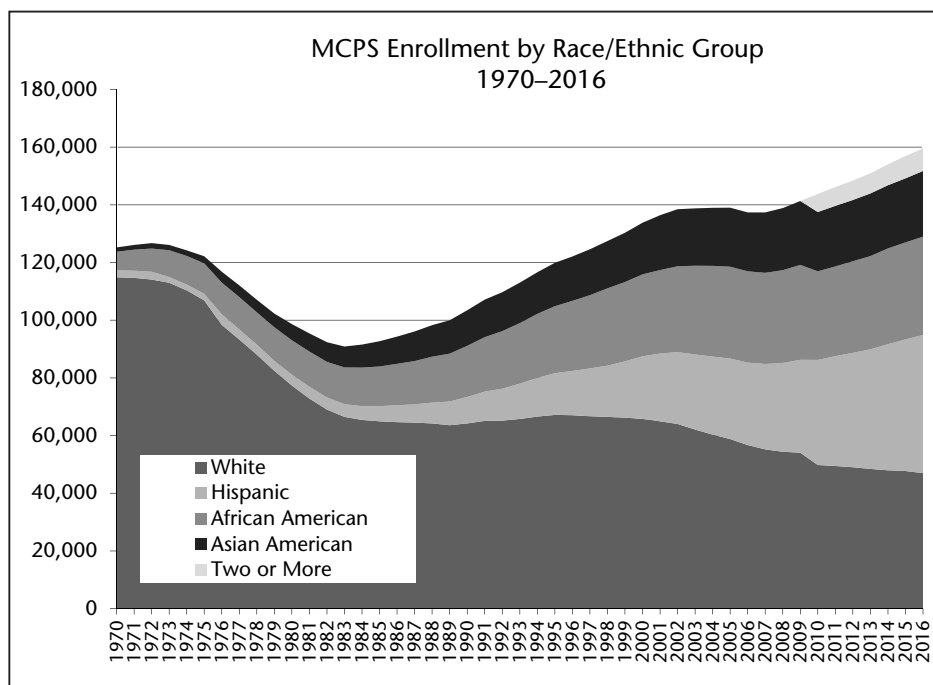
Student Diversity

Records of county resident births show a levelling off in the numbers of births in each race/ethnic group. This is in contrast to large declines, from 1990 to 2010, in the number of White, non-Hispanic births and large increases in births of other race/ethnic groups, especially Hispanics. In the past few years, White, non-Hispanic births have levelled off at about 4,800 per year, African American births at 2,800 per year, Asian births at 2,000 per year and Hispanic births at 3,500 per year. However, it is not known if the recent trends in each race/ethnic group will continue. It is known that the median age for the Hispanic, Asian, and African American population is lower than for the White, non-Hispanic population, and that household size for these groups exceeds that of White, non-Hispanic households. As these characteristics persist, increasing student diversity will continue, with Hispanic enrollment exceeding that of other groups.

Official MCPS enrollment for the 2016–2017, school year is 159,010 students. Disaggregation of enrollment by race and ethnic group reveals the importance of diversity to enrollment growth. In the 10-year period beginning in 2006, MCPS enrollment grew by 21,212 students, a 15 percent increase over the 2006 enrollment of 137,798 students. Over this period, White, non-Hispanic enrollment declined by 10,127 students or 18 percent. The entire enrollment increase since 2006 is attributed to increases in African American (+2,282), Asian (+2,228), and Hispanic (+19,273) students. In addition, 7,610 students were recorded this year in the new category of “two or more races.” MCPS enrollment is now 22 percent African American, 14 percent Asian, 30 percent Hispanic, 29 percent White, non-Hispanic, less than five percent two or more races; less than five percent Native Hawaiian/Pacific Islander; and less than five percent American Indian/Alaskan Native.

