JULY 2016

# APPENDIX

# SUBDIVISION STAGING POLICY

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## APPENDIX A - SUBDIVISION STAGING POLICY PEER REVIEW

### BACKGROUND

The Planning Department retained Jeff Tumlin of Nelson/Nygaard Consulting Associates, Inc. in March to conduct a brief Peer Review of the Subdivision Staging Policy and related process for reviewing the SSP that occurs every four years. The work was conducted in conjunction with Mr. Tumlin's well received presentation as part of the Department's Winter Speaker Series.

The Peer Review follows and includes the following major sections:

- Existing Policy
- Responses to Scope of Work Questions Submitted in Advance by Staff
- Issues
- Recommendations

The complete report follows this Introduction. This Introduction is intended to provide staff responses to the points raised in the Peer Review – particularly as they relate to the SSP review.

### STAFF RESPONSE

Staff is in general agreement with many of the points and recommendations in the Peer Review submitted by Mr. Tumlin. For context in the review of the recommendations in the Working Draft, staff would like to expand on selected points raised in the report (in no particular order of priority):

*Reasonable Time Interval for Review*

The review recommends more frequent reporting on performance and less frequent "deep reviews" that would result in major shifts in approach.

We agree and think the Peer Review's emphasis on regular reporting on things that matter to the public using readily available data is an important point. Examples given include information on development projects approved, mitigations imposed, impacts fees raised, impact fee expenditures, and available trend data on corridor travel times, VMT, and while not mentioned, safety are all important.

*Metrics Reflecting Goals and Objectives*

The Peer Review notes while that the County has clear goals to reduce auto dependency and manage congestion (among other things) and also has a SSP that is more sophisticated than most jurisdictions, the policies are sometimes not fully in alignment with County goals. The Peer Review notes the current policy's framework that penalizes the "the last one in" as being an example of where the policy is not in alignment with County goals (see pages 6 and 7 of the Peer Review).

The Working Draft recommendations address this issue to some extent by eliminating the local area test in the Core Areas and by providing for mitigation payments in lieu of simply increasing intersection capacity in designated road code areas that place a focus on multi-modal context sensitive street design attributes.

*Metrics We Should Be Tracking*

The Peer Review (pages 4-6) includes a general discussion on the approach to developing appropriate metrics and a list of potential useful metrics. The list includes some metrics directly related to the transportation network but many that are not (but are related to broader all-encompassing County goals). Interested readers may want to compare the Peer Review list of metrics to the more transportation oriented draft list developed by Fehr & Peers and included in another section of this Appendix.

Staff agrees with the outline of metrics included in the Peer Review and would like to call specific attention to the paragraph on page 5 that notes the data reporting "should be designed to be intuitive to the public and policymakers and should be designed to inform the difficult trade-offs in development policy." Two classic examples are noted, one being the case where constrained housing production reduces vehicle trips but results in increased rents, and the other where new housing in areas with little traffic reduces impacts on local urban congestion but increases VMT and household transportation costs. The Working Draft recommendation to introduce job accessibility by transit as a primary metric for assessing the relative impact of development across various policy areas is an attempt to highlight some of these trade-offs.

*What Role Does the Size of the Area and/or Specific Project Play in the Process?*

The Peer Review recommends a focus on metrics that treats all projects the same through metrics that are reflected in per capita or per employee units while acknowledging that there should be some threshold that insures smaller projects are not subject to a data analysis burden that is unreasonable – relative to the project size and likely impact.

Staff agrees that metrics that allow direct comparison between and among projects is important. The recommendations in the Working Draft essentially continue this approach and in the case of the thresholds for smaller projects, expands the exclusion a bit through the conversion to person trips and the consideration of transit and pedestrian trips.

*How is VMT Used On a Project Level Basis?*

The Peer Review Report notes that the relationship between travel behavior and the built form is well documented and that there are many sketch planning tools available to estimate VMT according to baseline site characteristics. The report also notes that "it would be possible to create a heatmap of the entirety of Montgomery County showing baseline VMT generation down to the parcel level."

Staff agrees that there is merit in continuing to examine how a VMT metric can best be adapted and used in conjunction with the analysis of the impact of an individual site. While the Department's current Guidelines provide for reduced or discounted trip generation rates in three CBDs, the rates have not been updated and the tools referenced in the report would very likely indicate that for new projects in the CBDs, the rates should be even lower. The Department has underway a relatively detailed look at how the rates should be

adjusted in recognition of this fact. The more challenging question is how VMT as a metric is utilized in a regulatory context, especially at the parcel level. More discussion on this important issue is presented later in this Introduction.

*Level of Service and Critical Lane Volume as Metrics*

The Peer Review Report recommends that these metrics be "eliminated or downplayed" because the metrics "assume that personal vehicles alone are the only transportation mode that matters and that streets should serve."

The set of recommendations in the Working Draft could fairly be described as "downplaying" these metrics. The CLV threshold in the Core has been eliminated and the CLV threshold in areas subject to context sensitive street design standards would not apply in instances where mitigation payments would be more appropriate. Consideration of the speed attainable on any particular roadway corridor as part of the area-wide test as also been eliminated in the recommendations contained in the Working Draft.

*Additional Incentives for Unbundled, Priced Parking, and Other TDM Incentives. Fee Discounts for TDM Programs that Reduce VMT such as Reduced Parking*

The Peer Review Report notes the incentives in the new CR Zone related to increased density for mixed use development and recommends additional incentives.

The Working Draft recommendations include a new incentive in the form of a discount on the Transportation Impact Rate that is based on the percent of parking spaces below parking minimums.

*Eliminate Parking Minimums Countywide*

The Working Draft does not include a recommendation to eliminate parking minimums countywide as this potential policy was examined in detailed during the recently completed Zoning Code re-write.

*Use Vehicle Miles Traveled (VMT) and Person Hours of Travel (PHT) as key Metrics, Regulate Traffic Generation Through Caps on VMT generation, and Consider Parcel Based VMT caps and a VMT cap-and trade program*

The Peer Review Report recommends a transition to a regulatory protocol that places an emphasis on VMT reduction.

The recommendations in the Working Draft introduce VMT as a new element in SSP by considering – or using – VMT production as a means of determining (impact tax) payment adjustment factors. This is generally consistent with the Peer Review Report's recommendation that the "transportation basis of impact fees should focus on VMT so the length of vehicle trips is factored in." The Working Draft does not include: (1) a recommendation to regulate trip generation through caps on VMT, (2) establish parcel based VMT caps or (3) establish a VMT cap and trade system.

Staff acknowledges there is merit in further consideration of VMT as a more integral part of SSP in the future. The issue – as previously noted – is how best to apply the metric in a specific manner in a regulatory

context. This is especially the case when the both the existing and recommended policy implicitly acknowledge there are areas and settings that have lower VMT per capital (e.g., the Core Area) than others.

It is also worthwhile noting the California experience with the introduction of VMT in a regulatory context. A very good summary of the current status is available on the Fehr and Peers web site at http://www.fehrandpeers.com/opr-releases-update-to-ceqa-guidlines/. The summary includes recommendations that remain the same and recommendations that have changed since the preliminary discussion draft. Of particular note is the on-going nature of the discussion and the questions that remain for application in a regulatory environment. Perhaps the most progress with introducing VMT in a regulatory environment has been in Pasadena CA. Pasadena, working with Nelson/Nygaard, adopted an approach that evaluates the efficiency of projects in terms of established city-wide thresholds after a four-year review. The approach also includes retaining a modified LOS metric. More information on the Pasadena experience is available on the following link:

http://ww2.cityofpasadena.net/councilagendas/2014%20Agendas/Nov_03_14/AR%2015.pdf.

In summary, the Working Draft recommendations acknowledge both the need for the inclusion of metrics more aligned with the County goals and the challenges associated with the introduction of metrics that may require additional review and time related to application in the regulatory environment and the development of the analysis tools necessary to support the new applications.

## PEER REVIEW: NELSON\NYGAARD CONSULTING ASSOCIATES, INC

**EXISTING POLICY**

This is a summary of the county's Subdivision Staging Policy (SSP) as it relates to transportation. The policy also covers school capacity.

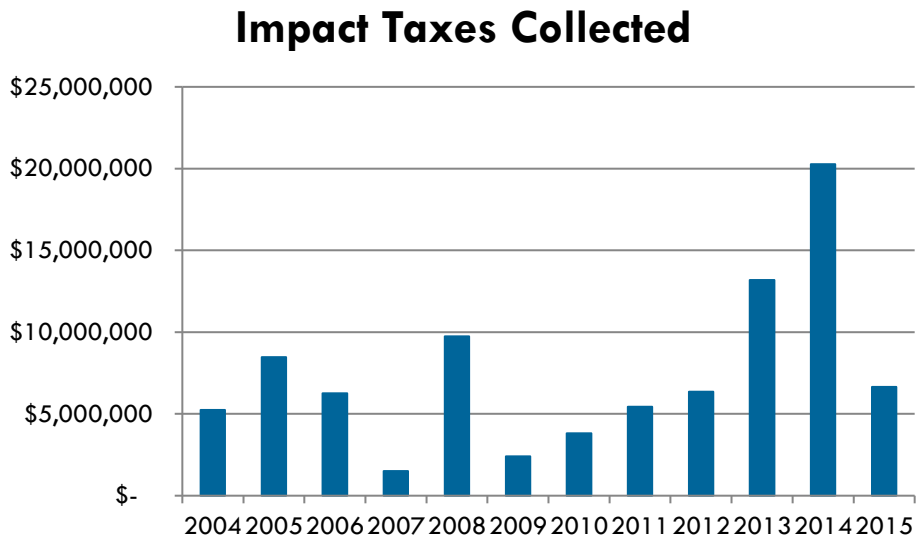
All new residential and commercial development in Montgomery County is subject to an impact tax regardless of location, which raises money for capital improvements to support new development. Impact taxes fund improvements for schools and transportation, and are levied based on dwelling unit type and, for transportation improvements, by commercial square footage. The County Council sets the impact tax, while the Department of Permitting Services (DPS) collects the tax, which must be paid before DPS will issue a building permit or use and occupancy permit.

Impact taxes follow a schedule based on the building type or use, and where in the county the development is located. Transportation impact taxes are 50% lower in Metro Station Policy Areas, which are generally in established communities with lower infrastructure needs. In Clarksburg, a new development area in the Upcounty with higher infrastructure needs, impact taxes are between 30% and 200% greater depending on property type/use (except for retail, which is 70% lower than the general fee).

| **Building Type** | **Metro Station Policy Area** | **Clarksburg** | **General** |
|---|---|---|---|
| Single-family detached (per unit) | $6,984 | $20,948 | $13,966 |
| Single-family attached (per unit) | $5,714 | $17,141 | $11,427 |
| Multi-family low-mid rise (per unit) | $4,443 | $13,330 | $8,886 |
| Multi-family high rise (per unit) | $3,174 | $9,522 | $6,347 |
| Multi-family senior (per unit) | $1,269 | $3,808 | $2,539 |
| Office (per sqft of GFA) | $6.35 | $15.30 | $12.75 |
| Industrial (per sqft of GFA) | $3.20 | $7.60 | $6.35 |
| Bioscience (per sqft of GFA) | $0 | $0 | $0 |
| Retail (per sqft of GFA) | $5.70 | $3.70 | $11.40 |
| Place of Worship (per sqft of GFA) | $0.35 | $0.90 | $0.65 |
| Private School (per sqft of GFA) | $0.50 | $1.35 | $1.05 |
| **Building Type** | **Metro Station Policy Area** | **Clarksburg** | **General** |

| | | | |
|---|---|---|---|
| Hospital (per sqft of GFA) | $0 | $0 | $0 |
| Social Service Agency (per sqft of GFA) | $0 | $0 | $0 |
| Other non-residential (per sqft of GFA) | $3.20 | $7.60 | $6.35 |

Since Fiscal Year 2004, Montgomery County has collected $89.3 million in transportation impact taxes. Collections vary widely from year to year, ranging between $1.5 million and $20.2 million.



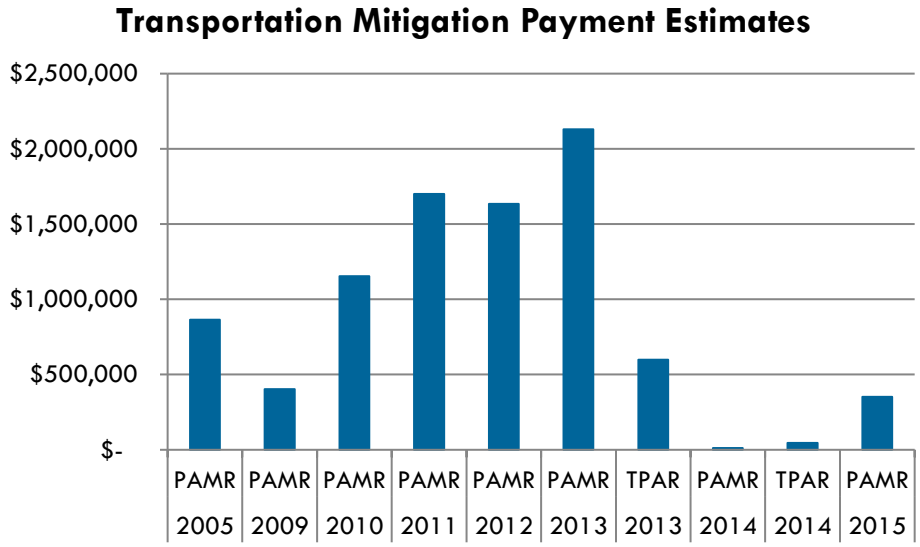

The SSP uses two tests to assess transportation adequacy and determine an additional transportation mitigation payment for new development: Transportation Policy Area Review (TPAR) and Local Area Transportation Review (LATR). TPAR looks at the "adequacy" of local arterial roads and transit (defined as existing local bus service) in the development's surrounding community, defined as a policy area. There are 34 policy areas in Montgomery County, ranging in size from a few hundred acres (the Silver Spring CBD policy area) to over one hundred square miles (the "Rural West" policy area).

Under TPAR, the congestion level in each policy area is measured by the PM peak period congested speed as a percentage of free flow speed in the peak direction of travel. The "adequate" percentage is 40% in urban areas, 50% in suburban areas, and 60% in rural areas. If the average arterial roadway congestion level falls below that standard, roads in the policy are deemed "inadequate."

Transit adequacy is determined based on three standards. **Coverage** measures how much of a policy area lies within walking distance of transit, from 50% for rural areas, 70% for suburban areas, and 80% for urban areas. **Headway** measures the frequency of transit service. Policy areas with adequate transit service have 60 minute headways or better in rural areas, 20 minute headways or better in suburban areas, or 14 minute headways or better in urban areas. **Span of service** measures the duration of transit service during a typical weekday. Policy areas with adequate transit service have minimum span of service of 4 hours in rural areas, 14 hours in suburban areas, and 17 hours in urban areas. If any of these three measures are found inadequate, the policy area is considered inadequate for transit.

Where roads or transit are inadequate, the fee is 25% of the impact tax; where both are inadequate, the fee is 50% of the impact tax.

LATR tests the capacity of nearby intersections and is applied to all projects estimated to generate 30 or more peak hour trips, according to the *Local Area Transportation Review/Transportation Policy Area Review Guidelines*. It uses Level of Service (LOS) as a measure of an intersection's ability to move vehicle traffic. If an intersection receives a "failing" grade, the developer must either provide transportation improvements, such as adding road or transit capacity, or provide a payment that covers the cost of the improvement. Developers can also agree to implement a trip reduction program. In some cases, developers can purchase "trip credits" at a rate of $12,000 per vehicle trip.




In 2016, the County Council gave direction for updating the Subdivision Staging Policy to make it a more accurate reflection of the county's planning goals:

- Refine the Metropolitan Washington Council of Governments' (MWCOG) regional transportation model to make it more applicable to Montgomery County.
- Update trip generation rates used in LATR (Local Area Traffic Review), last updated in 1989, to reflect how mixed-use development and access to active transportation changes travel habits.
- Refine and update the LATR process through the Transportation Impact Study Technical Working Group.
- Refine the transit component of the Transportation Policy Area Review to reflect how Bus Rapid Transit will affect travel habits.

Planning staff is currently exploring alternatives to LATR, including incorporating Vehicle Miles of Travel into the LATR process, and consolidating LATR and TPAR into a single test. Another possibility is expanding the "pro-rata" share concept beyond White Flint and White Oak.

Planning staff is also looking at ways to change the formulas for infrastructure funding, so that the impact fees levied on new development accurately reflects the cost of that development on the public. Proposals include updating impact fees based on current construction cost, using transportation impact fees within the local area of a project (as is currently done for school impact fees), changing the recordation tax rate, and considering options for public-private partnerships.

The SSP review process began in December 2015 and will culminate in a working staff draft in May 2016. If the Planning Board approves the draft in July 2016, the County Council will take it up in the fall before voting on it no later than November 2016.

**RESPONSES TO SCOPE OF WORK QUESTIONS**
This section addresses the specific questions the County provided about its current review process.

**What is a reasonable time interval for the review?**

Scheduling major policy reviews involves difficult trade-offs, particularly weighing the cost of the staff time burden against the benefits of building public trust and incremental policy improvement. There is no correct schedule, but we generally recommend more frequent reporting on performance, and less frequent deep reviews that would result in a major shift in approach.

We recommend bi-annual reporting on performance. It is critical for the gaining of public trust that the county report regularly on how the policy is helping to meet key goals. This should be a simple, report-card style document identifying, for example:

- Development projects approved
- Mitigations imposed
- Impact fees raised
- Impact fee expenditures
- Available trend data on corridor travel time, bus delay, transit capacity, person delay, person capacity, vehicle miles traveled, etc.

Given staff and budget constraints, it is important to make annual reporting focused on existing and readily available data. Requiring major data collection efforts can make timely reporting impossible.

Following any major change in policy, we also recommend continual internal evaluation of performance for at least one year, focused on identification and correction of unintended negative consequences. That is, staff should work to identify any unexpected problems with the new approach. If significant problems arise, these should be reported and solutions identified.

For programs that are generally meeting their intended goals, a deeper review every five years is generally sufficient. Given the increased pace of change of major issues affecting new development (climate change, demographic shifts, market shifts, etc.), more frequent reviews should be undertaken anytime it becomes clear that the program is no longer producing the desired outcomes.

**Does the process used for evaluating the existing metrics reflect the county's goals and objectives?**

The county has clear goals goal to decrease automobile dependency, protect agricultural lands, manage congestion, and focus new development in compact, transit-oriented, mixed-use, and walkable communities. While the county's subdivision staging policy is more sophisticated than most jurisdictions, its policies are not fully in alignment with its goals. These policies unintentionally exacerbate traffic levels, and maintain unnecessary obstacles against low-impact development. See additional recommendations below.

**What metrics are useful to track that are not easily applied in a regulatory context?**

First, we reiterate the importance of using existing or readily available data in order to reduce data collection costs. Existing data also makes it easier to track historic trendlines.

Second, we would point out that all policy goals and objectives must have a data strategy to determine the degree to which they are being achieved. Goals without data will be ignored and will rightly result in public mistrust.

Third, data reporting should be designed to be intuitive to the public and policymakers, and should be designed to inform the difficult trade-offs in development policy. For example, constraining housing production may reduce vehicle trips, but may also result in increased rents. Similarly, new housing production in areas with little traffic may reduce impacts on local urban congestion, but would result in overall higher VMT and significantly higher household transportation costs. The data should reveal the tensions between goals and help policymakers make policy decisions that reflect local values.

Given the scale of the county, most data should be mapped in GIS and presented in the form of heatmaps. In addition to mapping current conditions, the county should identify change over time and, where possible, predictions of future conditions under different scenarios. Where in the county is moving toward meeting the goal, and where is moving further away?

Some potential metrics that may be useful:

**Economic development**

- Net new jobs created and lost
- Net new housing created and lost
- Real estate value per acre
- Total retail sales, and retail sales per square foot
- Retail sales and other expenditures reinvested in local community
- Workforce accessible within 30 minutes by transit and all modes
- New infrastructure costs per unit or employee
- Agricultural land lost, and agricultural production
- Person capacity by transportation corridor
- Peak period person throughput by transportation corridor
- Peak period average vehicle, transit vehicle, and person speed by transportation corridor

**Quality of Life**

- Household accessibility to grocery stores, schools, rapid transit, daycare, parks, and other key services
- Jobs accessible within 30 minutes by transit and all modes
- Percent tree canopy
- Transportation injuries and fatalities, total and by exposure rate
- Transportation personal and personal property crimes, total and by exposure rate
- Active transportation usage
- Obesity and cardiovascular disease rates

**Environment**

- Greenhouse gas emissions per capita and per employee
- VMT per capita and per employee
- Non-permeable surface per capita
- Potable water use per capita
- $NO_x$, $SO_x$, CO and particulate exposure per capita

**Social Equity**

- Density of communities of concern, particularly race, income, and age
- Most of the above data factors, parsed by communities of concern demographics. To what degree, for example, do communities of concern have access to jobs and services, or face added pollution burdens?

- Housing plus transportation costs, particularly for households in bottom quintile income

**How does the applicability of any set of metrics vary by the size of the area or specific project under consideration?**

In order to avoid having developers simply shrink their projects to avoid paying their fair share, we prefer metrics that treat all projects the same, regardless of size. This means focusing on per capita or per employee metrics that render project size irrelevant.

That said, larger projects should face greater scrutiny since their potential impacts are greater, and very small projects may have significantly less or no analytical burden, since it is inappropriate to require a massive data analysis exercise for a small project.

**How exactly does urban design influence VMT on a project level?**

The relationship between travel behavior and built form is well documented, and many sketch planning tools are now available to estimate VMT according to baseline site characteristics (density, distance to transit, destination accessibility, street pattern design, mix of uses, etc.), and adjust based upon the specifics of the project (parking supply and management, Transportation Demand Management, etc.). For a summary of the sketch planning tools California recommends for calculating VMT, see Appendix F at https://www.opr.ca.gov/docs/Final_Preliminary_Discussion_Draft_of_Updates_Implementing_SB_743_080614.pdf. For more detail on California's efforts generally, see https://www.opr.ca.gov/s_sb743.php.

It would be possible to create a heatmap of the entirety of Montgomery County showing baseline VMT generation down to the parcel level.

For more detail, see the Victoria Transport Policy Institute's meta-analysis at http://www.vtpi.org/landtravel.pdf.

**ISSUES**

The current Subdivision Staging Policy, while creating a mechanism to allow development to pay for the infrastructure it uses, does not fully reflect the county's goals to promote active transportation and transit, nor to focus development in town centers. The current policy penalizes the "last one in" for new development, as projects that can reduce car trips may be blocked if roads in the policy area is deemed "inadequate." Development just outside congested areas is unintentionally rewarded, and development in urban cores is discouraged, even if the former results in significantly greater VMT. It also encourages road widening and reduced density as mitigation strategies, which only results in more vehicle traffic while discouraging active transportation.

Below is a list of recommendations that can be used to make the Subdivision Staging Policy a closer fit to the county's stated policy goals while allowing growth to occur where and how the county wants it to.

**RECOMMENDATIONS**

- The metrics used to measure transportation performance should reflect the county's planning goals: to direct new development to established communities and town centers; to preserve parkland and agricultural areas; to provide options for transportation other than driving. Level of Service and Critical Lane Volume assume that personal vehicles alone are the only transportation

mode that matters and that streets should serve. These metrics should be eliminated or downplayed.

- Use Transportation Demand Management as a development incentive. The new CR Zone allows increased density for mixed-use development if the project participates in a Trip Mitigation Agreement, provides less than the maximum number of parking spaces, shares parking, or improves pedestrian or transit access. Additional incentives should be provided for, unbundled and priced parking, and other key TDM incentives.
- Develop a strong parking management program to ensure adequate availability in commercial districts at all time, and protect existing low density neighborhoods from real or perceived spillover parking. Such programs will eliminate parking search traffic, and make it easier to avoid over-supplying parking.
- Eliminate minimum parking requirements county-wide, and ensure existing parking maximums are set at a rate that balances the development market against traffic management goals. Facilitate parking management districts in commercial areas.
- Require the unbundling of the price of parking from residential and commercial leases, allowing tenants to rent as little or as much parking as they like. Currently, unbundling of parking from residential multi-family development provides a reduction in the amount of required parking; however, it is not a requirement.
- Eliminate indirect subsidies for parking, and have the cost of parking borne by motorists, not society at large. In new development, consider a $1 per hour/$5 per day price floor for parking, either directly paid or through parking cash-out.
- Use vehicle miles traveled (VMT) as a measure of congestion and person hours of travel (PHT) as a measure of travel time. Measure VMT on a per capita basis for residential development, per employee for employment, and on a net total basis for retail and services. These measures reflect the county's goal to reduce congestion from personal vehicles while also reducing time spent in transit.
- Recognizing that the county can never eliminate traffic congestion except through congestion pricing or economic collapse, the county should develop policies to locate congestion in places with the least negative impact on economic development opportunities, neighborhood quality of life, and social justice. San Francisco, for example, intentionally locates its highway capacity bottleneck in the center of its downtown, in order to favor trips with a downtown destination, and disfavor trips cutting through downtown. Santa Monica locates its bottlenecks at the first signalized intersection at its freeway on- and off-ramps, in order to minimize traffic backing up into its neighborhoods.
- Impact fees should fully reflect the public cost of development. New suburban development requires totally new transportation infrastructure while burdening the transportation system in established communities. Currently, impact fees for urban areas are half the cost in suburban and rural areas, while the actual costs are significantly less than half. Impact fees should reflect the actual cost of development in suburban and rural areas, including new roads, utility lines, and public facilities like schools.
- The transportation basis of impact fees should focus on VMT, so the length of vehicle trips is factored in. Fee discounts should be given based upon TDM and other programs that reduce VMT, such as reduced parking.
- Transportation fee revenue should be used not to accommodate more auto trips, but rather to solve the congestion problem through VMT reduction.

- The county should transition away from using density controls like Floor Area Ratio as a proxy for community character or traffic generation. Rather, community character should be regulated through design controls. Similarly, traffic generation should be regulated directly through caps on VMT generation. Existing property owners should be rewarded for trip reduction efforts through additional development entitlement. The county should not only consider parcel-based VMT caps, but also a VMT cap-and-trade program that would allow property owners to get entitlement credit for off-site vehicle trip reduction. Such programs require ongoing mitigation monitoring programs and strong enforcement tools to ensure ongoing compliance. For more detail, see, for example, the Stanford University General Use Permit, or the Mountain View, California, North Bayshore Precise Plan.

## APPENDIX B - FORECASTING FUTURE GROWTH

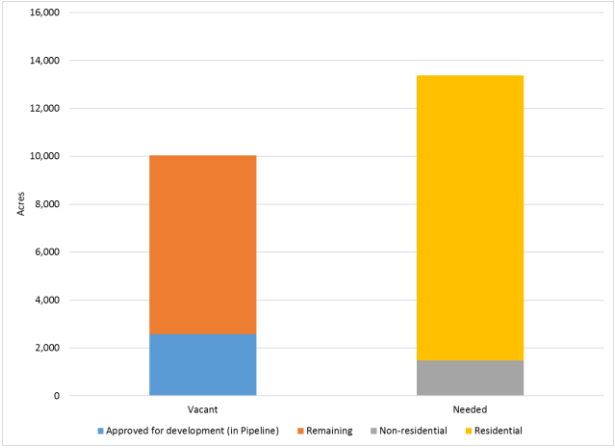
### BACKGROUND

Since 1973 Montgomery County has undertaken the evaluation of whether County public facilities are adequate to meet the needs stemming from increases in its population and employment. The County's Subdivision Staging Policy governs the timing and conduct of this analysis. To help inform the Subdivision Staging Policy, this appendix adds context to the County's growth by shedding light on the amount of land needed to accommodate projected growth and identifying where gaps exist between the projected growth and the availability of land needed to accommodate it.

### ACCOMMODATING FUTURE GROWTH

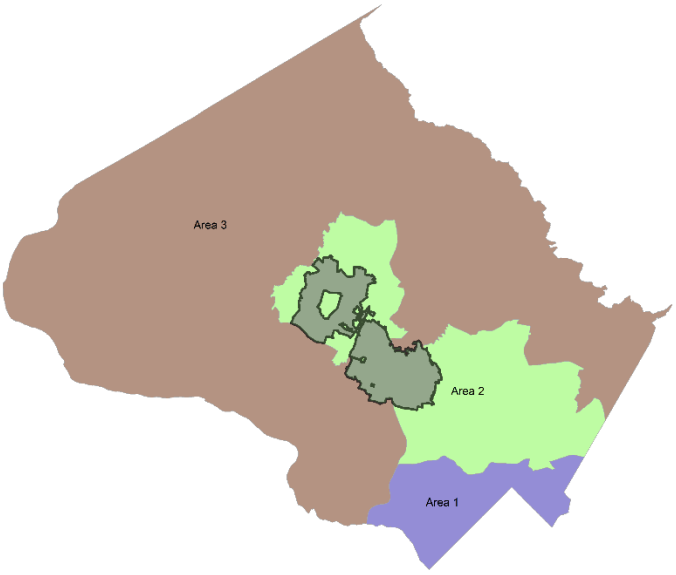
The Round 9.0 cooperative forecast assumes that within the portions of the County subject to Subdivision Staging policy—outside of the jurisdictions of Rockville and Gaithersburg—it will take approximately 11,900 acres to accommodate future housing units for household and population growth from 2010 to 2045. Likewise, in the same period it is expected that just over 1,470 acres will be needed to construct the commercial space, or other non-residential square footage, required for future employment growth. This need for acreage to accommodate future growth cannot be met by available vacant land which is in short supply. As of a Spring 2016 assessment of County land outside of Rockville or Gaithersburg, only about 10,000 acres of vacant land is developable—although this figure does not take into account natural hindrances on development, such as steep slopes—and of that amount, approximately 2,600 acres (or 26%) already has an approved pipeline project. The net result of this difference is that the portion of the County subject to Subdivision Staging policy has a deficit of about 3,300 acres needed to accommodate future jobs and residences in the 2010 to 2045 forecast horizon period, see Figure 1.

Figure 1. Vacant land and land needed for future development




The impact of the net discrepancy between available vacant land relative to land needed to accommodate future jobs and residents will not be experienced uniformly throughout the County. Rather, this impact is expected to vary spatially throughout County areas subject to Subdivision Staging Policy, see Map 1.

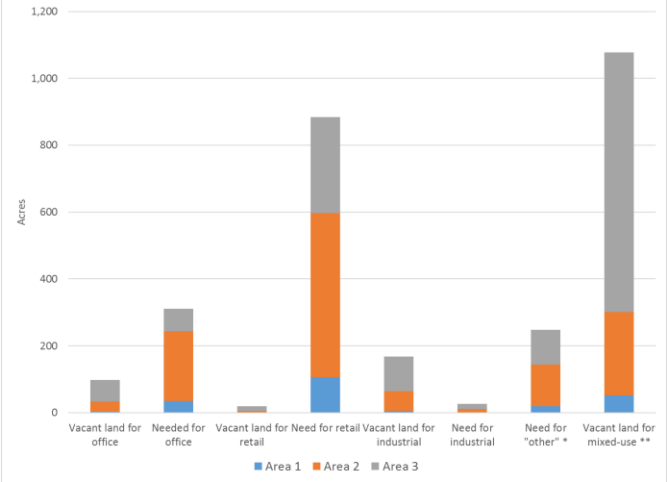
Map 1. Planning Team Areas 1, 2, and 3 and Rockville and Gaithersburg




When comparing vacant land by non-residential use and the comparable need according to the Round 9.0 forecast, see Figure 2, it is evident that, for the most part, the need for land outstrips the existing supply of vacant land, but also that some of the deficit is felt in some Planning Areas more than others. For example, the differential between the need for office acreage and vacant land currently zoned for office is expected to be felt most acutely in Area 2, which includes neighborhoods such as White Flint and White Oak, where the need exceeds vacant available land by 177 acres. Conversely, in Area 3 the differential between the need for land to accommodate office space and vacant land zoned for office is only 4 acres. The exception to this pattern of needed land exceeding vacant land is found among industrial uses, where the inverse is true. In Areas 1, 2 and 3, vacant land zoned for industrial use exceeds the need for industrial land by 5, 47, and 88 acres, respectively.

It should be noted that in the aggregate there are approximately 1,080 acres of vacant land categorized as mixed-use. This reflects the Commercial Residential (CR) class of zoning, that can be developed as a combination of commercial or residential uses. Vacant mixed-use land, thus, can serve to moderate some of the redevelopment pressures that can arise when analyzing the difference between a commercial use and its zoning-specific vacant equivalent, such as office uses that can be accommodated in vacant land zoned specifically for office or can also be, theoretically, accommodated in vacant land with CR zoning.

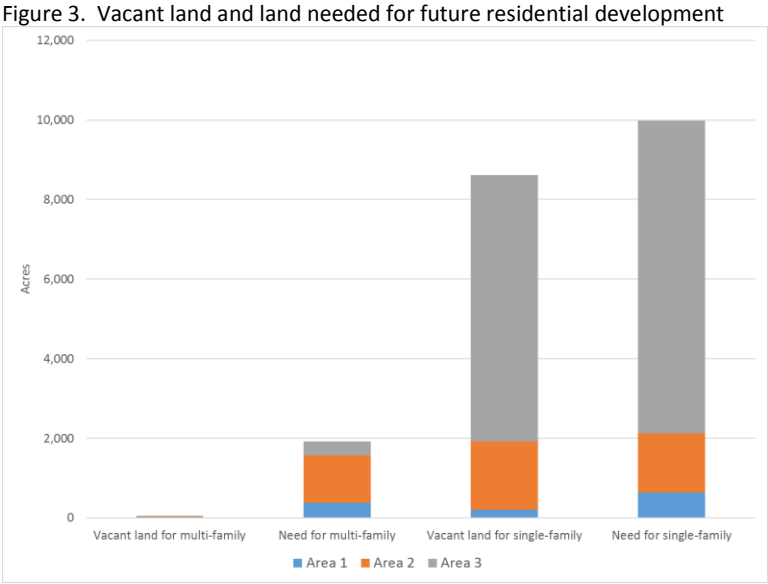
Figure 2. Vacant land and land needed for future non-residential development




* This assessment did not quantify "other" vacant land because institutional or civic land owners whose building space would fall into the categorization of "other", for example MNCPPC, WMATA, or the Board of Education, were not considered candidates for redevelopment and were excluded from this analysis.
** Vacant land with mixed-use zoning is not categorized as a specific commercial or residential use since it can be developed as a combination of commercial or residential uses according to a vacant parcel's zoning.

The differential between needed land and equivalently zoned vacant land can also be assessed for residential uses among Planning Team Areas. The severity of the deficit of vacant land zoned for multi-family residential uses relative to the need for land that can accommodate these residential units varies by Planning Team Area, see Figure 3.

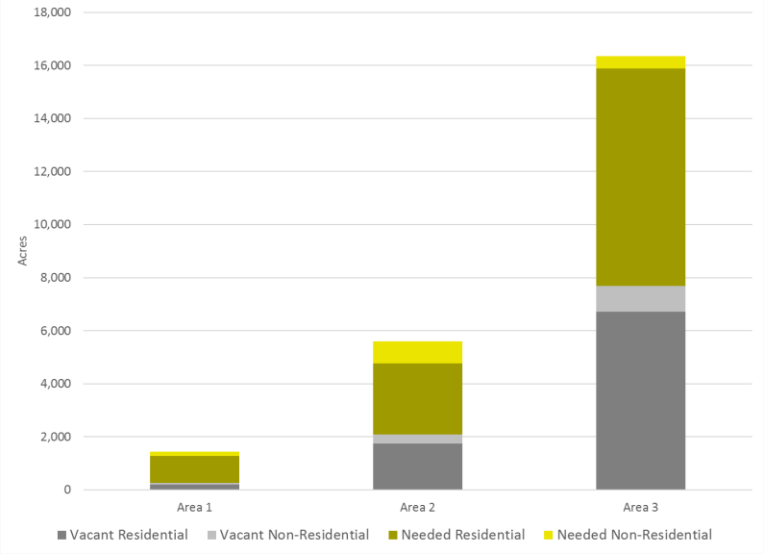
Figure 3. Vacant land and land needed for future residential development




This deficit is felt most acutely in Area 2 where the need for land exceeds vacant land by approximately 1,150 acres, followed by Area 1 where the deficit is 380 acres, and lastly Area 3, where the deficit is around 330 acres. This pattern of net deficits is not as uniform among the Planning Team Areas when it comes to

land dedicated for single-family residential units. The deficit is most pronounced in Area 3, where the need for single-family land exceeds vacant land zoned for this unit type by approximately 1,160 acres. This is followed by Area 1, where the deficit is around 440 acres. Area 2, meanwhile, bucks the trend since its vacant land zoned for single-family units exceeds needed land by roughly 230 acres. It must be noted, though, that in theory some of the 1,080 acres of vacant land that is classified as mixed-use could be purposed for residential uses and moderate the pressures on redevelopment for multi-family construction. Regardless, the Round 9.0 cooperative forecast assumes that in all three Planning Team Areas the aggregate of land needed for residential and non-residential purposes exceeds the vacant land zoned for residential, non-residential, and mixed-use densities, see Figure 4.

Figure 4. Vacant land and land needed in the future by purpose and Planning Area




**METHODOLOGY FOR PROJECTING FUTURE LAND USE NEEDS**

How do we determine the amount of land needed to accommodate future growth?

The process of calculating the amount of acreage needed to accommodate future residential and employment growth is done through a two-part process of assessing the amount of net new square footage or units needed to yield the forecasted jobs or population, respectively. That square footage or units are then converted to the requisite acreage needed for those uses based on historical average floor area ratio (FAR) or units per acreage factors.

In the Round 9.0 cooperative forecast, the process of allocating residents and employment to Transportation Analysis Zones (TAZ) was done by calculating the yields—based on occupancy rates and factors of jobs per occupied square footage or persons per occupied residential unit—stemming from assumed future net new non-residential densities and residential units. The assumed net new densities and units were derived from various sources, including the pipeline of approved projects; submitted plans, such as Preliminary and Site Plans; or parcels identified by Planning staff as likely to redevelop. It is worth noting that not all new employment was assumed to be yielded from net new non-residential square footage. Some future jobs involved the utilization of currently vacant office space and, as a result, these spaces are not listed as "needed" square footage for future construction. Table 1, below, summarizes "needed" units or space by type in the future according to the Round 9.0 forecast:

Table 1. Net new units or non-residential square feet needed to accommodate future population or employment

| | Square Feet (Thousands) | | | | Units | |
|---|---|---|---|---|---|---|
| | Office | Retail | Industrial | Other | Multi-Family | Single-Family |
| Net New Required (Rounded) | 18,771 | 12,090 | 636 | 3,966 | 51,800 | 21,200 |

With the Round 9.0 forecast's required net new square footage and residential units calculated, these are then converted to acreage of needed land by applying factors for non-residential average floor area ratios (FAR), by use type, and units per acreage. Floor area ratio (FAR) is the ratio of a building's gross area to the size of the parcel on which the building sits. The larger the FAR indicates the more intensely (or densely) a structure is built on a parcel of land. The factors for FAR or units per acreage which were developed to quantify the amount of acreage needed for each use was developed by looking at residential and non-residential construction from 2006 to the present (April 2016). The non-residential FAR factor was developed by calculating an average ratio between a structures' built gross area and the parcel area used by that structure. This analysis was done for four types of structures, using the Maryland State Department of Assessment and Taxation (SDAT) parcel file's land use code categories, that includes office, retail, industrial and other (uses that do not fall under strictly commercial uses, such as institutional or civic uses). Likewise, the residential factor for single- and multi-family residential was developed by calculating an average ratio between a residential buildings' units and the parcel acreage corresponding to those residential structures. The factors used to convert future net new residential units and non-residential densities to needed acreage for these buildings types are noted in Table 2.

Table 2. Average residential units per acre by Planning Area and average Floor Area Ratio (FAR) for Montgomery County

| | Average Dwelling Unit Per Acre | |
|---|---|---|
| | Single-Family | Multi-Family |
| Area 1 | 4.5 | 43.4 |
| Area 2 | 4.5 | 24.3 |
| Area 3 | 1.5 | 18.2 |
| County * | 2.4 | 27.1 |

| | Average Floor Area Ratio (FAR) * |
|---|---|
| Office | 1.38 |
| Retail | 0.31 |
| Industrial | 0.54 |
| Other | 0.37 |

* These ratios are based on parcels within Montgomery County, but outside the municipalities of Rockville and Gaithersburg.

## APPENDIX C - RECENT TRENDS IN REAL ESTATE TRANSACTIONS

### RESIDENTIAL REAL ESTATE TRANSACTIONS

Montgomery County homes sales, for all housing types (single-family, multifamily, new and pre-owned) peaked in 2006 with a median sales price of $516,123. Over 16,000 units were sold that year, with a near even split of between attached (townhouses, condos, and housing cooperatives) and detached units sold. The number of days on market averaged 57 days.

Montgomery County continues to recover from the financial crisis of 2008. In 2015, the median sale price for Montgomery County was $400,000. The reported prices consist of purchases from single-family, multi-family, new and pre-owned housing units. Compared to the market peak in 2007, prices are still down 23 percent, but higher than the low in 2011 of $368,793. The number of days on market has also rebounded to the 2006 number of 57 days. Accompanying this rebound in median sales prices, the numbers of units sold, both attached and detached, is at its highest level since 2006.

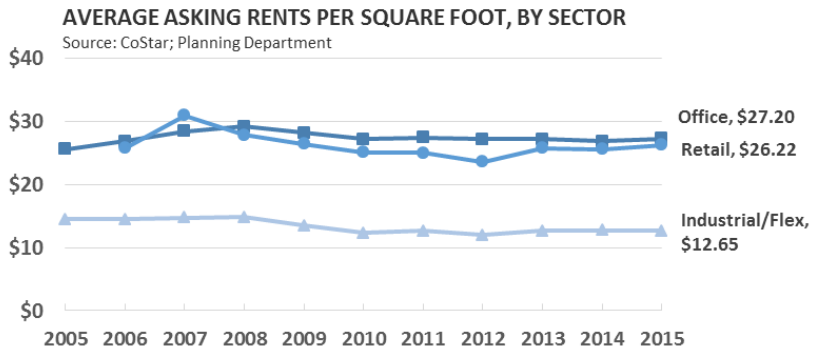
| Montgomery County | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | Change From Peak (2006) | Year Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Sold Price | $501,305 | $503,956 | $509,058 | $480,560 | $476,231 | $480,019 | $479,748 | $554,791 | $628,931 | $621,989 | $615,311 | -19.4% | -0.5% |
| Median Sold Price | $400,000 | $400,475 | $406,971 | $379,898 | $368,793 | $380,434 | $375,626 | $434,837 | $507,546 | $516,123 | $515,782 | -22.5% | -0.1% |
| Units Sold | 12,191 | 10,976 | 11,461 | 10,155 | 9,500 | 10,408 | 10,375 | 8,519 | 10,355 | 13,494 | 16,909 | -9.7% | 10.0% |
| Average Days on Market | 57 | 50 | 47 | 67 | 78 | 66 | 91 | 103 | 81 | 57 | 25 | 0.0% | 12.3% |
| Average List Price for Sold | $510,680 | $513,883 | $517,083 | $492,779 | $491,708 | $493,957 | $497,898 | $576,004 | $644,225 | $631,731 | $613,191 | -19.2% | -0.6% |
| Attached Average Sold Price | $323,142 | $316,579 | $318,629 | $299,722 | $287,659 | $303,133 | $310,147 | $363,261 | $420,359 | $418,289 | $423,405 | -22.7% | 2.0% |
| Detached Average Sold Price | $644,775 | $653,265 | $658,477 | $614,147 | $631,227 | $628,553 | $617,017 | $709,358 | $818,080 | $817,438 | $805,935 | -21.1% | -1.3% |
| Attached Units Sold | 5,438 | 4,848 | 5,039 | 4,303 | 4,284 | 4,743 | 4,637 | 3,802 | 4,924 | 6,605 | 8,427 | -17.7% | 10.8% |
| Detached Units Sold | 6,753 | 6,128 | 6,422 | 5,846 | 5,215 | 5,661 | 5,736 | 4,715 | 5,430 | 6,885 | 8,478 | -1.9% | 9.3% |
| **Source: MRIS/RBI** | | | | | | | | | | | | | |
| ** All numbers have been adjusted for inflation to 2015 numbers using Bureau of Labor Statistics' CPI Inflation Calculation http://www.bls.gov/data/inflation_calculator.htm | | | | | | | | | | | | | |
| * Attached Units includes townhouses and condos | | | | | | | | | | | | | |

### COMMERCIAL REAL ESTATE TRANSACTIONS

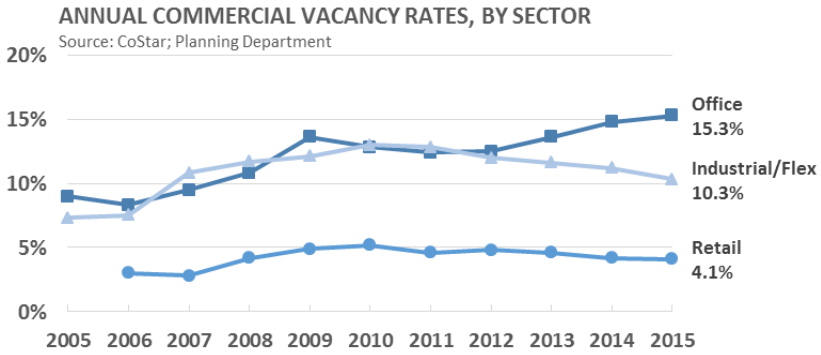
All segments of Montgomery County's commercial real estate market weathered the Great Recession relatively well, with occupancy and rents falling less sharply compared to most major markets nationwide. Recovery has been generally slow but steady.

- More office, retail and industrial/flex space was under lease in 2015 compared to 2010.
- New construction was underway during 2015 in each category.

Other indicators, however, show that the recovery is not complete.




- Asking rents essentially are flat across the board when inflation and changes in product mix are taken into account.
- Vacancy rates remain above pre-recessionary levels, indicating that space added or vacated over the past decade has not been fully absorbed.
- Office vacancies continue to rise. At 15.3 percent, the 2015 vacancy rate was above the 13.6 percent peak vacancy rate during the recession.




More detailed data for each market segment is below.

**OFFICE SPACE**

As detailed in the 2015 *Office Market Assessment* that Partners for Economic Solutions (PES) prepared in collaboration with the Planning Department's Research & Special Projects Division, the office market in Montgomery County and the Washington, DC metro region is undergoing an unprecedented series of challenges. Cuts in federal spending and budget turmoil have hit the region's economic engine, much of which is office-based. Projects already in the pipeline added another roughly half a million square feet to the inventory just as demand softened. In 2015, more than 11 million square feet of office space was vacant countywide.

Structural shifts in the office market—driven by federal mandates to reduce the government's physical footprint (especially in leased space), but also by changing location preferences and space usage patterns among public and private tenants alike—have further undercut office demand. The market assessment showed that area tenants increasingly prefer high-end space in mixed-use, transit- or highway-accessible places; increased telecommuting, reduced file storage needs and other factors also enable them to use less space per employee.

New construction in preferred locations and continuing lack of demand for isolated, obsolete office space are expected to keep office vacancy rates high for at least the next 5-10 years.

**OFFICE MARKET TRENDS (2005 to 2015)**

MONTGOMERY COUNTY, MARYLAND

Source: Research & Special Projects Division analysis of CoStar Property data

| | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EXISTING** | | | | | | | | | | | |
| **Buildings** | 1,526 | 1,525 | 1,526 | 1,526 | 1,536 | 1,538 | 1,537 | 1,526 | 1,526 | 1,522 | 1,511 |
| *New* | *7* | *5* | *3* | *3* | *3* | *3* | *12* | *9* | *10* | *11* | *8* |
| **Leasable square feet** | 73,036,000 | 72,917,000 | 71,824,000 | 71,580,000 | 70,678,000 | 70,678,000 | 70,664,000 | 69,409,000 | 68,679,000 | 67,718,000 | 67,198,000 |
| *New* | *153,000* | *1,194,000* | *373,000* | *955,000* | *38,000* | *128,000* | *1,258,000* | *900,000* | *1,053,000* | *520,000* | *284,000* |
| **UNDER CONSTRUCTION** | | | | | | | | | | | |
| **Buildings** | 5 | 9 | 7 | 7 | 4 | 4 | 2 | 13 | 13 | 10 | 13 |
| **Leasable square feet** | 335,000 | 463,000 | 1,242,000 | 1,455,000 | 730,000 | 396,000 | 108,000 | 1,308,000 | 1,598,000 | 1,134,000 | 846,000 |
| **DEMAND** | | | | | | | | | | | |
| **Net change in leased square feet** | -258,000 | 32,000 | -586,000 | 736,000 | 301,000 | 569,000 | -840,000 | -243,000 | 11,000 | 948,000 | 1,362,000 |
| **Vacant square feet** | 11,186,000 | 10,809,000 | 9,748,000 | 8,918,000 | 8,752,000 | 9,052,000 | 9,608,000 | 7,513,000 | 6,539,000 | 5,589,000 | 6,017,000 |
| *Vacancy rate* | *15.3%* | *14.8%* | *13.6%* | *12.5%* | *12.4%* | *12.8%* | *13.6%* | *10.8%* | *9.5%* | *8.3%* | *9.0%* |
| **Occupied square feet** | 61,850,000 | 62,108,000 | 62,076,000 | 62,662,000 | 61,926,000 | 61,625,000 | 61,056,000 | 61,896,000 | 62,140,000 | 62,129,000 | 61,181,000 |
| *Occupancy rate* | *84.7%* | *85.2%* | *86.4%* | *87.5%* | *87.6%* | *87.2%* | *86.4%* | *89.2%* | *90.5%* | *91.7%* | *91.0%* |
| **Average Asking Rent** | $27.20 | $26.79 | $27.18 | $27.18 | $27.45 | $27.16 | $28.16 | $29.12 | $28.37 | $26.79 | $25.61 |

## RETAIL SPACE

Demand is picking up at a more robust pace in the retail sector. At 4.1 percent, retail vacancies remain relatively low, though still above the very low 2.8 percent rate in 2007 just before the recession hit. At $26.22 per square foot, average asking retail rents are below their 2007 peak, when they approached $31 per square foot. In 2016, the Research & Special Projects division is launching a comprehensive retail study to assess the long term outlook for retail demand in Montgomery County, including the overall amount, location and type of retail most likely to thrive here.

