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## Local Area Transportation Review and Transportation Policy Area Review Guidelines



Montgomery County Planning Department  
M-NCPPC  
[MontgomeryPlanning.org](http://MontgomeryPlanning.org)

**Abstract**

The Local Area Transportation Review and Policy Area Mobility Review Guidelines were updated by the Planning Board on May 13, 2010, June 17, 2011, and February 9, 2012.

On November 13, 2012 the County Council adopted changes to the Subdivision Staging Policy eliminating the Policy Area Mobility Review as an area-wide test for transportation adequacy and replacing it with Transportation Policy Area Review. The Planning Board approved these revised guidelines to incorporate the Council's action on January 24, 2013. This document reflects those changes.

These Guidelines are to be used for preparation and review of transportation impact studies for development in Montgomery County. This document should be used by transportation engineers, planners, public agency reviewers, and community members participating in the development review process.

**Source of Copies**

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# Introduction

Section 50-35(k) of the County Code directs the Montgomery County Planning Board to find that public facilities will be adequate to serve proposed development. This Adequate Public Facilities (APF) finding requires forecasting traffic generated by proposed development and comparing it to the capacity of existing and programmed roads and transit. An applicant for proposed development must show that adequate transportation facilities will be in place within a specified period of time. Alternatively, the applicant must provide those facilities or make a Traffic Mitigation Payment toward area-wide transportation needs. These guidelines show the methodology for determining adequacy, specify mitigation for projected traffic generated by proposed development projects, and describe how Traffic Mitigation Payments are determined.

There are two tests for determining transportation adequacy—the Local Area Transportation Review (LATR) test and the policy area test called Transportation Policy Area Review (TPAR). These tests are required by the 2012-2016 Subdivision Staging Policy adopted by the County Council on November 13, 2012.

LATR determines the adequacy of local roads by measuring congestion at roadway intersections based on critical lane volume (CLV) and volume to capacity ratio (v/c). The estimated vehicle trips generated by a proposed development are compared to the applicable policy area standard to evaluate likely future congestion. The development's trips that contribute to nearby intersections exceeding the standard must be mitigated in some fashion.

The TPAR test first considers whether a policy area is considered inadequate for transit or roadways (or both). If the area is inadequate, a development in the area must make a Traffic Mitigation Payment based on the number of dwelling units or square footage of nonresidential space, or make improvements that increase capacity in the policy area to address identified specific roadway and transit inadequacies.

These Guidelines explain the methodology for documenting and analyzing the likely impact of proposed development on intersection performance, that is, the LATR part of Subdivision Staging. The Guidelines focus on LATR because this aspect of the transportation adequacy test reflects the majority of the analysis conducted by applicants using these Guidelines. The TPAR test is updated every two years by the Planning staff and adequacy standards are established by the Planning Board. The current TPAR standards (2012-2014) are also presented in this document.

The criteria in these Guidelines determine whether a development can satisfy the requirements for transportation adequacy. Following the standards of the Subdivision Staging Policy, the Planning Board must not approve a development if unacceptable weekday peak-hour intersection congestion will result. The Planning Department staff's review and the Planning Board's decision is based on existing and programmed roads, available and programmed mass transportation, and physical improvements or trip mitigation measures to be provided by the applicant.

Together, the two transportation tests provide a picture of traffic impacts, and the necessary improvements to maintain congestion standards.

## APPLICABILITY

LATR is applied to development projects that will generate more than 30 total weekday peak hour trips. TPAR is applied to projects that will generate three or more total weekday peak hour trips. Projects that generate fewer than 30 total weekday peak hour trips must prepare a traffic exemption statement describing the basis for any exemption from LATR and/or TPAR.

Both tests are applied by policy area (see Map 1). Detailed maps, with streets shown, can be found at: [www.montgomeryplanning.org/research/growth\\_policy/subdivision\\_staging\\_policy/2012/documents/SSPappendix5.pdf](http://www.montgomeryplanning.org/research/growth_policy/subdivision_staging_policy/2012/documents/SSPappendix5.pdf). Each policy area has a particular congestion standard for intersections, which is applied to meet the LATR test. Each policy area also has a transportation adequacy determination for roadway and transit service applied in the TPAR test. These standards and mitigation requirements are adopted by the County Council and specified in these Guidelines, which are updated as needed to reflect industry standards, local traffic conditions, and Council action.

Project applications requiring LATR/TPAR studies:

- preliminary plan (as part of a subdivision application)
- site plans not requiring subdivision
- special exception and zoning cases before the Board of Appeals and County Council

These Guidelines may also apply to building permit review cases requiring an APF finding, though in some cases (less than 12 months vacancy, no increase in square footage, fewer than 30 new weekday peak hour trips) the APF test may be approved administratively by Planning Department staff.

LATR and TPAR compliance is not required for developments in the White Flint Policy Area if applicants agree to participate in the White Flint Special Taxing District for transportation infrastructure improvements in lieu of satisfying the transportation APF tests for LATR and TPAR.

LATR and TPAR mitigation and/or payments are not required for public facility project mandatory referrals, in which the Planning Board's comments are advisory. Mandatory referrals are often unique uses, such as schools or other public services, and their traffic review follows Mandatory Referral Guidelines, which requires a pedestrian and bicycle safety statement, pedestrian and vehicular circulation plan, and a traffic exemption statement or traffic study as applicable.

## HOW TO USE THESE GUIDELINES

These Guidelines are to be used by applicants to prepare traffic studies for Planning Board approval and by staff when reviewing those studies. These Guidelines are also recognized as the standard for reports to the Board of Appeals and Hearing Examiner for special exception and zoning cases, respectively.

The following chart illustrates the steps needed to arrive at a recommendation for approval of the transportation test for the Adequate Public Facilities Ordinance. These Guidelines describe the information needed from the applicant to determine the answer at each step of the process and the considerations staff must evaluate when reviewing the document.