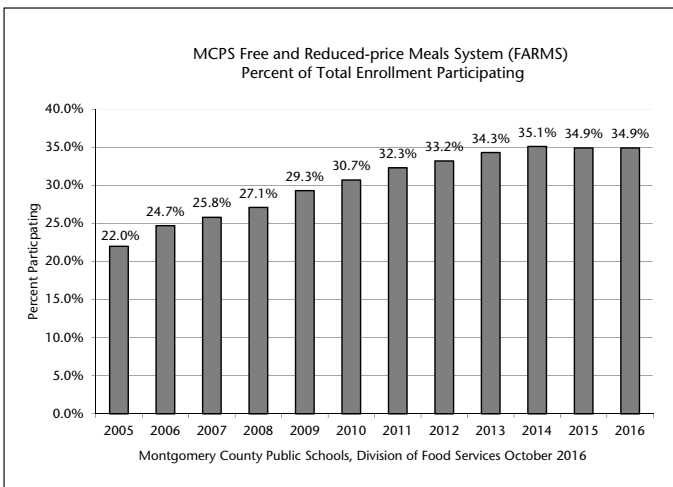
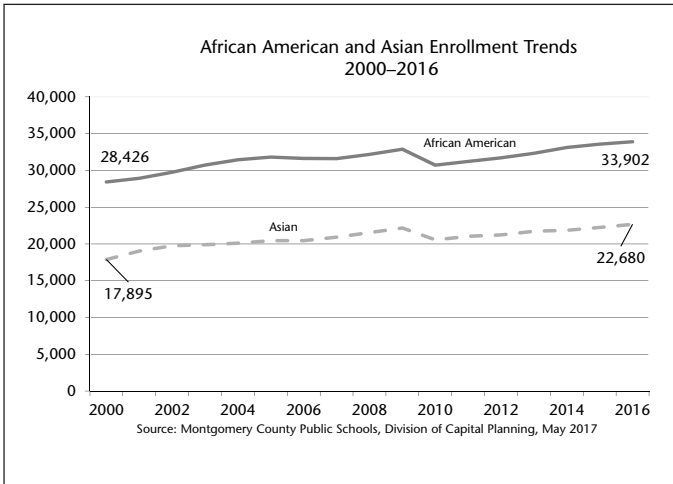
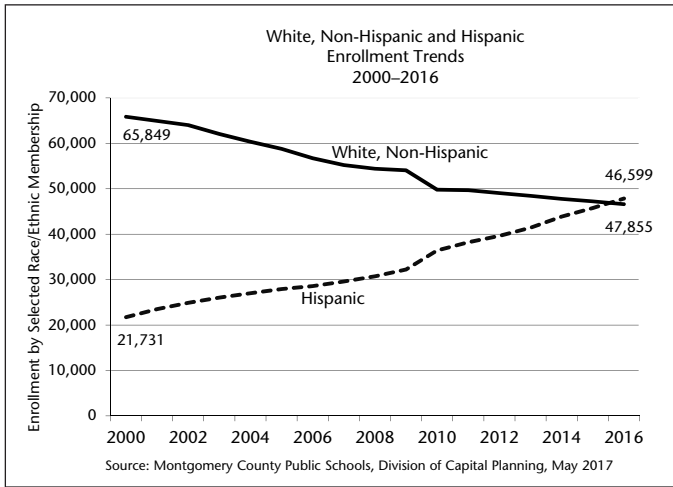
The accompanying chart illustrates the trend of increasing student diversity since 1970. This chart shows a trend of demographic change from a school system that was 92 percent White, non-Hispanic in 1970 to a school system where there is no longer a majority race/ethnic group. Only the four major race/ethnic groups are shown in this graph for the purpose of presenting long-term trends.

Also shown on accompanying charts are enrollments in the four major race and ethnic groups from 2000 to 2016. These charts show how the greatest amount of enrollment change has been in White, non-Hispanic and Hispanic enrollment. The trend lines for these two groups have crossed this past year. In the case of Asian and African American enrollment, the increases have been more gradual and the trend lines are running in parallel. Not shown in the charts is enrollment in the “two or more races” category since this category was just established in 2010. However, it can be seen in the accompanying charts how the addition of this new category resulted



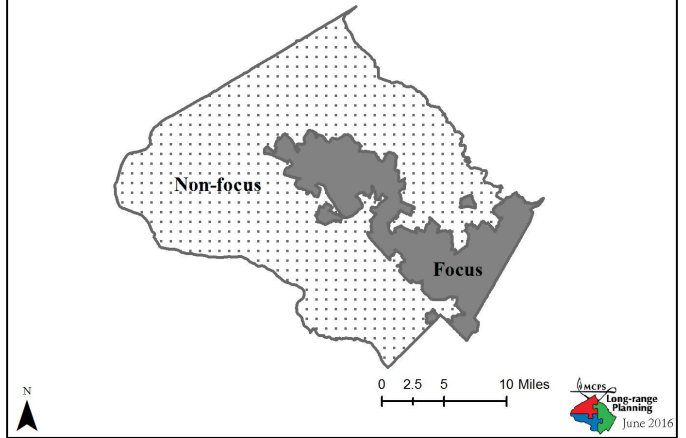
in a dip in enrollment between 2009 and 2010 in White, non-Hispanic, African American, and Asian students, as some members of these groups began to identify with the “two or more races” category. (See Appendices A-3 and A-4 for trends in enrollment by race and ethnic group.)