**RETAIL MARKET TRENDS (2005 to 2015)**

MONTGOMERY COUNTY, MARYLAND

Source: Research & Special Projects Division analysis of CoStar Property data

| | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EXISTING** | | | | | | | | | | | |
| **Buildings** | 2,358 | 2,354 | 2,342 | 2,333 | 2,339 | 2,334 | 2,327 | 2,325 | 2,331 | 2,321 | N/A |
| *New* | *8* | *20* | *16* | *8* | *13* | *14* | *8* | *5* | *13* | *16* | *N/A* |
| **Leasable square feet** | 40,881,989 | 41,434,689 | 41,289,839 | 41,176,383 | 41,092,644 | 41,112,284 | 40,871,193 | 40,556,366 | 40,517,443 | 40,057,473 | N/A |
| *New* | *88,445* | *535,658* | *503,034* | *137,398* | *284,002* | *274,455* | *406,829* | *90,324* | *518,204* | *291,387* | *N/A* |
| **UNDER CONSTRUCTION** | | | | | | | | | | | |
| **Buildings** | 5 | 7 | 19 | 16 | 8 | 9 | 14 | 7 | 5 | 12 | N/A |
| **Leasable square feet** | 527,800 | 132,545 | 566,384 | 716,386 | 195,912 | 201,166 | 254,718 | 393,027 | 388,324 | 798,834 | N/A |
| **DEMAND** | | | | | | | | | | | |
| **Net change in leased square feet** | -494,717 | 312,811 | 166,353 | 699 | 244,410 | 100,534 | -6,696 | -528,715 | 555,188 | 56,475 | N/A |
| **Vacant square feet** | 1,684,152 | 1,742,135 | 1,910,096 | 1,962,993 | 1,879,953 | 2,144,003 | 2,003,446 | 1,686,831 | 1,119,193 | 1,214,411 | N/A |
| *Vacancy rate* | *4.1%* | *4.2%* | *4.6%* | *4.8%* | *4.6%* | *5.2%* | *4.9%* | *4.2%* | *2.8%* | *3.0%* | *N/A* |
| **Occupied square feet** | 39,197,837 | 39,692,554 | 39,379,743 | 39,213,390 | 39,212,691 | 38,968,281 | 38,867,747 | 38,869,535 | 39,398,250 | 38,843,062 | N/A |
| *Occupancy rate* | *95.9%* | *95.8%* | *95.4%* | *95.2%* | *95.4%* | *94.8%* | *95.1%* | *95.8%* | *97.2%* | *97.0%* | *N/A* |
| **Average Asking Rent** | $26.22 | $25.59 | $25.72 | $23.57 | $24.98 | $25.04 | $26.39 | $27.85 | $30.92 | $25.70 | N/A |

## INDUSTRIAL/FLEX SPACE

Industrial and flex space vacancies have fallen steadily from a high of 13 percent in 2010 to 10.3 percent in 2015, only halfway to the 7.3 percent vacancy rate in 2007. A recent industry market assessment, also prepared by PES for the research division, indicated that pressure to convert industrial land is very high, especially in areas of the county where there is growing demand for housing and mixed use developments and transit accessibility. The study highlighted the essential role that this space plays in accommodating a wide array tenants providing key goods and services to area residents and businesses. After years of shrinking inventory, falling rents and no new construction, roughly 200,000 square feet was under construction in 2015, suggesting that the market is responding to continued demand for this product.

**INDUSTRIAL/FLEX MARKET TRENDS (2005 to 2015)**

MONTGOMERY COUNTY, MARYLAND

Source: Research & Special Projects Division analysis of CoStar Property data

| | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EXISTING** | | | | | | | | | | | |
| **Buildings** | 912 | 913 | 915 | 916 | 917 | 917 | 918 | 920 | 922 | 922 | 918 |
| *New* | *0* | *1* | *0* | *0* | *0* | *0* | *1* | *1* | *1* | *4* | *3* |
| **Leasable square feet** | 25,703,358 | 25,808,358 | 25,878,678 | 25,988,678 | 25,999,426 | 25,999,426 | 26,109,986 | 26,235,434 | 26,223,224 | 26,158,724 | 25,838,170 |
| *New* | *0* | *13,600* | *0* | *0* | *0* | *0* | *13,000* | *65,000* | *91,000* | *320,554* | *439,912* |
| **UNDER CONSTRUCTION** | | | | | | | | | | | |
| **Buildings** | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 |
| **Leasable square feet** | 200,080 | 0 | 13,600 | 0 | 0 | 0 | 0 | 13,000 | 0 | 91,000 | 209,994 |
| **DEMAND** | | | | | | | | | | | |
| **Net change in leased square feet** | 140,074 | 51,798 | 5,196 | 188,251 | 44,393 | -321,887 | -218,827 | -217,463 | -814,967 | 250,998 | 579,135 |
| **Vacant square feet** | 2,643,668 | 2,888,742 | 3,010,860 | 3,126,056 | 3,325,055 | 3,369,448 | 3,158,121 | 3,064,742 | 2,835,069 | 1,955,602 | 1,886,046 |
| *Vacancy rate* | *10.3%* | *11.2%* | *11.6%* | *12.0%* | *12.8%* | *13.0%* | *12.1%* | *11.7%* | *10.8%* | *7.5%* | *7.3%* |
| **Occupied square feet** | 23,059,690 | 22,919,616 | 22,867,818 | 22,862,622 | 22,674,371 | 22,629,978 | 22,951,865 | 23,170,692 | 23,388,155 | 24,203,122 | 23,952,124 |
| *Occupancy rate* | *89.7%* | *88.8%* | *88.4%* | *88.0%* | *87.2%* | *87.0%* | *87.9%* | *88.3%* | *89.2%* | *92.5%* | *92.7%* |
| **Average Asking Rent** | $12.65 | $12.74 | $12.66 | $11.93 | $12.61 | $12.31 | $13.48 | $14.82 | $14.70 | $14.45 | $14.48 |

## APPENDIX D - OTHER RELEVANT GROWTH MEASURES

### RENTAL HOUSING STUDY

The Montgomery County Council, in recognition of the importance of housing issues to the future of the County, approved a FY16 work program item for the Maryland National Capital Park and Planning Commission (MNCPPC) and Montgomery County Department of Housing and Community Affairs (DHCA) to undertake a comprehensive Rental Housing Study. The purposes of the study are multifaceted with an overarching goal to identify Montgomery County's rental housing issues and needs, and offer holistic and sustainable approaches to meeting them. The project is envisioned to take approximately 18-24 months to complete. The data collection, background research, identification/testing of options would be completed during FY 16, while the policy analysis, recommendations, and final report would be completed during FY 17. Currently, preliminary and secondary analysis is completed or near completion, and next steps include interview and stakeholder outreach, typology analysis, financial feasibility model, policy analysis, and strategy formulation.

For more information, please visit Montgomery County's Rental Housing Study Webpage.

Preliminary analysis for Montgomery County's Rental Housing Study indicates an urban/rural dichotomy in development patterns with development intensifying inside the Intercounty Connector (ICC) and along the I-270 corridor. Rental housing accounts for 30 percent of all units in Montgomery County, concentrated on Metro lines and employment centers.

Montgomery County's rental stock has a high concentration of large units, and almost 40 percent are 3+ bedroom units. Only 25 percent of the 3+ bedroom units are apartments, due to the large amount of conversion units in the housing stock. The rental housing supply is older (55 percent built prior to 1980, only 14 percent constructed since 2000), with leads to a creation of "natural" affordability, while also providing a diverse unit size.

Montgomery's County rental population and diverse and diversifying. 37 percent of renter households have 3+ persons and over 66 percent of rents are over 35-years old. More than 50 percent of renter households earn less than 100 percent AMI (Area Median Income), with households earning below 50 percent of AMI account for 38 percent of demand. Only 19 percent of rental units are affordable to households earning less than 50 percent of AMI. Affordability is greatest in smaller units, with only 12 percent of larger (3+ bedroom) units are affordable to households earning less than 80 percent of AMI. Over 50 percent of all renter households are cost burdened, with cost burdening much greater for lower incomes.

Potential market considerations include the impact of removing conversions on the balance of units due to market forces making it more lucrative to sell the rentals and also the impact of the Purple Line on the rental market equilibrium.

**RETAIL TRENDS STUDY**

The Research & Special Projects is undertaking a Retail Trends Study to better understand how to promote and enhance successful retail across the County. E-commerce and evolving consumer preferences are disrupting today's retail industry. Large retail developments are being constructed across the Washington D.C. region at a rapid pace which can compete with Montgomery County's commercial centers. At the same time, neighborhood and mixed-use retail projects continue to be built across our County. The Retail Trends Study plans to assess our County's strengths, limitations, and competitive position of our retail sector in the County, to incorporate as policies into our planning practice. A large part of this study will involve evaluating existing conditions, and project future capacity for retail growth. This study will last approximately 1 year, from August 2016 – May 2017.

**EMERGING INDUSTRIES; FUTURE JOB TYPES and WORKPLACES; DESIGN and PLANNING IMPLICATIONS**

Recent research undertaken by the Planning Department indicates that many existing and planned commercial buildings and centers in Montgomery County and elsewhere do not meet changing user needs. This mismatch threatens the county's ability to compete for enterprises, jobs and revenues in key sectors of the region's economy. The Research & Special Projects Division will initiate an in depth assessment of tools and strategies for responding to this economic challenge. Focusing on industries that economic developers have targeted for retention and expansion, the study will look at workforce demographics, cluster economics, technology changes, workplace design trends and other dynamics that are reshaping business location preferences. The analysis then will identify zoning, master plan, urban design, transportation, infrastructure, amenities and other land use policy options that may help channel development into more competitive patterns. This study will commence in fiscal year 2017.

## APPENDIX E - TEN-YEAR FORECAST RESULTS AND KEY EMPLOYMENT FACTORS

The Round 9.0 Cooperative Forecast is the latest in a series of forecasts stretching back to 1976, for which the Montgomery County Planning Department has provided household, population, and employment figures to the Metropolitan Washington Council of Governments (MWCOG) for inclusion in a region-wide forecast. Round 9.0 has a time horizon that extends from 2010 to 2045, but in this section the narrative will be on a near-term time horizon from 2015 to 2025.

### AT-PLACE EMPLOYMENT FORECAST

In the ten-year period from 2015 to 2025 the total at-place employment in Montgomery County is expected to increase from approximately 520,200 jobs to 572,500, an increase of 52,300 jobs or 10%. Total at-place jobs include wage and salary jobs covered by unemployment insurance, wage and salary jobs not covered by unemployment insurance, the self-employed, and non-civilian military personnel. Not all at-place jobs growth will be distributed uniformly throughout the County, see Table 1. In the period between 2015 to 2025, White Flint is expected to be the employment growth leader with a net gain of about 13,600 jobs, followed by White Oak with an increase of about 5,200 jobs. The largest at-place employment gains, from a percentage gain perspective, is Clarksburg, with a jobs increase of around 139%, or 4,300 jobs. This large percentage increase stems from the expectation that Clarksburg will experience a net job increase larger than its relatively small employment base of approximately 3,100 jobs in 2015.

Table 1. Round 9.0 Cooperative Forecast for at-place employment by Policy Area from 2015 to 2025

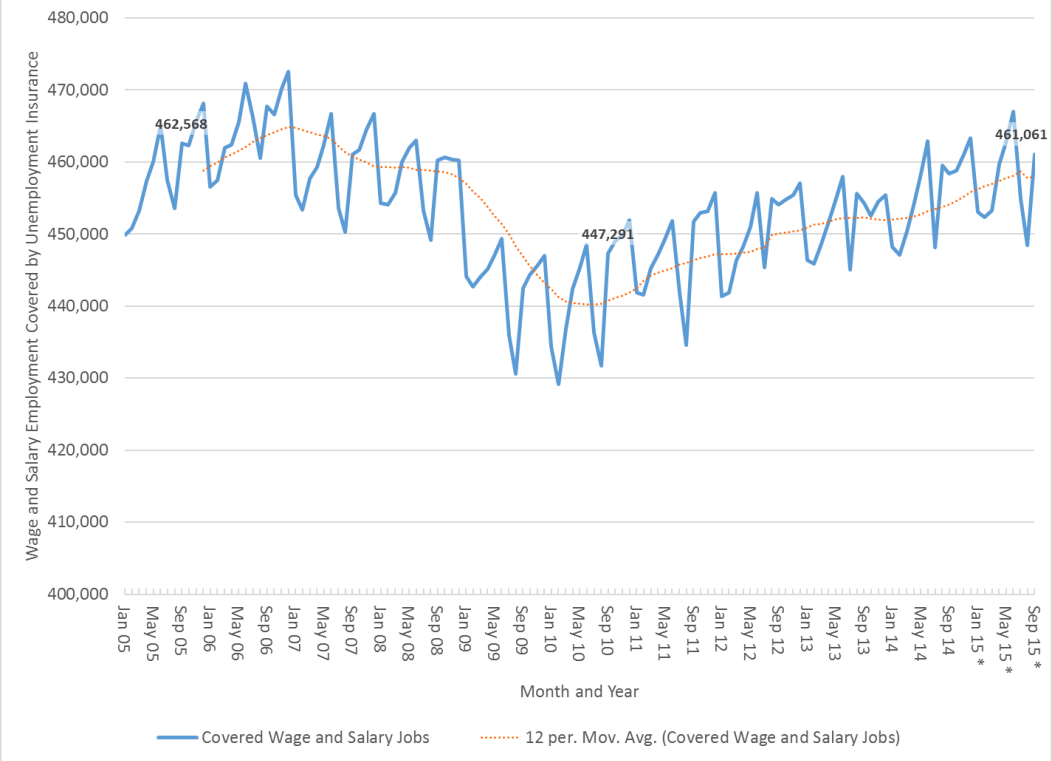
| Policy Area | 2015 | 2025 | Change | Percent Change |
|---|---|---|---|---|
| Aspen Hill | 9,100 | 9,300 | 200 | 2.2% |
| Bethesda CBD | 37,700 | 39,700 | 2,000 | 5.3% |
| Bethesda/Chevy Chase | 41,900 | 42,900 | 1,000 | 2.4% |
| Clarksburg | 3,100 | 7,400 | 4,300 | 138.7% |
| Cloverly | 2,200 | 2,200 | 0 | 0.0% |
| Damascus | 2,500 | 2,500 | 0 | 0.0% |
| Derwood | 14,900 | 15,000 | 100 | 0.7% |
| Fairland/Colesville | 13,700 | 14,100 | 400 | 2.9% |
| Friendship Heights | 9,000 | 10,200 | 1,200 | 13.3% |
| Gaithersburg City | 49,100 | 52,400 | 3,300 | 6.7% |
| Germantown East | 11,500 | 14,400 | 2,900 | 25.2% |
| Germantown Town Center | 3,600 | 3,700 | 100 | 2.8% |
| Germantown West | 10,500 | 11,000 | 500 | 4.8% |
| Glenmont | 500 | 800 | 300 | 60.0% |
| Grosvenor | 600 | 600 | 0 | 0.0% |
| Kensington/Wheaton | 20,400 | 20,800 | 400 | 2.0% |
| Montgomery Village/Airpark | 15,000 | 15,800 | 800 | 5.3% |
| North Bethesda | 39,300 | 40,500 | 1,200 | 3.1% |
| North Potomac | 4,100 | 4,200 | 100 | 2.4% |
| Olney | 9,700 | 9,900 | 200 | 2.1% |
| Potomac | 18,100 | 18,800 | 700 | 3.9% |
| R&D Village | 19,400 | 22,500 | 3,100 | 16.0% |
| Rockville City | 53,800 | 56,200 | 2,400 | 4.5% |
| Rockville Town Center | 15,900 | 16,300 | 400 | 2.5% |
| Rural East | 11,200 | 11,400 | 200 | 1.8% |
| Rural West | 4,700 | 4,800 | 100 | 2.1% |
| Shady Grove Metro Station | 4,900 | 5,100 | 200 | 4.1% |
| Silver Spring CBD | 22,300 | 24,800 | 2,500 | 11.2% |
| Silver Spring/Takoma Park | 18,600 | 18,900 | 300 | 1.6% |
| Twinbrook | 12,200 | 15,900 | 3,700 | 30.3% |
| Wheaton CBD | 6,200 | 7,200 | 1,000 | 16.1% |
| White Flint | 20,300 | 33,900 | 13,600 | 67.0% |
| White Oak | 14,100 | 19,300 | 5,200 | 36.9% |
| Total * | 520,200 | 572,500 | 52,300 | 10.1% |

* Policy Areas employment may not sum to totals due to rounding.

The 2015 to 2025 forecasted at-place employment growth is expected to be part of the continuing trend of County economic recovery from the Great Recession, which nationally lasted from the fourth quarter of

2007 to the second quarter of 2009. Figure 1, below, reports on monthly Montgomery County at-place employment counts for wage and salary jobs covered by unemployment insurance and shows that some of the worst effects of the recession on our local economy happened in 2010, after the national Great Recession was officially over. Please note this data excludes wage and salary jobs not covered by unemployment insurance, the self-employed, and non-civilian military personnel.

Figure 1. Montgomery County monthly wage and salary employment covered by unemployment insurance, January 2005 to September 2015




* The January to September 2015 employment figures are considered as preliminary as of April 18, 2016.

Source: US Bureau of Labor Statistics (BLS), Quarterly Census of Employment and Wages (QCEW), data downloaded April 18, 2016.

When comparing the second quarter of every year since the 2007 Great Recession to 2015, the last year for which there is data available as of this writing, the nadir in counts of wage and salary jobs covered by unemployment insurance occurred in the second quarter of 2010. To understand the employment dynamics that helped pull the County into growth since 2010, it is illustrative to compare employment industry change from 2010 to 2015. Table 2, below, shows that in the 2010 to 2015 second quarter periods, the driver of employment growth was the private sector, with a net gain of approximately 11,500 jobs. Meanwhile, Government—local, state, and federal—accounted for 35 percent of total County job growth in the same period, producing a net increase of roughly 6,100 jobs. When government jobs are disaggregated further, 66 percent of the total employment gain of about 6,100 jobs is accounted for by the Local Government industry. Likewise, when private sector jobs are assessed for changing industry components, the Education and Health Services industry accounted for nearly 61 percent of the total net

gain of about 11,500 private sector jobs. This was followed in growth impact by jobs in the Leisure and Hospitality industry that accounted for 44 percent of total private sector job growth. Additionally, during this period, the office occupying employment industries of Information, Financial Activities, and Professional and Business Services were down an approximate 1,000 jobs from the second quarter 2010 to 2015.

Table 2. Employment industry change for wage and salary jobs covered by unemployment insurance, second quarters 2010 and 2015

| | Quarterly Average | | | |
|---|---|---|---|---|
| | 2Q10 | 2Q15 | Change | Percent Change |
| **TOTAL EMPLOYMENT** | **445,312** | **462,931** | **17,619** | **4.0%** |
| **GOVERNMENT SECTOR - TOTAL** | **85,929** | **92,018** | **6,089** | **7.1%** |
| Federal Government | 45,133 | 47,157 | 2,024 | 4.5% |
| State Government | 1,200 | 1,269 | 69 | 5.8% |
| Local Government | 39,596 | 43,592 | 3,996 | 10.1% |
| **PRIVATE SECTOR - TOTAL ALL INDUSTRIES** | **359,383** | **370,913** | **11,530** | **3.2%** |
| *GOODS-PRODUCING* | *35,941* | *35,277* | *-664* | *-1.8%* |
| Natural Resources and Mining | 952 | 277 | -675 | -70.9% |
| Construction | 22,427 | 23,457 | 1,030 | 4.6% |
| Manufacturing | 12,561 | 11,543 | -1,018 | -8.1% |
| *SERVICE PROVIDING* | *323,442* | *335,636* | *12,194* | *3.8%* |
| Trade, Transportation, and Utilities | 57,152 | 57,394 | 242 | 0.4% |
| Information | 12,804 | 12,519 | -285 | -2.2% |
| Financial Activities | 30,844 | 30,670 | -174 | -0.6% |
| Professional and Business Services | 99,674 | 99,136 | -538 | -0.5% |
| Education and Health Services | 63,310 | 70,294 | 6,984 | 11.0% |
| Leisure and Hospitality | 37,753 | 42,875 | 5,122 | 13.6% |
| Other Services | 21,906 | 22,748 | 842 | 3.8% |

Source: Maryland Department of Labor, Licensing & Regulation (DLLR), Quarterly Census of Employment and Wages (QCEW), County Industry Series, data downloaded April 18, 2016.

## DEMOGRAHIC TRENDS AND TEN-YEAR POPULATION FORECAST

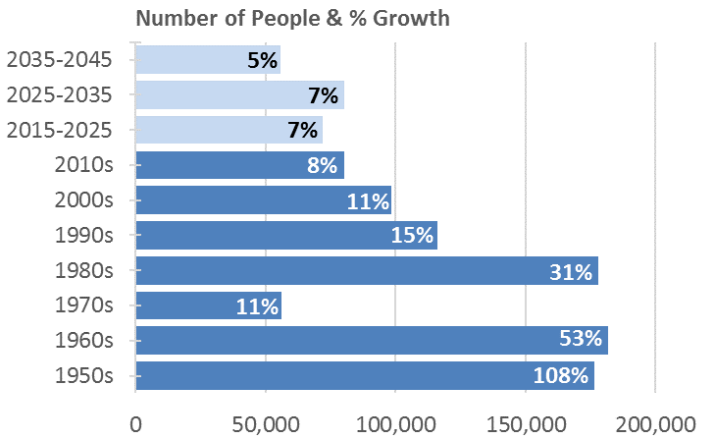
With over one million people, Montgomery County, like most populous and more developed counties, settled into a slower growth phase as dwindling supplies of developable land and transportation capacity no longer sustained rapid growth. The County's annual growth rate of 1 percent is projected to slow even further over the upcoming decades. The key drivers of the County's growth, international migration and births, not only add population, but more importantly, are major influencers of demographic change in addition to the inevitable aging of residents. The changing character of Montgomery County's residents is now more notable than its population growth. The important historical and near future demographic trends shaping the character of the County are described in the following report.

### *Slower growth ahead for mature, populous County*

Montgomery County crossed a demographic milestone of over one million residents in 2012, joining the select few 43 most populous of 3,100 counties nationwide. Over 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 foundation of rapid growth following World War II.

The County's population growth was high during the decades of 1950s gaining 176,500 people, peaking in the 1960s at 182,000, and in the 1980s adding 178,000 residents (Figure 2). The 1990s marked more modest population growth with a 15 percent increase, half the rate of the 1980s, followed by slower growth in 2000s of 11 percent adding fewer than 100,000 residents that decade. After 2010, with annual growth rates under 1 percent, Montgomery County entered a slower growth phase typical of populous, more developed counties responding to diminishing resources of developable land and transportation capacity needed to sustain rapid growth.

**Figure 2. Montgomery County Population Gains and Percent Rate of Growth, 1950-2045**




*Source: 1950-2010 U. S. Census; 2015-2045 COG Cooperative Forecast, Rnd. 9.0*

The latest population forecast produced by the Montgomery County Planning Department projects a 7 percent increase adding 72,000 residents to total 1,087,300 by 2025. 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 next 30 years.

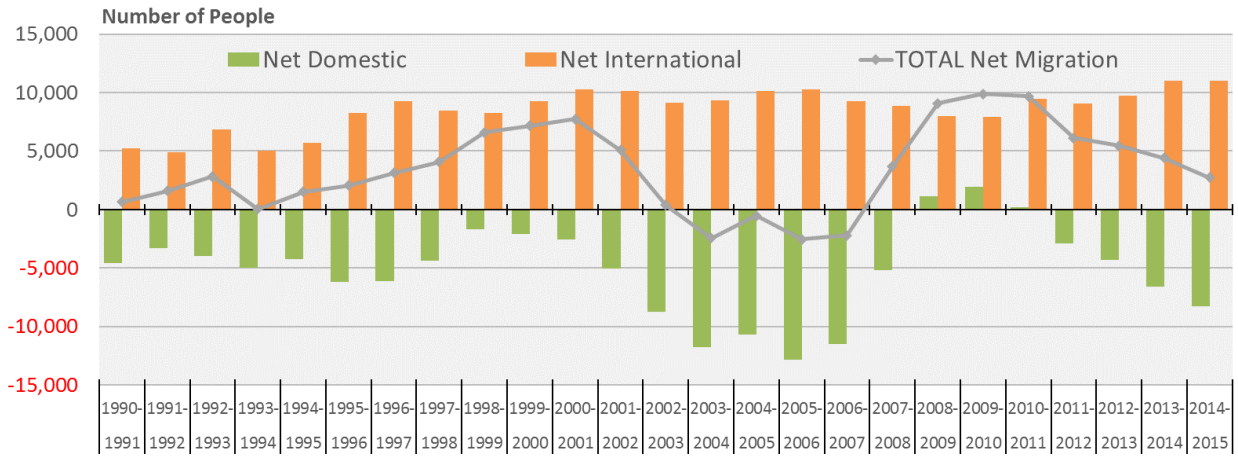
### *Foreign immigration offsets domestic out-migration*

The movement of people in and out of Montgomery County is a potent driver of population growth and the flow is instrumental in changing the character of the residents. International migration is a significant source of cultural diversity and its consistent net influx of people from abroad counters the usual net domestic out-migration where more residents move out of the County than people move in. Over the span of 15 years since 2000, people moving into the County from abroad contributed an annual net gain of 9,600 people, offsetting the average net domestic migration loss of 5,800 people per year relocating within the Washington, D.C. region or elsewhere in the United States. More recently as the economy is showing signs of recovery, the net international migration of 52,310 people more than cancelled out the net loss of 21,450 residents from domestic out-migration, resulting in an overall addition of 30,860 people between 2010 and 2015.

Typically, domestic out-migration occurs during a good economy when there are more job opportunities and the housing market offers upgrade options. Before the Great Recession, from 2003 to 2007, the County was averaging annual net domestic migration loss of 11,700 people (Figure 3). When the recession started nationwide and locally, people delayed moving due to the difficulty in selling a home after the housing bubble burst, and the lack of 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 during 2008 to 2010. With an improving economy, that trend of domestic migratory gains turned around, and the County's net domestic

out-migration has been increasing over the past four years with the most recent outflow of 8,265 people in 2015 being the largest in 8 years.

**Figure 3. Population Migration, 1990-2015**




*Source: 1990-2015 Population Estimates Program, U.S. Census Bureau.*

Montgomery County, with the draw of its large foreign-born population base, economic opportunities, and welcoming social and political environment, is expected to continue to attract international immigrants at levels reflecting improving conditions. After dipping during the Great Recession, international migration into the County set a record net gain of 11,000 foreign immigrants in 2015. The level of foreign immigration into the County is contingent on world and national politics and regional and global economic cycles. Nationally, the U.S. Census Bureau's population projection assumes a modest decline in the overall rate of net international migration for 2014 to 2060.

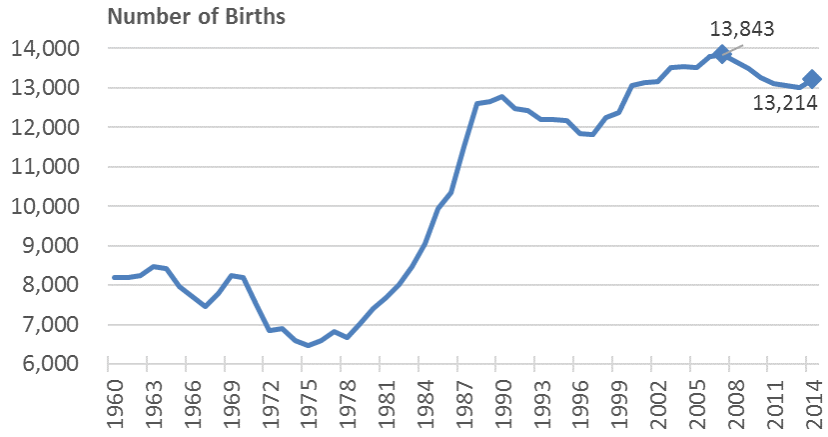
In the near term, domestic migration will probably continue its return to typical levels of out-migration associated with a good economy with net losses approaching 12,000 people. Montgomery County's domestic out-migration losses will be tempered, but not outstripped by contributions from foreign immigration resulting in diminishing net gains dropping from 2,700 people in 2015 to possible annual losses in the order of 600 to 1,900 people as domestic out-migration picks up.

### *Births drive population growth and diversity*

After peaking at the onset of the recession at 13,800 births in 2007, births in the County declined by 6 percent over six years of slow economic recovery until the first upturn to 13,214 births occurred in 2014 (Figure 4). Between 2007 and 2014, the number of births per 1,000 people dropped from 14.9 to 12.8, the lowest rate since 1979 at 12.2, but not matching the record low of 11 births per 1,000 people during the recession of 1975. In Montgomery County, as in the rest of the country, women of the millennial generation are delaying childbirth. Birthrates for local women ages 25 to 34--typically, those with the highest rates--continued dropping to new lows since 2007, while birthrates for older women have slightly fluctuated. In 2007, birthrates of 131 births per 1,000 women age 25 to 29 and 149 births per 1,000 women age 30 to 34 dropped to 86 births and 130 births, respectively, in 2014. During this period, birthrates of mothers age 35

to 39 hovered around 82 births per 1,000 women of this age. The number of births are expected to increase gradually as fewer young women postpone motherhood, and the forecasted number of women of child-bearing age increases over the next 20 years. The forecasted number of births in 2025 is roughly 14,000, a 10 percent increase coinciding with a 5 percent increase, 11,400 additional females of child-bearing age between 2015 and 2025.

**Figure 4. Number of Births, 1960-2014**




*Source: Maryland Department of Vital Statisitcs*

Births, more than double the number of deaths in the past decade, is a major component of the County's population growth. Natural increase, births minus deaths, accounted for more than half of the County's 68,000 population gain between 2010 and 2015. However, it made a comparatively smaller contribution due to the decline in births during the recession. In the next 10 years, increasing births provide a greater contribution to population growth by augmenting the net gains of international migration which counters the expected losses of domestic out-migration typically accompanying an improving economy.

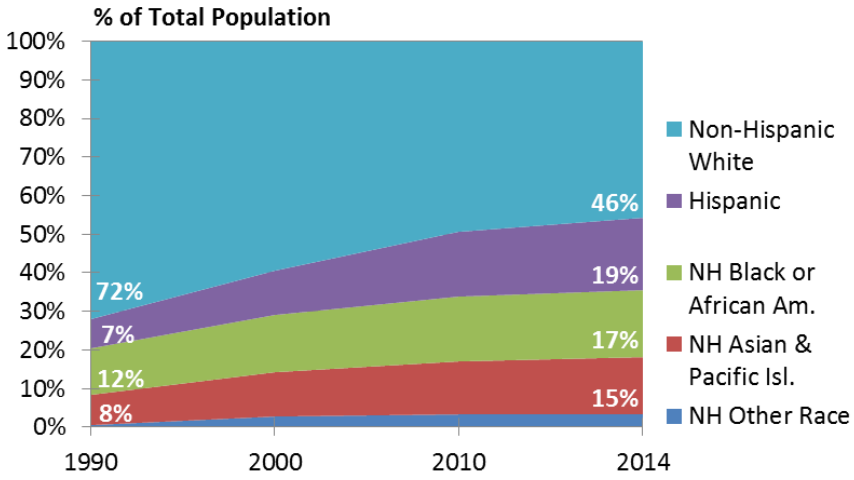
In addition to contributing to the population's growth, births change the racial and ethnic composition of Montgomery County. In 1990, the combined percentages of Hispanic, African-American, and Asian births in the County totaled 40 percent, rising to 63 percent of all births in 2014. During this period of increasingly diverse in-migration and births, the County's minority population (any group other than non-Hispanic white) increased from 28 percent in 1990 to 54 percent in 2014. General fertility rates of women in the County vary by maternal race and Hispanic origin. Hispanic women had the highest birthrate at 77.6 births per 1,000 Hispanic women age 15 to 49 compared to 65.5 for African American women, and 59.8 for non-Hispanic white women in 2014. As the minority population continues to grow over the decades, 22 percent forecasted in the next 10 years, the number of Hispanic, African American, and Asian babies are expected to increase as well.

### *Diversity, hallmark of change*

Increasing racial and ethnic diversity outpaced the County's overall population growth since the 1990s, steadily increasing the minority share of the total population (Figure 5). Between 1990 and 2014, the minority population added 350,360 people compared to gains of 273,420 in the total population. By 2010,

the percent share of the County's largest racial group, non-Hispanic whites, dropped below half, 49.3 percent, creating a plurality among racial and ethnic groups where no single group was a majority. The Hispanic population more than tripled in size since 1990 reaching 192,900 people or 19 percent of the County's population in 2014. Hispanics, the fastest growing group over the past 25 years, became the largest minority group surpassing the number of African Americans in the County. Between 1990 and 2014, the African American population increased from 12 percent to 17 percent to about 178,800 residents. The percentage of Asians almost doubled from 8 percent to 15 percent gaining 91,000 people over 24 years to reach 152,000 in 2014. The non-Hispanic white population dropped from 548,500 in 1990 to 471,500 in 2014, a 14 percent loss. In 2014, minorities comprised 54 percent of the total population making Montgomery County more diverse than the nation (38 percent) and Maryland (48 percent). While similar in the level of diversity compared to the Washington, D.C. region (53 percent), the County has more equal percentage distribution among the minority groups.

**Figure 5. Race and Hispanic Origin, 1990-2014**




*Source: 1990-2010 U.S. Census, 2014 American Community Survey*

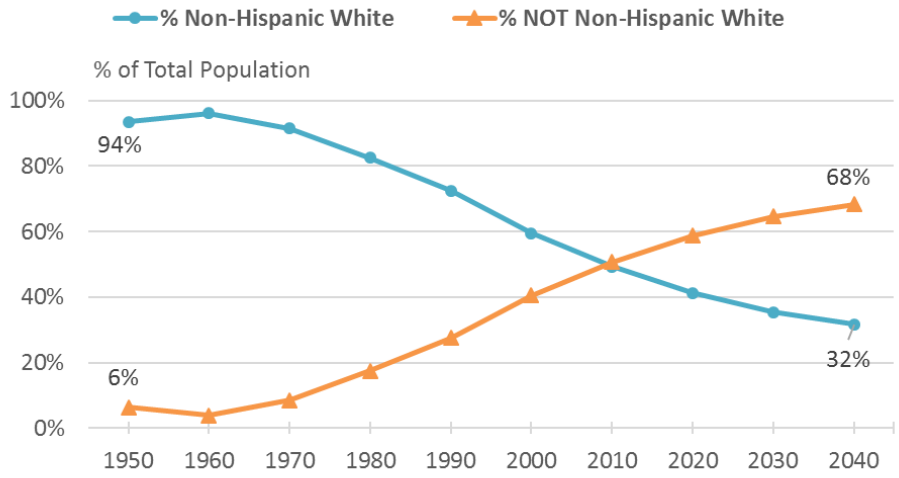
Near and long term trends of increasing racial and ethnic diversity in Montgomery County are expected to continue, assuming sustained migration patterns of racially and ethnically diverse populations moving into the County and additional minority births. Continuing levels of residents moving into the County from abroad--the net international migration averages nearly 10,000 new residents per year--is expected within the parameters of regional and global economies and world and national politics. The origin of the County's foreign-born residents is widely diverse with 38 percent arriving from Latin America and 36 percent from Asia. The revolving door of people moving in and out of Montgomery County increases the mix of people. New residents moving into the County, 57 percent African American, Hispanic, and Asian, were more diverse than people leaving; less than half of those moving out were minorities in 2014.

Natural population increase and the composition of births and deaths 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 being born (63 percent in 2015). This trend reflects increases in the number of minority women of child-bearing age and the varying birthrates associated with maternal race and Hispanic origin that are higher than birthrates of non-Hispanic White women. The number of minority babies is expected to continue increasing

commensurate with the forecasted growth of Hispanic, African Americans, and Asian women. The share of minorities in the County will also shift upwards as elderly residents, the majority non-Hispanic white (69 percent), move from the County or die.

A 30-year forecast of Montgomery County's non-Hispanic white population is produced by the Maryland Department of Planning staff (Figure 6). In the next 10 years, the County's minority groups--that is, everyone who is not non-Hispanic white--is projected to grow by 22 percent rising to 62 percent of the total population in 2025. Between 2015 and 2040, the minority population is forecasted to increase by 46 percent and make up 68 percent of the County's population. Montgomery County's population gained majority minority status in 2010, more than three decades before the minority population becomes the majority across America in 2044 according to the projections by the United States Census Bureau.

**Figure 6. Historical and Forecasted Racial Change in Montgomery County, 1950-2040**




*Source: 1950-2010 U. S. Census; 2010-2040 Racial Forecast, Maryland Dept. of Planning*

### *Life-cycle events of an aging population*

The "Baby Boom" generation, born between 1946 and 1964, remains an enduring agent of demographic change, locally and nationally, as they age through life-cycle events toward retirement. The leading edge of the boomer generation turned 65 in 2011 and by 2030, all will be 65 and older. The aging boomers will drive growth in the 65 plus population from about 120,000 residents, 12 percent of the population in 2010 to 18 percent in 2030 - a 69 percentage increase over 20 years. The swelling of the senior ranks by boomers with high home ownership rates (79 percent) and comprising almost half of all homeowner households in 2010 has the potential to transform the housing market in the County.

Depending on the boomer's housing decisions and timing, the potential exists for a significant number of houses to enter the resale market as boomers choose to downsize, relocate in retirement, or eventually die. In the next 10 years, the release of housing may coincide with the likely housing demand of young adults, known as 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

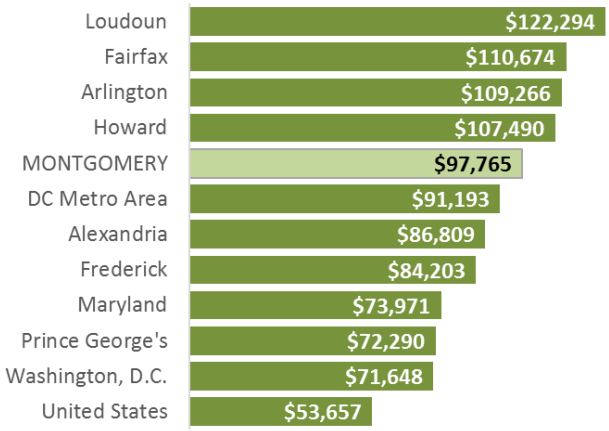
move (20 to 34 years old), and correspond to the age of the typical new resident moving into the County. Montgomery County remains competitive for this young adult and family market, offering job opportunities, housing choices spanning rural and suburban neighborhoods to walkable, transit-oriented communities, all with a highly regarded public school system, and desirable quality of life.

Alternatively, the baby boomer household may choose to age in place after postponing retirement, either by choice or financial necessity. If a significant number of seniors decide to age in place or delay moving out, these actions may depress housing turnover in the neighborhood, stalling the traditional "housing ladder" opportunity for young families to move into and revitalize 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 ample housing market supply as aging baby boomers and young adult millennials debate their next life-cycle decision.

### *Household income not recovering from recession*

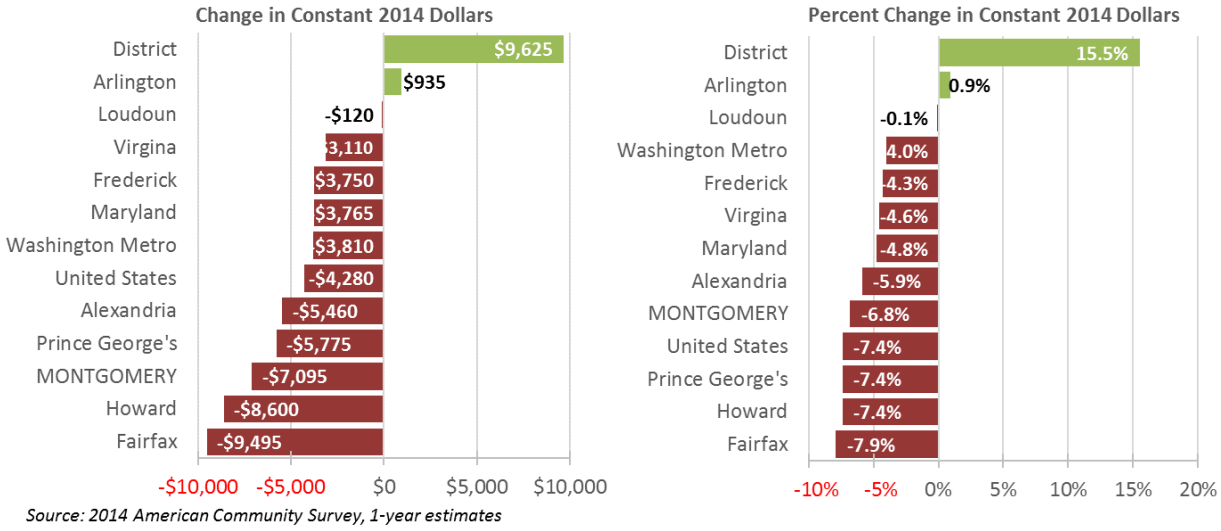
The Washington, D.C. region continues its reign as an affluent area—four local counties top the national ranks of median household income-- but most local jurisdictions have not regained monetary losses in household income since the Great Recession (Figure 7). Montgomery County's household income, stagnant since 2010, has not recovered from the recession and remains below its inflation adjusted 1999 median. In constant 2014 dollars, the median household income in 2014 was $3,933 (-3.9 percent) below the 1999 levels at $101,698. The County's median household income peaked in 2007 at $104,860, increasing 3.1 percent from 1999 levels (Figure 8). Between 2007 and 2014, income declined by $7,095 (-6.8 percent) to $97,756. In the region, only two jurisdictions had increases in median household income since 2007, Washington, D.C. and Arlington gaining 16 percent about 1 percent, respectively.

**Figure 7. Regional Median Household Income, 2014**




*Source: 2014 American Community Survey, 1-year estimates*

**Figure 8. Change in Regional Median Household Income, 2007-2014**




*Source: 2014 American Community Survey, 1-year estimates*

While there are many competing economic factors making it unclear how long household income will remain stagnant 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 (33 percent with advanced degrees) and they are joining an established concentration of well-educated adults. In 2014, 3 out of 5 adults age 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 leave the County with household incomes below $34,000, 18 percent, compared to the 15 percent of people who move in.

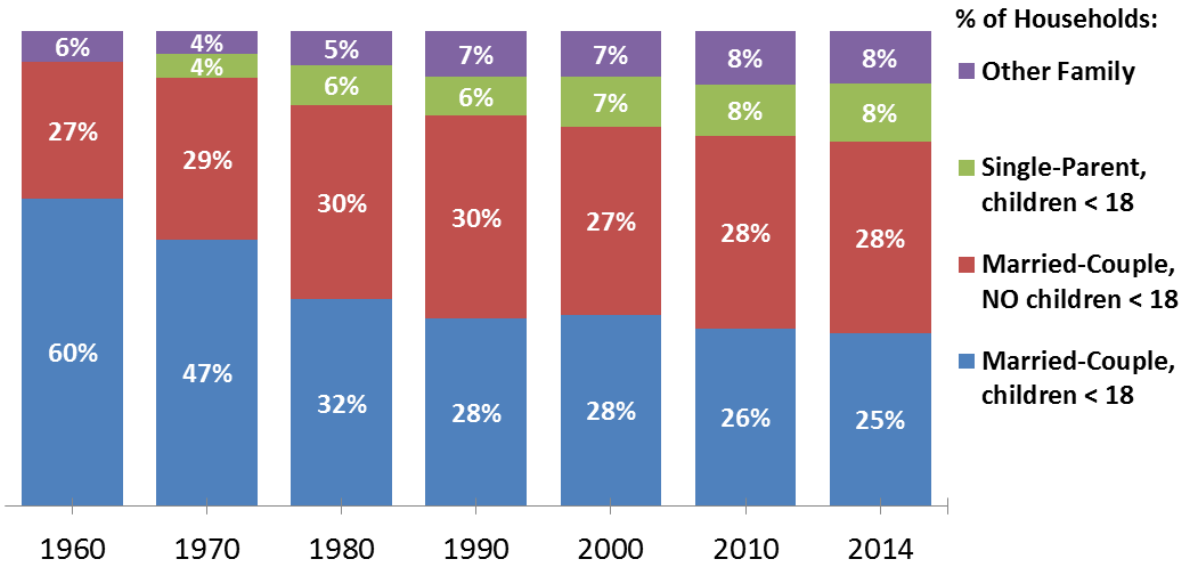
The County's aging population may assert downward pressure on household incomes. Over the next 10 years, the majority of baby boom generation, ages 51 to 69 in 2015, will transition from prime wage earners to leaving the work force and likely lower retirement income. In 2014, the average retirement income at $62,418 was one-third of the County's average income, $131,746. Between 2015 to 2025, the 44 to 64 age group, prime wage earners, will drop 5 percent from 28 percent. Montgomery County may expect a 28 percent increase driven by baby boomers aging into the 60 to 79 age cohort by 2025. With the movement of the baby boomers out of the workforce, the worker to senior dependency ratio changes from 4.5 in 2015 to 3.5 in 2025.

### *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 1950s traditional family of husband, housewife, and several children is no longer the household norm as family formation became more varied. The County's share of married-couple households with children under 18 dropped dramatically from 60 percent of all households in 1960 to 25 percent in 2014 (Figure 9). Married-couple households with *no children under 18* (101,961) outnumbered married-couples *with* children under 18 (91,173) in 2014. Between 2000 and 2014, married-couple households with children under 18 had a

negligible change of 1.3 percent, roughly 1,200 families, in contrast to married-couples with no young children growing by 14.3 percent, gaining 12,700 households.

**Figure 9. Household Types, 1960-2014**




*Source: 1960-2010 U.S. Census, 2014 American Community Survey*

Aging within families explains some of this shift in married-couple households. As children become adults, parents become "empty nesters" with all of the children gone or they house "failed to launch" or "boomerang" adult children. These households, now with no children or adult children, fall into next category, married-couple, no young children, bumping up this group's percentage share. Also, young married-couples heeding the millennial generation trend to postpone having children contribute to this group.

Coinciding with the drop in the traditional family type, comes a rise in the shares of single-parents and "other family", both family types doubling since 1970 with each at 8 percent of the County's population in 2014. Since 2000, the number of single-parent households with children under 18 increased by 6,900, a 29 percent jump to 30,600 families.

In the near term, the number of married-couples with children under 18 may only 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-couple with young children, relative to the overall growth in households. Montgomery County will continue to attract new families, and married residents will continue to have babies, but not at a rate to replace baby boomer households shedding children in the next ten years. By 2025, 29 percent of the County's residents are projected to be 55 and older and living in a child-free home. The 17 percent growth in the 55 plus age cohort between 2015 and 2025 is projected to outpace the 2 percent gain in children under the 20 years old. Aging baby boomers will boost the number and the percentage share of married-couples without young children in the next ten years.

The percentage of non-family households in the County, which includes singles, young and old, and unrelated individuals living together, increased from 8 percent of all households in 1960 to 30 percent in 1990 and subsequently plateaued. This rapid increase of non-family households, jumping from 7,200 to

84,000 households from 1960 to 1990, coincided with the addition of multi-family units to the County's housing stock broadening the choice of housing, a housing type which appeals to singles and other non-family households.

In 2000, non-family households became the most common household type with over 100,000 households and 31 percent of all households. Nonfamily households capturing over one-third of all household growth between 2000 and 2014, remain the leading type gaining another 13,200, a 13 percent increase since 2000. Given that most of the new housing in the development pipeline is multi-family units for the next 10 years and the current rental housing market trend for smaller units, studios and one bedrooms, it is possible the share of non-family household types may slightly increase, and it will undoubtedly increase in number by 2025.

## APPENDIX F - COOPERATIVE FORECAST METHODOLOGY

Montgomery County's forecast of households, population, and employment provides a framework for conducting the analysis of pace and pattern of growth (see Appendix A 1). The forecast is completed in two stages. The first stage provides County-wide guidance for probable employment, population, and households growth based on the best currently available data inputs and assumptions. The second stage allocates the Countywide first stage forecast to smaller boundaries known as Transportation Analysis Zones (TAZ), based on historical or expected residential and commercial construction. The Metropolitan Washington Council of Governments (MWCOG)—which aggregate's each County's forecast into one regional cooperative forecast—considers the TAZ-level forecast as the final and official forecast which may vary from the first stage produced forecasts.

### STAGE 1: COUNTY LEVEL OVERVIEW

The first stage forecast determines guidance for the overall amount of household, population, and job growth likely to occur in the County from 2010 to 2045. During the first stage process, an age cohort-component of change model and a shift-share analysis model are used to forecast population and employment respectively. This effort develops forecasts that that are independent of any existing County master planning exercise or the pipeline of approved projects.

The region's cooperative forecast of households, population, and employment is a collaborative effort between MWCOG and local jurisdictions. MWCOG employs a regional econometric model that provides an independent forecast of region-wide growth for households, population, and employment. At the same time that MWCOG prepares its econometric model forecasts, each member jurisdiction also prepares its own separate forecast of local growth, independently of MWCOG. The jurisdictions then work with MWCOG to ensure that the sum of all the independent jurisdictional forecasts are within three percentage points of MWCOG's econometric model totals through a reconciliation process.