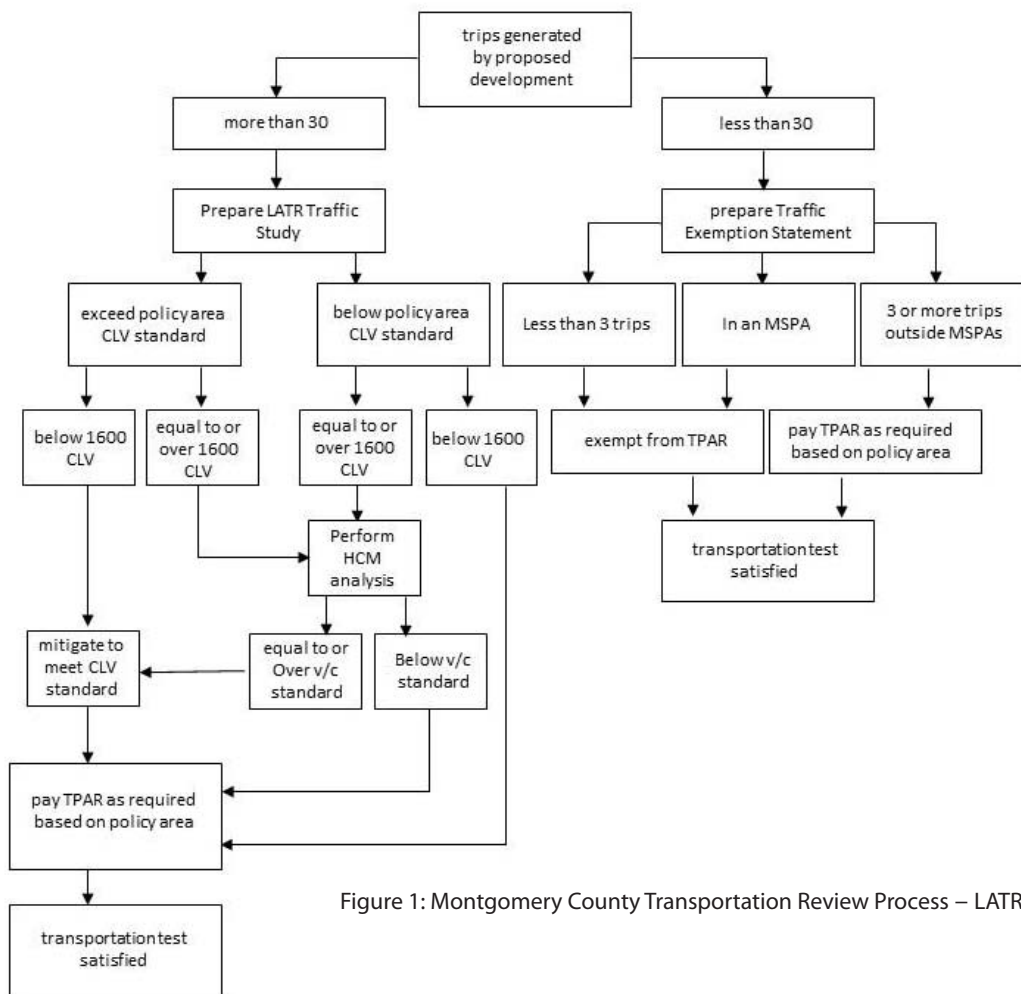


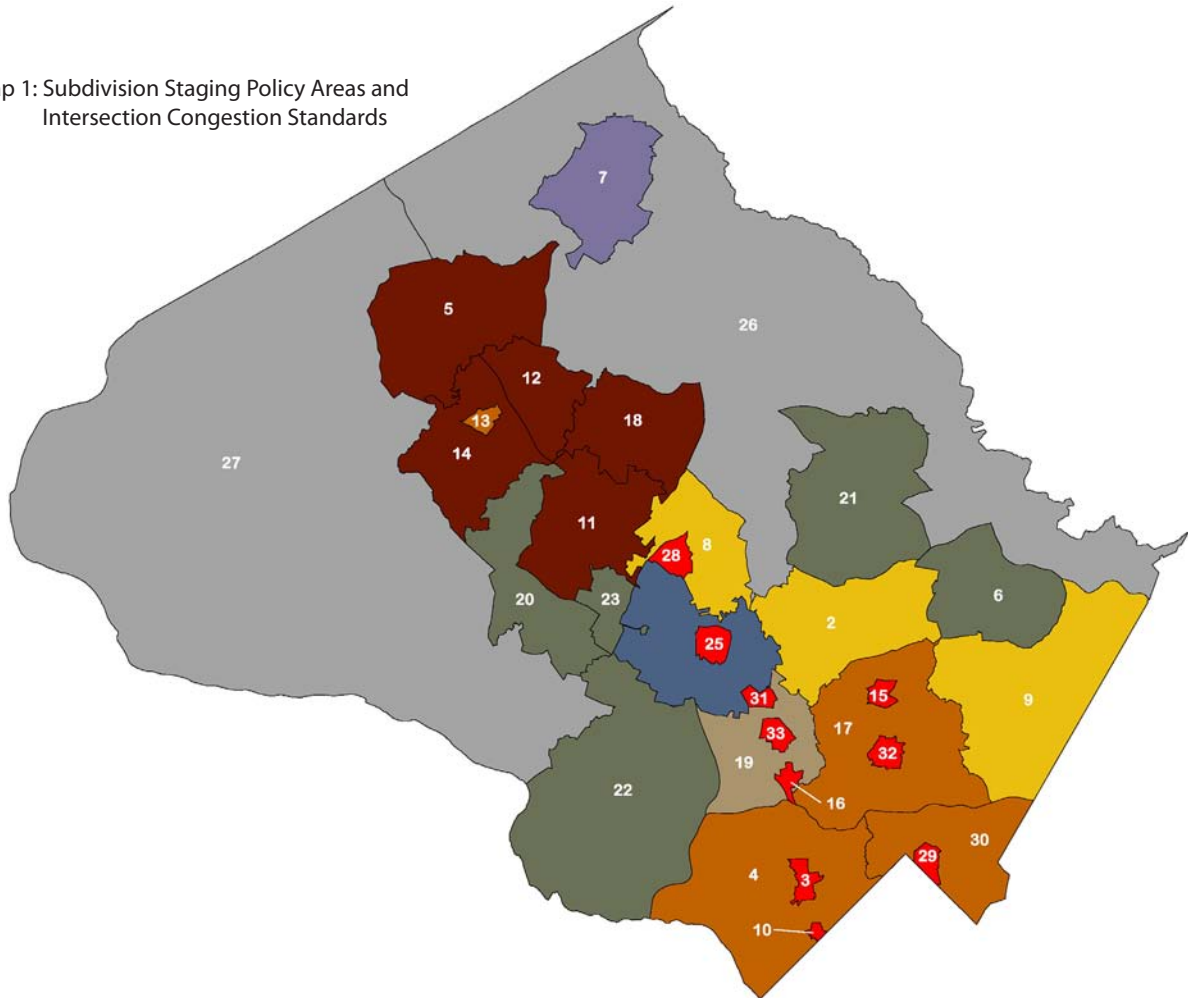
Figure 1: Montgomery County Transportation Review Process – LATR and TPAR



When a proposed development is projected by the LATR test to generate an unacceptable level of peak hour congestion, the applicant should consult with Planning Department staff, the Montgomery County Department of Transportation (MCDOT), the Maryland State Highway Administration (SHA), and the municipalities of Rockville and Gaithersburg (when applicable) to develop recommendations for trip reduction, including specific intersection improvements or pedestrian, bicycle, and transit enhancements that can mitigate the project's impact and thereby gain Planning Board approval.

The Guideline procedures outlined in this document are intended to provide a snapshot of estimated future traffic conditions for proposed development. These procedures are not intended to establish delay-free travel conditions.

Map 1: Subdivision Staging Policy Areas and Intersection Congestion Standards



policy area	critical lane volume standard
26 Rural East 27 Rural West	1,350
7 Damascus	1,400
5 Clarksburg 11 Gaithersburg City 12 Germantown East 14 Germantown West 18 Montgomery Village/Airpark	1,425
6 Cloverly 20 North Potomac 21 Olney 22 Potomac 23 R&D Village	1,450
2 Aspen Hill 8 Derwood 9 Fairland/White Oak	1,475

policy area	critical lane volume standard
24 Rockville City	1,500
19 North Bethesda	1,550
4 Bethesda-Chevy Chase 17 Kensington-Wheaton 13 Germantown Town Center 30 Silver Spring-Takoma Park	1,600
3 Bethesda CBD 10 Friendship Heights CBD 29 Silver Spring CBD 32 Wheaton CBD 15 Glenmont MSPA 16 Grosvenor MSPA 25 Rockville Town Center MSPA 28 Shady Grove MSPA 31 Twinbrook MSPA 33 White Flint MSPA	1,800

# Local Area Transportation Review

## INTENT AND STANDARDS

The LATR test is undertaken in two steps to best measure congestion levels. The initial Critical Lane Volume (CLV) analysis is performed to screen out intersections with a CLV less than 1,600, the threshold between stable (but close to congested) and unstable (over-congested) road conditions.

### **Traffic Exemption Statement**

Projects that are projected to generate less than 30 new weekday peak hour trips for LATR and less than three trips for TPAR may need to submit only a traffic exemption statement. This statement must demonstrate the conditions that justify the exemption.

Information to be included in a traffic exemption statement:

- development project location—Planning Area and policy area
- proposed nonresidential square footage
- proposed number of dwelling units (single-family or multifamily)
- proposed land uses (as defined by DPS)
- estimated number of new and total peak hour trips generated by the proposed land uses
- rationale for exemption

For intersections with a CLV of 1,600 or greater, the more detailed Highway Capacity Manual (HCM) method is used to measure delay. In these cases, the applicant should use a traffic-flow model such as Synchro or CORSIM.

In the HCM method, intersection level of service is expressed as a volume/capacity (v/c) ratio and the standards are set at levels parallel with the current CLV standards in a policy area. For example, the 1,600 CLV standard, applicable in the Bethesda/Chevy Chase, Silver Spring/Takoma Park, Kensington/Wheaton, and Germantown Town Center policy areas (see Map 1) is expressed as a v/c ratio of 1.00. For Metro Station Policy Areas (MSPAs), the applicable 1,800 CLV standard is expressed as a v/c ratio of 1.13 (that is, 1,800/1,600).

## APPLICANT'S PREPARATION OF AN LATR TRAFFIC STUDY

Applicants should use the following general criteria and analytical techniques to demonstrate the expected impact on public roadway intersections by the proposed development. The analysis should consider existing traffic, background traffic generated by developments approved and not yet built, and projected traffic generated by the applicant's project. Planning Department staff may require that traffic from nearby pending applications is included in the traffic study if those applications are likely to be approved by the Planning Board before the subject application's projected Planning Board hearing date. Otherwise, the traffic study would have to be updated to include the pending applications that were approved between the traffic study's scoping and the Planning Board hearing date. Traffic studies should also reflect any traffic improvements that will be made by nearby projects.

### *Scope of an LATR Traffic Study*

If the project is not exempt, the applicant must prepare a traffic study. Depending on the project size, uses, and location, the contents of a traffic study will vary. The applicant and Planning Department staff, in a meeting or through correspondence, will establish a scope for the study using the elements described below. (For zoning and special exception cases, Planning Department staff may consult with the Hearing Examiner, and initiate a meeting with the applicant and interested groups or individuals to establish the scope of the traffic analysis.)



A traffic study must consider the following elements:

1. CLV of intersections
2. Approved but unbuilt development
3. Existing intersection turning movement counts
4. Trip generation, directional distribution, and trip assignment
5. Mode split assumptions
6. CIP and CTP improvements
7. Circulation and Safety for High Traffic impact venues
8. Land use and size
9. Queuing/delay analysis (if applicable)
10. Pedestrian and bicycle impacts
11. Improvement and mitigation options
12. Traffic mitigation agreement (if needed)

### 1. Intersections

The number of intersections included will be based on the projected trips generated by the development under consideration (see page 17, Staff's Evaluation of Traffic Study, for specific criteria regarding "land at one location"). As shown in Table 1, the number of signalized intersections and significant non-signalized intersections in each direction is based on the maximum number of total weekday peak hour trips generated by the proposed land uses, unless Planning Department staff in consultation with MCDOT, SHA, and municipalities if appropriate, finds that special circumstances warrant a more limited study.

