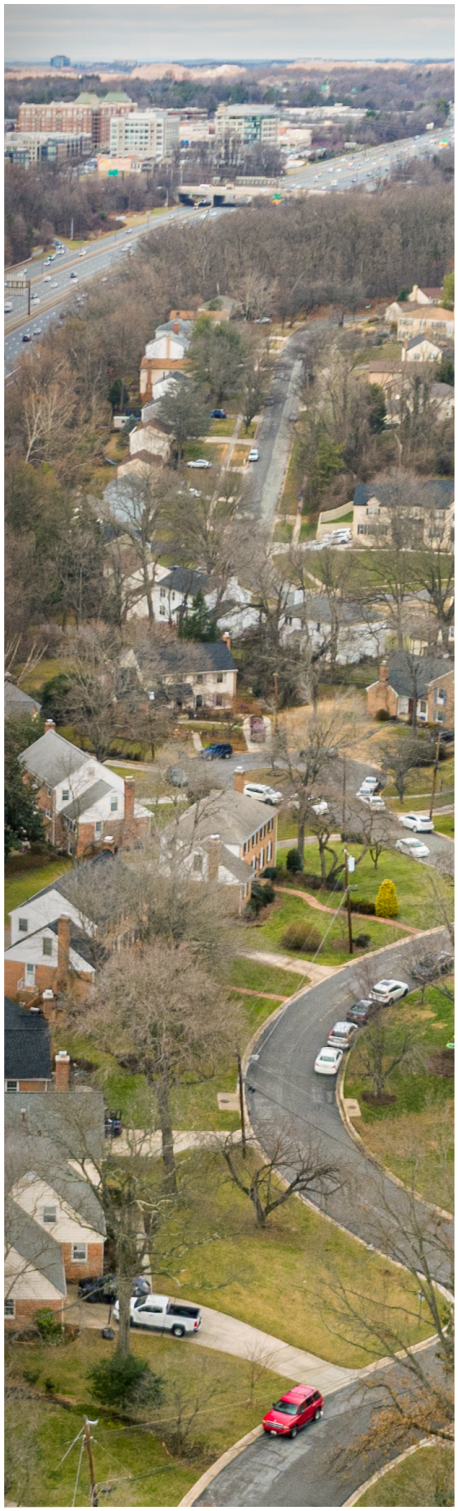


2020

2024

County Growth Policy

PLANNING BOARD DRAFT APPENDICES

Montgomery Planning
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Table of Contents

APPENDIX A
Forecasting Future Growth

Summary

The cooperative forecasting process is a collaborative effort by the Metropolitan Washington Council of Governments (MWCOG) and local MWCOG member jurisdictions. While MWCOG employs a regional econometric model to project population, households, and employment for jurisdictions in the Washington metropolitan region, jurisdictional representatives from the MWCOG Cooperative Forecasting and Data Subcommittee concurrently develop independent population, household, and employment projections for their localities. The MWCOG Cooperative Forecasting and Data Subcommittee reviews and reconciles these two sets of projections. The final, adopted regional forecast is a reconciled aggregation of the small area forecasts MWCOG member jurisdictions created.

The most recently completed forecast round, Round 9.1, was adopted by the MWCOG Board on October 10, 2018 and represents an update to the "full" Round 9.0 forecast that was adopted in 2016. A second update, Round 9.2, is expected to be adopted in 2021. Round 10.0 will commence after the release of the 2020 Decennial Census data. Updates to full forecast rounds allow jurisdictions to make minor adjustments in between major forecasting rounds, recognizing that market conditions, policies, and planned development may change, while maintaining the forecast time horizon and base year. Round 9.0 and 9.1 cover the period 2015 to 2045. Round 10.0 will cover the period 2020 to 2050.

Montgomery County Jurisdictional Forecast Methodology

Overview

Montgomery Planning participates in the forecasting process of the MWCOG Cooperative Forecasting and Data Subcommittee along with planners from the other MWCOG jurisdictions. Countywide projections are developed jointly with staff from the cities of Gaithersburg and Rockville. Small area projections within the county and the cities are created for five-year intervals at the level of Transportation Analysis Zones (TAZs) for travel demand modeling purposes.

Countywide projections offer guidance regarding anticipated overall household, population, and job growth in the county during the forecast period. A "cohort-component" demographic model and a "shift-share" analysis are used to forecast population and employment respectively. This effort yields projections that are independent of any existing county master-planning exercise or the construction pipeline of approved projects. Small area projections at the TAZ level are developed by allocating projected population, households, and jobs according to existing and expected land use, including residential and commercial pipeline projects and/or master-planned development.

Countywide Forecast

The countywide population forecast is developed using a cohort-component model with parameters based on historical demographic trends. The model projects future populations in terms of the county's components of growth: natural population increase (the difference between births and deaths) and net migration (the movement of people in and out of the county). Its inputs and parameters are based on the best available census and local vital records data.

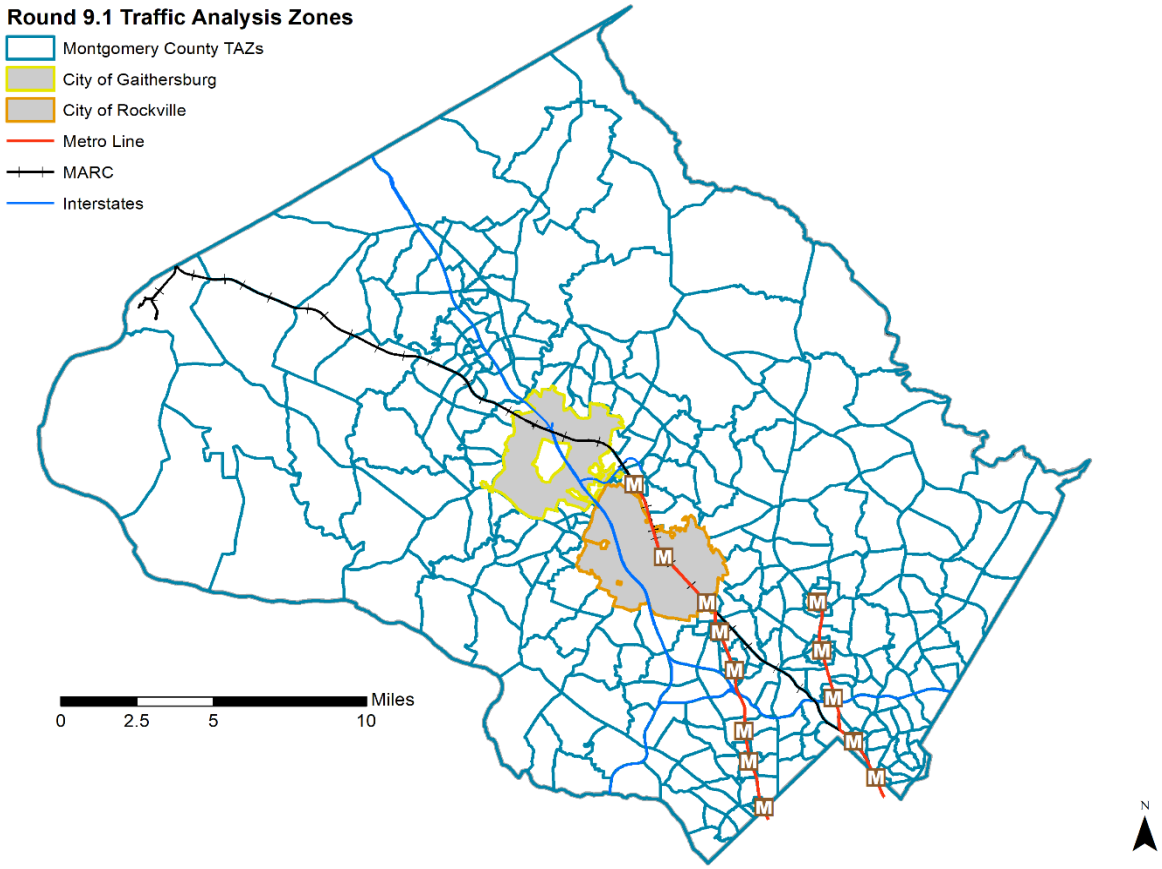
The countywide household forecast uses a headship rate method to project household counts. It assumes that the number of households is equal to the number of people who head those household. Headship rates rely on countywide householder age estimates from the Decennial Census. The rates are calculated by dividing the number of householders in an age cohort by the household population in the same cohort for each 10-year age cohort for the adult population aged 15 and older. The household projections hold the headship rate constant across the forecast period, with the change in the number of households attributed to population growth and changes in the age structure of the population. The average headship rate per age cohort from 2000 to 2014 was applied to population projections by age cohort to calculate the number of households for each age cohort. These household counts were then summed across adult age cohorts to obtain total projected households for each five-year forecast interval.

The countywide employment forecast uses a shift-share analysis of major industries. Due to the limitations of the data required, the analysis results are modified by MWCOG "adjustment factors"[1] that account for self-employment and military employment, in addition to wage and salary employment that is excluded from the primary employment datasets used by the shift-share method. Shift-share analysis is meant to indicate which employment industries are most competitive in an area, by calculating expected local industry job growth based on past growth in the industry at a broader geographic level. The method was developed in the 1960s and assumes that a local industry's growth is affected by local trends as well as by national dynamics. The method is widely used for employment industry projections, including by the Montgomery Business Development Corporation for its Target Market Assessment (2015) study.

TAZ-level Small Area Forecast

Once countywide projections are developed, indicating likely growth in population, households, and employment, these projections are allocated to smaller areas known as Transportation Analysis Zones (TAZ), according to development expectations. This work is done in conjunction with the cities of Gaithersburg and Rockville, which create their own small area forecasts. Out of 376 total TAZs in the county, the Montgomery Planning is responsible for 321 TAZ projections. Map 1, below, shows the TAZs in Montgomery County.

Figure A1. Transportation Analysis Zones.



Research & Special Projects Division, Montgomery Planning, 3/26/20

The first step in the allocation process is establishing the shares of households, population, and employment that should be distributed to Gaithersburg, Rockville, and Montgomery County. These shares are based on existing conditions and development expectations for every five-year forecast interval. While development expectations are mapped using data on the pipeline of development applications and the buildout scenarios foreseen by area master plans, the amount of possible new construction, or the development ceiling, is dictated by land use regulations.

A 2010 baseline estimate of households at the TAZ level was created by aggregating Decennial Census Block data. Future county households were distributed to TAZs in five-year intervals by applying an occupancy rate to expected single- and multifamily units (see Table A1 for occupancy rates). Household size factors were used to calculate population from projected future single- and multifamily residential construction, as shown in Table A1.

Table A1. Occupancy Rates and Household Size Factors.

Unit Type	Occupancy Rate	Average Household Size
Single-Family	0.97	3.07
Multifamily	0.93	2.09
Total	0.95	2.75

Source: Montgomery County Planning calculations based on 2010-2014 American Community Survey Five-Year Estimates.

Employment was allocated to county TAZs based on net growth projected in five-year intervals. The base-year jobs counts are estimates from 2010. The 2010 wage and salary jobs covered by unemployment insurance were allocated among TAZs based on address-level April 2010 employment data from the Maryland Department of Labor, Licensing, and Regulation's Quarterly Census of Employment and Wages (QCEW) dataset. The self-employed were allocated to TAZs based on each TAZ's share of the total population. Estimates of wage and salary jobs not covered by unemployment insurance (UI) and therefore excluded from the QCEW dataset, were allocated to TAZs based on each TAZ's share of combined self- and UI-covered employment.

For each five-year interval, employment growth was predominantly based on yields assumed using future commercial space construction and occupancy rate factors. For square-footage based employment factors and commercial occupancy rates, see Table A2.

Table A2. Commercial Occupancy Rates and Employees per Square Foot.

Commercial Space Type	Occupancy Rate	Employment Factor
Office	0.88	225
Retail	0.96	400
Industrial	0.92	450
Other	1.00	500

Note: Occupancy rates based on CoStar vacancy rates from 2005 to 2015 for office space and 2006 to 2015 for retail and industrial uses. This forecast assumes full occupancy of "other" space.

Not all projected net gains in employment came from new construction. Some growth in office employment is attributable to projected occupancy of select vacant office space. The selection of office buildings with vacancies was guided by Montgomery Planning's 2015 Office Market Assessment, which found that high-quality vacant space in urban areas in proximity to Metro or suburban areas with good road access would fare better in terms of future occupancy and rent-growth than lower-quality office without these attributes. The employment forecast assumes that office buildings with CoStar's quality rating of four stars or greater and within one-half mile of Metro stations (including proposed Purple Line stations) or one mile of state route and interstate interchange nodes would reach 88 percent occupancy between the years of 2015 and 2030.

Projection Reconciliation

At the same time that each MWCOG member jurisdiction prepares its own projections, MWCOG independently prepares projections using the regional econometric model. The member jurisdictions, including Montgomery County and the cities of Gaithersburg and Rockville, then work with each other through MWCOG to ensure that the sum of independent jurisdictional forecasts is within three percentage points of the econometric model totals. The reconciled, aggregated TAZ-level forecast is considered the final and official forecast and may vary from the initially completed countywide projections.

For the Round 9.0 forecast, Montgomery County's household and population forecasts were not subject to the reconciliation process, but MWCOG staff requested changes to the employment forecast in the further-out years. This request was not isolated to Montgomery County, but was also made of other jurisdictions, including the District of Columbia as well as Fairfax and Loudon counties. In consultation with planning staff from Gaithersburg and Rockville, Montgomery County reduced the employment forecast by 1.9 percent in 2040 and 4.8 percent in 2045, to maintain an overall share of regional employment consistent with the 2030 to 2035 forecast periods.

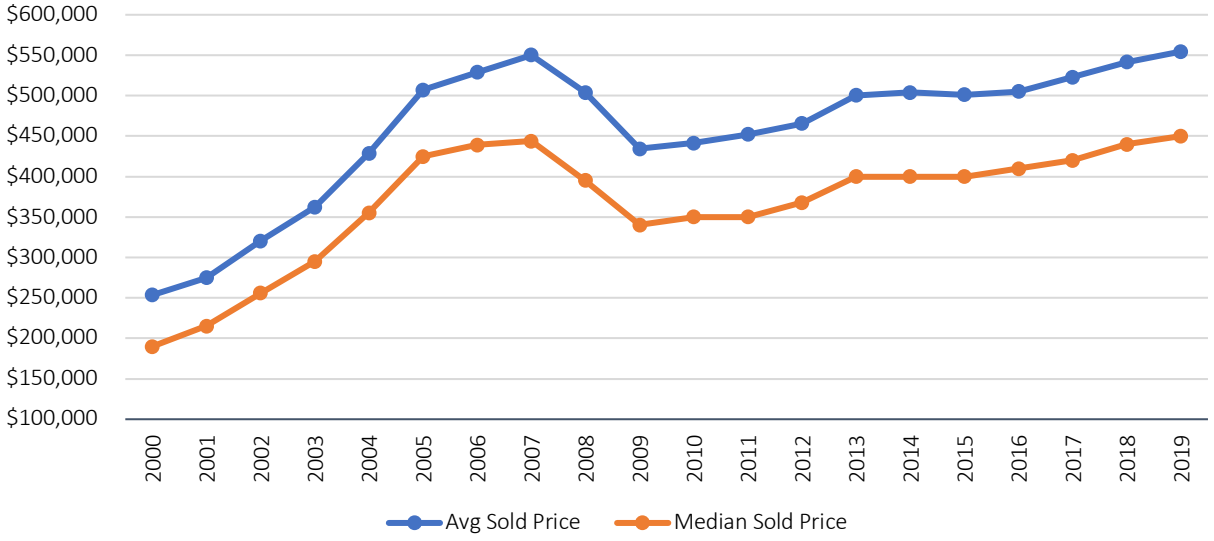
APPENDIX B
Recent Trends in Real Estate

Residential Real Estate

For-Sale Residential

In 2019, the median sold price for a home in Montgomery County reached $450,016 – surpassing its previous 2007 peak of $440,000, and increasing by over 24 percent since its 2009 low of $340,000. The 2019 median sold price also grew by 2 percent since the previous year, 2018.

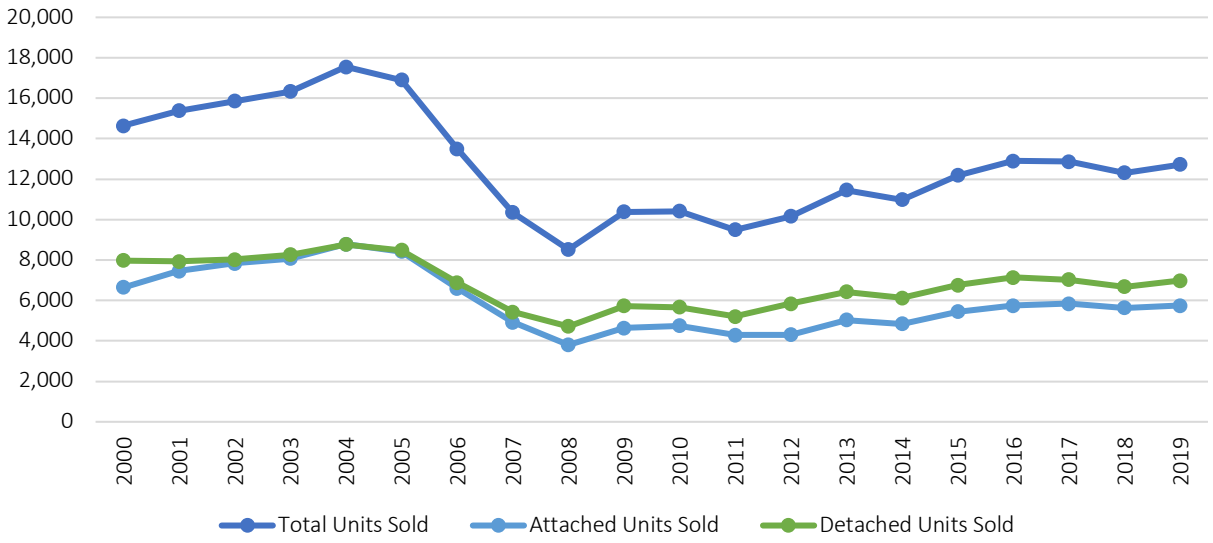
Figure B1. Average and Median Sold Price (Nominal Dollars).



Source: MRIS

Since 2015, the county has routinely sold around 12,000 units, a 49 percent increase since the 2008 low of 8,519, but still a 28 percent decline from the 2004 high of 17,556 units sold. The county also routinely sells more detached units than attached units. Only in 2004, did the county sell more attached than detached units (24 more detached units sold). Between 2001 – 2007, the gap between detached and attached units sold was small– less than 500 units. After the recession, the gap between attached and detached units sold ramped up quickly. Since 2012, there has been at least 1,000 more detached units sold than attached every year.

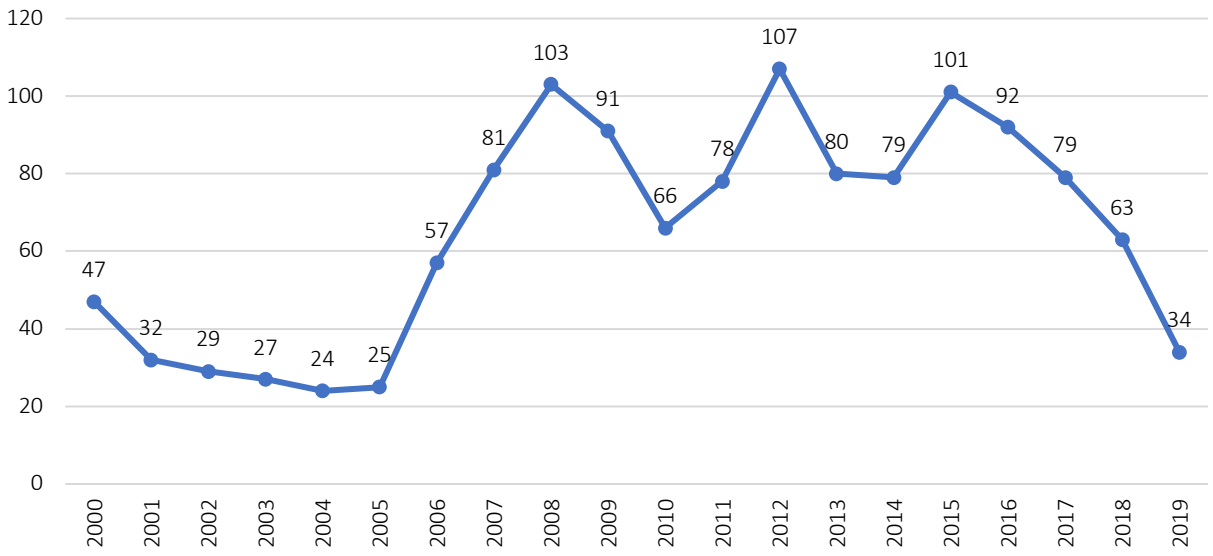
Figure B2. Units Sold.



Source: MRIS

Average days on market (DOM) is a measurement of the age of a real estate listing. Generally, properties with a lower DOM will sell quicker, and at a higher price. A DOM indicator is also used to measure the for-sale housing supply, a supply constrained market will have a low DOM.

Figure B3. Average Days on Market.



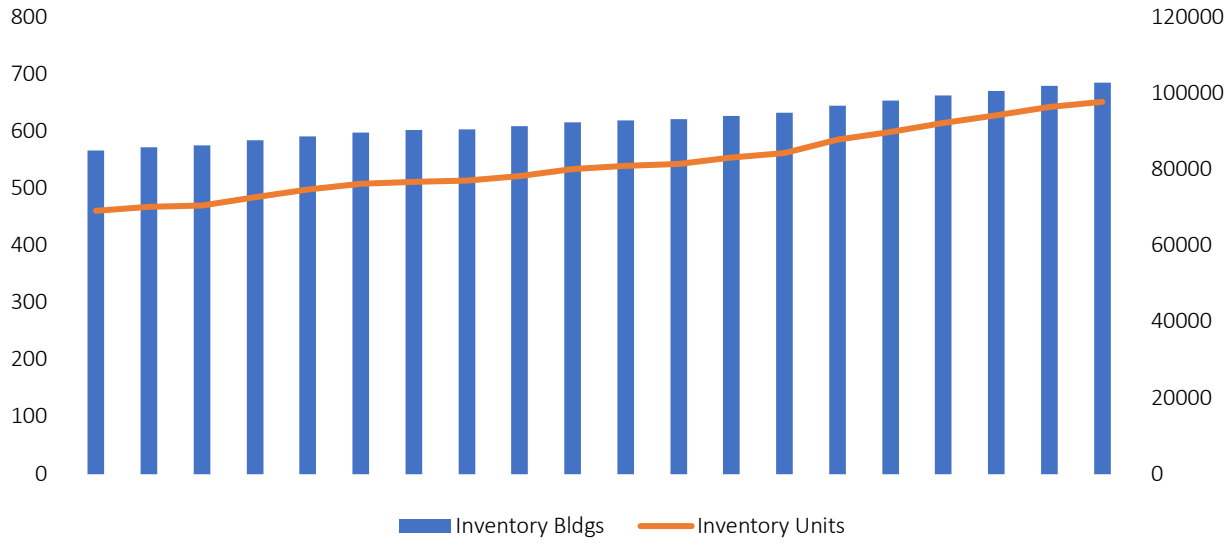
Source: MRIS

2019 recorded the lowest DOM since before the recession in 2004 at 34 days. An average DOM of 34 days suggests a supply constrained for-sale housing market. In 2019, nearly 40 percent (5,012) of all homes for sale sold in 10 days or fewer.

Rental Residential

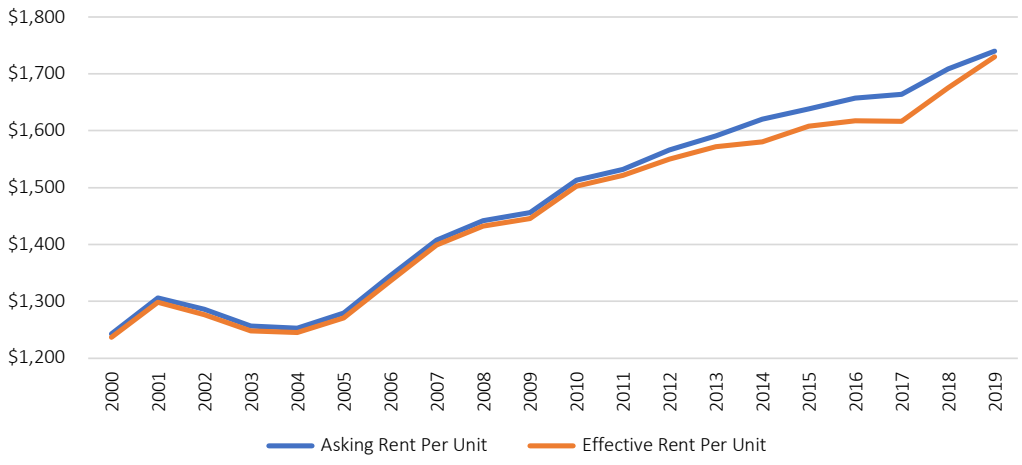
Since 2000, Montgomery County has seen its rental supply increase by over 25,000 units, an increase of over 40 percent. The average number of units per building has also increased, from 122 in 2000, to 143 in 2019.

Figure B4. Montgomery County Rental Inventory.



Source: CoStar

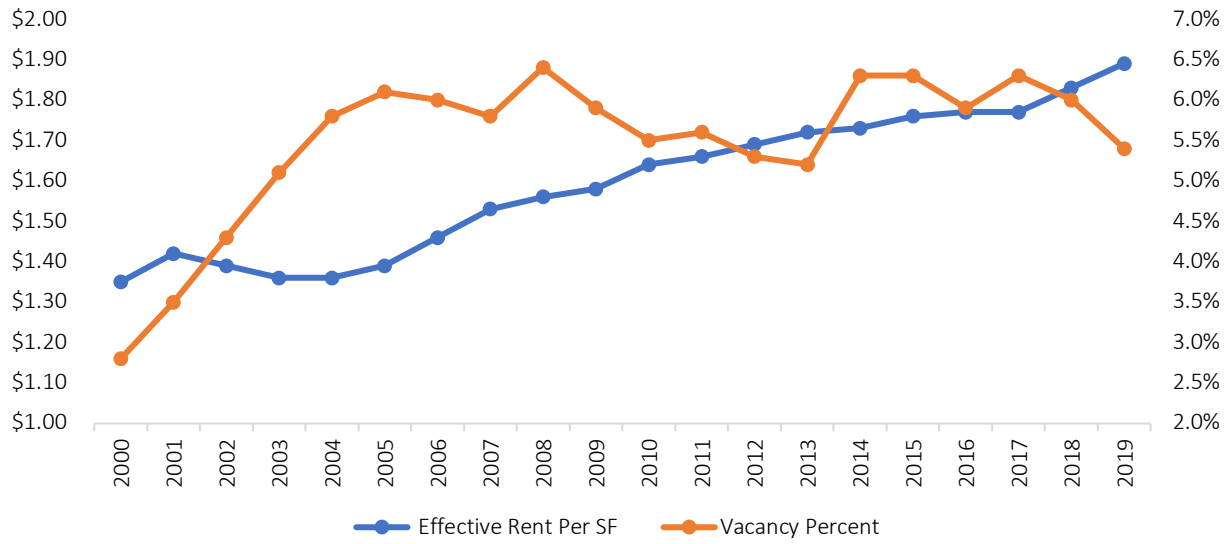
Figure B5. Asking Rent/Effective Rent.



Source : CoStar

The effective rent per square foot has also increased significantly in the county, from $1.35 in 2000, to $1.89 in 2019, an increase of 40 percent. During the same time period, the county's vacancy rate has remained low, ranging from 3 percent in 2000 to 6 percent in 2018. In 2019, it dropped to 5 percent, suggesting that the county's rental housing supply could support additional new units.

Figure B6. Effective Rent per Square Foot and Vacancy Rate.



Source: CoStar

Commercial Real Estate

Summary

Montgomery County's commercial real estate market has grown since the Great Recession at a continuous but modest pace. This growth reflects the stability of the Washington, D.C. metro area, but also the challenges facing the office sector regionally, continued upheaval in the retail sector from e-commerce, and the smaller size of Montgomery County's industrial sector.

- The total amount of occupied office, retail, and industrial/flex space grew each year between 2010 and 2018.
- Office, retail, and industrial/flex rents recovered from the Great Recession, although industrial and retail rents have not surpassed highs achieved in 2007.
- While vacancy rates in the retail sector never exceeded 5 percent, and vacancy in the industrial/flex sector declined substantially since 2010, office vacancy remains elevated and growth in the supply of all three sectors is far below the pace achieved from 2005 to 2010.

More detailed data for each market segment is listed on the next page.

Office

The Montgomery County office market continues to suffer from the structural challenges originally detailed in the 2015 Office Market Assessment prepared by Partners for Economic Solutions (PES) in collaboration with the Montgomery Planning's Research & Special Projects Division. The market faces continued soft demand due to ongoing reductions in federal spending on office leases, changed location preferences among tenants that emphasize transit access and urban neighborhood amenities, and reduced space per employee. Where leasable space increased by a million or more square feet annually most years between 2005 and 2014, since 2015 there has been few new buildings constructed and little net new space delivered. The flat vacancy rate hovering around 88 percent and the slow growth of rents since 2014 reflect this softness. The county continues to have a significant amount of older, suburban, obsolete office product that will keep vacancy rates higher and average rents low. Transit accessible sub-markets in the county have performed better and will continue to be the focus of the modest amount of office development expected to deliver in the coming years.

Table B1. Office Market Trends, 2005 to 2020.

OFFICE MARKET TRENDS (2005 TO 2020)
MONTGOMERY COUNTY, MARYLAND
Source: Research & Special Projects Division analysis of CoStar Property data

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 YTD
EXISTING																
Buildings	1,451	1,465	1,476	1,484	1,496	1,498	1,500	1,505	1,507	1,512	1,518	1,522	1,524	1,525	1,527	1,527
New	8	14	11	8	12	2	2	5	2	5	6	4	2	1	2	0
Leasable square feet	65,710,635	66,409,544	67,708,421	68,620,771	70,094,587	70,202,587	70,215,411	71,338,263	71,548,939	72,717,865	72,867,746	73,160,895	73,180,005	73,301,729	73,620,743	73,620,743
New	446,996	698,909	1,298,877	912,350	1,473,816	108,000	12,824	1,122,852	210,676	1,168,926	149,881	293,149	19,110	121,724	319,014	0
UNDER CONSTRUCTION																
Buildings	16	11	12	12	2	3	6	6	7	9	5	3	3	2	0	0
Leasable square feet	1,207,598	1,379,456	1,610,803	1,519,775	108,000	371,264	1,320,572	1,268,126	1,217,762	438,035	309,955	140,834	440,738	319,014	0	0
EXISTING																
Net change in leased square feet	1,603,955	1,008,758	453,027	1,045	-373,480	745,277	376,241	979,676	-151,343	302,074	-119,047	697,863	235,270	824,585	-353,907	-265,385
Vacant square feet	5,775,177	5,465,328	6,311,178	7,224,354	9,071,650	8,434,373	8,070,956	8,214,132	8,576,151	9,443,003	9,714,291	9,321,553	9,112,570	8,409,709	9,082,630	9,348,015
Vacancy rate	8.8%	8.2%	9.3%	10.5%	12.9%	12.0%	11.5%	11.5%	12.0%	13.0%	13.3%	12.7%	12.5%	11.5%	12.3%	12.7%
Occupied square feet	59,935,458	60,944,216	61,397,243	61,396,417	61,022,937	61,768,214	62,144,455	63,124,131	62,972,788	63,274,862	63,153,455	63,839,342	64,067,435	64,892,020	64,538,113	64,272,728
Occupancy rate	91.2%	91.8%	90.7%	89.5%	87.1%	88.0%	88.5%	88.5%	88.0%	87.0%	86.7%	87.3%	87.5%	88.5%	87.7%	87.3%
Average rent (net of taxes, maintenance, and insurance)	$25.29	$26.57	$28.34	$28.82	$27.88	$27.61	$27.88	$27.61	$27.64	$27.18	$27.58	$27.61	$27.86	$28.25	$28.71	$29.46

Data Source: CoStar

Retail

Demand for retail space in Montgomery County continues at a healthy pace. The retail sector absorbed 3 million square feet since 2013, more than keeping pace with the net 2.7 million square feet added to the county's inventory and driving down vacancy from 4.3 percent in 2013 to 3.1 percent in 2019. Rising rents reflect this healthy demand, increasing 18 percent to $31.33 from 2013 to 2019 and becoming competitive with rents in the office sector. However, the retail sector has not quite matched the high-water mark of 2007 when the vacancy rate was 2.4 percent and rents averaged $31.38 per square foot. A 2016 retail market strategy study of Montgomery County by Streetsense, in collaboration with Montgomery Planning's Research & Special Projects Division, found that unlike many nearby jurisdictions, there is a good balance between demand and supply of retail space in Montgomery County. The study also found that e-commerce will continue to change the way Americans shop, causing ongoing upheaval in the retail sector, and design elements and placemaking will continue to be essential to create vibrant mixed-use and retail environments.

At the time of this report, the impact to rents and vacancy of the 2020 broad-based shutdown of the retail sector in response to the Covid-19 epidemic is not yet known.

Table B2. Retail Market Trends, 2005 to 2020.

RETAIL MARKET TRENDS (2005 TO 2020)
MONTGOMERY COUNTY, MARYLAND
Source: Research & Special Projects Division analysis of CoStar Property data

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 YTD
EXISTING																
Buildings	N/A	2,240	2,255	2,262	2,270	2,283	2,299	2,307	2,324	2,344	2,352	2,361	2,374	2,384	2,389	2,390
New	*N/A*		15	7	8	13	16	8	17	20	8	9	13	10	5	1
Leasable square feet	N/A	36,463,903	36,977,268	37,090,104	37,285,797	37,522,815	37,845,996	37,993,673	38,633,614	39,109,739	39,197,284	40,195,035	40,468,170	40,636,050	40,698,149	40,705,149
New	*N/A*		513,365	112,836	195,693	237,018	323,181	147,677	639,941	476,125	87,545	997,751	273,135	167,880	62,099	7,000
UNDER CONSTRUCTION																
Buildings	N/A	15	6	7	12	12	8	12	19	7	7	9	9	5	1	0
Leasable square feet	N/A	589,458	186,687	181,891	221,990	240,281	204,668	684,078	861,440	482,545	949,845	191,102	172,047	62,099	7,000	0
EXISTING																
Net change in leased square feet	N/A	136,358	529,502	-295,089	-165,070	196,671	387,584	191,921	626,400	643,634	121,799	1,179,070	200,651	149,503	151,681	-39,462
Vacant square feet	N/A	896,935	890,085	1,341,141	1,701,904	1,742,251	1,677,848	1,633,604	1,647,145	1,479,636	1,445,382	1,263,607	1,336,091	1,354,468	1,264,886	1,311,348
Vacancy rate	*N/A*	2.5%	2.4%	3.6%	4.6%	4.6%	4.4%	4.3%	4.3%	3.8%	3.7%	3.1%	3.3%	3.3%	3.1%	3.2%
Occupied square feet	N/A	35,566,968	36,087,183	35,748,963	35,583,893	35,780,564	36,168,148	36,360,069	36,986,469	37,630,103	37,751,902	38,931,428	39,132,079	39,281,582	39,433,263	39,393,801
Occupancy rate	*N/A*	97.5%	97.6%	96.4%	95.4%	95.4%	95.6%	95.7%	95.7%	96.2%	96.3%	96.9%	96.7%	96.7%	96.9%	96.8%
Average rent (net of taxes, maintenance, and insurance)	N/A	$27.34	$31.38	$28.10	$26.61	$25.54	$25.06	$24.03	$26.43	$26.19	$27.24	$28.89	$29.94	$30.66	$31.33	$30.73

Data Source: CoStar

Industrial/Flex

Montgomery County's reduced amount of industrial and flex space compared to the office and retail sectors reflects the county's suburban status where the primary economic driver is professions within office settings rather than in production. Regardless of the smaller overall size, industrial and flex vacancy has steadily fallen from 11.2 percent in 2010 to 6.1 percent in 2019, reflecting net absorption of 2 million square feet during this time. This positive absorption and the boom in e-commerce, with its need for warehouse space close to consumers, has not encouraged development of much new industrial space in Montgomery County: Since 2010 a net of 563,000 square feet was added to the overall inventory of leasable space. This lack of new space may reflect the limited amount of large undeveloped land within the urban areas of the county. In addition, low industrial space growth may reflect the pressure to convert production and warehouse space in transit-accessible areas to more lucrative multifamily and office projects. Corresponding to the reduction in vacant space, rents for industrial and flex space have trended upward modestly since 2010.