Enrollment increases in MCPS special programs that serve the diverse student body occurred at higher rates than in the district as a whole. Student participation in the federal Free and Reduced-price Meals System (FARMS) Program is the school system’s best measure of student socioeconomic levels. In 2005, 30,720 students (22.0 percent of enrollment) participated in the program. By 2016, 54,494 students (34.9 percent of enrollment) participated in the program, an increase of 24,774 students. Student enrollment in the English for Speakers of Other Languages (ESOL) Program is a measure of student ethnic



and language diversity. In 2005, 13,464 students (9.7 percent of total enrollment) were in this program. By 2016, 23,357 students (14.7 percent of total enrollment) were in this program, an increase of 9,893 students. In 2016, ESOL students represented 154 countries of origin and spoke 131 different languages. Since immigration to the United States has been underway for many years, the share of ESOL students born in the United States has been increasing. United States born students made up 64 percent of ESOL enrollment in 2016.

MCPS Focus & Non-focus Service Areas



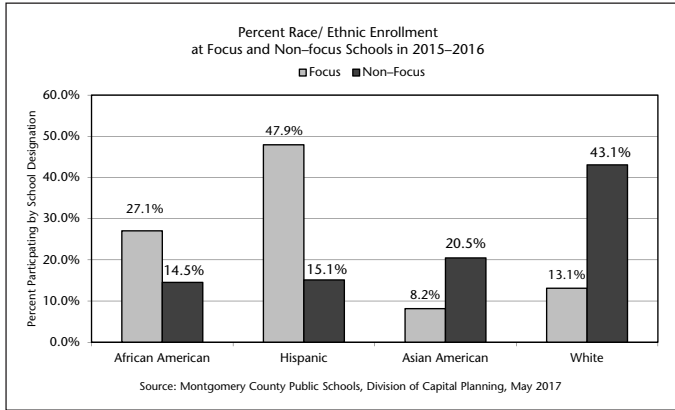
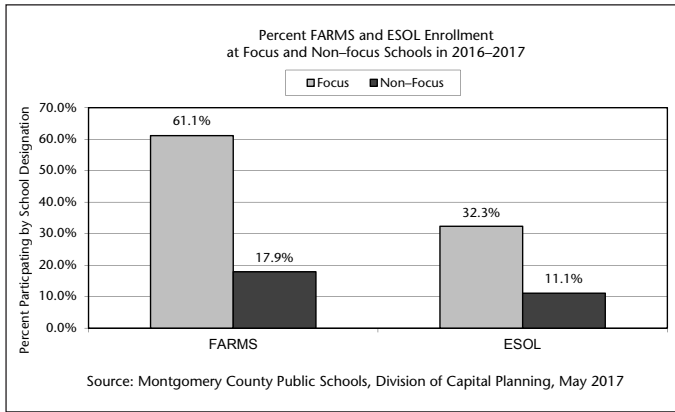
Focus and Non-focus Elementary Schools

The greatest concentration of student race and ethnic diversity and participation in the FARMS and ESOL programs is found in areas of the county where two conditions exist—major transportation corridors are present and affordable housing is available. In Silver Spring and Wheaton, these conditions are found in communities bordering New Hampshire Avenue, Georgia Avenue, and Columbia Pike. In Rockville, Gaithersburg, and Germantown, these conditions are found in communities bordering I-270 and Route 355. Affordable communities along these transportation corridors are characterized by apartment communities dating from the 1980s and earlier, and neighborhoods with relatively modest townhouses and single-family detached homes. Some of these homes may be occupied by two or more families who share housing costs. Schools in these areas have reduced class-sizes in Grades K–2 in order to address student needs and prepare the students for success in later grade levels.

At one time, communities in the “focus” elementary school service areas had little race and ethnic diversity. The wave of immigration over the past three decades has transformed these communities. In these focus school communities, enrollment growth has been driven by turnover of existing housing units. There are currently 69 elementary schools in the focus school group (including the upper schools in the case of paired schools) and 66 elementary schools in the non-focus group. The 2016 demographic composition of focus and non-focus schools is compared in the accompanying charts.

MCPS Enrollment Forecast

The school enrollment forecasts presented in this document are based on county births, aging of the current student population, and migration patterns. As county births increased through 2007, more and more kindergarten students entered MCPS. The advent of full-day kindergarten, countywide since 2006, also has been a major factor in elementary school enrollment increases. Due to the decrease in births from 2007 to 2013,



elementary enrollment growth will plateau in the next few years. However, due to the large elementary enrollment increases in the past nine years, MCPS is entering a strong period of growth at secondary schools.