**Table 1: Intersections to be Included in a Traffic Study**

Weekday Peak Hour Site Trips	Minimum Number of Intersections in Each Direction
30 – 249	1
250 – 749	2
750 – 1,249	3
1,250 – 1,749	4
1,750 – 2,249	5
2,250 – 2,749	6
>2,750	7

The term "each direction" applies to every study intersection. For example, in a hypothetical grid, the first ring would include four intersections. The second ring would include not only the next four intersections along the streets serving the site, but also the four intersections with cross streets encountered in the first ring. As the number of intersections in each direction grows linearly from one to five, the number of total study area intersections grows at a greater rate.

Planning Department staff, in cooperation with the applicant, will use judgment and experience in deciding the significant intersections to be studied. For example, the ramps and termini of future interchanges will be treated as signalized intersections. The County's central business districts (CBDs) and Metro Station Policy Areas (MSPAs) have more closely-spaced intersections. Accordingly, not every signalized intersection should be studied and as a result, the study may cover a larger area. Site access driveways are not included in the first ring of intersections.

When determining the intersections to be studied, Planning Department staff will also consider:

- geographic boundaries such as rivers, major streams, parks, interstate routes, railroads
- political boundaries, although intersections located within the Cities of Rockville and Gaithersburg, where the Planning Board does not have subdivision authority, will be included in the traffic study and the studies will be shared with nearby incorporated cities<sup>1</sup>
- contiguous land under common ownership
- the type of trip generated: existing, new, diverted, or pass-by
- the functional classification of roadways, for example six-lane major highway.

If a site's number of peak hour vehicle trips is projected to increase the critical lane volume through an intersection by fewer than five trips and the applicant is required to improve another intersection for the same project and/or is participating in a traffic mitigation program, that intersection does not need to be analyzed in the traffic study, even if it would otherwise be identified as appropriate to study. Applicants may develop a trip distribution and assignment pattern before the study scoping process and work with Planning Department staff to determine which intersections don't require full study. This process will be documented in the scoping correspondence.

**Pass-by trips** are existing trips often generated by retail uses located along roadways and designed to draw from traffic already on the road.

**Diverted trips** are part of a chain of trips and travel on adjacent routes to access a particular site.

#### CLV Intersection Analysis Method

An intersection's ability to carry traffic is expressed as CLV, the level of congestion at critical locations with conflicting vehicle movements, usually an intersection. Current CLV standards for each policy area are based on achieving approximately equivalent combined transportation roadway and transit levels of service in all areas of the County (see Map 1). Greater vehicular traffic congestion is permitted in policy areas with greater transit accessibility and use.

For a traffic study, the existing, background, and site-generated traffic for identified intersections should be measured against intersection capacity using the critical lane volume method. The analysis should be carried out for the peak hour of both the weekday morning and evening peak periods and should use traffic data for non holiday weekdays and other non-typical occurrences.

The CLV method is generally accepted by most Maryland public agencies including SHA, MCDOT, the Cities of Rockville, Gaithersburg, Takoma Park, and M-NCPPC Planning Department. The methodology will fit most intersection configurations and can be easily varied for special situations and unusual conditions.

While some assumptions, for example lane use factors (see Step 3 below), may vary between jurisdictions and agencies, the general CLV methodology is consistent. An excellent reference source is SHA's web site: <http://marylandroads.com/Index.aspx?PagelD=461>.

The CLV method can be used at signalized or unsignalized intersections. For unsignalized intersections, a two-phase operation should be assumed. The traffic volumes should be those approaching the intersection as determined in each step of the traffic study (existing, existing plus background, and existing plus background plus site).

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<sup>1</sup> In such cases, the coordination of any proposed intersection improvements shall be in accordance with the memorandum of understanding provided as Appendix 7.

Applicants should use the following steps to determine the congestion level of an intersection with a simple two-phase signal operation.

Step 1: Determine the signal phasing, number of lanes, and the total volume of entering turning movements on all intersection approaches and the traffic movements permitted in each lane.

Step 2: Subtract from the total approach volume any right-turn volume that operates continuously throughout the signal cycle (a free-flow right-turn bypass). Also, subtract the left-turn volume if it has an exclusive lane. An exclusive turning lane must be long enough to store all of the turning vehicles in a typical signal cycle without overflowing into the adjacent through lanes. Otherwise, none or only percentage of the turning volume may be subtracted from the total approach volume.

Step 3: Determine the maximum volume per lane for each approach by multiplying the volume calculated in Step 2 by the appropriate lane-use factor selected from Table 2. (Note: Do not count lanes established for exclusive use such as right- or left-turn storage lanes. The lane use factor for a single exclusive use lane is 1.00. Consult with Planning Department staff and MCDOT regarding any overlap signal phasing.)

Table 2: Montgomery County Lane Use Factors

Number of Approach Lanes	Lane Use Factor*
1	1.00
2	0.53
3	0.37
4	0.30
5	0.25

\* Based on local observed data and the 2010 Edition of the *Highway Capacity Manual*

Step 4: Select the maximum volume per lane in one direction (e.g., northbound) and add it to the opposing (e.g., southbound) left turn volume.

Step 5: Repeat Step 4 by selecting the maximum volume per lane in the opposite direction (e.g., southbound) and the opposing (e.g., northbound) left-turn volume.

Step 6: The higher total of Step 4 or Step 5 is the critical volume for phase one (e.g., north-south).

Step 7: Repeat Steps 4 through 6 for phase two (e.g., east-west).

Step 8: Sum the critical lane volumes for the two phases to determine the CLV for the intersection. At some intersections, two opposing flows may move on separate phases. For these cases, each opposing phase becomes a part of the intersection's CLV (see Table 3).

Step 9: Compare the resultant CLV for the intersection with the congestion standards in Map 1.

An example of a CLV calculation for a hypothetical intersection is provided in Table 3.

Table 3: Critical Lane Volume Calculations

direction from the	lane approach volume		critical lane use factor		approach volume		opposing lefts		lane volume per approach
north	775 <sup>1</sup>	x	0.53	=	411	+	200	=	611
south	800 <sup>2</sup>	x	0.53	=	424	+	175	=	599
	500	x	1.00	=	500	+	175	=	675 <sup>5</sup>
east	700 <sup>3</sup>	x	0.53	=	371	+	100	=	471
west	750 <sup>4</sup>	x	0.53	=	398	+	150	=	548 <sup>5</sup>

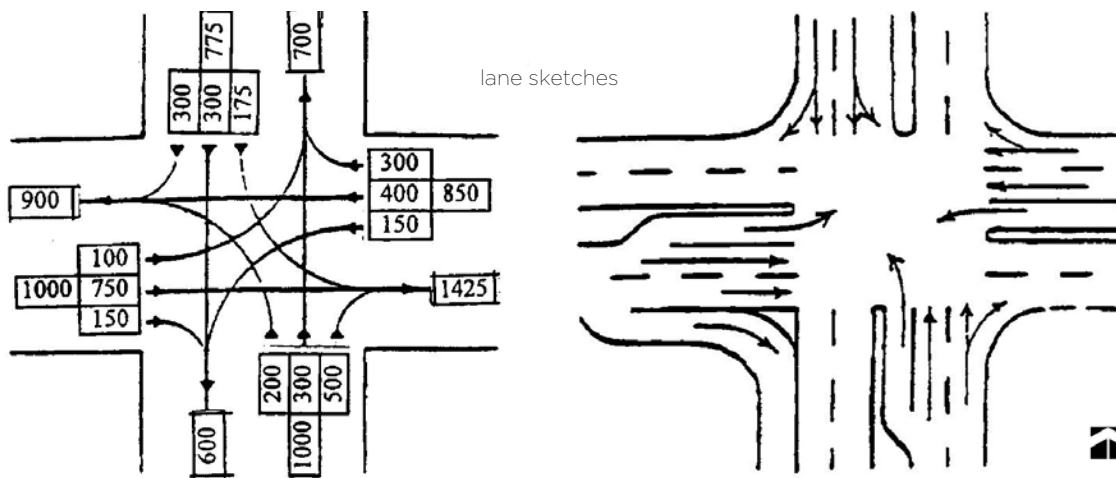
<sup>1</sup> Approach volumes are the sum of through, right, and left turn movements in two lanes.

<sup>2</sup> For a heavy right turn, evaluate worst of rights in one lane or through and rights in two lanes

<sup>3</sup> Approach volumes are the sum of through and right turn movements in two lanes.

<sup>4</sup> Approach volumes are through only because of free right and separate left.

<sup>5</sup> Intersection Critical Lane Volume = higher sum = 675 + 548 = 1,223.



The following conditions should be observed where applicable.

- Right turn overlaps can be assumed where an exclusive right turn lane exists, except in cases when an approach is signed for a “no turn on red” condition.
- The CLV for five-leg intersections should be addressed according to the individual signal phases identified in the field.
- In cases where pedestrian crossing time criteria are not met, applicants must inform MCDOT, request that they revise the signal timing, and include this in the pedestrian statement.
- Crossing distances are to be measured from the curb to the edge of the far travel lane (not curb to curb).
- “Desired times” are to be determined by dividing the crossing distance by 3.5 ft/sec and then subtracting the total clearance time for that associated phase, as per the Manual on Uniform Traffic Control Devices.
- The CLV calculation for roundabouts should calculate the sum of the approach flow and circulating flows, as defined by the Highway Capacity Manual, for each approach and comparing the highest sum to the LATR standards.