### STAGE 1: EMPLOYMENT FORECAST

The first stage Round 9.0 employment forecast, which offers guidance on probable future employment trends, were calculated in a two-part process. The first step is to calculate expected wage and salary jobs covered by unemployment insurance through a shift-share method. The second step is to apply MWCOG factors to the covered employment to arrive at wage and salary jobs not covered by unemployment insurance and the self-employed. Lastly, assumptions were made about non-civilian military employment.

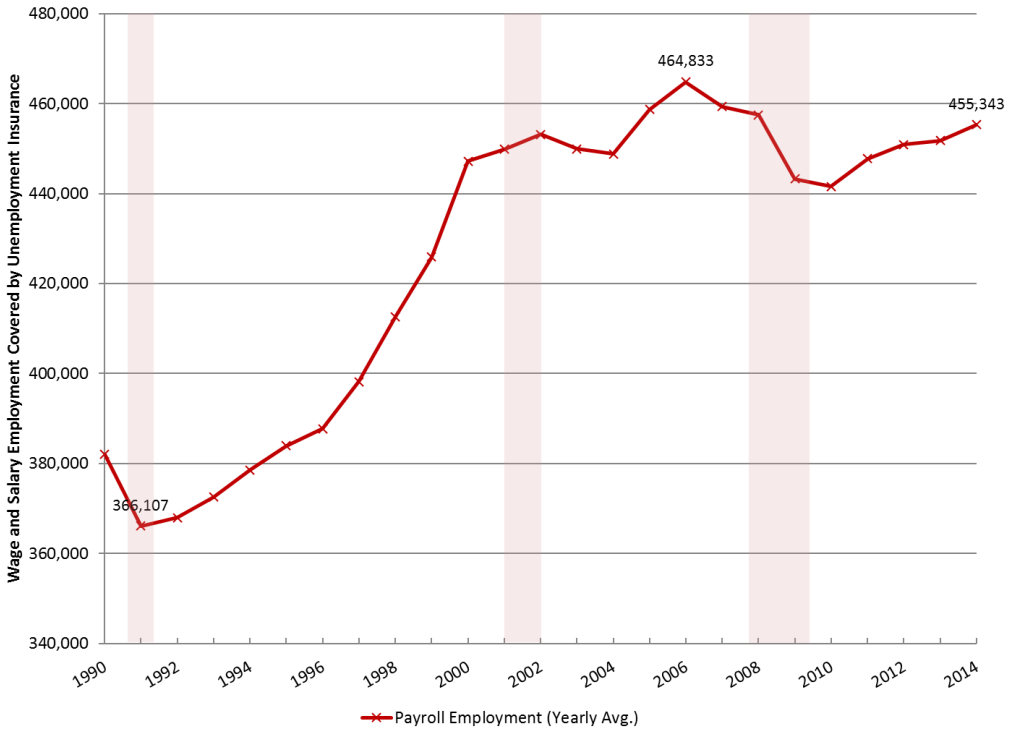
The shift-share method was developed in the 1960s and assumes that a local employment industry's growth is affected by its own local industry trends, as well as by that industry's historical and expected regional or national dynamics. The shift-share method includes a "shift-term" that "account[s] for [the] differences between local and reference region growth rates that cause an industry's employment to shift into or out of a region" (Klosterman, "Community Analysis and Planning Techniques", 1990). The shift-share method is widely used for employment industry projections, in fact it was recently used by the Montgomery Business Development Corporation (MBDC) for its "Target Market Assessment" (2015) study.

A key input to this shift-share model is historical information, in this case historical wage and salary employment covered by unemployment insurance. Historical information is important to developing a forecast because it not only inform about the current, near-term trajectory, but it can also inform about

trends that are possible in the future, their range of variation, and the external factors that contributed to prior changes that can occur still.

Over the past two decades Montgomery County has grown considerably; from 1991 to 2014 it gained 89,236 covered jobs or grew by 24.4% (see Figure 1). This employment gain has not been experienced as a consistent growth trajectory, but has varied and been mediated by booms and busts, including shallow and prolonged recessions.

Figure 1. Yearly average wage and salary employment covered by unemployment insurance, 1989 to 2014




Note: Highlighted time periods denote recessions.

Source: US Bureau of Labor Statistics (BLS), Quarterly Census of Employment and Wages (QCEW), 1990 to 2001 data http://www.bls.gov/cew/datatoc.htm. Maryland Department of Labor, Licensing & Regulation (DLLR), Quarterly Census of Employment and Wages (QCEW), 2002 to 2014 data.

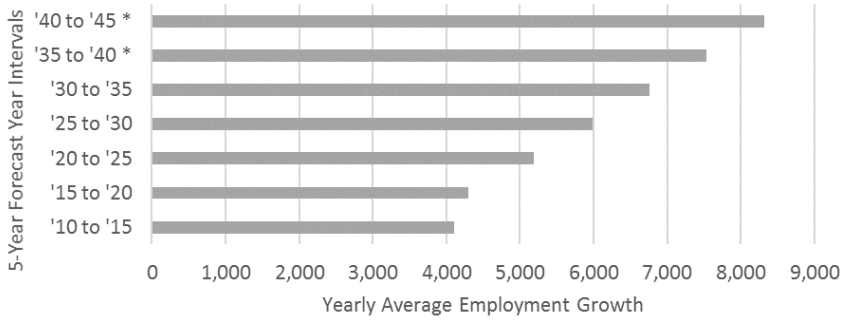
The twenty-three-year average covered employment growth from 1991 to 2014 has been around 3,880 jobs, but the post five-year average growth after the tail-end of the last three recessions—in 1991, 2001, and 2009—has varied respectively from 4,325, 2,990, and 2,408 average jobs annually. When comparing these post-recession five-year annual average covered job gains it is evident that the average employment recovery has been weakening after the end of each successive recession. The one observation to note is that the current shallow recovery which has averaged an annual average gain of 2,408 jobs from 2009 to 2013 proceeded an especially prolonged and severe recession, known as the "great recession." The "great recession" severely crippled the real estate market and led to a credit crunch in the financial markets that necessitated extraordinary financial stimulus responses, some of which are still with us because of continued economic weakness, such as the near-zero federal funds rate.

In preparing historical covered employment inputs for the shift-share model, a key assumption was that in the thirty-five year forecast horizon we will have cyclical booms and busts, but that none of these will be as exceptionally prolonged and as deep as the 2007 to 2009 recession. Thus, trends for wage and salary jobs covered by unemployment insurance were excluded from the shift-share model if they occurred just

before, during, and immediately after the Great Recession. As a consequence, the shift-share model inputs include employment change by industry at the Montgomery County and Transportation Planning Board (TPB) regional levels from 1991 to 2000. Another key assumption that was used by the shift-share model was the expected TPB regional employment industry change which was sourced from IHS Inc., a proprietary data provider widely used in the region, such as by GMU's Center for Regional Analysis.

The above model inputs were also mediated by assumptions on possible near and future employment trends in the County. In the near term and extending to about 2020, planning staff assume that the County's employment recovery will continue to be modest but consistent. This assumption is based on an assessment that the County and regional economy might encounter some uncertainty resulting from federal sequestration and federal contracting activity. Because of these considerations and the inputs used, the first stage Round 9.0 Forecast calculates that the average annual covered employment growth from 2015 to 2020 will be modestly improved relative to that already experienced in the post-2010 recessionary recovery period, see Figure 2. Thereafter, average annual growth is expected to improve because of stimulus coming from new transportation infrastructure that will connect workers and be a catalyst of new commercial activity and development; improved employer recruiting resulting from a revamped and dynamic County economic development group; growth in the life sciences campuses in Great Seneca and White Oak; and improved federal procurement monies for contractors' services. These yearly-average employment growth projections are within ranges supported by historical growth trends. For example, in the 1983 to 1987 period, employment growth was 22,600 jobs per year (see "Highlights of the Round 7.0 Cooperative Forecast", MNCPPC).

Figure 2. Shift-share method model outputs for yearly average covered employment growth, 2010 to 20145



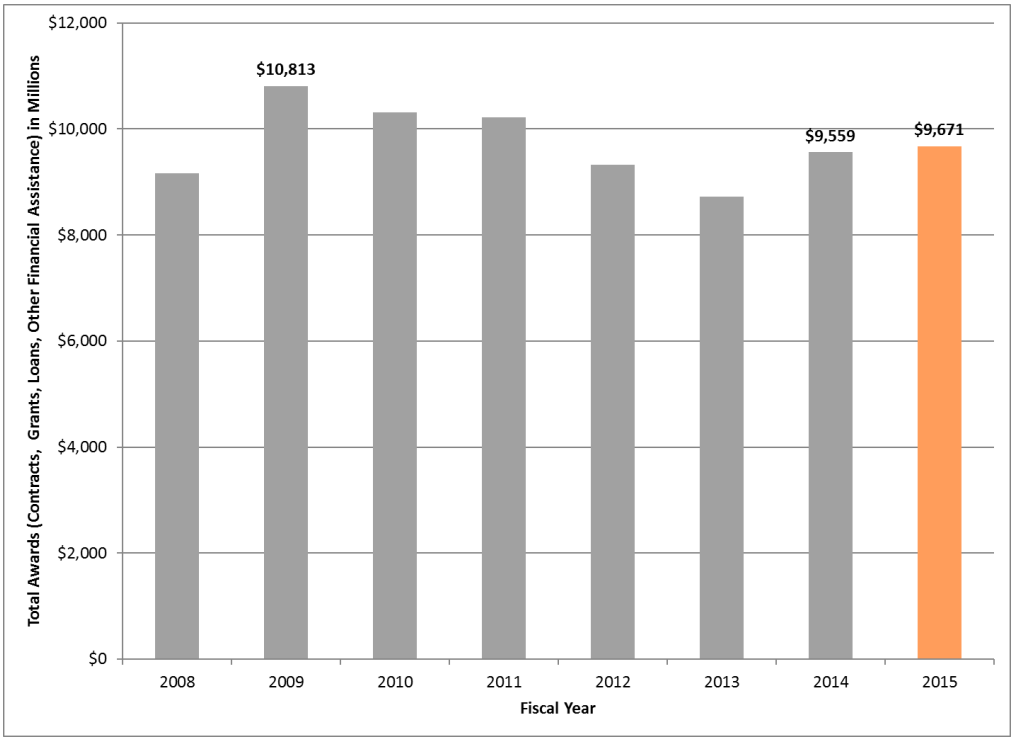

* The yearly average employment figures were amended at the request of the MWCOG through the regional forecast reconciliation process.

Federal contracting is worth noting because starting in the 1980s it became an increasing source of job growth and well-paying employment, many classified in the professional and business services industry, as the federal workforce started declining and contractors were retained to provide services. In fact, George Mason University's Center for Regional Analysis attributes some of our recent regional slow growth to a contraction in federal spending for contractors in a recent report.

> *From 2010 to 2013, though, Federal contracting activity decreased by $13.5 billion, a 16 percent decline. This trend has both slowed job growth and shifted it to lower-wage sectors and occupations. With additional Federal cutbacks expected in the future these trends will likely continue unless action is taken to improve the region's ability to compete in the global marketplace. ("Improving the Washington Region's Global Competitiveness", 2014)*

Fortunately, starting in 2014 the trend in Federal monies spent on federal contracts, grants, loans, and other financial assistance in Montgomery County might have started to improve after years of declines since 2009 (see Figure 3). As mentioned earlier, the first stage Round 9.0 forecasts assumes that this upwards trend will continue in the future and provide a stimulus to contractor employment growth.

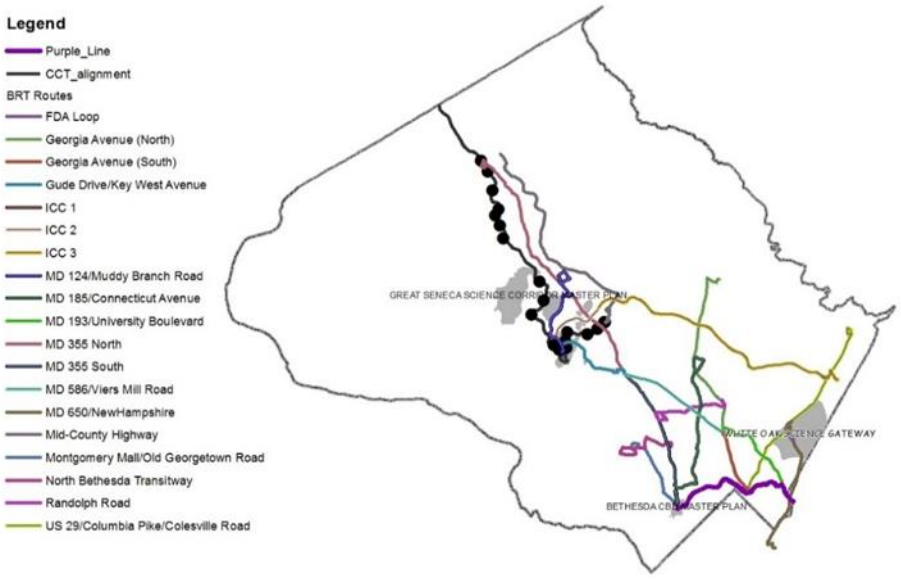
Figure 3. Federal expenditures for contracts, grants, loans, and other financial assistance in Montgomery County




Source: USAspending.gov, downloaded April 19, 2016.

Another assumption for continued growth in the County relies on the construction of transformative capital transportation projects, such as the Purple Line, the Corridor Cities Transitway (CCT), and Bus Rapid Transit (BRT), see Map 1. The Round 9.0 first stage employment forecast assumes that the development of light rail and bus rapid transit will lead to economic and employment growth by efficiently connecting workers to jobs, the greater ability for existing commercial area to access workers will lead to these areas attracting employers, and this in turn this will lead to vacancies declining in those areas and spur new construction. These effects are not unprecedented in our region, for example the Silver Line helped Fairfax County attract new office tenants like Cvent and Intelsat, S.A. with access to Metro and it has improved office leasing within a quarter-mile of stations in Tysons. The forecast assumes that the Purple Line will be operational by 2021; that the CCT phase I will be complete by 2030 and Phase II by 2035; and that the rest of the BRT system will be functioning by 2040.

Map 1. Major Transportation Infrastructure Projects




Besides overall employment growth, the shift-share model also calculate the types of jobs that will grow in the County in the thirty-five year forecast horizon. Based on the data inputs and the assumptions that mediated those inputs, the shift-share model's output indicate most industries will gain employment, with the notable exceptions the Federal Government and the Information industries. A contraction of federal government employment is also a trend that MWCOG's econometric model predicts for the region's future. In addition, with services continuing a shift to contractors the Professional and Business Services are expected to expand. In fact, the forecast calculations call for the Professional and Business Services to expand the most in numbers by about 63,400 jobs in the forecast horizon period.

After future wage and salary employment covered by unemployment insurance are calculated through the shift-share model, factors were applied to that employment at 5-year intervals to arrive at total employment at those 5-year intervals. It must be noted that the base year, 2010, employment does not derive from the shift-share model, but rather, it is an estimate from the Maryland Department of Labor, Licensing & Regulation's (DLLR) Quarterly Census of Employment and Wages (QCEW) for covered wage and salary employment. Factors are also applied to the 2010 estimate of covered employment to arrive at total employment for 2010. These factors were developed by the Metropolitan Washington Council of Government (MWCOG) and tailored to each jurisdiction, including Montgomery County. You can learn more about these factors in MWCOG's technical memorandum, "Suggested Approach for Preparing Baseline Employment Estimates", at this **URL**. The first factor accounts for workers not accounted for in the Wage and Salary employment data series because they are not covered by unemployment insurance—for example persons employed by religious institutions or railroad workers. This factor was developed by MWCOG using BLS' Current Employment Statistics (CES) and Quarterly Census of Employment and Wages (QCEW) data. Montgomery County's unique factor for these jobs is 1.045 and should be applied to the total wage and salary covered by unemployment insurance jobs figure. MWCOG also developed a second factor for self-employed persons that should be multiplied to the product of covered wage and salary jobs and the 1.045 factor. The County's unique factor for calculating the number of self-employed persons is 1.06 and was developed using the Census Bureau's

American Community Survey (ACS) Public Use Microdata Sample (PUMS) files. Lastly, assumptions about non-civilian military employment was made for the County using the Department of Defense's (DOD) "Base Structure Report: A Summary of the Real Property Inventory" reports that tabulates military personnel by base. The sum of all this employment is then used as the first stage County forecast which is used for guidance for the allocation of future employment to Transportation Analysis Zones (TAZ) by forecast year.

Lastly, the first stage Montgomery County employment, household, and population forecasts were submitted to MWCOG for inclusion in the region-wide cooperative forecast. During this process, the region-wide forecast produced by all MWCOG member jurisdictions was compared to the results of the independent econometric model. When the combined member produced regional forecast for either households, population, or employment differs from the econometric model by plus or minus three percentage points, then that forecast is subjected to the reconciliation process. For Round 9.0, Montgomery County's forecast for household and population was 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 such as Fairfax and Loudon Counties in Virginia or the District of Columbia. The reconciliation process was triggered because the combined member jurisdictions' regional employment forecasts in the later years were above the three percentage points threshold from the econometric model. Subsequently, in consultation with planning staff from Gaithersburg, Rockville and the MWCOG, Montgomery County planning staff agreed to lower their employment forecast by 1.9 percent in 2040 and 4.8 percent in 2045 to maintain a County employment regional share consistent with that observed in the 2030 to 2035 forecast period.

**STAGE 1: COUNTY-LEVEL POPULATION FORECAST**

The county-level population forecast utilizes an age cohort-component method and assumptions based on historical demographic trends in Montgomery County. The population projection captures the dynamics of the County's major components of growth: natural population increase (typically, number of births are double deaths), and the movement of people in and out of the County.

The age cohort-component model producing county-level results starts with an estimated base household population by age and sex for January 2010 derived from the U.S. Census Bureau's Population Estimate Program adjusted by estimates of group quarters from the decennial 2010 U.S. Census. The components of population change are projected separately for each 5-year age cohort based on past trends. For each 5-year time period, 2010 to 2045, the population is advanced 5 years of age using the age-specific survival rates (2010 national rates) and migration rates averaged across 2000 to 2007 purposely excluding the Great Recession and the years following. Nationwide and locally, people delayed moving during the recession due to the difficulty in selling a home, and the lack of 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 during 2008 to 2010. With an improving economy, that trend turned around, and the County's net domestic out-migration has been increasing over the past four years and the most recent outflow was the largest in 8 years. International migration is a significant source of the County's growth and cultural diversity, contributing a net gain of 9,600 people per year over a span of 15 years, offsetting the average net domestic migration loss of 5,800 residents relocating within the region or elsewhere in the United States. After dipping during the Great Recession, international migration into the County responded to an

improving economy, steadily climbing to a record net gain of 11,000 foreign immigrants in 2015. With the draw of its large foreign-born population base, economic opportunities, and a welcoming social and political environment, Montgomery County is expected to continue to attract international immigrants, levels moderated by world and national politics and regional and global economic cycles.

A new birth cohort is added to the population model by applying averaged, age-specific general fertility rates to the child-bearing female population. After peaking at the onset of the recession at 13,800 in 2007, births in the County declined by 6 percent over six years of slow economic recovery until the first uptick to 13,200 births occurred in 2014. In Montgomery County, as reported nationally, the generation of Millennial women are delaying childbirth as birthrates for local women ages 25 to 34 -- typically, with the highest rates -- continue dropping to new lows since 2007, while birthrates for older women have slightly fluctuated. The number of births are expected to gradually increase as young women no longer postpone motherhood and the forecasted number of women of child-bearing age increase over the next 20 years.

Projected group quarters for the 5-year time periods is added to the modeled household population to derive the total population forecast for Montgomery County.

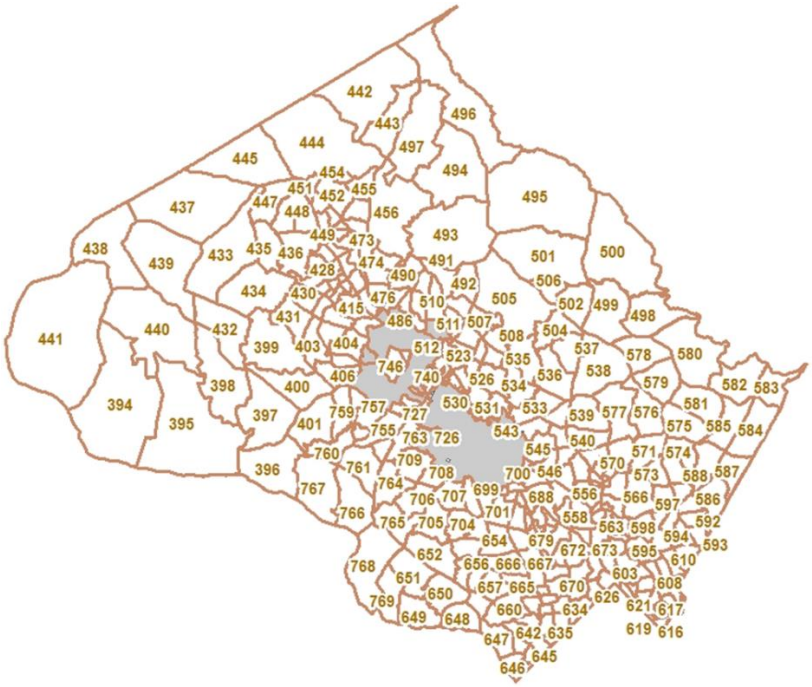
*County-Level Household Forecast*

The household projections for the county-level exercise is derived using a headship rate method which assumes that the number of people who head a household is equal to the number of households. The data for the headship rate method utilizes county level householder age estimates from the decennial 2000 and 2010 U.S. Census and the 2005 to 2014 American Community Survey, 1-year estimates. For each 10-year householder age cohort for the adult population age 15 and older, headship rates are calculated by dividing the number of householders in the age cohort by the household population in the same cohort. The average headship rate for period 2000 to 2014 is applied to the forecasted household population in respective age cohorts to estimate the number of households for each age cohort for the forecast year. The forecasted households are summed across the adult age cohorts calculating the total households for the forecasted year. The household projection holds the headship rate by age cohort constant across the forecast period. The change in the number of households is attributed to population growth and changes in the age structure of the population over time.

**STAGE 2: ALLOCATION OF EMPLOYMENT, HOUSEHOLD, AND POPULATION FROM THE STAGE 1 FORECASTS**

Once the first stage forecasts—which offer guidance on likely growth for County households, population, and employment—are established, these then have to be allocated to Transportation Analysis Zones (TAZ). This work is done in conjunction with the jurisdictions of Rockville and Gaithersburg who perform their own independent allocation work for TAZs. Out of 376 TAZs in the County, the MNCPPC Montgomery County Planning Department is responsible for the allocation of 321 TAZs, see Map 2. MWCOG considers the sum of the TAZ forecasts as the final forecast, superseding the preliminary first stage forecasts, and allows some variation between the two.

Map 2. Transportation Analysis Zones for which the MNCPPC Montgomery County Planning Department allocates forecasted households, population, and employment




Because the forecast allocation is done among three independent entities, the first stage in the allocation process was to establish a baseline of households, population, and employment that would be distributed among Gaithersburg, Rockville, and MNCPPC. This baseline, though, evolved among the three entities as the allocation of population and at-place jobs had to contend with the actual amount of construction possible in every five-year forecast interval. For example, MNCPPC's allocation of households between 2010 and 2015 was impacted by the fact that in this period actual residential construction yielded only 12,374 households, which was 5,352 households lower than what was expected by the age cohort-component of change model's forecast for this period. Likewise, the jurisdiction of Rockville had assumed it would allocate 37,009 households in 2035[1], but the allocation process only allowed it to accommodate 33,999 households at the TAZ level.

Among the TAZs for which MNCPPC is responsible, the allocation process of households and population was done in stages. The first stage involved spatially matching those MNCPPC TAZs with the US Census' 2010 Decennial Census counts of household and population by Census blocks. The Census data was then aggregated to the MNCPPC portion of TAZs to attain a 2010 base of households and population at the TAZ-level. The second stage was to distribute the net change of households, by 5-year intervals, for the MNCPPC apportionment of future households. Households were calculated by applying an occupancy factor for single- and multi-family units, see Table 1. Household net changes were allocated by 5-year increments in accordance to the agreed upon apportionment of households for the MNCPPC TAZ areas, except for the 2010 to 2015 and 2040 to 2045 intervals. As mentioned earlier, in the 2010 to 2015 interval, not enough residential construction actually occurred among the MNCPPC TAZs to yield the expected household

[1] As of March 16, 2016

net change from the household apportionment. In the 2040 to 2045 interval, residential redevelopment assumptions made for allocation purposes resulted in a shortfall of 90 households. Otherwise, each 5-year interval from 2015 to 2040 had household net changes as prescribed by the households apportioned to the MNCPPC TAZ portion of the County.

The third stage in the process was to apply a factor of persons per occupied unit to future occupied net new single- or multi-family unit. The factors used to yield households and population from assumed future single- and multi-family construction is below:

Table 1. Occupancy and persons per occupied unit factors

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

Source: MNCPPC Montgomery County Planning calculations based on the 2010-2014 American Community Survey 5-Year Estimates.

Employment was allocated in a similar fashion where the 2010 to 2045 employment apportioned to the MNCPPC TAZ portion of the County was distributed among TAZs based on net growth by 5-year intervals. Among those MNCPPC TAZs, the 2010 wage and salary jobs covered by unemployment insurance were allocated among TAZs based on a geocoded—or mapped—address-level April 2010 employment from the Maryland Department of Labor, Licensing, and Regulation's (DLLR) Quarterly Census of Employment and Wages (QCEW) dataset. To this allocation were added an estimate of the self-employed apportioned according to a TAZs share of total population and an estimate of wage and salary jobs not covered by unemployed insurance apportioned according to a TAZs share of total covered employment and the self-employed. Thereafter, for each forecast 5-year interval employment was predominantly based on yields stemming from assumed future non-residential space construction and the application of occupancy rate factors and an employee per square feet of occupied space factors, see Table 2.

Table 2. Non-residential space occupancy rates and employees per square feet

| Non-Residential Space Type | Occupancy Rate | Employees Per Sq. Ft. |
|---|---|---|
| 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 usages. This forecasts assumes full occupancy of "other" space.

Not all 5-year employment net gains came from new non-residential construction. The allocation of some office employment was yielded from the utilization of select vacant office space. The selection of these office building with vacancies was guided by the Planning Department'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 rates and rent-growth than lower-quality office without these attributes. With this guidance, office buildings with CoStar's quality rating of 4 star or

greater and within a one-half mile proximity buffer to Metro stations (including proposed Purple Line stations) or a one-mile proximity buffer to state route and interstate interchange nodes were chosen. These buildings' office employment yields were based on the assumption that their occupancy rate would stabilize at a rate of 88%. Additionally, these select buildings were assumed to fill-up to the 88% occupancy rates between the years of 2015 and 2030.

During the allocation process employment was disaggregated by TAZ into four major land use categories: office, retail, industrial, and other (mostly employment in institutional or civic spaces). One challenge with working with base year 2010 QCEW employment data is that this dataset's jobs can have a myriad of employment industry categories that do not readily lend themselves to a simple land use equivalent. In fact, some employment industry categories might have components whose activities lend themselves to different land use equivalents. For example, the printer that might do retail sales in the front of a printing shop, which lends itself to the retail land use category, might also engage in printing work in the back of the shop, which lends itself to an industrial land use category. In order to disaggregate QCEW data into the four major land use categories, each job's 2-digit North American Industry Classification System (NAICS) code was used to apportion the respective job's industry into the four land use categories. For this purpose, a NAICS to land use category translation table was employed that was previously shared by the Fairfax County Planning Department's Policy & Plan Development Branch, see Table 3. Prior to this NAICS code translation table, former forecasts relied on a 1985 produced[2] Standard Industrial Classification (SIC) code to land use factors—unfortunately SIC codes were superseded by NAICS codes in 1997.

[2] "Relationship between employment by Standard Industrial Classification code and Employment by land use type", June 30, 1985, Metropolitan Washington Council of Governments. See URL for more information.

Table 3. 2-digit North American Industry Classification System (NAICS) code to land use equivalents translation table

| NAICS | Industry | Office | Retail | Industrial | Other |
|---|---|---|---|---|---|
| 11 | Agriculture, Forestry, Fishing & Hunting | | 0.05 | 0.95 | |
| 21 | Mining | | 0.05 | 0.95 | |
| 22 | Utilities | 0.7 | | 0.25 | 0.05 |
| 23 | Construction | 0.66 | | 0.34 | |
| 31 | Manufacturing | | | 1 | |
| 32 | Manufacturing | | | 1 | |
| 33 | Manufacturing | | | 1 | |
| 42 | Wholesale Trade | 0.05 | 0.05 | 0.9 | |
| 44 | Retail Trade | | 0.96 | | 0.04 |
| 45 | Retail Trade | | 0.96 | | 0.04 |
| 48 | Transportation and Warehousing | 0.7 | | 0.25 | 0.05 |
| 49 | Transportation and Warehousing | 0.7 | | 0.25 | 0.05 |
| 51 | Information | 0.98 | | | 0.02 |
| 52 | Finance and Insurance | 0.98 | | | 0.02 |
| 53 | Real Estate and Rental and Leasing | 0.98 | | | 0.02 |
| 54 | Professional and Technical Services | 0.98 | | | 0.02 |
| 55 | Management of Companies and Enterprises | 0.98 | | | 0.02 |
| 56 | Administrative and Waste Services | 0.7 | | 0.25 | 0.05 |
| 61 | Educational Services | 0.1 | 0.05 | | 0.85 |
| 62 | Health Care and Social Assistance | 0.7 | | | 0.3 |
| 71 | Arts, Entertainment, and Recreation | | 0.1 | 0.1 | 0.8 |
| 72 | Accommodation and Food Services | 0.2 | 0.65 | 0.15 | |
| 81 | Other Services, Ex. Public Admin | 0.68 | 0.18 | | 0.14 |
| 92 | Public Administration | 0.4 | | | 0.6 |

Note: Table modified from original by the inclusion of the "institutional" category into the "other" land use equivalent

Source: Fairfax County Planning Department's Policy & Plan Development Branch

The apportionment of employment into land use equivalents also applies when allocating wage and salary jobs not covered by unemployment insurance and the self-employed. When allocating these jobs to TAZs, not covered employment was assumed to have land use equivalents similar to NAICS code 52 and the self-employed to NAICS code 62.

Land use conversion factors did not need to be used for employment yielded from assumed new construction or redevelopment where the non-commercial space type was known—this constituted the source of the majority of employment in Round 9.0. The assumed new construction was also the source for housing units by type that would subsequently be converted to households and population. The sources for assumed new construction with known density types and residential unit types had multiple sources, including new construction from the parcel file; a vetted pipeline of approved projects; sites identified by Planning Staff that specialize in select sector plans; site plans; preliminary plans; project plans; current plans; sketch plans; vacant parcels with calculated yields of residential unit and non-residential space , based on existing zoning and parcel ownership; and parcels that are assumed to redevelop—according to zoning, land-to-improvement ratio, and parcel ownership—to yield net gains in residential units and non-residential space relative to what is on the ground today. The yields for these projects were calculated in a combination of software: GIS to assign the project to a TAZ and Excel to calculate the net gain in households, population, or employment. It is worth noting that for all the sources of new construction or redevelopment, except for the pipeline, it was possible for there to be net losses of employment for a particular project. For example, if a retail-strip is assumed to redevelop as town-homes in the future, then there would be a loss of employment on that parcel. That loss would come from subtracting the QCEW jobs, by land use equivalents, from the relevant parcel and TAZ.

With all the components of growth for population and employment growth assigned to TAZs —derived from new construction, the parcel file, staff input regarding sector plans, various submitted plans, select

vacant parcels, and select parcels that are assumed to redevelop—, the last step in the allocation process is to assign these projects a probable development year. Some of these projects were identified for a probable construction completion date by Planning staff based on that staff person's specialization in certain areas of the County and their conversation with developers or land owners. Other projects, mainly in the early forecast period, were assigned completion dates based on the fact that construction at a site has commenced. Other types of projects without an assigned completion date at the outset of the process were given an assumed completion date based on a hierarchy: early forecast period years were given to pipeline projects based on the amount of residential and commercial already built, such that the more phases have been completed the earlier the project is assigned a forecast year; further out years are assigned to site, preliminary, project, current, sketch plans without an assigned forecast year; and lastly, projects yielded from vacant or redeveloped parcels were assigned to the furthest-out forecast years. The exception to this hierarchy was the assumption that some major pipeline projects, or other expected projects, in the vicinity of the Great Seneca Science Corridor or the White Oak Science Gateway will not be fully completed until the CCT and BRT are mostly to fully functional, assumed to occur in the period between 2030 and 2040 for forecasting purposes. Thus, a number of projects in these areas without an assigned year at the outset of the process were assumed to be complete in the further out period of the forecast, between 2035 and 2045.

## APPENDIX G - DEVELOPMENT OF POLICY AREA TYPES

### BACKGROUND

The current Subdivision Staging Transportation Policy Area Review (TPAR) is administered within a framework that groups the 32 existing policy areas by four major categories or place types – (1) CBD's and Metro Station Policy Areas, (2) Urban Areas, (3) Suburban Areas, and (4) Rural Areas. During the development of the Working Draft the Planning Board directed staff to explore ways to (1) potentially combine the policy area and local area tests and (2) reduce or eliminate reliance on arterial travel time comparisons (the primary variable in TPAR) as a metric for the policy area test and critical lane volume (CLV) for the local area test. Instead, the Planning Board encouraged more emphasis be placed on non-auto driver mode share (NADMS), per capita vehicle miles of travel, accessibility via transit, parking management, and other factors or variables that are more clearly aligned with County policy and better reflect current and future conditions among the different place types within the County.

In considering the above, the Planning Board requested staff consider examining how policy areas might be grouped using a more empirical or quantitative approach related to more than (as an example) whether the area has an existing Metro Station. In addition, the Planning Board was interested in how the eventual typology or grouping would compare with the General Plan place typology.

In developing an alternative concept for both the grouping of the Policy Areas and the eventual metrics to be considered for application in those areas, staff attempted to keep in mind three overriding objectives to address stakeholder concerns most often expressed at that time in the process:

*Clarity*

The methodology or approach should be as clear and simple as possible to understand (even while recognizing the complexity of the subject at hand). The clarity should extend through development of the new approach and to, and beyond, application.

*Relevance*

The approach should reflect the County's goals and policies as they vary among different place types – including those areas in transition and in doing so, it should specifically recognize the County's different contexts with respect to land use and transportation infrastructure – both existing and future.

*Transparency*

The approach should be transparent and the results should be readily recognized as something that intuitively "makes sense". An important part of transparency is that the assumptions and data sources are well documented through development and generally accessible to most stakeholders with a reasonable amount of effort.

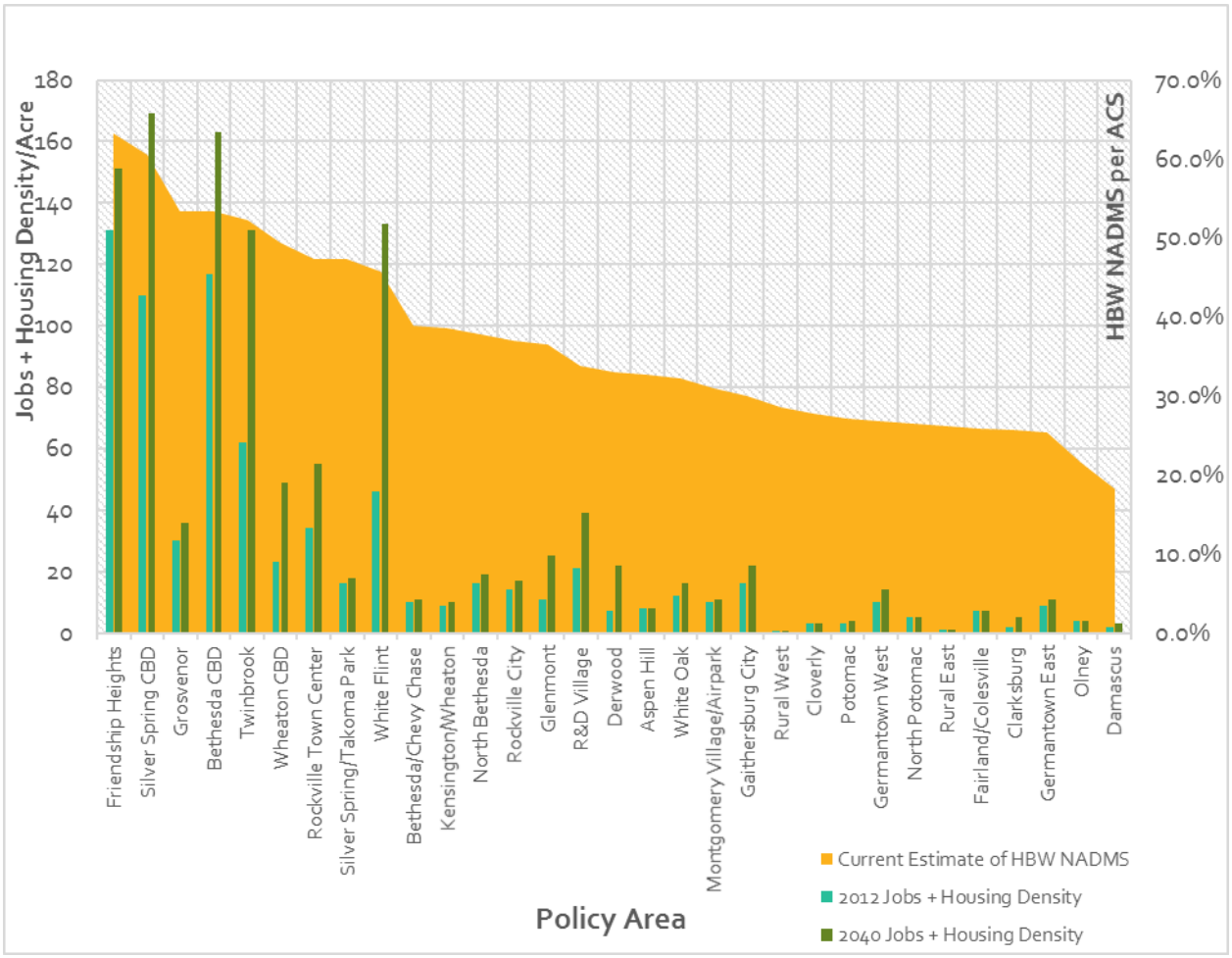
**APPROACH**

Staff initially presented an approach for grouping the Policy Areas at a Planning Board work session on February 4, 2016. The first step in the approach was to plot the Policy Areas against three variables:

- Existing Land Use Intensity – jobs + households per acre (from the Cooperative Land Use Forecast)
- Future Land Use Intensity – jobs + households per acre (from the Cooperative Land Use Forecast)
- Existing Non - Auto Driver Mode Share (NADMS) – home based work trips by any means (including telecommute) other than one person driving alone in a vehicle (from the American Community Survey)

The resulting graph is shown below in Figure 1.

**Figure 1 – Policy Area Comparison**

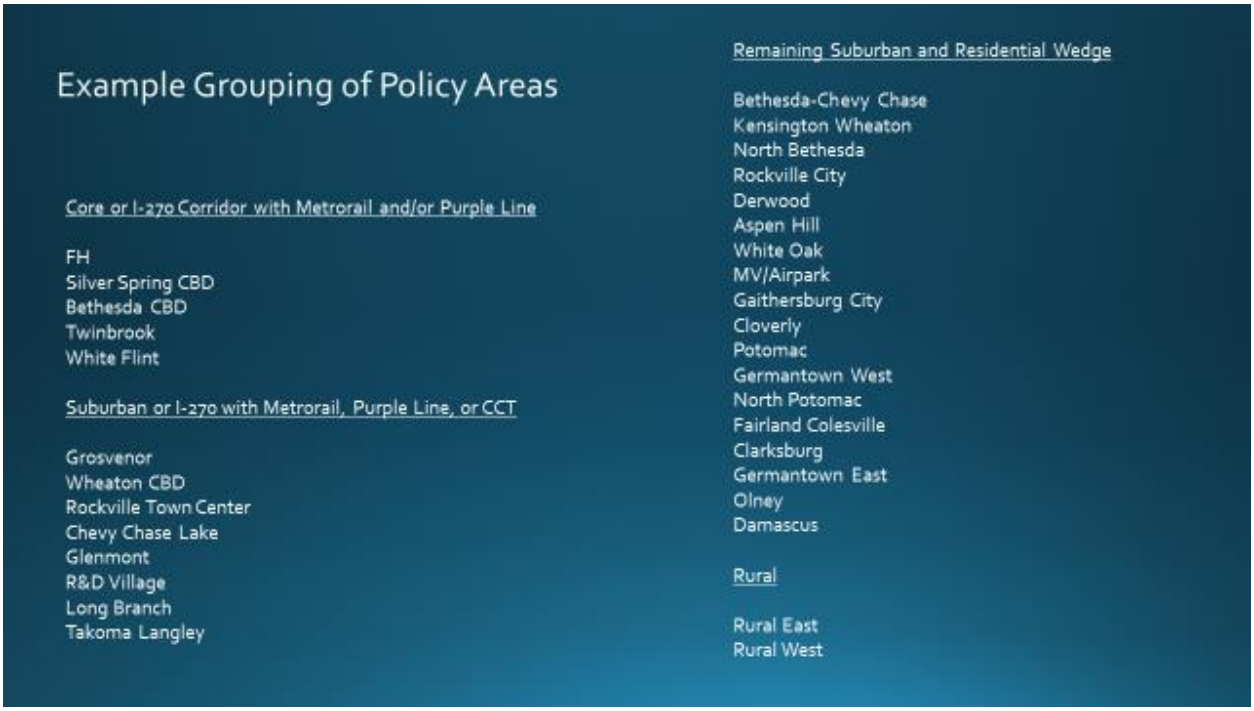



The next step in the process was to group the Policy Areas that generally exhibit similar characteristics with respect to the three variables. This part of the process is somewhat subjective but it does bring some

notable differences into view. As an example, it clearly brings into focus the difference between Grosvenor, Glenmont, Wheaton, and Rockville Town Center and other CBD's and MSPA's.

The initial grouping of the Policy Areas (based upon this approach) is shown below in Figure 2.

**Figure 2 – Initial (Example) Grouping of Policy Areas**

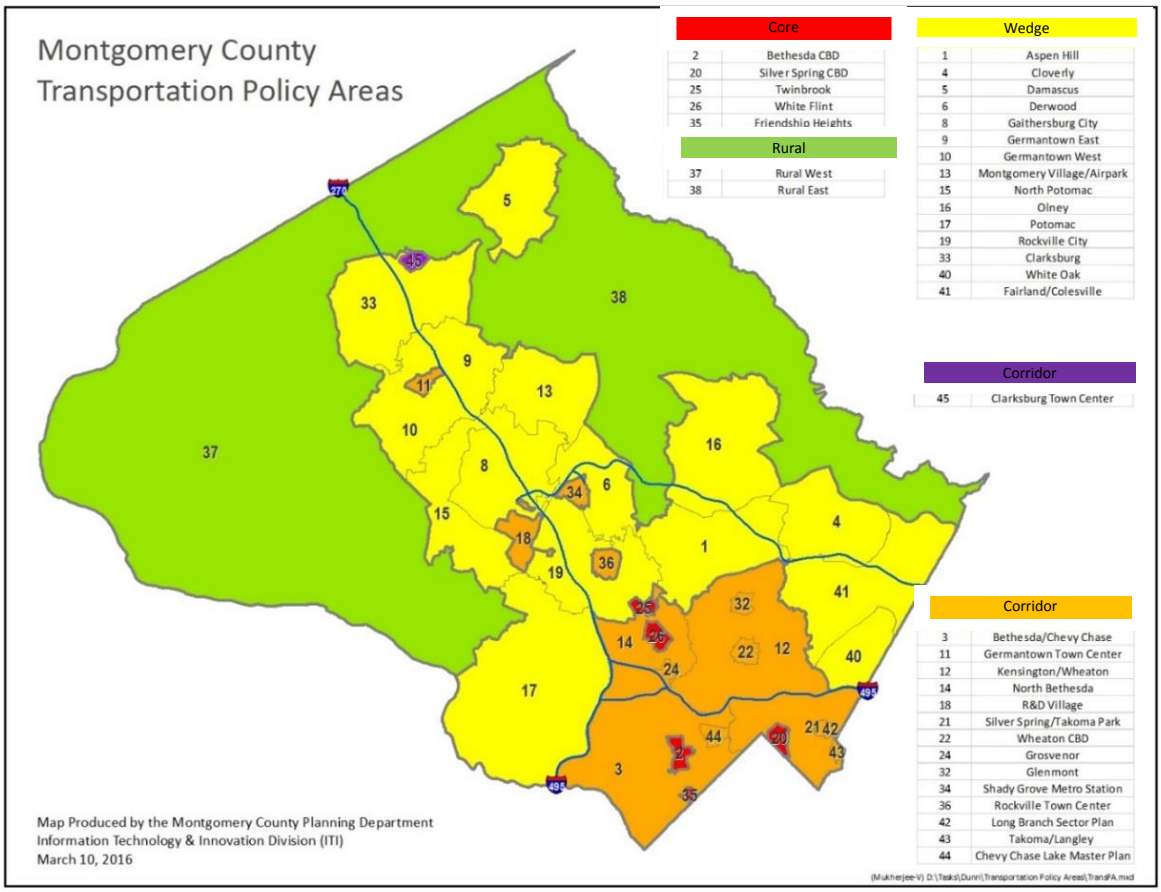



**PUBLIC HEARING DRAFT GROUPING**

The eventual grouping of the Policy Areas included in the Public Hearing Draft differed slightly from that shown above in Figure 2. One change involved changing the group names or labels to better reflect place type and relate to the General Plan. Another change involved Clarksburg Town Center being added in recognition of its designation as the County's northern most "Corridor City."

The grouping as included in the Public Hearing Draft is shown in Figure 3 for comparison purposes.

**Figure 3 – Grouping of Policy Areas in Public Hearing Draft**




## RELATIONSHIP OF RECOMMENDED POLICY AREA GROUPS TO POLICY AREA TEST, LOCAL AREA TEST, AND TRANSPORTATION IMPACT TAX

It should be noted that the eventual recommended grouping of the Policy Areas is utilized in multiple aspects of the Public Hearing Draft:

- In the Policy Area test, the Core and Rural Policy Area Groups are exempt.
- In the Local Area test, the Core Areas are exempt and the other Policy Area Groups are used to differentiate among differing scoping, testing, and mitigation requirements.
- The Recommended Transportation Impact Tax is based in part on multiples that take into account per capita VMT and NADMS by Policy Area Group. In certain cases, reductions in the Transportation Impact Tax could be realized through the application of multipliers established for different Policy Area groups that are related to parking supply below the baseline minimum.

In summary, the recommended Policy Area grouping could be used more broadly than the current approach.

## APPENDIX H - EVALUATION OF ALTERNATIVE POLICY AREA TRANSPORTATION ADEQUACY METRICS

A key element of the 2016 Subdivision Staging Policy was the identification of an appropriate policy area-wide transportation adequacy metric that is less focused on auto-centric travel and clearly reflects the travel implications of the introduction of high-quality transit service over time – including light rail transit (LRT) and bus rapid transit (BRT).

In this regard, Planning staff's consideration of alternative policy area transportation adequacy measures focused on the evaluation of the following three (3) transportation system performance metrics:

- **Transit Accessibility** – Defined as the number of regional jobs accessible within 60 minutes by walk-access transit from households in each policy area.

- **Non-Auto Driver Mode Share** (NADMS) - Defined as the percentage of trips to work by modes other than the single-occupant automobile (i.e., walk, bike, transit and auto passenger) from households in each policy area.

- **Vehicle Miles of Travel** (VMT) - Defined as the average trip length by auto drivers from households within each policy area.

These metrics were derived from the application the of the regional travel demand model. This tool was uses to produced traffic analysis zone (TAZ)-level data aggregated to policy area totals.

The utility of each metric was evaluated in the context of an analysis designed to test:

- **Ability to forecast** in terms of the intuitive "reasonableness" of the results
- **Sensitivity** in terms of responsiveness to land use and transportation changes
- **Relevance to master plan implementation** in terms of measuring the level of achievement of master plan vision

The results of this exercise are summarized and described below.