Table B3. Industrial/Flex Market Trends, 2005 to 2020.

INDUSTRIAL/FLEX MARKET TRENDS (2005 TO 2020)
MONTGOMERY COUNTY, MARYLAND
Source: Research & Special Projects Division analysis of CoStar Property data

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 YTD
EXISTING																
Buildings	935	938	939	940	942	942	942	942	942	943	944	947	948	949	949	949
New	4	3	1	1	2	0	0	0	0	1	1	3	1	1	0	0
Leasable square feet	26,238,524	26,448,518	26,539,518	26,604,518	26,993,741	26,993,741	26,993,741	26,993,741	26,993,741	27,007,341	27,014,341	27,214,421	27,544,421	27,556,421	27,556,421	27,556,421
New	459,712	209,994	91,000	65,000	389,223	0	0	0	0	13,600	7,000	200,080	330,000	12,000	0	0
UNDER CONSTRUCTION																
Buildings	3	1	0	2	0	0	0	0	1	0	3	1	0	0	0	0
Leasable square feet	209,994	91,000	0	389,223	0	0	0	0	13,600	0	200,080	330,000	0	0	0	0
EXISTING																
Net change in leased square feet	638,318	91,407	-347,898	-26,938	116,964	-507,324	143,300	373,057	152,177	223,865	188,681	520,916	429,135	182,389	-234,262	225,405
Vacant square feet	1,804,097	1,922,684	2,361,582	2,453,520	2,725,779	3,233,103	3,089,803	2,716,746	2,564,569	2,354,304	2,172,623	1,851,787	1,752,652	1,582,263	1,816,525	1,591,120
Vacancy rate	6.1%	6.7%	8.1%	8.2%	9.0%	11.2%	10.8%	9.7%	9.2%	8.6%	7.9%	6.8%	5.9%	5.5%	6.1%	5.1%
Occupied square feet	24,434,427	24,525,834	24,177,936	24,150,998	24,267,962	23,760,638	23,903,938	24,276,995	24,429,172	24,653,037	24,841,718	25,362,634	25,791,769	25,974,158	25,739,896	25,965,301
Occupancy rate	93.1%	92.7%	91.1%	90.8%	89.9%	88.0%	88.6%	89.9%	90.5%	91.3%	92.0%	93.2%	93.6%	94.3%	93.4%	94.2%
Average rent (net of taxes, maintenance, and insurance)	$14.65	$14.73	$14.82	$14.93	$13.48	$12.36	$12.73	$11.98	$12.76	$12.72	$12.68	$13.89	$14.01	$13.90	$14.06	$14.10

Data Source: CoStar

APPENDIX C

Other Relevant Growth Measures

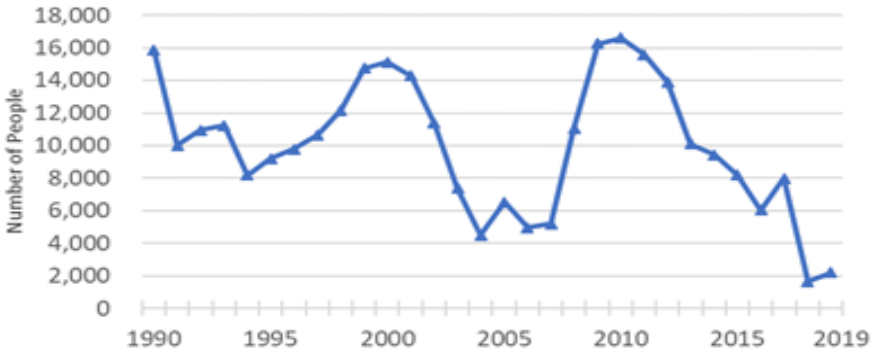
Montgomery County has evolved from a rapidly growing bedroom community for the region in the 1980s, to today's regional leader with major employment centers an over one million residents. Montgomery County has entered a mature phase of development with a slower pace of growth, typical of a populous and developed county with limited developable land. While the county's population growth rate averaging below 1 percent this decade is expected to decline even further over the next 30 years, the population is still forecasted to grow from just over one million people in 2015, to 1.2 million by 2045, an increase of over 200,000 people. These additional 200,000 people will require housing, services and the support of public infrastructure.

Demographic trends among people moving in and out of the county, the natural increase in population, and the inevitable aging of county residents determine the make-up of the county's population. Economic forces also shape demographic trends, notably the previous decade's Great Recession and now, the yet-to-be-determined effects of a global health pandemic. Such events alter not only the pace of demographic change, but its character as well. The changing character of Montgomery County's residents is now more notable than its population growth. The important historical and near-future demographic trends transforming Montgomery County are described here.

Slower growth of mature, populous county still adds 200,000 people

With an estimated population of 1,050,688 in 2019, Montgomery County remains the most populous county in Maryland and ranks 42nd in population nationwide. The county crossed a demographic milestone of over one million residents in 2012. In the next 30 years, no other jurisdiction in the Washington, D.C. region is expected to break the million mark and join Fairfax and Montgomery Counties. Nor will Montgomery County ever again experience the rapid post-World War II residential growth dominated by greenfield development.

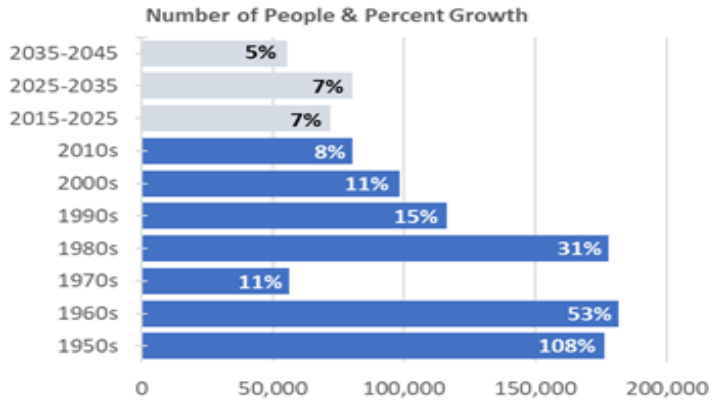
Figure C1. Annual Population Growth, 1990 to 2019.



This decade started with the highest annual population increases in the county since 1990, before gains steadily dropped from a peak of 16,600 people in 2010 to 2,210 in 2018 (Figure C1). Between 2010 and 2019,

the county gained 75,086 people, up 7.7 percent. This increase was the largest in the state and accounted for 29 percent of Maryland's growth and 12.5 percent of the 6 million population increase in the Washington, D.C. region this decade. Fairfax County had a smaller population increase of about 60,000 people, which accounted for 10.2 percent of the region's population growth.

Figure C2. Montgomery County Population Gains and Percent Rate of Growth, 1950 to 2045.



Source: 1950-2010 U.S. Census; 2015-2045 COG Cooperative Forecast, Rnd. 9.1

Montgomery County experienced its greatest population growth after World II, as did much of the nation. During the 1950s, the county's population doubled, gaining 176,500 residents, as people from outside the region came to work for the federal government along with returning veterans and city dwellers seeking a suburban haven (Figure C2) With new suburban high-rise apartments expanding housing options in the 1960s, the county gained the most people (182,000) in any one decade, growing at half the rate of the previous decade (51 percent). Nationally and locally, growth was abruptly curtailed in the 1970s by the quadrupling of oil prices and a costly Vietnam War, stagflation, double-digit unemployment, and ultimately a recession. The county bounced back in the 1980s, adding almost 180,000 residents, second only to the high increases of the 1960s.

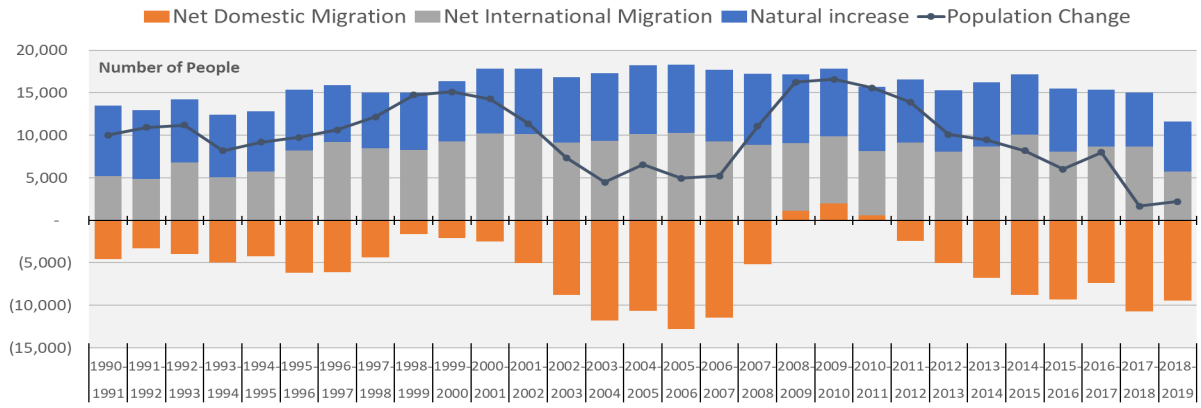
Since the 1990s, the rate and the amount of population growth in the county steadily declined as new housing shifted from large subdivisions in open fields to transit-oriented and infill development. The county gained 111,000 people in the 1990s, but it was the beginning of more modest population growth rates. The 15 percent population increase during the 1990s was half the rate of the 1980s, followed by slower growth in 2000s of 11 percent or fewer than 100,000 residents that decade. After 2010, with annual growth rates under 1 percent, Montgomery County entered a slower growth phase due to the lack of developable land and transportation capacity needed to sustain rapid growth.

The latest population forecast produced by the Montgomery Planning projects the population will increase by 7 percent or 76,800 residents between 2020 and 2030, which is about the same increase as the previous decade. While the additional population over the next decade is substantial—it is the size of Silver Spring's current population—the amount is less than half the peak growth that occurred in the 1960s and 1980s when each decade added 180,000 people. In the long term, between 2015 and 2045, Montgomery County is projected to add 208,000 people, 87,100 households, and 158,500 jobs – equating to a daily addition of roughly 19 new residents, 8 new households, and 14 new jobs over the 30-year forecast period.

Foreign immigration offsets domestic out-migration

The movement of people in and out of Montgomery County is a potent driver of population growth and instrumental in broadening cultural diversity. Residents moving into the county from abroad contribute significantly to the county's growth and cultural diversity, averaging 8,310 people per year since 2010. The level of foreign immigration during this period offset the average net domestic loss of 6,595 residents who relocated domestically, either within the region or elsewhere in the United States. Typically, steady inflows of international migration counter the fluctuating domestic migration patterns, which reflect the strength of the economy and variation in housing prices. Domestic out-migration (i.e., more people move out of the county than in from elsewhere in the nation) usually happens during a strong economy when there are competitive job and housing upgrade opportunities outside of the county. For example, in the period before the Great Recession from 2003 to 2007, the county was averaging an annual net domestic migration loss of 11,700 people (Figure C3).

Figure C3. Population Growth by Component Change, 1990 to 2019.



Source: Population Estimates Program, U.S. Census

Conversely, positive net in-migration has occurred in Montgomery County during national economic declines. When the Great Recession started nationwide in 2007, most people, including county residents, delayed moving due to the difficulty in selling a home after the housing bubble burst, and the limited job prospects elsewhere. For the first time in 20 years, more people moved into the county from other parts of the United States than residents left between 2008 to 2010. The greater Washington, D.C. region, buffered by the federal government presence, offered better economic opportunities relative to other domestic locations for those that were able to move from other parts of the country and insulated locals from the worst of the recession.

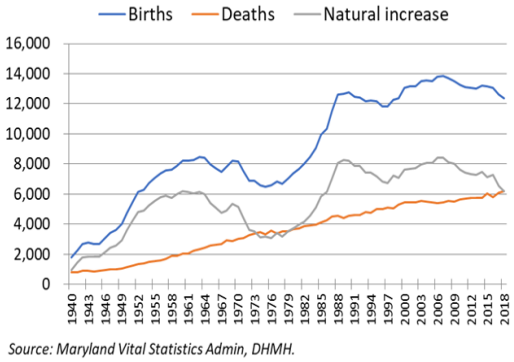
With an improving post-recession economy, the trend of domestic migratory gains inverted, and the resumption of out-migration averaged a loss of 9,130 people annually in the past 5 years. The combination of domestic out-migration outpacing the reduced foreign immigration levels since 2015 resulted in overall losses in annual migration in recent years. The net migration loss of 3,725 people in 2019 was the greatest annual outflow over a 30-year period. The narrowing gap of foreign and domestic out-migration over the past decade netted 15,425 new residents since 2010.

The level of foreign immigration into the County is contingent upon national and world politics and regional and global economic cycles. International migration fluctuated in recent years usually in the range of 8,000 to 10,000 new immigrants until last year. 2019 marked a precipitous decline in international migration into the county to the lowest level since 1993, after significant changes in national immigration policy in recent years. An estimated 5,700 immigrants moved into the county during 2018, a drop of 34 percent from the previous year. Without consistent, substantial levels of international migration, total migration could post a consistent loss due to higher domestic out-migration and subsequentially reduce annual population increases in the county. The duration of foreign immigration shortfalls due to economic uncertainty and stringent immigration policies is unknown, but it is likely, Montgomery County will be well-positioned once conditions turn favorable to attract international immigrants at previous levels, drawing on its existing, large foreign-born resident base, recovered economic opportunities, and welcoming social and political environment.

Births influence population growth and diversity

Natural increase or the number of births minus deaths, is a major component of population growth and change in Montgomery County. Natural increase accounts for 88 percent of the county's population growth, while domestic and international migration serves primarily to change the mix of people. Averaging 7,150 people per year, natural increase was three times the average gain from total migration since 2010. The number of births in the county has been twice the number of deaths this past decade.

Figure C4. Natural Increase: Births and Deaths, 1940 to 2018.



Source: Maryland Vital Statistics Admin, DHMH.

Source: Maryland Vital Statistics Administration, DHMH

As births declined while deaths steadily increased this decade, the contribution of natural increase to the county's population growth has lessened since the Great Recession. Natural increase in 2018, registering 6,206 people, reached its lowest point since the mid-1980s (Figure C4). Its impact on growth is expected to diminish further as the rising share of older adults significantly increases the total number of deaths. Modest increases in fertility and reductions in mortality rates are unlikely to offset the impact of the large cohort of aging baby boomers.

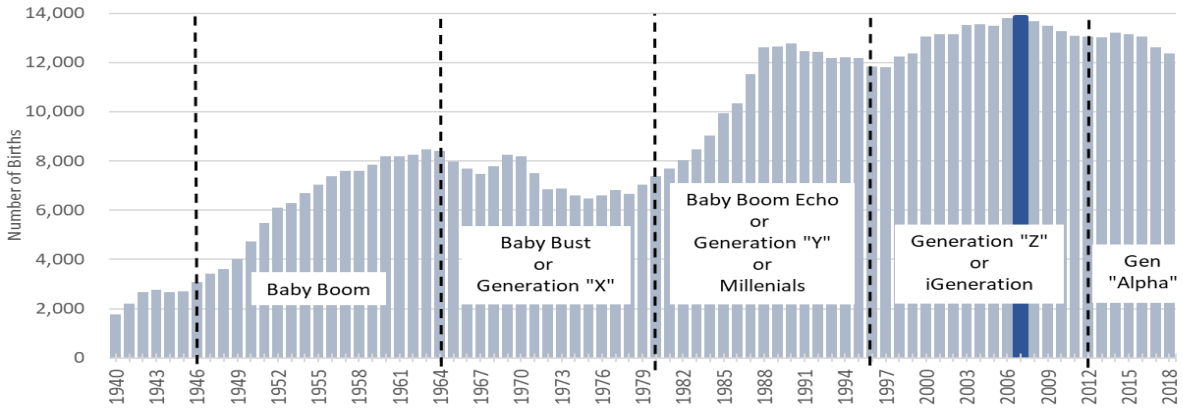
After the number of newborns peaked at 13,843 in 2007, births in Montgomery County declined by 11 percent to 12,373 in 2018 (Figure C5). This latest annual number of births in the county was the lowest level in 20 years. 2018 also marked the fewest babies born in the United States since 1986, after four consecutive years

of decreasing births. The declining births sank the county's crude birth rate to near record lows. Between 2007 and 2018, the number of births per 1,000 people dropped from 14.9 to 11.8, the lowest rate since 1978, but not matching the record low of 11 births per 1,000 people during the recession of 1975.

The generation of Millennial women now in their mid-twenties and thirties are delaying childbirth in Montgomery County, as in the rest of the country. For many, economic uncertainty may be a prominent reason for deciding not to have children, or in some cases delaying the decision. Millennial women started entering the workforce at the end of the Great Recession, yet static wages followed by rising cost of living put many millennial women in poor financial situations to have children. Add record-breaking student debt loads and lack of affordable housing and the composite circumstances are ripe for low fertility rates. The systemic string of obstacles to childrearing, including the frustration of finding affordable childcare, high insurance costs, the lack of paid parental leave, universal childcare and other support systems further encourages the decision to postpone having children.

Delayed childbearing among Millennials is reflected in local statistics. Birth rates for women ages 25 to 34—typically, those with the highest rates—continued dropping to new lows after 2007. Meanwhile, birth rates for women in their late 30s and early 40s trended upward. From 2007 to 2018, birth rates for women ages 25 to 29 dropped from 131 births per 1,000 to 76 births per 1,000. For women ages 30 to 34, they dropped from 149 births per 1,000 to 127 births per 1,000. During this same period, the greatest rate increase, albeit associated with the lowest rate of births, occurred among older mothers. In 2007 the rate for women ages 40 to 44 stood at 18 births per 1,000, rising to 21 births per 1,000 in 2018. At some point, the number of overall births is expected to gradually increase as fewer young women postpone motherhood. When this will start is difficult to predict given the uncertainty around the ongoing coronavirus disease pandemic and its economic repercussions.

Figure C5. Number of Births in Montgomery County, 1940 to 2018.



Source: Maryland Vital Statistics Admin, DHMH; generation definitions based on PEW Research and Mark McCrindle; Research & Special Projects, Montgomery County Planning Department.

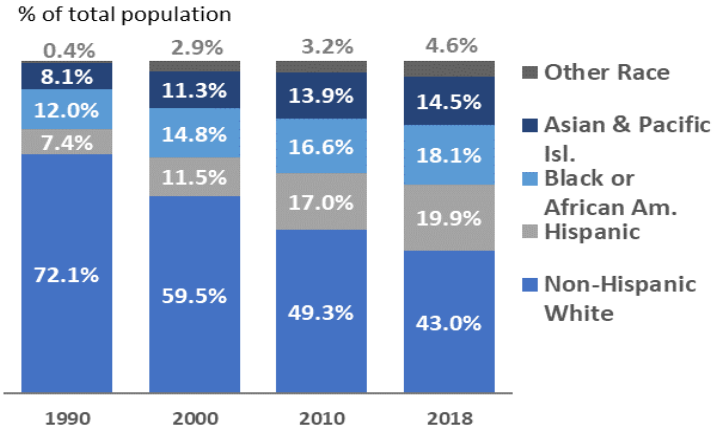
In addition to contributing to the population's growth, births change the racial and ethnic composition of Montgomery County. General fertility rates of women in the county vary by maternal race and Hispanic origin. In 2018, the fertility rate was highest for Hispanic women (80.5 births per 1,000 women age 15 to 44) followed by non-Hispanic African American women (60.5), and non-Hispanic white women (53.2). The combined

percentages of Hispanic, African American, and Asian births in the county increased from 40 percent of all births in 1990 to 66 percent in 2018. During this period of increasingly diverse in-migration as well as births, people of color in the county (anyone other than non-Hispanic white) increased from 28 percent of the population in 1990 to 57 percent in 2018. As the number of women of color of childbearing age continues to grow over the decades, projected to be up 15 percent from 2020 to 2030, the number of Hispanic, African American, and Asian babies is expected to increase as well, adding to the county's diversity.

Racial and ethnic diversity, hallmark of change

The rate of racial and ethnic diversification outpaced the County's overall population growth rate since the 1990s. The number of people of color increased by 188 percent, adding 391,100 residents, compared to the 39 percent growth in total population between 1990 and 2018. The share of the total population of people of color has steadily increased over the decades. By 2010, the county's hitherto largest racial group, non-Hispanic whites, dropped to 49.3 percent, creating a plurality among racial and ethnic groups where no single group was a majority (Figure C6).

Figure C6. Population by Race and Hispanic Origin, 1990 to 2018.



Source: 1990-2010 U.S. Census, 2018 American Community Survey, 1-year estimates, U.S. Census Bureau.

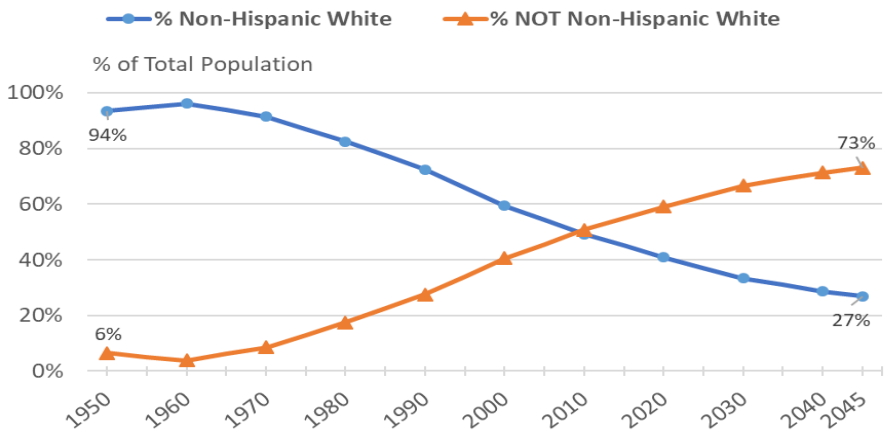
The Hispanic population has almost quadrupled in size since 1990, reaching 209,000 people or 20 percent of the county's population in 2018. Hispanics were the fastest growing group over the past 28 years and became the largest minority group in 2010, surpassing the number of African Americans in the county. Between 1990 and 2018, the African American population increased from 12 percent to 18 percent, to about 190,000 residents. The percentage of Asians almost doubled from 8 percent to 15 percent, a gain of 91,300 people, to reach 152,300 people in 2018. The non-Hispanic white population dropped from 548,500 in 1990 to 452,900 in 2018, a 17 percent loss. In 2018, people of color comprised 57 percent of the total population making Montgomery County more diverse than the nation (40 percent) and Maryland (50 percent). While the size of the non-Hispanic white population in the county is similar to the size in the Washington, D.C. region (55 percent), the county has a more equal percentage distribution among the minority groups.

Population migration, both foreign and domestic, contributes to the county's increasing racial and ethnic diversity. New residents moving into the County, 56 percent African American, Hispanic, and Asian, were slightly more diverse than the people leaving; 53 percent of those moving out were people of color in 2018. Steady levels of foreign immigration to Montgomery County over the past 30 years grew the base of foreign-born residents from 141,166 people in 1990 to 332,198 in 2018. With about one-third of the county's population foreign-born in 2018, Montgomery County had the highest concentration of foreign-born residents in the Washington, D.C. region and its percentage ranked fourteenth among counties nationwide. The origins of the county's foreign-born residents are widely diverse, with 36 percent arriving from Latin America, most commonly from El Salvador, and 36 percent from Asia, typically from India or China.

Natural population increase and the composition of births and deaths also contributes to Montgomery County's changing racial and ethnic make-up. Increasing diversity over the decades is partly attributed to the rising share of Hispanic, African American and Asian babies, which are now the majority of babies born (66 percent in 2018). This trend reflects increases in the number of women of color of child-bearing age and the varying birthrates associated with maternal race and Hispanic origin, which are lowest for non-Hispanic White women. The number of minority babies is expected to continue increasing, commensurate with the forecasted growth of Hispanic, African American, and Asian women. The share of minorities in the county will also shift upwards as elderly residents, the majority of whom are non-Hispanic white (62 percent of people age 65+ in 2018), move from the county or die.

Continued growth in the number of people of color living in the county is expected, assuming sustained migration patterns and birthrates of women of color. In the next 10 years, the Maryland Department of Planning forecasts the population of persons of color will grow by 21 percent, rising to 67 percent of the County's total population in 2030. Almost three out of four residents are projected to be people of color by 2045 (Figure C7). In contrast, according to projections by the United States Census Bureau, people of color will not comprise the majority of the U.S. population until 2045 – 35 years after Montgomery County crossed this landmark in 2010.

Figure C7. Historical and Forecasted Racial Change in Montgomery County, 1950 to 2045.



Source: 1950-2010 U. S. Census; 2010-2045 Racial Forecast, Maryland Department of Planning

Life-cycle events of an aging population

The large, aging cohort of Baby Boomers (those born between 1946 and 1964) has remained an enduring change agent locally and nationally, now straddling prime wage-earning years and retirement. About 22 percent of the county's population are boomers in 2018, about the same percentage as Millennial residents (21 percent), born between 1981 and 1996. The millennial generation, ages 24 to 39 years old in 2020, are posed to replace the boomers as influencers in employment, housing, and society.

The leading edge of the boomer generation turned 65 in 2011 and by 2030, all boomers will be 65 and older. Age projections by the Maryland Department of Planning expect aging boomers to drive growth in the County's 65-plus population from 163,645 residents, or 16 percent of the population in 2018, to 19 percent in 2030. This is a 33 percent increase in number over 12 years. Not only will almost 1 out of 5 county residents be 65 or older in 2040, the diminishing cohort of boomers will be frail elderly, ages 76 to 94 years old.

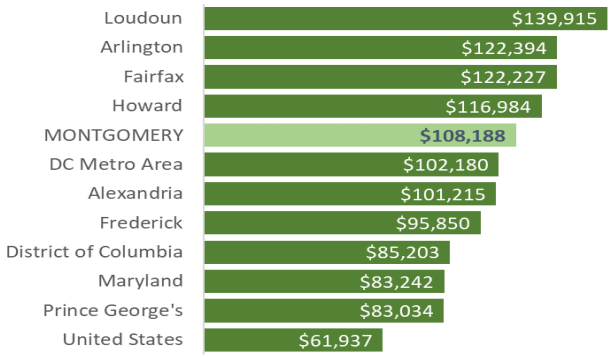
Boomer housing decisions and their increasing likelihood of death have the potential to transform the county's housing market. Of the 128,580 households in 2018 headed by householders between 55 to 74 years old, 81 percent were homeowners. In 2018, 4 out of 9 households in the county were headed by a baby boomer. A significant number of houses may enter the resale market if and when boomers choose to downsize or relocate in retirement, or if they die. The release of housing in the next 10 years may coincide with the likely surge in housing demand by young adults of the Millennial generation, who have previously delayed homeownership and other decisions such as getting married and starting families. Millennials fall into the age group most likely to move (20 to 34 years old) and the age group of the typical new resident moving into the County. Montgomery County remains competitive for this young adult and family market, offering job opportunities, housing choices spanning from rural and suburban neighborhoods to walkable, transit-oriented communities, all with a highly regarded public school system, and desirable quality of life.

Alternatively, if a significant number of Baby Boomer households age in place or delay moving out, either by choice or financial necessity, those actions may result in depressed housing turnover in the county, stalling traditional "housing ladder" opportunities for young families with school-aged children to move into the area. The limited supply of houses reaching the market may increase the difficulty for younger buyers to find or afford a home. The next 10 years will tell whether economic and housing market conditions will promote competing housing needs or offer ample housing market supply, as aging Baby Boomers and young adult millennials debate their next life-cycle decision.

Household income yet to recover from recession

Montgomery County remains one of the wealthiest counties in the nation, despite that its median income did not fully recover from the Great Recession. The median household income of $108,188 in 2018 remains 3 percent below (-$3,304) its peak in 2007 after adjusting for inflation. Although slow to recover, the county's 2018 median income is among the highest in the Washington, D.C. region, 30 percent above Maryland's median of $83,242, and 75 percent above the national median of $61,937. Montgomery County ranked 16th nationally and is one of the five counties in the Washington, D.C. area on the top 20 list for median household income across the nation.

Figure C8. Regional Median Household Income, 2018.

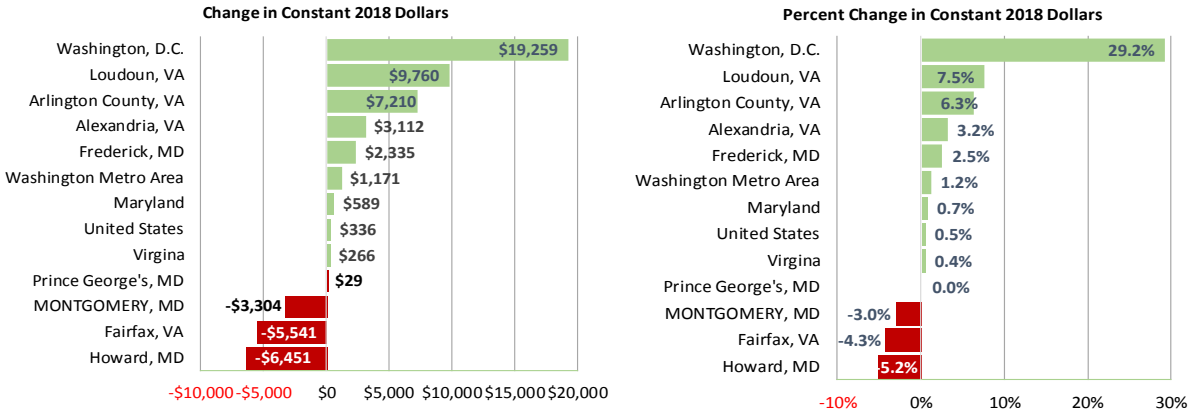


Source: 2018 American Community Survey, 1-year estimate, U.S. Census Bureau.

The Washington, D.C., region ranked third among all metropolitan areas and continues its reign as an affluent area. Most local jurisdictions regained monetary loses stemming from the Great Recession except for Montgomery (-3 percent), Fairfax (-4.3 percent), and Howard counties (-5.2 percent) (Figure C9). Montgomery County's household income is slowly recovering from the recession and only recently matched its inflation adjusted 1999 median. In constant 2018 dollars, the county's median household income peaked in 2007 at $111,492, increasing 3.1 percent from 1999 levels. Between 2007 and 2018, real income hit a low in 2010 at $102,901 before a stuttering rise to $108,188 in 2018, which still 3 percent below the pre-recession high.

Figure C9. Change in Regional Median Household Income, 2007 to 2018.

Despite the wealthy reputation of Montgomery County, tens of thousands of county households report low



Source: 2007 & 2018 American Community Survey, 1-year estimate, U.S. Census Bureau.

incomes. In 2018, one out of six households (60,977) reported incomes less than $40,000. Median income varies by race and Hispanic origin in Montgomery County. In 2018, non-Hispanic white households had the highest median among the groups, at $131,533, which is 22 percent above the countywide median, followed by Asian households at $115,387, 7 percent above the median. The median income of non-Hispanic white households is about 1.6 to 1.7 times larger than that of households headed by African Americans or

Hispanics. The median incomes of African American and Hispanic households are not statistically different, at $80,484 and $76,805, respectively.

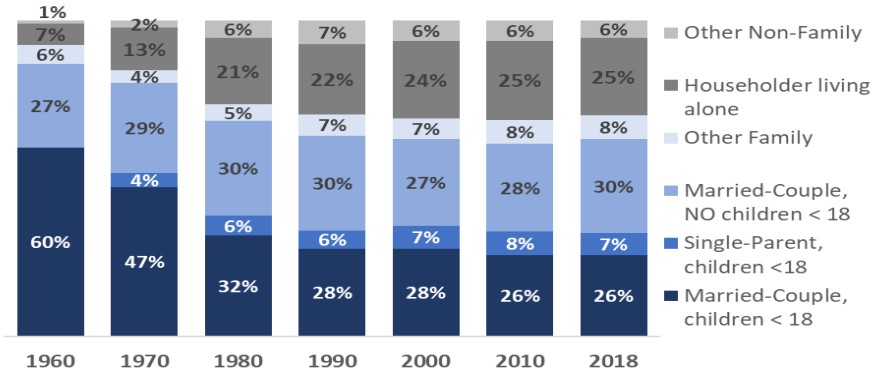
While many competing economic factors make it unclear how long household income will remain curtailed in Montgomery County, the influences of population migration and the aging population also affect the length of recovery. On the positive side, Montgomery County attracts well-educated new residents with earning potential. New residents are highly educated (37 percent with advanced degrees) and they are joining an established concentration of well-educated adults. In 2018, 3 out of 5 adults ages 25 and older in the County had at least a bachelor's degree and 32 percent held advance degrees. A segment of new residents brings wealth into the County as a higher percentage of people with household incomes of $100,000 or more moved into the County than left (44 and 38 percent, respectively). A slightly higher percentage of people with household incomes below $34,000 leave the county, 18 percent, than enter it, 15 percent.

The county's aging population could put downward pressure on household incomes. Over the next 10 years, the Baby Boom generation will solidly enter their retirement years as people ages 66 to 84 by 2030, likely with lower retirement incomes. In 2018, about 18 percent of the county's households had retirement income averaging as low as $46,745, one-third of the county's average income, $147,917. With the movement of the baby boomers out of the workforce, the senior dependency ratio increases from 24.2 in 2020 to 31.2 in 2030.

Evolving household types outpace married couples with children

Over many decades, the types of family and non-family households in Montgomery County shifted, responding to societal changes, broader housing choices, and an aging population. The percentage of family households dropped from 92 percent of all households in 1960 to 70 percent in 2018. The 1950s traditional family of husband, housewife, and several children is no longer the household norm, as family formation became more varied. Now, one third of all households are families with children under 18**,** including couples and single parents. The county's share of married-couple households with children under 18 dropped dramatically from 60 percent of all households in 1960 to 26 percent in 2018 (Figure C10). The percentage of married couples with no children under 18 has been relatively steady, ranging between 27 and 30 percent of all households since 1960. In 2018, married-couple households with no children under 18 (109,040) outnumbered married-couples with children under 18 (94,545) (Figure C11). Between 2010 and 2018, the number of married-couple households with children under 18 increased by 3.3 percent, gaining roughly 3,000 families, while married couples with no young children grew by 10 percent, adding almost 10,000 households in the same period.

Figure C10. Distribution of Households by Type, 1960 to 2018.

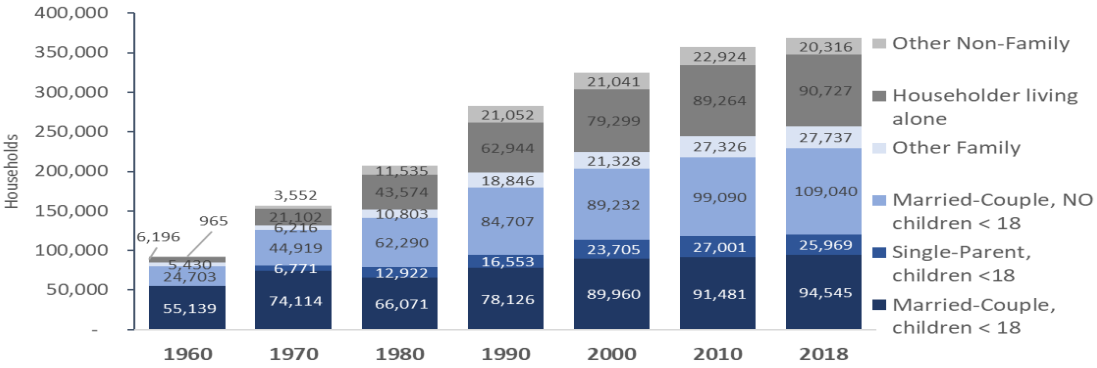


Source: 1960-2010 U.S. Census, 2018 American Community Survey, 1-year estimate.

Aging within families explains some of this shift in married-couple households. As children become adults, parents are either "empty nesters" after all their children move out or they continue to live with their adult children who never left or returned home. These households, now with no children or housing adult children, fall into next category, married couple with no children under 18, bumping up this category's percentage share. Also, young married couples following the Millennial generation trend to postpone having children contribute to this group.