## 2. Approved but Unbuilt Development

As a general guideline, background traffic from approved but unbuilt developments will be in the same geographic area as the intersections to be studied, defined by a polygon connecting the intersections farthest from the site. If the background traffic is generated from a large, staged development, the traffic study and its review will also be staged. As noted above, background traffic data should also include effective trip mitigation programs or uncompleted physical improvements that have been required of nearby developments. In appropriate cases, Planning Department staff may require that traffic from nearby unapproved applications also be included in the traffic study as described on page 6.

### 3. Existing Intersection Turning Movement Counts

Generally, intersection turning movement counts less than one year old when the traffic study is submitted are acceptable. Traffic counts should not be conducted:

- on a Monday or Friday
- during summer months or when public schools are not in session
- on federal, state, or county holidays
- on the day before or after federal holidays
- during the last two weeks of December and the first week of January or when a major incident or event results in significantly different traffic volumes and patterns
- when weather or other conditions have disrupted normal daily traffic.

For special circumstances such as summer camps, non-summer or summer traffic counts, whichever is higher, will be used in the study.

### 4. Trip Generation, Directional Distribution, Directional Split, and Trip Assignment

#### **Trip Generation**

Trips projected to be generated by the proposed development and background traffic should be determined in accordance with the latest Trip Generation Guidelines (see Appendix 1). Developments that generate less than five peak hour background trips (i.e., subdivisions of four or fewer single-family detached houses) are not generally included unless located at a critical analyzed intersection, since tracking those trips is not pragmatic.

Trip generation equations and rates are shown in Appendix 1 for general office, retail, residential, fast food restaurants, child day care centers, private schools/educational institutions, senior/elderly housing, mini-warehouse, and automobile filling stations with or without ancillary uses. Equations for calculating trips from other land uses or zoning classifications can be obtained from the Institute of Transportation Engineer's (ITE) latest edition of the Trip Generation Manual, as can guidance regarding pass-by, diverted, and internal trip capture rates.

Applicants should use Appendix 1 for trip generation rates and equations for typical land uses within Montgomery County. Planning Department staff can assist in calculating trips and using the trip generation tables in Appendix 2. Appendix 3 contains the trip generation rates for the Silver Spring, Bethesda, and Friendship Heights CBDs, which reflect higher transit use. Planning Department staff is authorized to make minor technical changes to Appendices 1, 2, and 3 to reflect new information or to correct errors. Applicants should check with staff to ensure they are using the latest version of the Appendix.

Another special case is retail sites over 200,000 square feet of gross leasable area. Their trip generation rates will be set after discussion with staff and the applicant's analysis of data for one or more similar-sized retail sites within the County. In lieu of data collection, a trip rate set at two times the rate in the latest edition of ITE's Trip Generation Manual may be used.

In some cases, adjusting the trips from the trip generation rates and equations in the Appendix may be appropriate. For example, the effect of pass by and diverted trips for retail, including fast food restaurants, child day care centers, and automobile filling stations; and the total trips from mixed uses such as office and retail will be considered on a case-by-case basis, using the best available information. Deviations may also be appropriate for a particular site. Appropriate rates for these sites could be based on traffic counts of comparable facilities on vehicles both entering and leaving those sites, preferably in the County, and will be considered by staff.

#### **Directional Distribution**

Planning Department staff provides applicants with guidance pertaining to the directional distribution of background and site traffic generated by office and residential uses from the latest edition of the Trip Distribution and Traffic Assignment Guidelines (see Appendix 4). The distribution of trips entering and leaving the proposed development will be determined based on the relative location of other traffic generators, including background development, employment centers, commercial centers, regional or area shopping centers, transportation terminals, or other trip table information provided by staff. For land uses not covered in the Appendix, distribution should be developed in consultation with Planning Department staff.

### **Directional Split**

The directional split is the percentage of the trips entering or leaving the site during the peak hour and the direction in which those trips are traveling. Appendix 1 contains the directional split for general land uses and Appendix 3 contains directional split assumptions for the Bethesda, Friendship Heights, and Silver Spring CBDs. For all other uses, refer to the latest edition of ITE's Trip Generation Manual. If data are not available, staff and the applicant will determine an appropriate in-out directional split.

### **Trip Assignment**

Trip assignment is an estimate of the impact of future traffic on the nearby road network. It tends to be less accurate farther from the origin or destination of travel. The assignment factors shall be determined in consultation with Planning Department staff and applied to the generated trips. The resulting volumes will be assigned to the nearby road network. Generated trips, background traffic, and existing traffic will be combined to determine the adequacy of transportation facilities. Trip assignment will be extended to the nearest major intersection, or intersections, in consultation with Planning Department staff (see Table 1).

Once an intersection assignment exceeds a CLV of 2,000, diverting estimated traffic to alternate routes may be considered. Diversions will be based on feasible alternatives and should create a balance that reflects the project's traffic impacts on both primary and alternate routes, and without excessively burdening local residential streets. Impacts on primary and alternate intersections must be mitigated in accordance with the policy area congestion standards. Staff, in consultation with the applicant, SHA, and MCDOT, will resolve these cases individually before presentation to the Planning Board.

### **5. Mode Split Assumptions**

Estimates of transit use should be included if the study is to include trip reduction generated using non-auto trip factors. For mixed-use developments, the trip-generation rates and formulas in ITE's Trip Generation Manual include the impacts of transit users.

### **6. Capital Improvement Projects and Consolidated Transportation Program Improvements**

Transportation projects fully funded for construction within six years in the latest version of the County's Capital Improvement Program (CIP), the State's Consolidated Transportation Program (CTP), or any relevant municipal capital improvements program should be included in the study, along with techniques for estimating traffic diversion to major new programmed facilities.

Applicants should use the CIP and CTP to define a capital improvements project to be included in their traffic study. For an improvement to qualify for use, it must be fully funded for construction in the first six years of the applicable CIP or CTP as of the date of the traffic study's submission.

If a capital project is not currently fully funded for construction within six years of the capital program, but such funding is reasonably anticipated to occur in the next capital program, Planning Department staff may recommend the Planning Board delay an APF decision until the County or State is ready to appropriate that funding. The Planning Board would then require the developer to consult with the County or State when building permit applications are filed. If the County or State agrees at that time in writing that the capital project will be constructed within six years, then the developer will contribute an amount equivalent to the cost of the LATR improvements that they would otherwise be required to make.

### **7. Circulation and Safety**

The traffic study should provide peak hour turning movement projections (into and out of the site) for all driveways to commercial and multifamily residential developments, sites that share access through an easement agreement, and proposed intersections of any new public streets with existing public roads.

On sites with public or private facilities with 800 or more seats or that can otherwise accommodate 800 or more people during an event, which may have high traffic impacts, traffic studies should address concerns about site access and circulation.

### **8. Land Use and Size**

The study should include the number and square footage of buildings on the site and whether they are commercial, residential, or some other use as described in Appendix 2 and in the latest version of the Highway Capacity Manual.



## 9. Queuing Analysis

The study should be based on data from the Highway Capacity Manual methodology, and reflect the different standards for CBDs and MSPAs (see Map 1). See page X for more detail.

## 10. Pedestrian and Bicycle Impact Statement

To ensure safe and efficient pedestrian and bicycle access and circulation to and within the site, the study should include:

- pedestrian and bicycle counts at each intersection leg and an accounting of pedestrians and bicyclists crossing multiple legs
- any capital or operating modifications required to maximize safe pedestrian and bicyclist access to the site and surrounding area
- inventory map of existing and proposed sidewalks, off-road shared-use paths, and bikeways near the site noting whether these facilities are generally consistent with the County's Road Code design standards for sidewalk, path, landscape panel width, and street trees
- existing and proposed bus stops, shelters, and benches, including real time transit information
- pedestrian and bicycle accommodations at nearby intersections, including crosswalks, countdown pedestrian signals (CPS), push buttons, median refuges, and ADA-compliant ramps and accessible pedestrian signals (APS)
- information on bus route numbers, service frequency, and end destinations of bus routes
- in CBDs and MSPAs, recognition of peak pedestrian and bicycle activity periods
- inventory of existing streetlighting and additional lighting needs in the vicinity of the site.

## 11. Improvement and Mitigation Recommendations

The study should include a feasible range of traffic engineering improvements and/or trip mitigation measures associated with implementing the development.

## 12. Traffic Mitigation Agreement

If an applicant is proposing trip reduction measures, the study must include:

- a description of proposed Traffic Mitigation Agreement (TMAg) elements that will be entered into by the Planning Board, the Board of Appeals and MCDOT, and included in the opinions issued by the Board of Appeals. The description must include, at a minimum, the following elements:
  - the vehicle trip reduction goals, including the specific number of peak hour vehicles to be reduced in both the weekday morning and evening peak periods
  - the TMAg's actions and a quantitative assessment of how they will achieve the required vehicle trip reduction goal
  - the required duration of the TMAg, whether the TMAg will be enforced based on the provision of specified actions (regardless of outcome), the measured outcome (regardless of actions provided), or a combination of both
  - the measures to be used in enforcement
  - the suggested method of monitoring
  - a security instrument to fund the continuation of the traffic mitigation program for its remaining term if the applicant defaults
  - the penalties if the vehicle trip reduction goals are not met.
- written statements from both MCDOT and Planning Department staffs concurring with the proposed approach to traffic mitigation.