### TRANSIT ACCESSIBILITY

The performance of transit accessibility was evaluated in the context of the following three (3) land use/transportation scenarios:

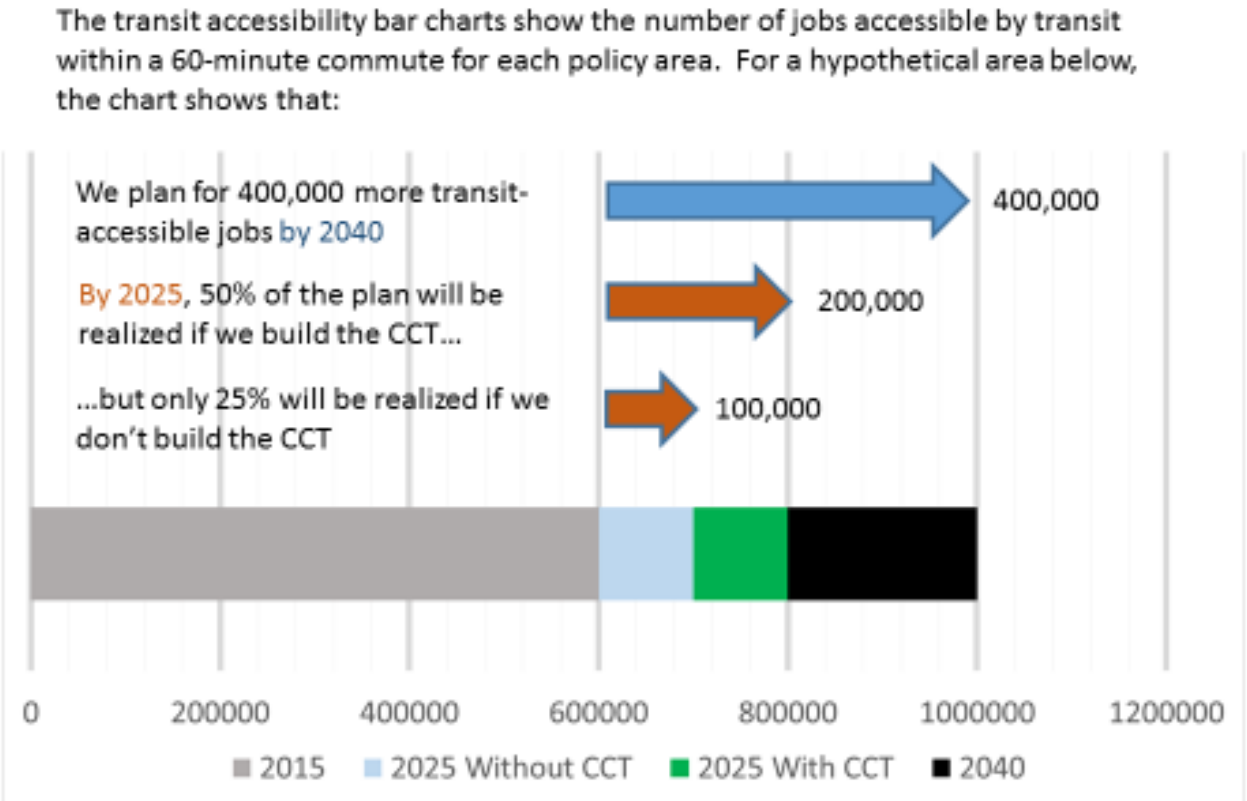
- **Scenario I:** Year 2015 network in combination with year 2015 land use (Existing conditions)
- **Scenario II:** Year 2040 Constrained Long Range Plan (CLRP)[3] network in combination with year 2040 land use

[3] It should be noted that planned Bus Rapid Transit (BRT) service in the County is **not** reflected in the CLRP.

- **Scenario III**: Scenario II (as described above) **with the Purple Line and Corridor Cities Transitway (CCT) removed**.

Transit accessibility is logically and highly responsive to changes in high quality transit service **and** changes in land use mix and density. Figure 1 provides a conceptualization of how the results of the transit accessibility analysis are portrayed for a **hypothetical** policy area.

**Figure 1: Conceptualization of Transit Accessibility Analysis**




The policy area results of the transit accessibility analysis are summarized below in Figure 2. The horizontal bars depicted in the chart report increments of policy area transit accessibility associated with the land use/transportation scenarios described above. As can be observed, down County "Core" policy areas served by Metrorail exhibit relatively high transit accessibility. Conversely, low-density "Wedge" and "Rural" policy areas exhibit relatively modest or negligible transit accessibility. "Corridor" policy areas exhibit transit accessibility results that fall between these two extremes.

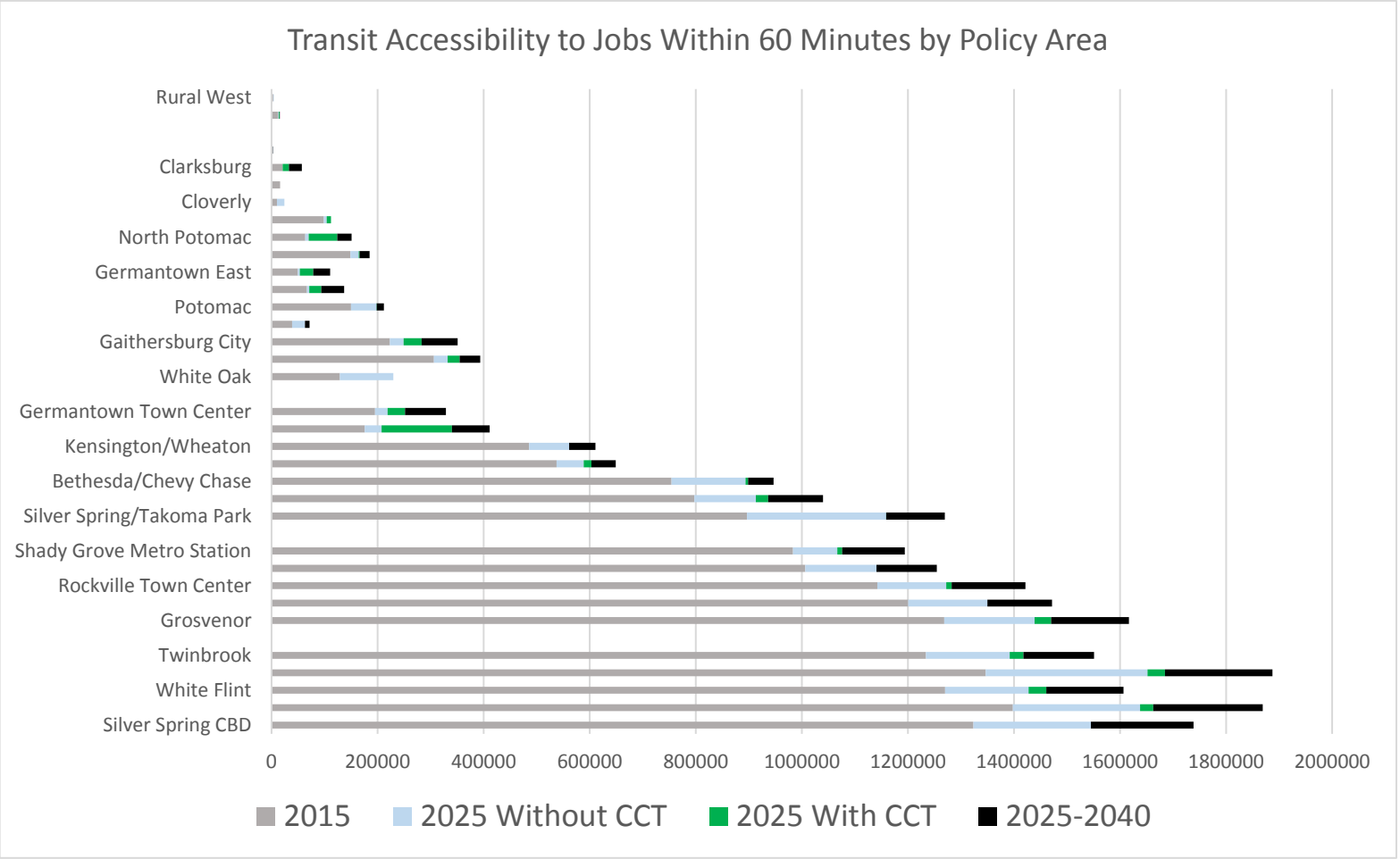
The 10-year regulatory horizon (from 2015 to 2025) is 40 percent as long as the 25-year planning horizon (from 2015 to 2040). In this context, policy areas that have at least 40 percent of their planned 2015-2040 transit accessibility by 2025 are considered to be "on pace" with respect to reaching a key indicator of

future non-auto travel options and are therefore considered “adequate.” The remaining areas are “behind pace” and are considered to have inadequate transit accessibility.

Some key observations drawn from the analysis include:

- The Purple Line has the greatest effect on the Silver Spring/Takoma Park policy area.
- The Purple Line connection to Metrorail has transfer related benefits along the eastern leg of the Red Line between Silver Spring and Glenmont.
- The CCT doubles transit accessibility in the R & D Village policy area.
- The Purple Line and CCT both contribute to changes in accessibility along the western leg of the Red Line between Bethesda and Shady Grove.
- Transit accessibility doubles in the White Oak policy area as more transit-oriented development is implemented within a 60-miunte travel shed, without the benefit of planned BRT service in the area.

**Figure 2: Transit Accessibility Evaluation Summary**



The results demonstrate transit accessibility is a highly desirable transportation system performance metric in that it: (1) exhibits sensitivity to both land use and transit system changes; (2) yields intuitively reasonable forecast results and; (3) measures progress towards transit system implementation which is a key transportation system performance element relevant to the realization of master plans.

**NON-AUTO DRIVER MODE SHARE (NADMS)**

The performance of NADMS was evaluated in the context of the following three (3) land use/transportation scenarios:

- **Scenario I:** Year 2010 network in combination with year 2010 land use (Existing conditions)
- **Scenario II:** Year 2040 Constrained Long Range Plan (CLRP)[4] network in combination with year 2040 land use
- **Scenario III**: Scenario II (as described above) **with the Purple Line and Corridor Cities Transitway (CCT) removed**.

The policy area results of the NADMS analysis are summarized and reported below in Table1. Observation of this information indicates sensitivity to the introduction of Purple Line and the Corridor Cities Transitway (CCT) on NADMS in some areas such as Shady Grove and R & D Village which are relatively dense, mixed-use areas and benefit from a direct transit connection to each other. However, a comparison of the Scenario II and Scenario III results indicates that NADMS generally exhibits a modest response to changes in land use and transportation. Finally, it should be noted that the relevance of this metric with respect to master plan implementation is limited to those areas where NADMS goals are explicitly specified by policy.

[4] It should be noted that planned Bus Rapid Transit (BRT) service in the County is **not** reflected in the CLRP.

**Table 1: Non-auto Driver Mode Share (NADMS) Evaluation Summary**

| | | NADMS (Productions) | | | | NADMS (Attractions) | | | |
|---|---|---|---|---|---|---|---|---|---|
| Policy Area | Name | 2010 | 2040 Without PL/CCT | 2040 With PL/CCT | Effect of PL/CCT | 2010 | 2040 No PL/CCT | 2040 Base | Effect of PL/CCT |
| 1 | Aspen Hill | 32.09% | 35.26% | 35.28% | 0.02% | 14.59% | 16.75% | 16.81% | 0.06% |
| 2 | Bethesda CBD | 58.73% | 64.04% | 64.38% | 0.34% | 46.77% | 54.98% | 55.47% | 0.49% |
| 3 | Bethesda/Chevy Chase | 42.18% | 40.15% | 40.33% | 0.17% | 34.73% | 42.68% | 42.85% | 0.17% |
| 4 | Cloverly | 26.16% | 27.92% | 27.98% | 0.07% | 9.01% | 10.46% | 10.50% | 0.03% |
| 5 | Damascus | 21.61% | 27.83% | 27.81% | -0.02% | 7.86% | 8.43% | 8.45% | 0.02% |
| 6 | Derwood | 30.55% | 33.48% | 34.26% | 0.78% | 16.64% | 20.33% | 20.71% | 0.38% |
| 8 | Gaithersburg City | 32.56% | 38.34% | 39.40% | 1.07% | 17.50% | 21.59% | 22.53% | 0.94% |
| 9 | Germantown East | 27.55% | 32.20% | 32.83% | 0.63% | 14.06% | 17.70% | 18.29% | 0.59% |
| 10 | Germantown West | 28.07% | 32.48% | 33.55% | 1.06% | 14.01% | 17.65% | 18.79% | 1.15% |
| 11 | Germantown Town Center | 32.89% | 38.68% | 39.95% | 1.27% | 16.62% | 20.77% | 21.50% | 0.73% |
| 12 | Kensington/Wheaton | 40.88% | 45.78% | 45.83% | 0.05% | 19.49% | 24.22% | 24.36% | 0.14% |
| 13 | Montgomery Village/Airpark | 29.76% | 33.42% | 33.79% | 0.37% | 13.85% | 15.45% | 15.59% | 0.13% |
| 14 | North Bethesda | 41.36% | 45.08% | 45.18% | 0.10% | 22.27% | 29.81% | 29.93% | 0.12% |
| 15 | North Potomac | 23.19% | 26.22% | 27.66% | 1.44% | 9.81% | 12.30% | 12.91% | 0.61% |
| 16 | Olney | 25.77% | 27.71% | 27.80% | 0.09% | 9.82% | 10.95% | 10.98% | 0.03% |
| 17 | Potomac | 26.28% | 26.93% | 27.08% | 0.15% | 13.83% | 18.94% | 19.05% | 0.11% |
| 18 | R&D Village | 32.47% | 37.28% | 40.63% | 3.35% | 18.20% | 23.65% | 26.43% | 2.78% |
| 19 | Rockville City | 35.54% | 38.38% | 39.43% | 1.05% | 18.04% | 23.58% | 25.17% | 1.59% |
| 20 | Silver Spring CBD | 61.34% | 68.19% | 68.57% | 0.38% | 50.20% | 56.41% | 56.89% | 0.48% |
| 21 | Silver Spring/Takoma Park | 49.74% | 57.14% | 57.15% | 0.00% | 33.71% | 41.47% | 41.93% | 0.46% |
| 22 | Wheaton CBD | 51.82% | 57.26% | 57.30% | 0.04% | 26.28% | 31.81% | 31.95% | 0.14% |
| 24 | Grosvenor | 50.49% | 55.77% | 55.98% | 0.21% | 24.49% | 30.34% | 30.50% | 0.16% |
| 25 | Twinbrook | 45.35% | 56.63% | 56.88% | 0.25% | 28.42% | 34.50% | 34.63% | 0.13% |
| 26 | White Flint | 49.55% | 53.86% | 54.04% | 0.18% | 28.86% | 35.48% | 35.61% | 0.13% |
| 32 | Glenmont | 46.63% | 50.75% | 50.76% | 0.01% | 23.77% | 28.55% | 28.60% | 0.05% |
| 33 | Clarksburg | 22.07% | 27.49% | 28.24% | 0.75% | 7.30% | 11.38% | 11.48% | 0.09% |
| 34 | Shady Grove Metro Station | 39.35% | 48.15% | 51.02% | 2.88% | 21.25% | 24.62% | 25.25% | 0.63% |
| 35 | Friendship Heights | 64.27% | 66.00% | 66.05% | 0.05% | 48.83% | 57.51% | 57.56% | 0.05% |
| 36 | Rockville Town Center | 44.95% | 50.10% | 50.29% | 0.19% | 26.42% | 31.76% | 31.87% | 0.11% |
| 37 | Rural West | 18.99% | 21.33% | 21.88% | 0.54% | 7.56% | 10.57% | 10.69% | 0.12% |
| 38 | Rural East | 22.95% | 26.57% | 26.77% | 0.20% | 8.70% | 10.29% | 10.33% | 0.03% |
| 40 | White Oak | 40.03% | 46.71% | 46.86% | 0.14% | 15.58% | 21.28% | 21.43% | 0.15% |
| 41 | Fairland/Colesville | 29.87% | 35.24% | 35.39% | 0.15% | 13.42% | 18.70% | 18.82% | 0.11% |
| 99 | County | 35.98% | 39.88% | 40.37% | 0.48% | 25.19% | 30.91% | 31.53% | 0.62% |

**VEHICLE MILES OF TRAVEL (VMT)**

The performance of VMT was evaluated in the context of the following three (3) land use/transportation scenarios:

- **Scenario I:** Year 2010 network in combination with year 2015 land use (Existing conditions)
- **Scenario II:** Year 2040 Constrained Long Range Plan (CLRP)[5] network in combination with year 2040 land use
- **Scenario III**: Scenario II (as described above) **with the Purple Line and Corridor Cities Transitway (CCT) removed**.

The policy area results of the VMT analysis are summarized and reported below in Table 2. Observation of the results derived for Scenarios II and III indicates virtually no effect of the Purple Line and CCT on VMT.

[5] It should be noted that planned Bus Rapid Transit (BRT) service in the County is **not** reflected in the CLRP.

The magnitude of change between base year 2010 and year 2040 VMT results derived in Central Business District (CBD) areas such as Silver Spring and Bethesda appears counter-intuitive and raises some concerns about the ability of the regional model to adequately reflect latent demand in small areas. These observations suggest that VMT may not be an appropriate metric that is relevant to the evaluation of master plan implementation and policy area transportation adequacy determination.

**Table 2: Vehicle Miles of Travel (VMT) Evaluation Summary**

| Policy Area | Name | 2010 | 2040 Without Purple Line/CCT | 2040 With Purple Line/CCT | Effect of Purple Line/CCT |
|---|---|---|---|---|---|
| 3 | **Bethesda/Chevy Chase** | 24.4 | 25.7 | 25.8 | 0.1 |
| 35 | Friendship Heights | 18.1 | 9.2 | 9.3 | 0.0 |
| 2 | Bethesda CBD | 19.7 | 8.3 | 8.3 | 0.0 |
| 21 | **Silver Spring/Takoma Park** | 24.5 | 15.2 | 15.1 | 0.0 |
| 20 | Silver Spring CBD | 20.6 | 7.0 | 6.9 | 0.0 |
| 12 | **Kensington/Wheaton** | 27.0 | 21.5 | 21.5 | 0.0 |
| 22 | Wheaton CBD | 24.4 | 12.5 | 12.4 | 0.0 |
| 32 | Glenmont | 25.9 | 19.6 | 19.6 | 0.0 |
| 14 | **North Bethesda** | 25.3 | 20.9 | 21.0 | 0.0 |
| 24 | Grosvenor | 23.9 | 14.4 | 14.3 | 0.0 |
| 26 | White Flint | 22.1 | 10.1 | 10.1 | 0.0 |
| 25 | Twinbrook | 20.5 | 9.9 | 9.9 | 0.0 |
| 19 | **Rockville City** | 25.9 | 20.7 | 20.6 | 0.0 |
| 36 | Rockville Town Center | 23.5 | 13.7 | 13.7 | 0.0 |
| 6 | **Derwood** | 27.4 | 29.9 | 30.1 | 0.2 |
| 34 | Shady Grove Metro Station | 23.6 | 16.3 | 16.1 | -0.1 |
| 10 | **Germantown West** | 35.6 | 33.9 | 33.7 | -0.2 |
| 11 | Germantown Town Center | 32.8 | 24.3 | 24.1 | -0.2 |
| 1 | Aspen Hill | 29.4 | 22.3 | 22.4 | 0.1 |
| 4 | Cloverly | 36.3 | 38.7 | 38.7 | 0.0 |
| 5 | Damascus | 47.1 | 49.9 | 50.0 | 0.1 |
| 8 | Gaithersburg City | 28.5 | 25.5 | 25.5 | -0.1 |
| 9 | Germantown East | 33.2 | 33.1 | 33.0 | 0.0 |
| 13 | Montgomery Village/Airpark | 30.9 | 30.3 | 30.4 | 0.1 |
| 15 | North Potomac | 31.2 | 39.2 | 38.8 | -0.4 |
| 16 | Olney | 36.6 | 40.6 | 41.2 | 0.5 |
| 17 | Potomac | 30.5 | 39.6 | 39.6 | 0.0 |
| 18 | R&D Village | 28.3 | 21.0 | 20.6 | -0.4 |
| 33 | Clarksburg | 40.6 | 44.4 | 44.6 | 0.1 |
| 37 | Rural West | 47.5 | 59.8 | 59.8 | 0.0 |
| 38 | Rural East | 47.3 | 50.8 | 51.0 | 0.2 |
| 40 | White Oak | 28.1 | 19.1 | 19.0 | -0.1 |
| 41 | Fairland/Colesville | 32.9 | 26.7 | 26.6 | 0.0 |
| **99** | **Total** | **29.6** | **25.9** | **25.9** | 0.0 |

## APPENDIX I - LOCAL AREA TRANSPORTATION REVIEW (LATR) TEST

The following paragraphs provide additional descriptions and examples of the proposed changes to the LATR process. These changes will ultimately be established within the Planning Board's "Local Area Transportation Review Guidelines" that will follow the County Council's adoption of the Subdivision Staging Policy (SSP) scheduled for November 2016.

The Planning Board draft of the SSP expands upon the application of the state-of-the-practice in traffic analysis tools to provide measures that are more readily correlated with traveler experience than the Critical Lane Volume (CLV) approach. The proposed changes to the SSP also introduce three new quantitative measures of adequacy for pedestrians, bicyclists, and transit. These proposed adequacy measures are described below and are only proposed for the application of LATR as suggested below and to be incorporated in the Planning Board's LATR Guidelines completed after Council adoption of the SSP. Other multimodal elements of the LATR process, notably the requirement for all LATR studies to incorporate a qualitative pedestrian-bicycle impact statement, are proposed to remain as currently scoped.

In each case, the proposals in the SSP recognize that the effect of introducing new metrics on the types and cost of mitigation can generally be estimated, and this is a role that the members of the Transportation Impact Study Technical Working Group (TISTWG) have discussed in more than a dozen meetings since fall 2014. The actual effects on study outcomes will not become known until the guidelines have been in place and those active in the development review process (including applicants and their consultants, interagency staff members, and interested members of the public). This is part of the value of delegating the administration of these details to the Planning Board in the execution of LATR Guidelines; the judgment necessary to evaluate guidelines application is appropriate on a case-by-case basis. The material in this Appendix provides contextual guidance for the current thinking of the Planning staff and the Planning Board for LATR Guidelines changes based on the overall approach in the Planning Board Draft SSP. Should the Council desire significant changes to the SSP, it is expected that the approaches described in this Appendix would need to be adjusted accordingly.

The TISTWG considered many additional technical and policy approaches during their two years of discussion. These approaches are described within TISTWG meeting materials available at the following location:

http://www.montgomeryplanning.org/transportation/latr_guidelines/workinggroup.shtm

This Appendix is organized into two sections that describe the proposed changes to:

- LATR scoping, which is now multimodal in nature with the proposed shift to person trip generation, and
- LATR adequacy and mitigation, which are also multimodal, but wherein each modal definition of adequacy and how to achieve it can be disaggregated from the other modes.

While the focus of the Planning Board Draft of the SSP and this Appendix is on significant changes proposed for the LATR process, it is worth noting that many key elements of the SSP are not proposed to have any changes, notably:

- Defining the geographic scope of an automobile analysis in terms of the number of "rings" of intersections based on the number of peak hour vehicle trips generated by the site.
- Defining adequacy as based on conditions during typical weekday AM (6:30 - 9:30) and PM (4:00 – 7:00) peak periods with the peak hour conditions being those during the four consecutive 15-minute periods with the highest total site trip generation.
- Emphasizing the mitigation of vehicle impacts by providing non-auto facilities as mitigation at an established value per vehicle trip.
- Including a qualitative pedestrian-bicycle impact statement as part of every LATR study regardless of the number of non-motorized trips generated.

**SCOPING**

The LATR process uses context-sensitive trip generation and mode split analyses to determine the need for an LATR Transportation Study (as contrasted with a Transportation Study Exemption Statement) and the need for quantitative analysis of each of the four modes of travel. The LATR process utilizes the most recently published vehicle trip generation rates in the ITE Trip Generation Manual in concert with context-sensitive trip generation adjustment factors associated with each policy area to define site vehicle driver, vehicle passenger, transit patron, and non-motorized person trips, using the information in Tables 1a through 1c found at the end of this Appendix. Table 1 below describes the application of Tables 1a through 1c using a hypothetical 100,000 GSF office building in the Germantown East Policy Area:

**Table 1. LATR Guidelines Appendix References for Trip Generation**

| Appendix | Title/Purpose | Primary Use | Example Case |
|---|---|---|---|
| 1 | ITE Vehicle Trip Rate Adjustment Factors | Adjust ITE estimate of site-generated vehicle trips | Using the average rates from pages 1260 and 1261 of the 9th Edition of Trip Generation and Appendix 1, the site is estimated to generate 156*0.90=140 AM peak hour vehicle trips and 149*0.90=134 PM peak hour vehicle trips. |
| 2 | Trips by Mode for Developments With Significant Impact | Identify whether site has significant impact (and therefore requires an LATR Study) | For Germantown East, the context-sensitive vehicle trip generation rates exceed the 34.0 threshold that equates to 50.0 person trips so an LATR Study is required |
| 3 | Mode Split Assumptions by Policy Area | Identify which modes require quantitative analysis. | The number of vehicle trips exceeds the threshold of 50 so that a quantitative auto analysis is required.<br><br>The number of transit trips (140 * 2.8% / 68.0% = 6) is less than the threshold of 50 so that a quantitative transit analysis is not required.<br><br>The number of non-motorized trips (140 * 4.9% / 68.0% = 10) plus the number of transit trips (6, from above) totals 16, or less than the threshold of 100 so that quantitative pedestrian or bicycle analyses are not required. |

Once the context-sensitive number of person-trips generated by mode is established, certain sites may be eligible to conduct further mode shifts through transit proximity, parking management, and Transportation Demand Management (TDM) as noted in the following paragraphs.

One area of particular interest in applying the new trip generation rates is associated with retail uses. The ITE vehicle trip generation rates, and the policy area factors in Appendices 1 through 3, address retail site driveway traffic. In most cases, a significant amount of driveway traffic is “pass-by” or “diverted link” traffic; in other words, few of those vehicles are making a separate trip solely to or from the retail land use. The ITE trip generation processes are adept at addressing this characteristic of mixed use development for vehicle trips, but not so robust in considering trips made by other modes (particularly in the most urban

settings when some of those trips may be made to or from other uses in the same building and may not even requiring traveling outdoors).

The TISTWG members considered two other options for reducing assumed vehicle trip generation rates associated with mixed use development in urban areas of the County. One of these concepts with included the idea that a nominal amount of ancillary ground floor retail in a mixed use building that was predominantly residential or office (considered for up to 15,000 GSF in a building with at least 90% of the FAR devoted to non-retail uses) could be assumed to have no vehicular traffic associated with that initial level of retail as long as no parking spaces were associated with it in the site plan. A second concept was to designate a "Very Low VMT" development. The study team conducted analyses to demonstrate that in jobs-heavy central business districts like Bethesda or Silver Spring, a new residential building with limited parking could be shown to reduce total areawide VMT by facilitating CBD employees choosing to live closer to where they work. These two concepts are not explicitly carried forward as part of the LATR processes for the Planning Board's SSP simply because they would be most applicable (if not exclusively applicable) in Metro Station Policy Areas where the Board's SSP vision eliminates LATR studies entirely.

### Transit Proximity

Based on the 2005 WMATA Development Related Ridership Survey findings (Table S-2), sites that are located within 1,000' of a Metrorail station may shift additional trips from auto driver to transit patron based on the actual walking distance from the site's main entrance to the Metrorail station portal, with a value of:

- 1 percentage point of mode share for every 50 feet closer than 1,000 feet for office development
- 1 percentage point of mode share for every 100 feet closer than 1,000 feet for residential development.

### Parking Management

Research indicates that there is a correlation between parking supply and vehicle trip generation, particularly when applied in a supportive parking-pricing environment with alternative transportation options. Applicants may further reduce trip generation rates if, per Section 59.6.2.4 of the County Code, they propose parking ratios lower than the baseline minimums that include specific supportive actions identified to reduce parking demand.

For residential uses, each 2 percent reduction in parking below the minimum number of spaces yields a 1 percent reduction in vehicle trip generation rates for that use. This relationship is based on the equation in Table 2-9 of the Transportation Research Board's TCRP Report 128, "Effects of TOD on Housing, Parking, and Travel". Applying this equation to a prototypical TOD site with 10 DU/acre, a ratio of 1 parking space per dwelling unit would yield 0.24 peak hour vehicle trips and a ratio of 0.5 parking spaces per dwelling units would yield 0.18 peak hour vehicle trips (in other words, a 50% reduction in parking yields a 25% reduction in vehicle trips).

For office uses, each 3 percent reduction in parking below the minimum number of spaces yields a 1 percent reduction in vehicle trip generation rates for that use. This relationship is based on the relationships shown in Figure 6-9 of a 2004 report by Lund, Cervero, and Willson for Caltrans "Travel Characteristics of Transit Oriented Development in California", which shows that in a transit/TDM rich environment a similar reduction from 1.0 to 0.5 parking spaces at an office site could be expected to increase transit mode share from 41% to 50% (which for simplicity sake is assumed to equal a reduction in auto mode share from 59% to 50%). In other words, in this case a reduction of 50% of parking spaces reduces auto trips by about 15%, or roughly a 3:1 ratio.

The parking management vehicle trip generation rate reduction would not be applicable in Parking Lot Districts where private sector contributions towards publicly managed shared parking is encouraged.

### Traffic Mitigation Agreements (TMAgs)

Applicants wishing to further reduce vehicular impacts through Transportation Demand Management programs may propose additional TDM programs and services whose effectiveness will be negotiated with M-NCPPC staff, pivoting from the context-sensitive trip generation rates already incorporated above and with binding elements to be included in a Traffic Mitigation Agreement (TMAg).

**ADEQUACY AND MITIGATION**

The LATR process introduces adequacy standards for vehicular delay that correspond to policy area CLV standards as well as standards for pedestrian, bicycle, and transit adequacy.

### Adequacy Standards for Vehicular Delay

The Planning Board Draft SSP recommends operational analyses for intersections that exceed the applicable CLV standards with delay-based performance standards to either reduce average peak hour delay per vehicle below the policy area delay standard identified in the SSP or maintain build condition average delay per vehicle below the total future (consisting of existing traffic plus traffic generated by approved but unbuilt development) average delay. The SSP describes whether the intersection analysis performance is to be made for an individual intersection or requires a network analysis to address closely spaced intersections operating in tandem. If an individual intersection is analyzed, the vehicular delay threshold applies to the intersection as a whole, not to individual approaches or turning movements in the intersection. Similarly, if a network of multiple intersections is analyzed, the vehicular delay threshold applies to the network as a whole, not to individual intersections within the network. The focus on average delay is intended to help facilitate a focus on management and operations strategies; as the County builds out its roadway network the emphasis is less on constructing additional automobile capacity and more on finding more efficient means for operating the current network to accommodate changing travel demands through techniques such as signal timing, signing and marking, and vehicle progression.

The derivation of the policy area average vehicular delay thresholds applies a Level of Service (LOS) equivalency between Critical Lane Volume (CLV) and delay, using LOS/delay thresholds in the Highway Capacity Manual shown in Table 2.

**Table 2. Equivalency Between CLV, LOS, and Average Vehicle Delay**

| HCM LOS Threshold / Boundary | Corresponding Average Vehicle Delay per HCM (seconds) | Corresponding CLV Value |
|---|---|---|
| A / B | 10 | 1000 |
| B / C | 20 | 1150 |
| C / D | 35 | 1300 |
| D / E | 55 | 1450 |
| E / F | 80 | 1600 |

The establishment of vehicle delay thresholds for policy area CLV standards between these thresholds, as well as for the 1800 CLV standard for Metro Station Policy Areas is established by fitting a curve through these points. That curve is described by the formula:

$Y = 0.0001111X^2 – 0.1722X + 71.111$

Where Y is the average delay in seconds per vehicle and X is the CLV value.

Under the Planning Board draft SSP, no LATR studies are required for development sites within MSPAs, but the 1800 CLV and corresponding 120 seconds / vehicle average delay are established for analysis of intersections within or on the boundary of MSPAs in LATR studies that may be required of development outside MSPAs.

While the SSP proposes to eliminate LATR studies for developments within MSPAs, the retention of both CLV standards and equivalent delay-based measures of adequacy are important to both provide guidance to Maryland SHA for access management approvals on state highways within MSPAs (which continue to rely on CLV standards of adequacy) as well as to provide guidance should a development located outside an MSPA need to consider adequacy of an intersection within, or on the boundary of, an MSPA.

## Pedestrians

The proposed adequacy standards for pedestrians apply to crosswalks at study area intersections for sites that generate more than 100 non-motorized trips. The basis for this recommendation is the Highway Capacity Manual approach to defining crosswalk performance. Chapter 18 of the 2010 Highway Capacity Manual actually takes the concept of intersection performance for pedestrians to a more

LEVEL OF SERVICE D
Freedom to select walking speed and pass others is restricted; high probability of conflicts for reverse or cross movements.

LEVEL OF SERVICE E
Walking speeds and passing ability are restricted for all pedestrians; forward movement is possible only by shuffling; reverse or cross movements are possible only with extreme difficulty; volumes approach limit of walking capacity.

| | | | | |
|---|---|---|---|---|
| A | ≥ 35 | 260 | 0-7 | 0.0-0.3 |
| B | 25-35 | 250 | 7-10 | 0.3-0.4 |
| C | 15-25 | 240 | 10-15 | 0.4-0.6 |
| D | 10-15 | 225 | 15-20 | 0.6-0.8 |
| E | 5-10 | 150 | 20-25 | 0.8-1.0 |
| F | < 5 | < 150 | *Variable* | *Variable* |

detailed level, combining crosswalk performance and delay into a unitless value that translates to LOS. Given the level of complexity with intersection signal timing and phasing in the areas of the County likely to generate significant pedestrian trips requiring analysis and constituent concerns about the unitless values associated with the CLV approach to vehicle performance, the proposed approach to defining adequacy considers pedestrian delay and crosswalk adequacy independently:

- For intersections studied as part of a quantitative pedestrian analysis, crosswalks must provide at least 10 square feet per pedestrian (LOS D as defined by the 2000 Highway Capacity Manual and retained in Exhibit 18-24 of the 2010 Highway Capacity Manual as a means of qualifying pedestrian circulation performance but no longer carrying the LOS designation as an independent measure of quality).
- Regardless of the number of site generated pedestrian trips, improvements considered at any signalized intersection in a Road Code Urban Area (RCUA) or Bicycle Pedestrian Priority Area (BPPA) must not cause the total amount of pedestrian travel time (waiting for a signalized crossing and completing that crossing) to increase from the background (also called "total future") condition.

Mitigation would be required to achieve either the 10 square feet per pedestrian or the amount in the background (or total future) condition. Expected types of mitigation could include signal timing changes to increase the amount of green time provided to the pedestrian crossing (thereby reducing the number of pedestrians queued at the start of the walk signal) or widening the crosswalk (thereby increasing the capacity for the pedestrian flow).

### Bicyclists

The proposed adequacy standards for bicyclists are designed to be synchronized with the development and implementation of the Bicycle Master Plan. The concept of Level of Traffic Stress for bicyclists elegantly evaluates network connectivity for bicyclists, recognizing that different roadways will be, or can be redesigned to be, comfortable for bicyclists of varying skill levels and that not all roadways will necessarily accommodate all levels of bicyclists with a high degree of comfort. By considering a network approach to bicycling, an appropriate level of accommodation for bicyclists can be established. The LTS process is still in development in Montgomery County and the Department is not aware that is has yet been applied by any jurisdiction in a truly regulatory application as an adequacy standard. Therefore, the proposal for bicycle system adequacy is to seek LTS-2 (low levels of traffic stress) for access to all parcels within 1,500' of a development site boundary if that development site generates at least 100 peak hour non-motorized trips (including transit access trips) and is likely to include a significant bicycling population as indicated by ¼ mile proximity to an educational institution or an existing or planned bikeshare station. However, the adequacy standard would be met by the applicant identifying and estimating the cost of feasible improvements to achieve the LTS-2 adequacy standard but the applicant would not be required to contribute to bicycle system implementation.

More information on the LTS approach can be found here:

http://www.mcatlas.org/bikestress/

## Transit

The proposed adequacy standard for transit riders considers the capacity of bus transit service in the vicinity of the site. This definition reflects the concern that while the County has focused on addressing transportation system capacity concerns by incentivizing modal shifts from autos to transit, some transit routes are now themselves congested and need to be considered for adequacy. The proposed standard is LOS D for peak load conditions on buses during the weekday peak hour and is based on a quality of service measure from the Second Edition of the Transit Capacity and Quality of Service Manual which is generally considered a comfortable standee load for the purposes of transit facility design. As is the case with the proposed pedestrian adequacy standard, the most recent (Third) edition of the Transit Capacity and Quality of Service Manual has combined several independent quality of service measures into a single transit score that is more complex and unitless and therefore more difficult both to measure and to understand. The basic concept of peak load factors with the thresholds and commentary from the Second Edition has been retained as Exhibit 5-16 in the Third Edition but without the LOS designation.

*Transit Capacity and Quality of Service Manual—2nd Edition*

**Exhibit 3-26**
Fixed-Route Passenger Load LOS

| LOS | Load Factor (p/seat) | Standing Passenger Area ($ft^2$/p) | Standing Passenger Area ($m^2$/p) | Comments |
|---|---|---|---|---|
| A | 0.00-0.50 | >10.8† | >1.00† | No passenger need sit next to another |
| B | 0.51-0.75 | 8.2-10.8† | 0.76-1.00† | Passengers can choose where to sit |
| C | 0.76-1.00 | 5.5-8.1† | 0.51-0.75† | All passengers can sit |
| D | *1.01-1.25** | 3.9-5.4 | 0.36-0.50 | Comfortable standee load for design |
| E | *1.26-1.50** | 2.2-3.8 | 0.20-0.35 | Maximum schedule load |
| F | *>1.50** | <2.2 | <0.20 | Crush load |

*Approximate value for comparison, for vehicles designed to have most passengers seated. LOS is based on area.
†Used for vehicles designed to have most passengers standing.

As proposed for the LATR approach, an application for any site generating 50 peak hour transit users would be required to consider the following elements of transit system adequacy:

- Identify bus stops within 1,000' of the site boundary and inventory the number of riders that board, alight, and remain on the bus for all buses serving each stop during the weekday AM and PM peak periods.
- Calculate the peak hour passenger load for each route based on the buses that serve the route and the higher of the passenger loads for buses arriving or departing at each station and gauge the passengers per seat (in the peak direction) against the TCQSM standard of less than 1.25 persons/seat.

This measure is designed to reflect transit capacity for local area conditions where the County has a role in addressing transit system adequacy associated with local development. Therefore, the focus is on the bus system (whether operated by WMATA or Ride-On) as contrasted with the more regional focus of Metrorail or MARC system capacity (similar to the fact that LATR for autos does not consider freeway conditions). It also focuses on the "peak load" from a temporal perspective, but only regarding the bus while at the local stop, as contrasted with the more common transit system planning practice of considering the "peak load point". This is because it is likely that for longer routes, particularly within the WMATA system the peak load point may be miles from a development site (for instance, the experience of the Y2 between Wheaton and Silver Spring is not germane to the local effect of a development along the Y2 in Olney).

An adverse effect would be a bus route with a peak load above 1.25 at the subject station and mitigation would include provisions for capital improvements to reduce that peak load below 1.25 (or the background

condition if already higher than 1.25). Mitigation would need to be developed in close coordination with M-NCPPC staff and the transit system operators using simplified calculations. As an example, consider a case with a bus route running on 30-minute headways. In the peak hour, two buses, each with 40 seats, provide 80 seats of capacity serving the stop and carry 70 passengers in the peak direction for a peak load of 0.875. The site generates 60 transit passengers with 75 percent (or 45 passengers) traveling in the peak direction. The total passenger load is increased to 115 and the peak load factor increases to 115/80=1.44. To reduce the peak load to 1.25, there would need to be 92 seats if capacity, which would equal another 0.3 of a bus. The applicant would work with the interagency staff to define capital improvements with the same functional or cost value of 0.3 of an additional bus.

| Table 1a. ITE Vehicle Trip Generation Rate Adjustment Factors | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | | ITE Vehicle Trip Adjustment Factors | | | |
| Policy Area # | | Residential | Office | Retail | Other |
| 2 | Aspen Hill | 97% | 98% | 99% | 97% |
| 3 | Bethesda CBD | 79% | 63% | 61% | 62% |
| 4 | Bethesda/Chevy Chase | 87% | 81% | 85% | 79% |
| 6 | Cloverly | 99% | 100% | 100% | 100% |
| 7 | Damascus | 100% | 100% | 100% | 100% |
| 8 | Derwood | 94% | 94% | 87% | 94% |
| 11 | Gaithersburg City | 88% | 86% | 74% | 85% |
| 12 | Germantown East | 95% | 90% | 95% | 91% |
| 14 | Germantown West | 93% | 87% | 92% | 88% |
| 13 | Germantown Town Center | 85% | 89% | 77% | 88% |
| 17 | Kensington/Wheaton | 91% | 92% | 96% | 92% |
| 18 | Montgomery Village/Airpark | 93% | 100% | 93% | 100% |
| 19 | North Bethesda | 83% | 87% | 71% | 82% |
| 20 | North Potomac | 97% | 100% | 100% | 100% |
| 21 | Olney | 99% | 100% | 99% | 100% |
| 22 | Potomac | 97% | 98% | 96% | 98% |
| 23 | R&D Village | 89% | 88% | 80% | 90% |
| 24 | Rockville City | 88% | 94% | 87% | 98% |
| 29 | Silver Spring CBD | 77% | 65% | 58% | 65% |
| 30 | Silver Spring/Takoma Park | 83% | 83% | 82% | 84% |
| 32 | Wheaton CBD | 85% | 85% | 76% | 84% |
| 16 | Grosvenor | 81% | 84% | 75% | 80% |
| 31 | Twinbrook | 81% | 80% | 74% | 79% |
| 33 | White Flint | 79% | 78% | 72% | 78% |
| 15 | Glenmont | 90% | 91% | 96% | 91% |
| 5 | Clarksburg | 100% | 100% | 100% | 100% |
| 28 | Shady Grove Metro Station | 89% | 88% | 77% | 88% |
| 10 | Friendship Heights | 78% | 70% | 73% | 70% |
| 25 | Rockville Town Center | 79% | 80% | 70% | 79% |
| 27 | Rural West | 100% | 100% | 100% | 100% |
| 26 | Rural East | 99% | 99% | 98% | 100% |
| 34 | White Oak | 89% | 90% | 91% | 88% |
| 9 | Fairland/Colesville | 96% | 96% | 99% | 97% |

Table 1b. Mode Split Assumptions by Policy Area

| Policy Area # | | Development Type | Auto Driver | Auto Passenger | Transit | Non-Motorized | Total |
|---|---|---|---|---|---|---|---|
| 2 | Aspen Hill | Residential | 62.5% | 25.8% | 5.3% | 6.4% | 100.0% |
| | | Office | 74.2% | 18.2% | 2.9% | 4.7% | 100.0% |
| | | Retail | 72.1% | 23.4% | 1.3% | 3.2% | 100.0% |
| | | Other | 74.0% | 18.2% | 2.5% | 5.2% | 100.0% |
| 3 | Bethesda CBD | Residential | 50.9% | 20.8% | 11.7% | 16.6% | 100.0% |
| | | Office | 47.9% | 12.6% | 23.8% | 15.7% | 100.0% |
| | | Retail | 44.2% | 16.9% | 10.9% | 27.9% | 100.0% |
| | | Other | 47.3% | 13.2% | 23.0% | 16.5% | 100.0% |
| 4 | Bethesda/Chevy Chase | Residential | 56.1% | 23.6% | 7.6% | 12.6% | 100.0% |
| | | Office | 61.8% | 17.4% | 11.5% | 9.3% | 100.0% |
| | | Retail | 61.6% | 24.7% | 3.2% | 10.5% | 100.0% |
| | | Other | 60.5% | 17.1% | 12.6% | 9.9% | 100.0% |
| 6 | Cloverly | Residential | 64.1% | 26.4% | 3.5% | 5.9% | 99.9% |
| | | Office | 76.8% | 19.0% | 0.7% | 3.5% | 100.0% |
| | | Retail | 72.8% | 25.1% | 0.2% | 2.0% | 100.0% |
| | | Other | 76.5% | 19.2% | 0.8% | 3.4% | 100.0% |
| 7 | Damascus | Residential | 65.4% | 26.6% | 2.2% | 5.8% | 100.0% |
| | | Office | 76.1% | 20.3% | 0.1% | 3.5% | 100.0% |
| | | Retail | 72.5% | 25.5% | 0.0% | 1.9% | 100.0% |
| | | Other | 76.1% | 20.4% | 0.1% | 3.5% | 100.0% |
| 8 | Derwood | Residential | 61.0% | 26.6% | 5.6% | 6.8% | 100.0% |
| | | Office | 71.4% | 20.4% | 3.6% | 4.5% | 100.0% |
| | | Retail | 63.4% | 28.7% | 2.2% | 5.7% | 100.0% |
| | | Other | 71.3% | 20.4% | 3.7% | 4.6% | 100.0% |
| 11 | Gaithersburg City | Residential | 56.7% | 26.8% | 5.4% | 11.1% | 100.0% |
| | | Office | 65.4% | 23.5% | 4.1% | 7.1% | 100.0% |
| | | Retail | 53.5% | 32.7% | 2.4% | 10.0% | 98.6% |
| | | Other | 64.4% | 24.5% | 3.8% | 7.3% | 100.0% |
| 12 | Germantown East | Residential | 61.5% | 26.9% | 4.3% | 7.3% | 100.0% |
| | | Office | 68.0% | 24.3% | 2.8% | 4.9% | 100.0% |
| | | Retail | 69.1% | 26.7% | 1.3% | 3.0% | 100.0% |
| | | Other | 69.1% | 23.4% | 2.7% | 4.8% | 100.0% |
| 14 | Germantown West | Residential | 60.4% | 26.9% | 4.1% | 8.6% | 100.0% |
| | | Office | 66.1% | 24.9% | 3.1% | 5.8% | 100.0% |
| | | Retail | 66.4% | 27.6% | 1.2% | 4.8% | 100.0% |
| | | Other | 66.9% | 23.6% | 3.3% | 6.2% | 100.0% |
| 13 | Germantown Town Center | Residential | 55.3% | 27.2% | 5.7% | 11.8% | 100.0% |
| | | Office | 67.6% | 19.9% | 5.4% | 7.1% | 100.0% |
| | | Retail | 56.2% | 30.1% | 3.3% | 10.4% | 100.0% |
| | | Other | 67.0% | 20.5% | 5.7% | 6.9% | 100.0% |
| 17 | Kensington/Wheaton | Residential | 59.1% | 25.4% | 8.1% | 7.4% | 100.0% |
| | | Office | 69.6% | 18.6% | 6.1% | 5.7% | 100.0% |
| | | Retail | 69.8% | 23.8% | 2.1% | 4.3% | 100.0% |
| | | Other | 69.8% | 18.7% | 5.6% | 5.9% | 100.0% |
| 18 | Montgomery Village/Airpark | Residential | 59.9% | 26.8% | 4.6% | 8.6% | 100.0% |
| | | Office | 77.7% | 15.1% | 2.9% | 4.3% | 100.0% |
| | | Retail | 67.7% | 25.1% | 1.7% | 5.4% | 100.0% |
| | | Other | 77.4% | 15.1% | 2.8% | 4.7% | 100.0% |
| 19 | North Bethesda | Residential | 53.8% | 25.9% | 8.0% | 12.3% | 100.0% |
| | | Office | 65.8% | 18.4% | 8.6% | 7.3% | 100.0% |
| | | Retail | 51.6% | 28.4% | 6.1% | 14.0% | 100.0% |
| | | Other | 62.4% | 19.5% | 9.4% | 8.7% | 100.0% |
| 20 | North Potomac | Residential | 63.0% | 27.1% | 3.0% | 7.0% | 100.0% |
| | | Office | 75.7% | 18.6% | 0.8% | 4.8% | 100.0% |
| | | Retail | 72.4% | 24.1% | 0.6% | 2.9% | 100.0% |
| | | Other | 75.8% | 18.8% | 1.0% | 4.4% | 100.0% |

Table 1b. Mode Split Assumptions by Policy Area

| Policy Area # | | Development Type | Auto Driver | Auto Passenger | Transit | Non-Motorized | Total |
|---|---|---|---|---|---|---|---|
| 21 | Olney | Residential | 64.3% | 26.4% | 3.3% | 6.1% | 100.0% |
| | | Office | 76.3% | 19.4% | 0.7% | 3.6% | 100.0% |
| | | Retail | 72.1% | 24.8% | 0.5% | 2.6% | 100.0% |
| | | Other | 76.3% | 19.5% | 0.7% | 3.5% | 100.0% |
| 22 | Potomac | Residential | 62.6% | 26.8% | 4.1% | 6.5% | 100.0% |
| | | Office | 74.4% | 19.3% | 2.2% | 4.1% | 100.0% |
| | | Retail | 69.8% | 25.7% | 1.8% | 2.7% | 100.0% |
| | | Other | 74.8% | 19.5% | 2.1% | 3.7% | 100.0% |
| 23 | R&D Village | Residential | 57.3% | 27.3% | 5.7% | 9.7% | 100.0% |
| | | Office | 66.7% | 23.5% | 4.4% | 5.4% | 100.0% |
| | | Retail | 58.0% | 34.1% | 2.0% | 6.0% | 100.0% |
| | | Other | 68.8% | 22.4% | 3.8% | 5.1% | 100.0% |
| 24 | Rockville City | Residential | 56.8% | 26.6% | 6.3% | 10.2% | 100.0% |
| | | Office | 71.7% | 17.4% | 5.4% | 5.5% | 100.0% |
| | | Retail | 62.8% | 25.6% | 3.3% | 8.2% | 100.0% |
| | | Other | 74.7% | 15.3% | 4.8% | 5.1% | 100.0% |
| 29 | Silver Spring CBD | Residential | 50.1% | 18.8% | 13.6% | 17.5% | 100.0% |
| | | Office | 49.6% | 9.0% | 26.6% | 14.9% | 100.0% |
| | | Retail | 42.4% | 12.6% | 20.9% | 24.0% | 100.0% |
| | | Other | 49.2% | 8.7% | 26.8% | 15.2% | 100.0% |
| 30 | Silver Spring/Takoma Park | Residential | 54.0% | 21.0% | 10.1% | 14.9% | 100.0% |
| | | Office | 63.0% | 10.7% | 15.1% | 11.2% | 100.0% |
| | | Retail | 59.5% | 17.2% | 6.9% | 16.4% | 100.0% |
| | | Other | 63.8% | 10.5% | 14.0% | 11.6% | 100.0% |
| 32 | Wheaton CBD | Residential | 55.3% | 24.9% | 11.6% | 8.2% | 100.0% |
| | | Office | 64.3% | 15.0% | 13.1% | 7.5% | 100.0% |
| | | Retail | 54.8% | 25.2% | 7.6% | 12.4% | 100.0% |
| | | Other | 64.2% | 15.1% | 13.1% | 7.6% | 100.0% |
| 16 | Grosvenor | Residential | 52.3% | 25.8% | 11.9% | 10.0% | 100.0% |
| | | Office | 63.4% | 16.5% | 13.3% | 6.8% | 100.0% |
| | | Retail | 54.7% | 27.5% | 8.4% | 9.5% | 100.0% |
| | | Other | 61.0% | 17.2% | 15.4% | 6.3% | 100.0% |
| 31 | Twinbrook | Residential | 52.3% | 26.2% | 9.7% | 11.8% | 100.0% |
| | | Office | 60.8% | 17.2% | 13.7% | 8.3% | 100.0% |
| | | Retail | 53.6% | 27.8% | 7.2% | 11.4% | 100.0% |
| | | Other | 60.2% | 17.5% | 13.9% | 8.5% | 100.0% |
| 33 | White Flint | Residential | 51.4% | 26.3% | 10.7% | 11.6% | 100.0% |
| | | Office | 59.2% | 17.8% | 14.4% | 8.5% | 100.0% |
| | | Retail | 52.2% | 28.3% | 8.2% | 11.3% | 100.0% |
| | | Other | 59.5% | 17.9% | 14.0% | 8.6% | 100.0% |
| 15 | Glenmont | Residential | 58.4% | 24.8% | 10.0% | 6.8% | 100.0% |
| | | Office | 69.5% | 16.8% | 8.2% | 5.6% | 100.0% |
| | | Retail | 69.5% | 22.7% | 4.0% | 3.9% | 100.0% |
| | | Other | 69.1% | 16.9% | 8.4% | 5.6% | 100.0% |
| 5 | Clarksburg | Residential | 64.5% | 27.1% | 2.5% | 5.9% | 100.0% |
| | | Office | 76.5% | 20.0% | 0.0% | 3.5% | 100.0% |
| | | Retail | 72.3% | 25.7% | 0.0% | 2.0% | 100.0% |
| | | Other | 76.2% | 20.3% | 0.0% | 3.5% | 100.0% |
| 28 | Shady Grove Metro Station | Residential | 57.7% | 26.4% | 8.7% | 7.1% | 100.0% |
| | | Office | 67.0% | 20.6% | 6.8% | 5.5% | 100.0% |
| | | Retail | 55.9% | 29.2% | 3.8% | 11.1% | 100.0% |
| | | Other | 66.9% | 20.6% | 7.2% | 5.2% | 100.0% |
| 10 | Friendship Heights | Residential | 50.3% | 19.4% | 15.4% | 14.8% | 100.0% |
| | | Office | 53.0% | 9.9% | 24.5% | 12.6% | 100.0% |
| | | Retail | 52.8% | 15.4% | 11.8% | 19.9% | 100.0% |
| | | Other | 53.4% | 9.7% | 23.9% | 13.0% | 100.0% |