Coinciding with the drop in the traditional family type, comes a doubling in the shares of single-parent and "other family" households between 1970 and 2010, before plateauing, respectively, at 7 percent and 8 percent of all households in 2018. More recently, the numbers of single parents living in the county decreased by 3.8 percent, from 27,000 households in 2010 to 25,970 in 2018 (Figure C11). The "other family" category includes female or male householders with no spouse present who live with relatives such as parents or grandchildren. Seventy percent of the 27,737 "other family" households in 2018 were headed by women.

Figure C11. Number of Households by Type, 1960 to 2018.



Source: 1960-2010 U.S. Census, 2018 American Community Survey, 1-year estimate.

In the near term, the number of married couples with children under 18 may slightly increase and the percentage share of this family type will probably continue its decline begun in 2000. Aging of the Baby Boom generation, combined with growth in non-family households, serve to limit the share of married couples with

young children relative to the overall growth in households. Montgomery County will continue to attract new families, and residents will continue to have babies, but not at a rate to replace Baby Boomer households shedding children in the next ten years. By 2030, 31 percent of the county's residents are projected to be ages 55 years and older, and many probably will be living in households with no children under 18. The 14 percent growth in the 55 plus age cohort between 2020 and 2030 is projected to outpace the 6 percent gain in children under the 20 years old. Aging Baby Boomers are expected to boost the number and the percentage share of married couples without young children in the next ten years.

Increase in non-family households coincides with addition of multi-family units

In 2018, there were 111,043 non-family households in the county, including singles, young and old, and unrelated individuals living together. The percentage of non-family households in the county increased from 8 percent of all households in 1960 to 30 percent in 1990, and subsequently plateaued at this level through 2018 (Figure C10). This rapid increase in non-family households, jumping from 7,200 to 84,000 households from 1960 to 1990, coincided with the addition of almost 71,000 multifamily units to the county's housing stock, which broadened the choice of housing. During this period, the number of housing units in buildings with 5 or more units increased from 14,183 units in 1960 to 84,983 units in 1990, almost doubling the multifamily share of all housing stock from 15 percent to 29 percent. Multifamily units have been the predominate type of new housing built since 2000. Over half of the new housing units built in the 2000s were in multifamily buildings of 5 units or more, about 24,000 additional units. More recently, multifamily units accounted for 85 percent of the total 14,650 housing units built between 2010 and 2018.

Starting in 2000, non-family households, at over 100,000 households and 31 percent of all households, became more common than married couples with children or married couples without children. Non-family households captured over one-quarter of the almost 44,000 households gained between 2000 and 2018. Given that most of the new housing in the residential development pipeline is multifamily and the current rental housing market trend is for smaller units (studio and one bedroom), the number of non-family households will undoubtedly increase over the next ten years. The share of this type relative to all households might increase as well.

APPENDIX D

Residential Capacity Analysis

Montgomery Planning is completing a countywide residential development capacity analysis to support the General Plan update, called Thrive Montgomery 2050. The analysis will serve as a baseline estimate of the county's current residential dwelling unit capacity.

The capacity analysis uses a detailed parcel-level approach, where each parcel's development capacity is measured against a set of constraints and assumptions. In addition to zoning rules and existing land use policies, the constraints and assumptions include:

- **Environmental Constraints.** Environmental constraints may exist due to government policies that protect land or factors that may limit the development potential of a site. These constraints include areas protected under existing laws, regulations and guidelines; preserved and conserved natural areas; parkland; agricultural easements; and already developed properties in agricultural areas. For environmentally constrained sites, density can still be calculated from the entire site even if development cannot occur on the entire site due to environmental constraints. Only sites that have a contiguous 0.25 acres and 33 percent unconstrained will be assessed for development capacity. For sites that are entirely constrained with no developable portion, zoning capacity will be removed.
- **Man-made Constraints.** Constraints that are man-made such as transportation and utility infrastructure may impede the ability for a site to reach its development potential.
- **Market Assumptions.** To the extent possible, market trend assumptions that may influence capacity are included. Assumptions based on year built, certain ownership structures (government owned or multiple-owner condominium structures), and the size of office buildings are included due to their influence on the likelihood of redevelopment.

The capacity analysis' detailed parcel-level approach allows for a more granular look at residential capacity in smaller areas of Montgomery County, and can help identify areas of the county with excess capacity. Modeling future scenarios can reveal the capacity implications of zoning changes in segmented areas of the county.

The capacity analysis was substantially completed by July 2020. Its preliminary results show that the county has the zoning capacity to support an estimated 80,000 addtionalunits beyond what currently exists and what is in the approved development pipeline. The capacity is largely concentrated along Metro's Red Line and in the I-270 corridor.


Calvert

APPENDIX E

Ten-Year Employment Forecast and Key Employment Factors

2030 Employment Forecast

The Round 9.1 Forecast indicates average annual employment growth of about 1 percent per year between 2015 and 2030. The raw job growth and percentage increases per five-year forecast period are shown in Table E1 below. The job projections include wage and salary jobs as well as self-employment and military employment, regardless of full or part-time status and where the job holder lives.

Table E1. Round 9.1 Employment Forecast.

Year	Jobs	Five-Year Growth	Five-Year Growth	Average Annual Growth
2015	520,200			
2020	543,500	23,300	4.5%	0.9%
2025	572,500	29,000	5.3%	1.1%
2030	604,500	32,000	5.6%	1.1%

Source: Metropolitan Washington Council of Governments.

When the Round 9.1 Forecast was completed in 2017, the context included evidence of recovery from the 2008-2009 economic recession, as well as expectations for future job growth spurred by forthcoming local investment. The modest growth projected in the earlier years of the forecast reflects continued economic recovery through 2020, followed by stimulus from additional transportation infrastructure and new commercial development. Also embedded in the forecast is a continuation of trends in wage and salary employment, such as robust professional service industries along with steady federal procurement spending.

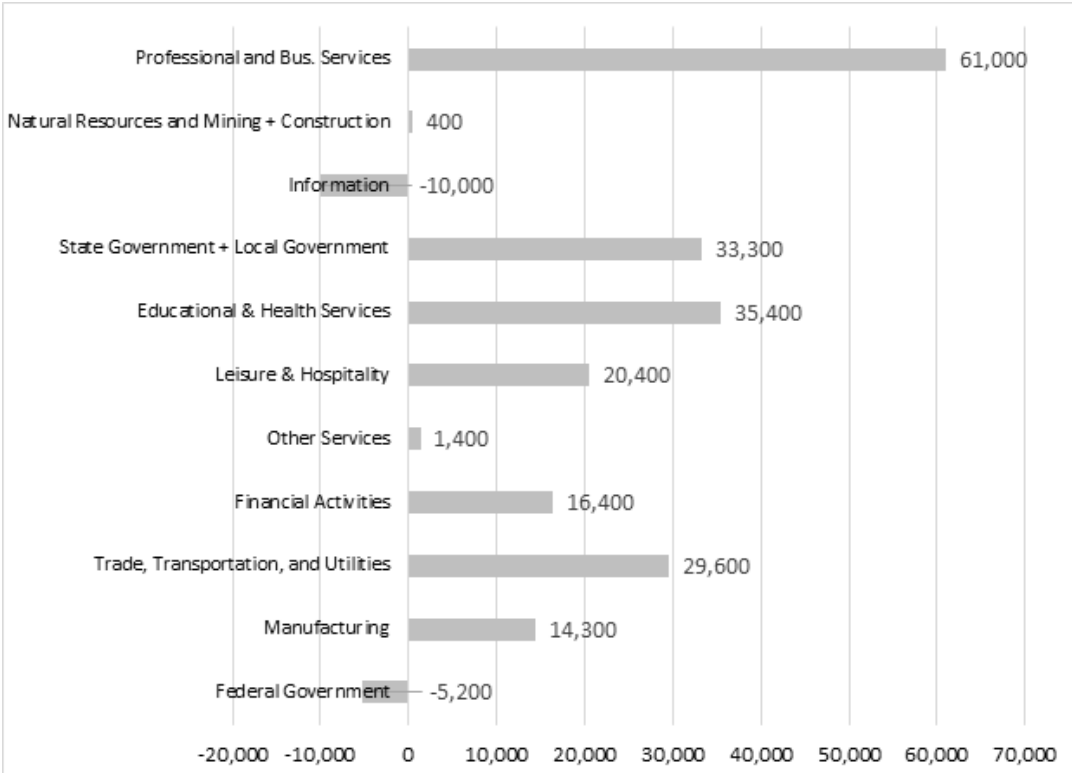
The transportation infrastructure assumed to materialize over the forecast period includes the transformative projects like the Purple Line, the Corridor Cities Transitway (CCT), and bus rapid transit (BRT); the forecast timeline assumes that the Purple Line will be operational by 2021, phase I of the CCT by 2030 and phase II by 2035, and the BRT system by 2040. Some commercial development projects were thus not assumed to finish until the furthest-out period of the forecast, between 2035 and 2045. Job growth tied to transportation projects results from improved connectivity between locations and new commercial construction along corridors.

The shift-share model used to develop countywide employment projections indicates the types of employment most likely to grow based on existing trends. Outputs from the shift-share analysis are shown in Figure E1. While most industries are forecasted to gain employment, with the notable exception of the

Information industry,[2] the Professional and Business Services industry is expected to expand the most in the forecast horizon period. This expansion may be aided partly by federal contracting for Professional and Business Services. Fortunately, starting in 2014, the amount of federal procurement dollars spent on contracts, grants, loans, and other financial assistance in Montgomery County began to improve after years of declines since 2009. The forecast assumes a maintenance of federal spending at levels above recession-era outlays.

Although cyclical economic booms and busts, as well as unforeseen shocks, are inevitable, no long-range forecast can portend their timing or magnitude. The employment forecast reflects expectations for long-term growth within range of the historic trends prior to 2017 when the Round 9.1 forecast was finalized. Data from the Bureau of Labor Statistics shows that between 1990 and 2016, wage and salary jobs in Montgomery County grew overall by about 21 percent, or 0.8 percent per year, including data from the years of the 2008-2009 recession and its aftermath.[3] Also trending since the 1990s and forecasted to continue is faster job growth in educational, health, and social services, in addition to professional, management, and scientific services.

Figure E1. Shift-Share Output Net Change, 2010 to 2045.



Source: Analysis by Research and Special Projects Division, Montgomery Planning;Observed data from total industry employment, 1991-2000, U.S. Bureau of Labor Statistics

2 Information industry businesses include those involved in publishing and media rather than information technology.

3 U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 1990-2016.

Employment Factors

The majority of the employment growth forecasted for Round 9.1 is tied to assumed new construction or redevelopment of commercial space. The type of expected commercial construction determines the number of likely jobs it will yield. Employment factors, shown in Table E2 below are used to convert projected commercial space into future jobs. The factors are based on commercial square-footage and existing employment data. For each five-year forecast interval, employment factors as well as occupancy rates were applied to assumed commercial space construction. The following table shows the commercial space occupancy rate assumptions and square footage-based factors used to develop the Round 9.1 forecast.

Table E2. Commercial Occupancy Rates and Employees per Square Foot.

Commercial Space Type	Occupancy Rate	Employees/Sq. Ft. Factor
Office	0.88	225 sq. ft.
Retail	0.96	400 sq. ft.
Industrial	0.92	450 sq. ft.
Other	1.00	500 sq. ft

Note: Occupancy rates based on CoStar vacancy rates from 2005 to 2015 for office space and 2006 to 2015 for retail and industrial uses. This forecast assumes full occupancy of "other" space.

Along with the investment of additional infrastructure, declining vacancies in certain locations contribute to net gains in employment during the forecast period. Some growth in forecasted office-based employment is attributable to projected occupancy of select vacant office space. The selection of office buildings for occupancy projections was guided by the Montgomery Planning's 2015 Office Market Assessment study. The study found that vacant space in urban areas in proximity to Metro, or suburban areas with good road access, would fare better than other buildings in terms of future occupancy and rent growth. The employment forecast assumes that office space with CoStar's quality rating of four stars or greater and within one-half mile of a Metro station (including proposed Purple Line stations), or within one mile of a state route or interstate interchange node, will reach 88 percent occupancy by 2030.

Overall, development-induced employment growth in the county is limited by scarce remaining opportunities for development as the county approaches a mature stage in its evolution from a 20th century suburban bedroom community. The employment forecast reflects the ongoing shift from greenfield to infill and more compact development, expanding professional service industries, and a stable federal government presence.

APPENDIX F

The Schools Element

The central question for the schools element of this Growth Policy is:

How can the county respond when its schools are overcapacity?

A 2005 University of Maryland case study of six Maryland counties in the Washington Metropolitan region[4] identified four possible options for a local jurisdiction to answer that question: 1) increasing school capacities; 2) placing areas in development moratoria; 3) changing school capacity standards or 4) lowering zoned residential land use capacities. Below, we explore the applicability of each of these options to Montgomery County, in addition to school-based solutions that fall outside the scope of the County Growth Policy and require actions by Montgomery County Public Schools (MCPS).

Increase School Capacities

Increasing the physical capacities of school buildings typically occurs through capital spending on school construction projects by MCPS. There are a limited number of other relatively low-cost options that can have a marginal effect on the capacity of a school, such as adjusting how school space is used. Converting a computer lab into a general education classroom, for instance, more intensively uses existing space inside of a school building. But larger capacity increases are made through additions to school buildings or the opening of new schools, both of which require planning, design, and construction funds in the school system's and thus the county's Capital Improvements Program, or CIP.

Building additional school capacity is certainly an approach that the county pursues, with 23.6 percent of the county's FY20 capital budget dedicated to MCPS' capital budget. But the sustainability of this approach depends on the continued—if not increased—allocation of funds to the MCPS capital budget. Funding for school construction primarily comes from general obligation bonds offered by the county and to a lesser extent, through assistance from the state, current revenue, and recordation and school impact tax revenue.

The MCPS capital budget funding process spans nearly eight months from the release of the MCPS Superintendent's recommended school system capital budget and CIP in October, to the adoption of the County Council's budget and CIP in May. The Superintendent's recommended CIP includes detailed project phasing and funding sources for all school construction projects, as well as projected school capacity that takes into account upcoming construction projects. It is rare for the County Council to fully fund the MCPS CIP and capital budget request, even in prosperous times. Moreover, even if the County Council fully funded a typical capital budget request, the projects recommended would not normally result in zero over-enrollment at every MCPS school; there are many safety, maintenance, and other building needs that compete with capacity projects for school capital funds in any given budget cycle.

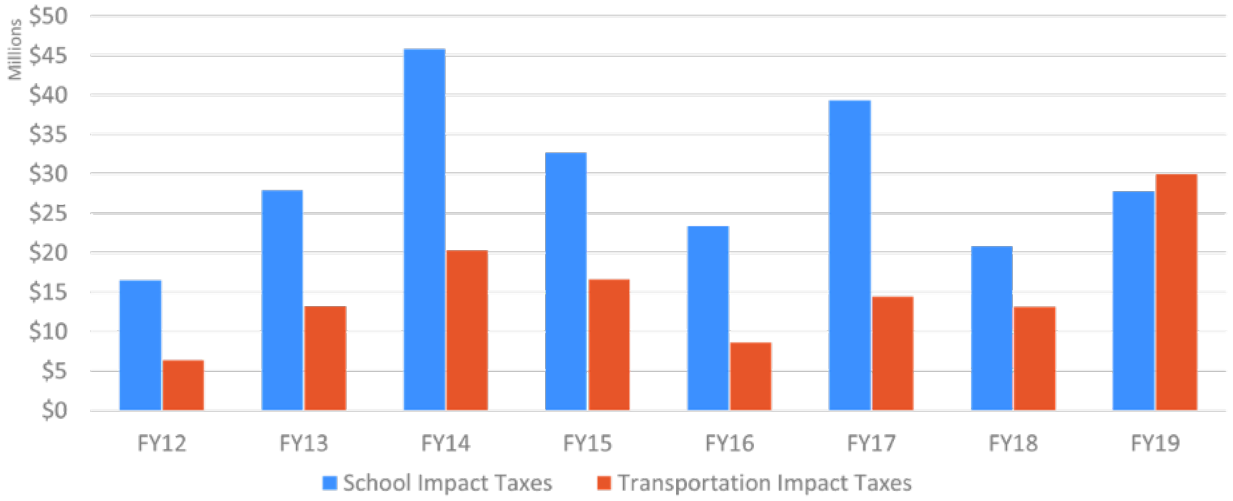
In light of known budget constraints, the County Growth Policy update effort considered the potential to expand several familiar funding mechanisms. Potential expansions include modifications to the school

4 The National Center for Smart Growth Research and Education, "Adequate Public Facilities Ordinances in Maryland: An Analysis of their Implementation and Effects on Residential Development in the Washington Metropolitan Area," January 12, 2005 (accessible at http://docshare.tips/adequate-public-facilities-ordinances-in-maryland-an-analysis-of-_58c02296b6d87f1c0d8b52cb.html).

impact tax, the introduction of premium payments to be paid by residential development applicants when affected schools meet particular utilization thresholds, and modifications to the distribution and applicability of the recordation tax.

In recent years, school impact tax revenue has been highly volatile and somewhat unpredictable. As shown in Figure F1, annual revenue has been as low as $16.5 million and as high as $45.8 million. The amount of revenue generated depends on the impact tax rate, the number and type of units being built, and the number of exemptions available.

Figure F1. Annual Impact Tax Revenue, FY 2012 to FY2019



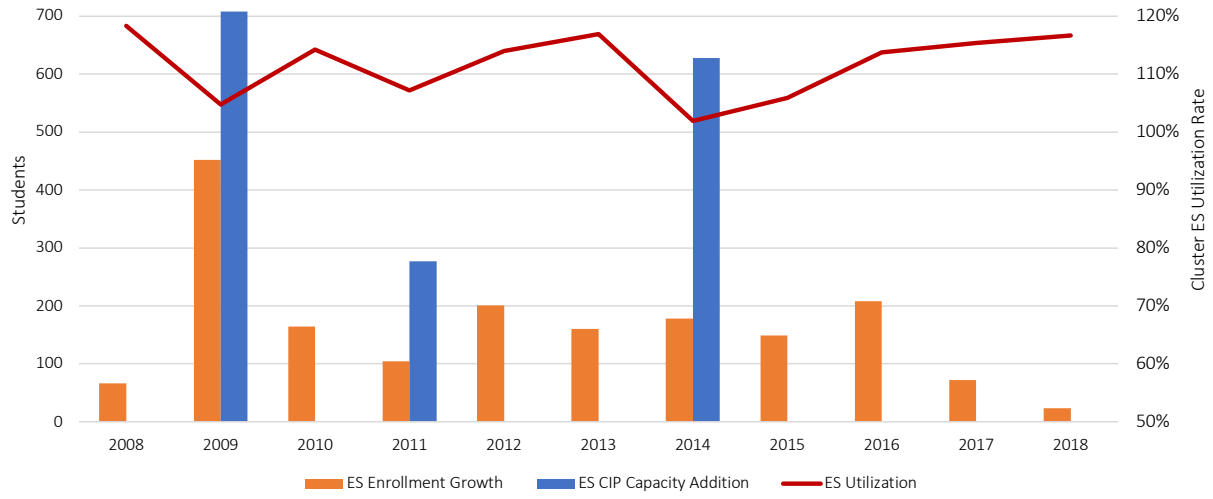
Source: Montgomery County Department of Finance, Controller's Division

Despite Montgomery County having some of the highest impact tax rates in the area (see Table I1 in Appendix I), impact tax revenue makes up a relatively small share of school CIP funding. According to the Office of Management and Budget, school impact taxes only funded 8.3 percent of the MCPS CIP in FY20. Some have argued that the limited revenue is a result of too many impact tax exemptions. But others contend that eliminating the exemptions would result in less development and possibly lower impact tax collections. For instance, the Silver Spring Enterprise Zone exemption has been estimated to result in over $20 million of foregone school impact taxes. But if developers had been charged those impact taxes, it is not likely we would have seen over 3,000 housing units built there, of which over 400 are affordable housing units built between 2007 and 2017.

In addition to making changes to funding mechanisms, it is possible to increase the number of school capacity projects by reducing their cost. MCPS could make concerted efforts to cut school construction costs where possible, including through more competitive procurement processes, alternative building design standards, and different construction material choices. Just as with changes to taxes and funding mechanisms however, these cost-saving efforts will be accompanied by tradeoffs. Ultimately, providing substantially more school capacity when enrollment growth outpaces population growth requires a substantial influx of capital and/or reductions in the cost of expanding capacity. The implications of raising additional capital and of cutting project costs should be weighed carefully against perceived gains.

The Clarksburg cluster stands out as an area where the schools struggle to keep up with enrollment growth despite large increases in capacity. The elementary schools in the cluster have nearly doubled their collective capacity over the last 10 years, yet remain over utilized. Figure F2 shows a 10-year utilization trend of elementary schools in the Clarksburg cluster. The rising utilization rate was reduced multiple times through large major capacity projects over the decade, but enrollment growth continued to increase the utilization rate shortly after. This is to suggest that despite repeated investments in large capital projects, the public school infrastructure cannot keep up with the enrollment growth occurring there.

Figure F2. Clarksburg Cluster Elementary Schools Major Capacity Additions and Utilization Trend.



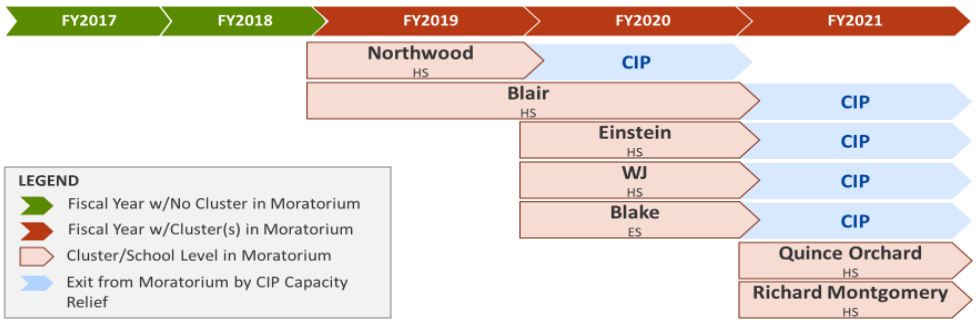
Data Source: Montgomery County Public Schools

Place Areas in Moratorium

Since July 2019, 12 percent of the county's total land area has been placed in a residential development moratorium as a result of the FY 2020 Annual Schools Test. The coverage and impact of this moratorium is considerably higher in many recently master-planned areas. The areas for the Forest Glen/Montgomery Hills Sector Plan adopted earlier this year and the Grosvenor-Strathmore Metro Area Minor Master Plan adopted in 2017, were both completely under moratorium in FY2020. Similarly, the FY2020 moratoria significantly impacted the Rock Spring Sector Plan (99 percent), the White Flint 2 Sector Plan (77 percent), the Veirs Mill Corridor Master Plan (58 percent), and the Greater Lyttonsville Sector Plan (50 percent) areas.

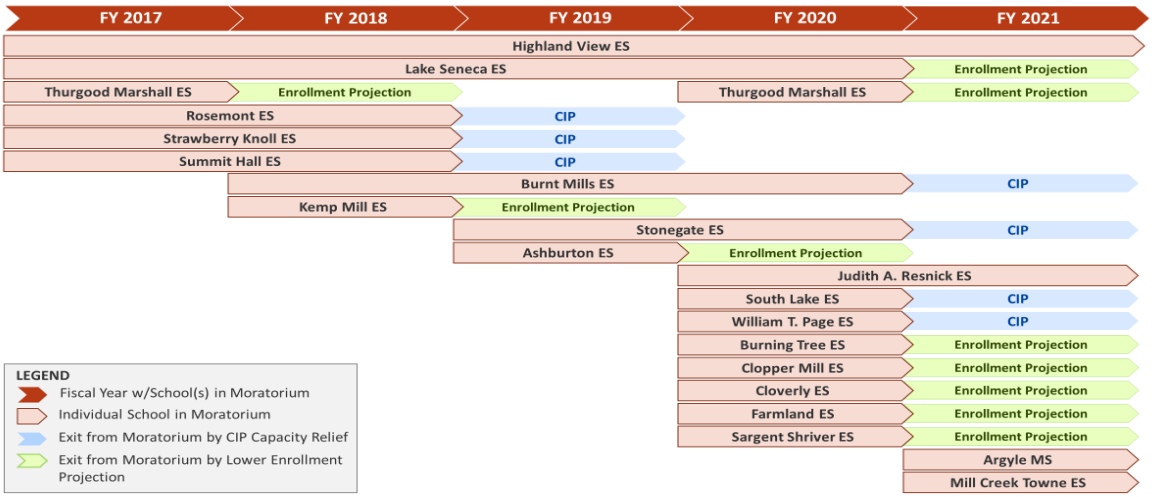
Since the 2016 Subdivision Staging Policy update, moratoria have been enacted due to insufficient school capacity in seven school clusters, as illustrated in Figure F3. One of the clusters (Northwood HS) was relieved from its status through an approved capital solution after one year of moratorium. Four clusters were under moratoria in FY2020 (the James H. Blake, Montgomery Blair, Albert Einstein and Walter Johnson clusters). All of these moratoria are relieved in FY2021, however two additional clusters (the Richard Montgomery and Quince Orchard clusters) entered moratoria.

Figure F3. Timeline of Clusters Under Moratorium, FY2017–FY2021.



There have also been 20 individual school service areas that have entered moratoria since adoption of the 2016-2020 Subdivision Staging Policy, as shown in Figure F4. Among these individual schools, 10 service areas were able to exit their moratorium status after only one year, although one school reentered moratorium three years later (Thurgood Marshall ES). Five schools were in moratoria for two consecutive years (Resnick, Rosemont, Stonegate, Strawberry Knoll and Summit Hall elementary schools), and one school for three years (Burnt Mills ES). One school (Lake Seneca ES) remained in moratoria for four years but exited in FY2021 due to reductions in its projected enrollment. One school (Highland View ES) has remained in moratorium all five fiscal years – the entire duration of the time an individual school moratorium policy has existed. And finally, two additional schools entered moratoria under the FY 2021 Schools Test.

Figure F4. Timeline of Individual Schools Under Moratorium, FY 2017–FY2021.

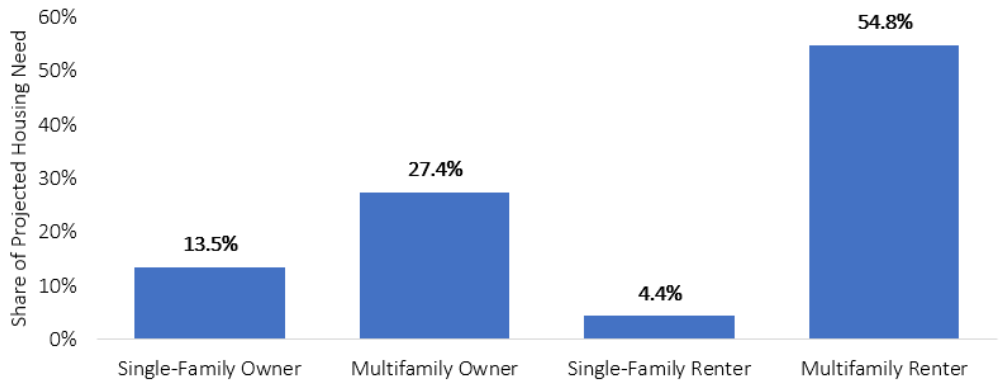


The moratorium policy is an effective tool when large amounts of new single-family housing generating a lot of students is built in previously undeveloped areas. Placing areas in residential development moratoria until necessary facility investments are made has historically been a prominent tool and component of the Subdivision Staging Policy. However, greenfield development patterns have become less common in the county.

Most of the county's housing growth in recent years can be characterized as multifamily residential development in urban infill areas. With limited land available for greenfield development, infill development is desirable due to its compact form and proximity to existing infrastructure. It will also be the dominant pattern of the county's development in the future. Most of this comes in the form of multifamily housing development, which generates fewer students and creates less of a burden on schools compared to large-scale single-family home development.

Infill development, including new multifamily housing in particular, is also needed to meet several county goals. The county's Housing Needs Assessment has revealed that multifamily residential development serves a critical role in reaching the county's projected housing demand and achieving affordability goals. As shown in Figure F5, 82 percent of the county's housing need between 2020 and 2040 comes in the form of multifamily units, including 55 percent as multifamily rental units. Urban infill development helps strengthen the economy by investing in the future of our communities, creating accessible jobs and increasing the tax base. Infill projects also foster sustainable growth by utilizing existing investments in transportation, water, and other public infrastructure.

Figure F5. Housing Forecasts by Type and Tenure, 2020-2040.



Source: LSA, U.S. Census Bureau

The current moratorium policy makes it difficult for the county to achieve its share of the region's housing demand – 41,000 new units by 2030. By restricting the supply of housing in the face of increasing demand for it, the moratoria apply upward pressures on housing prices and threaten the preservation of the county's affordable housing stock. The moratoria also stifle the tool that has been most successful in growing the county's supply of affordable housing: the inclusionary zoning Moderately Priced Dwelling Unit, or MPDU, program. While some community members have expressed support for the moratorium, albeit its limited effects of curbing only a small number of additional students, it is important to not lose sight of the county's other policy priorities, including sustainable economic growth and affordable, attainable housing.

Furthermore, moratoria do not actually solve overcrowding in the county's schools. In fact, they further limit impact tax revenue, which is specifically dedicated to increasing school capacity across the county. When the Planning Board stops approving new residential development, it cuts off the future collection of impact taxes. Considering how crucial infill multifamily developments are for the county's economic and housing priorities, and the little impact they have on school facilities, it is not desirable to restrict its growth, especially when new development can help fund the needed school infrastructure.

The moratorium policy also raises equity concerns. When the capital budget for schools is short of addressing capacity needs throughout the county, and stakeholder pressure from developers and community members leads the County Council to prioritize capacity needs in areas where developers are looking to build. Meanwhile schools in areas without similar development interest often remain in moratoria without due attention. These schools that have been overlooked in overutilized facilities for extended periods often have a disproportionate share of high-needs students. For example, among the eight individual schools that have been under moratorium for more than one consecutive year since an individual school test was introduced in FY2017, seven are either a focus school or Title I, a designation for schools most heavily impacted by poverty and language deficiency. The moratorium policy in this regard leads to the unintended consequence of reinforcing existing inequality in schools within the county.

Change School Capacity Standards

Another option for navigating and addressing school overcrowding is to change the capacity standards used to measure adequacy. Generally, the benchmark used by the current Subdivision Staging Policy (SSP)—essentially the 120 percent capacity utilization moratorium threshold—has been the standard used in Montgomery County since FY 2008.

That said, there are other steps the county takes that effectively changes our school capacity standards regularly:

- allowing exceptions to moratoria (for instance the SSP was amended in 2019 to allow for the exception of condemned buildings or affordable housing from moratoria);
- adding placeholder funding to the MCPS capital budget, which allows a service area to avoid a moratorium;[5]
- At times, the policy has allowed "borrowing" of capacity from neighboring schools, despite MCPS rarely reassigning students to balance utilization (typically reassignments only occur when new capacity becomes available as a result of a capital project).

Nevertheless, regularly "changing the goal posts" does not, in the end, actually solve the school capacity overutilization problem.

Lower the Zoned Residential Capacities

This potential growth management solution – to lower the amount of allowed development by lowering the residentially zoned land use capacity – is not particularly well-suited for an APFO. The densities allowed in Montgomery County's zones are the results of comprehensive master-planning efforts incorporating extensive community engagement. The zoned capacities reflect the vision established by the county for the master-planned area.

5 Solution projects, or placeholders, are projects added to the CIP by the County Council to provide enough capacity to a school to prevent its service area from enteringa moratorium. These projects are described in the CIP as classroom additions, but they are only placeholders for a future solution not yet defined by MCPS.

The County Council typically only includes a placeholder in the CIP when the following conditions are met:

- A school or cluster is projected to enter moratorium
- MCPS is actively studying potential solutions to the enrollment burden at the school or cluster
- The County Council anticipates that MCPS will implement the ultimate solution within the timeframe of the school test
- There is development pressure in the applicable school or cluster service area

An alternative to this approach, which serves the same end of limiting but not outright stopping residential development, is for the Planning Board to approve fewer housing units than requested by an applicant to lessen an individual project's enrollment impact. The Planning Board often evaluates circumstances and approves projects for less density, height or number of units than allowed by zoning or than requested by the applicant. Occasionally, a moratorium threshold will require this today.

Another alternative, which doesn't limit the development, would be to require an applicant to mitigate the development's enrollment impact by providing the necessary school infrastructure. This option is complicated by the fact that very few individual projects (especially infill multifamily high-rise projects) generate enough students alone to warrant construction of a school or an addition, which is why impact taxes are applied to all residential projects to help fund a share of school construction that is commensurate with the development project's impact on enrollment.

Implementing School-Based Solutions

Community engagement around this update to the Subdivision Staging Policy frequently turned to school adequacy solutions that require action by MCPS. Several Schools Technical Advisory Team (STAT) discussions also focused on the consideration of such school-based solutions. Likewise, Montgomery Planning's research into adequate public facilities programs and growth management strategies around the country demonstrated that many jurisdictions rely on creative solutions implemented by their school systems to alleviate overcrowding. These school-based solutions include boundary changes and other approaches that exist outside the scope and capabilities of the County Growth Policy, however, we encourage continued conversations between the Board of Education, Planning Board and County Council, as well as MCPS, Montgomery Planning and Council staff to evaluate and potentially implement such solutions.

One solution some jurisdictions have used to alleviate school overcrowding is providing families more school choice and flexible boundary options. This allows families to have more public education options other than their assigned school. For example, if a student is zoned to attend an overcrowded school, families have the option to choose to send their child to another school with enough capacity.

Some school districts around the country look to partner and overflow schools as another solution. A partner school or an overflow school caps the number of students in an optimal class size and requires students who register thereafter be enrolled at a partner school or overflow school that can accommodate further enrollment in that grade level. Transportation is provided to and from the overflow school by the school system. Students assigned to an overflow school are also placed on a numbered wait list and could be called back to the base (assigned) school if a seat becomes available. This model can be found in Wake County, NC and Loudoun County, VA.

Increasing Capacity by Lowering Construction Costs

School construction costs in Maryland have increased steadily since 2003. The rising school construction costs can be attributed to state and local policies and practices, school design choices, and market conditions that vary over time and across school districts (Interagency Commission on School Construction).

Table F1. Past and Projected School Construction Costs in Maryland

SECTION X

PAST AND PROJECTED SCHOOL CONSTRUCTION COSTS
($/sq. ft.)

Bid Date	Building (Construction, without site development)	Construction (Construction, with site development)
July 2003	$138.75	$155.40
July 2004	$140.00	$156.80
July 2005	$157.00	$175.84
July 2006	$190.00	$212.80
July 2007	$215.00	$240.80
July 2008	$215.00	$240.80
July 2009	$224.00	$250.88
July 2010	$200.00	$224.00
July 2011	$200.00	$224.00
July 2012	$207.00	$231.84
July 2013	$215.00	$240.80
July 2014	$224.00	$250.88
July 2015	$233.00	$260.96
July 2016	$282.00	$335.58
July 2017	$293.00*	$348.67
July 2018	$302.00	$360.00
July 2019	$318.00**	$378.00

*The Interagency Commission on School Construction reexamined and revised the July 2017 cost per sf for school construction on March 29, 2017.

**The IAC revised the July 2019 cost per sf for school construction on August 30, 2018.

Source: FY 2020 Maryland Public School Construction Program Capital Improvements Program

Among the primary reasons for rising construction costs are school building sizes and site standards. Schools today are larger than in previous years to accommodate modifications in educational programs and building specifications (i.e., full-day kindergarten, magnet-based learning, and larger health suites). These changes affect construction costs as it is simply more expensive to build larger buildings.

Lowering school construction costs can help capital funding go further to fund more capacity-building projects. A competitive and comprehensive bidding process can be used to lower school construction costs and speed up construction timelines. The request for proposals for school construction projects can encourage bidders to identify alternatives for less expensive and non-traditional construction materials and designs. Ultimately, MCPS should form a task force to investigate these and other options for potentially lowering school construction costs.