### *Additional Guidance on Scope Elements*

The project's size and location will determine its traffic impact, as will the land uses in the proposed development. In calculating their impact, the applicant's traffic study must consider the following factors.

#### **Peak Hour**

Traffic studies should be based on the one hour period with the highest trips during the typical weekday morning (6:30 a.m. to 9:30 a.m.) and/or evening (4:00 p.m. to 7:00 p.m.) peak period. This one-hour period shall be determined from the highest sum of the existing traffic entering all approaches to each intersection during four consecutive 15-minute intervals.

### **Traffic Data**

Current existing traffic volume data may be available from the Planning Department's intersection traffic count database, SHA, or MCDOT. New traffic counts should be conducted by the applicant if, in staff's opinion, traffic volumes have increased due to some change in the traffic pattern, such as the completion of a nearby development or roadway project after the count was made. Applicants are responsible for collecting new traffic counts if turning movement data are more than one year old when the project application is considered complete by the Planning Department or if there are locations for which traffic count data are non-existent.

Intersection traffic counts obtained from public agencies or conducted by the applicant must be manual turning movement counts of vehicles and pedestrian/bicycle crossing volumes in 15-minute intervals covering the typical weekday peak periods, 6:30 a.m. to 9:30 a.m. and 4:00 p.m. to 7:00 p.m., or some other agreed upon time period. The data must be collected in 15-minute intervals to allow selection of the peak hour within the nearest 15 minutes. All weekday peak-period turning movement data should be submitted as part of the applicant's traffic study.

All new intersection traffic counts for vehicles, pedestrians, and bicycles must be submitted digitally to Planning Department staff to become part of the Planning Department's Intersection Traffic Count database, which is available to developers, consultants, and others. Traffic counts affected by adverse weather or nearby traffic incidents will not be accepted (see page 11, Applicant's Preparation of an LATR Traffic Study, Existing Intersection Turning Movement Counts).

### ***Submitting an LATR Traffic Study***

If an applicant is uncertain whether a traffic study is required, a traffic exemption statement must be filed as a part of an applicant's development submittal. The traffic exemption statement must show:

- that the number of peak hour vehicle trips generated by the project's proposed land use is fewer than 30 trips
- how the TPAR test is satisfied.

Planning Department staff will review the initial traffic exemption statement and determine if a traffic study is necessary.

If a traffic study is necessary, Planning Department staff has 15 working days to develop a study scope after receiving a written request and working with the applicant. As part of the scope, staff will supply the applicant with information on approved but unbuilt developments, relevant pending applications, nearby intersections to study, trip distribution and traffic assignment guidelines, and other information required to complete the study.

When determined to be complete and adequate, the applicant can return the study with the complete development application. Planning Department staff has 15 working days to let the applicant know if the study is complete and adequate.

TPAR and LATR are separate evaluation processes, but must be examined concurrently as part of a development application submission. Each applicant must satisfy both TPAR and LATR requirements. The requirements must be addressed in a single document, which may include a combination of traffic exemption statements and traffic studies.

### **Traffic Study Submittals**

Two copies of the traffic study must be submitted with the development application. Once Planning Department staff confirms that the traffic study is complete and adequate, 13 copies must be submitted within five working days of notification, along with a PDF copy for inclusion in the application file and available for public view via the Planning Department website's Development Activity Information Center (DAIC).

A complete and adequate traffic study must include:

- A site or area map showing:
  - existing roads serving the site and any CIP or CTP transportation improvements that are fully funded for construction within six years and that affect traffic at the critical intersections
  - nearby approved but unbuilt developments and associated improvements that would affect traffic at the critical intersections with their location shown on the area map. (This information is provided by staff and included as part of the traffic study.)

- Name and contact information of the licensed or certified professional submitting the traffic study. LATR traffic studies must be submitted by a registered Professional Engineer (PE), Certified Professional Traffic Operations Engineer (PTOE), Certified Professional Transportation Planner (PTP) or AICP Certified Transportation Planner (AICP CTP).
- Existing pedestrian and bicycle weekday morning and evening peak period traffic count summaries for the intersections analyzed in the traffic study. The summary should include any safety deficiencies or conditions that fail to comply with the Americans with Disabilities Act.
- For approved but unbuilt development:
  - weekday morning and evening peak hour trips expected to be generated by each nearby approved but unbuilt development, including the source of the generation rates and equations for each
  - trip distribution patterns, as percentages, during the weekday morning and evening peak hours. The pattern of both distribution and assignment should be shown on an area map of the local roadway network.
- For the proposed development:
  - weekday morning and evening peak hour trips entering and leaving the site, including the site driveways
  - trip distribution patterns, as percentages, during the weekday morning and evening peak hours. The pattern of both distribution and assignment should be shown on an area map of the local roadway network.
- Maps that show separately and in combination:
  - existing weekday morning and evening peak hour traffic volumes using the affected highway system, including turning movements at analyzed intersections
  - projected weekday morning and evening peak hour trips assigned to the affected highway system and turning movements at analyzed intersections for all nearby approved developments, included as part of the background
  - traffic volumes derived by adding trips from approved development to existing traffic
  - if a roadway CIP/CTP or developer-sponsored project is considered as being in place, the resulting reassignment and redistribution of trip patterns
  - projected weekday morning and evening peak hour trips assigned to the affected highway system and turning movements at analyzed intersections for the proposed development
  - traffic volumes derived by adding site trips to the sum of existing plus background traffic assigned to the affected highway system and turning movements at the analyzed intersections.
- Any study performed to help determine how to assign recorded or proposed development trips, such as a license plate study or special turning movement counts.
- Copies of all critical lane volume analyses for each analyzed intersection, showing calculations for each approach.
- A list of all transportation improvements, if any, that the applicant agrees to provide and a scaled drawing of each improvement showing available or needed right-of-way, proposed roadway widening, and area available for sidewalks, bikeway, landscaping, as required. Coordination with MCDOT, SHA and, if impacted, the Cities of Rockville and Gaithersburg, should be shown.

Electronic copies of all vehicle, pedestrian, and bicycle traffic counts in approved digital format submitted to: [www.montgomeryplanning.org/transportation/latr\\_guidelines/submission.pdf](http://www.montgomeryplanning.org/transportation/latr_guidelines/submission.pdf).

- Traffic counts affected by adverse weather, nearby traffic incidents, or other factors resulting in non-typical volumes will not be accepted.

Before a traffic study is accepted for review, the applicant must show proof that the MCDOT Development Review Fee (to review the traffic study) has been paid, in accordance with Executive Regulation No. 28-06 AM (Schedule of Fees for Transportation-related Reviews of Subdivision Plans and Documents).

Once a traffic study is determined to be complete and adequate (see Table 4), the date of Planning Department staff acceptance of that study becomes the completion date. Planning Department staff will inform the Planning Department's Development Application and Regulatory Coordination division that the study is complete and adequate. As part of a development application, the traffic study will follow the standard notification process.

Planning Department staff is available to review the traffic study's recommendations with community representatives. Traffic studies are available for public review as part of the application's general file. Copies can be made or requested from the applicant, as needed. PDF copies are also available online at the Planning Department's Development Activity Information Center.

After the traffic study is complete and adequate, Planning Department staff will distribute it to MCDOT, SHA, and incorporated cities, if applicable. Traffic studies should be distributed at or before the date when subdivision plans are distributed for review by the Development Review Committee. These agencies will have 30 days to review the traffic study and comment. Planning Department staff will determine if a traffic study's recommendations are acceptable in consultation with the applicant, MCDOT, and SHA. Planning Department staff will work with the applicant to obtain comments from SHA and MCDOT five weeks prior to a scheduled Planning Board hearing.

It is the applicant's responsibility to determine how to respond to written and/or oral communication by Planning Department staff regarding issues associated with and/or required modifications to the traffic study.

**Table 4: Checklist for Complete and Adequate Traffic Studies**

Applicants should consider the following questions that Planning Department staff will use to determine whether a traffic study is complete and adequate, and can be accepted for DRC review and eventual decision by the Planning Board.
<b>Process</b>
Traffic study submitted/receipt date
Contact information of licensed or certified person who prepared it
Has an electronic copy of traffic counts been received/receipt date
Have the fees required by Executive Regulation 28-06 AM been paid?
Does the study follow LATR/TPAR Guidelines, the traffic study scope letter, and generally accepted transportation planning principles?
Are policy area congestion standards, lane configurations, lane factors, and CLV calculations in the traffic study acceptable?
<b>Information about surrounding area</b>
Are existing traffic conditions presented accurately?
Are pipeline developments adequately represented?
Are background traffic conditions appropriate?
Are the relevant fully-funded transportation network improvements included?
<b>Information about the proposed development</b>
Does the study reflect latest submitted development plan and land uses?
Is site trip generation estimated according to LATR requirements?
Is the TPAR fee calculated based on the number of dwelling units and gross square footage?
Are assumptions for the percent of new, diverted, pass-by, internal trips acceptable?
Does site trip distribution represent regional travel patterns in the LATR/TPAR Guidelines and local road network?
Is site trip assignment acceptable?
<b>Information about proposed mitigation</b>
If proposed, what percentage of LATR trips needs to be reduced and mitigated? Are intersection and roadway improvements identified?
Is the Pedestrian and Bicycle Impact Statement acceptable?
Are necessary trip reduction measures identified?
Are intersection and roadway improvements identified?
If proposed, are trip reduction measures acceptable?
If proposed, are the required elements of the Traffic Mitigation Agreement (TMAg) identified?
Has the PDF copy of the traffic study been submitted?