Table 1b. Mode Split Assumptions by Policy Area

| Policy Area # | | Development Type | Auto Driver | Auto Passenger | Transit | Non-Motorized | Total |
|---|---|---|---|---|---|---|---|
| 25 | Rockville Town Center | Residential | 51.3% | 25.3% | 8.9% | 14.5% | 100.0% |
| | | Office | 60.5% | 16.7% | 12.3% | 10.5% | 100.0% |
| | | Retail | 51.0% | 26.5% | 6.8% | 15.6% | 100.0% |
| | | Other | 59.9% | 16.9% | 12.4% | 10.8% | 100.0% |
| 27 | Rural West | Residential | 64.8% | 28.2% | 1.8% | 5.2% | 100.0% |
| | | Office | 76.0% | 20.4% | 0.0% | 3.6% | 100.0% |
| | | Retail | 72.6% | 25.7% | 0.0% | 1.7% | 100.0% |
| | | Other | 76.1% | 20.3% | 0.1% | 3.5% | 100.0% |
| 26 | Rural East | Residential | 64.0% | 28.2% | 2.6% | 5.3% | 100.0% |
| | | Office | 75.4% | 20.6% | 0.3% | 3.7% | 100.0% |
| | | Retail | 71.2% | 26.8% | 0.1% | 1.9% | 100.0% |
| | | Other | 75.8% | 20.2% | 0.5% | 3.6% | 100.0% |
| 34 | White Oak | Residential | 57.9% | 25.8% | 7.8% | 8.5% | 99.9% |
| | | Office | 68.7% | 22.6% | 3.3% | 5.4% | 100.0% |
| | | Retail | 65.7% | 28.0% | 2.0% | 4.3% | 100.0% |
| | | Other | 66.9% | 23.9% | 3.4% | 5.8% | 100.0% |
| 9 | Fairland/Colesville | Residential | 62.3% | 25.9% | 4.9% | 6.9% | 100.0% |
| | | Office | 73.0% | 19.8% | 2.8% | 4.3% | 100.0% |
| | | Retail | 71.6% | 24.3% | 1.0% | 3.1% | 100.0% |
| | | Other | 73.9% | 19.4% | 2.5% | 4.2% | 100.0% |

Table 1c. Trips by Mode for Developments With Significant Impact

| Policy Area # | | Development Type | Auto Driver | Auto Passenger | Transit | Non-Motorized | Total |
|---|---|---|---|---|---|---|---|
| 2 | Aspen Hill | Residential | 31.3 | 12.9 | 2.7 | 3.2 | 50.0 |
| | | Office | 37.1 | 9.1 | 1.4 | 2.4 | 50.0 |
| | | Retail | 36.1 | 11.7 | 0.7 | 1.6 | 50.0 |
| | | Other | 37.0 | 9.1 | 1.3 | 2.6 | 50.0 |
| 3 | Bethesda CBD | Residential | 38.2 | 15.6 | 8.8 | 12.5 | 75.0 |
| | | Office | 35.9 | 9.5 | 17.8 | 11.8 | 75.0 |
| | | Retail | 33.2 | 12.7 | 8.2 | 20.9 | 75.0 |
| | | Other | 35.5 | 9.9 | 17.3 | 12.3 | 75.0 |
| 4 | Bethesda/Chevy Chase | Residential | 28.1 | 11.8 | 3.8 | 6.3 | 50.0 |
| | | Office | 30.9 | 8.7 | 5.8 | 4.6 | 50.0 |
| | | Retail | 30.8 | 12.3 | 1.6 | 5.2 | 50.0 |
| | | Other | 30.2 | 8.5 | 6.3 | 4.9 | 50.0 |
| 6 | Cloverly | Residential | 32.1 | 13.2 | 1.7 | 3.0 | 50.0 |
| | | Office | 38.4 | 9.5 | 0.4 | 1.7 | 50.0 |
| | | Retail | 36.4 | 12.5 | 0.1 | 1.0 | 50.0 |
| | | Other | 38.3 | 9.6 | 0.4 | 1.7 | 50.0 |
| 7 | Damascus | Residential | 32.7 | 13.3 | 1.1 | 2.9 | 50.0 |
| | | Office | 38.1 | 10.2 | 0.0 | 1.7 | 50.0 |
| | | Retail | 36.3 | 12.7 | 0.0 | 1.0 | 50.0 |
| | | Other | 38.0 | 10.2 | 0.0 | 1.7 | 50.0 |
| 8 | Derwood | Residential | 30.5 | 13.3 | 2.8 | 3.4 | 50.0 |
| | | Office | 35.7 | 10.2 | 1.8 | 2.3 | 50.0 |
| | | Retail | 31.7 | 14.4 | 1.1 | 2.8 | 50.0 |
| | | Other | 35.7 | 10.2 | 1.9 | 2.3 | 50.0 |
| 11 | Gaithersburg City | Residential | 28.4 | 13.4 | 2.7 | 5.6 | 50.0 |
| | | Office | 32.7 | 11.7 | 2.0 | 3.5 | 50.0 |
| | | Retail | 26.8 | 16.3 | 1.2 | 5.0 | 50.0 |
| | | Other | 32.2 | 12.2 | 1.9 | 3.7 | 50.0 |
| 12 | Germantown East | Residential | 30.7 | 13.4 | 2.2 | 3.7 | 50.0 |
| | | Office | 34.0 | 12.1 | 1.4 | 2.4 | 50.0 |
| | | Retail | 34.5 | 13.3 | 0.7 | 1.5 | 50.0 |
| | | Other | 34.5 | 11.7 | 1.3 | 2.4 | 50.0 |
| 14 | Germantown West | Residential | 30.2 | 13.4 | 2.1 | 4.3 | 50.0 |
| | | Office | 33.1 | 12.5 | 1.6 | 2.9 | 50.0 |
| | | Retail | 33.2 | 13.8 | 0.6 | 2.4 | 50.0 |
| | | Other | 33.5 | 11.8 | 1.7 | 3.1 | 50.0 |
| 13 | Germantown Town Center | Residential | 27.6 | 13.6 | 2.8 | 5.9 | 50.0 |
| | | Office | 33.8 | 10.0 | 2.7 | 3.6 | 50.0 |
| | | Retail | 28.1 | 15.0 | 1.7 | 5.2 | 50.0 |
| | | Other | 33.5 | 10.2 | 2.8 | 3.5 | 50.0 |
| 17 | Kensington/Wheaton | Residential | 29.5 | 12.7 | 4.1 | 3.7 | 50.0 |
| | | Office | 34.8 | 9.3 | 3.0 | 2.8 | 50.0 |
| | | Retail | 34.9 | 11.9 | 1.0 | 2.2 | 50.0 |
| | | Other | 34.9 | 9.3 | 2.8 | 2.9 | 50.0 |
| 18 | Montgomery Village/Airpark | Residential | 30.0 | 13.4 | 2.3 | 4.3 | 50.0 |
| | | Office | 38.8 | 7.6 | 1.5 | 2.1 | 50.0 |
| | | Retail | 33.9 | 12.6 | 0.9 | 2.7 | 50.0 |
| | | Other | 38.7 | 7.6 | 1.4 | 2.3 | 50.0 |
| 19 | North Bethesda | Residential | 26.9 | 13.0 | 4.0 | 6.1 | 50.0 |
| | | Office | 32.9 | 9.2 | 4.3 | 3.6 | 50.0 |
| | | Retail | 25.8 | 14.2 | 3.0 | 7.0 | 50.0 |
| | | Other | 31.2 | 9.8 | 4.7 | 4.3 | 50.0 |
| 20 | North Potomac | Residential | 31.5 | 13.5 | 1.5 | 3.5 | 50.0 |
| | | Office | 37.9 | 9.3 | 0.4 | 2.4 | 50.0 |
| | | Retail | 36.2 | 12.0 | 0.3 | 1.5 | 50.0 |
| | | Other | 37.9 | 9.4 | 0.5 | 2.2 | 50.0 |

Table 1c. Trips by Mode for Developments With Significant Impact

| Policy Area # | | Development Type | Auto Driver | Auto Passenger | Transit | Non-Motorized | Total |
|---|---|---|---|---|---|---|---|
| 21 | Olney | Residential | 32.1 | 13.2 | 1.6 | 3.0 | 50.0 |
| | | Office | 38.1 | 9.7 | 0.4 | 1.8 | 50.0 |
| | | Retail | 36.1 | 12.4 | 0.2 | 1.3 | 50.0 |
| | | Other | 38.1 | 9.8 | 0.3 | 1.8 | 50.0 |
| 22 | Potomac | Residential | 31.3 | 13.4 | 2.0 | 3.2 | 50.0 |
| | | Office | 37.2 | 9.6 | 1.1 | 2.1 | 50.0 |
| | | Retail | 34.9 | 12.8 | 0.9 | 1.4 | 50.0 |
| | | Other | 37.4 | 9.7 | 1.0 | 1.9 | 50.0 |
| 23 | R&D Village | Residential | 28.7 | 13.6 | 2.9 | 4.8 | 50.0 |
| | | Office | 33.4 | 11.7 | 2.2 | 2.7 | 50.0 |
| | | Retail | 29.0 | 17.0 | 1.0 | 3.0 | 50.0 |
| | | Other | 34.4 | 11.2 | 1.9 | 2.5 | 50.0 |
| 24 | Rockville City | Residential | 28.4 | 13.3 | 3.2 | 5.1 | 50.0 |
| | | Office | 35.8 | 8.7 | 2.7 | 2.8 | 50.0 |
| | | Retail | 31.4 | 12.8 | 1.7 | 4.1 | 50.0 |
| | | Other | 37.3 | 7.7 | 2.4 | 2.6 | 50.0 |
| 29 | Silver Spring CBD | Residential | 37.6 | 14.1 | 10.2 | 13.1 | 75.0 |
| | | Office | 37.2 | 6.8 | 19.9 | 11.1 | 75.0 |
| | | Retail | 31.8 | 9.5 | 15.7 | 18.0 | 75.0 |
| | | Other | 36.9 | 6.5 | 20.1 | 11.4 | 75.0 |
| 30 | Silver Spring/Takoma Park | Residential | 27.0 | 10.5 | 5.0 | 7.5 | 50.0 |
| | | Office | 31.5 | 5.4 | 7.5 | 5.6 | 50.0 |
| | | Retail | 29.7 | 8.6 | 3.4 | 8.2 | 50.0 |
| | | Other | 31.9 | 5.3 | 7.0 | 5.8 | 50.0 |
| 32 | Wheaton CBD | Residential | 41.5 | 18.6 | 8.7 | 6.2 | 75.0 |
| | | Office | 48.2 | 11.3 | 9.8 | 5.6 | 75.0 |
| | | Retail | 41.1 | 18.9 | 5.7 | 9.3 | 75.0 |
| | | Other | 48.1 | 11.3 | 9.8 | 5.7 | 75.0 |
| 16 | Grosvenor | Residential | 39.2 | 19.3 | 8.9 | 7.5 | 75.0 |
| | | Office | 47.6 | 12.4 | 10.0 | 5.1 | 75.0 |
| | | Retail | 41.0 | 20.6 | 6.3 | 7.1 | 75.0 |
| | | Other | 45.8 | 12.9 | 11.6 | 4.8 | 75.0 |
| 31 | Twinbrook | Residential | 39.2 | 19.6 | 7.3 | 8.8 | 75.0 |
| | | Office | 45.6 | 12.9 | 10.3 | 6.3 | 75.0 |
| | | Retail | 40.2 | 20.8 | 5.4 | 8.6 | 75.0 |
| | | Other | 45.1 | 13.1 | 10.4 | 6.4 | 75.0 |
| 33 | White Flint | Residential | 38.6 | 19.7 | 8.0 | 8.7 | 75.0 |
| | | Office | 44.4 | 13.4 | 10.8 | 6.4 | 75.0 |
| | | Retail | 39.1 | 21.2 | 6.2 | 8.5 | 75.0 |
| | | Other | 44.6 | 13.4 | 10.5 | 6.4 | 75.0 |
| 15 | Glenmont | Residential | 43.8 | 18.6 | 7.5 | 5.1 | 75.0 |
| | | Office | 52.1 | 12.6 | 6.1 | 4.2 | 75.0 |
| | | Retail | 52.1 | 17.0 | 3.0 | 2.9 | 75.0 |
| | | Other | 51.8 | 12.7 | 6.3 | 4.2 | 75.0 |
| 5 | Clarksburg | Residential | 32.2 | 13.6 | 1.3 | 2.9 | 50.0 |
| | | Office | 38.3 | 10.0 | 0.0 | 1.7 | 50.0 |
| | | Retail | 36.2 | 12.9 | 0.0 | 1.0 | 50.0 |
| | | Other | 38.1 | 10.2 | 0.0 | 1.7 | 50.0 |
| 28 | Shady Grove Metro Station | Residential | 43.3 | 19.8 | 6.5 | 5.4 | 75.0 |
| | | Office | 50.3 | 15.5 | 5.1 | 4.2 | 75.0 |
| | | Retail | 41.9 | 21.9 | 2.9 | 8.3 | 75.0 |
| | | Other | 50.2 | 15.5 | 5.4 | 3.9 | 75.0 |

## APPENDIX J - TRANSPORTATION IMPACT TAX

### BASIS AND GENERAL PURPOSE FOR THE TAX

The authority to impose a Transportation Impact Tax on new development is in Chapter 52 (Article VII – Development Impact Tax for Transportation Improvements) of the County Code. The purpose of the tax is to provide funds to increase the capacity of the transportation network (through a combination of approaches) so that trip making associated with new residential and commercial growth can be adequately accommodated.

### GUIDING INTENT OF THE TAX

The Code contains policy guidance that provides context for any review of the tax. Examples include the following:

- The amount and rate of growth in certain policy areas will place significant demands on the County for provision of major highways to support and accommodate that growth.
- Imposing a tax that requires new development to pay its pro-rata share of the costs of the improvements necessitated by that development in conjunction with other public funds is a reasonable method of raising funds.
- The County retains the power to determine the impact transportation improvements to be funded by development impact taxes, to estimate the cost of such improvements, to establish the proper timing of the construction of the improvements to meet Adequate Public Facilities Ordinance (APFO) standards in areas where they apply, and to determine when changes to the Capital Improvement Program (CIP) are necessary.

In summary, the tax is needed to contribute to the funding of improvements to accommodate new development with the understanding that the amount of the tax and the programming of the funds generated by the tax are set by County policy and can change over time. There is also an acknowledgement that other public funds will likely be necessary to fund the improvements which indirectly would suggest there is also an acknowledgement that some of the improvements are likely to be needed for reasons other than just the accommodation of new development (e.g., mitigate existing conditions).[6]

### CURRENT FUNDING PROFILE

The Transportation Impact Tax is collected at the time of a filing for a building permit to be issued by the Department of Permitting Services. The tax varies by District and the type of land use. The current rates by District are shown below in Table 1.

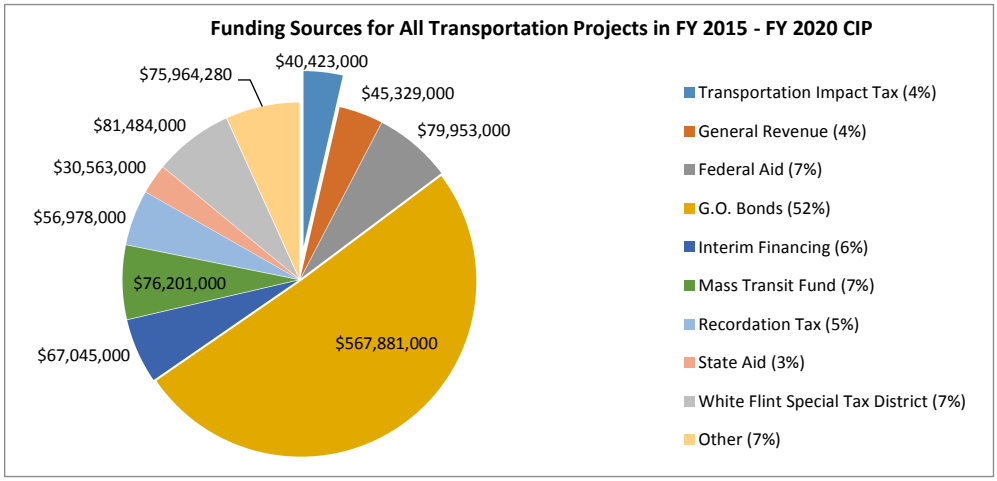
[6] This important question is explored in more detail later in this narrative.

**TABLE 1 – TRANSPORTATION IMPACT RATES EFFECTIVE JULY 1, 2015**

| Building Type | Metro Station | Clarksburg | General |
|---|---|---|---|
| | | | |
| Single Family (SF) Detached Residential– Per Dwelling Unit (DU) | $6,984 | $20,948 | $13,966 |
| SF Attached Residential – Per DU | $5,714 | $17,141 | $11,427 |
| Multifamily Residential (Garden Apartments) – Per DU | $4,443 | $13,330 | $8,886 |
| High Rise Residential – Per DU | $3,174 | $9,522 | $6,347 |
| Multifamily – Senior Residential – Per DU | $1,269 | $3,808 | $2,539 |
| Office - Per Square Foot (GFA) | $6.35 | $15.30 | $12.75 |
| Industrial – Per Square Foot (GFA) | $3.20 | $7.60 | $6.35 |
| Bioscience Facility – Per Square Foot (GFA) | $0 | $0 | $0 |
| Retail – Per Square Foot (GFA) | $5.70 | $13.70 | $11.40 |
| Place of Worship – Per Square Foot (GFA) | $0.35 | $0.90 | $0.65 |
| Private Elementary and Secondary School – Per Square Foot (GFA) | $0.50 | $1.35 | $1.05 |
| Hospital – Per Square Foot (GFA) | $0 | $0 | $0 |
| Social Service Agency – Per Square Foot (GFA) | $0 | $0 | $0 |
| Other Non-Residential - Per Square Foot (GFA) | $3.20 | $7.60 | $6.35 |

The FY 2015 – FY 2020 County Capital Improvement Program (CIP) program reflects an assumption that the tax will provide about 4% of the total amount of funds (about $1.1 billion) dedicated for all transportation improvements (see below) over that six-year period.

**FIGURE 1 – FUNDING SOURCES FOR ALL TRANSPORTATION PROJECTS IN THE CIP**



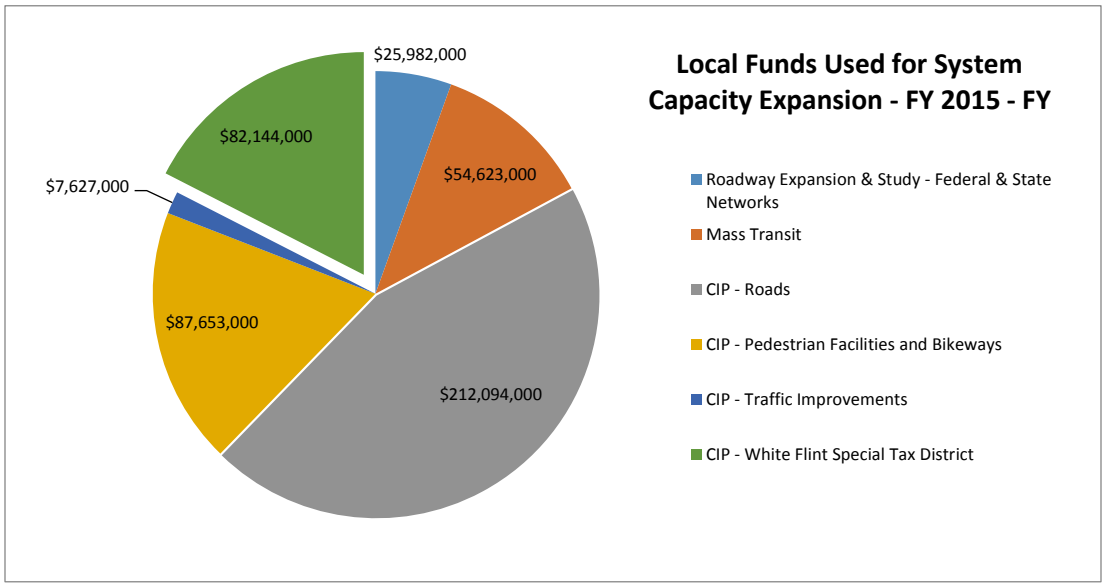

Since the tax is intended to support projects that increase network capacity it is useful to review assumptions related to that aspect of the funding profile. The specific types of improvements the tax is to be used for are noted in Section 52-58 of the Code:

- New road, widening of an existing road, or total reconstruction of all or part of an existing road required as part of a widening of an existing road, that adds highway or intersection capacity or improves bicycle commuting;
- New or expanded transit center or park and ride lot;
- Bus added to the Ride On fleet, but not a replacement bus;
- New bus shelter, but not a replacement bus shelter;
- Hiker-biker trail used primarily for transportation;
- Bicycle locker that holds at least 8 bicycles;
- Bikesharing station (including bicycles approved by the Department of Transportation;
- Sidewalk connector to a major activity center or along an arterial or major highway; or
- The operating expenses of any transit or trip reduction program.

The tax receipts (estimated at $40.4 million over the CIP period as noted above) represent about 9% of the total local funds allocated for system or network capacity expansion as shown in the chart below.[7]

[7] The total of the local funds shown in the pie chart is approximately $470 million. The exclusion of the White Flint Special Tax District (the $82.1 million "piece" of the pie) reduces the total to about $388 million and the percentage the impact tax represents of total local funds dedicated to system expansion increases to a little over 10%.

**FIGURE 2 – ALLOCATION OF LOCAL FUNDS IN THE CIP FOR SYSTEM CAPACITY EXPANSION**




The specific projects for system capacity expansion (excluding those to be funded by through the White Flint Special Tax District) that are programmed for funding in the current CIP are shown below in Table 2.[8]

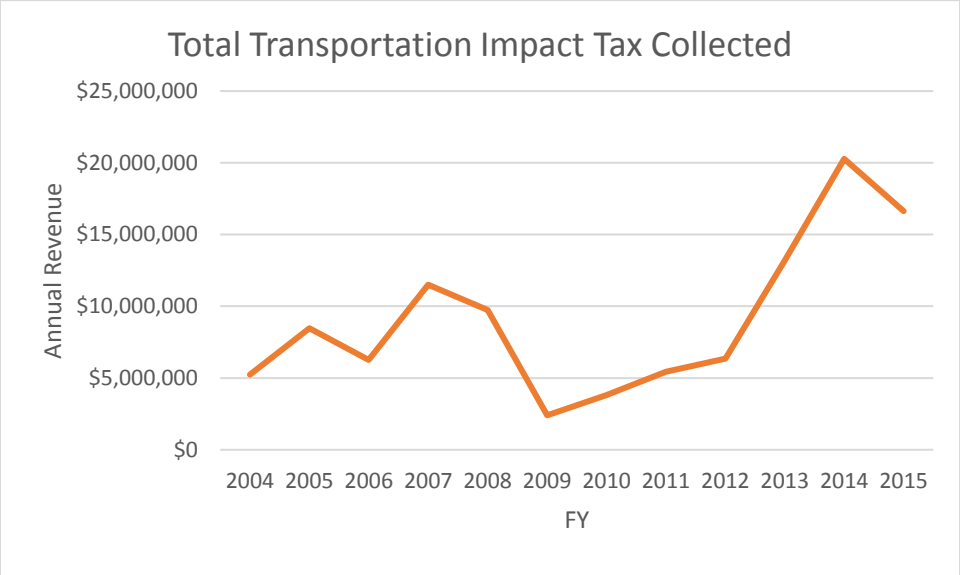
[8] The projects under the "Roadway Expansion & Study - Federal & State Network" are from the regional Transportation Improvement Program (TIP). The MD 586 BRT Study funding is also from the TIP.

| **TABLE 2 – PROJECTS TO EXPAND SYSTEM CAPACITY PROGRAMMED IN FY 2015 – FY 2020 CIP**<br><br>Project | Total Local Funds |
|---|---|
| **Roadway Expansion & Study - Federal & State Network** | |
| Watkins Mill Interchange @ I-270 | $3,163,000 |
| MD 124 Corridor Study PE | $5,000,000 |
| MD 355 @ Randolph Road Interchange PE | $6,728,000 |
| Brookville By-Pass | $9,467,000 |
| Montgomery Hills / MD 97 Study | $1,624,000 |
| Sub Total | $25,982,000 |
| | |
| **Mass Transit** | |
| MD 586 BRT Study | $4,402,000 |
| Bethesda Metro South / Purple Line Entrance | $48,910,000 |
| Montgomery Mall Transit Center | $1,311,000 |
| Sub-Total | $54,623,000 |
| | |
| **Roads** | |
| Burtonsville Access Road | $2,412,000 |
| Chapman Avenue Extended | $6,293,000 |
| Clarksburg Transportation Connections | $10,000,000 |
| Goshen Road South | $63,292,000 |
| Montrose Parkway East | $50,785,000 |
| Platt Ridge Dive Extended | $3,180,000 |
| Snouffer School Road North Webb Tract | $12,268,000 |
| Snouffer School Road | $20,539,000 |
| State Transportation Participation (Local Funds) | $5,673,000 |
| Subdivision Road Participation | $6,914,000 |
| Facility Planning - Transportation | $10,713,000 |
| Ripley Street | $730,000 |
| Bethesda CBD Streetscape | $7,116,000 |
| East Gude Drive | $2,586,000 |
| Seminary Road Intersection Improvements | $7,258,000 |
| Wapakoneta Road Improvements | $945,000 |
| Public Facilities Roads | $600,000 |
| Maryland / Dawson Extended | $250,000 |
| Rainbow Drive - Thompson Road Extended | $540,000 |
| Sub-Total | $212,094,000 |
| | |
| **Pedestrian Facilities / Bikeways** | |
| Capital Crescent Trail | $77,356,000 |
| Metropolitan Branch Trail | $10,297,000 |
| Sub-Total | $87,653,000 |
| | |
| | |

| TABLE 2 – CONTINUED | |
|---|---|
| Intersection & Spot Improvements | $7,224,000 |
| Redland Road | $403,000 |
| Sub-Total | $7,627,000 |
| | |
| **TOTAL - LOCAL FUNDS FOR NETWORK EXPANSION** | **$387,979,000** |

Another important aspect of the current funding profile is the extent to which the total transportation impact tax collections can vary by year. There are a number of factors that can contribute to the variation. The overall economic environment is a primary reason for the variance and is clearly evident in the graph below where collections during the Great Recession were well below other years.

**FIGURE 3 – ANNUAL TRANSPORTATION IMPACT TAX COLLECTED SINCE 2004**




Source: Montgomery County Finance Department

Other factors that contribute to the variation include geographical areas and/or types of development that are either exempt from the tax or pay a reduced rate. Examples include:

- Moderately Price Dwelling Units (MPDU's) built under Chapter 25A (exempt)
- Any development located in an enterprise zone (exempt)[9]

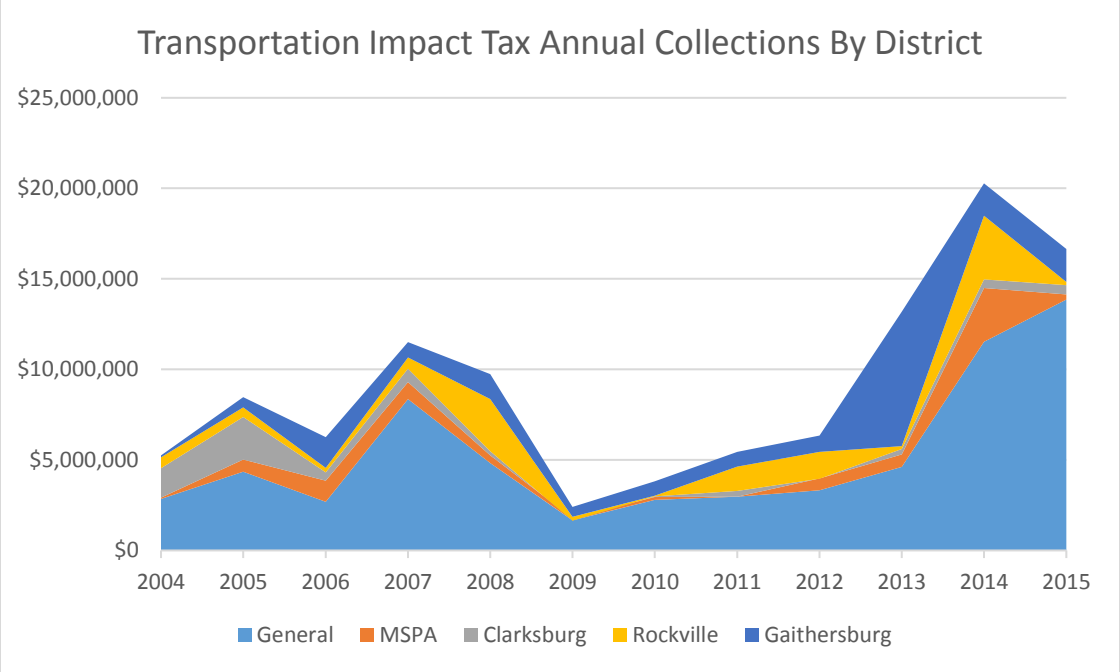
[9] State designated enterprise zones include Burtonsville, Glenmont, Long Branch, Wheaton, and Olde Town in the City of Gaithersburg.

- Any building located within one-half mile of a MARC station (payment reduced to 85% of rate)

Impact tax credits are also available to property owners that provide additional network capacity in the form of the type of improvements the tax is intended to fund (see bullet list above).

Finally, it should be noted that the revenue shown in the line graph above includes revenue collected within the Cities of Gaithersburg and Rockville. Funds collected within Gaithersburg and Rockville are designated for projects within those jurisdictions. The annual amounts of the revenue attributable to the Cities and the respective impact tax districts within the County since 2004 are shown in the graph below.

**FIGURE 4 – TRANSPORTATION IMPACT TAXES COLLECTED BY DISTRICT SINCE 2004**




Source: Montgomery County Finance Department

**TRANSPORTATION IMPACT TAX RATE UPDATE**

The tax in its current form with a full rate was first levied during the last half of FY 2004. The rates were raised significantly (70% across the board) on December 1, 2007 after the review of the Subdivision Staging Policy (or Growth Policy) in the spring and fall of that year. While the rate increase resulted in an increase in overall collections for FY 2007, it was introduced at the beginning of the recession. The total revenue collected did not reach FY 2007 levels again until FY 2013 (largely due to the significant increase in the amount collected within the City of Gaithersburg).

The rate increases introduced in 2007 are shown below in Table 3.

**TABLE 3 – COMPARISON OF PRE-2007 RATES AND 2007 RATES**

| Land Use | General District | | Metro Station Areas | | Clarksburg District | |
|---|---|---|---|---|---|---|
| | | | | | | |
| **Residential (per DU)** | **Pre-2007 Rates** | **2007 Rates** | **Pre-2007 Rates** | **2007 Rates** | **Pre-2007 Rates** | **2007 Rates** |
| | | | | | | |
| SF Detached | $6,264 | $10,649 | $3,132 | $5,325 | $9,396 | $15,973 |
| SF Attached | $5,125 | $8,713 | $2,563 | $4,357 | $7,688 | $13,070 |
| Garden Apartments | $3,986 | $6,776 | $1,993 | $3,388 | $5,979 | $10,164 |
| High-Rise Apartments | $2,847 | $4,840 | $1,424 | $2,420 | $4,271 | $7,261 |
| MF Senior | $1,139 | $1,936 | $569 | $968 | $1,708 | $2,904 |
| | | | | | | |
| **Non Residential (per SF – GFA)** | **Pre-2007 Rates** | **2007 Rates** | **Pre-2007 Rates** | **2007 Rates** | **Pre-2007 Rates** | **2007 Rates** |
| | | | | | | |
| Office | $5.70 | $9.69 | $2.85 | $4.85 | $6.85 | $11.65 |
| Industrial | $2.85 | $4.85 | $1.40 | $2.43 | $3.40 | $5.78 |
| Bioscience | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| Retail | $5.10 | $8.67 | $2.60 | $4.34 | $6.15 | $10.46 |
| Place of Worship | $0.30 | $0.51 | $0.15 | $0.26 | $0.40 | $0.68 |
| Private School | $0.45 | $0.77 | $0.20 | $0.39 | $0.60 | $1.02 |
| Hospital | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| Social Service Agencies | N/A | $0.00 | N/A | $0.00 | N/A | $0.00 |
| Other Non-Residential | $2.85 | $4.85 | $1.40 | $2.43 | $3.40 | $5.78 |

**WHAT IS A "REASONABLE RATE" FOR THE TRANSPORTATION IMPACT TAX?**

As previously noted, the last time the rate was examined was during the review of Subdivision Staging Policy in 2007. The methodology used in support of the analysis at that time is summarized in Table 4 below and involved the following steps (referencing the respective rows in Table 4):

- Row A – the capital funding requirements (local funds) contained in the CIP and regional Constrained Long Range Plan (CLRP) for projects adding network capacity and assuming that a similar level of funding (on an average annual basis) will be needed over the next 25 years.
- Rows B, C, and D - the forecast growth in County households (single family and multi-family) and jobs (office, retail, industrial, or other) from the Regional Cooperative Land Use Forecast
- Rows E and F - the estimate of the new daily trips generated by the new growth
- Row G – the cost attributable to that specific land use based upon the proportion of trips
- Estimate Tax Rate (last row) – the computed rate by land use based on the allocated costs (Row G) divided by the number of units (Row C) for residential land use or square feet (Row D) for commercial land use as applicable

**TABLE 4 – ARRIVING AT AN INITIAL GENERAL RATE FOR THE TRANSPORTATION IMPACT TAX**

| A | County Capital Improvement Program (CIP) – Local $ for Projects adding Network Capacity Expansion – 25 Year Estimate | | | | | |
|---|---|---|---|---|---|---|
| B | **New Residential 25 Year Growth Estimate** | | **New Commercial Growth 25 Year Growth Estimate** | | | |
| C | Residential Units | | Office Jobs | Retail Jobs | Industrial Jobs | Other Jobs |
| D | Single family | Multi-Family | Office SF | Retail SF | Industrial SF | Other SF |
| E | Trip Rate | Trip Rate | Trip Rate | Trip Rate | Trip Rate | Trip Rate |
| F | New Daily Trips | New Daily Trips | New Daily Trips | New Daily Trips | New Daily Trips | New Daily Trips |
| G | Cost (A) Allocated by Trips (F) | Cost (A) Allocated by Trips (F) | Cost (A) Allocated by Trips (F) | Cost (A) Allocated by Trips (F) | Cost (A) Allocated by Trips (F) | Cost (A) Allocated by Trips (F) |
| Est. Tax Rate | G/C | G/C | G/D | G/D | G/D | G/D |

The next series of tables present a comparison of 2007 and the present using essentially the same methodology used in the review of the Transportation Impact Tax in 2007.[10] A summary of the variables and resultant unit rates (for broad land use categories) for the present is shown in Table 5.

**TABLE 5 – UPDATED CALCULATED 2016 RATES USING THE 2007 METHODOLOGY**

| Variable | SF Residential | MF Residential | Office | Retail | Industrial | Other Commercial |
|---|---|---|---|---|---|---|
| Forecast Growth 2015-2040[11] | 11,218 DU | 71,419 DU | 128,822 Jobs | 30,697 Jobs | 12,180 Jobs | 11,418 Jobs |
| SF of Commercial[12] | | | 32,205,500 | 12,278,800 | 5,481,000 | 5,709,000 |
| Vehicle Trip Gen Rate[13] | 9.52 per DU | 6.65 per DU | 3.32 per job | 21.47 per KGSF | 2.77 per job | 2.77 per job |
| Daily Vehicle Trip Ends | 106,795 | 474,936 | 427,689 | 263,626 | 33,739 | 31,628 |
| % of Total Trip Ends | 8.0% | 35.5% | 32.0% | 19.7% | 2.5% | 2.4% |
| Proportional Allocation of $1.6 Billion[14] | $129M | $574M | $517M | $318M | $41M | $38M |
| Calculated Unit Impact Tax Rates | $11,499 per DU | $8,032 per DU | $16.04 per GSF | $25.93 per GSF | $7.43 per GSF | $6.69 per GSF |

[10] While staff has not conducted a comprehensive review of the methodology used in other jurisdictions, the approach of considering the capital costs of projects programmed or planned, the growth in households and commercial building space, the application of trip rates, and the eventual calculation of a rate at least in part related to the type of land use is relatively common.

[11] Round 8.3 Regional Cooperative Land Use Forecast – Montgomery County Growth Only

[12] Estimate arrived at by applying SF factor by job type (250 SF/job for Office, 400 SF/job for Retail, 450 SF/job for Industrial, and 500 SF/job for Other Commercial.

[13] ITE Trip Generation Manual, 9th Edition

[14] $1.6 Billion estimate is arrived at by dividing the $388 million total shown in Table 2 by the number of years in the CIP (6) and multiplying that annual number by 25 – the number of years the forecast growth is based upon.

A comparison of how the calculated rates in Table 5 for 2016 compare with (1) the rates calculated in 2007 using this same methodology and (2) the current rates is shown in Table 6 below.

**TABLE 6 – COMPARING CALCULATED 2016 and 2007 RATES WITH CURRENT RATES**

| Variable | SF Residential | MF Residential | Office | Retail | Industrial | Other Commercial |
|---|---|---|---|---|---|---|
| Calculated Unit Impact Tax Rates – 2015-2040 | $11,499 per DU | $8,032 per DU | $16.04 per GSF | $25.93 per GSF | $7.43 per GSF | $6.69 per GSF |
| 2007 Calculated Unit Impact Tax Rates 2005-2030[15] | $8,380 per DU | $5,884 per DU | $11.56 per GSF | $18.80 per GSF | $5.39 per GSF | $4.85 per GSF |
| **Current-General** | **$13,966 per DU** | **$8,886 per DU** | **$12.75 per SF GFA** | **$11.40 per SF GFA** | **$6.35 per SF GFA** | **$6.35 per SF GFA** |
| **Current-Metro Station** | **$6,984 per DU** | **$4,443 per DU** | **$6.35 per SF GFA** | **$5.70 per SF GFA** | **$3.20 per SF GFA** | **$3.20 per SF GFA** |
| **Current - Clarksburg** | **$20,948 per DU** | **$13,330 per DU** | **$15.30 per SF GFA** | **$13.70 per SF GFA** | **$7.60 per SF GFA** | **$7.60 per SF GFA** |

A look at comparative percent increases of key variables is useful in attempting to arrive at any conclusion with respect to what might be a "reasonable" rate. In doing so, staff focused on two primary questions:

- How does the difference between the two calculated rates (2007 and 2016 using the 2015 – 2040 data set) compare with the difference in the actual rate increase over the same time period?
- Does the current rate meet the fair-share or pro-rata objective of the Code?

[15] The eventual adopted rates were not the same as the calculated rates arrived at during the review of 2007 Subdivision Staging (Growth) Policy. See Table 3 for the actual adopted rates.

In its simplest form, the first question can be addressed by comparing the rates for the single family dwelling units:

- The calculated rate resulted in the single family dwelling unit rate increasing from $8,380 per unit in 2007 to $11,499 per unit now, an increase of 37% over 8 years or an average of 4.6% per year. Roughly the same percentage increase applies to the other residential and commercial land use type as the data inputs (percentage increase in capital costs of the network improvements, growth forecast, and the actual trip rates) do not vary that much.
- The current rate for a single family dwelling unit has increased from $10,649 per unit in 2007 to $13,966 per unit in 2015, an increase of 31% over 8 years or an average of 3.9% per year.

The rate of the increase between the calculated rate and the current rate is relatively close and all other things being equal, one could therefore conclude that there may be a basis for an increase around ½ percent (but not much more) as the increase in the current rate trails the increase in the calculated rate by a small amount.

The second or pro-rata question might be addressed by comparing the growth forecast with the percentage of the expansion projects funded by the Transportation Impact Tax.

- The Round 8.3 Regional Cooperative Forecast for Montgomery County households estimates an increase from 377,500 in 2015 to 460,200 in 2040, an increase of 22 percent or 0.90 percent per year. Over a six year CIP period, this would amount to a total increase of 5.4 percent.
- The same forecast for employment for Montgomery County estimates an increase from 532,000 in 2015 to 715,000 in 2040, an increase of 34 percent or an average of 1.4 percent per year. Over a six year CIP period, this would amount to a total increase of 8.4 percent.

As previously noted (see Figure 1), the Transportation Impact Tax is estimated to provide $40,423,000 in funds over the six- year life of the current CIP. Excluding the White Flint Special Tax District projects, this amount of revenue represents 10.4 percent of the total $388 million in local funds used over the six-year period.

In terms of the percent of local funds supporting transportation projects that expand network capacity, one could conclude the current level of the Transportation Impact Tax (based on the estimates in the current CIP) is contributing slightly above its pro-rata share by somewhere between 2 and 5 percent when compared to the overall growth forecast (comparing the 10.4 percent portion of the CIP with the 5.4 or 8.4 percent increase for households and employment, respectively).

The comparison of the increase in the calculated rates (2007 vs 2016) therefore suggests an increase of about ½ percent may be in order; however, comparing the percent of local funds the tax provides with the growth forecast suggests the tax is covering (or exceeding) that "share" by a margin of between 2 to 5 percent. **Given the potential variances in the growth forecast, construction costs and timing, and other factors, there does not appear to be a strong argument for recommending any significant change in the**

**rates at this time other than to update the impact tax rates using current transportation facility costs, land use forecasts and ITE trip generation rates in the same manner as the 2007 SSP review. [16]**

In summary, it appears the Transportation Impact Tax is at a reasonable level, i.e., the current level is estimated to provide funding reasonably consistent – on a historical percentage basis - with anticipated growth and programmed capital costs for system expansion met through local funding sources.

Given that the historical relationship between the calculated and actual rates don't appear to vary significantly, a recommended set of Base (General District) Rates for 2016 was arrived at by applying the percentage change between the 2007 calculated and adopted rates to the 2016 calculated rates. Table 7 below reflects how the recommended set of Base Rates for 2016 is arrived using that approach.

**TABLE 7 – RECOMMENDED BASE (GENERAL DISTRICT) RATES USING DIFFERENCE BETWEEN 2007 CALCULATED and 2007 ADOPTED RATES**

| Land Use | 2007 Calculated Rates | 2007 Adopted Rates | % Difference From Applicable 2007 Calculated | 2016 Calculated Rates | 2016 Rates When Applying 2007 Percentage Adjustment to 2016 Calculated Rates |
|---|---|---|---|---|---|
| | | | | | |
| Residential | | | | | |
| | | | | | |
| SF Detached | $8,380 | $10,649 | 127.08% | $11,499 | $14,613 |
| MF Residential | $5,884 | | | $8,032 | |
| SF Attached | $6,856 | $8,713 | 127.09% | $9,359 | $10,208 |
| Garden Apartments | $5,884 | $6,776 | 115.16% | $8,032 | $9,250 |
| High - Rise Apartments | $4,204 | $4,840 | 115.13% | $5,739 | $6,607 |
| Multi-Family Senior | $1,682 | $1,936 | 115.10% | $2,296 | $2,643 |
| | | | | | |
| Commercial | | | | | |
| | | | | | |
| Office | $11.56 | $9.69 | 83.82% | $16.04 | $13.45 |
| Industrial | $5.39 | $4.85 | 89.98% | $7.43 | $6.69 |
| Bioscience | | $0.00 | | $0.00 | $0.00 |
| Retail | $18.80 | $8.67 | 46.12% | $25.93 | $11.96 |
| Place of Worship | | $0.51 | 10.52% | | $0.70 |
| Private School | | $0.77 | 15.88% | | $1.06 |
| Hospital | | $0.00 | | | $0.00 |
| Social Service Agencies | | $0.00 | | | $0.00 |
| Other Non Residential | $4.85 | $4.85 | 100.00% | $6.69 | $6.69 |

Beyond the more quantitative (but still high level given the complexity of the issue) preceding look at the impact tax are questions that also might inform decision-making on the level and application of the impact tax. Four common questions are briefly explored below.

[16] It should be noted that the calculated resultant rates are generally below the corresponding residential rates and above the corresponding existing commercial existing commercial rates. The final rates set in 2007 established this pattern (when compared to the calculated rates at that time – see Table 3 and second row of Table 6).

**HOW DOES MONTGOMERY COUNTY COMPARE WITH OTHER MARYLAND JURISDICTIONS?**

Because Maryland counties collect impact taxes, fees or surcharges related to new development under different statues and methods (i.e., different units are used to compute the tax or fee) comparisons can be difficult and imprecise. Nevertheless, it is known that 75.6% of these development charges were targeted for education related expenses and 21.0% were targeted for to transportation projects – the two leading government uses for these revenues.[17]

A comparison of the estimated FY 15 revenues from these impact taxes, fees, or surcharges - on a per capita basis – the majority of which are for either education (school construction, libraries, and community colleges) or transportation related purposes in presented below in Table 8.

[17] County Development Impact Fees and Building Excise Taxes in Maryland, Amounts and Revenues, Department of Legislative Services 2014, page 4.

**TABLE 8 – COMPARISON OF IMPACT TAXES BY COUNTY**

| County | Type | Rate Per SF DU | Estimated Revenues FY 15[18] | Population | Per Capita Rev |
|---|---|---|---|---|---|
| Anne Arundel | Impact Fee | $11,896 | $8,420,000 | 560,133 | $15.03 |
| Calvert | Excise Tax | $12,950 | $3,128,314 | 90,613 | $34.52 |
| Caroline | Excise Tax | $5,000 | $60,000 | 32,538 | $1.84 |
| Carroll | Impact Fee | $533 | $318,000 | 167,830 | $1.89 |
| Charles | Excise Tax | $13,366 | $9,250,767 | 154,747 | $59.78 |
| Dorchester | Excise Tax | $3,671 | $82,770 | 32,578 | $2.54 |
| Frederick | Impact Fee / Excise Tax | $14,208 | $10,508,724 | 243,675 | $43.13 |
| Harford | Impact Fee | $6,000 | $2,500,000 | 250,105 | $10.00 |
| Howard | Excise Tax / Surcharge | $2.40 / SF | $14,414,904 | 309,284 | $46.61 |
| Montgomery | Impact Tax | $39,450[19] | $58,407,000 | 1,030,447 | $56.68 |
| Prince George's | Surcharge | $22,803 | $26,104,650 | 904,430 | $28.86 |
| Queen Anne's | Impact Fee | $4.84 / SF | $1,555,000 | 48,804 | $31.86 |
| St. Mary's | Impact Fee | $4,500 | $2,187,500 | 110,382 | $19.82 |
| Talbot | Impact Fee | $6,804 | $200,000 | 37,643 | $5.31 |
| Washington | Excise Tax | $1.00 / SF | $543,000 | 149,573 | $3.63 |
| Wicomico | Impact Fee | $5,231 | $771,142 | 101,539 | $7.59 |

Source: County Development Impact Fees and Building Excise Taxes in Maryland, Amounts and Revenues, Department of Legislative Services 2014, page 5.

Montgomery County therefore is the second highest on a per capita basis, trailing only Charles County.

There are only seven counties in Maryland that collect an impact tax or fee related to transportation improvements. A similar comparison of those counties is shown below in Table 9.

[18] The estimated revenue is the total for all types of uses (residential and commercial), not just single family dwelling units.

[19] Fiscal 2015 amount represents $13,506 for transportation and $25,944 for schools.