Flexible Design Standards

Traditionally, suburban public schools have consisted of low-rise buildings located in single-family residential neighborhoods on sprawling campuses. A different model for schools should be considered to address the changing needs of an urbanizing county with a growing school enrollment. This may include

the consideration of smaller sites and taller buildings with smaller footprints. Co-locating schools with other county facilities, such as recreation centers, or even private sector uses should also be explored, as should reimagining student outdoor space to utilize rooftops and nearby parks. Additionally, urban approaches to school travel that encourage transit and nonmotorized modes such as bicycles and scooters could alleviate the need for onsite parking and school bus loops. Urban school models can be found in jurisdictions like Fairfax, VA, Seattle, WA and New York, NY.

Increased Inter-agency Collaboration

Increased inter-agency collaboration can help the county proactively address school capacity needs by preparing for, and in some cases preventing, school over-enrollment. Through enhanced, regular data sharing and integration into each other's planning processes, both Montgomery Planning and MCPS stand to gain more accurate and up-to-date information as well as feedback from each other as critical decisions are discussed and made.

Although Montgomery Planning and MCPS both already share data related to student enrollment, land use changes, and future development expectations, there is ample ability and plenty of need to increase the frequency, speed, and breadth of data shared between the agencies. Subject to privacy and confidentiality considerations, Montgomery Planning should be able to access enrollment data in addition to information about school construction just as MCPS is able to access it. At the same time, MCPS should be able to access the development plan and land use data that Montgomery Planning curates and maintains. Montgomery Planning and MCPS leaders should create agreements and structures that ensure this mutual access.

To further collaboration, Montgomery Planning should create more opportunities for MCPS to learn about and provide input into existing development plan reviews and master-planning processes. Furthermore, these opportunities should come early on during those processes, allowing for analysis and constructive feedback.

The Development Review Committee meetings and other formal development plan review meetings provide one opportunity for MCPS staff to participate in forthcoming shorter-term land use planning; MCPS staff should be incorporated into these meetings as critical stakeholders. Routine development review participation will give school planning and construction staff knowledge of imminent changes, such as the anticipated number of students resulting from new residences, and timely opportunities to raise concerns.

The master-planning process should be amended to include structured involvement by school planning, construction, and real estate management experts during the appropriate phase of public infrastructure analysis. While the timeframes for master planning and schools planning differ considerably, the longer-range implications of master planning for schools should not be treated casually simply because there are no immediate actions for school system officials to take with respect to them. Montgomery Planning can and should lead school staff through a meaningful long-range area planning exercise to create roadmaps for school facility provision in specific locations during a master plan effort.


OLD NAVY

APPENDIX G

Student Generation Rate Analysis

Currently Used Student Generation Rates

Montgomery Planning has a history of analyzing the impact of housing on public schools, specifically of calculating the average number of students living in different dwelling types across the county and in other select geographies. The method of quantifying the effect of development on schools has centered around calculating student generation rates (SGRs), or factors that are applied to different housing types to estimate the number of school-age children yielded by a housing unit and thus a housing development.

The official SGRs used currently are shown in Table G1 below. The rates are recalculated every two years by obtaining student enrollment data from Montgomery County Public Schools (MCPS)[6] and combining it with housing and parcel data from the State Department of Assessments and Taxation (SDAT). The average number public school students per housing unit are then calculated for the following categories of housing: single-family detached units, single-family attached units (townhomes), multifamily low-rise units (fewer than five stories) and multifamily high-rise units (five or more stories). The rates are further provided for four types of students: elementary school (ES), middle school (MS), high school (HS), and kindergarten through 12th grade (K-12) students.

Table G1. Current Countywide Student Generation Rates.

	COUNTYWIDE STUDENT GENERATION RATES	ES	MS	HS	K-12
Unit Type	Single-Family Detached	0.199	0.110	0.154	0.462
	Single-Family Attached	0.227	0.113	0.150	0.490
	Multifamily Low Rise	0.197	0.086	0.109	0.393
	Multifamily High Rise	0.055	0.023	0.031	0.110
	All Unit Types	0.185	0.095	0.128	0.408

Source: Montgomery Planning

Countywide, the number of K-12 students per unit, or student generation rate, is highest for single-family attached (townhouse) units, followed by single-family detached houses, low-rise multifamily apartment units, and then finally high-rise multifamily apartment units, which have a significantly lower SGR than the other housing types.

6 The data that MCPS provides to Montgomery Planning is scrubbed of any personally identifying information. It contains a record for each MCPS student and only identifies the student's address, grade and school attended.

The SGR calculation process includes the following steps using the MCPS enrollment data and SDAT parcel data:

- geocode (map) student records
- spatially join student records SDAT parcel records
- review land use code classifications assigned to student and property records
- flag senior property records for removal (in both student and property records)
- reclassify land use codes as appropriate, in student record file and in property record file
- tally student records by residential land use codes, excluding those in senior housing
- tally parcel housing units by residential land use code, excluding senior housing
- disaggregate student and housing unit tallies by high school cluster
- note conflicts between student and housing unit tallies at the cluster level
- make additional land use code reclassifications as necessary
- re-tally student and parcel records by revised land use codes

The vast majority of all student records were successfully matched to a parcel with a residential land use code, such as a single-family home. Table G2 below summarizes the student and property record matching results for the currently used student generation rates, which are based on official MCPS enrollment from the start of the 2018-2019 school year.

Table G2. Student Generation Data Matching Summary, 2018.

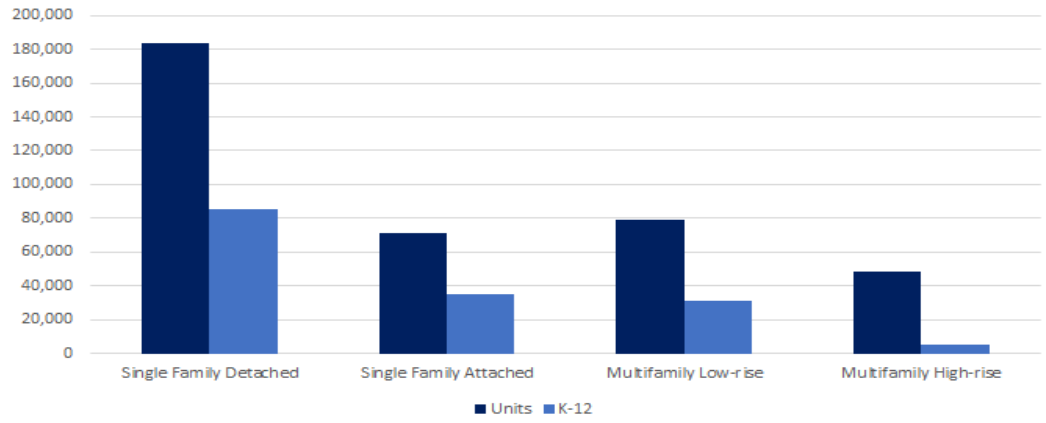
Data Summary
382,208 Residential Property Units
162,681 Student Records
161,574 Matched Student Records[7]
160,516 Residential Student Records
99.32% Student Record Match Rate

The graph in Figure G1 shows the counts of housing units by type across the county, as well the counts of public school students by school-level category across the county. These counts are sums from the student

7 This count includes students whose address was matched to senior housing or non-residential land uses.

enrollment and housing address data used to calculate student generation rates for the 2018-2019 school year.

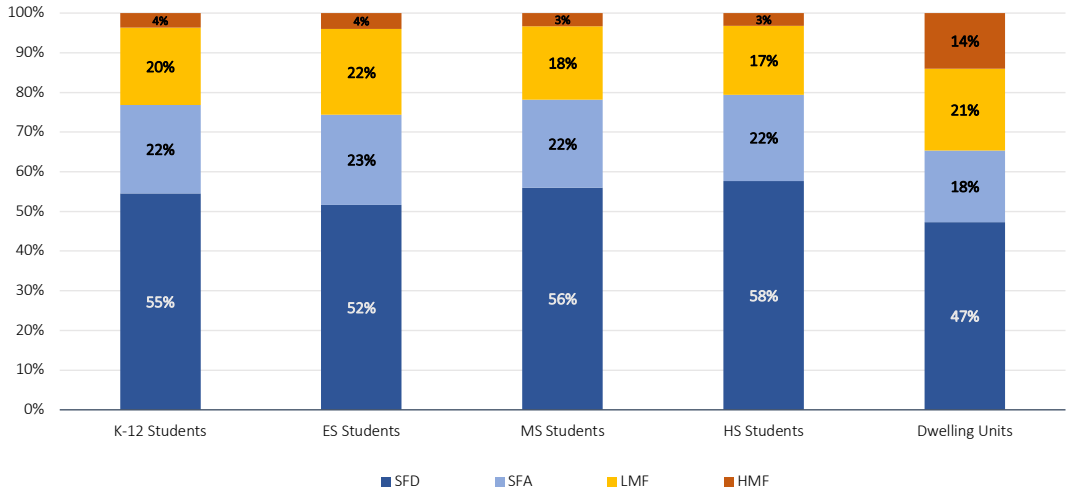
Figure G1. Housing Unit and MCPS Student Counts, 2018.



Source: Montgomery Planning

Figure G2 shows how public school students are distributed across housing categories. Single-family detached units house the largest shares of students at every school level. High-rise multifamily housing has by the far the smallest share of students at every school level. Note that from Figure G1 it is clear that single-family units make up the largest share of housing units while high-rise multifamily housing is the category with the smallest number of units in the county.

Figure G2. Students (by School Level) and Units by Type of Housing, 2018.



Source: Montgomery Planning

Current Annual School Test procedures (including the methods used to estimate the enrollment impacts of a proposed development) uses regional SGRs. The regions are defined by groups of adjacent school cluster service areas in the southwest, east and northern parts of the county. These SGRs are shown below in Table

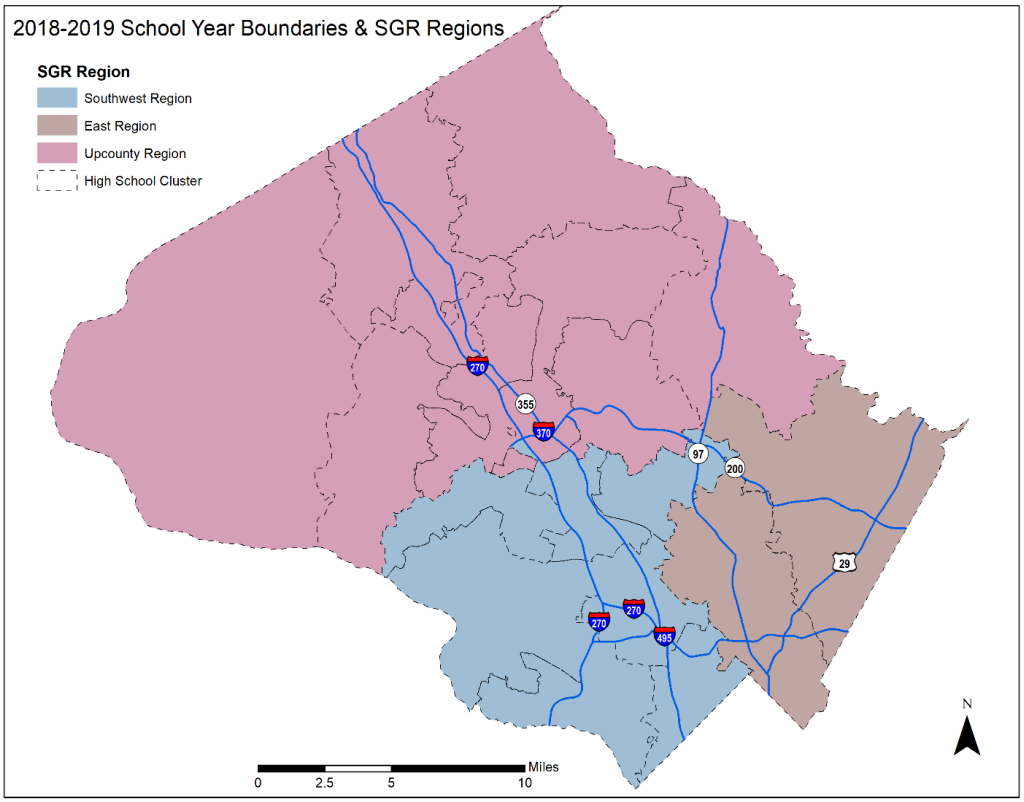
G3 and a map of the three regions is shown in Figure G3.

Table G3. Regional Student Generation Rates for Annual School Test, 2018.

REGIONAL STUDENT GENERATION RATES		ES	MS	HS	K-12
East Region Downcounty Consortium (Montgomery Blair, Albert Einstein, John F. Kennedy, Jr., Northwood and Wheaton clusters) and Northeast Consortium (James H. Blake, Paint Branch and Springbrook clusters)	Single-Family Detached	0.203	0.103	0.144	0.450
	Single-Family Attached	0.219	0.115	0.160	0.494
	Multifamily Low Rise	0.253	0.112	0.148	0.512
	Multifamily High Rise	0.088	0.036	0.047	0.171
Southwest Region Bethesda-Chevy Chase, Winston Churchill, Walter Johnson, Richard Montgomery, Rockville, Walt Whitman and Thomas Wootton clusters	Single-Family Detached	0.186	0.109	0.151	0.446
	Single-Family Attached	0.167	0.085	0.111	0.363
	Multifamily Low Rise	0.150	0.068	0.085	0.303
	Multifamily High Rise	0.041	0.018	0.025	0.084
Upcounty Region Clarksburg, Damascus, Gaithersburg, Magruder, Northwest, Poolesville, Quince Orchard, Seneca Valley, Sherwood and Watkins Mill clusters	Single-Family Detached	0.210	0.120	0.169	0.499
	Single-Family Attached	0.248	0.121	0.157	0.526
	Multifamily Low Rise	0.183	0.077	0.093	0.352
	Multifamily High Rise	0.020	0.008	0.010	0.038

Source: Montgomery Planning

Figure G3. Student Generation Rate Regions.



Source: Montgomery Planning

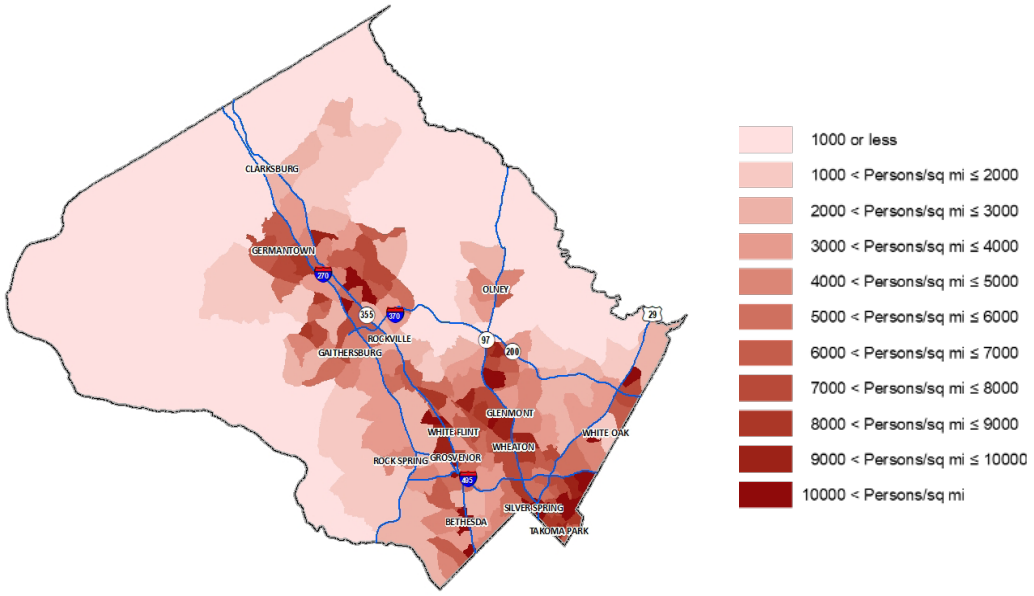
Alternative Student Generation Rates

As part of the research and analysis completed for the 2020 County Growth Policy update, SGRs for a variety of housing unit characteristics were examined, including other geographic and building attributes.

The following figures and charts show the results of these calculations, beginning with the SGRs by area population density or persons per square mile. The area of analysis was the individual census tract. Census tracts were grouped by population density and SGRs were calculated for each group.

As shown in the map in Figure G4, higher-density population tracts are found along major transportation corridors and around transportation nodes or corridor meeting points and commercial hubs. Figure G5 demonstrates that for single-family houses, student generation generally increases with density. But for all housing types together, the first set of bars reveals the opposite – as density increases, student generation generally decreases. This is likely due to the county's densest areas having more multifamily high-rise structures, which generate very few students on per unit basis.

Figure G4. Census Tracts by Population Density.



Source: Created by Montgomery Planning using 2017 American Community Survey 5-Year Estimates, U.S. Census Bureau data

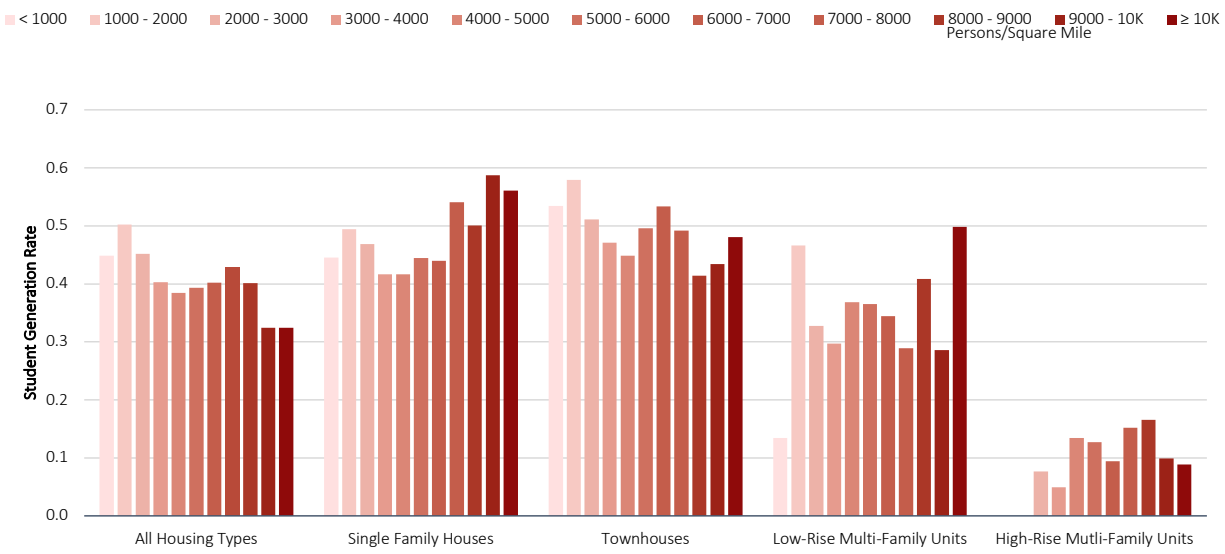
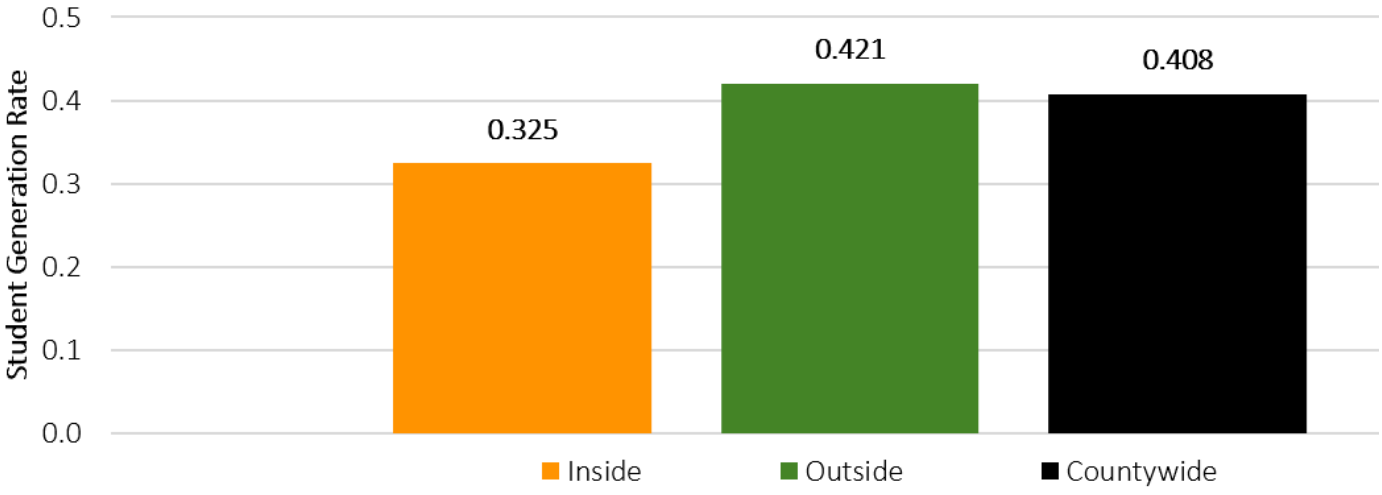


Figure G5. Student Generation Rates by Population Density and Housing Type, 2018.

Source: Montgomery Planning

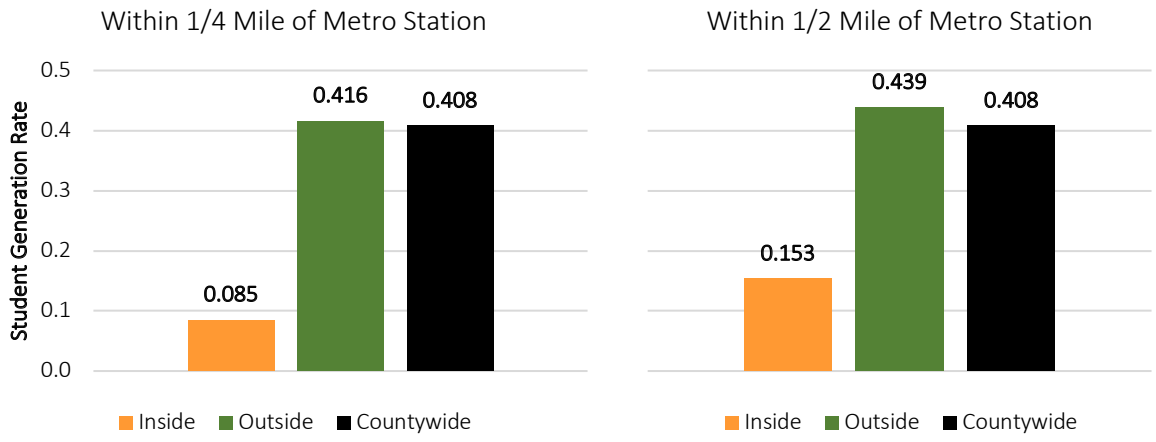
The effect of density can also be seen Figure G6 and Figure G7. Figure G6 demonstrates that dwelling units located inside the Capital Beltway (Interstate 495) generate fewer students that those outside the Beltway. Figure G7 shows that dwelling units located closer to Metro stations generate very few students per unit.

Figure G6. Student Generation Rate by Location Inside/Outside the Beltway, 2018.



Source: Montgomery Planning

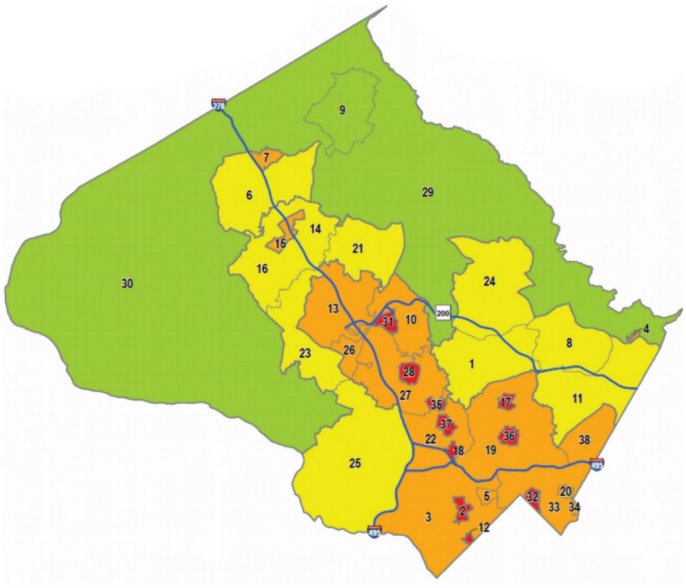
Figure G7. Student Generation Rate by Distance to a Metro Station, 2018.



Source: Montgomery Planning

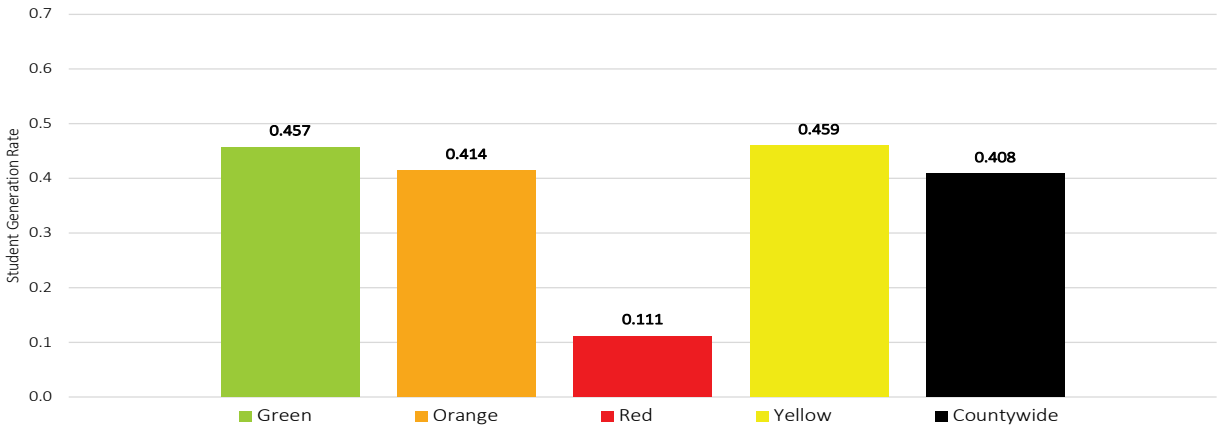
The 2016 Subdivision Staging Policy created categories of policy areas to implement the transportation element of the policy. The policy area categories are also used to establish context-sensitive transportation impact taxes. Figure G8 shows the map of these areas as established in 2016 and Figure G9 demonstrates each area's SGR. There is very little difference in student generation among dwelling units in the green, yellow and orange transportation policy areas. But the housing units within red policy areas, which are in close proximity of certain Metro stations, generate considerably fewer students.

Figure G8. Map of Transportation Policy Areas, 2016.



Source: Montgomery Planning

Figure G9. Student Generation Rates by Transportation Policy Area Category, 2018.



Source: Montgomery Planning

Other characteristics of housing units were also examined, including unit size, average rental price, age of structure. As seen in Figure G10, the multifamily structures built in recent decades are generating fewer students per unit than units in older structures. For single-family detached units, Figure G11 shows a less clear relationship between decade built and student yield. The graph shows that single-family homes built most recently, however are clearly generating more students. This phenomenon is related to the fact that recently built homes are also ones that recently sold. Figure G12 shows the relationship between student generation and how recently the single-family detached home has sold. Newly sold homes (the bar for 2018 in the graph) are immediately generating more students than the county average for single family detached units (0.462). The rate increases, on average over the next seven years, before level off. After about 13 years, the student generation rate starts to fall rapidly. Homes last sold over 20 years ago are very unlikely to be generating students.

Figure G10. Student Generation Rate by Decade Built, Multifamily Structures, 2018.

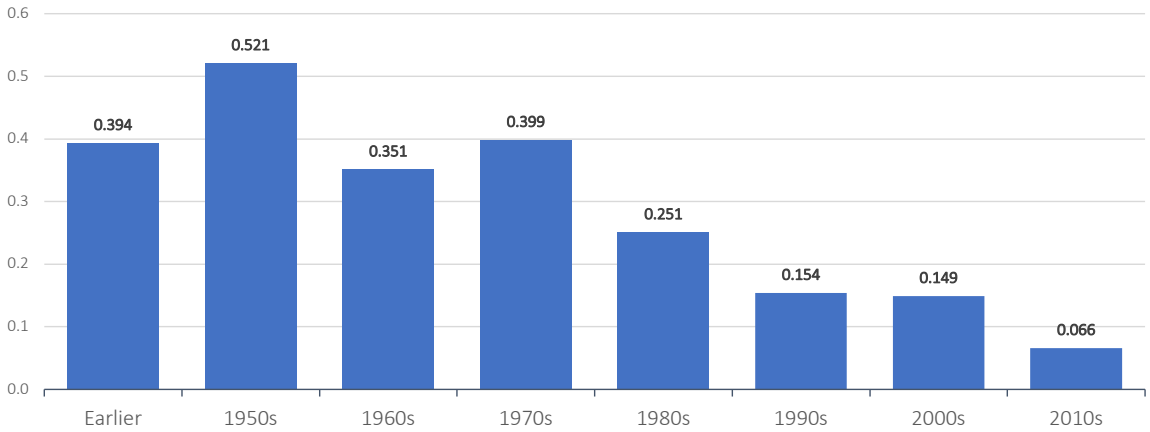


Figure G11. Student Generation Rate by Age of Detached Home, 2018.

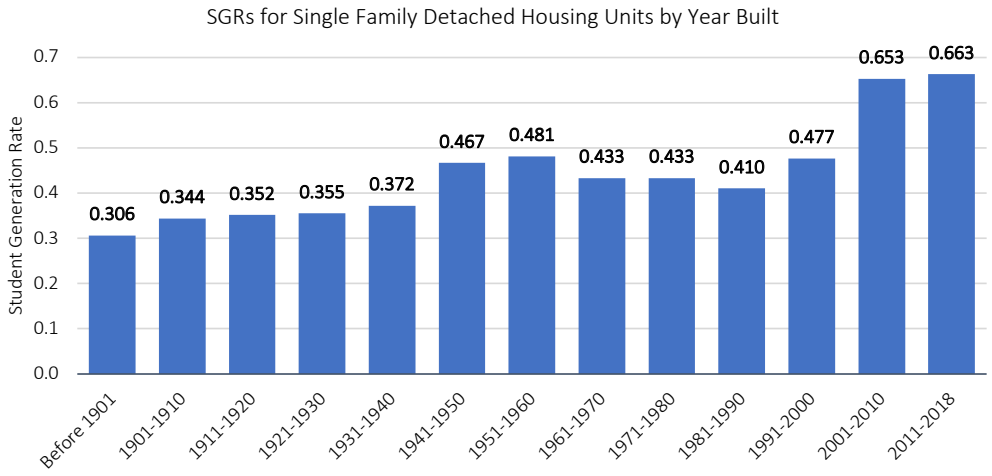
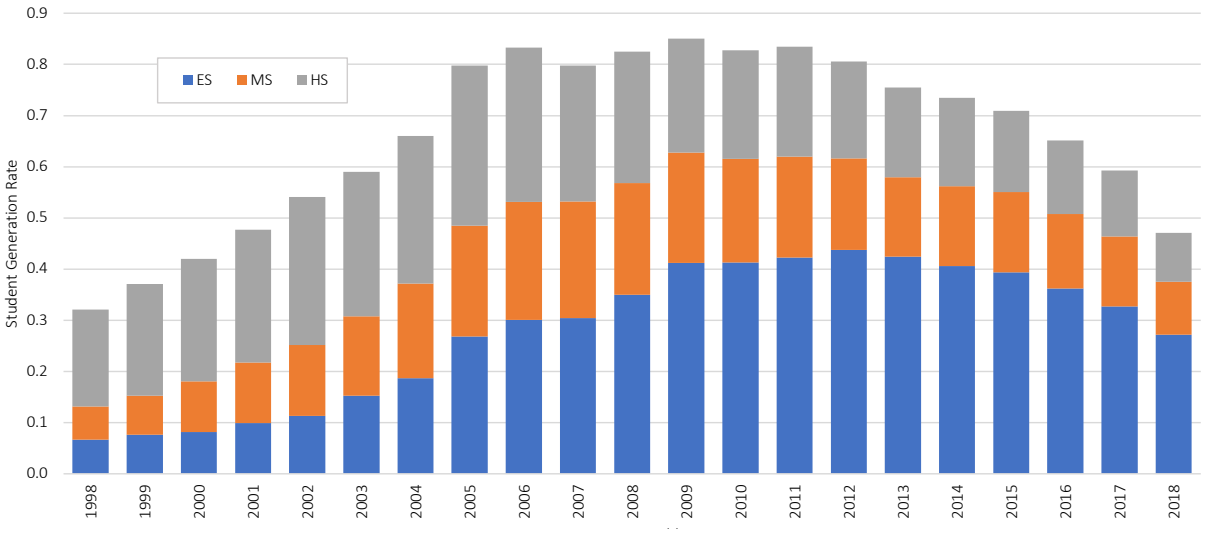


Figure G12. Single-Family Detached Student Generation Rate by Year Last Sold, 2018.



The SGRs by the size of both single-family homes and multifamily homes were examined as well. The age of buildings has been considered a proxy for the possibly more determinant variable of home size. For single-family homes, there does not appear to be a notable relationship between the size of the house and the average number of students residing there (Figure G13). For multifamily structures, the higher the average unit floor area and the higher the share of 3-bedroom units, the higher the student generation rate, as shown

in Figures G14 and G15, respectively.

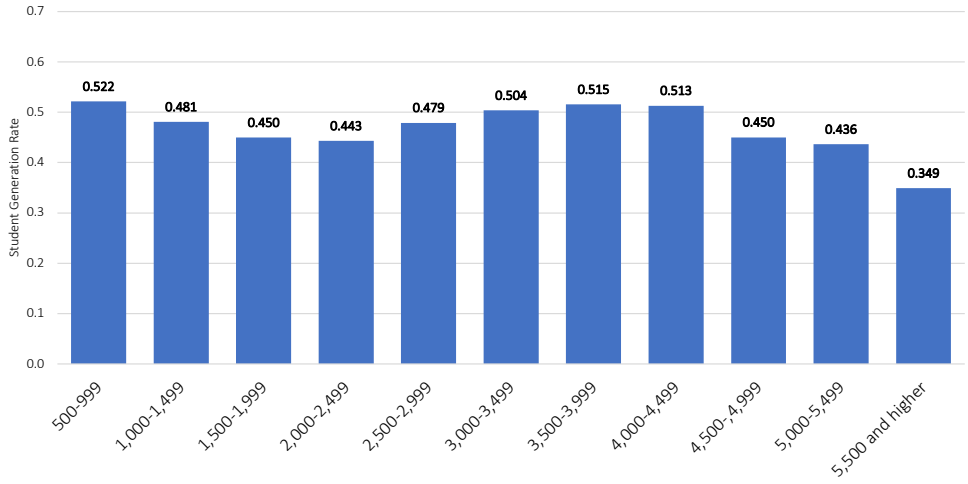
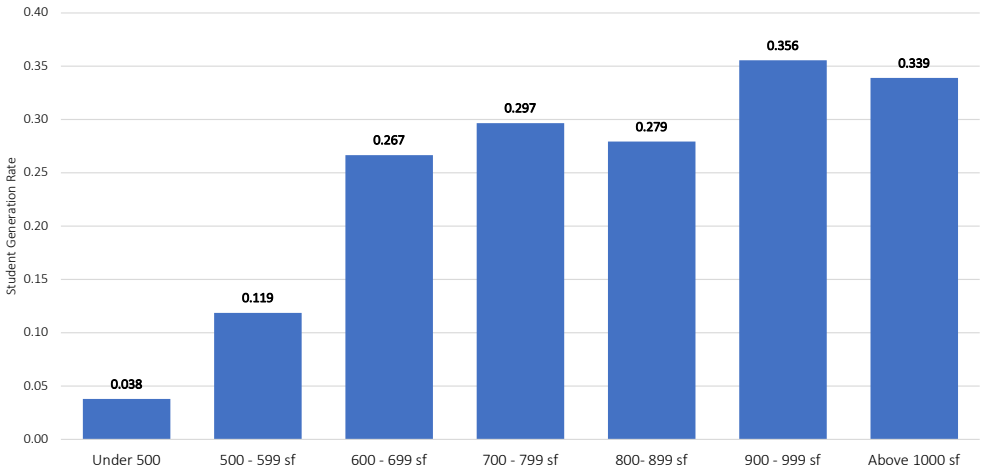


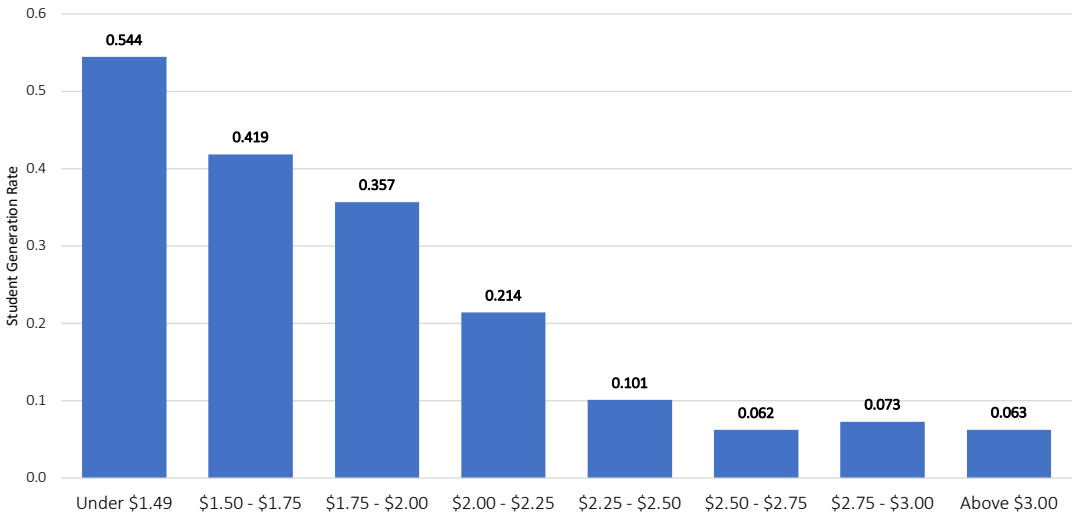
Figure G13. Single-Family Detached Student Generation Rate by Square Footage, 2018.