## STAFF'S EVALUATION OF A TRAFFIC STUDY

Planning Department staff evaluates traffic studies considering the following elements, described here to ensure consistent review by staff and to provide applicants additional information about how their studies will be analyzed. The review includes variations for MSPAs, CBDs, and projects with multiple applicants.

### Project Size and Location

To warrant an LATR traffic study, a proposed development must have a measurable traffic impact on a local area. Measurable traffic impact is defined as a development that generates 30 or more total (i.e., existing, new, pass-by, and diverted) weekday peak hour trips in the morning (6:30 a.m. to 9:30 a.m.) and/or evening (4:00 p.m. to 7:00 p.m.) peak periods. If the proposal generates less than 30 trips or is a renovation of an existing development and will generate no net increase in trips, a traffic exemption statement is required instead of a traffic study.

An LATR traffic study is not required for any expansion that generates five or fewer additional peak hour trips if use and occupancy permits for at least 75 percent of the originally approved development were issued more than 12 years before the LATR traffic study exemption request. If an LATR traffic study is required, the number of signalized intersections in the study will be based on the increased number of peak hour trips rather than the total number of peak hour trips.

To determine if a development will generate 30 or more weekday trips, Planning Department staff uses the following criteria:

- For office or residential development, all peak hour trips are counted even if, as part of the analysis, some of the trips will be considered as existing, pass by, or diverted trips to the site from existing traffic.
- For retail development, pass-by and diverted trips are included in establishing the 30-vehicle threshold for a traffic study and later, for designing site access and circulation. Pass-by and diverted trips are not added to site-generated trips because they are already on the network, but diverted turning movements are considered in evaluating CLV measurement.
- Planning Department staff shall exercise their professional judgment in consultation with the applicant in determining the appropriate land area to consider. Parcels that will be separated by unbuilt roadways remain "land at one location" but parcels separated by business district streets, arterial roadways, major highways, or freeways may cease to be "land at one location" even if still in common ownership.

In certain circumstances, Planning Department staff may, in consultation with the applicant, require analysis of traffic conditions during a different three-hour weekday peak period for example, 6:00 a.m. to 9:00 a.m. (versus the standard 6:30 a.m. to 9:30 a.m.) or 3:30 p.m. to 6:30 p.m. (versus the standard 4:00 p.m. to 7:00 p.m.), to reflect the site's location or trip-generation characteristics, existing conditions, or background traffic. For example, a school where classes end before the start of the evening peak period may warrant analysis of an earlier peak period.

The applicant calculates the number of trips using the following sources:

- in the Silver Spring, Bethesda, and Friendship Heights CBD Policy Areas, use the trip generation rates in Appendix 3, Tables 3-1 or 3-2.
- in all other parts of the County:
  - for general office, general retail, residential, fast food restaurant, private school, child day-care center, automobile filling station, senior/elderly housing, or mini-warehouse, use the formulas provided in Appendix 1 and the tables provided in Appendix 2.
  - for other land uses, use the latest edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE).

For some specialized land uses, trip-generation rates may not be available. In such cases, Planning Department staff may request that determining rates be a part of the traffic study, most likely by collecting existing driveway counts at similar land uses. If special rates are to be used, staff must approve them prior to submission of the traffic study.

An applicant shall not avoid the intent of this requirement by submitting piecemeal applications or approval requests. However, an applicant may submit a plan of subdivision for less than 30 peak hour trips if agreeing in writing that, upon filing future applications, the applicant will comply with the requirements of the LATR/TPAR Guidelines when the total number of site-generated peak hour vehicle trips at one location has reached 30 or more. Then, a traffic study will be required to evaluate the impact of the total number of site-generated trips in accordance with the Guidelines.

Planning Department staff may elect to waive the criteria described in this section if the development results in no net increase in weekday peak-hour trips.

### **Congestion Standards**

The County Council establishes congestion standards throughout the County (stated in terms of CLV levels), which depend on the character of development and the availability of transit options. These standards are developed by policy area and adopted in the Subdivision Staging Policy (see Map 1). Planning Department staff maintains an inventory of intersection traffic data based on traffic counts collected by MCDOT, SHA, and private traffic consultants to provide applicants with a preliminary assessment of conditions in the vicinity of a proposed development.

### *Reviewing Development in MSPAs and CBDs*

In reviewing MSPA and CBD applications, staff uses the following criteria.

#### **Adequacy of Traffic Flows**

- Any intersection with a CLV less than 1,600 will be considered acceptable with no further analysis required. The CLV will be calculated in accordance with the procedures defined in these Guidelines.
- If the CLV is 1,600 or higher, an HCM analysis shall be performed. Existing queues shall be measured by the applicant and total traffic (existing, background, and site) and planned roadway and circulation changes shall be taken into account. The HCM methodology shall be applied using simulation software such as SYNCHRO or CORSIM based on simulation parameters agreed upon by the applicant and Planning Department staff. The average queue length in the weekday peak hour should not extend more than 80 percent of the distance to an adjacent signalized intersection, provided the adjacent signalized intersections are greater than 300 feet apart. The 80 percent standard provides a margin of safety for peaking. If adjacent signalized intersections are closer together than 300 feet, the average queue length in the weekday peak hour should not extend more than 90 percent of the distance to the adjacent signalized intersection. The assumed signal timing analysis must be consistent with the crossing time required for pedestrians as described in the CLV Analysis Methods section (page 8).

#### **Site Access and Pedestrian/Bicycle Safety**

In addition to the traffic flow analysis, applicants must demonstrate that the following guidelines are not violated by their site development.

- Vehicle access points for parking and loading must be located so that they will not interfere with traffic flows on the adjacent streets or with access points to neighboring buildings or transit terminal areas. Access directly onto roads classified as arterials or above should be avoided, but if proposed it will be considered in the context of the application.
- In addition to the pedestrian and bicycle impact statement, pedestrian and bicycle safety shall be assessed based on the potential for conflicts between pedestrians, bicycles, and vehicles. Actions shall be taken to minimize conflicts and ensure pedestrian and bicycle safety on and adjacent to the site.

In MSPA cases where pedestrian crossing time criteria are not met, the applicant must inform MCDOT and request them to revise the signal timing. Any adjustments must be documented in the traffic study submitted as part of the development application. In the analysis, all pedestrian and bicycle movements are assumed to be made at the street level.

#### **Other Criteria**

- Total traffic is defined as the existing traffic, plus trips from approved but unbuilt development, plus the trips from the proposed development during the peak hour of the weekday morning and evening peak periods.
- Critical intersections are those within the CBD or MSPA, defined by Planning Department staff, generally adjacent to the site, or allowing site traffic to enter an arterial or major road. In some cases, where site volumes are large, additional intersections within or contiguous to the CBD or MSPA may be identified by staff for inclusion in the traffic study.



- Vehicles can be assigned to parking garages encountered on their trip into the CBD or MSPA. The capacity of parking garages must be accounted for based on guidance from Planning Department staff and consultation with MCDOT.
- Trip generation rates for background and site development traffic are contained in Appendixes 1, 2, and 3.

### *Multiple Applicants*

Applicants can request that trip mitigation programs or intersection improvements be considered for more than one application. In those cases, the program or improvement must provide enough capacity to allow all participating applicants to satisfy LATR conditions.

An intersection improvement that is not yet complete may be used by two or more developments to meet LATR conditions. To be considered, the improvement must provide sufficient capacity to:

- result in a CLV that is less than the congestion standard for that policy area; and
- result in a CLV reduction equal to 150 percent of the CLV impact generated by the developments, that is, the intersection improvement must not only mitigate the impact of a proposed development, but improve conditions.

Any type of mitigation listed in this document or acceptable to MCDOT, SHA, and the Planning Board can be used to achieve this goal.

When development is conditioned on intersection and roadway improvements by more than one application, those improvements must be permitted and bonded<sup>1</sup>, under construction, or under contract for construction prior to the issuance of building permits for any new development. Exceptions may be made if an applicant's trip contribution to an intersection or roadway is less than 25 percent of the sum of total trips<sup>2</sup>.

This requirement may be fulfilled by the creation of a road club or other mechanism approved by the Planning Board that:

- includes the terms, conditions, and responsibilities for funding 100 percent of the cost for design approval, right-of-way acquisition, and construction of the improvements as set forth in the individual project APF approvals; and ensures that all parties contribute in accordance with their respective shares to the total cost of the improvements
- ensures the improvements are either permitted and bonded or under contract for construction within three years of the first building permit issued for any of the developments dependent on the required improvements
- ensures the improvements are substantially complete and open within five years of the first building permit issued for any of the developments dependent on the required improvements.