**TABLE 9 – COMPARISON OF TRANSPORTATION IMPACT TAXES BY COUNTY**

| County | Transportation Impact Tax Revenue - FY13 | Population | Per Capita Revenues |
|---|---|---|---|
| Anne Arundel | $5,915,870 | 560,133 | $10.56 |
| Calvert | $913,446 | 90,613 | $10.08 |
| Howard | $6,990,924 | 309,284 | $22.60 |
| Montgomery | $13,179,898 | 1,030,447 | $12.79 |
| St. Mary's | $160,425 | 110,382 | $1.45 |
| Talbot | $30,938 | 37,643 | $0.82 |
| Washington | $202,749 | 149,573 | $1.36 |

Source: County Development Impact Fees and Building Excise Taxes in Maryland, Amounts and Revenues, Department of Legislative Services 2014, page 8.

Montgomery County therefore falls in the middle range of the Maryland Counties that specifically collect impact taxes for the funding of transportation projects.

**HOW DOES MONTGOMERY COUNTY COMPARE WITH THE REGION?**

It is also difficult to compare jurisdictions within the region as the fundamentals of the process itself (proffer jurisdiction or formula based, negotiated agreements for improvements beyond transportation and schools or not, etc.) varies by State, District, or County. A 2012 report by George Mason University's Center for Regional Analysis offers the following interesting insight into some aspects of this question:

- Locally imposed costs on development tend be lower in Maryland than in Virginia.
- Montgomery County has the highest published impact taxes in the Washington region.
- Within the County, the combination of the fees and review process can add $30,000 - $50,000 to the cost of a new single family or townhouse unit and $10,000 - $20,000 to the cost of a multi-family unit. These costs are generally in line with other suburban jurisdictions within the region.[20]

**MITIGATING EXISTING CONDITIONS OR ADDING CAPACITY FOR PAST & FUTURE GROWTH – OR BOTH?**

Determining the fair share of the estimated cost for expanding network capacity attributable to new development requires consideration of the fact that the projects listed in Table 2 are also expected in some degree to address both (1) existing conditions created in part by past growth and/or insufficient funding

[20] Impact of Local Regulatory Processes and Fees On Ability to Delivery New Housing Units, Montgomery County MD, George Mason University Center for Regional Analysis, Artemel & Associates, June, 2012,

resources and (2) anticipated impacts upon the network of future growth. Accepting that fact would mean that impact tax should be set at rates that generate some (likely smaller) increment of the total local funding burden which is the case with the current rate structure (i.e., the estimated revenue is about 10% of the total local funding set aside for these projects that add capacity to the network). The question of how large or small of an increment is not addressed in the above analysis other than to note that the percentage of the local share of funds generated by the impact tax is close to the percentage increase of the forecasted growth in households and employment (converted to building size).

At least one state (Texas) has in place a statutory requirement to examine this question in some detail. Chapter 395 of the Texas Local Government Code requires an analysis of the question that takes into consideration how planned projects relate to existing network, usage and needs and compares that with the future network, usage and needs on a project by project basis within service areas. An examination of how the statue was applied in the case of the City of Fort Worth indicates consideration of the following variables (among others):

- Total Vehicle Miles of Capacity Added by Projects
- Total Vehicle Miles of Existing Demand
- Total Vehicle Miles of Existing Deficiencies
- Net Amount of Vehicle Miles of Capacity Added

One consideration in subsequent reviews of the Transportation Impact Tax rate structure could be the consideration of similar more detailed approaches for attempting to determine that portion of programmed projects that could be considered as necessary to mitigate existing conditions as opposed to providing capacity necessary to accommodate future growth. If undertaken, a case could potentially be made that the findings would provide a more accurate comparison of whether the current 10% contribution of the local funds allocated for network expansion is a reasonable share for the Transportation Impact Tax. The converse argument, of course, is that any methodology (because new growth is incremental and many of the projects are capital intensive and expensive) is not likely to result in a finding that significantly increases the current percentage contribution for the impact tax.

**SHOULD WE EXPECT AN IMPACT TAX TO PROVIDE SIGNIFICANT FUNDING OF NETWORK EXPANSION PROJECTS?**

This is a question related at least indirectly to the prior discussion. The County Code requires the Transportation Impact Tax to be collected by specific Districts and the revenues expended within – or adjacent to - those Districts, if feasible.[21] The revenues are not used to back bonds in part because of the variation of the collections in any one year and the variation by District (see Figure 4). The growth that generates the revenue is inherently incremental and many of the related network improvements that provide capacity are capital intensive, require significant lead time, often cross district and jurisdictions, and may require a significant level of funding from other sources (federal, state, etc.). These competing factors

[21] Funds collected as a result of development in Gaithersburg and Rockville must be dedicated to projects in those jurisdictions, not adjacent to those jurisdictions.

(incremental and somewhat unpredictable growth and availability of the revenue source(s) to fund projects that are capital intensive with phasing challenges) result in the revenue contributing a relatively small portion of the overall cost of the programmed projects. This is not to say some jurisdictions take the approach that any amount is a needed contribution and support specific major projects (like light rail or bus rapid transit) with impact taxes earmarked for that purpose. The issue however is the proportion of the total project cost the impact tax revenue provides – it remains very small as a result of factors inherent with the impact tax and the capital project.

**ADJUSTMENTS TO BASE RATE**

The current transportation impact tax rate varies by District and land use. The variance in the rates in relation to the General Rate is shown in the table below. As an example, the rates in Metro Station Areas are 50% of the rate in the rest of the County (excluding Clarksburg which is higher). The basis for the variation is a general acknowledgement that on a unit basis, it costs more to provide public facilities for development in areas of lower density.

**TABLE 10 – CURRENT LOCATIONAL ADJUSTMENT FACTOR TO TRANSPORTATION IMPACT TAX BASE (GENERAL DISTRICT) RATES**

| District | SF Residential | MF Residential | Office | Retail | Industrial | Other Commercial |
|---|---|---|---|---|---|---|
| | | | | | | |
| Current – General | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Current – Metro Station | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Current - Clarksburg | 1.5 | 1.5 | 1.2 | 1.2 | 1.2 | 1.2 |

The extent to which the rates in Metro Station areas and Clarksburg vary from the rest of the County has been a point of discussion over the years and as a result, it is worthwhile to consider whether other metrics are available to consider and/or if the variance should remain the same or change to better align with County goals

The Planning Department retained a consultant in March 2016 to conduct a brief Peer Review of the SSP process. The Peer Review Report recommended a transition to a regulatory protocol that places an

emphasis on Vehicle Miles of Travel (VMT) as one important way to better align the process with County goals and further noted that the "transportation basis of impact fees should focus on VMT so the length of vehicle trips is factored in."[22] In response staff recommended consideration of current estimated Vehicle Miles of Travel (VMT) for trips to work as a readily available – and relevant – measurement to use in establishing Policy Area specific rates for residential development.[23] A similar and complementary metric for commercial development is the non-auto driver mode share (NADMS) for trips to work.

The recommended stratification of the adjustment factor for new residential and commercial development is depicted in the table below. The stratification is based on the extent the Policy Area groups vary from the County average for these two metrics (Per Capita VMT and NADMS).

**TABLE 11 – RECOMMENDED LOCATIONAL ADJUSTMENT FACTORS TO TRANSPORTATION IMPACT TAX BASE RATES**

| Policy Area Type | Residential HBW VMT | Ratio of impact to County Average | Proposed as Policy | Commercial HBW NADMS | Ratio of impact to County Average | Proposed as Policy |
|---|---|---|---|---|---|---|
| County Average | 11.45 | | | 32.6 | | |
| Red (MSPAs) | 4.27 | 37% | 0.25 | 45.2 | 81% | 0.75 |
| Orange | 9.01 | 79% | 0.75 | 28.3 | 106% | 1.00 |
| Yellow | 15.39 | 134% | 1.25 | 16.6 | 124% | 1.25 |
| Green | 25.84 | 226% | 2.00 | 10.2 | 133% | 1.25 |

Comparing Existing Rates with New Recommended Rates Derived by Applying Recommended Locational Adjustment Factors Related to Per Capita VMT and NADMS

A comparison of the current General District rates and the recommended rates as they would vary by Policy Area group is provided in Table 12 below.

[22] See Appendix X – Introduction to Nelson Nygaard Subdivision Staging Policy Peer Review

[23] Trips to work are referred to as Home Based Work (HBW) trips because they have home at one end of the trip and work at the other.

**TABLE 12 - COMPARISON OF RECOMMENDED RATES BY POLICY AREA GROUPS WITH BASE RATES**

| Land Use | 2016 Rates When Applying 2007 Percentage Adjustment to 2016 Calculated Rates | Red | Orange | Yellow | Green |
|---|---|---|---|---|---|
| | | | | | |
| Residential | | 0.25 | 0.75 | 1.25 | 2.00 |
| | | | | | |
| SF Detached | $14,613 | $3,653 | $10,959 | $18,266 | $29,225 |
| MF Residential | | | | | |
| SF Attached | $10,208 | $2,552 | $7,656 | $12,759 | $20,415 |
| Garden Apartments | $9,250 | $2,312 | $6,937 | $11,562 | $18,499 |
| High - Rise Apartments | $6,607 | $1,652 | $4,955 | $8,259 | $13,214 |
| Multi-Family Senior | $2,643 | $661 | $1,982 | $3,303 | $5,286 |
| | | | | | |
| Commercial | | 0.75 | 1.00 | 1.25 | 1.25 |
| | | | | | |
| Office | $13.45 | $10.08 | $13.45 | $16.81 | $16.81 |
| Industrial | $6.69 | $5.01 | $6.69 | $8.36 | $8.36 |
| Bioscience | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| Retail | $11.96 | $8.97 | $11.96 | $14.95 | $14.95 |
| Place of Worship | $0.70 | $0.53 | $0.70 | $0.88 | $0.88 |
| Private School | $1.06 | $0.80 | $1.06 | $1.33 | $1.33 |
| Hospital | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| Social Service Agencies | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| Other Non Residential | $6.69 | $5.02 | $6.69 | $8.36 | $8.36 |

**COMPARING CURRENT RATES AND NEW RATES ACROSS POLICY AREAS AND LAND USES**

A final review of the Transportation Impact Tax recommendations involves consideration of how the recommended new rates compare with the existing rates across each land use and Policy Area. This comparison is provided in Table 13 below.

**TABLE 13**

Comparison of Current and Proposed Transportation Impact Tax Rates

SUMMARY OF IMPACT TAX AMOUNTS

Without Proposed Parking Reduction Factor

Prior to Application of MSPA Commercial Policy Adjustment (MCPB June 30 Worksession)

| Policy Area Num | Type | | Difference (Proposed as Percentage of Current) per Unit: Single Family Detached | Single Family Attached | Garden Apartments | High Rise Apartment | Multi Family Senior | Office | Industrial | Retail |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | Bethesda CBD | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 35 | 1 | Friendship Heights | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 32 | 1 | Glenmont | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 24 | 1 | Grosvenor | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 36 | 1 | Rockville Town Center | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 34 | 1 | Shady Grove Metro Station | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 20 | 1 | Silver Spring CBD | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 25 | 1 | Twinbrook | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 22 | 1 | Wheaton CBD | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 26 | 1 | White Flint | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 3 | 2 | Bethesda/Chevy Chase | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 33 | 2 | Clarksburg | 52% | 45% | 52% | 52% | 52% | 88% | 88% | 87% |
| 6 | 2 | Derwood | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 8 | 2 | Gaithersburg City | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 11 | 2 | Germantown Town Center | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 12 | 2 | Kensington/Wheaton | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 14 | 2 | North Bethesda | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 18 | 2 | R&D Village | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 19 | 2 | Rockville City | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 21 | 2 | Silver Spring/Takoma Park | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 40 | 2 | White Oak | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 1 | 3 | Aspen Hill | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 4 | 3 | Cloverly | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 41 | 3 | Fairland/Colesville | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 9 | 3 | Germantown East | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 10 | 3 | Germantown West | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 13 | 3 | Montgomery Village/Airpark | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 15 | 3 | North Potomac | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 16 | 3 | Olney | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 17 | 3 | Potomac | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 5 | 4 | Damascus | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |
| 38 | 4 | Rural East | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |
| 37 | 4 | Rural West | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |

The Planning Board reviewed the comparison during work session and recommended a reduction in the rates for commercial land uses in the Core areas by 33 percent. The resulting comparison of the current rates with the recommended rates is shown below in Table 14.

**TABLE 14**

Comparison of Current and Proposed Transportation Impact Tax Rates

SUMMARY OF IMPACT TAX AMOUNTS

Without Proposed Parking Reduction Factor

Including Application of MSPA Commercial Policy Adjustment (MCPB June 30 Worksession)

| Policy Area Num | Type | | Difference (Proposed as Percentage of Current) per Unit: Single Family Detached | Single Family Attached | Garden Apartments | High Rise Apartment | Multi Family Senior | Office | Industrial | Retail |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | Bethesda CBD | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 35 | 1 | Friendship Heights | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 32 | 1 | Glenmont | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 24 | 1 | Grosvenor | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 36 | 1 | Rockville Town Center | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 34 | 1 | Shady Grove Metro Station | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 20 | 1 | Silver Spring CBD | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 25 | 1 | Twinbrook | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 22 | 1 | Wheaton CBD | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 26 | 1 | White Flint | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 3 | 2 | Bethesda/Chevy Chase | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 33 | 2 | Clarksburg | 52% | 45% | 52% | 52% | 52% | 88% | 88% | 87% |
| 6 | 2 | Derwood | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 8 | 2 | Gaithersburg City | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 11 | 2 | Germantown Town Center | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 12 | 2 | Kensington/Wheaton | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 14 | 2 | North Bethesda | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 18 | 2 | R&D Village | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 19 | 2 | Rockville City | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 21 | 2 | Silver Spring/Takoma Park | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 40 | 2 | White Oak | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 1 | 3 | Aspen Hill | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 4 | 3 | Cloverly | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 41 | 3 | Fairland/Colesville | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 9 | 3 | Germantown East | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 10 | 3 | Germantown West | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 13 | 3 | Montgomery Village/Airpark | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 15 | 3 | North Potomac | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 16 | 3 | Olney | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 17 | 3 | Potomac | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 5 | 4 | Damascus | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |
| 38 | 4 | Rural East | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |
| 37 | 4 | Rural West | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |

In addition to a direct comparison of just the existing and recommended rates, consideration was given to comparing (1) the combination of the existing impact tax by land use and the surcharge associated with current applicable Policy Area adequacy as defined by TPAR with (2) the combination of the recommended rate by land use and the surcharge associated with the applicable Policy Area adequacy as defined by the new transit accessibility metric.

A summary of the initial comparison is provided below in Table 15.

**TABLE 15**

Comparison of Current and Proposed Transportation Impact Tax and Policy Area Mitigation Costs

SUMMARY OF TOTAL DOLLAR AMOUNTS

Without Proposed Parking Reduction Factor

Prior to Application of MSPA Commercial Policy Adjustment (MCPB June 30 Worksession)

| Policy Area Num | Type | | Difference (Proposed as Percentage of Current) per Unit: Single Family Detached | Single Family Attached | Garden Apartments | High Rise Apartment | Multi Family Senior | Office | Industrial | Retail |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | Bethesda CBD | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 35 | 1 | Friendship Heights | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 32 | 1 | Glenmont | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 24 | 1 | Grosvenor | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 36 | 1 | Rockville Town Center | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 34 | 1 | Shady Grove Metro Station | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 20 | 1 | Silver Spring CBD | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 25 | 1 | Twinbrook | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 22 | 1 | Wheaton CBD | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 26 | 1 | White Flint | 52% | 45% | 52% | 52% | 52% | 159% | 157% | 157% |
| 3 | 2 | Bethesda/Chevy Chase | 52% | 45% | 52% | 52% | 52% | 70% | 70% | 70% |
| 33 | 2 | Clarksburg | 52% | 45% | 52% | 52% | 52% | 88% | 88% | 87% |
| 6 | 2 | Derwood | 72% | 62% | 72% | 72% | 72% | 97% | 97% | 97% |
| 8 | 2 | Gaithersburg City | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 11 | 2 | Germantown Town Center | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 12 | 2 | Kensington/Wheaton | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 14 | 2 | North Bethesda | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 18 | 2 | R&D Village | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 19 | 2 | Rockville City | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 21 | 2 | Silver Spring/Takoma Park | 63% | 54% | 62% | 62% | 62% | 84% | 84% | 84% |
| 40 | 2 | White Oak | 52% | 45% | 52% | 52% | 52% | 70% | 70% | 70% |
| 1 | 3 | Aspen Hill | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 4 | 3 | Cloverly | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 41 | 3 | Fairland/Colesville | 100% | 86% | 100% | 100% | 100% | 101% | 101% | 101% |
| 9 | 3 | Germantown East | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 10 | 3 | Germantown West | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 13 | 3 | Montgomery Village/Airpark | 105% | 89% | 104% | 104% | 104% | 105% | 105% | 105% |
| 15 | 3 | North Potomac | 109% | 93% | 108% | 108% | 108% | 110% | 110% | 109% |
| 16 | 3 | Olney | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 17 | 3 | Potomac | 105% | 89% | 104% | 104% | 104% | 105% | 105% | 105% |
| 5 | 4 | Damascus | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |
| 38 | 4 | Rural East | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |
| 37 | 4 | Rural West | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |

As noted above, the Planning Board reviewed the comparison during work session and recommended a reduction in the rates for commercial land uses in the Core areas by one-third. The resulting comparison of the current rates with the recommended rates is shown below in Table 16.

**TABLE 16**

Comparison of Current and Proposed Transportation Impact Tax and Policy Area Mitigation Costs

SUMMARY OF TOTAL DOLLAR AMOUNTS

Without Proposed Parking Reduction Factor

Including Application of MSPA Commercial Policy Adjustment (MCPB June 30 Worksession)

| Policy Area Num | Type | | Difference (Proposed as Percentage of Current) per Unit: Single Family Detached | Single Family Attached | Garden Apartments | High Rise Apartment | Multi Family Senior | Office | Industrial | Retail |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | Bethesda CBD | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 35 | 1 | Friendship Heights | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 32 | 1 | Glenmont | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 24 | 1 | Grosvenor | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 36 | 1 | Rockville Town Center | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 34 | 1 | Shady Grove Metro Station | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 20 | 1 | Silver Spring CBD | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 25 | 1 | Twinbrook | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 22 | 1 | Wheaton CBD | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 26 | 1 | White Flint | 52% | 45% | 52% | 52% | 52% | 106% | 104% | 105% |
| 3 | 2 | Bethesda/Chevy Chase | 52% | 45% | 52% | 52% | 52% | 70% | 70% | 70% |
| 33 | 2 | Clarksburg | 52% | 45% | 52% | 52% | 52% | 88% | 88% | 87% |
| 6 | 2 | Derwood | 72% | 62% | 72% | 72% | 72% | 97% | 97% | 97% |
| 8 | 2 | Gaithersburg City | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 11 | 2 | Germantown Town Center | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 12 | 2 | Kensington/Wheaton | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 14 | 2 | North Bethesda | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 18 | 2 | R&D Village | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 19 | 2 | Rockville City | 78% | 67% | 78% | 78% | 78% | 105% | 105% | 105% |
| 21 | 2 | Silver Spring/Takoma Park | 63% | 54% | 62% | 62% | 62% | 84% | 84% | 84% |
| 40 | 2 | White Oak | 52% | 45% | 52% | 52% | 52% | 70% | 70% | 70% |
| 1 | 3 | Aspen Hill | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 4 | 3 | Cloverly | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 41 | 3 | Fairland/Colesville | 100% | 86% | 100% | 100% | 100% | 101% | 101% | 101% |
| 9 | 3 | Germantown East | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 10 | 3 | Germantown West | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 13 | 3 | Montgomery Village/Airpark | 105% | 89% | 104% | 104% | 104% | 105% | 105% | 105% |
| 15 | 3 | North Potomac | 109% | 93% | 108% | 108% | 108% | 110% | 110% | 109% |
| 16 | 3 | Olney | 131% | 112% | 130% | 130% | 130% | 132% | 132% | 131% |
| 17 | 3 | Potomac | 105% | 89% | 104% | 104% | 104% | 105% | 105% | 105% |
| 5 | 4 | Damascus | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |
| 38 | 4 | Rural East | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |
| 37 | 4 | Rural West | 209% | 179% | 208% | 208% | 208% | 132% | 132% | 131% |

The Planning Board after consideration of the analysis, recommended adoption of the following transportation impact tax rates based on (1) updated transportation infrastructure cost estimates, land use forecasts and trip generation rates, (2) application of new adjustment factors related to per capita VMT and NADMS by policy area category, and (3) applying a one-third reduction to the non-residential tax rates in the "red" or MSPA category. See Table 17 below.

**TABLE 17 – RECOMMENDED RATES WITH COMMERCIAL POLICY ADJUSTMENT IN MSPA'S**

| Land Use | 2016 Rates When Applying 2007 Percentage Adjustment to 2016 Calculated Rates | Red | Orange | Yellow | Green |
|---|---|---|---|---|---|
| | | | | | |
| Residential | | 0.25 | 0.75 | 1.25 | 2.00 |
| | | | | | |
| SF Detached | $14,613 | $3,653 | $10,959 | $18,266 | $29,225 |
| MF Residential | | | | | |
| SF Attached | $10,208 | $2,552 | $7,656 | $12,759 | $20,415 |
| Garden Apartments | $9,250 | $2,312 | $6,937 | $11,562 | $18,499 |
| High - Rise Apartments | $6,607 | $1,652 | $4,955 | $8,259 | $13,214 |
| Multi-Family Senior | $2,643 | $661 | $1,982 | $3,303 | $5,286 |
| | | | | | |
| Commercial | | 0.75 | 1.00 | 1.25 | 1.25 |
| | | | | | |
| Office | $13.45 | $6.72 | $13.45 | $16.81 | $16.81 |
| Industrial | $6.69 | $3.34 | $6.69 | $8.36 | $8.36 |
| Bioscience | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| Retail | $11.96 | $5.98 | $11.96 | $14.95 | $14.95 |
| Place of Worship | $0.70 | $0.35 | $0.70 | $0.88 | $0.88 |
| Private School | $1.06 | $0.53 | $1.06 | $1.33 | $1.33 |
| Hospital | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| Social Service Agencies | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| Other Non Residential | $6.69 | $3.35 | $6.69 | $8.36 | $8.36 |

**ADJUSTMENT TO TRANSPORTATION IMPACT TAX TO INCENTIVIZE REDUCED PARKING**

A final recommendation related to the Transportation Impact Tax is the introduction of an incentive that would provide for a Transportation Impact Tax credit based on the percentage of parking supply provided below the County's applicable baseline minimum for the project in question. Progressive parking management that more accurately reflects the cost and utilization of private and public parking has been shown to be a key component of transportation demand management. The County has a number of incentives currently in place through its zoning code, PLD, and TDM programs. Additional incentives in the form of a reduction in the impact tax could supplement these existing programs.

An example of how this might apply in "reduced parking areas" as defined in the zoning code is shown below.

**TABLE 18 – MULTIPLIER FOR TRANSPORTATION IMPACT TAX REDUCTION – PARKING INCENTIVE**

| Percentage Parking Supply is Below Baseline Minimum | Percentage Reduction in Transportation Impact Tax After Policy Area Adjustment | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Core Policy Area | | | | Corridor Policy Area | | | | Residential Policy Area | | | |
| | Residential | Office | Retail | Other | Residential | Office | Retail | Other | Residential | Office | Retail | Other |
| X | 3X | 3X | 3X | 3X | 2X | 2X | 2X | 2X | X | X | X | X |

This approach would further incentive development to minimize parking capacity – especially in areas where options may exist for access by modes other than auto.

The specific recommendation is to "allow for transportation impact tax credits based on the percentage of parking supply below the applicable baseline minimum where parking below the baseline minimum is allowed under Section 6.2.3.1 of Chapter 59 of the County Code."

## APPENDIX K - SCHOOLS

### STUDENT GENERATION RATES

The Montgomery County Planning Department partners with the Division of Long-Range Planning at the Montgomery County Public Schools (MCPS) to calculate updated and accurate student generation rates. For this Subdivision Staging Policy update, MCPS provided the Planning Department with 2015-16 enrollment data stripped of any confidential information but containing individual student addresses and grade-level information. Planning Research and Development staff joined these data with parcel data that contain information on the type of residential structure associated with every address in the County. The results were generation rates that reflect the actual location and housing structure of virtually every current MCPS student. Specifically, Planning staff were able to match 96.2 percent of MCPS's 156,455 students to a structure type.

Before the student generation rates were calculated, Planning staff excluded age-restricted structures (senior housing, nursing homes, etc.) and the very few students coming from these units. All other structures for which Student Impact Taxes and Student Facility Payments are exempted, such as MPDUs and structures built within Enterprise Zones, were included in the calculation of the student generation rates.

The Table 1 below provides the data used to calculate the student generation rates associated with this Subdivision Staging Policy update.

**Table 1. Student Generation Rate Calculation**

| Number of MCPS Students | Elementary | Middle | High | Total (K-12) |
|---|---|---|---|---|
| Single Family Detached | 37,381 | 19,961 | 26,986 | 84,328 |
| Single Family Attached | 15,753 | 7,224 | 9,628 | 32,605 |
| Multi-Family Low to Mid Rise | 14,416 | 5,612 | 7,357 | 27,385 |
| Multi-Family High Rise | 3,163 | 1,287 | 1,702 | 6,152 |
| **TOTAL** | **70,713** | **34,084** | **45,673** | **150,470** |

| Number of Housing Units | Total |
|---|---|
| Single Family Detached | 182,309 |
| Single Family Attached | 67,336 |
| Multi-Family Low to Mid Rise | 71,128 |
| Multi-Family High Rise | 44,348 |
| **TOTAL** | **365,121** |

| Students Generated per Unit | Elementary | Middle | High | Total (K-12) |
|---|---|---|---|---|
| Single Family Detached | 0.205 | 0.109 | 0.148 | 0.463 |
| Single Family Attached | 0.234 | 0.107 | 0.143 | 0.484 |
| Multi-Family Low to Mid Rise | 0.203 | 0.079 | 0.103 | 0.385 |
| Multi-Family High Rise | 0.071 | 0.029 | 0.038 | 0.139 |

## ANNUAL SCHOOL TEST

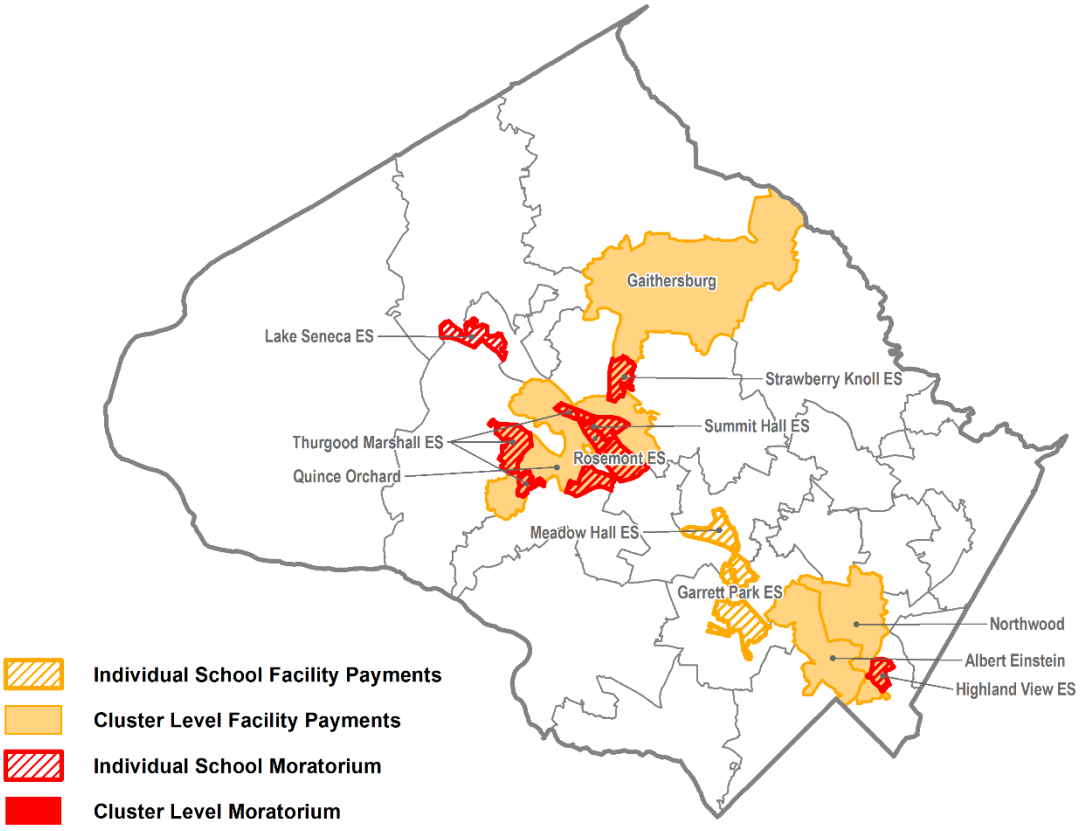
The FY2017 Annual School Test was adopted by the Montgomery County Planning Board on June 23, 2016. Table 2 demonstrates the impact the recommendation to include individual school capacity deficit thresholds would have on the results of the FY2017 test. The black font indicates the results of the adopted annual test, and the blue font identifies the additional individual schools that would qualify as inadequate under the recommended hybrid test.

**Table 2. FY2017 Annual School Test Results Including Individual School Threshold Tests**

| Action | Inadequate Outcomes by Level | | |
|---|---|---|---|
| | Elementary | Middle | High |
| **School Facility Payment** | • **Einstein Cluster** (107.4% utilization)<br>• **Gaithersburg Cluster** (112.4%)<br>• **Northwood Cluster** (116.0%)<br>• **Quince Orchard Cluster** (113.2%)<br>• **Garrett Park ES** (-128 seats, 117.0% utilization) in the Walter Johnson Cluster<br>• **Meadow Hall ES** (-106, 130.0%) in the Rockville Cluster | • **Gaithersburg Cluster** (107.5%)<br>• **Rockville Cluster** (116.2%)<br>• **Wheaton Cluster** (110.7%) | • **Blair Cluster** (116.3%)<br>• **Churchill Cluster** (113.5%)<br>• **Einstein Cluster** (116.9%)<br>• **Gaithersburg Cluster** (107.6%)<br>• **Walter Johnson Cluster** (113.9%)<br>• **Kennedy Cluster** (112.5%)<br>• **Richard Montgomery Cluster** (112.2%)<br>• **Northwood Cluster** (114.8%)<br>• **Paint Branch Cluster** (111.0%)<br>• **Quince Orchard Cluster** (110.4%) |
| **Moratorium** | • **Highland View ES** (-112, 137.6%) in the Northwood Cluster<br>• **Lake Seneca ES** (-113, 127.2%) in the Seneca Valley Cluster<br>• **Thurgood Marshall ES** (-118, 122.1%) in the Quince Orchard Cluster<br>• **Rosemont ES** (-250, 140.8%) in the Gaithersburg Cluster<br>• **Strawberry Knoll ES** (-144, 129.9%) in the Gaithersburg Cluster<br>• **Summit Hall ES** (-191, 141.0%) in the Gaithersburg Cluster | | |

Map 1 highlights the results of the hybrid FY2017 Annual School Test for the elementary school level.

**Map 1. FY2017 Annual School Hybrid Test Results for Elementary School Level**




SCHOOL FACILITY PAYMENTS

School Facility Payments are calculated at 50 percent of a new unit's school construction cost impact, based on the student generation rates identified previously and current per pupil construction costs.

Table 3 provides the current per pupil school construction costs as provided by the MCPS Department of Facilities Management Division of Construction.

**Table 3. Average School Construction Costs for New or Revitalized/Expanded Schools**

| | Elementary | Middle | High |
|---|---|---|---|
| Capacity/Core | 740 | 1,200 | 2,400 |
| Building Size (sf) | 99,000 | 165,000 | 400,000 |
| Project Cost | $27,522,000 | $47,520,000 | $112,500,000 |
| **Cost per Pupil** | **$37,192** | **$39,600** | **$46,875** |

Source: MCPS Department of Facilities Management – James Song, February 26, 2016.

Figures reflect average cost based on 2016 construction market conditions and will vary pending proposed programs and existing conditions of each project. Figures include all site work and furniture and equipment.

Table 4 below provides all the factors used to calculate the new School Facility Payments.

**Table 4. New School Facility Payments and their Calculation Components**

| | Elementary | Middle | High |
|---|---|---|---|
| **Students Generated per Unit** | | | |
| Single Family Detached | 0.205 | 0.109 | 0.148 |
| Single Family Attached | 0.234 | 0.107 | 0.143 |
| Multi-Family Low to Mid Rise | 0.203 | 0.079 | 0.103 |
| Multi-Family High Rise | 0.071 | 0.029 | 0.038 |
| **School Construction Costs** | | | |
| Per Pupil | $37,192 | $39,600 | $46,875 |
| **Multiplier** | | | |
| School Facility Payment | 0.5 | | |

| | Elementary | Middle | High |
|---|---|---|---|
| **School Facility Payment** | | | |
| Single Family Detached | $3,812 | $2,158 | $3,469 |
| Single Family Attached | $4,351 | $2,119 | $3,352 |
| Multi-Family Low to Mid Rise | $3,775 | $1,564 | $2,414 |
| Multi-Family High Rise | $1,320 | $574 | $891 |

PLACEHOLDER PROJECTS

When a placeholder project is included in a CIP, it prevents a moratorium from being imposed in the applicable school/cluster service area, thus allowing new residential development to be approved. A placeholder does not, however, guarantee that new residential development will be approved, but rather that it would be allowed. In fact, five of the eleven placeholders implemented between FY2011 and FY2016 did not lead to any new residential units. The remaining six placeholders allowed at 2,537 new units to be approved without the delay that a moratorium would have caused.

Table 5 summarizes the number of new residential units approved as a result of placeholder projects, by cluster.

**Table 5. Residential Units Approved Under Placeholder Projects by Cluster**

| Cluster | Fiscal Year | | | | | | Total Units |
|---|---|---|---|---|---|---|---|
| | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 | |
| Richard Montgomery | 0 | | | | | | **0** |
| Northwood | | 0 | | | | 0 | **0** |
| Northwest | | 455 | | | | | **455** |
| Bethesda-Chevy Chase | | 440 | 615 | 586 | | | **1,641** |
| Gaithersburg | | | | | | 0 | **0** |
| Wheaton | | | | | | 5 | **5** |
| Einstein | | | | | | 436 | **436** |
| Walter Johnson | | | | | | 0 | **0** |
| **Total Units** | **0** | **895** | **615** | **586** | **0** | **441** | **2,537** |

NOTE: Does not include de minimis approvals of 3 or fewer units.

SCHOOL IMPACT TAX

School taxes are calculated at 100 percent of a new unit's school construction cost impact, based on the student generation rates and per pupil school construction costs identified previously. Although a construction cost impact has been applied on a biennial basis, the last time the construction cost component was reset was in 2007. While overall construction costs have increased, economies of scale resulting from building larger schools have kept per pupil construction costs from increasing at the construction index rate.

Table 6 below shows how the per pupil school construction costs have changed, by school level.

**Table 6. Per Pupil School Construction Cost Comparison, 2007 to 2016.**

| | Elementary | Middle | High |
|---|---|---|---|
| 2007 per Pupil Construction Costs | $32,525 | $42,352 | $47,502 |
| 2016 per Pupil Construction Costs | $37,192 | $39,600 | $46,875 |
| **Change from 2007 to 2016** | **+$4,667** | **-$2,752** | **-$672** |

Source: MCPS Department of Facilities Management.

Table 7 provides all the factors used to calculate the new School Impact Taxes.

**Table 7. New School Impact Taxes and their Calculation Components**

| | Elementary | Middle | High |
|---|---|---|---|
| **Students Generated per Unit** | | | |
| Single Family Detached | 0.205 | 0.109 | 0.148 |
| Single Family Attached | 0.234 | 0.107 | 0.143 |
| Multi-Family Low to Mid Rise | 0.203 | 0.079 | 0.103 |
| Multi-Family High Rise | 0.071 | 0.029 | 0.038 |
| **School Construction Costs** | | | |
| Per Pupil | $37,192 | $39,600 | $46,875 |

| | Combined All Levels |
|---|---|
| **School Impact Taxes** | |
| Single Family Detached | $18,878 |
| Single Family Attached | $19,643 |
| Multi-Family Low to Mid Rise | $15,507 |
| Multi-Family High Rise | $5,570 |

The Planning Board Draft of the Subdivision Staging Policy also recommends that a portion of the School Impact Tax equivalent to 10 percent of the cost of a student seat be dedicated to land acquisition for new schools. Table 8 demonstrates the amount of funding such a policy would have generated for the acquisition of land in each of the last five fiscal years.

**Table 8. Funding that Would Have Been Dedicated to Land Acquisition for Schools Under Proposed Policy, FY2011-FY2015**

| Fiscal Year | Land Acquisition Fund Potential |
|---|---|
| 2011 | $1,608,983 |
| 2012 | $1,829,155 |
| 2013 | $3,100,195 |
| 2014 | $5,093,030 |
| 2015 | $3,630,753 |
| **Total** | **$15,262,116** |

ENTERPRISE ZONE EXEMPTIONS

The Planning Board Draft of the Subdivision Staging Policy recommends phasing out the School Impact Tax and School Facility Payment exemption for new development within former Enterprise Zones. The Silver Spring Central Business District (CBD) is currently Montgomery County's only former Enterprise Zone.

Table 9 summarizes the number of residential units built within the Silver Spring CBD since its Enterprise Zone designation expired in June 2006 (all units come from multi-family high rise structures, and the allocation to a fiscal year is based on the date construction of each building was completed).

**Table 9. Units Built in the Former Silver Spring CBD Enterprise Zone**

| Fiscal Year | Units Completed |
|---|---|
| FY2006 | 220 |
| FY2007 | 145 |
| FY2008 | 143 |
| FY2009 | 704 |
| FY2010 | 0 |
| FY2011 | 325 |
| FY2012 | 247 |
| FY2013 | 540 |
| FY2014 | 921 |
| FY2015 | 437 |
| FY2016 | 102 |

## SCHOOL RECOMMENDATION SUMMARY

**STUDENT GENERATION RATES**

- Calculate School Facility Payments and the School Impact Tax using student generation rates associated with all residential structures built any year.

**ANNUAL SCHOOL TEST**

- Implement a hybrid annual school test that combines cluster utilization tests with individual school capacity deficit tests.

**SCHOOL FACILITY PAYMENTS**

- Update the calculation of the School Facility Payments on a biennial basis (concurrent with the annual school test or with the update to the Subdivision Staging Policy) using the latest generation rates and school construction cost data, limiting any change (increase or decrease) to no more than five percent.
- Modify the calculation of the School Facility Payments to apply a 0.5 multiplier instead of the current 0.6 multiplier.

**PLACEHOLDER PROJECTS**

- Placeholder capacity for a particular cluster level or school can only be counted as capacity in the annual school test for two years.

**SCHOOL IMPACT TAX**

- Update the School Impact Tax amounts on a biennial basis (concurrent with the annual school test or with the update to the Subdivision Staging Policy) using the latest student generation rates and

school construction cost data, limiting any change (increase or decrease) to no more than five percent.

- Remove the 0.9 multiplier in the School Impact Tax, so as to capture the full cost of school construction associated with a new residential unit.
- Require a portion of the School Impact Tax equivalent to 10 percent of the cost of a student seat be dedicated to land acquisition for new schools.
- Allow a credit against the School Impact Tax for land dedicated for a school site, as long as the density calculated for the dedication area is excluded from the density calculation for the site, and MCPS agrees to the site dedication.

**ENTERPRISE ZONE EXEMPTIONS**

- Reintroduce the School Impact Tax and School Facility Payments in former Enterprise Zones through a phased approach.
- Conduct further research to develop the criteria and process by which an area of the County can be exempted from the School Impact Tax and School Facility Payments.

**APPENDIX L – DRAFT SUBDIVISION STAGING POLICY RESOLUTION**

Resolution No: _____
Introduced: August 2, 2016
Adopted: _____

**COUNTY COUNCIL**
**FOR MONTGOMERY COUNTY, MARYLAND**

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By: Council President at the request of the Planning Board

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**SUBJECT:** ~~Amendment to the 2012-2016 Subdivision Staging Policy in association with the White Oak Science Gateway Master Plan~~ 2016 – 2020 Subdivision Staging Policy

**Background**

~~1. On November 13, 2012 the County Council approved Resolution 17-601, the 2012-2016 Subdivision Staging Policy.~~

~~2. County Code §33A-15(f) allows either the County Council, County Executive, or the Planning Board to initiate an amendment to the Subdivision Staging Policy.~~

~~3. On December 20, 2013, in accordance with §33A-15, the Planning Board transmitted to the County Council its recommendations to amend Resolution 17-601 in association with the White Oak Science Gateway Master Plan. The Draft Amendment to the Subdivision Staging Policy, as submitted by the Planning Board, contained supporting and explanatory materials.~~

~~4. On February 4, 2014, the County Council held a public hearing on the Draft Amendment to the Subdivision Staging Policy.~~

~~5. On July 1, 7, and 16, 2014 the Council's Planning, Housing, and Economic Development Committee conducted worksessions on the Draft Amendment to the Subdivision Staging Policy.~~

~~6. On July 22, 2014, the Council conducted a worksession on the Draft Amendment to 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.~~

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 August 1, 2016, in accordance with §33A-15, the Planning Board transmitted to the County Council its recommendations on the 2016-2020 Subdivision Staging Policy. The Final Draft Subdivision Staging Policy, as submitted by the Planning Board, contained supporting and explanatory materials.

3. On September 13, 2016, the County Council held a public hearing on the Subdivision Staging Policy.

4. On _____, 2016, the Council's Planning, Housing, and Economic Development Committee conducted worksessions on the recommended Subdivision Staging Policy.

5. On _____ 2016. 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 ~~2012~~2016-~~2016~~ 2020 Subdivision Staging Policy is ~~amended~~ approved as follows:

## Applicability; transition

### AP1 Effective dates

This resolution ~~to amend the Subdivision Staging Policy~~ takes effect on ~~July 29, 2014~~January 1, 2017, and applies to any application for a preliminary plan of subdivision filed on or after that date, except that Section S (Public School Facilities) takes effect on November 15, ~~2012~~2016.

### AP2 Transition

For any complete application for subdivision approval submitted before January 1, ~~2013~~2017, the applicant may meet its requirements under **TP** ~~Transportation Policy Area Review~~ the **Policy Area Based Transportation Review** by either complying with all applicable requirements of ~~Transportation Policy Area Review~~ the **Policy Area Based Transportation Review** under this resolution or all applicable requirements of ~~**Policy Area Mobility**~~ **Transportation Policy Area Review** that were in force immediately before this resolution was amended in ~~2012~~2016. The applicant must decide, by the later of March 1, ~~2013~~ 2017, or 30 days after the Planning Board adopts guidelines to administer ~~**Transportation Policy Area Review**~~ the **Policy Area Based Transportation Review**, which set of requirements will apply to its application.

## Guidelines for the Administration of the Adequate Public Facilities Ordinance

County Code Section 50-35(k) ("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 Subdivision Staging 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 Subdivision Staging Policy are based primarily on the public facilities in the approved FY ~~2013~~2017-~~18~~ 22 Capital Improvements Program (CIP) and the Maryland Department of Transportation FY ~~2012~~2015-~~17~~ 20 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 Subdivision Staging Policy guidelines, the guidelines in the adopted master plan or sector plan must be used to the extent that they are more restrictive. The Subdivision Staging 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 Transportation Facilities

### TP Policy Areas

### TP1 Policy Area Boundaries and Definitions

For the purposes of transportation analysis, the County has been divided into 376 areas called traffic zones. Based on their transportation characteristics, these zones are grouped into transportation policy areas, as shown on Map 1. 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 ~~Urban, Suburban,~~ Red, Orange, Yellow or Green Policy Area. The policy areas in effect, and their applicable category for ~~2012~~2016 ~~2016~~ 2020 are:

Red Policy Areas: Bethesda CBD Metro Station Policy Area (MSPA), ~~Bethesda-Chevy Chase, Derwood,~~ Friendship Heights MSPA, Glenmont MSPA, Grosvenor MSPA, ~~Kensington/Wheaton, North Bethesda, Rockville City,~~ Rockville Town Center MSPA, Shady Grove MSPA, Silver Spring CBD MSPA, ~~Silver Spring/Takoma Park,~~ Twinbrook MSPA, Wheaton CBD MSPA, ~~White Oak,~~ and White Flint MSPA.

Orange Policy Areas: Bethesda Chevy Chase, Chevy Chase Lake, Clarksburg, Derwood, Gaithersburg City, Germantown Town Center, Kensington/Wheaton, Long Branch, North Bethesda, Research and Development Village, Rockville City, Silver Spring/Takoma Park, Takoma/Langley, and White Oak.

Yellow Policy Areas: Aspen Hill, ~~Clarksburg,~~ Cloverly, Fairland/Colesville, ~~Gaithersburg City,~~ Germantown East, ~~Germantown Town Center,~~ Germantown West, Montgomery Village/Airpark, North Potomac, Olney, and Potomac~~, and R&D Village~~.

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

The boundaries of the policy areas are shown on maps 2-~~34~~37.

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 Policy Area Based Transportation Review~~Transportation Policy Area Review (TPAR)~~

#### ~~TP2.1 Components of Transportation Policy Area Review~~

There is a single component ~~are two components~~ to the Policy Area Based

TransportationTransportation Policy Area Review: *Roadway Adequacy* and *Transit Adequacy* for each policy area.

**TP2.1.1 Roadway Adequacy**

*Roadway adequacy* is a measure of congestion on the County's arterial roadway network. It is based on the *urban street delay level of service* in the 2010 Highway Capacity Manual, published by the Transportation Research Board. This concept measures congestion by comparing modeled (congested) speeds to free-flow speeds on arterial roadways. The travel speed reflects the projected travel demand in 10 years on a transportation network that includes both the existing network of roads and transit facilities and any road or transit facility funded for completion within 10 years in an approved state, county, or municipal capital improvements program for which construction is funded to begin within 6 years. It then assigns letter grades to the various levels of roadway congestion, with letter A assigned to the best levels of service and letter F assigned to the worst levels of service. For a trip along an urban street that has a free-flow speed (generally akin to posted speed) of 40 MPH, LOS A conditions exist when the actual travel speed is at least 34 MPH excluding delays experienced at traffic signals. At the other end of the spectrum, LOS F conditions exist when the actual travel speed is below 10 MPH. The travel speeds are calculated in the peak direction during the PM peak hour, which presented the worst condition in the analysis.

**Roadway Travel Speed and Arterial LOS**

| *If the actual urban street travel speed is* | *TPAR Arterial LOS is* |
|---|---|
| At least 85% of the free-flow speed | A |
| At least 70% of the highway speed | B |
| At least 50% of the highway speed | C |
| At least 40% of the highway speed | D |
| At least 30% of the highway speed | E |
| Less than 30% of the highway speed | F |

The following standards are established to assess the level of roadway adequacy for the purposes of Transportation Policy Area Review:

**Standards of Acceptable Roadway Average Level of Service**

| **Policy Area Categories** | **Acceptable Weighted Arterial Level of Service** |
|---|---|
| Urban | Borderline between Levels of Service "D" and "E" in peak directions |
| Suburban | Mid-Level of Service "D" in peak directions |
| Rural | Borderline between Levels of Service "C" and "D" in peak directions |

TPAR evaluates conditions only on the arterial roadway network. Freeway level of service is not directly measured because County development contributes a relatively modest proportion of freeway travel, and because the County has limited influence over the design and operations of the freeway system. However, because arterial travel is a substitute for some freeway travel, TPAR indirectly measures freeway congestion to the extent that travelers choose local roadways over congested freeways.

## TP2.1~~TP2.1.2~~ Transit Adequacy

~~Transit Adequacy is based on the use of measures of three transit service performance factors for combined Ride-On and Metrobus service using the arterial roadway network in the County. It is based on and consistent with the performance factors defined in the 2003 *Transit Capacity and Quality of Service Manual* published by the Transportation Research Board. The three transit service performance factors are: (1) coverage, which indicates how close service is to potential users; (2) peak headway, which indicates how frequent the scheduled service is so as to be convenient to users; and (3) span of service, which indicates over what time duration during a typical weekday the service is available to potential users. Transit Adequacy is determined by comparing bus route coverage, scheduled headways and actual hours of operation based on 2011 data to established standards, as illustrated in the table below.~~

| ~~**Transit Adequacy Standards**~~ | | | |
|---|---|---|---|
| | ~~**Minimum Coverage**~~ | ~~**Maximum Headway**~~ | ~~**Minimum Span**~~ |
| ~~Urban~~ | ~~≥80%~~ | ~~≤14 minutes~~ | ~~≥17 hours~~ |
| ~~Suburban~~ | ~~≥70%~~ | ~~≤20 minutes~~ | ~~≥14 hours~~ |
| ~~Rural~~ | ~~≥50%~~ | ~~≤60 minutes~~ | ~~≥4 hours~~ |

Transit adequacy is based on transit accessibility defined as the number of jobs that can be reached within a 60-minute travel time by walk-access transit. This measure is desirable to better reflect existing and planned multi-modal travel options and transit supportive land use densities, and to better align growth with the provision of adequate public facilities. This definition of Policy Area adequacy is based on the proportion of transit accessibility that can be achieved within the next 10 years based on changes in land use and the implementation of transportation facilities within this timeframe. It is the estimated share of the Master Plan vision, reflecting a 25-year (master) planning horizon, attainable within the next 10 years.

This assessment recognizes that not all Policy Areas are planned to have high levels of transit accessibility. The degree to which areas have high transit accessibility scores is dependent upon the balance and intensity of jobs and households in each area of the County, and the degree to which the area is well connected by transit to jobs elsewhere in the region. The degree of transit accessibility is therefore highly correlated to proximity to the Washington, DC core, where the number and density of jobs are the greatest.