Figure G14. Student Generation Rate by Multifamily Apartment Square Footage, 2018.



The cost of housing for families is also an important factor determining housing choices. Student generation rates were calculated for select rental housing, which showed an inverse relationship between average students per unit and average rent per square foot. Older buildings typically have lower rents per square foot than newer buildings, as well as larger unit sizes, both of which may be drivers behind the higher student generation rates there. Conversely, newer buildings typically have smaller units and higher average rents per square foot, potentially driving lower student generation rates there.

Figure G15. Student Generation Rate for Multifamily Housing by Average Rent per Square Foot, 2018.



Household demographic data can also indicate the number of students a housing unit is likely to yield. County census tract-level household data were used to calculate student generation rates by demographic characteristics of tracts. Figure G16, below, shows the SGR variation by the median age of census tracts. Generally, the lower the median age, the higher the student yield. Figure G17 shows a map of tracts by median age category.

Figure G16. Student Generation Rate by Median Age, 2018.

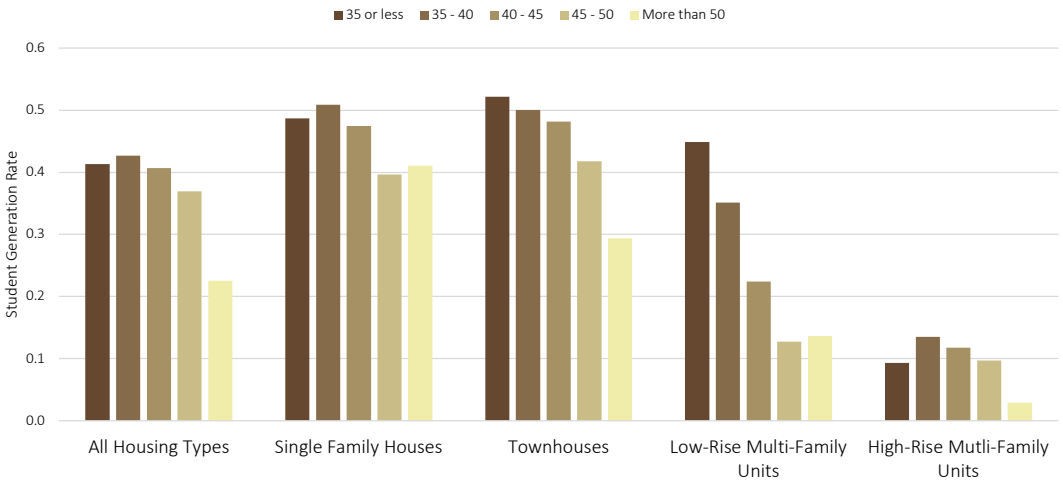
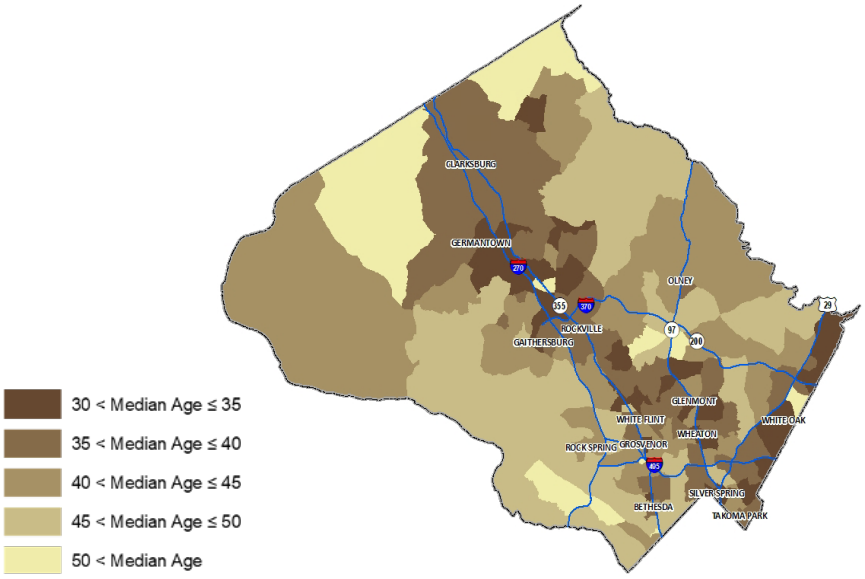
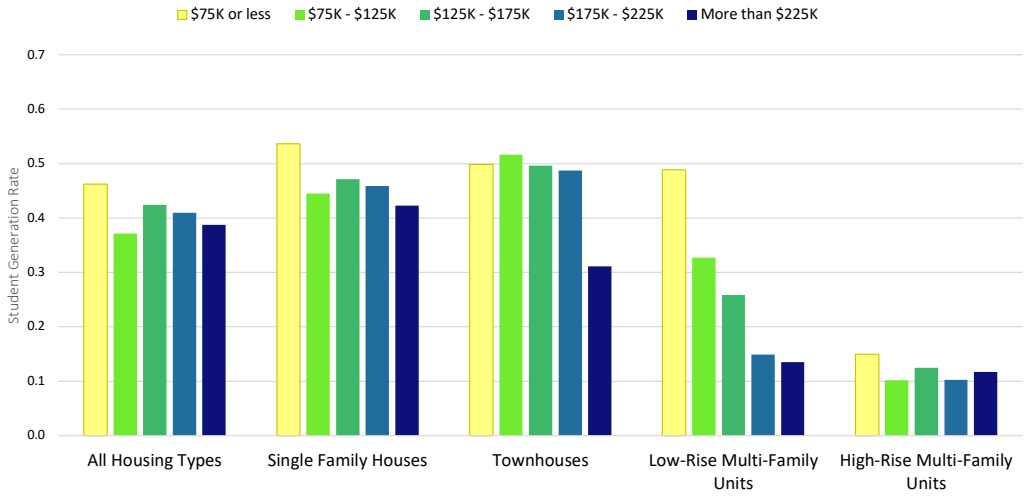


Figure G17. Census Tract by Median Age.



SGRs at the census-tract level by additional demographic data, including percentage of international residents and family income level, are shown in the following pages, respectively. International migrants tend to be younger in age than the general population, which likely contributes to higher student generation rates in areas where there are more of those residents. A correlation coefficient analysis confirmed this relationship. Conversely, family income level tends to rise with median age. However, Figure G18 indicates that tracts with higher family income do not have an SGR much lower than those with lower family income.

Figure G18. Student Generation Rate by Income Among Families with Children Under 18., 2018.



APPENDIX H

School Impact Areas

Development of the School Impact Areas

For this update to the County Growth Policy, Montgomery Planning recommends a more context-sensitive approach that distinguishes neighborhoods into School Impact Areas based on their:

- amount of new housing;
- type of new housing (single-family vs. multifamily); and,
- amount of enrollment growth.

Unlike the three regions currently used to estimate enrollment impacts of master plans and development applications, these School Impact Areas are not tied to school boundaries. Instead, Montgomery Planning divided the county into 35 areas corresponding to aggregations of census tracts. Versions of these areas have previously been used in the implementation of county housing policy, in particular Bill 18-37 Housing – Moderately Priced Dwelling Units (MPDUs) – Requirement to Build. This bill requires the designation of areas of the county requiring 15 percent MPDUs instead of 12.5 percent, based on the Planning Areas in which at least 45 percent of census tracts have a median income of at least 150 percent of the county's median income. Montgomery Planning also has used these planning areas in conjunction with its study on the preservation of affordable housing in the county and a housing needs assessment conducted for the county's General Plan Update (Thrive Montgomery 2050).

Within these planning areas, Montgomery Planning reviewed census tract-level growth data to extract neighborhoods that were experiencing different forms of growth compared to the rest of their planning area. This effort resulted in distinguishing downtown Bethesda and Friendship Heights from the Bethesda/Chevy Chase Planning Area, downtown Silver Spring from the Silver Spring Planning Area, the Wheaton Central Business District (CBD) from the Kensington/Wheaton Planning Area, White Flint from the North Bethesda Planning Area, and census tracts along MD 355 from the Rockville Planning Area. Other changes included regrouping tracts around both Gaithersburg and Germantown. In the end, this led to the identification of 35 aggregations of Montgomery County's 215 census tracts.

The 35 different areas were then statistically indexed based on the following indicators of the character of growth:

- Housing Growth
    - Change in housing units from over the last five years
    - Density of unbuilt pipeline

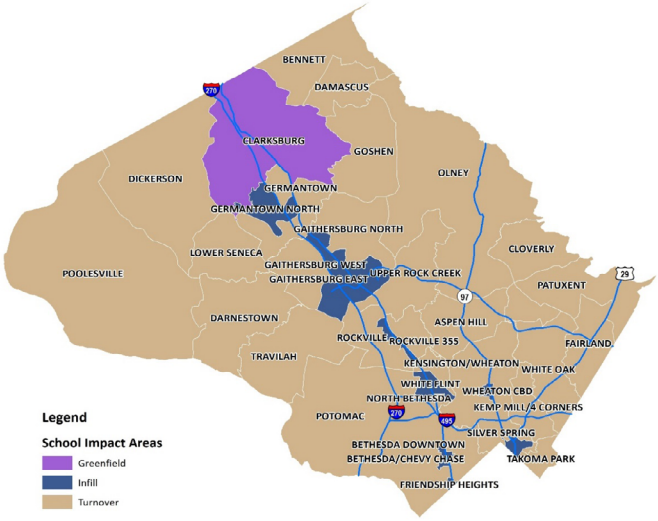
- Type of Housing
    - Share of new housing that is single-family units
    - Percentage of the pipeline that is single-family units
    - Percentage of the area zoned for single-family residential
- Enrollment Growth
    - Change in number of students residing in the area over the last five years
    - Mean number of days since single-family units were last sold
    - Change in the ratio between students and population

Statistical Comparison of the School Impact Areas

The following pages include a series of graphs, maps and data describing the growth character of the three School Impact Areas as originally recommended by Montgomery Planning staff. The Planning Board has recommended adding all Red policy areas to the Infill Impact Areas. The resulting map is shown in Chapter 4 of the Planning Board's draft, however this appendix does not reflect the designation of Red policy areas as Infill Impact Areas.

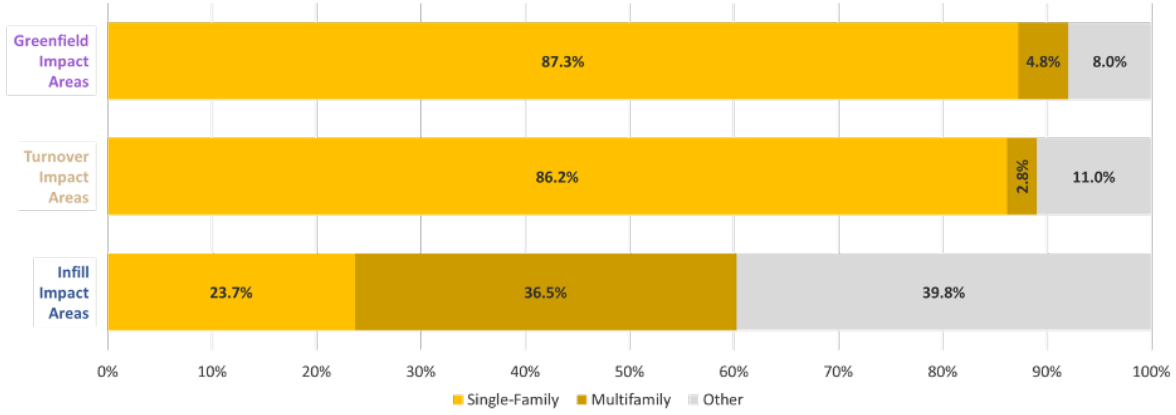
Shown in the figure below are the School Impact Areas. Infill School Impact Areas shown in dark blue are those with high housing growth that is predominantly multifamily, which generates few students on a per unit basis. Turnover Impact Areas shown in tan are those with low housing growth where enrollment growth, if any, is largely due to turnover of existing single-family units. Greenfield Impact Areas shown in purple are those with high housing growth that is predominantly single-family units, which generate the most students on a per unit basis and have led to high levels of enrollment growth.

Figure H1. Map of School Impact Areas.



The land use regulations present in these areas have dictated the types of development possible and defined the character of their growth. Figure H2 below breaks down each Area by three broad zoning categories: single-family residential, multifamily residential, and other (inclusive of commercial zoning).

Figure H2. Zoning by School Impact Area.



While residential zoning is the predominant zoning type in all School Impact Areas, the Greenfield and Turnover Impact areas are characterized by single-family zoning. Infill School Impact Areas are the only places where multifamily and "other" non-residential zoning cover the majority of the land.

Figure H3. Change in Student Generation Rate by School Impact Areas, 2013 to 2018.

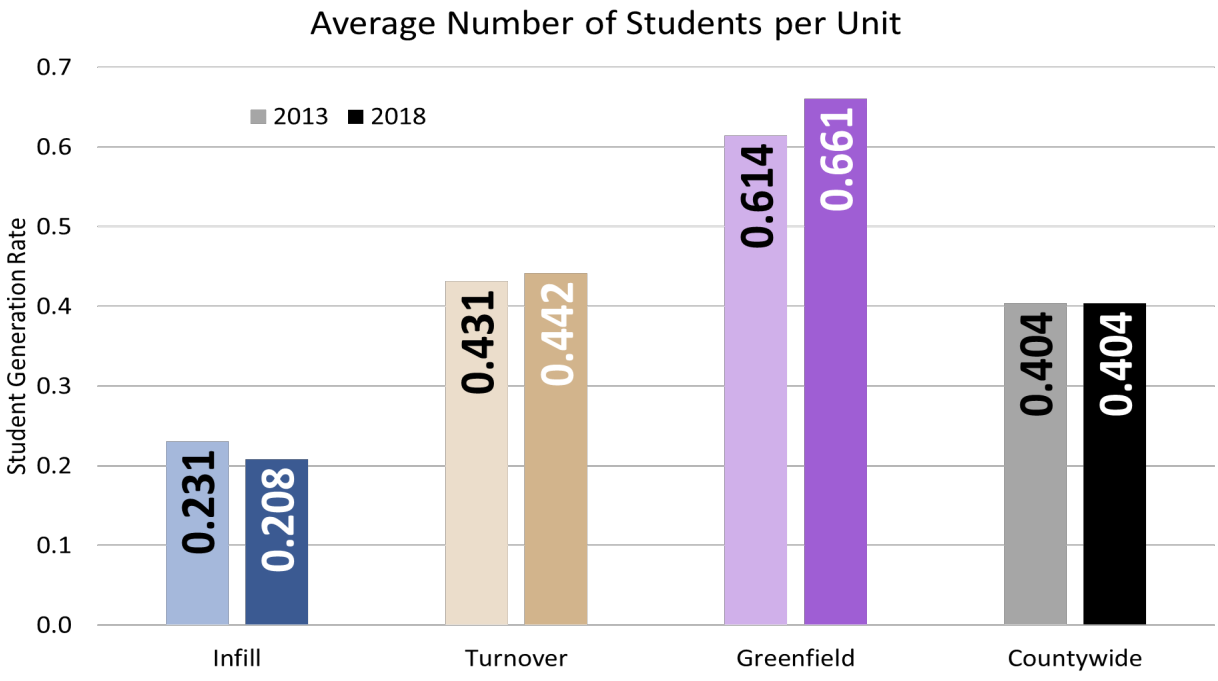
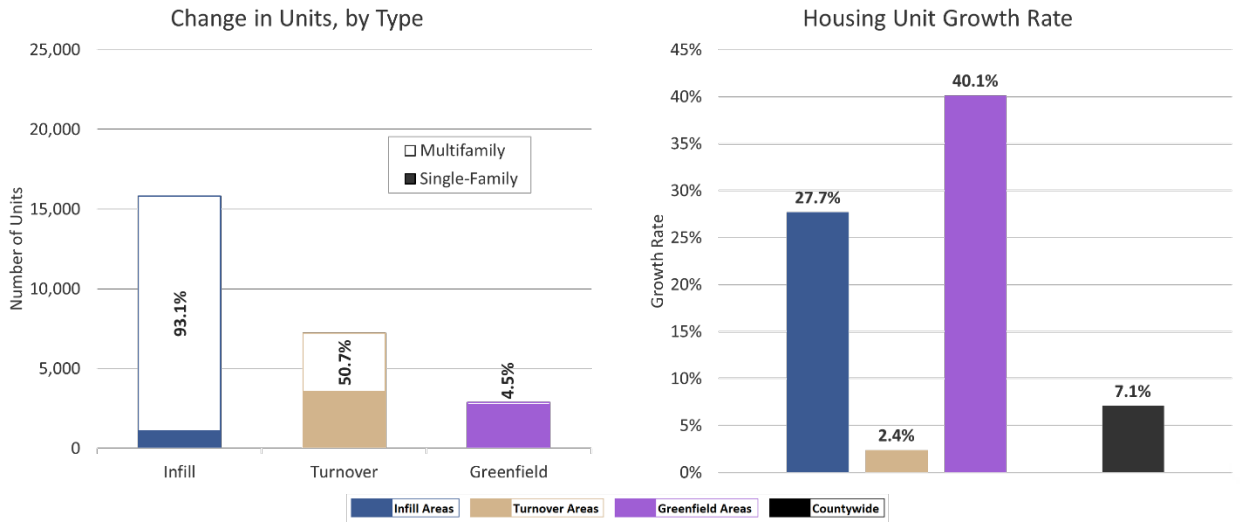


Figure H3 above presents the student generation rates for the three School Impact Areas relative to countywide rates. Greenfield Impact Areas had by far the highest rate in 2013 and 2018. Turnover Impact Areas rates were comparable to countywide rates, and Infill Impact Areas had significantly lower rates, particularly in 2018.

Shown below in Figure H4 are the growth rates for housing units in the School Impact Areas between 2013 and 2018. Greenfield Impact Areas experienced the highest growth, followed by urbanizing Infill Impact Areas. Turnover impact Areas are experiencing turnover rather than new development, and have a housing unit growth rate that is a small fraction of the rates in the other areas.

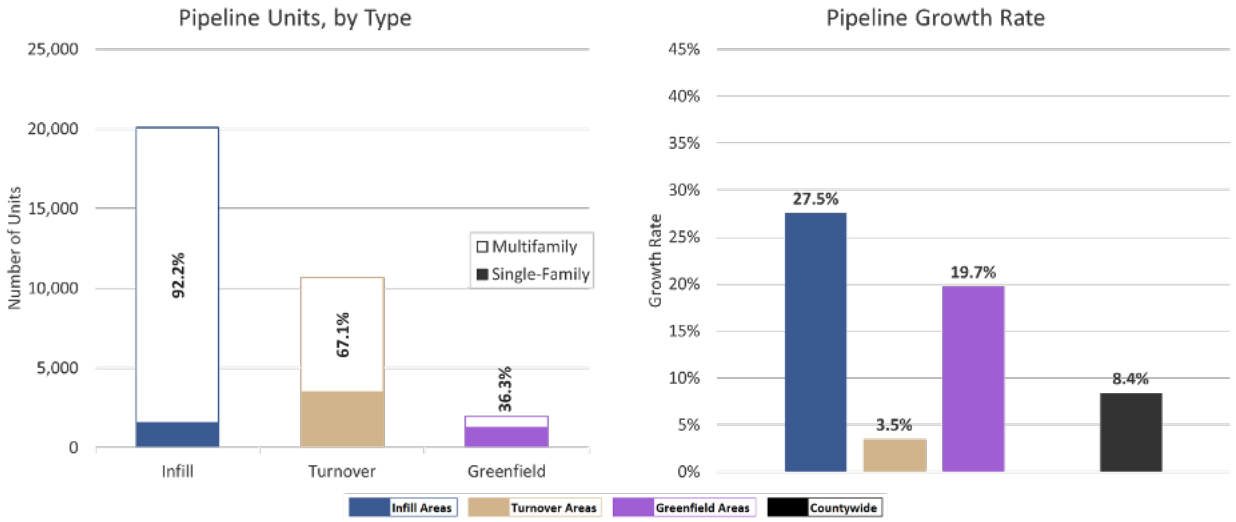
Figure H4. Housing Unit Growth by School Impact Area, 2013 to 2018.



The housing growth rates are also broken down by unit type in Figure H4. The Greenfield Impact Areas where student generation is highest had a high rate of growth, over 95 percent of which was single-family unit development. Infill Impact Areas with the lowest student generation had a moderate growth rate of 27.7 percent, 93 percent of which was multifamily unit development. Turnover Impact Areas with student generation similar to the countywide average had a very low growth rate of less than three percent, half of which was single-family unit development.

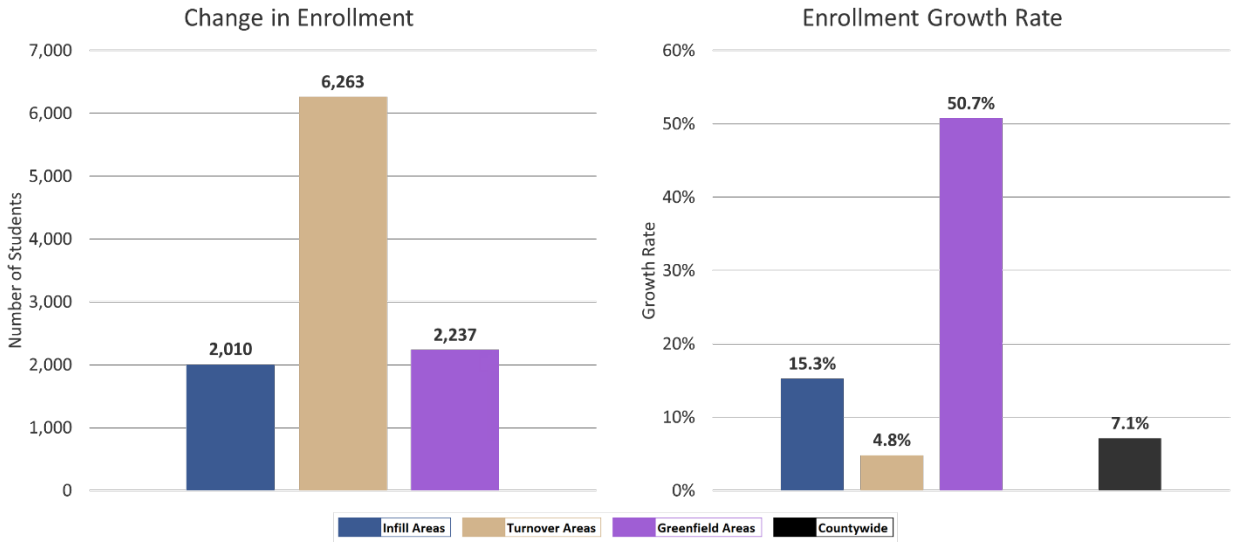
Looking ahead to forthcoming development projects, pipeline data show multifamily units will continue to be the predominant type of development in the Infill Impact Area and will even become the predominant type of new units in the Turnover Impact Area. Single-family units will remain the most prevalent in the Greenfield Impact Areas, but the growth rate suggested by the current pipeline is half as large as the rate between 2013 and 2018. The figures below show potential growth rates, and growth by type.

Figure H5. Development Pipeline by School Impact Area.



School enrollment level changes do not follow unit growth rates, but vary in the pattern suggested by the student generation rates. Where there have been high levels of single-family unit growth, enrollment has grown at the highest rate – over 50 percent in the Greenfield Impact Areas. Relative to overall population growth, the Greenfield Impact Areas also saw the highest level of student enrollment growth. Where there has been very little single-family unit growth but nevertheless moderate multifamily unit growth, enrollment grew by just 15 percent, a rate that is the lowest relative to population growth despite the relatively higher level of student and population density in the Infill Impact Areas where it occurred. The Turnover Impact Areas had the lowest enrollment growth rate, with a low level of student and population density.

Figure H6. Change in Enrollment by School Impact Area, 2013 to 2018.



APPENDIX I

School Adequacy Policies from Other Jurisdictions

Purpose

The purpose of this study is to research methods used by other jurisdictions to address growth management and adequacy in their school facilities. The topics of interest include:

- growth management practices
- Adequate Public Facilities Ordinance (APFO) or concurrency laws
- impact fees for schools or transportation, developer fees
- moratoria laws
- school capacity solutions
- student generation calculations

Methodology

The jurisdictions studied include a list of counties that are similar in either location, size, and/or characteristics. There were 14 different counties studied:

- Baltimore County, MD
- Harford County, MD
- Howard County, MD
- Prince George's County, MD
- Contra Costa County, CA
- Fresno County, CA
- Pinellas County, FL
- Wake County, NC
- Montgomery County, PA
- Arlington County, VA
- Fairfax County, VA
- Loudoun County, VA
- Pierce County, WA
- Snohomish County, WA

Once the counties were chosen, we performed a holistic review of best practices and case studies in different counties which included a look into their adequate facilities, growth management policies, and school districts. Next, we performed outreach to the American Planning Association's School Interest Group, the Schools Technical Advisory Team (STAT) academic scholars, and growth management experts around the state. Montgomery Planning also received suggestions from STAT members and Planning Board members to research the additional jurisdictions of Boston (MA), Minneapolis (MN), Providence (RI), Hartford (CT), Westchester (NY), Nassau (NY), and San Mateo (CA). To compile the results, Montgomery Planning developed a comparison chart included later in this appendix.

The additional jurisdictions were not included in the comparison chart since they were not comparable suburban counties. However, the additional research provided insight into ways major cities are handling growth management in schools. The additional school districts are using different strategies to address school-based growth management issues. In Boston, the school district implemented merger programs to add 6th graders to declining middle school enrollment. In Hartford, families can choose to take part in an Open Choice school program where students can attend public schools in the greater Hartford area, and outside city limits. In Minneapolis, school districts are currently undergoing a Comprehensive District Design (CDD), a long-range plan to "guide decision-making that affects the academic quality, equity, and sustainability of education" This plan proposal includes changes to the school attendance areas, and a focus on magnet schools.

Key Findings

General

Based on the findings of our research, many jurisdictions and school districts around the country are dealing with similar issues of overcrowding in schools and evaluating their growth management practices. Trends show that big city suburbs and lower density cities are experiencing population growth, and a higher demand for housing.

Turnover Development vs New Development

Generally, growth management policies and schools address overcrowding caused by new development and fail to address turnover of development. In jurisdictions such as Alexandria, VA and Montgomery County, data show higher enrollment is caused by turnover of older development, rather than new housing development built.

School Crowding

There are a wide range of solutions that different counties are using to address overcrowding in schools. This includes: capped schools/partner schools (Fairfax County, VA; Wake County, NC; Montgomery County, PA); mobile classrooms (Wake County, NC); year-round school (Wake County, NC); and portable classrooms, redistricting/boundary changes, space reassignment, renovation of old/underutilized buildings.

Moratoria

Moratoria on development is generally not considered in most counties outside of Maryland as a solution to manage crowding in schools. More commonly, it is used for transportation issues.

Impact Fees/Taxes

Impact fees and taxes are a highly debated tool to fund public facilities such as schools and roads. In some jurisdictions, they are highly contested. In other jurisdictions, they have been an important tool to fund needed facilities. Montgomery County and Howard County, MD have some of the highest impact fees/taxes in Maryland. In states that have APFO or concurrency laws there are more likely to be impact fees applied to new development. Using impact fees and taxes with lower or higher rates to incentivize particular growth patterns and forms is becoming more popular (ex. Howard County).

Impact fees and taxes are assessed by various factors such as per dwelling unit type, location, per square foot, per dwelling unit type, and average cost per student. Among local jurisdictions, Prince George's County in Maryland and Loudoun County in Virginia vary their impact fees or recommended proffers by location.

Table I1 summarizes the most current comparison of local development impact fees and taxes.

Table I1. Impact Fees and Taxes in Other Jurisdictions.

Jurisdiction	School Impact Tax/Fee Range	Determining Factor(s)	Update Year	Other Notes
Montgomery County, MD	$6,113-$26,207 per unit	Dwelling type; unit size	FY20	Single-family detached, single-family attached, multifamily high-rise, multifamily low-rise; $2 increase for each square foot of gross floor area that exceeds 3,500 square feet, to a maximum of 8,500 square feet
Anne Arundel County, MD	$2,636-$12,177 per unit	Unit size	FY20	
Caroline County, MD	$5,000 per unit	N/A	FY19	
Frederick County, MD	$6,974-$16,248 per unit	Dwelling type	FY20	Single-family detached, townhouse, all other
Harford County, MD	$1,200-$6,000 per unit	Dwelling type	FY20	Single-family detached, townhouse, all other
Howard County, MD	$1.32-$4.75 per square foot	Dwelling type	2020	Paid on senior and affordable units too; scheduled increases in 2021 and 2022
Prince George's County, MD	$9,741-$16,698 per unit	Location	FY19	Inside/outside the Capital Beltway; inflation adjusted annually
Queen Anne's County, MD	$4.56 per square foot	N/A	FY20	

Jurisdiction	School Impact Tax/Fee Range	Determining Factor(s)	Update Year	Other Notes
St. Mary's County, MD	See note	N/A	FY18	The impact fee was increased to $25,488 in FY18, however, that covers the impacts on all public facilities, not just schools. It is unclear what portion of that covers schools.
Talbot County, MD	$2,429-$3,466 per unit	Dwelling type	FY20	Single-family detached, all other
Fairfax County, VA	$1,373-$6,536 per unit	Dwelling type	FY17	Proffer contribution; single-family detached, single-family attached, multifamily high-rise, multifamily low-rise; suggested proffer is per student (calculated per unit range using most recent student yield ratios)
Loudoun County, VA	$5,493-$34,062 per unit	Dwelling type; location (5 locations)	FY19	Proffer contribution; single-family detached, single-family attached, multifamily, multifamily stacked; largely greenfield development

Growth Management Comparison Chart

The charts on the following pages provide information gathered to compare Montgomery County's growth management policies and adequate public facilities ordinances to those in similar jurisdictions across the country.

Montgomery County, Maryland

Population (approx.)	1,059,000
Adjacent Major City	Washington, D.C.
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes.
What infrastructure is evaluated for adequacy?	Schools, roads, water facilities, sewer facilities, stormwater drainage, fire, and police.
How frequently do they evaluate the infrastructure?	Both annually and with each development application.
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	Yes. Cluster threshold - 120% capacity utilization School threshold - 120% capacity utilization and 110 seat deficits for ES or 180 seat deficits for MS
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes.
School Impact Fee Range (latest)	$6,791-$24,227 per unit
How do they test school capacity for adequacy?	The school capacity is the product of the number of teaching stations at a school and each teaching station's program capacity. Capacity and enrollment are based on projections for five years in the future to calculate a capacity utilization rate, which is tested against the applicable moratorium threshold. When an area is not in moratorium, each development application is evaluated for its anticipated enrollment impact, which is compared to a staging ceiling that limits the potential size of a development project based on the moratorium thresholds.
Other notes.	

Baltimore County, Maryland

Population (approx.)	828,000
Adjacent Major City	Baltimore City
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes.
What infrastructure is evaluated for adequacy?	Schools, roads, water facilities, sewer facilities, and stormwater drainage.
How frequently do they evaluate the infrastructure?	With each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	Yes. Threshold is 115% capacity utilization
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes. The new charges take effect in July 2020 but won't apply to any projects whose developers submitted plans before that. The county probably won't collect a full year of revenue from the measure until about 2023.
School Impact Fee Range (latest)	Not yet available.
How do they test school capacity for adequacy?	State-Rated Capacity (SRC) applies to the permanent building only and does not include relocatable units. The Office of Planning tests schools for adequacy by each development application. The test only considers the current year for adequacy. If a proposed development fails the "School Impact Analysis" test, it does not go into moratorium. They test individual applicants by using the projected pupil yield for the applicant and other approved plans.
Other notes.	In 2019, Baltimore County voted to implement impact fees. The concept of impact fees didn't gain traction in Baltimore County until the County Executive introduced legislation to create new charges on development as the county faced a projected budget shortfall. The fees will be set aside for schools, roads and public safety facilities. The new charges take effect in July 2020 but won't apply to any projects whose developers submitted plans before that.

Harford County, Maryland

Population (approx.)	252,160
Adjacent Major City	Baltimore, MD
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes.
What infrastructure is evaluated for adequacy?	Schools, roads, water, sewer
How frequently do they evaluate the infrastructure?	Both annually and with each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	Yes. Threshold is 110% capacity utilization or projected to be 110 % utilization in three years
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes, for schools only.
School Impact Fee Range (latest)	$1,200 - $6,000 per unit
How do they test school capacity for adequacy?	To assess current and future adequacy of the public-school facilities, the capacities of existing schools, school utilization and future populations are analyzed. Schools are tested for adequacy in the current year and three years into the future.
Other notes.	The county can impose a moratorium on residential development in a school district if enrollment is at 110 percent of its state-rated capacity or will hit 110 percent of capacity in three years.

Howard County, Maryland

Population (approx.)	321,123
Adjacent Major City	Baltimore, MD/Washington, D.C.
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes.
What infrastructure is evaluated for adequacy?	Schools, roads, water, sewer
How frequently do they evaluate the infrastructure?	Both annually and with each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	Yes. Projects are placed on "hold" Thresholds are: ES - 105% capacity utilization MS - 110% capacity utilization HS - 115% capacity utilization
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes, for schools, roads, and public safety.
School Impact Fee Range (latest)	$7.50 per square foot
How do they test school capacity for adequacy?	Once allocations are granted for a project, the project must then take the Schools Test. In order to pass this test, the elementary and middle school districts and the elementary school region serving the proposed development must all be below 115% of capacity utilization. If the project does not pass this test, then plans for the development will be placed on hold. Projects are re-tested each July after a new capacity utilization chart is adopted by the County Council. Projects can be placed on hold due to failing the Schools Test for up to four years.
Other notes.	1. The Howard County School Capacity Chart works in lieu of the Housing Allocation chart. 2. In 2019, the Howard County Council passed legislation that raised their school surcharge fee by over 400% by the year 2023. The decision was made to generate more than $150 million in revenue over 10 years for Howard County.