If the second or third conditions above have not been met, no building permit that is conditioned on construction of the improvements may be issued to any other participant in the road club until all above conditions are met<sup>3</sup>. If a road club or other mechanism is formed, but not all parties responsible for the improvements join, the non-participating parties will not be permitted to proceed with platting or construction of their projects until they either join the road club or, if the improvements have been completed, reimburse the other road club participants for their share of the total costs. Non-participating parties include those with projects with preliminary plan or APF approvals, which are obligated to participate in the same improvements, whether the approval occurred before or after the road club formation.

Construction of an improvement by one applicant does not relieve other applicants of their responsibility to participate in the cost of that improvement. The final percentage of the construction cost contribution is determined by the participating applicants.

<sup>1</sup> This condition is satisfied if the project is included in the first six years of the County's Capital Improvement Program or the State's Consolidated Transportation Program and the developer's contribution is applied to that project.

<sup>2</sup> Trip total is the sum of the total peak-hour trips generated by all developments required by the Planning Board to participate in the construction of the particular improvement.

<sup>3</sup> In certain APF approvals, an applicant is not required to build an improvement until a certain number of building permits have already been released. Such a project would not be responsible for constructing those improvements until the specified number of building permits has been released.

If the Planning Board is asked to consider extending the time period to comply with APF requirements for an approved preliminary plan, Planning Department staff will determine if the traffic study needs to be updated based on the APF validity period.

### **Participation in Transportation Improvements**

The Planning Board may require that applicants participate in some capital program transportation improvements. Participation will be proportional to the development's impact on the improvement and will be determined by Transportation Planning staff, MCDOT, SHA, and other agencies that fund transportation-related improvements. If the traffic study identifies roadway changes or other transportation-related activities required to mitigate the proposed development's on- or off-site impact, these changes will be the responsibility of the applicant as part of LATR.

### **Traffic Mitigation Agreement**

Each applicant in a Transportation Management District (TMD) must have a proposed Traffic Mitigation Agreement (TMAg) outlining a participation plan for trip reduction measures and other strategies for participating in efforts to achieve the non-auto mode share goals for that policy area. This plan should be prepared in conjunction with the area's TMD, MCDOT, and Planning Department staff. The TMAg for TMD participation may be structured to incorporate applicable LATR and TPAR requirements.

A TMAg may be required in areas where Transportation Demand Management is anticipated in the future, or in situations where the applicant has claimed credit for travel volume reductions by using transit without identifying specific measures to guarantee those reductions.

Proposed Traffic Mitigation Agreements should be:

- submitted as a draft, electronically and in writing, with subdivision plan submissions (the draft document should detail the project's proposed trip reduction program)
- executed and recorded before the issuance of the project's first building permit.

### *Information Provided by Staff*

The following information may be provided to the applicant by Planning Department and MCDOT staffs for use in the traffic study.

- Existing traffic counts at selected locations. (The applicant shall be required to update these data if the application is submitted more than one year after the applicant submits a completed development application to the Planning Department.)
- Trip generation rates or equations and their source.
- Initial directional distributions (see Appendix 4) to be refined based on the existing road network
- In CBDs, parking garage capacity information and locations of future public parking garages.
- A list of approved but unbuilt developments and their locations.
- Public and private transportation improvements in the study area, with funding assigned for construction within six years (see Appendix 6).

### *Staff Findings*

In their report to the Planning Board, staff presents findings for each of the following categories and makes recommendations about the adequacy of transportation facilities. The Planning Board will use these findings and recommendations, along with comments and recommendations from the public, MCDOT, SHA, and incorporated cities and towns, to determine the adequacy of public facilities for the proposed development.

Staff determines adequacy by finding that:

- congestion conditions will not exceed policy area standards
- proposed intersections improvements are feasible and will improve congestion conditions
- the applicant will pay into a fund to make required improvements.

### **Transportation Solutions**

If the applicant's traffic study identifies a condition that exceeds the congestion standard for the policy area, Planning Department staff will notify the applicant, MCDOT and SHA so that feasible mitigation can be developed. The Planning Department staff may recommend and the Planning Board may approve traffic mitigation

agreements, non-automobile transportation facilities, or physical road improvements, alone or in combination, as the required means to relieve local congestion. For LATR, priority will be given to non-physical improvements in MSPAs and CBDs. No transportation mitigation improvement or transportation mitigation payment is required under TPAR in MSPAs.

The Subdivision Staging Policy seeks to reduce congestion in areas where it may already be unacceptable. It stipulates that in policy areas where local area conditions exceed the congestion standard, development may only be approved if the applicant agrees to mitigate the LATR impact by either:

- making improvements that bring the local area condition to within the congestion standard, or
- reducing CLV by an amount to equal to 150 percent of the CLV impact generated by the development.

Whenever modifications to signalized intersections and other physical improvements are proposed to remedy congestion standard issues, the traffic study must provide preliminary information to establish the feasibility of implementing the proposed measures. In these instances, the traffic study should include:

- alternative intersection improvements that were considered but not recommended, plus the rationale for not proposing them
- existing and proposed pavement
- existing and proposed right-of-way
- the length and width of proposed modifications
- cross sections of existing and proposed improvements in the right-of-way
- modifications to receiving lanes (such as additional through or turn lanes) or right-turn lanes
- the adequacy of turn radii—particularly for opposing vehicle movements where additional turn lanes are proposed
- proposed changes to the operation of existing traffic signals (timing, phasing, etc.).

Once the applicant, Planning Department staff, and MCDOT and SHA have identified solutions that will create local transportation capacity, these solutions will be incorporated as conditions of approval in the Planning Department staff report. These solutions could include additional traffic engineering or operations changes beyond those currently programmed, or new transit or ridesharing activities.

For applicants participating in traffic mitigation or intersection improvements to satisfy LATR requirements, that participation also counts toward meeting LATR for intersections where site-generated trip volume is less than five critical lane movements.

### **Establishing Local Congestion Standards**

The applicant's traffic study must identify a development proposal's impact and the degree of intersection congestion for the peak hour of the weekday morning and evening peak periods by comparing the calculated CLVs with the policy area congestion standards in Map 1. For intersections straddling policy area boundaries, the higher congestion standard shall be used.

The LATR congestion standards are based on an approximately equivalent level of service that balances transit availability with roadway congestion in all County policy areas. In areas of greater transit accessibility and use, greater traffic congestion is permitted (see Map 1).

If staff finds that congestion standards are exceeded under background conditions, an applicant is required to provide a traffic mitigation program consisting of either or both trip reduction or intersection improvements. The mitigation program should:

- bring the intersection to acceptable levels of congestion, or
- reduce CLV by an amount equal to 150 percent of the CLV impact generated by the development.

### **Unavoidable Congestion**

In their analysis, Planning Department staff will identify alternate routes to serve associated trips that could mitigate congestion. If there are no appropriate alternate routes, then it must be assumed that trips from the proposed development will increase local area congestion. It is not appropriate to anticipate that the development's associated trips associated would use local streets other than for site access unless those streets are classified as arterial, business district, or higher.

### Transportation Demand Management Strategies

As part of the traffic study review and approval, staff, in coordination with MCDOT, will confirm the degree to which transit, ridesharing, or other TDM activities can mitigate vehicle trips generated by a development. This activity should occur before the traffic study scoping letter stage to aid in preparing and reviewing the report. If the proposed development or immediate area can be served with transit or ridesharing services, then priority will be given to developing a transit alternative or trip mitigation program using transit. If it is physically or fiscally ineffective for public agencies to provide transit or ridesharing services, then it must be assumed that trips from the proposed development will increase local area congestion. In most cases, TDM strategies will be included in TMAs and monitored over time to ensure effectiveness.

### Project-Related Traffic

Planning Department staff will identify the degree to which local traffic congestion is attributable to the proposed development by measuring traffic from three sources: existing traffic, background traffic generated by the total of all nearby approved but unbuilt development, and total trips generated by the proposed development. The more trips the proposed development contributes to local traffic congestion, the greater the local impact area.

**Table 5: LATR Intersection Congestion Standards—Critical Lane Volume and Volume-to-Capacity Equivalencies**

These standards for congestion in each policy area are based on critical lane volume measurements and volume-to-capacity equivalencies based on data in the Highway Capacity Manual.		
policy area	critical lane volume standard	volume to capacity equivalent
Rural East Rural West	1,350	0.84
Damascus	1,400	0.88
Clarksburg Gaithersburg City Germantown East Germantown West Montgomery Village/Airpark	1,425	0.89
Cloverly North Potomac Olney Potomac R&D Village	1,450	0.91
Aspen Hill Derwood Fairland/White Oak	1,475	0.92
Rockville City	1,500	0.94
North Bethesda	1,550	0.97
Bethesda-Chevy Chase Germantown Town Center Kensington-Wheaton Silver Spring-Takoma Park	1,600	1.0
Bethesda CBD Silver Spring CBD Wheaton CBD Friendship Heights CBD Glenmont MSPA Grosvenor MSPA Rockville Town Center MSPA Shady Grove MSPA Twinbrook MSPA White Flint MSPA	1,800	1.13

## Exceptions to LATR

There are several exceptions or additions to the LATR process and standards.