This measure of accessibility is not total transit accessibility, but rather the degree to which the **planned increase in transit accessibility is proceeding at an acceptable pace.**

The transit accessibility metric considers three conditions:

- **Current (year 2015) transit accessibility**.
- **Planning horizon (year 2040) transit accessibility** with transportation improvements recognized as fiscally feasible from a regional planning perspective and therefore included in the Constrained Long Range Plan (CLRP) such as the Purple Line and the Corridor Cities Transitway. These transportation improvements are assumed in combination with the Countywide Transit Corridors Functional Master Plan (CTCFMP) network reflecting service attributes in the non-CCT corridors which are largely by average speeds that are faster than

local bus service but less than speeds that would be attained operating in fully dedicated lanes.[24]

- **Regulatory horizon (year 2025) transit accessibility** with transportation improvements included in the state Consolidated Transportation Program (CTP) and County Capital Improvements Program (CIP). Notably, the Purple Line is fully funded for construction by 2025 in the current state CTP, but the Corridor Cities Transitway is not funded for construction at all by the state or County.

The 10-year regulatory horizon (from 2015 to 2025) is 40 percent as long as the 25-year planning horizon (from 2015 to 2040). Areas that have at least 40 percent of their planned 2015-2040 transit accessibility by 2025 are, therefore, considered to be "on pace" with respect to reaching a key indicator of future non-auto travel options and are therefore considered "adequate." The remaining areas are "behind pace" and are considered to have inadequate transit accessibility. The application of the Policy Area Based Transportation Test determines the mitigation requirement for these areas to help fund transit capital projects or transit access projects.

### TP2.2 Conducting the Policy Area Based Transportation~~Transportation Policy Area~~ Review

#### TP2.2.1 Geographic Areas

~~In conducting Transportation Policy Area Reviews, each Metro station policy area is included in its larger parent policy area, so that:~~

- ~~the Bethesda CBD, Friendship Heights, and Bethesda-Chevy Chase policy areas are treated as a single policy area;~~
- ~~the Grosvenor, White Flint, Twinbrook, and North Bethesda policy areas are treated as a single policy area;~~
- ~~the Rockville Town Center and Rockville City policy areas are treated as a single policy area;~~
- ~~the Shady Grove and Derwood policy areas are treated as a single policy area;~~
- ~~the Silver Spring CBD and Silver Spring-Takoma Park policy areas are treated as a single policy area; and~~
- ~~the Wheaton CBD, Glenmont, and Kensington/Wheaton policy areas are treated as a single policy area.~~

~~The Germantown Town Center and Germantown West policy areas are treated as a single policy area.~~ In conducting the Policy Area Based Transportation Test, the County is organized into four categories as described below:

- Red Policy Areas - All Metro Station Policy Areas are included: Bethesda CBD, Friendship Heights, Glenmont, Grosvenor, Rockville Town Center, Shady Grove Metro Station, Silver

[24] It is anticipated that the CTCFMP network for the applicable horizon year will be adjusted in subsequent SSP reviews to reflect service attributes resulting from more detailed facility planning efforts as these studies are completed.

Spring CBD, Twinbrook, Wheaton CBD and White Flint.

- Orange Policy Areas – The following existing and proposed policy areas are included: Bethesda Chevy Chase, Chevy Chase Lake, Clarksburg, Derwood, Gaithersburg City, Germantown Town Center, Kensington/Wheaton, Long Branch, North Bethesda, Research and Development Village, Rockville City, Silver Spring/Takoma Park, Takoma/Langley and White Oak.

- Yellow Policy Areas – The following policy areas are included: Aspen Hill, Cloverly, Fairland/Colesville, Germantown East, Germantown West, Montgomery Village/Airpark, North Potomac, Olney and Potomac.

- Green Policy Areas – The following policy areas are included: Damascus, Rural East and Rural West.

The Rural East policy area consists of all area in the County east of I-270 that is not located in another policy area. The Rural West policy area consists of all area in the County west of I-270 that is not located in another policy area.

Any proposed development in the following areas is ~~a Metro Station policy area is~~ exempt from the transit adequacy test~~. Any proposed development in the Rural East or Rural West policy area is exempt from the roadway and transit adequacy tests.~~:

- All Metro Station policy areas;
- Damascus;
- Rural East policy area; and
- Rural West policy area.

Any proposed development located in the White Flint Metro Station policy area is exempt from the Policy Area Based Transportation~~Transportation Policy Area~~ Review if that development, as a condition of approval of a preliminary plan of subdivision, is required to provide substantial funds to the Special Tax District created to finance transportation improvements for that Policy Area. However, the traffic impact of any development in that policy area must be considered in any Policy Area Based Transportation~~Transportation Policy Area~~ Review calculation for any development that is not exempt under this paragraph where that impact would otherwise be considered.

### TP2.2.2 Determination of Adequacy

Each even-numbered year, not later than July 1, the Planning Board must evaluate ~~roadway and~~ transit adequacy for each policy area. At any time between these assessments, the Planning Board may revise its evaluation to reflect a material change in a state, county, or municipal capital improvements program. If the Planning Board revises its measure of adequacy during a fiscal year because of a material change in transportation capacity, that revision must be used during the rest of that fiscal year in reviewing subdivision applications.

Using a transportation planning model, the Planning staff must compute the relationship between the programmed set of transportation facilities and the forecast growth in households and employment,

using the Cooperative Regional Forecast. The traffic model tests this forecast growth for its traffic impact, estimating transit accessibility~~comparing the resulting directional traffic volume, link speed, and distribution to the roadway level of service standard~~ for each policy area. Any policy area that does not achieve the level of transit accessibility ~~service standards~~ specified in **TP2.1**~~.1~~ is inadequate for ~~roadways~~transportation. ~~Any policy area that is inadequate for roadways, for transit, or for both is inadequate for transportation.~~

An applicant for a preliminary plan of subdivision need not take any action under the Policy Area Based Transportation ~~Transportation Policy Area~~ Review if the proposed development will generate 3 or fewer peak-hour trips.

The Planning Board may adopt Policy Area Based Transportation ~~Transportation Policy Area~~ Review guidelines and other technical materials to further specify standards and procedures for its adoption of findings of policy area adequacy or inadequacy.

The transportation planning model considers all forecast development and all eligible programmed transportation CIP projects. For these purposes, "forecast development" includes all households and employment forecast by the Cooperative Regional Forecast. "Eligible programmed transportation CIP projects" include all County CIP, State Transportation Program, and City of Rockville or Gaithersburg projects for which 100 percent of the expenditures for construction are estimated to occur in the first 10 years of the applicable program and for which construction is funded to begin within 6 years.

Because of the unique nature of the Purple Line, the Corridor Cities Transitway, and the North Bethesda Transitway compared to other transportation systems which are normally used in calculating development capacity, it is prudent to approach the additional capacity from these systems conservatively, particularly with respect to the timing of capacity and the amount of the capacity recognized. Therefore, the capacity from any operable segment of any of these transit systems must not be counted until that segment is fully funded in the first 10 years of the County or State capital improvements program and for which construction is funded to begin within 6 years.

To discourage sprawl development, no capacity for new development may be counted outside the boundary of the Town of Brookeville as of March 9, 1999, as a result of relocating MD 97 around Brookeville.

### TP3 Imposition of Transportation Mitigation Payment

If projected transportation capacity in a policy area is not adequate, the Planning Board may approve a subdivision in that area if the applicant commits to either: (1) fully mitigate the incremental traffic impact of the subdivision by adding capacity or implementing a trip reduction program; or (2) pay a Transportation Mitigation Payment as provided in County law.

~~If an MSPA is located in an Urban area that does not meet the Roadway Test standard, the Transportation Mitigation Payment is equal to 25% of the MSPA transportation impact tax for that subdivision.~~ If any other policy area does not meet the requirements of the Policy Area Based Transportation ~~either the Roadway Test or Transit Test standard~~ Review, the Transportation Mitigation Payment is specified as follows ~~equal to 25% of the General District transportation impact~~

~~tax~~ for that subdivision~~.~~ :

- If transit accessibility in 2025 is between 30% - 40% of 2040 transit accessibility, a partial mitigation payment of 15% of the applicable transportation impact tax is required.

- If transit accessibility in 2025 in less than 30% of 2040 transit accessibility, a full mitigation payment of 25% of the applicable transportation impact tax is required.

Table 1 shows the adequacy status for each policy area from January 1, ~~2013~~ 2017 - July 1, ~~2014~~2018.

## TP4 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. ~~The Planning Board may approve subdivision plans in accordance with the terms of the development district's provisional adequate public facilities approval (PAPF).~~

### ~~TP4.1 Preparation of a PAPF~~

~~The development district's PAPF must be prepared in the following manner:~~

~~One or more property owners in the proposed district may submit to the Planning Board an application for provisional adequate public facilities approval for the entire district. In addition to explaining how each development located in the district will comply with all applicable zoning and subdivision requirements, this application must:~~

- ~~show the number and type of housing units and square footage and type of the non-residential space to be developed, as well as a schedule of proposed buildout in five-year increments;~~
- ~~identify any infrastructure improvements necessary to satisfy the adequate public facilities requirements for development districts; and~~
- ~~estimate the cost to provide these improvements.~~

### ~~TP4.2 Planning Board Review~~

~~The Planning Board must then review all developments within the proposed development district as if they are a single development for compliance with the Adequate Public Facilities Ordinance. The Planning Board must identify the public facilities needed to support the buildout of the development district after considering the results of the following tests for facility adequacy:~~

- ~~Transportation tests for development districts are identical to those for Local Area Transportation Review. Planning Department staff must prepare a list of transportation infrastructure needed to maintain public facility adequacy.~~

- ~~The PAPF application must be referred to Montgomery County Public Schools staff for recommendations for each stage of development in the proposed district. MCPS staff must calculate the extent to which the development district will add to MCPS's current enrollment~~

projections. MCPS staff must apply the existing school adequacy test to the projections with the additional enrollment and prepare a list of public school infrastructure needed to maintain public facility adequacy.

- The PAPF application must be referred to the Washington Suburban Sanitary Commission for recommendations for each stage of development in the proposed district. Wastewater conveyance and water transmission facilities must be considered adequate if existing or programmed (fully funded within the first 5 years of the approved WSSC capital improvements program) facilities can accommodate (as defined by WSSC) all existing authorizations plus the growth in the development district. Adequacy of water and wastewater treatment facilities must be evaluated using the intermediate or "most probable" forecasts of future growth plus development district growth, but only to the extent that development district growth exceeds the forecast for any time period. If a test is not met, WSSC must prepare a list of water and sewer system infrastructure needed to maintain public facility adequacy.

- The PAPF application must be referred to the County Executive for recommendations for each stage of development in the proposed district regarding police, fire, and health facilities. Adequacy of police, fire, and health facilities must be evaluated using the intermediate or most probable forecasts of future growth plus development district growth, but only to the extent that development district growth exceeds the forecast for any time period. Any facility capacity that remains is available to be used by the development district. If any facility capacity deficits exist, the County Executive must prepare a list of infrastructure needed to maintain public facility adequacy.

### TP4.3 Planning Board Approval

The Board may conditionally approve the PAPF application if it will meet all of the requirements of the APFO and Subdivision Staging Policy. The Board may condition its approval on, among other things, the creation and funding of the district and the building of no more than the maximum number of housing units and the maximum nonresidential space listed in the petition.

For an application to be approved, the applicants must commit to produce the infrastructure improvements needed to meet APF requirements in the proposed district as well as any added requirements specified by the Planning Board. The Planning Board must list these required infrastructure improvements in its approval. The infrastructure improvements may be funded through the development district or otherwise. The development district's PAPF must be prepared in the following manner:

The Planning Board must not approve a PAPF application unless public facilities adequacy is maintained throughout the life of the plan. The timing of infrastructure delivery may be accomplished by withholding the release of building permits until needed public facilities are available to be "counted," or by another similar mechanism.

Infrastructure may be counted for public facilities adequacy, for infrastructure provided by the district, when construction has begun on the facility and funds have been identified and committed to its completion, and, for infrastructure provided by the public sector, when:

- ~~for Local Area Transportation Review, the project is fully-funded within the first 6 years of the approved County, state, or municipal capital improvements program;~~
- ~~for water and sewer facilities, the project is fully-funded within the first 5 years of the approved WSSC capital improvements program;~~
- ~~for public school facilities, the project is fully-funded within the first 5 years of the approved Montgomery County Public Schools capital improvements program; and~~
- ~~for police, fire, and health facilities, the project is fully-funded within the first 6 years of the relevant approved capital improvements program.~~

### TP4.~~4~~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, greenways, and major recreation facilities.

### TP4.~~5~~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)

### TL1 Standards and Procedures

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. Table 2 shows the intersection level of service standards by policy area. Local Area Transportation Review must at all times be consistent with the standards and staging mechanisms of adopted master and sector plans.

Local area transportation review for each mode of travel must be completed for any subdivision that would generate a significant number of ~~30 or more~~ peak-hour ~~automobile~~ trips by that mode. ~~For any subdivision that would generate 30-49 peak-hour vehicle trips, the Planning Board after receiving a traffic study must require that either:~~

- ~~all LATR requirements are met; or~~
- ~~the applicant must make an additional payment to the County equal to 50% of the applicable transportation impact tax before it receives any building permit in the subdivision.~~

~~I~~n administering Local Area Transportation Review for any project that would generate a significant number of ~~50 or more~~ peak hour ~~vehicle~~ trips by any mode, the Planning Board must not approve a

subdivision if it finds that ~~unacceptable peak hour congestion levels~~ 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~~the intersection or link to acceptable levels of congestion~~, or
- a number of trips ~~equal to 150 percent of the CLV impact~~ attributable to the development.

The nature of the LATR test is such that a ~~traffic~~ study is necessary if ~~local congestion is~~ 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 ~~traffic~~ 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.

Each LATR ~~traffic~~ study must examine, at a minimum, the number of signalized intersections in the following table, unless the Planning Board affirmatively finds that special circumstances warrant a more limited study.

| Maximum Peak-Hour Vehicle Trips Generated | Minimum Signalized Intersections in Each Direction |
|---|---|
| < 250 | 1 |
| 250 – 749 | 2 |
| 750 – 1,249 | 3 |
| 1,250 – 1,750 | 4 |
| 1,750-2,249 | 5 |
| 2,250 – 2749 | 6 |
| >2,750 | 7 |

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.

~~T~~he 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~~standards for "delay" and queuing analysis at intersections operating at or above a 1600 Critical Lane Volume threshold to determine the level of intersection congestion~~.

In administering Local Area Transportation Review, the Planning Board must carefully consider the recommendations of the County Executive concerning the applicant's LATR ~~traffic~~ 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 ~~and TPAR~~ 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.

**TL2 Metro Station Policy Area LATR Standards**

In each Metro Station Policy Area, the Planning Board, in consultation with the Department of Transportation, must prepare performance evaluation criteria for a biennial Comprehensive Local Area Transportation Review. These criteria must be used to accomplish: (a) safety for pedestrians and vehicles; (b) access to buildings and sites; and (c) traffic flow within the vicinity, at levels which are tolerable in an urban situation. The County Executive also must publish a Silver Spring Traffic Management Program after receiving public comment and a recommendation from the Planning Board. This program must list those actions to be taken by government to maintain traffic flow at tolerable levels in the Silver Spring CBD and protect the surrounding residential area.

~~A~~ny proposed development located in ~~the White Flint~~ a 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 that Policy Area~~. However, the traffic impact of any development in any Metro Station ~~that~~ Policy Area must be considered in any Local Area Transportation Review calculation for any development elsewhere where it would otherwise be considered.

**TL3 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.

## TL4 Unique Policy Area Issues

### TL4.1 Silver Spring CBD Policy Area and Transportation Management District

Development approvals ~~The Local Area Review~~ for the Silver Spring CBD policy area must ~~use~~ reflect 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 volumes 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 2 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.

### TL4.2. North Bethesda TMD

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

### TL4.3 Bethesda TMD

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

### TL4.4 Friendship Heights TMD

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

### TL4.5 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.

### TL4.6 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.

## TA Alternative Review Procedures

~~**TA1 Metro Station Policy Areas**~~

~~An applicant for a subdivision which will be built completely within a Metro station policy area need not take any action under **TP Transportation Policy Area Review** or **TL Local Area Transportation Review** if the applicant agrees in a contract with the Planning Board and the County Department of Transportation to:~~

~~• submit an application containing all information, including a traffic study, that would normally be required for Local Area Transportation Review;~~

~~• meet trip reduction goals set by the Planning Board as a condition of approving that subdivision, which must require the applicant to reduce at least 50% of the number of trips attributable to the subdivision, either by reducing trips from the subdivision itself or from other occupants of that policy area, and provide a surety document to ensure that the reduction of trips in fact takes place;~~

~~• participate in programs operated by, and take actions specified by, a transportation management organization (TMO) to be established by County law for that policy area (or a group of policy areas including that policy area) to meet the mode share goals established under the preceding paragraph;~~

~~• pay an ongoing annual contribution or tax to fund the TMO's operating expenses, including minor capital items such as busses, as established by County law; and~~

~~• pay 75% of the applicable General District development impact tax without claiming any credits for transportation improvements.~~

### T~~A2~~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.

### T~~A3~~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:

> **TP Policy Area Based Transportation Review** and **TL Local Transportation Review** are not required.
>
> This provision applies to any application for a preliminary plan of subdivision, site plan, or building permit approved before July 26, 2016.

### T~~A4~~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 **TP ~~Transportation~~ Policy Area Based Transportation Review or TL Local Area Transportation Review** when it undergoes a mandatory referral review by the Planning Board.

### TA~~5~~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 ~~TPAR~~ Transportation Mitigation payment.

## Public School Facilities

### S1 Geographic Areas

For the purposes of public school analysis and local area review of school facilities at time of subdivision, the County has been divided into 25 areas called high school clusters. These areas coincide with the cluster boundaries used by the Montgomery County Public School system. Also for these purposes, the County has been divided into 39 middle school service areas and 133 elementary school service areas, which coincide, respectively, to the middle school and elementary school boundaries used by the Montgomery County Public School system.

The groupings used are only to administer the Adequate Public Facilities Ordinance and do not require any action by the Board of Education in exercising its power to designate school service boundaries.

### S2 Grade Levels and School Service Areas

Each cluster must be assessed separately at each of the 3 grade levels -- elementary, intermediate/middle, and high school. In addition, each elementary and middle school must also be assessed.

### S3 Determination of Adequacy

Each year, not later than July 1, the Planning Board must evaluate available capacity in each high school cluster, as well as each middle school and elementary school service area, and compare enrollment projected by Montgomery County Public Schools for each fiscal year with projected school capacity in 5 years. Placeholder capacity for a particular cluster level or school can only be counted as capacity in the annual school test for two years. If at any time during a fiscal year the County Council notifies the Planning Board of any material change in the Montgomery County Public Schools Capital Improvements Program, the Planning Board may revise its evaluation to reflect that change.

### S4 Moratorium on Residential Subdivision Approvals

In considering whether a moratorium on residential subdivisions must be imposed across a high school cluster, the Planning Board must use 120% utilization rate based on ~~of~~ Montgomery County Public Schools program capacity as its measure of adequate school capacity. This utilization measure must not count relocatable classrooms in computing a school's permanent capacity. If ~~If~~ projected enrollment at any grade level in that cluster will exceed 120% utilization, the Board must not approve any residential subdivision in that cluster during the next fiscal year.

In considering whether a moratorium on residential subdivisions must be imposed across a middle school service area, the Planning Board must use a 180-seat deficit and 120% utilization rate based on ~~of~~ Montgomery County Public Schools program capacity as its measures of adequate school

capacity. Both measures must not count relocatable classrooms in computing a school's permanent capacity. If projected enrollment in any middle school service area will exceed program capacity by 180 seats or more and will exceed 120% utilization, the Board must not approve any residential subdivision in that middle school service area during the next fiscal year.

In considering whether a moratorium on residential subdivisions must be imposed across an elementary school service area, the Planning Board must use a 110-seat deficit and 120% utilization rate based on ~~of~~ Montgomery County Public Schools program capacity as its measures of adequate school capacity. Both measures must not count relocatable classrooms in computing a school's permanent capacity. If projected enrollment in any elementary school service area will exceed program capacity by 110 seats or more and will exceed 120% utilization, the Board must not approve any residential subdivision in that elementary school service area during the next fiscal year.

If the Planning Board revises its measures of adequacy~~utilization~~ during fiscal year 2017~~3~~ because of a material change in projected school capacity, that revision must be used during the rest of that fiscal year in reviewing residential subdivisions.

Table 3 shows the result of this test for ~~July 1~~November 15, 2016~~2~~, to July 1, 2017~~3~~. Table ~~3 also~~4 shows the ~~remaining~~ projected student capacity and enrollment~~, in students,~~ at each grade level in each cluster for the 2021-22 school year. Table 5 shows the projected student capacity and enrollment for each elementary and middle school for the 2021-22 school year. Using average student generation rates developed biennially from the most recent ~~Census Update Survey~~Montgomery County Public Schools' enrollment data, the Planning Board must limit residential subdivision approvals in any cluster during the fiscal year so that the students generated by the housing units approved do not exceed the remaining capacity up to 120% utilization for students at any grade level in that cluster~~.~~, nor do they exceed the individual elementary and middle school seat deficit caps of 110 and 180 seats, respectively, in addition to a 120% school level utilization rate.

**S~~S~~5 Imposition of School Facilities Payment**

In considering whether a School Facilities Payment must be imposed on a residential subdivision, the Planning Board must use 105% of Montgomery County Public Schools' program capacity, middle school service area seat deficit, and elementary school service area seat deficit as its measures of adequate school capacity. The~~i~~se utilization measures must not count relocatable classrooms in computing a school's permanent capacity. If ~~If~~ projected enrollment at any grade level in the applicable ~~that~~ cluster will exceed 105% utilization but not exceed 120% utilization, the Board may approve a residential subdivision in that cluster during the next fiscal year if the applicant commits to pay a School Facilities Payment as provided in County law before receiving a building permit for any building in that subdivision. If projected enrollment at the middle school grade level in that cluster will not 105% utilization but projected enrollment at the applicable middle school will exceed projected capacity at that middle school by 150 seats, the Board may approve a residential subdivision in that middle school service area during the next fiscal year if the applicant commits to pay a School Facilities Payment as provided in County law before receiving a building permit for any building in that subdivision. If projected enrollment at the elementary school grade level in that cluster will not 105% utilization but projected enrollment at the applicable elementary school will exceed projected capacity at that elementary school by 92 seats, the Board may approve a residential subdivision in that elementary school service area during the next fiscal year if the applicant commits

to pay a School Facilities Payment as provided in County law before receiving a building permit for any building in that subdivision. If ~~If~~ the Planning Board revises its measure of utilization during fiscal year ~~2013~~ 2017 because of a material change in projected school capacity, that revision must be used during the rest of that fiscal year in reviewing residential subdivisions.

Table ~~4~~ 3 shows the result of this test for ~~July 1~~November 15, 201~~2~~6, to July 1, ~~2013~~2017. Table 4 ~~also~~ shows the ~~remaining~~ projected student capacity and enrollment~~, in students,~~ at each grade level in each cluster. Table 5 shows the projected student capacity and enrollment for each elementary and middle school for the 2021-22 school year. Using average student generation rates developed biennially from the most recent Montgomery County Public Schools' enrollment data~~Census Update Survey~~, the Planning Board must limit residential subdivision approvals in any cluster during the fiscal year so that the students generated by the housing units approved do not exceed the remaining capacity up to 120% utilization for students at any grade level in that cluster,~~.~~ nor do they exceed the individual elementary and middle school seat deficit caps of 110 and 180 seats, respectively, in addition to a 120% school level utilization rate.

**S6 Senior Housing**

If ~~If~~ public school capacity is inadequate in any cluster~~,~~ or school service area, the Planning Board may nevertheless approve a subdivision in that cluster, or school service area, without requiring a School Facilities Payment if the subdivision consists solely of housing and related facilities for elderly or handicapped persons or housing units located in the age-restricted section of a planned retirement community.

**S7 De Minimis Development**

If ~~If~~ public school capacity ~~in~~ is inadequate in any cluster, or school service area, the Planning Board may nevertheless approve a subdivision in that cluster, or school service area if the subdivision consists of no more than 3 housing units and the applicant commits to pay a School Facilities Payment as otherwise required before receiving a building permit for any building in that subdivision.

~~**S8 Development District Participants**~~

~~The Planning Board may require any development district for which it approves a provisional adequate public facilities approval (PAPF) to produce or contribute to infrastructure improvements needed to address inadequate school capacity.~~

**S~~9~~S8 Allocation of Staging Ceiling to Preliminary Plans of Subdivision**

The Planning Board must allocate available staging ceiling capacity in a high school cluster, and elementary or middle school service~~d~~ area, based on the queue date of an application for preliminary plan of subdivision approval.

**S~~9.1~~8.1 Assignment of queue date**

The queue date of a preliminary plan of subdivision is the date:

- ~~a~~ a complete application is filed with the Planning Board~~; or~~
- ~~6 months after the prior queue date if the prior queue date expires under **S9.4.**~~

### S~~9.2~~8.2 Calculation of available staging ceiling capacity

The Planning Board must determine whether adequate staging ceiling capacity is available for a project by subtracting the capacity required by projects with earlier queue dates from the remaining capacity on Tables ~~3~~ 4 and 5 as updated periodically. Based on this calculation, the Planning Board may:

- approve a project for which there is sufficient capacity;
- approve part of a project for which there is sufficient capacity, leaving the remainder of the project in the queue until additional capacity becomes available;
- deny an application for a project for which there is insufficient capacity; or
- defer approval of a project and leave the project in the queue until sufficient capacity becomes available for all or part of the project. If insufficient capacity is available, the Board must not schedule a hearing on the application unless the applicant requests one.

If sufficient capacity is available for a project based on the queue date, the Planning Board must not deny an application based on pipeline (but not staging ceiling) changes while the queue date is in effect.

### S~~9.3~~8.3 Applicability of School Facilities Payment

The Planning Board must determine whether a project is required to pay a School Facilities Payment by subtracting the capacity required by projects with earlier queue dates from the remaining capacity on Tables 4 and 5 as updated periodically. Based on this calculation, the Planning Board may:

- approve a project for which there is sufficient capacity;
- approve part of a project for which there is sufficient capacity, requiring the remainder of the project to pay the applicable School Facilities Payment until additional capacity becomes available; or
- defer approval of a project and leave the project in the queue until sufficient capacity becomes available for all or part of the project. If insufficient capacity is available, the Board must not schedule a hearing on the application unless the applicant requests one.

If ~~If~~ a project must pay a School Facilities Payment, the Planning Board must not deny an application based on pipeline (but not staging ceiling) changes while the Payment requirement is in effect.

### ~~S9.4 Expiration of queue date~~

~~A queue date for an application for preliminary plan of subdivision approval expires:~~

- ~~6 months after the queue date if sufficient staging ceiling capacity was available for the entire project on the queue date and the Planning Board has not approved the application or granted an extension of the queue date; or~~
- ~~6 months after sufficient capacity becomes available for the entire project.~~

~~The Planning Board may grant one or more 6-month extensions of a queue date if the applicant demonstrates that a queue date expired or will expire because of governmental delay beyond the applicant's control.~~

## 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.

## Timely Adequate Public Facilities Determination and Local Area Transportation Review under Chapter 8.

### APFl General.

Except as otherwise provided by law, an adequate public facilities determination or local area transportation review conducted under Article IV of Chapter 8 must use the standards and criteria applicable under this Resolution when evaluating the adequacy of public facilities to serve the proposed development.

### APF2 Traffic Mitigation Goals.

Any proposed development that is subject to requirements for a traffic mitigation agreement under Article IV of Chapter 8 and §42A-9A of the County Code must meet the traffic mitigation goals specified in paragraphs (1) or (4), as appropriate.

(1) Subject to paragraph (2), the portion of peak-period non-auto driver trips by employees of a proposed development must be at least the following percentage greater than the prevailing non-auto driver mode share of comparable nearby land use:

| In Policy Areas with LATR CLV Standard of | Required Percentage Greater Than Prevailing Non-Auto ~~d~~Driver Mode Share |
|---|---|
| 1800 and 1600 | 100% |
| 1550 | 80% |
| 1500 | 60% |
| 1475 and 1450 | 40% |

LATR CLV standards for each policy area are shown on Table 2.

(2) The portion of peak-period non-auto driver trips by employees calculated under paragraph (1) must not be less than 15% nor higher than 55%.

(3) The applicant for a proposed development in a policy area specified under paragraph (1) is responsible for reviewing existing studies of non-auto driver mode share; conducting new studies, as necessary, of non-auto driver mode share; and identifying the prevailing base non-auto driver mode share of comparable land uses within the area identified for the traffic study. Comparable land uses are improved sites within the area identified for the traffic study for the proposed development that have similar existing land use and trip generation characteristics. As with other aspects of the traffic study required by Article IV of Chapter 8, selection of the comparable studies and land uses to be analyzed and determination of the prevailing base non-auto driver mode share are subject to review by the Planning Department and approval by the Department of Transportation.

(4) Proposed development in the Silver Spring CBD must meet the commuting goals specified under **TL4.**

(5) In accordance with County Code §42A-9A, the applicant must enter into an agreement with the Director of the Department of Transportation before a building permit is issued. The agreement may include a schedule for full compliance with the traffic mitigation goals. It must provide appropriate enforcement mechanisms for compliance.

(6) As provided by law, these goals supersede traffic mitigation goals established under §42A-9A(a)(4).

(7) As noted in paragraph (5), traffic mitigation agreements are used to assure compliance with reductions in traffic generation from a subdivision, or to achieve non-auto driver mode share goals specified in approved master or sector plans. The Director of Transportation must determine whether a security instrument is required to assure completion and continuation of the elements of a traffic mitigation agreement. When the Director so finds, the Department must require a security instrument to be attached to an agreement Each security instrument must be held by the Department until performance of each element of the agreement has been satisfied. If the developer or its successor is unable to satisfactorily perform each element of an agreement as specified therein, the security instrument must be forfeited and the Department may retain the funds to operate a program to satisfy the agreement's goals.

This is a correct copy of Council action.

Linda M. Lauer

Linda M. Lauer, Clerk of the Council

**Table 1- Results of TPAR Test, January 1, 2013-June 30, 2014**

| Policy Area | Adequacy Status |
|---|---|
| Aspen Hill | Adequate under Roadway and Transit Tests |
| Bethesda CBD | Adequate under Roadway Test; exempt from Transit Test |
| Bethesda-Chevy Chase | Inadequate under Transit Test |
| Clarksburg | Inadequate under Transit Test |
| Cloverly | Inadequate under Transit Test |
| Damascus | Adequate under Roadway and Transit Tests |
| Derwood | Inadequate under Transit Test |
| Fairland/White Oak | Inadequate under Roadway Test |
| Friendship Heights | Adequate under Roadway Test; exempt from Transit Test |
| Gaithersburg City* | Inadequate under Roadway Test |
| Germantown East | Inadequate under Transit Test |
| Germantown Town Center | Inadequate under Transit Test |
| Germantown West | Inadequate under Transit Test |
| Glenmont | Adequate under Roadway Test; exempt from Transit Test |
| Grosvenor | Adequate under Roadway Test; exempt from Transit Test |
| Kensington/Wheaton | Inadequate under Transit Test |
| Montgomery Village/Airpark | Inadequate under Transit Test |
| North Bethesda | Inadequate under Transit Test |
| North Potomac | Inadequate under Transit Test |
| Olney | Inadequate under Transit Test |
| Potomac** | Inadequate under Transit Test |
| R&D Village | Inadequate under Transit Test |
| Rockville City* | Inadequate under Transit Test |
| Shady Grove | Adequate under Roadway Test; exempt from Transit Test |
| Silver Spring CBD | Adequate under Roadway Test; exempt from Transit Test |
| Silver Spring/Takoma Park | Inadequate under Transit Test |
| Twinbrook | Adequate under Roadway Test; exempt from Transit Test |
| WheatonCBD | Adequate under Roadway Test; exempt from Transit Test |

*Applies to any development that would be located in the policy area but not in the City.

**Under applicable master plans, the Potomac policy area is exempt from the Roadway Test.

The White Flint MSPA and the Rural East and Rural West policy areas are exempt from both the Roadway and Transit Tests.

**Table 1: Transit Accessibility Mitigation Requirements by Policy Area**

| Policy Area | Transit Accessibility Mitigation |
|---|---|
| **Red** Policy Areas | |
| Bethesda CBD | Exempt |
| Friendship Heights | Exempt |
| Grosvenor | Exempt |
| Glenmont | Exempt |
| Rockville Town Center | Exempt |
| Shady Grove Metro Station | Exempt |
| Silver Spring CBD | Exempt |
| Twinbrook | Exempt |
| Wheaton CBD | Exempt |
| White Flint | Exempt |
| **Orange** Policy Areas | |
| Bethesda/Chevy Chase | Adequate |
| Clarksburg | Inadequate, Full Mitigation |
| Derwood | Inadequate, Partial Mitigation |
| Gaithersburg City | Inadequate, Full Mitigation |
| Germantown Town Center | Inadequate, Full Mitigation |
| Kensington/Wheaton | Inadequate, Full Mitigation |
| North Bethesda | Inadequate, Full Mitigation |
| R&D Village | Inadequate, Full Mitigation |
| Rockville City | Inadequate, Full Mitigation |
| Silver Spring/Takoma Park | Inadequate, Full Mitigation |
| White Oak | Adequate |
| **Yellow** Policy Areas | |
| Aspen Hill | Inadequate, Full Mitigation |
| Cloverly | Inadequate, Full Mitigation |
| Fairland/Colesville | Inadequate, Partial Mitigation |
| Germantown East | Inadequate, Full Mitigation |
| Germantown West | Inadequate, Full Mitigation |
| Montgomery Village/Airpark | Adequate |
| North Potomac | Inadequate, Full Mitigation |
| Olney | Inadequate, Full Mitigation |
| Potomac | Adequate |
| **Green** Policy Areas | |
| Damascus | Exempt |
| Rural East | Exempt |
| Rural West | Exempt |

**Table 2**

**Local Area Transportation Review Intersection Congestion Standards – Critical Lane Volume and Highway Capacity Manual Volume-to- Capacity Equivalencies**

| Critical Lane Volume Congestion Standard | Policy Area | HCM volume-to-capacity equivalent |
|---|---|---|
| 1350 | Rural East/ West | 0.84 |
| 1400 | Damascus | 0.88 |
| 1425 | Clarksburg<br>Germantown East<br>Germantown West<br>Gaithersburg City<br>Montgomery Village/Airpark | 0.89 |
| 1450 | Cloverly<br>North Potomac<br>Potomac<br>Olney<br>R&D Village | 0.91 |
| 1475 | Derwood<br>Aspen Hill<br>Fairland/White Oak | 0.92 |
| 1500 | Rockville City | 0.94 |
| 1550 | North Bethesda | 0.97 |
| 1600 | Bethesda/Chevy Chase<br>Kensington/Wheaton<br>Silver Spring/Takoma Park<br>Germantown Town Center | 1.0 |
| 1800 | Bethesda CBD<br>Silver Spring CBD<br>Wheaton CBD<br>Friendship Heights CBD<br>White Flint<br>Twinbrook<br>Grosvenor<br>Glenmont<br>Shady Grove<br>Rockville Town Center | 1.13 |

[

# Subdivision Staging Policy
# Results of School Test for FY 2013

**Reflects County Council Adopted FY 2013 Capital Budget and FY 2013–2018 Capital Improvements Program (CIP)**

Effective July 1, 2012

| | | Cluster Outcomes by Level | | |
|---|---|---|---|---|
| **School Test Level** | **Description** | **Elementary Inadequate** | **Middle Inadequate** | **High Inadequate** |
| **Clusters over 105% utilization** | 5-year test | Blake (106.7%) | Blair (106.9%) | B-CC ( 115.8%) * |
| | | Gaithersburg (110.0%) | Walter Johnson (112.3%) | Blake (106.7%) |
| | Effective July 1, 2012 | Magruder (105.4%) | Rockville (115.4%) | Walter Johnson (106.3%) |
| School facility payment required in | | Paint Branch (114.5%) | Springbrook (106.7%) | Northwood (111.5%) |
| inadequate clusters to proceed. | Test year 2017-18 | Quince Orchard (108.9%) | Wheaton (109.4%) | Quince Orchard (107.1%) |
| | | Rockville (113.3%) | Whitman (116.0%) | Whitman (109.3%) |
| | | Seneca Valley (111.9%) | | Wootton (107.6%) |
| **Clusters over 120% utilization** | 5-year test | | | |
| | Effective July 1, 2012 | | | |
| Moratorium required in clusters | | | | |
| that are inadequate. | Test year 2017-18 | | | |

* Utilization of B-CC HS includes a "placeholder" capital project of ten classrooms, pending a request for an addition in a future CIP.

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# Subdivision Staging Policy FY 2013 School Test: Cluster Utilizations in 2017–2018

Reflects County Council Adopted FY 2013 Capital Budget and FY 2013–2018 Capital Improvements Program (CIP)

**Effective July 1, 2012**

Elementary School Test: Percent Utilization >105% School Facility Payment and >120% Moratorium

| Cluster Area | Projected August 2017 Enrollment | 100% MCPS Program Capacity With Adopted FY13–18 CIP | Cluster Percent Utilization in 2017 | School Test Result Capacity is: | Cluster is? |
|---|---|---|---|---|---|
| Bethesda-Chevy Chase | 3,501 | 3,810 | 91.9% | Adequate | Open |
| Montgomery Blair | 4,222 | 4,154 | 101.6% | Adequate | Open |
| **James Hubert Blake** | **2,585** | **2,423** | **106.7%** | **Inadequate** | **School Payment** |
| Winston Churchill | 2,650 | 2,887 | 91.8% | Adequate | Open |
| Clarksburg | 4,029 | 3,998 | 100.8% | Adequate | Open |
| Damascus | 2,395 | 2,409 | 99.4% | Adequate | Open |
| Albert Einstein | 2,760 | 2,639 | 104.6% | Adequate | Open |
| **Gaithersburg** | **4,001** | **3,637** | **110.0%** | **Inadequate** | **School Payment** |
| Walter Johnson | 4,089 | 3,946 | 103.6% | Adequate | Open |
| John F. Kennedy | 2,773 | 2,910 | 95.3% | Adequate | Open |
| **Col. Zadok Magruder** | **2,683** | **2,546** | **105.4%** | **Inadequate** | **School Payment** |
| Richard Montgomery | 2,745 | 2,978 | 92.2% | Adequate | Open |
| Northwest | 4,249 | 4,309 | 98.6% | Adequate | Open |
| Northwood | 3,464 | 3,376 | 102.6% | Adequate | Open |
| **Paint Branch** | **2,464** | **2,152** | **114.5%** | **Inadequate** | **School Payment** |
| Poolesville | 652 | 758 | 86.0% | Adequate | Open |
| **Quince Orchard** | **3,035** | **2,787** | **108.9%** | **Inadequate** | **School Payment** |
| **Rockville** | **2,609** | **2,303** | **113.3%** | **Inadequate** | **School Payment** |
| **Seneca Valley** | **2,401** | **2,145** | **111.9%** | **Inadequate** | **School Payment** |
| Sherwood | 2,017 | 2,427 | 83.1% | Adequate | Open |
| Springbrook | 3,295 | 3,151 | 104.6% | Adequate | Open |
| Watkins Mill | 2,663 | 2,721 | 97.9% | Adequate | Open |
| Wheaton | 3,156 | 3,304 | 95.5% | Adequate | Open |
| Walt Whitman | 2,554 | 2,560 | 99.8% | Adequate | Open |
| Thomas S. Wootton | 2,893 | 3,246 | 89.1% | Adequate | Open |

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Middle School Test: Percent Utilization >105% School Facility Payment and >120% Moratorium

| Cluster Area | Projected August 2017 Enrollment | 100% MCPS Program Capacity With Adopted FY13–18 CIP | Cluster Percent Utilization in 2017 | School Test Result Capacity is: | Cluster is? |
|---|---|---|---|---|---|
| Bethesda-Chevy Chase | 1,608 | 2,007 | 80.1% | Adequate | Open |
| **Montgomery Blair** | **2,455** | **2,296** | **106.9%** | **Inadequate** | **School Payment** |
| James Hubert Blake | 1,301 | 1,314 | 99.0% | Adequate | Open |
| Winston Churchill | 1,345 | 1,593 | 84.4% | Adequate | Open |
| Clarksburg | 1,871 | 2,381 | 78.6% | Adequate | Open |
| Damascus | 758 | 740 | 102.4% | Adequate | Open |
| Albert Einstein | 1,234 | 1,332 | 92.6% | Adequate | Open |
| Gaithersburg | 1,711 | 1,797 | 95.2% | Adequate | Open |
| **Walter Johnson** | **2,057** | **1,831** | **112.3%** | **Inadequate** | **School Payment** |
| John F. Kennedy | 1,411 | 1,436 | 98.3% | Adequate | Open |
| Col. Zadok Magruder | 1,277 | 1,637 | 78.0% | Adequate | Open |
| Richard Montgomery | 1,331 | 1,444 | 92.2% | Adequate | Open |
| Northwest | 2,135 | 2,052 | 104.0% | Adequate | Open |
| Northwood | 1,453 | 1,459 | 99.6% | Adequate | Open |
| Paint Branch | 1,279 | 1,228 | 104.2% | Adequate | Open |
| Poolesville | 317 | 459 | 69.1% | Adequate | Open |
| Quince Orchard | 1,453 | 1,688 | 86.1% | Adequate | Open |
| **Rockville** | **1,099** | **952** | **115.4%** | **Inadequate** | **School Payment** |
| Seneca Valley | 1,302 | 1,485 | 87.7% | Adequate | Open |
| Sherwood | 1,127 | 1,501 | 75.1% | Adequate | Open |
| **Springbrook** | **1,361** | **1,275** | **106.7%** | **Inadequate** | **School Payment** |
| Watkins Mill | 1,239 | 1,359 | 91.2% | Adequate | Open |
| **Wheaton** | **1,738** | **1,588** | **109.4%** | **Inadequate** | **School Payment** |
| **Walt Whitman** | **1,474** | **1,271** | **116.0%** | **Inadequate** | **School Payment** |
| Thomas S. Wootton | 1,434 | 1,567 | 91.5% | Adequate | Open |
| | | 37,692 | | | |

High School Test: Percent Utilization >105% School Facility Payment and >120% Moratorium

| Cluster Area | Projected August 2017 Enrollment | 100% MCPS Program Capacity With Adopted FY13–18 CIP | Cluster Percent Utilization in 2017 | School Test Result Capacity is: | Cluster is? |
|---|---|---|---|---|---|
| **Bethesda-Chevy Chase*** | **2,162** | **1,867** | **115.8%** | **Inadequate** | **School Payment** |
| Montgomery Blair | 2,980 | 2,875 | 103.7% | Adequate | Open |
| **James Hubert Blake** | **1,840** | **1,724** | **106.7%** | **Inadequate** | **School Payment** |
| Winston Churchill | 1,860 | 1,941 | 95.8% | Adequate | Open |
| Clarksburg | 1,933 | 1,971 | 98.1% | Adequate | Open |
| Damascus | 1,267 | 1,479 | 85.7% | Adequate | Open |
| Albert Einstein | 1,468 | 1,618 | 90.7% | Adequate | Open |
| Gaithersburg | 2,087 | 2,284 | 91.4% | Adequate | Open |
| **Walter Johnson** | **2,437** | **2,292** | **106.3%** | **Inadequate** | **School Payment** |
| John F. Kennedy | 1,694 | 1,793 | 94.5% | Adequate | Open |
| Col. Zadok Magruder | 1,626 | 1,896 | 85.8% | Adequate | Open |
| Richard Montgomery | 2,301 | 2,232 | 103.1% | Adequate | Open |
| Northwest | 2,246 | 2,151 | 104.4% | Adequate | Open |
| **Northwood** | **1,686** | **1,512** | **111.5%** | **Inadequate** | **School Payment** |
| Paint Branch | 1,881 | 1,899 | 99.1% | Adequate | Open |
| Poolesville | 1,097 | 1,152 | 95.2% | Adequate | Open |
| **Quince Orchard** | **1,903** | **1,777** | **107.1%** | **Inadequate** | **School Payment** |
| Rockville | 1,499 | 1,530 | 98.0% | Adequate | Open |
| Seneca Valley | 1,376 | 1,694 | 81.2% | Adequate | Open |
| Sherwood | 1,868 | 2,013 | 92.8% | Adequate | Open |
| Springbrook | 1,806 | 2,082 | 86.7% | Adequate | Open |
| Watkins Mill | 1,499 | 1,980 | 75.7% | Adequate | Open |
| Wheaton | 1,388 | 1,604 | 86.5% | Adequate | Open |
| **Walt Whitman** | **1,998** | **1,828** | **109.3%** | **Inadequate** | **School Payment** |
| **Thomas S. Wootton** | **2,249** | **2,091** | **107.6%** | **Inadequate** | **School Payment** |

* Capacity at Bethesda-Chevy Chase HS includes a "placeholder" capital project of ten classrooms, pending a request for an addition in a future CIP.

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**Table 3.**

# Subdivision Staging Policy
# Results of School Test for FY 2017

Reflects County Council Adopted FY 2017 Capital Budget and the FY 2017-2022 Capital Improvements Program (CIP)
Effective November 15, 2016

| School Test Outcome | School Test Description and Details | Cluster Outcomes by Level | | |
|---|---|---|---|---|
| | | Elementary Inadequate | Middle Inadequate | High Inadequate |
| **School Facility Payment**<br><br>School facility payment required in inadequate clusters to proceed. | **Clusters over 105% utilization**<br><br>Test year 2021-22 | Einstein (107.4%)<br>Gaithersburg (112.4%)<br>Northwood Cluster (116.0%)<br>Quince Orchard Cluster (113.2%) | Gaithersburg Cluster (107.5%)<br>Rockville Cluster (116.2%)<br>Wheaton Cluster (110.7%) | Blair (116.3%)<br>Churchill (113.5%)<br>Einstein (116.9%)<br>Gaithersburg (107.6%)<br>Walter Johnson (113.9%)<br>Kennedy (112.5%)<br>Richard Montgomery (112.2%)<br>Northwood (114.8%)<br>Paint Branch (111.0%)<br>Quince Orchard (110.4%) |
| | **Schools at or above seat deficit thresholds**<br><br>Elementary: 92 seats<br>Middle: 150 seats<br><br>Test year 2021-22 | Garrett Park ES (-128)<br>Meadow Hall ES (-106) | | |
| **Moratorium**<br><br>Moratorium required in clusters that are inadequate. | **Clusters over 120% utilization**<br><br>Test year 2021-22 | | | |
| | **Schools at or above seat deficit thresholds and over 120% utilization**<br><br>Elementary: 110 seats<br>Middle: 180 seats<br><br>Test year 2021-22 | Highland View ES (-112, 137.6%)<br>Lake Seneca ES (-113, 127.2%)<br>Thurgood Marshall ES (-118, 122.1%)<br>Rosemont ES (-250, 140.8%)<br>Strawberry Knoll ES (-144, 129.9%)<br>Summit Hall ES (-191, 141.0%) | | |

Capacity in clusters include the following placeholder projects:
- Twenty elementary school classrooms in the Northwest Cluster
- Six high school classrooms in the Einstein Cluster
- Eight high school classrooms in the Walter Johnson Cluster
- Ten high school classrooms in the Northwood Cluster

**Table 4.**

# Subdivision Staging Policy FY 2017 School Test: Cluster Utilizations in 2021-2022

Reflects County Council Adopted FY 2017 Capital Budget and the FY 2017-2022 Capital Improvements Program (CIP)

**Effective November 15, 2016**

**Elementary School Test: Percent Utilization > 105% School Facility Payment and >120% Moratorium**

| Cluster Area | Projected August 2021 Enrollment | 100% MCPS Program Capacity With Adopted FY17-22 CIP | Cluster Percent Utilization in 2021-2022 School Year | School Test Result Capacity is: | Cluster Status |
|---|---|---|---|---|---|
| Bethesda-Chevy Chase | 3,565 | 3,864 | 92.3% | Adequate | Open |
| Montgomery Blair | 4,701 | 4,783 | 98.3% | Adequate | Open |
| James Hubert Blake | 2,573 | 2,554 | 100.7% | Adequate | Open |
| Winston Churchill | 2,492 | 2,913 | 85.5% | Adequate | Open |
| Clarksburg | 4,279 | 4,522 | 94.65 | Adequate | Open |
| Damascus | 2,099 | 2,272 | 92.4% | Adequate | Open |
| **Albert Einstein** | **3,057** | **2,847** | **107.4%** | **Inadequate** | **School Payment** |
| **Gaithersburg** | **4,685** | **4,170** | **112.4%** | **Inadequate** | **School Payment** |
| Walter Johnson | 4,513 | 4,631 | 97.5% | Adequate | Open |
| John F. Kennedy | 3,086 | 3,199 | 96.5% | Adequate | Open |
| Col. Zadok Magruder | 2,609 | 2,843 | 91.8% | Adequate | Open |
| Richard Montgomery | 2,750 | 2,884 | 95.4% | Adequate | Open |
| Northwest* | 4,069 | 4,194 | 97.0% | Adequate | Open |
| **Northwood** | **3,687** | **3,178** | **116.0%** | **Inadequate** | **School Payment** |
| Paint Branch | 2,570 | 2,503 | 102.7% | Adequate | Open |
| Poolesville | 506 | 758 | 66.8% | Adequate | Open |
| **Quince Orchard** | **3,148** | **2,781** | **113.2%** | **Inadequate** | **School Payment** |
| Rockville | 2,580 | 2,636 | 97.9% | Adequate | Open |
| Seneca Valley | 2,537 | 2,425 | 104.6% | Adequate | Open |
| Sherwood | 1,908 | 2,394 | 79.7% | Adequate | Open |
| Springbrook | 3,409 | 3,332 | 102.3% | Adequate | Open |
| Watkins Mill | 2,764 | 2,858 | 96.7% | Adequate | Open |
| Wheaton | 3,150 | 3,454 | 91.2% | Adequate | Open |
| Walt Whitman | 2,409 | 2,571 | 93.7% | Adequate | Open |
| Thomas S. Wootton | 2,551 | 3,205 | 79.6% | Adequate | Open |

* Northwest Cluster elementary school capacity includes 20 classrooms of capacity for a solution to space deficits in the cluster.