Prince George's County, Maryland

Population (approx.)	910,000
Adjacent Major City	Washington, D.C.
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes.
What infrastructure is evaluated for adequacy?	Schools, roads, water facilities, sewer facilities, stormwater drainage, fire, and police.
How frequently do they evaluate the infrastructure?	Weekly and with each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	No.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes. They are called "surcharges" - a school facilities surcharge and a public safety surcharge. Both surcharges differ by location or type of development.
School Impact Fee Range (latest)	$9,550 - $16, 371 per unit
How do they test school capacity for adequacy?	The school capacity is the product of the number of teaching stations at a school and the average class size for each program (based generally on the student-to-teacher ratio). In both elementary and secondary schools, a certain number of shared classrooms are used as resource rooms and are not counted toward capacity. Prince George's County employs AFPO capacity tests only for planning purposes.
Other notes.	The Prince George's County APFO only exists for planning purposes. A project causing a school to exceed the 105% APFO school threshold will not be held up because of overcrowding. P3 (Public-Private) Partnership A P3 is an innovative way to contract for the delivery of public infrastructure and related services. The P3 contract is between a public agency, in this case PGCPS, and a private partner. A competitively awarded contract reduces significant risks to taxpayer resources. The private partner is required to maximize the life of the facilities and hand assets back to the public agency in excellent condition. PGCPS anticipates using a model that will require a private partner to design, build, finance, and maintain the facility. PGCPS will retain ownership of the schools. At the end of the contract, PGCPS will operate and maintain the facilities. "

Arlington County, Virginia

Population (approx.)	234, 965
Adjacent Major City	Washington, D.C.
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes. Facilities are evaluated in the General Plan.
What infrastructure is evaluated for adequacy?	Streets, sidewalks, bicycle trails, water, storm drainage, sewer, and lighting facilities
How frequently do they evaluate the infrastructure?	Every general plan update and with each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	No.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes, usually for transportation, art, and affordable housing. Not for schools.
School Impact Fee Range (latest)	N/A
How do they test school capacity for adequacy?	There is no capacity threshold to which a school is deemed inadequate.
Other notes.	1. Arlington Public Schools provides the opportunity to enroll in an option school/program or request a neighborhood transfer as an alternative to attending their neighborhood school. Option schools/programs have a specialized educational setting. APS is unable to offer elementary neighborhood transfers for the 2019-20 school year. The waitlist for elementary option schools is maintained year-round. Transportation is available for students attending option schools/programs. However, bus stops may be centralized and a longer distance from a student's residence. Transportation is not provided for neighborhood or administrative transfers. 2. Another strategy (longterm) APS is considering is creating planning space for teachers and freeing up classrooms for more periods per day Arlington County is the only Northern Virginia jurisdiction with a mandatory commercial linkage fee that supports affordable housing.

Fairfax County, Virginia

Population (approx.)	1,151,000
Adjacent Major City	Washington, D.C.
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes. It is referred to as the "2232 Review" and the Level of Service (LOS)
What infrastructure is evaluated for adequacy?	Schools, libraries, public safety services, utilities and services (water, sewer, drainage, telephone etc.)
How frequently do they evaluate the infrastructure?	With each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	No.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	No. To help fund additional school capacity, Fairfax relies on "voluntary" proffer contributions from residential developers for school construction projects. Fairfax County has developed a methodology to calculate how different types of residential development increase school enrollment and the per-student cost of development – resulting in a dollar amount that is a per-student suggested proffer contribution.
School Impact Fee Range (latest)	$12,262 avg. cost for recommendation per student after level of service (LOS) adjustment
How do they test school capacity for adequacy?	There is no capacity threshold to which a school is deemed inadequate. School capacity is tested differently for elementary, middle, and high schools. For elem. schools: total number of primary classrooms x class size ration. For middle schools, the rooms are allotted based on an instructional methodology. So, the formula includes 1) Determining teams 2) Multiplying the number of teams x typical team size. In high schools, elective and non-required learning spaces are counted in the capacity calculation. So, the method includes multiplying the # of teaching spaces by a standard class size ration (28) then by a utilization factor.
Other notes.	1. Proffers are bargains negotiated with developers. Choosing to opt into this bargaining process is highly recommended to applicants as part of gaining a rezoning application or development. They are "voluntary" by law, but applications are almost never approved without any proffer contributions. 2. All proffers must be voluntarily made and must be "reasonable" under law. Therefore, a governing body is not authorized to require a specific proffer as a condition to granting approval. Localities can accept any proffer that they and the developer agree is reasonable.

Loudoun County, Virginia

Population (approx.)	398,080
Adjacent Major City	Washington, D.C.
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes. It is referred to as the "2232 Review" and facilities are also evaluated in the General Plan.
What infrastructure is evaluated for adequacy?	Sewer, water, transportation, and police.
How frequently do they evaluate the infrastructure?	Every general plan update and with each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	No.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	No. However, there are "voluntary" capital facilities proffers. The General Plan identifies the method for calculating facility demands. The CIF is determined by five variables: unit type, persons per household, number of school age children by type of unit, the costs of different types of facilities and costs of schools. The formula is: CIF = (Household Size x Facility Cost per Capita) + (Students per Household x School Cost per Student). There is a county CIF and a school CIF which developers must pay the total of both.
School Impact Fee Range (latest)	$6,401.67 - $29,781.67 (Fee differs by school district. See 2 in 'Other Notes')
How do they test school capacity for adequacy?	There is no capacity threshold to which a school is deemed inadequate.
Other notes.	Students may be reassigned to a school other than their regular school of assignment at the discretion of the school division for the purpose of relieving overcrowding (also called "overflow"), if the regular school of assignment or a particular grade level at an elementary school of assignment is overcrowded. In such a situation, the student may be reassigned to another school in which suitable capacity exists, with transportation provided by the school division. Effort will be made to reassign an overflow student to the closest possible school with suitable capacity, and to return the student to his or her regular school of assignment at the start of the next school year in which the overcrowding situation no longer exists at the regular school of assignment.

Montgomery County, Pennsylvania

Population (approx.)	828,000
Adjacent Major City	Philadelphia, PA
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes. They follow a Facilities Master Plan.
What infrastructure is evaluated for adequacy?	Schools, water systems, sewage, libraries, health care, emergency services.
How frequently do they evaluate the infrastructure?	With each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	No.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes, for transportation.
School Impact Fee Range (latest)	N/A
How do they test school capacity for adequacy?	Capacity is defined as the ability of a school building to accommodate a given number of students. The state recognizes 25 students per classroom for all grades.
Other notes.	According to the Lower Merion Schools, the district has a "long history of effectively addressing enrollment fluctuations despite its location in a mature, high-density community with limited access to significant land parcels for expansion and construction." Solutions include: Adding permanent classrooms; Internal construction and space reassignment; Renovation of old and/or underutilized buildings and converting them to classrooms; and introducing a "Partner School" plan that caps certain sections of grade levels in elementary schools that have reached optimal class size targets and requires students who register thereafter be enrolled at a "Partner School" that can accommodate further enrollment in that grade level.

Wake County, North Carolina

Population (approx.)	1,070,000
Adjacent Major City	Includes Raleigh, NC
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	No. However, the capital improvement program maintains and oversees the public utilities element.
What infrastructure is evaluated for adequacy?	The capital improvement program includes public utilities (water & sewer) public safety, stormwater, transportation, parks, housing, and technology.
How frequently do they evaluate the infrastructure?	N/A
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	No.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes. They are called “facility fees” but are not used for schools.
School Impact Fee Range (latest)	N/A
How do they test school capacity for adequacy?	1. A total enrollment cap number is set for some schools in the County. Once a school reaches that cap at each grade at the school, then no more students are allowed. Once a school reaches this total enrollment number, any new families who move into the base attendance area will be assigned to an overflow school. 2. State legislation states that K- 3rd grade classes as of 2019, cannot exceed one teacher per 22 students. 3. Enrollment cap is calculated based on number of classrooms and teachers available multiplied by the maximum class size.
Other notes.	1. Transportation will be provided to and from the overflow school. Students assigned to an overflow school are also placed on a numbered wait list and could be called back to the base school if a seat becomes available. 2. There was a Wake Growth Issues Task Force that was formed in 2008 that identified forthcoming growth issues.

Pinellas County, Florida

Population (approx.)	975,000
Adjacent Major City	Tampa, FL
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes. It is called a Concurrency Management System
What infrastructure is evaluated for adequacy?	Schools, roadways, water, sewer, waste, drainage, recreation and mass transit
How frequently do they evaluate the infrastructure?	Both annually and with each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	No. School concurrency moratoria was rescinded in 2012.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes, for transportation only.
School Impact Fee Range (latest)	N/A
How do they test school capacity for adequacy?	1. School capacity is tested by the number of class stations available multiplied by the standard classroom size. Relocatable classrooms are not calculated within the permanent capacity number. 2. School concurrency is tested annually based on existing and projected development. There are no thresholds that enact moratoria.
Other notes.	1. Plans approved by the school board that reduce the need for permanent student stations such as acceptable school capacity levels, redistricting, busing, year-round schools, charter schools, magnet schools, public-private partnerships, multitrack scheduling, grade level organization, block scheduling, or other alternatives. 2. On July 24, 2012, the Pinellas County Board of County Commissioners approved Comprehensive Plan amendments (to the goals, objectives, and policies) to eliminate the implementation of school concurrency.

Contra Costa County, California

Population (approx.)	1,150,000
Adjacent Major City	San Francisco, CA; Oakland, CA
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes. There is a Growth Management Element in the County's general plan.
What infrastructure is evaluated for adequacy?	Fire, police, parks, sanitary facilities, water, and flood control
How frequently do they evaluate the infrastructure?	Every general plan update and with each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	No.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes, for transportation only.
School Impact Fee Range (latest)	N/A
How do they test school capacity for adequacy?	Capacity is defined by the County as the number of students who can be housed in any particular building without compromising the instructional program. Programs determine capacity, not square footage.
Other notes.	

Fresno County, California

Population (approx.)	994,000
Adjacent Major City	San Jose, CA
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes. Facilities is included in the General Plan.
What infrastructure is evaluated for adequacy?	Landfill, schools, utilities, sewer, stormwater, law enforcement, emergency services, and water systems
How frequently do they evaluate the infrastructure?	With each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	No.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes. The Fresno school district allows for the collection of developer fees on residential and commercial/industrial developments.
School Impact Fee Range (latest)	The maximum residential fee of $3.79 per square foot.
How do they test school capacity for adequacy?	Elementary capacity is calculated to include the total classrooms (portables included) and to allow each site four “Ancillary Use Rooms” identified as critically important (i.e. music, afterschool program, social emotional support) multiplied by the standard classroom size. Middle and High School capacities are calculated just with the total number of classrooms available multiplied by the standard classroom size.
Other notes.	Voters approved a $199 million FUSD Measure K Facilities Bond in 2001 to pay for construction, modernization and maintenance of Fresno Unified schools. The 10-year Measure K bond is allowing the district to reduce overcrowding by building new schools, provide state-of-the-art technology, and modernize aging school facilities. By combining Bond funds with state funds, the district maximizes the use of Measure K to build and improve schools.

Pierce County, Washington

Population (approx.)	876,764
Adjacent Major City	Seattle, WA
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes. The Capital Facilities Plan is implemented into Pierce County's comprehensive plan. There is also state law called *The Siting of School Facilities and the Growth Management Act*.
What infrastructure is evaluated for adequacy?	Sewer, septic /community systems, water, roads, transit, and ferries.
How frequently do they evaluate the infrastructure?	Every general plan update and with each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	Yes. But not for schools.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes, for schools and parks/recreational facilities.
School Impact Fee Range (latest)	$0 - $20,000 (Fee differs by school district. See 'Other Notes')
How do they test school capacity for adequacy?	This may vary within the county. The Program Capacity model is widely used and calculates student capacity first by identifying the number of teaching stations provided in the school building. The number of teaching stations is then multiplied by the adopted LOS to provide the Teaching Station Capacity. The adopted LOS is 24 per teacher for elementary schools and 28 students for secondary.
Other notes.	School Impact Fee can change by school district. The fee is calculated as the cost of new facilities needed by development by the proportionate share of the need created by each type of development. School districts must determine the full cost of all facilities required to serve growth, with sensitivities for how demand is divided between grade levels and housing

Snohomish County, Washington

Population (approx.)	815,000
Adjacent Major City	Seattle, WA
Do they have an adequate public facilities ordinance (APFO)? Or threshold to determine adequacy?	Yes. It is called a Concurrency Management System. There is also state law called The Siting of School Facilities and the Growth Management Act.
What infrastructure is evaluated for adequacy?	Traffic impacts and transportation improvements. The School District has set minimum educational service standards for schools that's separate from the concurrency system.
How frequently do they evaluate the infrastructure?	Both annually and with each development application
Are moratoria used to halt residential development when infrastructure is deemed inadequate? If so, what are the moratoria thresholds?	Yes, but for transportation only.
Do they require payments in lieu, impact taxes/fees, or other payments? How do they come into play?	Yes, for schools and transportation.
School Impact Fee Range (latest)	$0 - $17,000 (Fee differs by school district. See 'Other Notes')
How do they test school capacity for adequacy?	School capacity is determined based on the number of teaching stations within each building and the space requirements of the District's adopted educational program.
Other notes.	School Impact Fee changes by school district, over $5,000 per new house for certain school districts, below $5,000 for others. The fee includes a calculation of the cost of capital facilities only needed as a response to new residential construction, a forecast of how many new students will live in each new dwelling unit, a discount for future property tax receipts related to the new development, and a 50% reduction applied countywide.

APPENDIX J

The Update and Engagement Process

The process to develop the 2020 County Growth Policy first launched in July 2019 through an internal meeting where Montgomery Planning team members discussed the project timeline and expectations. In alignment with direction from County Council members, Montgomery Planning decided that the update to the 2016 Subdivision Staging Policy (SSP) will primarily undertake a comprehensive approach to issues related to schools infrastructure, while keeping a narrow focus on transportation. The effort to do a comprehensive review of the SSP's Schools Element centered on a data-driven approach with an emphasis on understanding various factors underlying student generation and growth before examining relevant tools and policy.

In October 2019, Montgomery Planning held a public workshop with approximately 65 participants, including staff, at the Silver Spring Civic Building. The workshop started with an overview of the current SSP and the county's latest growth trends, followed by roundtable discussions to engage community members in the policy updating efforts and process.

Advisory Teams

Montgomery Planning also created two advisory teams to assist Montgomery Planning's work to update the SSP – the Transportation Impact Study Technical Working Group (TISTWG) to inform the transportation side of the efforts, and the Schools Technical Advisory Team (STAT) to inform the schools side.

The primary task of TISTWG was to assist in the development and testing of potential new approaches for determining transportation infrastructure adequacy that are reflective of the wide range of stakeholder perspectives. The TISTWG played a key role in advising Montgomery Planning's efforts to draft an amendment to the Local Area Transportation Review (LATR) guidelines reflecting the county's Vision Zero objectives and update the transportation adequacy evaluation process for master plans and sector plans. TISTWG meetings were held once a month for a total of five meetings between September 2019 and January 2020.

A list of TISTWG members is below:

- Stephen Aldrich, Montgomery Planning
- David Anspacher, Montgomery Planning
- Andrew Bossi, Montgomery County Department of Transportation
- Greg Cook, The Traffic Group
- Nick Driban, Lenhart Traffic
- Timothy Dugan, Shulman & Rodgers
- Gary Erenrich, Montgomery County Department of Transportation
- Shahriar Etemadi, STS Consulting
- Matthew Folden, Montgomery Planning
- Walker Freer, Montgomery Planning
- Eli Glazier, Montgomery Planning
- Eric Graye, Montgomery Planning
- Derek Gunn, Maryland State Highway Administration,
- Scott Holcomb, Maryland State Highway Administration
- Yuanjun Li, Montgomery Planning
- Jaesup Lee, Montgomery Planning
- Katherine Mencarini, Montgomery Planning
- Faramarz Mokhtari, City of Rockville
- Glenn Orlin, Montgomery County Council Staff (Consultant)
- Russell Provost, Montgomery Planning
- Harriet Quinn, Montgomery County Civic Federation
- Nancy Randall, Wells & Associates
- Patrick Reed, Montgomery Planning
- Steve Robbins, Lerch, Early & Brewer, Chtd.
- Rob Robinson, City of Gaithersburg
- Jonathan Ryder, Montgomery Planning
- David Samba, Kimley Horn
- Jason Sartori, Montgomery Planning
- Stacy Silber, Lerch, Early & Brewer, Chtd.
- Tanya Stern, Montgomery Planning
- Rebecca Torma-Kim, Montgomery County Department of Transportation
- Christopher Van Alstyne, Montgomery Planning
- Daniel Wilhelm, Greater Colesville Civic Association
- Carl Wilson, The Traffic Group

The STAT consisted of invited representatives from key stakeholder groups, including Montgomery County Public Schools, Montgomery County Economic Development Corporation, Coalition for Smarter Growth, CASA de Maryland, the Housing Opportunities Commission, Montgomery County Council of PTAs and development industry representatives; individual participants selected through an application process; and Montgomery Planning and Montgomery Parks staff. STAT meetings were held roughly once every three weeks for six total meetings between October 2019 and February 2020. The first three of the six meetings focused on reviewing and analyzing data, while the last three focused on examining and discussing various elements of the SSP's schools policy.

STAT participants included:

- Jeremy Arnold, resident
- Brandon Bedford, Montgomery County Economic Development Corporation
- Jay Brinson, NAIOP DC|MD
- Sunil Dasgupta, resident
- Timothy Dugan, resident
- Rosalind Grigsby, City of Takoma Park
- Andrea Hidalgo, resident
- Adrienne Karamihas, MCPS
- Sylke Knuppel, Maryland Building Industry Association
- Brian Krantz, Montgomery County Civic Federation
- Vyjayanthi Krishnan, resident
- Lisa Lowery, resident
- Jane Lyons, Coalition for Smarter Growth
- Katya Marin, Montgomery County Council of PTAs
- Zachary Marks, Housing Opportunities Commission
- Robin O'Hara, MCPS
- Harriet Quinn, Montgomery County Civic Federation
- Rob Robinson, City of Gaithersburg
- Vincent Russo, resident
- Charisse Scott, resident
- Maritza Solano, CASA de Maryland
- Layna Teitelbaum, Montgomery County Regional Student Government Association
- Kristin Trible, resident
- Gary Unterberg, resident
- Scott Wallace, resident
- Jim Wasilak, City of Rockville
- Dan Wilhelm, resident
- Hye-Soo Baek, Montgomery Planning
- Corinne Blackford, Montgomery Planning
- Sarah Bond, Montgomery Planning
- Lisa Govoni, Montgomery Planning
- Jason Sartori, Montgomery Planning
- Cristina Sassaki, Montgomery Parks
- Tanya Stern, Montgomery Planning
- Pamela Zorich, Montgomery Planning

Community/Stakeholder Engagement Efforts

Montgomery Planning developed a strategic communications plan for the SSP update to ensure collaborative and proactive conversations with stakeholders – including community members, relevant organizations, developers and government partner agencies. Numerous engagement tools were utilized, such as social media, e-newsletters and the Montgomery Planning website. Additional outreach was conducted through community and agency partners such as the county's regional services centers. Montgomery Planning organized or participated in events meant to reach the community and garner its input on the policy update effort early and often.

The following table identifies the various outreach events Montgomery Planning held to engage stakeholders and community members in the process of reviewing the current SSP and developing the 2020 County Growth Policy.

Table J1. Subdivision Staging Policy/County Growth Policy Outreach Events.

Event/Format	Participants	Date	Location
Presentation/Q&A	Montgomery County Chamber of Commerce Land Use Committee	09/10/2019	Rockville
Presentation/Q&A	Montgomery County Council of PTAs (training)	09/14/2019	James H. Blake HS
Kick-Off Workshop	All Stakeholders	10/07/2019	Silver Spring Civic Building
Presentation/Q&A	Capitol View Park HOA	11/21/2019	Silver Spring
Presentation/Q&A	Bethesda Downtown Plan Implementation Advisory Committee	12/06/2019	Bethesda
Presentation/Q&A	Montgomery County Civic Federation	12/09/2019	Executive Office Building, Rockville
Presentation/Q&A	Council Staff (training)	01/06/2020	Council Office Building, Rockville
Roundtable	Developer Stakeholders	01/24/2020	Montgomery Planning Headquarters at MRO
Presentation/Q&A	Friends of White Flint	02/04/2020	Bethesda North Conference Center
Roundtable	Parent and Student Stakeholders	02/08/2020	Richard Montgomery HS
Roundtable	All Stakeholders	02/20/2020	Upcounty Regional Services Center, Germantown
Roundtable	All Stakeholders	02/24/2020	East County Regional Services Center, Fairland
Roundtable	Montgomery Planning Staff	03/04/2020	Montgomery Planning Headquarters at MRO

Planning Board Briefings & Work Sessions

Montgomery Planning briefed and received feedback from the Planning Board multiple times between September 2019 and summer 2020 on the Subdivision Staging Policy update and development of the 2020 County Growth Policy. The following table is a summary of each Planning Board briefing.

Table J2. Planning Board Briefings and Work Sessions.

Planning Board Item	Date	Topic (s)
Initial Briefing	09/05/2019	• Overview of the current Subdivision Staging Policy • Scope of the 2020 update • Timeline Update
Briefing: Transportation Element Initiatives	02/27/2020	• Status update on key transportation initiatives • Overview of preliminary transportation draft recommendations
Briefing: Schools Element Initiatives	03/05/2020	• Overview of key schools elements and main topics • Overview of schools data analysis and policy research findings
Briefing: Growth Status and Trends	03/26/2020	• Overview of county growth and demographic trends • Review of the Round 9.1 Cooperative Forecast results
Briefing: Staff Recommendations – Schools	05/28/2020	• Montgomery Planning recommendations for the schools element of the 2020-2024 County Growth Policy and related infrastructure funding mechanisms • Approval of the County Growth Policy Public Hearing Draft
Briefing: Staff Recommendations – Transportation	05/28/2020	• Montgomery Planning recommendations for the transportation element of the 2020-2024 County Growth Policy and related infrastructure funding mechanisms
Work Session #1	06/18/2020	• Schools element recommendations
Work Session #2	06/25/2020	• Transportation element recommendations
Work Session #3	07/02/2020	• Schools element and tax recommendations
Work Session #4	07/09/2020	• Transportation element, schools element and tax recommendations
Work Session #5	07/16/2020	• Transportation element, schools element and tax recommendations
Work Session #6	07/21/2020	• Transportation element, schools element and tax recommendations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APPENDIX K

Urban Land Institute's Virtual Advisory Services Panel

Montgomery Planning invited the Urban Land Institute's (ULI) Advisory Services Program to convene a virtual Advisory Services Panel of independent, volunteer land use and real estate experts to review and provide recommendations on Montgomery Planning's preliminary recommendations on the update to the Subdivision Staging Policy's schools element. ULI panelists also provided a national perspective on best practices and resources related to policies that guide growth, infrastructure funding and school capacity issues. Specifically, Montgomery Planning asked the ULI panel to address the following questions:

- What are some context-sensitive growth policy recommendations the county should consider as it aims to update its County Growth Policy?
- What are appropriate ways to define and measure school infrastructure adequacy?
- What guidance exists to shift from a reactive development moratorium to a proactive prioritization of infrastructure areas where the county desires to grow?
- What would be an effective and equitable method of generating funding for school infrastructure improvements?
- Are there examples and best practices that can be derived from other jurisdictions around the country with similar growth contexts and challenges? What might the county learn from these other places?
- How have other jurisdictions created policies to ensure school adequacy while also promoting other planning priorities (such as affordable housing, economic development, and resilience)?

The virtual ULI panel, conducted April 27-29, 2020, included national experts who worked intensively for two and a half days on analyzing data and preliminary County Growth Policy recommendations, researching best practices from around the country, and conducting interviews with stakeholders, county agencies and community members.

The panel consisted of the following experts:

- Glenda Hood (Panel Chair) – President, Hood Partners - Orlando, Florida
- Eric Fladager – Comprehensive Planning Manager, City of Fort Worth, Texas
- Geoff Koski – President & CEO, Bleakly Advisory Group, Atlanta, Georgia
- Heather Worthington – Principal, Worthington Advisors LLC, Interim Community Development Director, City of Bloomington, MN, St. Paul, Minnesota

The panel's initial findings and recommendations were supportive of many of Montgomery Planning's draft County Growth Policy recommendations while also offering opportunities to improve:

- On the **Annual School Test and Utilization Report**, the panel recommended that Montgomery Planning work with MCPS to simplify the test and better align the timing of its components, to the extent possible. The panel supports the Utilization Premium Payment but recommends ensuring transparency in its creation and clarity in its application, as well as highlighting the benefits to the community to heighten and sustain community support.
- On the **residential development moratorium**, the panel supported the updated strategy to designate each county neighborhood into one of three School Impact Areas as a step toward a more proactive prioritization. Eliminating moratoria in the Infill and Turnover Impact areas allows development to move forward in these locations where most priority master-planned areas have been adopted. The panel also recommended seeking additional opportunities for systemic alignment in educational facilities planning and area master planning, to the greatest extend possible.
- On **student generation rates**, the panel endorsed the recommendation to calculate countywide and School Impact Area student generation rates using all single-family units and multifamily units built since 1990 and combining all multifamily (not distinguishing by height). The panel recommended continuous evaluation of the student generation rates by unit type and year built to monitor shifts over time.
- On **impact tax gradients and discount factors**, the panel offered thoughts on ensuring that mitigating factors are not overlooked in the implementation of the policy recommendation, including the secondary effects of the policy on property values and naturally occurring affordable housing. The panel recommended that communication and education around the historical impact of the policy be made available.
- On **applying impact taxes on a net impact basis**, the panel offered considerations on how the impact fee is rolled into mortgages and other fees; how impact taxes can influence development patterns; and to balance the mix of development and ensure that the redevelopment of areas (for instance, including replacement of single-family homes with larger homes) results in long-term economic viability of that area and the county as a whole.

The ULI panel's final report will be posted to the Montgomery Planning website when it is released in June. In the interim, Montgomery Planning has incorporated some of the initial feedback received by the panel into County Growth Policy recommendations.

APPENDIX L

Draft Growth Policy Resolution

Introduced: _____
Adopted: _____

COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND

By: Council President at the request of the Planning Board

SUBJECT: 2020 County Growth Policy (Subdivision Staging Policy)

Background

1. County Code §33A-15 requires that no later than November 15 of the second year of a Council's term, the County Council must adopt a subdivision staging policy to be effective until November 15 of the second year of the next Council term, to provide policy guidance to the agencies of government and the general public on matters concerning land use development, growth management and related environmental, economic and social issues.

2. On July 31, 2020, in accordance with §33A-15, the Planning Board transmitted to the County Council its recommendations on the 2020 County Growth Policy (Subdivision Staging Policy). The draft policy, as submitted by the Planning Board, contained supporting and explanatory materials.

3. On September 15, 2020, the County Council held a public hearing on the policy.

4. On _____, 2020, the Council's Planning, Housing, and Economic Development Committee conducted worksessions on the recommended policy.

5. On _____, 2020. the Council conducted worksessions on the Subdivision Staging Policy, at which careful consideration was given to the public hearing testimony, updated information, recommended revisions and comments of the County Executive and Planning Board, and the comments and concerns of other interested parties.

Action

The County Council for Montgomery County, Maryland, approves the following Resolution:

The 2020 County Growth Policy (Subdivision Staging Policy) is approved as follows:

Applicability; transition

AP1 Effective dates

This resolution takes effect on January 1, 2021 and applies to any application for a preliminary plan of subdivision filed on or after that date.

AP2 Transition

For any complete application for subdivision approval submitted before January 1, 2021, the rules of the 2016 Subdivision Staging Policy continue to apply.

Guidelines for the Administration of the Adequate Public Facilities Ordinance

County Code Chapter 8 Article IV ("the Adequate Public Facilities Ordinance or APFO") directs the Montgomery County Planning Board to approve preliminary plans of subdivision only after finding that public facilities will be adequate to serve the subdivision. This involves predicting future demand from private development and comparing it to the capacity of existing and programmed public facilities. The following guidelines describe the methods and criteria that the Planning Board and its staff must use in determining the adequacy of public facilities. These guidelines supersede all previous ones adopted by the County Council.

The Council accepts the definitions of terms and the assignment of values to key measurement variables that were used by the Planning Board and its staff in developing the recommended County Growth Policy/Subdivision Staging Policy ("Policy"). The Council delegates to the Planning Board and its staff all other necessary administrative decisions not covered by the guidelines outlined below. In its administration of the APFO, the Planning Board must consider the recommendations of the County Executive and other agencies in determining the adequacy of public facilities.

The findings and directives described in this Policy are based primarily on the public facilities in the approved FY 2021-26 Capital Improvements Program (CIP) and the Maryland Department of Transportation FY 2020-25 Consolidated Transportation Program (CTP). The Council also reviewed related County and State and Federal funding decisions, master plan guidance and zoning where relevant, and related legislative actions. These findings and directives and their supporting planning and measurement process have been the subject of a public hearing and review during worksessions by the County Council. Approval of the findings and directives reflects a legislative judgment that, all things considered, these findings and procedures constitute a reasonable, appropriate, and desirable set of staged growth limits, which properly relate to the ability of the County to program and construct facilities necessary to accommodate growth. These growth stages will substantially advance County land use objectives by providing for coordinated and orderly development.

These guidelines are intended to be used as a means for government to fulfill its responsibility to provide adequate public facilities. Quadrennial review and oversight, combined with periodic

monitoring by the Planning Board, allows the Council to identify problems and initiate solutions that will serve to avoid or limit the duration of any imbalance between the construction of new development and the implementation of transportation improvements in a specific policy area. Further, alternatives may be available for developers who wish to proceed in advance of the adopted public facilities program, through the provision of additional public facility capacity beyond that contained in the approved Capital Improvements Program, or through other measures that accomplish an equivalent effect.

The administration of the Adequate Public Facilities Ordinance must at all times be consistent with adopted master plans and sector plans. Where development staging guidelines in adopted master plans or sector plans are more restrictive than Policy guidelines, the guidelines in the adopted master plan or sector plan must be used to the extent that they are more restrictive. The Policy does not require the Planning Board to base its analysis and recommendations for any new or revised master or sector plan on the public facility adequacy standards in this resolution.

Guidelines for Public School Facilities

S1 Geographic Areas

S1.1 School Impact Areas

The county was divided into small geographic areas predefined by census tract boundaries for the purpose of analyzing the various housing and enrollment growth trends across different parts of the county. These small geographic areas have then been classified into School Impact Areas based on their recent and anticipated growth contexts. The three categories of School Impact Areas and the growth contexts characteristic of each are:

- **Greenfield Impact Area** Areas with high housing growth predominantly in the form of single-family units, consequently experiencing high enrollment growth.
- **Infill Impact Area** Areas with high housing growth predominantly in the form of multifamily units.
- **Turnover Impact Area** Areas with low housing growth, where enrollment growth is largely due to turnover of existing single-family units.

The census tracts associated with each School Impact Area are identified in Table S1 and the School Impact Areas are shown in Map 1.

Table S1. School Impact Area Census Tracts.

Greenfield Impact Areas	Infill Impact Areas			Turnover Impact Areas
7002.05	7048.03	7007.11	7003.10	All remaining census tracts
7003.11	7048.04	7007.17	7008.18	
7003.12	7048.05	7007.18	7008.30	
	7048.06	7007.22	7009.01	
	7024.02	7007.23	7009.04	
	7025	7007.24	7038	
	7026.01	7008.16	7012.02	
	7055.01	7008.17	7012.13	
	7056.02	7003.08	7012.16	
	7007.04	7003.09		

Additionally, all Red Policy Areas (identified in TP1), are designated as Infill Impact Areas.

At each quadrennial update to the County Growth Policy, the latest growth contexts of the small geographic areas are to be reviewed and the School Impact Area classifications are to be revised accordingly.

S1.2 MCPS School Service Areas

For the purpose of analyzing the adequacy of public school facilities by various school service areas, the boundaries of Montgomery County Public Schools (MCPS) are adopted to define individual school service areas for each grade level of school (elementary, middle, and high school). For paired elementary schools – where students attend grades K to 2 at one school and grades 3 to 5 at another – the service areas of the schools paired together are treated as one homogenous area.

- Individual Elementary School Service Area
- Individual Middle School Service Area
- Individual High School Service Area

S2 Annual School Test

Each year, no later than July 1, the Planning Board is to review and certify the results of an Annual School Test to evaluate the adequacy of public school facilities. The test assesses each individual elementary, middle, and high school facility. The findings from the test are used to establish the adequacy status of each school service area and dictate applicable standards for prospective development applications accordingly.

Along with certifying the test results, the Planning Board is required to approve or reaffirm the Annual School Test procedures and guidelines that govern how the test is conducted and utilized. To the extent that they are consistent with this Policy, the Planning Board guidelines may continue to apply or may be amended as the Planning Board finds necessary.

The Annual School Test results remain in effect for the entirety of the fiscal year, unless there is a change to the Montgomery County Public Schools Capital Improvements Program (CIP). If at any time during a fiscal year the County Council notifies the Planning Board of a material change in the MCPS CIP, the Planning Board may revise the results of the Annual School Test to reflect that change. There will be no

staging ceiling or threshold against which the enrollment impact of a development application is measured.

S2.1 Determination of Adequacy

For the purpose of conducting the Annual School Test, adequacy is defined as capacity utilization, measured as a derivative of enrollment and capacity. Capacity herein refers to the program capacity specified for each school by MCPS based on the allocation of space for different grades and types of programs. Capacity utilization can be measured in two dimensions – a utilization rate and the number of students over capacity. A utilization rate is calculated by dividing enrollment by capacity. The number of students over capacity is calculated by subtracting enrollment from capacity.

MCPS provides data for each facility's enrollment and capacity in its annual Educational Facilities Master Plan and Capital Improvements Program. For the purpose of accurately reflecting potential changes to enrollment or capacity figures not officially included in MCPS's data, limited adjustments may be made to the projected enrollment and planned capacity of certain schools on the following terms:

- Adjustments are made to the projected enrollment of schools slated for student reassignments when a capital project is described in the Project Description Form as being intended to relieve overcrowding at one school to the other. The adjustment is to be reflective of the estimated number of students to be reassigned. If an estimated number is explicitly identified in the Project Description Form, it is to be used. Otherwise, the estimate will be based on an assumed balance of projected utilization across all schools involved for the year tested.
- Adjustments are made to the planned capacity of a school when the Council implements a placeholder solution. The adjustment is to be reflective of the potential relief provided by the solution project.

S2.2 Adequacy Standards and School Service Area Status

Every MCPS elementary, middle, and high school with a predefined geographic boundary is assessed by the capacity utilization of their facility projected for three fiscal years in the future.

If a school's three-year projected utilization does not exceed 120%, the facility is considered adequate and the service area's status is open. If a school's three-year projected utilization is found to exceed 120%, the service area's status will require Utilization Premium Payments to be paid.

In Greenfield Impact Areas, if a school's three-year projected utilization rate and number of seats over capacity are projected to reach the moratorium standards listed in Table S2, the school service area will be in moratorium. Areas within the same school service area may be designated with different adequacy statuses if their School Impact Area classifications differ. A moratorium will only be imposed in parts of the school service area designated as a Greenfield Impact Area.

Tables S2 and S3 summarize the adequacy parameters of the Annual School Test described above.

Table S2. School Adequacy Standards

School Adequacy Standards		School Service Areas Status		
Projected Utilization	Projected Seat Deficit	Greenfield Impact Areas	Turnover Impact Areas	Infill Impact Areas
≤ 120%	N/A	Open	Open	Open
> 120%	N/A	UP Payments Required	UP Payments Required	UP Payments Required
> 125%	≥ 115 seats for ES ≥ 188 seats for MS N/A for HS	In Moratorium	UP Payments Required	UP Payments Required

Table S3. School Service Area Status Descriptions

School Service Area Status	Status Descriptions and Development Implications
Open	Development applications may proceed from the standpoint of adequate school facilities.
Utilization Premium Payments Required	Development applications require Utilization Premium Payments as specified in Section S6 as a condition of adequate public facilities approval.
In Moratorium	Residential development applications cannot be approved unless they meet criteria for an exception from moratorium.

S3 Utilization Premium Payment Requirements

If the Annual School Test determines that the three-year projected utilization rate of a school exceeds 120%, Utilization Premium Payments are required as a condition of Planning Board approval on the basis of adequate school facilities.

S3.1 Utilization Premium Payment Calculation

The Utilization Premium Payments are applied at the individual school level and will be calculated as a percentage of the applicable standard school impact tax rates, as shown in Table S4.