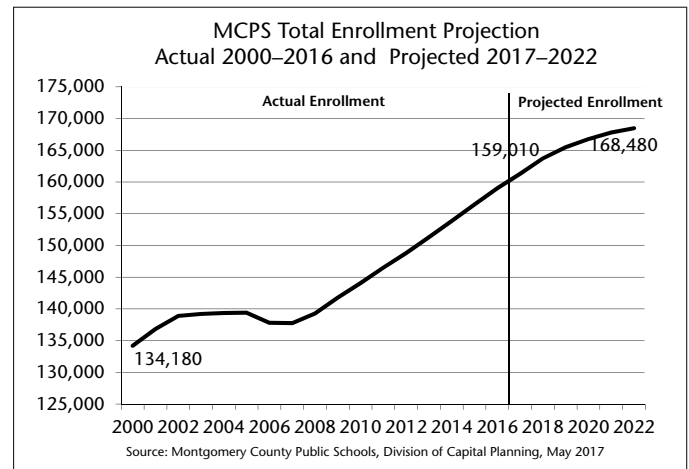
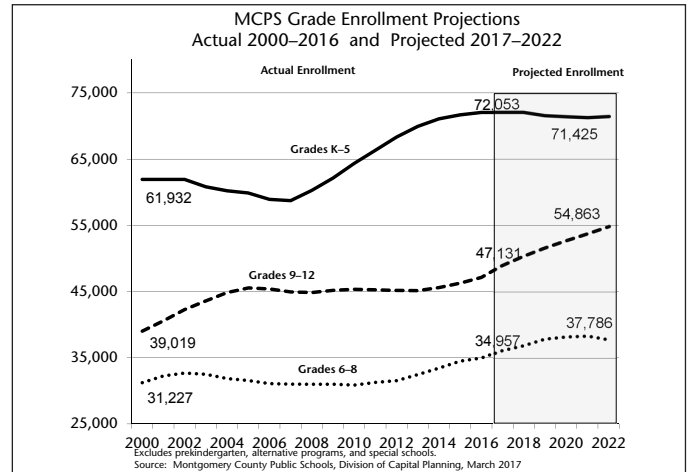
The six-year forecast for Grades K–5 enrollment shows a decrease of 548 students, from the official 2016 enrollment of 71,973 students to the projected 2022 enrollment of 71,425 students. The six-year forecast for Grades 6–8 enrollment shows an increase of 2,519 students from the 2016 official enrollment of 35,267 students to the projected 2022 enrollment of 37,786 students. The six-year forecast for Grades 9–12 enrollment shows an increase of 7,413 students from the 2016 official enrollment of 47,450 students to the projected 2022 enrollment of 54,863 students. The six-year forecast for total MCPS enrollment shows an increase of 9,470 students, from the 2016 official enrollment of 159,010 students to the projected 2022 enrollment of 168,480 students. (See Appendices A and B for further details on enrollments by grade level and program and Appendix P-2 for a description of the MCPS enrollment forecasting methodology.)

Summary

The last major period of enrollment increases at MCPS occurred during the 1950s, 1960s, and early 1970s, when children from the Baby Boom era, born between 1946 and 1964, enrolled in schools. Enrollment from this wave of growth peaked in 1972, at 126,912 students. Thereafter, the so-called Baby Bust era saw births decline and MCPS enrollment decrease to a low of 91,030 students in 1983. Since 1983, a much greater “baby boom” has occurred in the county. During the official Baby Boom years, the highest birth year in Montgomery County was 1963 when there were 8,461 resident births. The current baby boom in the county significantly surpasses this figure with births above 13,000 in recent years. Contributing to enrollment increases is the movement of households into the county from other parts of the world and the reduction in out-migration of households in recent years.

The current era of enrollment increases has seen enrollment grow by 67,980 students from 1983–2016. Keeping pace with enrollment growth, implementing full-day kindergarten at all elementary schools, and accommodating class-size reductions at focus elementary schools have required a major investment in school facilities.

In the 2016–2017 school year, MCPS operates 133 elementary schools, 39 middle schools, 25 high schools, one career and



technology high school, one alternative program, and five special program centers, for a total of 204 facilities. Since 1983, MCPS has opened 34 elementary schools, 18 middle schools, and six high schools (including 13 closed schools that were reopened). During the next six years, additional school capacity will be added through new school openings, revitalization/expansion projects, and classroom additions.

Competing with the need for school capacity is the need to preserve our investment in school facilities through a systematic schedule of school revitalization/expansion projects. Since 1983, 69 elementary schools, 14 middle schools, and 14 high schools have been revitalized/expanded. The funding level for school revitalization/expansion projects limits the school system's ability to keep all schools in good condition. Consequently, the school system places a great emphasis on countywide projects to regularly upgrade building systems in aging facilities. Funding for such capital projects as Heating Ventilation and Air Conditioning (HVAC) and Planned Life-cycle Asset Replacement (PLAR) is important for extending the life-cycle of our schools and keeping all schools in good condition. The facility plans and capital projects described in this document enable the school system to add school capacity, systematically revitalize/expand older schools, and maintain all schools in good condition.