# Subdivision Staging Policy FY 2017 School Test: Cluster Utilizations in 2021-2022

Reflects County Council Adopted FY 2017 Capital Budget and the FY 2017-2022 Capital Improvements Program (CIP)

**Effective November 15, 2016**

**Middle School Test: Percent Utilization > 105% School Facility Payment and >120% Moratorium**

| Cluster Area | Projected August 2021 Enrollment | 100% MCPS Program Capacity With Adopted FY17-22 CIP | Cluster Percent Utilization in 2021-2022 School Year | School Test Result Capacity is: | Cluster Status |
|---|---|---|---|---|---|
| Bethesda-Chevy Chase | 1,774 | 2,027 | 87.5% | Adequate | Open |
| Montgomery Blair | 2,878 | 2,913 | 98.8% | Adequate | Open |
| James Hubert Blake | 1,275 | 1,345 | 94.8% | Adequate | Open |
| Winston Churchill | 1,426 | 1,696 | 84.1% | Adequate | Open |
| Clarksburg | 2,117 | 2,171 | 97.5% | Adequate | Open |
| Damascus | 923 | 982 | 94.0% | Adequate | Open |
| Albert Einstein | 1,278 | 1,420 | 90.0% | Adequate | Open |
| **Gaithersburg** | **2,041** | **1,898** | **107.5%** | **Inadequate** | **School Payment** |
| Walter Johnson | 2,313 | 2,429 | 95.2% | Adequate | Open |
| John F. Kennedy | 1,724 | 1,698 | 101.5% | Adequate | Open |
| Col. Zadok Magruder | 1,180 | 1,616 | 73.0% | Adequate | Open |
| Richard Montgomery | 1,392 | 1,445 | 96.3% | Adequate | Open |
| Northwest | 2,145 | 2,235 | 96.0% | Adequate | Open |
| Northwood | 1,813 | 1,830 | 99.1% | Adequate | Open |
| Paint Branch | 1,380 | 1,401 | 98.5% | Adequate | Open |
| Poolesville | 307 | 468 | 65.6% | Adequate | Open |
| Quince Orchard | 1,442 | 1,646 | 87.6% | Adequate | Open |
| **Rockville** | **1,106** | **952** | **116.2%** | **Inadequate** | **School Payment** |
| Seneca Valley | 1,252 | 1,397 | 89.6% | Adequate | Open |
| Sherwood | 1,132 | 1,429 | 79.2% | Adequate | Open |
| Springbrook | 1,276 | 1,250 | 102.1% | Adequate | Open |
| Watkins Mill | 1,285 | 1,355 | 94.8% | Adequate | Open |
| **Wheaton** | **1,623** | **1,466** | **110.7%** | **Inadequate** | **School Payment** |
| Walt Whitman | 1,511 | 1,502 | 100.6% | Adequate | Open |
| Thomas S. Wootton | 1,348 | 1,641 | 82.1% | Adequate | Open |

# Subdivision Staging Policy FY 2017 School Test: Cluster Utilizations in 2021-2022

Reflects County Council Adopted FY 2017 Capital Budget and the FY 2017-2022 Capital Improvements Program (CIP)

**Effective November 15, 2016**

**High School Test: Percent Utilization > 105% School Facility Payment and >120% Moratorium**

| Cluster Area | Projected August 2021 Enrollment | 100% MCPS Program Capacity With Adopted FY17-22 CIP | Cluster Percent Utilization in 2021-2022 School Year | School Test Result Capacity is: | Cluster Status |
|---|---|---|---|---|---|
| Bethesda-Chevy Chase | 2,424 | 2,407 | 101.1 | Adequate | Open |
| **Montgomery Blair** | **3,396** | **2,920** | **116.3** | **Inadequate** | **School Payment** |
| James Hubert Blake | 1,806 | 1,734 | 104.2 | Adequate | Open |
| **Winston Churchill** | **2,254** | **1,986** | **113.5** | **Inadequate** | **School Payment** |
| Clarksburg* | 1,997 | 2,025 | 98.6 | Adequate | Open |
| Damascus | 1,390 | 1,551 | 89.6 | Adequate | Open |
| **Albert Einstein**** | **2,033** | **1,739** | **116.9** | **Inadequate** | **School Payment** |
| **Gaithersburg** | **2,591** | **2,407** | **107.6** | **Inadequate** | **School Payment** |
| **Walter Johnson***** | **2,865** | **2,515** | **113.9** | **Inadequate** | **School Payment** |
| **John F. Kennedy** | **2,062** | **1,833** | **112.5** | **Inadequate** | **School Payment** |
| Col. Zadok Magruder | 1,622 | 1,941 | 83.6 | Adequate | Open |
| **Richard Montgomery** | **2,508** | **2,236** | **112.2** | **Inadequate** | **School Payment** |
| Northwest* | 2,210 | 2,241 | 98.6 | Adequate | Open |
| **Northwood****** | **2,002** | **1,744** | **114.8** | **Inadequate** | **School Payment** |
| **Paint Branch** | **2,248** | **2,025** | **111.0** | **Inadequate** | **School Payment** |
| Poolesville | 1,195 | 1,170 | 102.1 | Adequate | Open |
| **Quince Orchard** | **2,050** | **1,857** | **110.4** | **Inadequate** | **School Payment** |
| Rockville | 1,596 | 1,570 | 101.7 | Adequate | Open |
| Seneca Valley* | 2,363 | 2,400 | 98.5 | Adequate | Open |
| Sherwood | 1,915 | 2,166 | 88.4 | Adequate | Open |
| Springbrook | 1,991 | 2,162 | 92.1 | Adequate | Open |
| Watkins Mill | 1,845 | 1,942 | 95.0 | Adequate | Open |
| Wheaton | 1,839 | 2,239 | 82.1 | Adequate | Open |
| Walt Whitman | 2,231 | 2,398 | 93.0 | Adequate | Open |
| Thomas S. Wootton | 2,237 | 2,420 | 92.4 | Adequate | Open |

* Enrollments Clarksburg, Northwest and Seneca Valley high schools are estimated to reflect future reassignments to Seneca Valley HS

** Einstein High School Capacity includes a 6 classroom addition in a placeholder project

*** Walter Johnson High School Capacity includes an 8 classroom addition in a placeholder project

**** Northwood High School Capacity includes a 10 classroom addition in a placeholder project

## Table 5.

# Subdivision Staging Policy FY 2017 School Test: Individual School Seat Deficits in 2021-2022

Reflects County Council Adopted FY 2017 Capital Budget and the FY 2017-2022 Capital Improvements Program (CIP)

**Effective November 15, 2016**

**Elementary School Test: Seat Deficit ≥ 92 seats School Facility Payment; ≥ 110 seats and >120% utilization Moratorium**

| School Name | Cluster(s) | Cluster Grade Level Status | Projected 2021-22 Enrollment | Projected 2021-22 Program Capacity | Projected 2021-22 Available Space | Projected 2021-22 Utilization | School Adequacy | School Service Area Status |
|---|---|---|---|---|---|---|---|---|
| Arcola | Northwood | School Payment | 735 | 644 | -91 | 114.1% | Adequate | Open |
| Ashburton | Walter Johnson | Open | 886 | 881 | -5 | 100.6% | Adequate | Open |
| Bannockburn | Walt Whitman | Open | 380 | 365 | -15 | 104.1% | Adequate | Open |
| Lucy V. Barnsley | Rockville | Open | 623 | 673 | 50 | 92.6% | Adequate | Open |
| Beall | Richard Montgomery | Open | 836 | 638 | -198 | 131.0% | Adequate* | Open*** |
| Bel Pre | Kennedy | Open | 559 | 640 | 81 | 87.3% | Adequate | Open |
| Bells Mill | Winston Churchill | Open | 617 | 609 | -8 | 101.3% | Adequate | Open |
| Belmont | Sherwood | Open | 321 | 425 | 104 | 75.5% | Adequate | Open |
| Bethesda | Bethesda-Chevy Chase | Open | 557 | 577 | 20 | 96.5% | Adequate | Open |
| Beverly Farms | Winston Churchill | Open | 548 | 690 | 142 | 79.4% | Adequate | Open |
| Bradley Hills | Walt Whitman | Open | 577 | 663 | 86 | 87.0% | Adequate | Open |
| Brooke Grove | Sherwood | Open | 376 | 518 | 142 | 72.6% | Adequate | Open |
| Brookhaven | Wheaton | Open | 457 | 496 | 39 | 92.1% | Adequate | Open |
| Brown Station | Quince Orchard | School Payment | 581 | 709 | 128 | 81.9% | Adequate | Open |
| Burning Tree | Walt Whitman | Open | 430 | 379 | -51 | 113.5% | Adequate | Open |
| Burnt Mills | Blake | Open | 514 | 425 | -89 | 120.9% | Adequate | Open |
| Burtonsville | Paint Branch | Open | 657 | 736 | 79 | 89.3% | Adequate | Open |
| Candlewood | Col. Zadok Magruder | Open | 351 | 498 | 147 | 70.5% | Adequate | Open |
| Cannon Road | Springbrook | Open | 458 | 521 | 63 | 87.9% | Adequate | Open |
| Carderock Springs | Walt Whitman | Open | 380 | 407 | 27 | 93.4% | Adequate | Open |
| Rachel Carson | Quince Orchard | School Payment | 990 | 667 | -323 | 148.4% | Adequate* | Open*** |
| Cashell | Col. Zadok Magruder | Open | 358 | 340 | -18 | 105.3% | Adequate | Open |
| Cedar Grove | Clarksburg/Damascus | Open/Open | 587 | 405 | -182 | 144.9% | Adequate* | Open*** |
| Chevy Chase | Bethesda-Chevy Chase | Open | 431 | 473 | 42 | 91.1% | Adequate | Open |
| Clarksburg | Clarksburg | Open | 553 | 313 | -240 | 176.7% | Adequate* | Open*** |
| CCES (Clarksburg Village #2) | Clarksburg | Open | 0 | 740 | 740 | 0.0% | Adequate | Open |
| Clearspring | Damascus | Open | 599 | 638 | 39 | 93.9% | Adequate | Open |
| Clopper Mill | Northwest | Open | 534 | 437 | -97 | 122.2% | Adequate† | Open†† |
| Cloverly | Paint Branch | Open | 453 | 454 | 1 | 99.8% | Adequate | Open |
| Cold Spring | Thomas S. Wootton | Open | 325 | 459 | 134 | 70.8% | Adequate | Open |
| College Gardens | Richard Montgomery | Open | 837 | 693 | -144 | 120.8% | Adequate* | Open*** |
| Cresthaven | Springbrook | Open | 491 | 467 | -24 | 105.1% | Adequate | Open |
| Capt. James E. Daly | Clarksburg | Open | 602 | 523 | -79 | 115.1% | Adequate | Open |
| Damascus | Damascus | Open | 336 | 327 | -9 | 102.8% | Adequate | Open |
| Darnestown | Northwest | Open | 311 | 471 | 160 | 66.0% | Adequate | Open |
| Diamond | Northwest | Open | 657 | 670 | 13 | 98.1% | Adequate | Open |
| Dr. Charles R. Drew | Springbrook | Open | 484 | 461 | -23 | 105.0% | Adequate | Open |
| DuFief | Thomas S. Wootton | Open | 330 | 416 | 86 | 79.3% | Adequate | Open |
| East Silver Spring | Blair | Open | 566 | 577 | 11 | 98.1% | Adequate | Open |
| Fairland | Blake | Open | 580 | 640 | 60 | 90.6% | Adequate | Open |
| Fallsmead | Thomas S. Wootton | Open | 489 | 598 | 109 | 81.8% | Adequate | Open |

| School Name | Cluster(s) | Cluster Grade Level Status | Projected 2021-22 Enrollment | Projected 2021-22 Program Capacity | Projected 2021-22 Available Space | Projected 2021-22 Utilization | School Adequacy | School Service Area Status |
|---|---|---|---|---|---|---|---|---|
| Farmland | Walter Johnson | Open | 745 | 729 | -16 | 102.2% | Adequate | Open |
| Fields Road | Quince Orchard | School Payment | 479 | 429 | -50 | 111.7% | Adequate | Open |
| Flower Hill | Col. Zadok Magruder | Open | 450 | 483 | 33 | 93.2% | Adequate | Open |
| Flower Valley | Rockville | Open | 439 | 429 | -10 | 102.3% | Adequate | Open |
| Forest Knolls | Northwood | School Payment | 731 | 555 | -176 | 131.7% | Adequate* | Open*** |
| Fox Chapel | Clarksburg | Open | 608 | 683 | 75 | 89.0% | Adequate | Open |
| Gaithersburg | Gaithersburg | School Payment | 970 | 1,000 | 30 | 97.0% | Adequate | Open |
| Galway | Paint Branch | Open | 790 | 777 | -13 | 101.7% | Adequate | Open |
| **Garrett Park** | **Walter Johnson** | **Open** | **880** | **752** | **-128** | **117.0%** | **Inadequate** | **School Payment** |
| Georgian Forest | Kennedy | Open | 633 | 649 | 16 | 97.5% | Adequate | Open |
| Germantown | Northwest | Open | 345 | 329 | -16 | 104.9% | Adequate | Open |
| William B. Gibbs Jr. | Clarksburg | Open | 700 | 741 | 41 | 94.5% | Adequate | Open |
| Glen Haven | Northwood | School Payment | 605 | 576 | -29 | 105.0% | Adequate | Open |
| Glenallan | Kennedy | Open | 691 | 762 | 71 | 90.7% | Adequate | Open |
| Goshen | Gaithersburg | School Payment | 528 | 538 | 10 | 98.1% | Adequate | Open |
| Great Seneca Creek | Northwest | Open | 617 | 551 | -66 | 112.0% | Adequate | Open |
| Greencastle | Paint Branch | Open | 738 | 604 | -134 | 122.2% | Adequate* | Open*** |
| Greenwood | Sherwood | Open | 410 | 585 | 175 | 70.1% | Adequate | Open |
| Harmony Hills | Kennedy | Open | 732 | 709 | -23 | 103.2% | Adequate | Open |
| Highland | Einstein | School Payment | 597 | 517 | -80 | 115.5% | Adequate | Open |
| **Highland View** | **Northwood** | **School Payment** | **410** | **298** | **-112** | **137.6%** | **Inadequate** | **Moratorium** |
| Jackson Road | Blake/Springbrook | Open/Open | 692 | 709 | 17 | 97.6% | Adequate | Open |
| Jones Lane | Quince Orchard | School Payment | 445 | 441 | -4 | 100.9% | Adequate | Open |
| Kemp Mill | Northwood | School Payment | 559 | 458 | -101 | 122.1% | Inadequate | School Payment |
| Kensington-Parkwood | Walter Johnson | Open | 715 | 746 | 31 | 95.8% | Adequate | Open |
| **Lake Seneca** | **Seneca Valley** | **Open** | **528** | **415** | **-113** | **127.2%** | **Inadequate** | **Moratorium** |
| Lakewood | Thomas S. Wootton | Open | 459 | 556 | 97 | 82.6% | Adequate | Open |
| Laytonsville | Gaithersburg | School Payment | 410 | 448 | 38 | 91.5% | Adequate | Open |
| JoAnn Leleck | Springbrook | Open | 777 | 715 | -62 | 108.7% | Adequate | Open |
| Little Bennett | Clarksburg | Open | 612 | 676 | 64 | 90.5% | Adequate | Open |
| Luxmanor | Walter Johnson | Open | 542 | 745 | 203 | 72.8% | Adequate | Open |
| **Thurgood Marshall** | **Quince Orchard** | **School Payment** | **653** | **535** | **-118** | **122.1%** | **Inadequate** | **Moratorium** |
| Maryvale | Rockville | Open | 646 | 778 | 132 | 83.0% | Adequate | Open |
| Spark M. Matsunaga | Northwest | Open | 800 | 653 | -147 | 122.5% | Adequate† | Open†† |
| S. Christa McAuliffe | Seneca Valley | Open | 720 | 762 | 42 | 94.5% | Adequate | Open |
| Ronald McNair | Northwest | Open | 805 | 623 | -182 | 129.2% | Adequate† | Open†† |
| **Meadow Hall** | **Rockville** | **Open** | **459** | **353** | **-106** | **130.0%** | **Inadequate** | **School Payment** |
| Mill Creek Towne | Col. Zadok Magruder | Open | 359 | 336 | -23 | 106.8% | Adequate | Open |
| Monocacy | Poolesville | Open | 155 | 219 | 64 | 70.8% | Adequate | Open |
| Montgomery Knolls | Blair | Open | 480 | 648 | 168 | 74.1% | Adequate | Open |
| New Hampshire Estates | Blair | Open | 489 | 480 | -9 | 101.9% | Adequate | Open |
| Roscoe R. Nix | Springbrook | Open | 513 | 521 | 8 | 98.5% | Adequate | Open |
| North Chevy Chase | Bethesda-Chevy Chase | Open | 291 | 358 | 67 | 81.3% | Adequate | Open |
| Oak View | Blair | Open | 416 | 358 | -58 | 116.2% | Adequate | Open |
| Oakland Terrace | Einstein | School Payment | 512 | 513 | 1 | 99.8% | Adequate | Open |
| Olney | Sherwood | Open | 567 | 584 | 17 | 97.1% | Adequate | Open |
| William T. Page | Blake | Open | 391 | 389 | -2 | 100.5% | Adequate | Open |
| Pine Crest | Blair | Open | 481 | 588 | 107 | 81.8% | Adequate | Open |

| School Name | Cluster(s) | Cluster Grade Level Status | Projected 2021-22 Enrollment | Projected 2021-22 Program Capacity | Projected 2021-22 Available Space | Projected 2021-22 Utilization | School Adequacy | School Service Area Status |
|---|---|---|---|---|---|---|---|---|
| Piney Branch | Blair | Open | 740 | 749 | 9 | 98.8% | Adequate | Open |
| Poolesville | Poolesville | Open | 351 | 539 | 188 | 65.1% | Adequate | Open |
| Potomac | Winston Churchill | Open | 430 | 548 | 118 | 78.5% | Adequate | Open |
| Judith A. Resnik | Col. Zadok Magruder | Open | 627 | 701 | 74 | 89.4% | Adequate | Open |
| RMES #5 | Richard Montgomery | Open | 0 | 602 | 602 | 0.0% | Adequate | Open |
| Dr. Sally K. Ride | Seneca Valley | Open | 529 | 472 | -57 | 112.1% | Adequate | Open |
| Ritchie Park | Richard Montgomery | Open | 513 | 388 | -125 | 132.2% | Adequate* | Open*** |
| Rock Creek Forest | Bethesda-Chevy Chase | Open | 721 | 714 | -7 | 101.0% | Adequate | Open |
| Rock Creek Valley | Rockville | Open | 413 | 403 | -10 | 102.5% | Adequate | Open |
| Rock View | Einstein | School Payment | 627 | 674 | 47 | 93.0% | Adequate | Open |
| Lois P. Rockwell | Damascus | Open | 446 | 523 | 77 | 85.3% | Adequate | Open |
| Rolling Terrace | Blair | Open | 875 | 747 | -128 | 117.1% | Adequate* | Open** |
| Rosemary Hills | Bethesda-Chevy Chase | Open | 618 | 678 | 60 | 91.2% | Adequate | Open |
| **Rosemont** | **Gaithersburg** | **School Payment** | **863** | **613** | **-250** | **140.8%** | **Inadequate** | **Moratorium** |
| Seguoyah | Col. Zadok Magruder | Open | 464 | 485 | 21 | 95.7% | Adequate | Open |
| Seven Locks | Winston Churchill | Open | 371 | 425 | 54 | 87.3% | Adequate | Open |
| Sherwood | Sherwood/Blake | Open/Open | 468 | 564 | 96 | 83.0% | Adequate | Open |
| Sargent Shriver | Wheaton | Open | 717 | 673 | -44 | 106.5% | Adequate | Open |
| Flora M. Singer | Einstein | School Payment | 731 | 680 | -51 | 107.5% | Adequate | Open |
| Sligo Creek | Northwood | School Payment | 647 | 647 | 0 | 100.0% | Adequate | Open |
| Somerset | Bethesda-Chevy Chase | Open | 503 | 515 | 12 | 97.7% | Adequate | Open |
| South Lake | Watkins Mill | Open | 770 | 716 | -54 | 107.5% | Adequate | Open |
| Stedwick | Watkins Mill | Open | 592 | 639 | 47 | 92.6% | Adequate | Open |
| Stone Mill | Thomas S. Wootton | Open | 589 | 654 | 65 | 90.1% | Adequate | Open |
| Stonegate | Blake | Open | 440 | 395 | -45 | 111.4% | Adequate | Open |
| Strathmore | Kennedy | Open | 471 | 439 | -32 | 107.3% | Adequate | Open |
| **Strawberry Knoll** | **Gaithersburg** | **School Payment** | **625** | **481** | **-144** | **129.9%** | **Inadequate** | **Moratorium** |
| **Summit Hall** | **Gaithersburg** | **School Payment** | **657** | **466** | **-191** | **141.0%** | **Inadequate** | **Moratorium** |
| Takoma Park | Blair | Open | 654 | 636 | -18 | 102.8% | Adequate | Open |
| Travilah | Thomas S. Wootton | Open | 359 | 522 | 163 | 68.8% | Adequate | Open |
| Twinbrook | Richard Montgomery | Open | 564 | 563 | -1 | 100.2% | Adequate | Open |
| Viers Mill | Wheaton | Open | 707 | 743 | 36 | 95.2% | Adequate | Open |
| Washington Grove | Gaithersburg | School Payment | 632 | 623 | -9 | 101.4% | Adequate | Open |
| Waters Landing | Seneca Valley | Open | 760 | 776 | 16 | 97.9% | Adequate | Open |
| Watkins Mill | Watkins Mill | Open | 662 | 720 | 58 | 91.9% | Adequate | Open |
| Wayside | Winston Churchill | Open | 526 | 641 | 115 | 82.1% | Adequate | Open |
| Weller Road | Wheaton | Open | 710 | 772 | 62 | 92.0% | Adequate | Open |
| Westbrook | Bethesda-Chevy Chase | Open | 444 | 549 | 105 | 80.9% | Adequate | Open |
| Westover | Springbrook | Open | 340 | 293 | -47 | 116.0% | Adequate | Open |
| Wheaton Woods | Wheaton | Open | 559 | 770 | 211 | 72.6% | Adequate | Open |
| Whetstone | Watkins Mill | Open | 740 | 783 | 43 | 94.5% | Adequate | Open |
| Wilson Wims | Clarksburg | Open | 1,065 | 754 | -311 | 141.2% | Adequate* | Open*** |
| Wood Acres | Walt Whitman | Open | 642 | 757 | 115 | 84.8% | Adequate | Open |
| Woodfield | Damascus | Open | 270 | 471 | 201 | 57.3% | Adequate | Open |
| Woodlin | Einstein | School Payment | 590 | 463 | -127 | 127.4% | Adequate* | Open*** |
| Wyngate | Walter Johnson | Open | 745 | 778 | 33 | 95.8% | Adequate | Open |

* Adequate due to CIP solution only.

** If not for the CIP solution, this school service area's status would be "Facility Payment."

*** If not for the CIP solution, this school service area's status would be "Moratorium."
† Adequate due to placeholder project only.
†† If not for the placeholder project, this school service area's status would be "Moratorium."

## Middle School Test: Seat Deficit ≥ 150 seats School Facility Payment; ≥ 180 seats and >120% utilization Moratorium

| School Name | Cluster(s) | Cluster Grade Level Status | Projected 2021-22 Enrollment | Projected 2021-22 Program Capacity | Projected 2021-22 Available Space | Projected 2021-22 Utilization | School Adequacy | School Service Area Status |
|---|---|---|---|---|---|---|---|---|
| Argyle | Kennedy | Open | 945 | 897 | -48 | 105.4% | Adequate | Open |
| John T Baker | Damascus | Open | 703 | 741 | 38 | 94.9% | Adequate | Open |
| Benjamin Banneker | Blake/Paint Branch | Open/Open | 777 | 803 | 26 | 96.8% | Adequate | Open |
| BCC MS #2 | Bethesda-Chevy Chase | Open | 0 | 930 | 930 | 0.0% | Adequate | Open |
| Briggs Chaney | Blake/Paint Branch/Springbrook | Open/Open/Open | 973 | 969 | -4 | 100.4% | Adequate | Open |
| Cabin John | Thomas S. Wootton/Winston Churchill | Open/Open | 948 | 1,113 | 165 | 85.2% | Adequate | Open |
| Roberto Clemente | Northwest/Seneca Valley | Open/Open | 1,292 | 1,231 | -61 | 105.0% | Adequate | Open |
| Eastern | Blair | Open | 1,124 | 1,024 | -100 | 109.8% | Adequate | Open |
| William H. Farquhar | Sherwood/Blake | Open/Open | 545 | 752 | 207 | 72.5% | Adequate | Open |
| Forest Oak | Gaithersburg | School Payment | 1,041 | 949 | -92 | 109.7% | Adequate | Open |
| Robert Frost | Thomas S. Wootton | Open | 874 | 1,084 | 210 | 80.6% | Adequate | Open |
| Gaithersburg | Gaithersburg | School Payment | 1,000 | 949 | -51 | 105.4% | Adequate | Open |
| Herbert Hoover | Winston Churchill | Open | 952 | 1,139 | 187 | 83.6% | Adequate | Open |
| Francis Scott Key | Blake/Springbrook | Open/Open | 1,068 | 961 | -107 | 111.1% | Adequate | Open |
| Martin Luther King, Jr | Seneca Valley | Open | 735 | 905 | 170 | 81.2% | Adequate | Open |
| Kingsview | Northwest | Open | 917 | 1,041 | 124 | 88.1% | Adequate | Open |
| Lakelands Park | Northwest/Quince Orchard | Open/Open | 1,131 | 1,138 | 7 | 99.4% | Adequate | Open |
| Col. E. Brooke Lee | Kennedy/Northwood | Open/Open | 994 | 1,204 | 210 | 82.6% | Adequate | Open |
| A. Mario Loiederman | Wheaton | School Payment | 977 | 897 | -80 | 108.9% | Adequate | Open |
| Montgomery Village | Watkins Mill | Open | 758 | 894 | 136 | 84.8% | Adequate | Open |
| Neelsville | Clarksburg/Watkins Mill | Open/Open | 1,053 | 922 | -131 | 114.2% | Adequate | Open |
| Newport Mill | Einstein | Open | 630 | 825 | 195 | 76.4% | Adequate | Open |
| North Bethesda | Walter Johnson | Open | 1,181 | 1,229 | 48 | 96.1% | Adequate | Open |
| Parkland | Kennedy/Wheaton | Open/School Payment | 1,077 | 948 | -129 | 113.6% | Adequate | Open |
| Rosa Parks | Sherwood | Open | 805 | 978 | 173 | 82.3% | Adequate | Open |
| John Poole | Poolesville | Open | 307 | 468 | 161 | 65.6% | Adequate | Open |
| Thomas W. Pyle | Walt Whitman | Open | 1,511 | 1,502 | -9 | 100.6% | Adequate | Open |
| Redland | Col. Zadok Magruder | Open | 628 | 757 | 129 | 83.0% | Adequate | Open |
| Ridgeview | Quince Orchard | Open | 763 | 963 | 200 | 79.2% | Adequate | Open |
| Rocky Hill | Clarksburg/Damascus | Open/Open | 930 | 986 | 56 | 94.3% | Adequate | Open |
| Shady Grove | Col. Zadok Magruder | Open | 552 | 859 | 307 | 64.3% | Adequate | Open |
| Silver Spring International | Blair/Northwood | Open/Open | 1,259 | 1,118 | -141 | 112.6% | Adequate | Open |
| Sligo | Einstein/Northwood | Open/Open | 997 | 915 | -82 | 109.0% | Adequate | Open |
| Takoma Park | Blair | Open | 1,313 | 1,498 | 185 | 87.7% | Adequate | Open |
| Tilden | Walter Johnson | Open | 1,132 | 1,200 | 68 | 94.3% | Adequate | Open |
| Hallie Wells | Clarksburg/Damascus | Open/Open | 880 | 965 | 85 | 91.2% | Adequate | Open |
| Julius West | Richard Montgomery | Open | 1,392 | 1,445 | 53 | 96.3% | Adequate | Open |
| Westland | Bethesda-Chevy Chase | Open | 1,774 | 1,097 | -677 | 161.7% | Adequate* | Open*** |
| White Oak | Blake/Springbrook | Open/Open | 895 | 962 | 67 | 93.0% | Adequate | Open |
| Earle B. Wood | Rockville | School Payment | 1,106 | 952 | -154 | 116.2% | Adequate* | Open** |

* Adequate due to CIP solution only.
** If not for the CIP solution, this school service area's status would be "Facility Payment."
*** If not for the CIP solution, this school service area's status would be "Moratorium."

**Maps**

Policy Areas are located at:

http://www.montgomeryplanning.org/research/subdivision_staging_policy/documents/policy_areas_with_TAZ_2016.pdf

**APPENDIX M – DRAFT IMPACT TAX BILL**

Bill No.
Concerning: Development Impact Tax Amendments
Introduced: _____
Expires: _____
Enacted: _____
Executive: _____
Effective: _____
Sunset Date: _____
Expires: _____
None: _____
Ch: __ Laws of Mont. Co_____

# COUNTY COUNCIL
# FOR MONTGOMERY COUNTY, MARYLAND

Lead Sponsors:

**AN ACT to:**

(1) Update the calculation of transportation impact taxes and school impact taxes;
(2) create new transportation taxing districts associated with policy area categories;
(3) apply an adjustment to the transportation impact tax for residential uses based on Non-Auto Driver Mode Share associated with each tax district;
(4) apply an adjustment to the transportation impact tax for non-residential uses based on Vehicle Miles of Travel associated with each tax district;
(5) allow an adjustment to the transportation impact tax for providing parking below the minimum required in accordance with Chapter 59;
(6) revise the application of the school impact tax in a former enterprise zone; and
(7) generally amend County law regarding transportation and school impact taxes.

By amending
Montgomery County Code
Chapter 52, Taxation
Sections 52-47, 52-49, 52-53, 52-55, 52-57, 52-58, 52-59, 52-89, 52-90, 52-91, 52-93 and 52-94

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

**Sections 52-47, 52-49, 52-53, 52-55, 52-57, 52-58, 52-59, 52-89, 52-90, 52-91, 52-93, and 52-94 are amended as follows:**

## Sec. 52-47. Definitions.

In this Article the following terms have the following meanings:

*Additional capacity* means a new road, widening an existing road, adding an additional lane or turn lane to an existing road, or another transportation improvement that:

(1) increases the maximum theoretical volume of traffic that a road or intersection can accommodate and/or implements or improves transit, pedestrian and bike facilities and/or access to non-auto modes of travel; and

(2) is classified as a minor arterial, arterial, parkway, major highway, controlled major highway, or freeway in the County's Master Plan of Highways, or is similarly classified by a municipality. The Director of Transportation may find that a specified business district street or industrial street also provides additional capacity as defined in this provision.

* * *

## Sec. 52-49. Imposition and applicability of development impact taxes.

(a) A development impact tax must be imposed before a building permit is issued for development in the County.

(b) An applicant for a building permit must pay a development impact tax in the amount and manner provided in this Article, unless a credit in the full amount of the applicable tax applies under Section 52-55 or an appeal bond is posted under Section 52-56.

(c) The following impact tax districts are established:

~~(1) *Metro Station*: Friendship Heights, Bethesda CBD, Grosvenor, White Flint, Twinbrook, Rockville Town Center, Shady Grove Metro, Silver Spring CBD, Wheaton CBD, and Glenmont Metro station policy areas, as defined in the most recent Subdivision Staging policy, except as modified by paragraph (3) for the White Flint policy area;~~

~~(2) *Clarksburg*: Clarksburg policy area, as defined in the most recent Subdivision Staging Policy;~~

(~~3~~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; and

(2) Red Policy Areas ~~Group~~: Bethesda CBD, Friendship Heights, Grosvenor, Glenmont, Rockville Town Center, Shady Grove Metro Station, Silver Spring CBD, Twinbrook, and Wheaton CBD Metro Station Policy Areas;

(3) Orange Policy Areas ~~Group~~: Bethesda / Chevy Chase, Chevy Chase Lake, Clarksburg, Derwood, Gaithersburg City, Germantown Town Center, Kensington/Wheaton, Long Branch,

North Bethesda, R&D Village, Rockville City, Silver Spring/Takoma Park, Takoma/Langley, and White Oak Policy Areas;

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

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

~~(4) *General*: Any part of the County, including any municipality, not located in an area listed in paragraphs (1) — (3).~~

(d) Reserved.

* * *

**Sec. 52-53. Restrictions on use and accounting of development impact tax funds.**

* * *

(h) Development impact tax funds collected from the Red Policy Areas ~~Group Clarksburg impact tax district~~ must be used for impact transportation improvements located in o~~o~~r that directly benefit thos~~e~~e ~~Clarksburg~~ policy area~~s~~.

* * *

**Sec. 52-55. Credits.**

* * *

(d) Any credit for building or contributing to an impact transportation improvement does not apply to any development that has been previously ~~is~~ approved under the Alternative Review Procedure for Metro Station Policy Areas in the County Subdivision Staging Policy.

* * *

**Sec. 52-57. Tax rates.**

(a) The tax rates for each impact tax district, except as provided in subsection (b) are:*

***Editor's note**—The current rates, in accordance with paragraph (f), below, can be obtained from the Department of Permitting Services, 240-777-6240.

| ~~*Tax per Dwelling Unit or per Square Foot of Gross Floor Area (GFA)*~~ | | | |
|---|---|---|---|
| ~~*Building Type*~~ | ~~*Metro Station*~~ | ~~*Clarksburg*~~ | ~~*General*~~ |
| ~~Single-family detached residential (per dwelling unit)~~ | ~~$ 2,750~~ | ~~$ 8,250~~ | ~~$ 5,500~~ |
| ~~Single-family attached residential (per dwelling unit)~~ | ~~$ 2,250~~ | ~~$ 6,750~~ | ~~$ 4,500~~ |
| ~~Multifamily residential (except high-rise) (per dwelling unit)~~ | ~~$ 1,750~~ | ~~$ 5,250~~ | ~~$ 3,500~~ |
| ~~High-rise residential (per dwelling unit)~~ | ~~$ 1,250~~ | ~~$ 3,750~~ | ~~$ 2,500~~ |
| ~~Multifamily-senior residential (per dwelling unit)~~ | ~~$ 500~~ | ~~$ 1,500~~ | ~~$ 1,000~~ |
| ~~Office (per sq.ft. GFA)~~ | ~~$ 2.50~~ | ~~$ 6~~ | ~~$ 5~~ |
| ~~Industrial (per sq.ft. GFA)~~ | ~~$ 1.25~~ | ~~$ 3~~ | ~~$ 2.50~~ |
| ~~Bioscience facility (per sq.ft. GFA)~~ | ~~$ 0~~ | ~~$ 0~~ | ~~$ 0~~ |
| ~~Retail (per sq.ft. GFA)~~ | ~~$ 2.25~~ | ~~$ 5.40~~ | ~~$ 4.50~~ |
| ~~Place of worship (per sq.ft. GFA)~~ | ~~$ 0.15~~ | ~~$ 0.35~~ | ~~$ 0.30~~ |
| ~~Private elementary and secondary school (per sq.ft. GFA)~~ | ~~$ 0.20~~ | ~~$ 0.50~~ | ~~$ 0.40~~ |
| ~~Hospital (per sq.ft. GFA)~~ | ~~$ 0~~ | ~~$ 0~~ | ~~$ 0~~ |
| ~~Cultural institution~~ | ~~$ 0.20~~ | ~~$ 0.50~~ | ~~$ 0.40~~ |
| ~~Charitable, philanthropic institution~~ | ~~$ 0~~ | ~~$ 0~~ | ~~$ 0~~ |
| ~~Other nonresidential (per sq.ft. GFA)~~ | ~~$ 1.25~~ | ~~$ 3~~ | ~~$ 2.50~~ |

| **Tax per Dwelling Unit or per Square Foot of Gross Floor Area (GFA)** | | | | |
|---|---|---|---|---|
| **Land Use** | **Red Policy Areas (Metro Stations)** | **Orange Policy Areas** | **Yellow Policy Areas** | **Green Policy Areas** |

| **Residential Uses** | | | | |
|---|---|---|---|---|
| SF Detached | $3,653 | $10,959 | $18,266 | $29,225 |
| MF Residential | | | | |
| SF Attached | $2,552 | $7,656 | $12,759 | $20,415 |
| Garden Apartments | $2,312 | $6,937 | $11,562 | $18,499 |
| High - Rise Apartments | $1,652 | $4,955 | $8,259 | $13,214 |
| Multi-Family Senior | $661 | $1,982 | $3,303 | $5,286 |
| **Commercial Uses** | | | | |
| Office | $~~10.08~~6.72 | $13.45 | $16.81 | $16.81 |
| Industrial | $~~5.01~~3.34 | $6.69 | $8.36 | $8.36 |
| Bioscience | $0.00 | $0.00 | $0.00 | $0.00 |
| Retail | $~~8.97~~5.98 | $11.96 | $14.95 | $14.95 |
| Place of Worship | $~~0.53~~0.35 | $0.70 | $0.88 | $0.88 |
| Private School | $~~0.80~~0.53 | $1.06 | $1.33 | $1.33 |
| Hospital | $0.00 | $0.00 | $0.00 | $0.00 |
| Social Service Agencies | $0.00 | $0.00 | $0.00 | $0.00 |
| Other Non-Residential | $~~5.02~~3.35 | $6.69 | $8.36 | $8.36 |

(b) For any development located in the White Flint Impact Tax District, the tax rates are:*

***Editor's note**—The current rates, in accordance with paragraph (f), below, can be obtained from the Department of Permitting Services, 240-777-6240.

| **Tax per Dwelling Unit or per Square Foot of Gross Floor Area (GFA)** | |
|---|---|
| *Building Type* | *White Flint* |

| | |
|---|---|
| High-rise residential (per dwelling unit) | $ 0 |
| Multifamily-senior residential (per dwelling unit) | $ 0 |
| Office (per sq.ft. GFA) | $ 0 |
| Industrial (per sq.ft. GFA) | $ 0 |
| Bioscience facility (per sq.ft. GFA) | $ 0 |
| Retail (per sq.ft. GFA) | $ 0 |
| **Tax per Dwelling Unit or per Square Foot of Gross Floor Area (GFA)** | |
| *Building Type* | *White Flint* |
| Place of worship (per sq.ft. GFA) | $ 0 |
| Private elementary and secondary school (per sq.ft. GFA) | $ 0 |
| Hospital (per sq.ft. GFA) | $ 0 |
| Other nonresidential (per sq.ft. GFA) | $ 0 |

~~(c) Any development that receives approval of a preliminary plan of subdivision under any Alternative Review Procedure must pay the tax at double the rate listed in subsection (a). However, any development approved under an Alternative Review Procedure that is located in a Metro Station Policy Area must pay the tax at 75% of the rate listed in subsection (a) for the same type of development in the General district.~~

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

(d~~e~~) Any building that would be located within one-half mile of the Germantown, Metropolitan Grove, Gaithersburg, Washington Grove, Garrett Park, or Kensington MARC stations must pay the tax at 85% of the applicable rate calculated in subsection (a).

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

(f~~g~~) 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 on July 1 of each odd-numbered year by the annual average increase or decrease in a published construction cost index specified by regulation for the two most recent calendar years. The Director must calculate the adjustment to the nearest multiple of 5 cents for rates per square foot of gross floor area or one

dollar for rates per dwelling unit. The Director must publish the amount of this adjustment not later than May 1 of each odd numbered year. (1986 L.M.C., ch. 54, § 1; 1989 L.M.C., ch. 17, § 1; 1990 L.M.C., ch. 40, § 1; 1992 L.M.C., ch. 17, § 1; 1995 L.M.C., ch. 25, § 1; 1997 L.M.C., ch. 34, § 1; 1999 L.M.C., ch. 3, § 1; 2001 L.M.C., ch. 10, § 1; 2002 L.M.C., ch. 4, § 1; 2003 L.M.C., ch. 27, §§ 1 and 2; 2007 L.M.C., ch. 16, § 1; 2011 L.M.C., ch. 1, § 1; 2015 L.M.C., ch. 4, § 1.)

* * *

**Sec. 52-58. Use of impact tax funds.**

Impact tax funds may be used for any:

* * *

(e) hiker-biker trail or other bike facility used primarily for transportation;

(f) bicycle locker that holds at least 8 bicycles;

(g) bikesharing station (including bicycles) approved by the Department of Transportation;

(h) sidewalk connector to or within a major activity center or along an arterial or major highway; or

* * *

**Sec. 52-59. Transportation Mitigation Payment.**

(a) In addition to the tax due under this Article, an applicant for a building permit for any building on which an impact tax is imposed under this Article must pay to the Department of Finance a Transit Accessibility ~~Transportation~~ Mitigation Payment if that building was included in a preliminary plan of subdivision that was approved under the Transportation Mitigation Payment provisions in the County Subdivision Staging Policy adopted on (date).~~.~~

(b) The amount of the Payment is based upon the latest finding of adequacy for transit accessibility for each Policy Area as approved and applicable under the County Subdivision Staging Policy process. The initial findings of applicability and adequacy as adopted on (date) are as follows:

| **Policy Area** | **Transit Accessibility Mitigation** |
|---|---|
| **Red** Group | |
| Bethesda CBD | Exempt |
| Friendship Heights | Exempt |
| Grosvenor | Exempt |

| | |
|---|---|
| Glenmont | Exempt |
| Rockville Town Center | Exempt |
| Shady Grove Metro Station | Exempt |
| Silver Spring CBD | Exempt |
| Twinbrook | Exempt |
| Wheaton CBD | Exempt |
| White Flint | Exempt |
| **Orange** Group | |
| Bethesda/Chevy Chase | Adequate |
| Clarksburg | Inadequate, Full Mitigation |
| Derwood | Inadequate, Partial Mitigation |
| Gaithersburg City | Inadequate, Full Mitigation |
| Germantown Town Center | Inadequate, Full Mitigation |
| Kensington/Wheaton | Inadequate, Full Mitigation |
| North Bethesda | Inadequate, Full Mitigation |
| R&D Village | Inadequate, Full Mitigation |
| Rockville City | Inadequate, Full Mitigation |
| Silver Spring/Takoma Park | Inadequate, Full Mitigation |
| White Oak | Adequate |
| **Yellow** Group | |
| Aspen Hill | Inadequate, Full Mitigation |
| Cloverly | Inadequate, Full Mitigation |
| Fairland/Colesville | Inadequate, Partial Mitigation |
| Germantown East | Inadequate, Full Mitigation |
| Germantown West | Inadequate, Full Mitigation |
| Montgomery Village/Airpark | Adequate |
| North Potomac | Inadequate, Full Mitigation |
| Olney | Inadequate, Full Mitigation |
| Potomac | Adequate |
| **Green** Group | |
| Damascus | Exempt |
| Rural East | Exempt |
| Rural West | Exempt |

In addition to the above, buildings in the Chevy Chase Lake, Langley Park, and Takoma/-Langley Policy Areas are considered to have adequate transit accessibility as a result of programmed construction funds for the Purple Line.

~~for each building must be calculated by multiplying the Payment rate by the total peak hour trips generated by the development.~~

(c) The Transit Accessibility Mitigation Payment is based upon a percentage of the tax due under this Article according to the following schedule:

(i) Full Mitigation Required – 25% of Tax Due Under This Article

(ii) Partial Mitigation Required – 15% of Tax Due Under This Article

The rate must be set by Council resolution, including a resolution that amends the Subdivision Staging Policy. ~~The Director of Finance must adjust the then-applicable Payment rate as of July 1 of 2015 and each later odd-numbered year by the annual average increase or decrease in a published construction cost index specified by regulation for the two most recent calendar years to the nearest multiple of $10. The Director must publish the amount of this adjustment in the County Register not later than May 1 of each odd-numbered year. The Council by resolution, after a public hearing advertised at least 15 days in advance, may increase or decrease the Payment rate or set different rates for different types of development.~~

* * *

**Sec. 52-89. Imposition and applicability of tax.**

* * *

(c) A portion of the development impact tax equivalent to 10 percent of the cost of a student seat must be dedicated to land acquisition for new schools.

(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 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, 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; and

(6) any development located in an enterprise zone designated by the State or in an area previously designated as an enterprise zone based on the length of time since the expiration of its enterprise zone status. Within one year of its expiration, a full exemption applies. Within two years of its expiration, 25 percent of the applicable development impact tax applies. Within three years, 50 percent of the applicable development impact tax applies. Within four years, 75 percent of the applicable development impact tax applies. And, after four years from expiration, projects within an area previously designated as an enterprise zone will be required to pay 100 percent of the applicable development impact tax for public school improvements.

(~~d~~e) –The tax under this Article does not apply to:

(1) any reconstruction or alteration of an existing building or part of a building that does not increase the number of dwelling units of the building;

(2) any ancillary building in a residential development that:

(A) does not increase the number of dwelling units in that development; and

(B) is used only by residents of that development and their guests, and is not open to the public; and

(3) any building that replaces an existing building on the same site or in the same project (as approved by the Planning Board or the equivalent body in Rockville or Gaithersburg) to the extent of the number of dwelling units of the previous building, if:

(A) construction begins within one year after demolition or destruction of the previous building was substantially completed; or

(B) the previous building is demolished or destroyed, after the replacement building is built, by a date specified in a phasing plan approved by the Planning Board or equivalent body.

However, if in either case the tax that would be due on the new, reconstructed, or altered building is greater than the tax that would have been due on the previous building if it were taxed at the same time, the applicant must pay the difference between those amounts.

(~~e~~f) If the type of proposed development cannot be categorized under the residential definitions in Section 52-47 and 52-87, the Department must use the rate assigned to the type of residential development which generates the most similar school enrollment characteristics. (2003 L.M.C., ch. 26, § 1;2007 L.M.C., ch. 16, § 1; 2015 L.M.C., ch. 4, § 1; 2015 L.M.C., ch. 37, § 1.)

* * *

**Sec. 52-90. Tax rates.**

(a) The Countywide rates for the tax under this Article are:*

| ***Dwelling type*** | ***Tax per dwelling unit*** |
|---|---|
| Single-family detached | ~~$8,000~~$18,878 |
| Single-family attached | ~~$6,000~~$19,643 |
| Multifamily (except high-rise) | ~~$4,000~~$15,507 |

| | |
|---|---|
| High-rise | ~~$1,600~~$5,570 |
| Multifamily senior | $ 0 |

***Editor's note**—The current rates, in accordance with paragraph (f), can be obtained from the Department of Permitting Services, 240-777-6240.

(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.

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

~~(d) Any non-exempt dwelling unit located in a development where at least 30% of the dwelling units are exempt from this tax under Section 52-89(c)(1)-(4) must pay the tax at 50% of the applicable rate in subsection (a).~~

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

(f) 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 on July 1 of each ~~odd~~even-numbered year, or on November 15 in accordance with the update to the Subdivision Staging Policy ~~by~~ using the latest student generation rates and school construction cost data. ~~the annual average increase or decrease in a published construction cost index specified by regulation for the two most recent calendar years.~~ The Director must calculate the adjustment to the nearest multiple of one dollar limiting any change (increase or decrease) to no more than five percent. The Director must publish the amount of this adjustment not later than May 1 of each ~~odd~~ even-numbered year.

* * *

**Sec. 52-91. Accounting; use of funds.**

* * *

(d) Revenues raised under this Article may be used to fund any:

(1) new public elementary or secondary school;

(2) addition to an existing public elementary or secondary school that adds one or more teaching stations; ~~or~~

(3) modernization of an existing public elementary or secondary school to the extent that the modernization adds one or more teaching stations~~.~~; or

(4) acquisition of land for a public elementary or secondary school.

(e) Any funds collected for the acquisition of land must be placed in the MCPS Advance Land Acquisition Revolving Fund (ALARF), to be used strictly for the purchase of property for new MCPS schools. (2003 L.M.C., ch. 26, § 1.)

**Sec. 52-93. Credits.**

(a) Section 52-55 does not apply to the tax under this Article. A property owner must receive a credit for constructing or contributing to an improvement of the type listed in Section 52-91(d), including costs of site preparation. In addition, a property owner may receive credit for land dedicated for a school site, as long as the density calculated for the dedication area is excluded from the density calculation for the site, and Montgomery County Public Schools agrees to the site dedication.

~~A credit must not be allowed for the cost of any land dedicated for school use, including any land on which the property owner constructs a school.~~

(b) 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 dedicated land value, 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) 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 52-91(d) or meets the dedication requirements in Section 52-93 (a),

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

* * *

**Sec. 52-94. School Facilities Payment.**

* * *

(b) The amount of the Payment for each building must be calculated by multiplying the Payment rate by the latest per-unit student yield ratio for any level of school or individual school found to be inadequate for the purposes of imposing the School Facilities Payment in the applicable Subdivision Staging Policy and for that type of dwelling unit and geographic area issued by MCPS.

(c) The Payment rates must be set by Council resolution. The Director of Finance must adjust the then-applicable Payment rates on July 1 of each even-numbered year, or on November 15 in accordance with the update to the Subdivision Staging Policy using the latest student generation rates and school construction cost data. ~~as of July 1 of 2015 and each later odd-numbered year, based on the construction cost of a student seat for each school level as certified by the Superintendent of Montgomery County Public Schools for the two most recent calendar years, to the nearest multiple of $10.~~ The Director must calculate the adjustment to the nearest multiple of one dollar. The Director must publish the amount of this adjustment in the County Register not later than May 1 of each ~~odd~~ even-numbered year. The Council by resolution, after a public hearing advertised at least 15 days in advance, may increase or decrease the Payment rate or set different rates for different types of housing unit, limiting any change (increase or decrease) to no more than five percent.

* * *