Table S4. Utilization Premium Payment

School Level	Payment Factor
Elementary School	25% of the standard impact tax for the School Impact Area and dwelling type
Middle School	15% of the standard impact tax for the School Impact Area and dwelling type
High School	20% of the standard impact tax for the School Impact Area and dwelling type

S3.2 Exemptions from Utilization Premium Payments

S3.2.1 Affordable Housing Units

Moderately Priced Dwelling Units and other affordable housing units, which are exempt from development impact taxes for schools under Section 52-54(d), paragraphs 1 through 4, are exempt from the Utilization Premium Payments.

S4 Moratorium on Residential Development in Greenfield Impact Areas

In Greenfield Impact Areas, if the Annual School Test determines that a school exceeds the adequacy standards, a residential subdivision moratorium must be imposed within the school service area. The moratorium is to be limited to the part of the school service area that is within the Greenfield Impact Area.

When the Annual School Test identifies an area as being in moratorium, the Planning Board must not approve any residential subdivision in that area during the next fiscal year, unless it meets certain exception criteria.

S4.1 Exceptions from Moratorium

S4.1.1 De Minimis Development

When a moratorium is imposed in a Greenfield Impact Area, the Planning Board may nevertheless approve a subdivision in the subjected area if the plan is calculated to generate fewer than one student at any school identified as inadequate by the Annual School Test.

S4.1.2 Senior Housing

When a moratorium is imposed in a Greenfield Impact Area, the Planning Board may nevertheless approve a subdivision in the subjected area if the residential component of the plan consists solely of age-restricted housing units for seniors 55 years old and older.

S4.1.3 Capacity at Nearby School

When a moratorium is imposed in a Greenfield Impact Area, the Planning Board may nevertheless approve a subdivision in the subjected area if a nearby school at the same grade level as the school causing the moratorium is within the applicable network distance identified in Table S5 and has a projected test year utilization of 105% or less.

Table S5. Distance Standard for Nearby School

School Grade Level	Network Distance from Subdivision
Elementary School	3 miles
Middle School	5 miles
High School	10 miles

S5 Utilization Report

The Annual School Test is to be accompanied by a Utilization Report each year, which provides supplemental information pertaining to the county's public school infrastructure. The report will include a utilization analysis both from a countywide perspective and individual school perspective.

S5.1 Countywide Analysis

From a countywide perspective, the Utilization Report will provide an analysis of all schools collectively for each school grade level. The data should include, as available:

- historic trends and projections of collective utilization rates of all schools countywide by school grade level
- historic trends and projections of the share and number of schools at each school grade level within certain utilization bands (e.g., between 100% and 120% utilization)

S5.2 Individual School Analysis

The Utilization Report will also provide additional utilization data and facility conditions for each individual school. The information reported for each individual school should include, as available:

- historic trend and projection of enrollment, capacity, and capacity utilization (both utilization rate and number of students over capacity)
- information relevant to core capacity and usage
- current number of relocatable classrooms being used
- most recent MCPS Key Facility Indicator data
- list of three nearest schools of the same grade level, and approximate travel distance to each nearest school

S6 Student Generation Rates

Student generation rates are the ratio of students enrolled in public schools to the total number of dwelling units and is a depiction of the average number of students per unit for a given geography and housing type. Student generation rates are to be updated biennially on July 1 of every odd-numbered year using the most recent MCPS enrollment data.

Guidelines for Transportation Facilities

TP Policy Areas

TP1 Policy Area Boundaries and Definitions

For the purposes of transportation analysis, the County has been divided into areas called traffic zones. Based on their transportation characteristics, these zones are grouped into transportation policy areas, as shown on Map T1. In many cases, transportation policy areas have the same boundaries as planning areas, sector plan areas, or master plan analysis (or special study) areas. Each policy area is categorized as Red, Orange, Yellow or Green Policy Areas. The policy areas in effect, and their applicable category for 2020-2024 are:

Red Policy Areas: Bethesda CBD Metro Station Policy Area (MSPA), Forest Glen MSPA, Friendship Heights MSPA, Glenmont MSPA, Grosvenor MSPA, Rockville Town Center MSPA, Shady Grove MSPA, Silver Spring CBD MSPA, Twinbrook MSPA, Wheaton CBD MSPA, White Flint MSPA, Chevy Chase Lake, Long Branch, Lyttonsville/Woodside, Dale Drive/Manchester Place and Takoma/Langley.

Orange Policy Areas: Bethesda Chevy Chase, Burtonsville Town Center, Clarksburg Town Center, Derwood, Gaithersburg City, Germantown Town Center, Kensington/Wheaton, North

Bethesda, Research and Development Village, Rockville City, Silver Spring/Takoma Park, and White Oak.

Yellow Policy Areas: Aspen Hill, Clarksburg, Cloverly, Fairland/Colesville, Germantown East, Germantown West, Montgomery Village/Airpark, North Potomac, Olney, and Potomac.

Green Policy Areas: Damascus, Rural East, and Rural West.

The boundaries of the policy areas are shown on maps T2-T40.

The boundaries of the Gaithersburg City and Rockville City policy areas reflect existing municipal boundaries, except where County-regulated land is surrounded by city-regulated land. The boundaries of these municipal policy areas do not automatically reflect any change in municipal boundaries; any change in a policy area boundary requires affirmative Council action.

TP2 Development District Participation

Under Chapter 14 of the County Code, the County Council may create development districts as a funding mechanism for needed infrastructure in areas of the County where substantial development is expected or encouraged.

TP2.1 Additional Facilities Recommended for Funding

The County Executive and Planning Board may also recommend to the County Council additional facilities to be provided by the development district or by the public sector to support development within the district. These facilities may include, but are not limited to libraries, health centers, local parks, social services, green ways, and major recreation facilities.

TP2.2 Satisfaction of APF Requirements

As provided in Chapter 14 of the County Code, once the development district is created and the financing of all required infrastructure is arranged, the development in the district is considered to have satisfied all APF requirements, any additional requirements that apply to development districts in the Subdivision Staging Policy, and any other requirement to provide infrastructure which the County adopts within 12 years after the district is created.

TL Local Area Transportation Review (LATR)

Local Area Transportation Review must at all times be consistent with the standards and staging mechanisms of adopted master and sector plans.

Because the various modes of the transportation system are not isolated, LATR adequacy tests are required for any subdivision that generates 50 or more peak-hour weekday person trips.

TL1 Vision Zero Resources

Since adopting the Vision Zero Action Plan, the county launched several Vision Zero-related initiatives. These initiatives shall be leveraged and incorporated into the LATR process. Some of these initiatives have been completed and adopted while others are ongoing and will be incorporated in the future, including:

- Bicycle Master Plan – adopted
- Pedestrian Master Plan – ongoing
- High Injury Network – completed
- Predictive Safety Analysis – ongoing
- Bicycle Level of Traffic Stress Map – completed
- Pedestrian Level of Comfort Map – ongoing
- Vision Zero Toolkit – ongoing
- Complete Streets Design Guide – ongoing

Roads immediately adjacent to new development should be designed to account for all identified recommendations from applicable planning documents including Functional Plans, Master Plans and Area Plans. The resources listed above, in particular the Bicycle Level of Traffic Stress and Pedestrian Level of Comfort maps, are only useful if the models are built on data that accurately reflects the conditions for bicyclists and pedestrians. In the context of performing a transportation impact study for any development project, the transportation consultant shall check the accuracy of the bicycle and pedestrian network attributes in the county's database relative to the observed existing conditions. The consultant should identify any inaccurate network attributes and any attributes to be updated in accordance with the development "as built" plans and report this information to Montgomery Planning staff to update the county's databases accordingly.

TL2 LATR System Adequacy Tests

TL2.1 Safety System Adequacy

Safety system adequacy will be defined through a Vision Zero test. This test will entail a safety performance analysis that will be performed utilizing a safety performance function (SPF). A SPF is an equation used to predict the number of crashes per year at a location as a function of exposure, land use and roadway or intersection characteristics. Development can impact the factors that influence the estimated number of crashes. The county is conducting a Predictive Safety Analysis for estimating SPFs and the estimated number of crashes for common crash types. Upon Planning Board approval following completion of the Predictive Safety Analysis, safety system adequacy will be defined as providing a reduction in the overall estimated number of crashes (based on SPFs) for the build conditions at all intersections and street segments within the study scope.

The process for utilizing the SPF approach in the safety system test will be refined and described in greater detail after completion of the Predictive Safety Analysis. This method should factor in development-generated site trips as well as development-related changes to the transportation network and public space. If the number of expected crashes is found to increase with the new development traffic, safety mitigation must be applied in order to reduce the overall number of expected crashes at study intersections and street segments to below predevelopment levels. The developer should make a fair share contribution to mitigation at study intersections that are not direct access points to the development.

The geographic scope of the safety system test is one network-based mile from the site frontage or a distance determined by the size of the development project and the number of peak-hour vehicle trips generated as shown in Table T1, whichever is less.

TL2.2 Motor Vehicle System Adequacy

To achieve an approximately equivalent transportation level of service in all areas of the county, greater vehicular traffic congestion is permitted in policy areas with greater transit accessibility and usage. For motor vehicle adequacy, Table T2 shows the intersection level of service standards by policy area. The

motor vehicle adequacy test will not be applied in Red Policy Areas. When a motor vehicle LATR study is required, the initial analysis will be a Critical Lane Volume (CLV) evaluation. Only signalized intersections exhibiting a CLV exceeding the applicable policy area CLV congestion standard will require the Highway Capacity Manual (HCM) delay-based analysis. The Planning Board may adopt administrative guidelines that allow use of Highway Capacity Manual 2010 methodologies and other analysis techniques consistent with guidance published by the Transportation Research Board.

Motor vehicle mitigation is required for any intersection failing the HCM test (i.e., exhibiting delay exceeding the applicable policy area HCM delay standard) based on the prioritization identified in TL5. The applicant must mitigate its impact on vehicle delay or down to the applicable policy area standard, whichever is less. In this context, vehicular capacity mitigation must not negatively impact progress toward the county's Vision Zero goals or directly detriment safety, transit or non-motorized improvements required by the other LATR tests.

The scope of the motor vehicle adequacy test is based on the size of the project and the number of peak-hour vehicle trips generated by the project. Each LATR motor vehicle study must examine, at a minimum, the number of signalized intersections identified in Table T1, unless the Planning Board affirmatively finds that special circumstances warrant a more limited study.

Table T1. Motor Vehicle and Safety System LATR Scoping

Maximum Peak-Hour Vehicle Trips Generated	Minimum Signalized Intersections in Each Direction
< 250	1
250 – 749	2
750 – 1,249	3
1,250 – 1,749	4
1,750 – 2,249	5
2,250 – 2,749	6
>2,750	7

TL2.3 Pedestrian System Adequacy

TL2.3.1 Interim Pedestrian System Analysis

Until Planning Board approval of the Pedestrian Level of Comfort map, pedestrian system adequacy shall be defined as providing level of service (LOS) D capacity or better in any crosswalk. For any site that generates more than 50 pedestrian peak hour trips (including trips to transit) the applicant must:

- Fix (or fund) Americans with Disabilities Act (ADA) non-compliance issues within a 500-foot radius of site boundaries, and
- Ensure LOS D for crosswalk pedestrian delay (or no more delay than existing) at LATR study intersections within 500 feet of site boundaries or within a Road Code Urban Area/Bicycle Pedestrian Priority Area (RCUA/BPPA)

Regardless of the development size and location, if an intersection operational analysis is triggered for any intersections within a RCUA/BPPA, mitigation must not increase average pedestrian crossing time at the intersection.

TL2.3.2 Vision Zero Enhanced Pedestrian System Analysis

Upon Planning Board approval of the Pedestrian Level of Comfort map, pedestrian system analysis will be based on the following standards and scoping:

- For any site generating at least 50, but fewer than 100 peak-hour person trips the applicant must:
    - Demonstrate the achievement of a "somewhat comfortable" or "very comfortable" Pedestrian Level of Comfort (PLOC) score for walking to destinations within 250 feet of a development site boundary – including commercial centers, transit stations, schools, parks, libraries, recreation centers, medical facilities, among other things – or transit stops within 500 feet of the development site boundary. If current conditions are not adequate, the applicant must construct up to 500 feet of improvements to achieve adequacy from the site frontage. Specific improvements to be constructed should be identified in consultation with Montgomery Planning.
    - Evaluate existing street lighting based on Montgomery County Department of Transportation (MCDOT) standards along roadways or paths from the development to destinations within 250 feet of the development site boundary or to transit stops within 500 feet of the development site boundary. Where standards are not met, street lighting shall be upgraded to meet the applicable standards. The streetlight field review shall include a field inventory of existing streetlight and pedestrian scale fixtures with current spacing and general location of luminaire noted (utility pole mounted, stand-alone pole mount, or pedestrian scale). All longitudinal spacing or intersection locations that do not meet MCDOT standards should be noted. Note this inventory is not intended to be a full lighting study with measurement of illuminance levels but will identify missing lighting locations at intersections as well as longitudinal spacing deficiencies as per MCDOT streetlight standards.
- For any site generating 100 or more peak-hour person trips the applicant must:
    - Demonstrate the achievement of a "somewhat comfortable" or "very comfortable" Pedestrian Level of Comfort (PLOC) score for walking to destinations within 500 feet of a development site boundary – including commercial centers, transit stations, schools, parks, libraries, recreation centers, medical facilities, among other things – or transit stops within 1,000 feet of the development site boundary. If current conditions are not adequate, the applicant must construct up to 1,000 feet of improvements to achieve adequacy from the site frontage. Specific improvements to be constructed should be identified in consultation with Montgomery Planning.
    - Evaluate existing street lighting based on Montgomery County Department of Transportation (MCDOT) standards along roadways or paths from the development to destinations within 500 feet of the development site boundary or to transit stops within 1,000 feet of the development site boundary. Where standards are not met, street lighting shall be upgraded to meet the applicable standards. The streetlight field review shall include a field inventory of existing streetlight and pedestrian scale fixtures with current spacing and general location of luminaire noted (utility pole mounted, stand-alone pole mount, or pedestrian scale). All longitudinal spacing or intersection locations that do not meet MCDOT standards should be noted. Note this inventory is not intended to be a full lighting study with measurement of illuminance levels but will identify missing lighting locations at intersections as well as longitudinal spacing deficiencies as per MCDOT streetlight standards.
- For any site generating at least 50 pedestrian peak-hour trips (including to transit) the applicant must fix (or fund) Americans with Disabilities Act (ADA) non-compliance issues within a 500-foot radius of site boundaries.

TL2.4 Bicycle System Adequacy

Bicycle system adequacy is defined as providing a low Level of Traffic Stress (LTS) for bicyclists. Bicycle system analysis will be based on the following standards and scoping:

- For any site generating at least 50, but fewer than 100 peak-hour person trips the applicant must ensure low Level of Traffic Stress (LTS-2) conditions within 375 feet of the site frontage. If current connections are not adequate, the applicant must construct up to 375 feet of side-paths, separated bike lanes, or trails that create or extend a low level of traffic stress up to 375 feet from the site frontage. In consultation with Montgomery Planning, the improvements to be constructed will be informed by the Bicycle Master Plan priority tiers.

- For any site generating 100 or more peak-hour person trips the applicant must ensure low Level of Traffic Stress (LTS-2) conditions within 750 feet of the site frontage. If current connections are not adequate, the applicant must construct up to 750 feet of side-paths, separated bike lanes, or trails that create or extend a low level of traffic stress up to 750 feet from the site frontage. In consultation with Montgomery Planning, the improvements to be constructed will be informed by the Bicycle Master Plan priority tiers.

TL2.5 Transit System Adequacy

Transit system adequacy for LATR is defined as providing a peak load of LOS D for bus transit service routes (1.25 transit riders per seat) during the peak period (in the peak direction). Transit system analysis will be based on the following standards and scoping:

- For any site generating at least 50, but fewer than 100 peak-hour person trips the applicant must inventory bus routes at stations/stops within 500 feet of the site and identify the peak load for each route at that station. The applicant must coordinate with the transit service provider to identify and implement (or fund) improvements needed to address conditions worse than LOS D due to additional patrons generated by the development.

- For any site generating 50 or more peak-hour person trips the applicant must inventory bus routes at stations/stops within 1,000 feet of the site and identify the peak load for each route at that station. The applicant must coordinate with the transit service provider to identify and implement (or fund) improvements that would be needed to address conditions worse than LOS D due to additional patrons generated by the development.

TL3 LATR Vision Zero Impact Statement

To ensure development is executed to better align with Vision Zero principles, all LATR studies must include a Vision Zero Impact Statement. This statement shall describe:

- Any segment of the high injury network located on the development frontage.
- Crash analysis for the development frontage.
- An evaluation of the required sight distance for all development access points.
- Identification of conflict points for drivers, bicyclists, and pedestrians and a qualitative assessment of the safety of the conflict.
- A speed study including posted, operating, design, and target speeds.
- Any capital or operational modifications required to maximize safe access to the site and surrounding area, particularly from the Vision Zero Toolkit.

In addition, mitigation recommendations from the capacity-based adequacy determination must address the needs identified in the Vision Zero Impact Statement and Pedestrian and Bicycle Impact Statement. A goal of the requirements listed immediately above is to ensure Vision Zero resources accurately reflect conditions on the development frontage.

TL4 Additional LATR Standards and Procedures

In administering Local Area Transportation Review, the Planning Board must not approve a subdivision if it finds that inadequate travel conditions will result after considering existing roads, programmed roads, available or programmed mass transportation, and improvements to be provided by the applicant. If the subdivision will affect an intersection or roadway link for which congestion is already unacceptable, then the subdivision may only be approved if the applicant agrees to mitigate the impacts of either:

- a sufficient number of trips to bring the inadequate travel conditions to a level of adequacy, or
- a number of trips attributable to the development.

The nature of the LATR test is such that a study is necessary if inadequate travel conditions are likely to occur. The Planning Board and staff must examine the applicant's traffic study to determine whether adjustments are necessary to assure that the LATR study is a reasonable and appropriate reflection of the traffic impact of the proposed subdivision after considering all approved development and programmed transportation projects.

If use and occupancy permits for at least 75% of the originally approved development were issued more than 12 years before the LATR study scope request, the number of signalized intersections in the study must be based on the increased number of peak hour trips rather than the total number of peak hour trips. In these cases, LATR is not required for any expansion that generates 5 or fewer additional peak hour trips.

For Local Area Transportation Review purposes, the programmed transportation projects to be considered are those fully funded for construction in the first 6 years of the current approved Capital Improvements Program, the state's Consolidated Transportation Program, or any municipal capital improvements program. For these purposes, any road required under Section 302 of the County Charter to be authorized by law is not programmed until the time for petition to referendum has expired without a valid petition or the authorizing law has been approved by referendum.

If an applicant is participating in a traffic mitigation program or one or more intersection improvements to meet Local Area Transportation Review requirements, that applicant must be considered to have met Local Area Transportation Review for any other intersection where the volume of trips generated is less than 5 Critical Lane Movements.

Any LATR study must be submitted by a registered Professional Engineer, certified Professional Traffic Operations Engineer, or certified Professional Transportation Planner.

At the Planning Board's discretion, each traffic mitigation program must be required to operate for at least 12 years but no longer than 15 years. The Planning Board may select either trip reduction measures or road improvements, or a combination of both, as the required means of traffic mitigation.

The Planning Board has adopted guidelines to administer Local Area Transportation Review. To the extent that they are consistent with this Policy, the Planning Board guidelines may continue to apply or may be amended as the Planning Board finds necessary.

In administering Local Area Transportation Review, the Planning Board must carefully consider the recommendations of the County Executive concerning the applicant's LATR study and proposed improvements or any other aspect of the review. To achieve safe and convenient pedestrian travel, the Planning Board may adopt administrative guidelines requiring construction of off-site sidewalk improvements consistent with County Code §50-25. To support creating facilities that encourage transit use, walking, and bicycling, to maintain an approximately equivalent level of service at the local level for both auto and non-auto modes, the Board may allow the applicant to use peak hour vehicle trip credits for providing non-auto facilities. Before approving credits for non-auto facilities to reduce Local Area Transportation Review impacts, the Board should first consider the applicability and desirability of traffic mitigation agreement measures. The Board's *LATR Guidelines* must identify applicable facilities in terms of actions that can be given trip credits and the maximum number of trips that can be credited. If the Board approves any credits, it must specify mechanisms to monitor the construction of any required facility. During each quadrennial Subdivision Staging Policy, the Board must report on the number of credits issued and confirm the construction of any required facility.

In general, any mitigation measure or combination of mitigation measures must be scheduled for completion or otherwise operational either before or at the same time as the proposed development is scheduled to be completed. The nature, design, and scale of any additional facility or program must receive prior approval from any government agency that would construct or maintain the facility or program, and the applicant and the public agency must execute an appropriate public works agreement before the Planning Board approves a record plat.

Both the subdivision plan and the necessary mitigation measures must be consistent with an adopted master plan or other relevant land use policy statement. For the Planning Board to accept an intersection improvement as a mitigation measure, the applicant must show that alternative non-auto mitigation measures are not feasible or desirable. In evaluating mitigation measures proposed by an applicant, the Board must place a high priority on design excellence to create a safe, comfortable, and attractive public realm for all users, with particular focus on high-quality pedestrian and transit access to schools, libraries, recreation centers, and other neighborhood facilities.

If an approved subdivision already has constructed or participated in the construction of off-site improvements to accommodate its peak hour trips, based on the LATR requirements the Board imposed when it approved a preliminary subdivision plan, and if the subdivision later converts one or more approved uses or reduces its size so that the subdivision generates fewer peak hour trips than estimated when the Board imposed the LATR requirements, the trip mitigation agreement must reduce the subdivision's peak hour trip mitigation requirement by one trip for each peak hour trip that the subdivision would no longer generate. If the conversion of all or part of a subdivision from one use to another would cause a different trip distribution or would place new or different burdens on one or more intersections, and if the subdivision is otherwise required to do so, the subdivision must construct or contribute to improvements specified by the Board to mitigate that result.

TL5 Motor Vehicle Mitigation Priorities

Mitigation strategies to increase capacity or reduce delay for motor vehicles may be counter to Vision Zero principles. Increases in speed or increasing motor vehicle capacity through roadway widening, signal phasing or timing changes may increase hazards for pedestrians, bicyclists and drivers. It is critical that any capacity-based mitigation strategy does not negatively impact the safety of any roadway

user. The application of motor vehicle congestion mitigation approaches shall be prioritized as follows when projected traffic generated from proposed projects exceeds the applicable policy area congestion standard:

- Transportation demand management (TDM) approaches to reduce vehicular demand.
- Payment in lieu of mitigation
- Intersection operational improvements
- Roadway capacity improvements

In the event that intersection operational improvements or roadway capacity improvements proposed by the developer run counter to the county's Vision Zero goals or directly detriment safety, transit or non-motorized improvements required by the other LATR tests, the Planning Board may alternatively require the developer to make payments to MCDOT in lieu of motor vehicle congestion mitigation.

In Road Code Urban Areas (RCUAs) and Bicycle Pedestrian Priority Areas (BiPPAs), adjusting the prioritization of mitigation approaches listed above may allow for mitigation payment in lieu of construction.

TL6 Unique Policy Area Issues

TL6.1 White Flint Policy Area LATR Standards

Any proposed development located in the White Flint Metro Station Policy Area is exempt from Local Area Transportation Review if the development will be required to provide substantial funds to the Special Tax District created to finance master planned public improvements in the Policy Area. However, the traffic impact of any development in that Policy Area must be considered in any Local Area Transportation Review calculation for any development elsewhere where it would otherwise be considered.

TL6.2 Potomac LATR Standards

In the Potomac Policy Area, only the areas contributing traffic to the following intersections must be subject to Local Area Transportation Review: (a) Montrose Road at Seven Locks Road; (b) Democracy Boulevard at Seven Locks Road; (c) Tuckerman Lane at Seven Locks Road; (d) Democracy Boulevard at Westlake Drive; (e) Westlake Drive at Westlake Terrace; (f) Westlake Drive at Tuckerman Lane; (g) Bradley Boulevard at Seven Locks Road; (h) River Road at Bradley Boulevard; (i) River Road at Piney Meetinghouse Road; (j) River Road at Falls Road; (k) Falls Road at Democracy Boulevard; and (l) River Road at Seven Locks Road.

TL6.3 Silver Spring CBD Policy Area and Transportation Management District

The Local Area Transportation Review for the Silver Spring CBD policy area must use the following assumptions and guidelines:

- Each traffic limit is derived from the heaviest traffic demand period in Silver Spring's case, the p.m. peak hour outbound traffic.
- When tested during a comprehensive circulation analysis, the critical lane volume or average vehicle delay for intersections in the surrounding Silver Spring/Takoma Park policy area must not be worse than the adopted level of service standards shown in Table T2 unless the Planning

Board finds that the impact of improving the intersection is more burdensome than the increased congestion.

- The Planning Board and the Department of Transportation must implement Transportation Systems Management for the Silver Spring CBD. The goal of this program must be to achieve the commuting goals for transit use and auto occupancy rates set out below.
- The County Government, through the Silver Spring Parking Lot District, must constrain the amount of public and private long-term parking spaces.

The parking constraints and commuting goals needed to achieve satisfactory traffic conditions with these staging ceilings are:

Parking constraint: A maximum of 17,500 public and private long-term spaces when all nonresidential development is built; this maximum assumes a peak accumulation factor of 0.9, which requires verification in Silver Spring and may be subject to revision. Interim long-term parking constraints must be imposed in accordance with the amount of interim development. Long-term public parking spaces must be priced to reflect the market value of constrained parking spaces.

Commuting goals: For employers with 25 or more employees, attain 25 percent mass transit use and auto occupancy rates of 1.3 persons per vehicle during the peak periods, or attain any combination of employee mode choice that results in at least 46% non-drivers during the peak periods. For new nonresidential development, attain 30% mass transit use and auto occupancy rates of 1.3 persons per vehicle during the peak periods, or attain any combination of employee mode choice that results in at least 50% non-drivers during the peak periods.

Progress towards achieving these goals should be measured annually by scientific, statistically valid surveys.

To achieve these goals it will be necessary to require developers of new development in Silver Spring to enter into traffic mitigation agreements and the employers and certain owners to submit transportation mitigation plans under County Code Chapter 42A.

In accordance with the amendment to the Silver Spring Sector Plan, subdivision applications for nonresidential standard method projects throughout the CBD may be approved for development or additions of not more than 5,000 square feet of gross floor area. However, if, for a particular use the addition of 5 peak hour trips yields a floor area greater than 5,000 square feet, that additional area may be approved for that particular use.

TL6.4 North Bethesda TMD

In the North Bethesda Transportation Management District, the goal is 39% non-driver mode share for workers in the peak hour.

TL6.5 Bethesda TMD

In the Bethesda Transportation Management District, the goal is 37% non-driver mode share for workers.

TL6.6 Friendship Heights TMD

In the Friendship Heights Transportation Management District, the goal is 39% non-driver mode share for workers.

TL6.7 Greater Shady Grove TMD

In the Shady Grove Policy Area, the goal is a transit ridership goal of 35% for residents in the Shady Grove Policy Area, 25% for residents elsewhere in the Sector Plan, and 12.5% for employees of office development traveling to work.

Each development that receives preliminary plan approval in the Shady Grove Metro Station Policy Area and generates at least 100 additional peak-hour vehicle trips, other than pass-by trips, must enter into a Traffic Mitigation Agreement (TMAg). The trip mitigation requirement for this Agreement is 50% of the residential-related vehicle trips and 65% of the non-residential-related vehicle trips that would otherwise be expected, based on countywide trip generation rates before any applicable deduction, such as proximity to a Metrorail station. The breakdown in the reduction of trips should be identified in the Agreement. County-owned property in the Shady Grove Policy Area must enter into a TMAg on all new development or redevelopment, with no deduction of existing trips.

TL6.8 Great Seneca Science Corridor Master Plan

In the Great Seneca Science Corridor, an 18% non-auto driver mode share (NADMS) must be attained before Stage 2 begins, a 23% NADMS must be attained before Stage 3 begins, and a 28% NADMS must be attained before Stage 4 begins.

TL6.9 White Oak Policy Area

In the White Oak Policy Area the non-auto-driver mode share (NADMS) goal for all new development, based on the area's future transit service (assuming bus rapid transit) and connectivity opportunities, is 25% in the White oak Center and Hillandale Center, and is 30% in the Life Sciences/FDA Village Center.

(a) The Board may approve a subdivision in the White Oak Policy Area conditioned on the applicant paying a fee to the County commensurate with the applicant's proportion of the cost of a White Oak Local Area Transportation Improvement Program, including the costs of design, land acquisition, construction, site improvements, and utility relocation. The proportion is based on a subdivision's share of net additional peak-hour vehicle trips generated by all master-planned development in the White Oak Policy Area approved after January 1, 2016.
(b) The components of the White Oak Local Area Transportation Improvement Program and the fee per peak-hour vehicle trip will be established by Council resolution, after a public hearing. The Council may amend the Program and the fee at any time, after a public hearing.
(c) The fee must be paid at a time and manner consistent with Transportation Mitigation Payments as prescribed in Section 52-59(d) of the Montgomery County Code.
(d) The Department of Finance must retain funds collected under this Section in an account to be appropriated for transportation improvements that result in added transportation capacity serving the White Oak Policy Area.

TL7 Unified Mobility Programs

(a) The Board may approve a subdivision in any policy area conditioned on the applicant paying a fee to the County commensurate with the applicant's proportion of the cost of a Unified Mobility

Program (UMP), including the costs of design, land acquisition, construction, site improvements, and utility relocation. One option is to base this proportion on a subdivision's share of net additional peak-hour vehicle trips generated by all master-planned development in the policy area.

(b) The components of the UMP and the fee per peak-hour vehicle trip will be established by Council resolution, after a public hearing. The Council may amend the UMP and the fee at any time, after a public hearing.

(c) The fee must be paid at a time and manner consistent with Transportation Mitigation Payments as prescribed in Section 52-59(d) of the Montgomery County Code.

(d) The Department of Finance must retain funds collected under this Section in an account to be appropriated for transportation improvements that result in added transportation capacity serving the policy area.

TL8 Red Policy Area LATR Standards

Any proposed development in Red policy areas is exempt from the LATR motor vehicle adequacy test. In lieu of the motor vehicle adequacy test, the assessment of transportation system performance in these areas should be performed through the biennial monitoring program, including a Comprehensive Local Area Transportation Review (or comparable analysis), to identify and prioritize master planned infrastructure implementation needs. Concurrently, the establishment of Unified Mobility Programs (UMPs) should be considered for Red policy areas, as appropriate.

TL9 Transit Corridor Motor Vehicle LATR Standards

The motor vehicle level of service standard for signalized intersections along the segments of the following roadways that traverse Orange and Yellow policy areas and include planned Bus Rapid Transit (BRT) service within their master planned right-of-way is 1700 CLV or 100 second/vehicle:

- Georgia Avenue (MD 97), the segment sharing the right-of-way with the Georgia Avenue BRT
- Rockville Pike/Frederick Road (MD 355), the segment sharing the right-of-way with the MD 355 BRT
- New Hampshire Avenue (MD 650), the segment sharing the right-of-way with the New Hampshire Avenue BRT
- Old Georgetown Road (MD 187), the segment sharing the right-of-way with the North Bethesda Transitway
- Randolph Road, the segment sharing the right-of-way with the Randolph Road BRT
- University Boulevard (MD 193), the segment sharing the right-of-way with the University Boulevard BRT
- US 29, the segment sharing the right-of-way with the US 29 BRT
- Veirs Mill Road (MD 586), the segment sharing the right-of-way with the Veirs Mill BRT
- Century Boulevard and Observation Drive, the segments of these roadways sharing the right-of-way with the Corridor Cities Transitway

TA Alternative Review Procedures

TA1 Expiration of Approvals under Previous Alternative Review Procedures

Annual Growth Policy resolutions in effect between 1995 and 2001 contained Alternative Review Procedures that required any development approved under those procedures to receive each building permit no later than 4 years after the Planning Board approved the preliminary plan of subdivision for that

development. Any outstanding development project approved under an Alternative Review Procedure is subject to the expiration dates in effect when that development project was approved.

TA2 Automobile related uses in the Cherry Hill Employment Area

For any property located in the Cherry Hill Employment Area with automobile repair, service, sales, parking, storage, or related office uses, **TL Local Area Transportation Review** is not required.

This provision applies to any application for a preliminary plan of subdivision, site plan, or building permit approved before July 26, 2016.

TA3 Public Facility Project

An applicant for a development which will be built solely as a public facility (such as a school, firehouse, police station, or library) need not take any action under TL Local Area Transportation Review when it undergoes a mandatory referral review by the Planning Board.

TA4 Affordable Housing

The provision of affordable housing in the County is crucial to providing long lasting reductions to regional congestion. Long distance trips affect the County's traffic in many parts of our community. The provision of affordable housing is a fundamental element of the County's General Plan and part of the County's economic development strategy. All trips generated by any moderately priced dwelling unit (MPDU) and any other low-and moderate-income housing which is exempt from paying a development impact tax must also be exempt from any Transportation Mitigation payment.

Table T2. Local Area Transportation Review Intersection Congestion Standards – Highway Capacity Manual Volume-to-Capacity, Critical Lane Volume and Average Vehicle Delay Equivalencies.

Policy Area	HCM Average Vehicle Delay Standard (seconds/vehicle)	Critical Lane Volume Congestion Equivalent	HCM Volume-to-Capacity Equivalent
29 Rural East 30 Rural West	41	1350	0.84
9 Damascus	48	1400	0.88
6 Clarksburg 14 Germantown East 16 Germantown West 13 Gaithersburg City 21 Montgomery Village/Airpark	51	1425	0.89
8 Cloverly 23 North Potomac 25 Potomac 24 Olney 26 R&D Village	55	1450	0.91
10 Derwood 1 Aspen Hill 11 Fairland/Colesville	59	1475	0.92
7 Clarksburg Town Center 15 Germantown Town Center 27 Rockville City	63	1500	0.94
4 Burtonsville Town Center 22 North Bethesda	71	1550	0.97
3 Bethesda/Chevy Chase 19 Kensington/Wheaton 33 Silver Spring/Takoma Park 38 White Oak	80	1600	1.00

Guidelines for Water and Sewerage Facilities

In accordance with the Adequate Public Facilities Ordinance, applications must be considered adequately served by water and sewerage if the subdivision is located in an area in which water and sewer service is presently available, is under construction, is designated by the County Council for extension of service within the first two years of a current approved Comprehensive Water Supply and Sewerage Systems Plan (i.e., categories 1-3), or if the applicant either provides a community water and/or sewerage system or meets Department of Permitting Services requirements for septic and/or well systems, as outlined in the Adequate Public Facilities Ordinance. These requirements are determined either by reference to the Water and Sewerage Plan, adopted by the Council, or by obtaining a satisfactory percolation test from the Department of Permitting Services.

Applications must only be accepted for further Planning staff and Board consideration if they present evidence of meeting the appropriate requirements as described above.

Guidelines for Police, Fire and Health Services

The Planning Board and staff must consider the programmed services to be adequate for facilities such as police stations, firehouses, and health clinics unless there is evidence that a local area problem will be generated. Such a problem is one which cannot be overcome within the context of the approved Capital Improvements Program and operating budgets of the relevant agencies. Where such evidence exists, either through agency response to the Subdivision Review committee clearinghouse, or through public commentary or Planning staff consideration, a Local Area Review must be undertaken. The Board must seek a written opinion from the relevant agency, and require, if necessary, additional data from the applicant, to facilitate the completion of the Planning staff recommendation within the statutory time frame for Planning Board action. In performing this Local Area Review, the facility capacity at the end of the sixth year of the approved CIP must be compared to the demand generated by the "most probable" forecast for the same year prepared by the Planning Department.

Guidelines for Resubdivisions

An application to amend a previously approved preliminary plan of subdivision does not require a new test for adequacy of public facilities if:

- Revisions to a preliminary plan have not been recorded, the preliminary plan has not expired, and the number of trips which will be produced by the revised plan is not greater than the number of trips produced by the original plan.
- Resubdivision of a recorded lot involves the sale or exchange of parcels of land (not to exceed a total of 2,000 square feet or one percent of the combined area, whichever is greater) between owners of adjoining properties to make small adjustments in boundaries.
- Resubdivision of a recorded lot involves more than 2,000 square feet or one percent of the lot area and the number of trips which will be produced by the revised plan is not greater than the number of trips produced by the original plan.

APPENDIX M

Draft Validity Period Extension Bill

Bill No. _____
Concerning: Adequate Public Facilities – Validity Period Extensions – Amendment
Introduced: _____
Expires: _____
Enacted: _____
Executive: _____
Effective: _____
Sunset Date: None
Ch. _____, Laws of Mont. Co. _____

COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND

Lead Sponsor:

AN ACT to require an updated determination of adequacy for certain validity period extension requests

By amending
Montgomery County Code
Chapter 50, Subdivision of Land
Division 50.4 Section 4.3

Boldface	*Heading or defined term.*
Underlining	*Added to existing law by original bill.*
[Single boldface brackets]	*Deleted from existing law by original bill.*
Double underlining	*Added by amendment.*
[[Double boldface brackets]]	*Deleted from existing law or the bill by amendment.*
* * *	*Existing law unaffected by bill.*

The County Council for Montgomery County, Maryland approves the following Act:

Sec. 1. Division 50.4 Section 4.3 is amended as follows:

Sec. 4.3. Technical Review

* * *

J. Adequate Public Facilities Ordinance (APFO).

* * *

7. Extensions.

a. Application. Only the Board may extend the validity period for a determination of adequate public facilities; however, a request to amend any validity period phasing schedule may be approved by the Director if the length of the total validity period is not extended.

* * *

iii. For each extension of an adequate public facilities determination:

(a) the applicant must not propose any additional development above the amount approved in the original determination;

(b) the Board must not require any additional public improvements or other conditions beyond those required for the original preliminary plan;

(c) the Board may require the applicant to submit a traffic study to demonstrate how the extension would not be adverse to the public interest;**[** and**]**

(d) an application may be made to extend an adequate public facilities period for a lot

within a subdivision covered by a previous adequate public facilities determination if the applicant provides sufficient evidence for the Board to determine the amount of previously approved development attributed to the lot**[.]**; and

(e) a new adequate public facilities determination for school adequacy is required for the remaining unbuilt units under the school test in effect at the time of Board review.

* * *

g. If a new adequate public facilities determination is required under this Subsection, the procedures in Chapter 8, Section 8-32 apply.

Sec. 2. Transition.

The amendments made in Section 1 must apply to any requests to extend the validity period for a determination of adequate public facilities received by the Planning Board on or after January 1, 2021.

APPENDIX N

Draft Impact Tax Bill

Effective: _____
Sunset Date: None
Ch. _____, Laws of Mont. Co. _____

COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND

Lead Sponsor:

AN ACT to:

(1) update transportation and school impact tax districts;
(2) establish impact tax rates by school impact tax districts;
(3) eliminate the school impact tax premium on certain types of dwelling units;
(4) modify the applicability of development impact tax exemptions for certain uses and in certain locations; and
(5) generally amend the law governing transportation and school development impact taxes

By amending
Montgomery County Code
Chapter 52, Taxation
Sections 52-41, 52-49, 52-54, 52-55 and 52-58

Boldface	*Heading or defined term.*
Underlining	*Added to existing law by original bill.*
[Single boldface brackets]	*Deleted from existing law by original bill.*
Double underlining	*Added by amendment.*
[[Double boldface brackets]]	*Deleted from existing law or the bill by amendment.*
* * *	*Existing law unaffected by bill.*

The County Council for Montgomery County, Maryland approves the following Act:

Sec. 1. Sections 52-41, 52-49, 52-54, 52-55 and 52-58 are amended as follows:

Sec. 52-41. Imposition and applicability of development impact taxes.

* * *

(c) The following impact tax districts are established:

(1) *White Flint:* The part of the White Flint Metro Station Policy Area included in the White Flint Special Taxing District in Section 68C-2;

(2) *Red Policy Areas:* Bethesda CBD, Chevy Chase Lake, Dale Drive/Manchester Place, Forest Glen, Friendship Heights, Grosvenor, Glenmont, Long Branch, Lyttonsville/Woodside, Rockville Town Center, Shady Grove Metro Station, Silver Spring CBD, Takoma/Langley, Twinbrook, and Wheaton CBD;

(3) *Orange Policy Areas:* Bethesda/Chevy Chase, Burtonsville Crossroads, **[**Chevy Chase Lake,**]** Clarksburg Town Center, Derwood, Gaithersburg City, Germantown Town Center, Kensington/Wheaton, **[**Long Branch,**]** North Bethesda, R&D Village, Rockville City, Silver Spring/Takoma Park, **[**Takoma/Langley,**]** White Flint, except the portion that is included in the White Flint Special Taxing District in Section 68C-2, and White Oak Policy Areas;

(4) *Yellow Policy Areas:* Aspen Hill, Clarksburg, Cloverly, Fairland/Colesville, Germantown East, Germantown West, Montgomery Village/Airpark, North Potomac, Olney, and Potomac Policy Areas; and

(5) *Green Policy Areas:* Damascus, Rural East, and Rural West Policy Areas.

* * *

(g) A development impact tax must not be imposed on:

(1) any Moderately Priced Dwelling Unit built under Chapter 25A or any similar program enacted by either Gaithersburg or Rockville**[**,**]**;

(2) any other dwelling unit built under a government regulation or binding agreement that limits for at least 15 years the price or rent charged for the unit in order to make the unit affordable to households earning less than 60% of the area median income, adjusted for family size;

(3) any Personal Living Quarters unit built under **[**Sec. 59-A-6.15**]** Section 59-3.3.2.D, which meets the price or rent eligibility standards for a moderately priced dwelling unit under Chapter 25A;

(4) any dwelling unit in an Opportunity Housing Project built under Sections 56-28 through 56-32, which meets the price or rent eligibility standards for a moderately priced dwelling unit under Chapter 25A;

[(5) any non-exempt dwelling unit in a development in which at least 25% of the dwelling units are exempt under paragraph (1), (2), (3), or (4), or any combination of them;**]**

(**[**6**]**5) any development located in an enterprise zone designated by the State **[**or in an area previously designated as an enterprise zone**]**;

(6) any development located in a Qualified Opportunity Zone certified by the United States Treasury Department;

(7) a house built by high school students under a program operated by the Montgomery County Board of Education; **[**and**]** or

(8) a farm tenant dwelling.

* * *

Sec. 52-49. Tax rates.

* * *

(g) Any non-exempt dwelling unit in a development in which at least 25% of the dwelling units are exempt under paragraph (1) of Section 52-54(d) must pay the tax discounted by an amount equal to the lowest standard impact tax rate in the county for that unit type.

* * *

Sec. 52-54. Imposition and applicability of tax.

* * *

(c) The following public school impact tax districts are established, as identified in the County Growth Policy:

(1) Infill Impact Areas;

(2) Turnover Impact Areas; and

(3) Greenfield Impact Areas.

([c]d) The tax under this Article must not be imposed on:

(1) any Moderately Priced Dwelling Unit built under Chapter 25A or any similar program enacted by either Gaithersburg or Rockville[,];

(2) any other dwelling unit built under a government regulation or binding agreement that limits for at least 15 years the price or rent charged for the unit in order to make the unit affordable to households earning equal to or less than 60% of the area median income, adjusted for family size;

(3) any Personal Living Quarters unit built under Section 59-3.3.2.D, which meets the price or rent eligibility standards for a moderately priced dwelling unit under Chapter 25A;

(4) any dwelling unit in an Opportunity Housing Project built under Sections 56-28 through 56-32, which meets the price or rent eligibility standards for a moderately priced dwelling unit under Chapter 25A;

[(5) any non-exempt dwelling unit in a development in which at least 25% of the dwelling units are exempt under paragraph (1), (2), (3), or (4), or any combination of them;**]**

(**[**6**]**5) any development located in an enterprise zone designated by the State; **[**or in an area previously designated as an enterprise zone; or**]**

(6) any development located in a Qualified Opportunity Zone certified by the United States Treasury Department; or

(7) a house built by high school students under a program operated by the Montgomery County Board of Education.

* * *

Sec. 52-55. Tax rates.

(a) The Council must establish the **[**Countywide**]** rates for each school impact tax district **[**the tax under this Article**]** by resolution after a public hearing advertised at least 15 days in advance.

[(b) The tax on any single-family detached or attached dwelling unit must be increased by $2 for each square foot of gross floor area that exceeds 3,500 square feet, to a maximum of 8,500 square feet.**]**

(b) Any non-exempt single-family attached or multifamily unit located in a Desired Growth and Investment Area, as defined in the County

Growth Policy, must pay the tax at 60% of the otherwise applicable rate.

(c) Any Productivity Housing unit, as defined in Section 25B-17(j), must pay the tax at 50% of the otherwise applicable rate.

(d) The County Council by resolution, after a public hearing advertised at least 15 days in advance, may increase or decrease the rates established under this Section.

(e) The Director of Finance, after advertising and holding a public hearing as required by Section 52-17(c), must adjust the tax rates set in or under this Section effective on July 1 of each odd-numbered year in accordance with the update to the Subdivision Staging Policy using the latest student generation rates and school construction cost data. The Director must calculate the adjustment to the nearest multiple of one dollar. The Director must publish the amount of this adjustment not later than May 1 of each odd- numbered year.

(f) Any non-exempt dwelling unit in a development in which at least 25% of the dwelling units are exempt under paragraph (1) of Section 52-54(d) must pay the tax discounted by an amount equal to the lowest standard impact tax rate in the county for that unit type.

* * *

Sec. 52-58. Credits.

(a) Section 52-47 does not apply to the tax under this Article.

(b) A property owner must receive a credit for constructing or contributing to an improvement of the type listed in Section 52-56(d), including costs of site preparation.

(c) A property owner may receive credit for constructing or contributing to other physical school facility improvements not listed in Section 52-

56(d) if the Montgomery County School Board agrees to the improvement.

(d) A property owner may receive credit for land dedicated for a school site, if:

(1) the density calculated for the dedication area is excluded from the density calculation for the development site; and

(2) the Montgomery County School Board agrees to the site dedication.

([b]e) If the property owner elects to make a qualified improvement or dedication, the owner must enter into an agreement with the Director of Permitting Services, or receive a development approval based on making the improvement, before any building permit is issued. The agreement or development approval must contain:

(1) the estimated cost of the improvement or the fair market value of the dedicated land, if known then,

(2) the dates or triggering actions to start and, if known then, finish the improvement or land transfer;

(3) a requirement that the property owner complete the improvement according to Montgomery County Public Schools standards; and

(4) such other terms and conditions as MCPS finds necessary.

([c]f) MCPS must:

(1) review the improvement plan or dedication;

(2) verify costs or land value and time schedules;

(3) determine whether the improvement is a public school improvement of the type listed in Section 52-56(d), meets the requirements of subsection (c), or meets the dedication requirements in subsection ([a]d);

(4) determine the amount of the credit for the improvement or dedication; and

(5) certify the amount of the credit to the Department of Permitting Services before that Department or a municipality issues any building permit.

([d]g) An applicant for subdivision, site plan, or other development approval from the County, Gaithersburg, or Rockville, or the owner of property subject to an approved subdivision plan, development plan, floating zone plan, or similar development approval, may seek a declaration of allowable credits from MCPS. MCPS must decide, within 30 days after receiving all necessary materials from the applicant, whether any public school improvement which the applicant has constructed, contributed to, or intends to construct or contribute to, will receive a credit under this subsection. If during the initial 30-day period after receiving all necessary materials, MCPS notifies the applicant that it needs more time to review the proposed improvement, MCPS may defer its decision an additional 15 days. If MCPS indicates under this paragraph that a specific improvement is eligible to receive a credit, the Director of Permitting Services must allow a credit for that improvement. If MCPS cannot or chooses not to perform any function under this subsection or subsection (c), the Department of Permitting Services must perform that function.

([e]h) (1) A property owner must receive a credit for constructing or contributing to the cost of building a new single family residence that meets Level I Accessibility Standards, as defined in Section 52-107(a).

(2) The credit allowed under this Section must be as follows:

(A) If at least 5% of the single family residences built in the project meet Level I Accessibility Standards, then the owner must receive a credit of $250 per residence.

(B) If at least 10% of the single family residences built in the project meet Level I Accessibility Standards, then the owner must receive a credit of $500 per residence.

(C) If at least 25% of the single family residences built in the project meet Level I Accessibility Standards, then the owner must receive a credit of $750 per residence.

(D) If at least 30% of the single family residences built in the project meet Level I Accessibility Standards, then the owner must receive a credit of $1,000 per residence.

(3) Application for the credit and administration of the credit must be in accordance with Subsections 52-107(e) and (f).

(4) A person must not receive a tax credit under this Section if the person receives any public benefit points for constructing units with accessibility features under Chapter 59.

([f]i) The Director of Finance must not provide a refund for a credit which is greater than the applicable tax.

([g]j) Any credit issued under this Section before December 31, 2015 expires 6 years after the Director certifies the credit. Any credit issued under this Section on or after January 1, 2016 expires 12 years after the Director certifies the credit.

([h]k) After a credit has been certified under this Section, the property owner or contract purchaser to whom the credit was certified may transfer all or part of the credit to any successor in interest of the same property. However, any credit transferred under this subsection must only be

applied to the tax due under this Article with respect to the property for which the credit was originally certified.

* * *

Sec. 2. Transition.

The amendments made in Section 1 take effect on March 1, 2021 and must apply to any application for a building permit filed on or after March 1, 2021 except that the amendments related to discounts or exemptions for projects with 25% MPDUs must only apply to development for which a preliminary plan application is filed and accepted on or after March 1, 2021.

APPENDIX O

Draft Recordation Tax Bill

Bill No. _____
Concerning: Recordation Tax – Rates Allocations – Amendments
Introduced: _____
Expires: _____
Enacted: _____
Executive: _____
Effective: _____
Sunset Date: None
Ch. _____, Laws of Mont. Co. _____

COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND

Lead Sponsor:

AN ACT to:

(1) increase the rate of the recordation tax levied under state law for certain transactions;
(2) amend the applicability of the recordation tax for certain transactions;
(3) allocate the revenue received from the recordation tax for certain uses; and
(4) generally amend the law governing the recordation tax

By amending
Montgomery County Code
Chapter 52, Taxation
Section 52-16B

Boldface	*Heading or defined term.*
Underlining	*Added to existing law by original bill.*
[Single boldface brackets]	*Deleted from existing law by original bill.*
Double underlining	*Added by amendment.*
[[Double boldface brackets]]	*Deleted from existing law or the bill by amendment.*
* * *	*Existing law unaffected by bill.*

The County Council for Montgomery County, Maryland approves the following Act:

Sec. 1. Section 52-16B is amended as follows:

52-16B. Recordation Tax.

(a) *Rates.* The rates and the allocations of the recordation tax, levied under Md. Tax- Property Code §§12-101 to 12-118, as amended, are:

(1) for each $500 or fraction of $500 of consideration payable or of the principal amount of the debt secured for an instrument of writing, including the amount of any mortgage or deed of trust assumed by a grantee;

(A) $2.08, of which the net revenue must be reserved for and allocated to the County general fund; and

(B) **[**$2.37**]** $2.87, of which the net revenue must be reserved for and allocated to the cost of capital improvements to schools; and

(2) if the consideration payable or principal amount of debt secured exceeds $500,000**[**,**]**:

(A) an additional $2.30 for each $500 or fraction of $500 of the amount over $500,000, of which the net revenue must be reserved for and allocated equally to:

[(A)**]** (i) the cost of County government capital improvements; and

[(B)**]** (ii) rent assistance for low and moderate income households, which must not be used to supplant any otherwise available funds**[**.**]**; and

(B) an additional $0.50 for each $500 or fraction of $500 of the amount over $500,000, of which the net revenue must

be reserved for and allocated to the cost of capital improvements to schools; and

(3) if the consideration payable or principal amount of debt secured for a single-family dwelling unit exceeds $1,000,000, an additional $1.00 for each $500 or fraction of $500 of the amount over $1,000,000, of which the net revenue must be reserved for and allocated to the Montgomery Housing Initiative under Section 25B-9.

(b) *Exemptions*.

(1) The first $100,000 of the consideration payable on the conveyance of any owner-occupied residential property is exempt from the recordation tax if the buyer of that property is an individual and intends to use the property as the buyer's principal residence by actually occupying the residence for at least 7 months of the 12-month period immediately after the property is conveyed.

(2) The first $500,000 of the consideration payable on the conveyance of any owner-occupied residential property is exempt from the recordation tax if the buyer of that property is a first-time home buyer.

* * *

Sec. 2. Transition.

The amendments made in Section 1 take effect on the date on which this bill becomes law and apply to any transaction which occurs on or after January 1, 2021.

APPENDIX P

Potential FY21 Annual School Test Results

The following pages provide the results of the FY2021 Annual School Test under the Montgomery County Planning Board's recommendations contained in this report.

	Elementary School		Middle School	High School
Applicable Adequacy Standard	Seat Deficit < 115 seats or Percent Utilization ≤ 125% in 2023-2024		Seat Deficit < 188 seats or Percent Utilization ≤ 125% in 2023-24	Percent Utilization ≤ 125% in 2023-24
MORATORIUM Residential development moratorium required in inadequate school service areas within Greenfield Impact Areas.	[none]		[none]	[none]
UTILIZATION PREMIUM PAYMENTS Utilization Premium Payments required.	Ashburton ES Bannockburn ES Bethesda ES Burning Tree ES Burtonsville ES Diamond ES Greencastle ES Highland View ES	Mill Creek Towne ES William T. Page ES Judith A. Resnik ES South Lake ES Stonegate ES Watkins Mill ES Westover ES	Argyle MS	Montgomery Blair HS Winston Churchill HS Clarksburg HS Albert Einstein HS Walter Johnson HS Quince Orchard HS

FY2021 ANNUAL SCHOOL TEST NOTES

The test outcome for any school service area not identified on the results summary table is adequate.

PROPOSED County Growth Policy FY2021 Annual School Test

Reflects the Adopted FY 2021 Capital Budget and FY 2021-2026 Capital Improvements Program

Elementary School Adequacy

Elementary School Area	School Test Projections for 2023-24				Status		
	Enrollment	Program Capacity	Seat Deficit/ Surplus	Utilization	Greenfield Impact Area	Turnover Impact Area	Infill Impact Area
Arcola	748	651	-97	114.9%	N/A	Open	Open
Ashburton	967	789	-178	122.6%	N/A	UPP Required	UPP Required
Bannockburn	500	364	-136	137.4%	N/A	UPP Required	N/A
Lucy V. Barnsley	749	652	-97	114.9%	N/A	Open	N/A
Beall	542	639	+97	84.8%	N/A	Open	Open
Bel Pre[i]	1,061	1,079	+18	98.3%	N/A	Open	N/A
Bells Mill	650	626	-24	103.8%	N/A	Open	N/A
Belmont	365	425	+60	85.9%	N/A	Open	N/A
Bethesda	735	560	-175	131.3%	N/A	UPP Required	UPP Required
Beverly Farms	602	689	+87	87.4%	N/A	Open	N/A
Bradley Hills	531	663	+132	80.1%	N/A	Open	N/A
Brooke Grove	481	518	+37	92.9%	N/A	Open	N/A
Brookhaven	466	470	+4	99.1%	N/A	Open	N/A
Brown Station	742	761	+19	97.5%	N/A	Open	N/A
Burning Tree	490	378	-112	129.6%	N/A	UPP Required	N/A
Burnt Mills	575	740	+165	77.7%	N/A	Open	N/A
Burtonsville	636	493	-143	129.0%	N/A	UPP Required	N/A
Candlewood	397	515	+118	77.1%	N/A	Open	Open
Cannon Road	420	518	+98	81.1%	N/A	Open	N/A
Carderock Springs	375	406	+31	92.4%	N/A	Open	N/A
Rachel Carson[1]	570	692	+122	82.4%	N/A	Open	Open
Cashell	335	339	+4	98.8%	N/A	Open	N/A
Cedar Grove[2]	341	402	+61	84.8%	Open	Open	N/A
Chevy Chase[ii]	1,199	1,459	+260	82.2%	N/A	Open	Open
Clarksburg[2]	264	311	+47	84.9%	Open	Open	Open
Clearspring	634	642	+8	98.8%	N/A	Open	N/A
Clopper Mill	572	496	-76	115.3%	N/A	Open	Open
Cloverly	517	461	-56	112.1%	N/A	Open	N/A
Cold Spring	354	458	+104	77.3%	N/A	Open	N/A
College Gardens	614	678	+64	90.6%	N/A	Open	Open
Cresthaven[3,iii]	1,261	1,443	+182	87.4%	N/A	Open	N/A
Capt. James E. Daly	617	523	-94	118.0%	N/A	Open	N/A
Damascus	416	355	-61	117.2%	N/A	Open	N/A
Darnestown	333	432	+99	77.1%	N/A	Open	N/A
Diamond	836	679	-157	123.1%	N/A	UPP Required	UPP Required
Dr. Charles R. Drew	504	496	-8	101.6%	N/A	Open	N/A
DuFief[1]	621	753	+132	82.5%	N/A	Open	N/A
East Silver Spring	506	577	+71	87.7%	N/A	Open	Open
Fairland	608	648	+40	93.8%	N/A	Open	N/A
Fallsmead	578	551	-27	104.9%	N/A	Open	Open
Farmland	841	714	-127	117.8%	N/A	Open	Open
Fields Road	500	435	-65	114.9%	N/A	Open	Open
Flower Hill	444	493	+49	90.1%	N/A	Open	Open
Flower Valley	491	416	-75	118.0%	N/A	Open	N/A

Elementary School Area	School Test Projections for 2023-24				Status		
	Enrollment	Program Capacity	Seat Deficit/ Surplus	Utilization	Greenfield Impact Area	Turnover Impact Area	Infill Impact Area
Forest Knolls	540	529	-11	102.1%	N/A	Open	N/A
Fox Chapel	644	683	+39	94.3%	N/A	Open	Open
Gaithersburg[4]	704	737	+33	95.5%	N/A	Open	Open
Galway	782	744	-38	105.1%	N/A	Open	N/A
Garrett Park	777	776	-1	100.1%	N/A	Open	Open
Georgian Forest	639	670	+31	95.4%	N/A	Open	N/A
Germantown	355	304	-51	116.8%	N/A	Open	N/A
William B. Gibbs Jr.	583	719	+136	81.1%	Open	Open	N/A
Glen Haven	494	556	+62	88.8%	N/A	Open	N/A
Glenallan	745	747	+2	99.7%	N/A	Open	N/A
Goshen	541	594	+53	91.1%	N/A	Open	N/A
Great Seneca Creek	585	556	-29	105.2%	N/A	Open	N/A
Greencastle	721	591	-130	122.0%	N/A	UPP Required	N/A
Greenwood	552	584	+32	94.5%	N/A	Open	N/A
Harmony Hills	753	709	-44	106.2%	N/A	Open	N/A
Highland	554	540	-14	102.6%	N/A	Open	N/A
Highland View	428	288	-140	148.6%	N/A	UPP Required	N/A
Jackson Road	652	699	+47	93.3%	N/A	Open	N/A
Jones Lane	432	516	+84	83.7%	N/A	Open	Open
Kemp Mill	481	458	-23	105.0%	N/A	Open	N/A
Kensington-Parkwood	649	757	+108	85.7%	N/A	Open	Open
Lake Seneca	482	425	-57	113.4%	Open	Open	Open
Lakewood	439	556	+117	79.0%	N/A	Open	N/A
Laytonsville	420	447	+27	94.0%	Open	Open	N/A
JoAnn Leleck[3]	625	715	+90	87.4%	N/A	Open	N/A
Little Bennett	629	624	-5	100.8%	Open	Open	N/A
Luxmanor	792	767	-25	103.3%	N/A	Open	Open
Thurgood Marshall	621	552	-69	112.5%	N/A	Open	N/A
Maryvale	611	694	+83	88.0%	N/A	Open	N/A
Spark M. Matsunaga	685	584	-101	117.3%	N/A	Open	Open
S. Christa McAuliffe	546	771	+225	70.8%	N/A	Open	Open
Ronald McNair	840	767	-73	109.5%	Open	Open	N/A
Meadow Hall	409	375	-34	109.1%	N/A	Open	N/A
Mill Creek Towne	535	336	-199	159.2%	N/A	UPP Required	UPP Required
Monocacy	162	219	+57	74.0%	N/A	Open	N/A
Montgomery Knolls[iv]	1,080	1,315	+235	82.1%	N/A	Open	N/A
New Hampshire Estates[v]	875	828	-47	105.7%	N/A	Open	N/A
Roscoe R. Nix[3,iii]	1,261	1,443	+182	87.4%	N/A	Open	N/A
North Chevy Chase[ii]	1,199	1,459	+260	82.2%	N/A	Open	Open
Oak View[v]	875	828	-47	105.7%	N/A	Open	N/A
Oakland Terrace	556	487	-69	114.2%	N/A	Open	Open
Olney	663	606	-57	109.4%	N/A	Open	N/A
William T. Page	779	392	-387	198.7%	N/A	UPP Required	N/A
Pine Crest[iv]	1,080	1,315	+235	82.1%	N/A	Open	N/A
Piney Branch[vi]	1,216	1,240	+24	98.1%	N/A	Open	Open
Poolesville	560	539	-21	103.9%	N/A	Open	N/A
Potomac	338	479	+141	70.6%	N/A	Open	N/A
Judith A. Resnik	607	493	-114	123.1%	N/A	UPP Required	N/A

Elementary School Area	School Test Projections for 2023-24				Status		
	Enrollment	Program Capacity	Seat Deficit/ Surplus	Utilization	Greenfield Impact Area	Turnover Impact Area	Infill Impact Area
Dr. Sally K. Ride	493	467	-26	105.6%	N/A	Open	Open
Ritchie Park	373	388	+15	96.1%	N/A	Open	N/A
Rock Creek Forest	770	667	-103	115.4%	N/A	Open	N/A
Rock Creek Valley	430	460	+30	93.5%	N/A	Open	N/A
Rock View	660	636	-24	103.8%	N/A	Open	Open
Lois P. Rockwell	481	530	+49	90.8%	Open	Open	N/A
Rolling Terrace	746	729	-17	102.3%	N/A	Open	N/A
Rosemary Hills[ii]	1,199	1,459	+260	82.2%	N/A	Open	Open
Rosemont[4]	543	568	+25	95.6%	N/A	Open	Open
Bayard Rustin	714	744	+30	96.0%	N/A	Open	Open
Sequoyah	401	508	+107	78.9%	N/A	Open	Open
Seven Locks	450	424	-26	106.1%	N/A	Open	N/A
Sherwood	543	529	-14	102.6%	N/A	Open	N/A
Sargent Shriver	737	660	-77	111.7%	N/A	Open	N/A
Flora M. Singer	650	680	+30	95.6%	N/A	Open	N/A
Sligo Creek	645	710	+65	90.8%	N/A	Open	Open
Snowden Farm	886	774	-112	114.5%	Open	N/A	N/A
Somerset	444	515	+71	86.2%	N/A	Open	Open
South Lake	909	694	-215	131.0%	N/A	UPP Required	UPP Required
Stedwick	523	688	+165	76.0%	N/A	Open	N/A
Stone Mill	568	694	+126	81.8%	N/A	Open	Open
Stonegate	479	385	-94	124.4%	N/A	UPP Required	N/A
Strathmore[i]	1,061	1,079	+18	98.3%	N/A	Open	N/A
Strawberry Knoll[4]	438	459	+21	95.4%	N/A	Open	N/A
Summit Hall[4]	437	457	+20	95.6%	N/A	N/A	Open
Takoma Park[vi]	1,216	1,240	+24	98.1%	N/A	Open	Open
Travilah	314	526	+212	59.7%	N/A	Open	N/A
Twinbrook	566	548	-18	103.3%	N/A	Open	N/A
Viers Mill	579	743	+164	77.9%	N/A	Open	Open
Washington Grove[4]	586	613	+27	95.6%	N/A	Open	Open
Waters Landing	653	776	+123	84.1%	Open	Open	Open
Watkins Mill	771	641	-130	120.3%	N/A	UPP Required	UPP Required
Wayside	504	648	+144	77.8%	N/A	Open	N/A
Weller Road	805	772	-33	104.3%	N/A	Open	N/A
Westbrook	471	547	+76	86.1%	N/A	Open	Open
Westover	334	266	-68	125.6%	N/A	UPP Required	N/A
Wheaton Woods	510	766	+256	66.6%	N/A	Open	N/A
Whetstone	723	750	+27	96.4%	N/A	Open	N/A
Wilson Wims[2]	627	739	+112	84.8%	Open	N/A	N/A
Wood Acres	630	725	+95	86.9%	N/A	Open	N/A
Woodfield	385	381	-4	101.0%	Open	Open	N/A
Woodlin	537	489	-48	109.8%	N/A	Open	Open
Wyngate	745	776	+31	96.0%	N/A	Open	N/A

UPP Required = Utilization Premium Payments required

The test seat deficit/surplus, utilization, school area status and moratorium threshold reflect the estimated impacts of:
[1] a CIP project (P651905) that will reassign students between Rachel Carson ES and DuFief ES in September 2023.
[2] a CIP project (P651901) that will reassign students among Clarksburg ES, Cedar Grove ES, Wilson Wims ES and Clarksburg ES #9 in September 2023.
[3] CIP projects (P651902 and P651903) that will reassign students between JoAnn Leleck ES at Broad Acres and Roscoe R. Nix ES (K-2)/Cresthaven ES (3-5) in September 2022.
[4] a CIP project (P651518) that will reassign students among Gaithersburg ES, Rosemont ES, Strawberry Knoll ES, Summit Hall ES, Washington Grove ES and Gaithersburg ES #8 in September 2022.

Test data and results reflect the combined utilization of the following school pairings, which serve the same geographic areas:
[i] Bel Pre ES (K-2) and Strathmore ES (3-5).
[ii] Rosemary Hills ES (K-2), Chevy Chase ES (3-5) and North Chevy Chase ES (3-5).
[iii] Roscoe R. Nix ES (K-2) and Cresthaven ES (3-5).
[iv] Montgomery Knolls ES (K-2) and Pine Crest ES (3-5).
[v] New Hampshire Estates ES (K-2) and Oak View ES (3-5).
[vi] Takoma Park ES (K-2) and Piney Branch ES (3-5).

PROPOSED County Growth Policy FY2021 Annual School Test

Reflects the Adopted FY 2021 Capital Budget and FY 2021-2026 Capital Improvements Program

Middle School Adequacy

Middle School Area	School Test Projections for 2023-24				Status		
	Enrollment	Program Capacity	Seat Deficit/ Surplus	Utilization	Greenfield Impact Area	Turnover Impact Area	Infill Impact Area
Argyle	1,108	897	-211	123.5%	N/A	UPP Required	N/A
John T. Baker	831	741	-90	112.1%	Open	Open	N/A
Benjamin Banneker	838	824	-14	101.7%	N/A	Open	N/A
Briggs Chaney	1,005	926	-79	108.5%	N/A	Open	N/A
Cabin John	1,048	1,057	+9	99.1%	N/A	Open	Open
Roberto Clemente	1,063	1,231	+168	86.4%	N/A	Open	Open
Eastern	919	1,012	+93	90.8%	N/A	Open	N/A
William H. Farquhar	730	784	+54	93.1%	N/A	Open	N/A
Forest Oak	989	955	-34	103.6%	N/A	Open	Open
Robert Frost	1,015	1,084	+69	93.6%	N/A	Open	Open
Gaithersburg	931	1,009	+78	92.3%	Open	Open	Open
Herbert Hoover	975	1,139	+164	85.6%	N/A	Open	N/A
Francis Scott Key	1,026	960	-66	106.9%	N/A	Open	N/A
Martin Luther King, Jr	889	914	+25	97.3%	Open	Open	Open
Kingsview	971	1,041	+70	93.3%	Open	Open	Open
Lakelands Park	1,182	1,130	-52	104.6%	N/A	Open	N/A
Col. E. Brooke Lee	774	1,008	+234	76.8%	N/A	Open	Open
A. Mario Loiederman	930	1,003	+73	92.7%	N/A	Open	N/A
Montgomery Village	849	865	+16	98.2%	N/A	Open	Open
Neelsville	897	956	+59	93.8%	N/A	Open	Open
Newport Mill	721	850	+129	84.8%	N/A	Open	Open
North Bethesda	1,220	1,233	+13	98.9%	N/A	Open	Open
Parkland	1,106	1,203	+97	91.9%	N/A	Open	N/A
Rosa Parks	888	961	+73	92.4%	N/A	Open	N/A
John Poole	417	468	+51	89.1%	N/A	Open	N/A
Thomas W. Pyle	1,497	1,502	+5	99.7%	N/A	Open	N/A
Redland	630	765	+135	82.4%	N/A	Open	N/A
Ridgeview	848	955	+107	88.8%	N/A	Open	Open
Rocky Hill	987	1,020	+33	96.8%	Open	Open	N/A
Shady Grove	704	854	+150	82.4%	N/A	Open	Open
Silver Creek	952	935	-17	101.8%	N/A	Open	Open
Silver Spring International	1,138	1,298	+160	87.7%	N/A	Open	Open
Sligo	731	941	+210	77.7%	N/A	Open	Open
Takoma Park	1,208	1,322	+114	91.4%	N/A	Open	Open
Tilden	1,176	1,216	+40	96.7%	N/A	Open	Open
Hallie Wells	842	982	+140	85.7%	Open	Open	N/A
Julius West	1,455	1,432	-23	101.6%	N/A	Open	Open
Westland	827	1,105	+278	74.8%	N/A	Open	Open
White Oak	941	992	+51	94.9%	N/A	Open	N/A
Earle B. Wood	982	944	-38	104.0%	N/A	Open	N/A

UPP Required = Utilization Premium Payments required

PROPOSED County Growth Policy FY2021 Annual School Test

Reflects the Adopted FY 2021 Capital Budget and FY 2021-2026 Capital Improvements Program

High School Adequacy

High School Area	School Test Projections for 2023-24				Status		
	Enrollment	Program Capacity	Seat Deficit/ Surplus	Utilization	Greenfield Impact Area	Turnover Impact Area	Infill Impact Area
Bethesda-Chevy Chase	2,518	2,457	-61	102.5%	N/A	Open	Open
Montgomery Blair	3,554	2,889	-665	123.0%	N/A	UPP Required	UPP Required
James H. Blake	1,950	1,743	-207	111.9%	N/A	Open	N/A
Winston Churchill	2,428	1,986	-442	122.3%	N/A	UPP Required	N/A
Clarksburg	2,469	2,034	-435	121.4%	UPP Required	UPP Required	UPP Required
Crown	N/A	N/A			N/A	N/A	N/A
Damascus	1,456	1,543	+87	94.4%	Open	Open	N/A
Albert Einstein	2,051	1,629	-422	125.9%	N/A	UPP Required	UPP Required
Gaithersburg	2,692	2,443	-249	110.2%	N/A	Open	Open
Walter Johnson	3,075	2,321	-754	132.5%	N/A	UPP Required	UPP Required
John F. Kennedy, Jr.	2,045	2,221	+176	92.1%	N/A	Open	N/A
Col. Zadok Magruder	1,825	1,941	+116	94.0%	N/A	Open	Open
Richard Montgomery	2,659	2,241	-418	118.7%	N/A	Open	Open
Northwest	2,512	2,286	-226	109.9%	N/A	Open	Open
Northwood (@Woodward)[1]	1,994	2,700	+706	73.9%	N/A	Open	Open
Paint Branch	2,115	2,020	-95	104.7%	N/A	Open	N/A
Poolesville	1,277	1,170	-107	109.1%	N/A	Open	N/A
Quince Orchard	2,411	1,791	-620	134.6%	N/A	UPP Required	UPP Required
Rockville	1,428	1,535	+107	93.0%	N/A	Open	N/A
Seneca Valley	2,515	2,581	+66	97.4%	Open	Open	Open
Sherwood	2,019	2,171	+152	93.0%	N/A	Open	N/A
Springbrook	1,926	2,135	+209	90.2%	N/A	Open	N/A
Watkins Mill	1,693	1,947	+254	87.0%	N/A	Open	Open
Wheaton	2,408	2,234	-174	107.8%	N/A	Open	N/A
Walt Whitman	2,036	2,262	+226	90.0%	N/A	Open	N/A
Charles W. Woodward	N/A	N/A			N/A	N/A	N/A
Thomas S. Wootton	2,031	2,142	+111	94.8%	N/A	Open	Open

UPP Required = Utilization Premium Payments required

The test seat deficit/surplus, utilization, school area status and moratorium threshold reflect the estimated impact of:

[1] Northwood HS students temporarily relocating to Woodward HS in September 2023.