In the Potomac Policy Area the only developments subject to LATR are those with site-generated trips that will impact the following intersections:

- Montrose Road and Seven Locks Road
- Democracy Boulevard and Seven Locks Road
- Tuckerman Lane and Seven Locks Road
- Bradley Boulevard and Seven Locks Road
- Democracy Boulevard and Westlake Drive
- Westlake Drive and Westlake Terrace
- Westlake Drive and Tuckerman Lane
- River Road and Bradley Boulevard
- River Road and Piney Meetinghouse Road
- River Road and Seven Locks Road
- River Road and Falls Road
- Falls Road and Democracy Boulevard.

### Alternative Review Procedure

The congestion standard for intersections in Metro Station Policy Areas is a CLV of 1,800 (see Map 1) and development within these areas is eligible for the Subdivision Staging Policy's Alternative Review Procedure (ARP), which exempts projects from LATR and requires paying twice the TMD fees and reducing their trips by at least 50 percent.

For applicants using the Alternative Review Procedure (see Subdivision Staging Policy Section TA2), the solutions must be identified, agreed to, and made conditions of approval.

An applicant for a subdivision that will be built completely within an MSPA need not take any action under TPAR or LATR if they agree in a contract with the Planning Board and MCDOT to:

- submit an application containing all information, including a traffic study, that would normally be required for LATR
- meet trip reduction goals of no less than 50 percent set by the Planning Board as a condition of approving that subdivision, either by reducing trips from the subdivision itself or from other occupants of that policy area per an executed and recorded Traffic Mitigation Agreement, 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 TMO to be established for that policy area (or a group of policy areas) to meet the established mode share goals
- pay an on-going annual contribution or transportation development impact tax to fund the TMO's operating expenses, including minor capital items such as buses, as established by County law
- pay 75 percent of the applicable General District Transportation Impact Tax without claiming any credits for transportation improvements.

### Subdivision Staging Alternative Review Process

For commercial or residential developments, an applicant can meet LATR requirements by doing all of the following:

- paying 75 percent of the applicable development impact tax without claiming any credit for transportation improvements
- participating in and paying an on-going annual contribution to a Transportation Management Organization (TMO) if and when one exists
- mitigating 50 percent of their total weekday morning and evening peak hour vehicle trips per an executed and recorded TMAg
- submitting a traffic study to identify intersection improvements and trip mitigation measures that would have been required.

To calculate mitigated trips for the Alternate Review Procedure, the applicant must explicitly document the conversion between person-trips and vehicle trips to account for transit use, vehicle occupancy, walk/bike use, internal site trip capture, and telecommute options. The estimates should document the effect of home-based work trips separately from all other trips. Special trip rates in Appendix 2, such as for office uses within 1,000 feet of Metrorail stations outside the Beltway, or rates for any uses within the Bethesda, Silver Spring, and Friendship Heights CBDs (Appendix 3), should not be used in either ARP or LATR-TPAR trip calculations. Countywide rates in Appendixes 1 and 2 are allowed, otherwise calculation rates and procedures recommended by the ITE or the TRB must be applied and referenced for Planning Department staff to consider the quantification of any trip reduction proposal.

## ALTERNATIVE SOLUTIONS AND MITIGATION APPROACHES

If an applicant's LATR findings indicate an unacceptable intersection congestion level, their options to mitigate that impact include the physical or program improvements as outlined below.

In general, any mitigation measure or combination of mitigation measures must be scheduled for completion or be operating before or at the same time the proposed development is scheduled to be completed. The nature, design, and scale of any additional facility or program must receive approval from any government agency that would construct or maintain it and the applicant and public agency must execute an appropriate 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 a roadway 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 a particular focus on high-quality pedestrian and transit access to schools, libraries, recreation centers, and other neighborhood facilities.

If an approved subdivision already constructed or participated in the construction of off-site improvements to accommodate its peak hour trips (based upon the LATR requirements the Board imposed when it approved a development plan), and if the development later converts one or more approved uses or reduces its size so that the subdivision generates fewer or an equal number of peak hour trips than estimated when the Board imposed the LATR requirements, the trip mitigation agreement must reduce the development's peak hour trip mitigation requirement by one trip for each peak hour trip that no longer would be generated by the development. If the conversion of all or part of the 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.

Applicants required to make intersection improvements to satisfy LATR may apply the capital cost of those improvements toward any TPAR mitigation obligation only if the conditions qualifying those improvements as being appropriate for TPAR mitigation are met.

### *LATR Mitigation Options*

#### **Traffic Mitigation Agreements**

The applicant may be required to reduce or mitigate trips by entering into a legally-binding transportation mitigation agreement (TMAg). Each traffic mitigation program will be required to operate for at least 12 years, but not more than 15 years, once trip reduction requirements are initially achieved and after use and occupancy permits are drawn. Some elements are designed to continue in perpetuity.

TMAg measures could include:

- subsidizing transit fares to increase ridership
- constructing and maintaining a new park-and-ride facility or providing funds to increase use of an existing park-and-ride facility
- funding a private shuttle service, for example, between the site and a nearby Metrorail station or park-and-ride facility
- constructing queue-jumper lanes, providing traffic signal priority treatment for transit (after MCDOT and SHA have implemented this process) and other techniques to improve bus travel times (only results that improve travel times will be considered)
- parking management activities
- establishing live-near-work, flex-time, or telecommuting programs.

Other measures may be suggested by applicants, Planning Department staff, or MCDOT. Creative approaches to reducing traffic impacts are encouraged. The final trip reduction measures must be approved by the Planning Department and MCDOT staffs.



To ensure compliance with the contract conditions, TMAgs will be monitored at a minimum on a quarterly basis, at the applicant's expense, by MCDOT staff or a consultant selected by the Planning Board. If the quarterly monitoring finds that the goals are not being met, the TMAg will be monitored on a monthly basis until the goals are met for three consecutive months. When the goals aren't being met, staff and the applicant will work together to seek alternative or additional measures and monthly monitoring will take place until the trip reduction goals are met.

### *Non-Auto Transportation Facilities*

To maintain an equivalent level of service for both auto and non-auto modes of travel, the Planning Board may permit an applicant to provide fewer roadway improvements or less traffic mitigation in exchange for providing non-auto transportation facilities that will enhance pedestrian safety or encourage non-auto mode choices.

Such facilities must be implemented to reduce the congestion levels at intersections that exceed the congestion standard and where an improvement need has been identified. Trip distribution and assignment assumptions in the LATR Traffic Study are key factors in determining local intersection impacts and the level of trip mitigation required.

**Table 6: Graduated and Maximum Trip Credits Related to Congestion Standards**

non-automobile transportation facility	trip credit vs. congestion standard		
	1,350-1,500	1,550-1,600	1,800
100 linear feet of five-foot wide sidewalk	0.5	0.75	1.0
100 linear feet of eight-foot wide bike path			1.0
other non-automobile facilities	\$12,000 per vehicle trip		
maximum trip credits	60	90	120

Table 6 identifies trip reduction options. Any or all of these may be used for a given application. The maximum trip reduction per development is a function of the policy area congestion standard for the development site.

In determining the adequacy of improvements, the Planning Board must balance the environmental and community impacts of reducing congestion as well as the safe and efficient accommodation of pedestrians, bike riders, and bus patrons. Periodic monitoring may or may not be required of non-auto transportation facilities.

Non-auto facilities to mitigate congestion include sidewalks, bike paths, Super Shelters, bus shelters and benches, bike racks and lockers, and static or real time transit information signs, described in more detail below.

### **Sidewalks, Bike Paths, Pedestrian Refuge Islands, Accessible or Countdown Pedestrian Signals, and Curb Ramps**

These features can be constructed off-site and should provide safe access from the proposed or existing development to any of the following uses:

- rail or bus transit stations or stops
- public facilities (school, library, park, post office, etc.)
- recreation centers
- retail centers that employ 20 or more persons at any time
- housing developments of 27 or more single-family detached units
- office centers that employ 100 or more persons
- existing sidewalks or bike paths
- adjacent private amenity space (sitting area, theater, community center).

Accessible pedestrian signals (for the visually-impaired), retrofitting existing traffic signals with countdown lights, and reconstructing existing substandard curb ramps (to current ADA guidelines) should be allowed as optional facilities.

These features must be within one-quarter mile of the edge of the proposed development. For transit stations or stops, the frequency of transit service must be at intervals of 20 minutes or less during the weekday morning and evening peak periods. Appropriate new bikeway segments can be found in the Countywide Bikeways Functional Master Plan, or in the applicable master or sector plan. The Plan prioritizes bikeways by activity center, for example Metro stations, CBDs, park trails, etc.

### **Super Shelters, Bus Shelters, and Benches**

An applicant may propose to construct a Super Shelter, bus shelter, or bench, including a concrete pad.

Encouraging bus use can reduce weekday peak hour vehicle trips by diverting some person-trips to buses. Two types of shelters can be provided: standard bus shelters and Super Shelters.

- The County has an agreement with Clear Channel Outdoor, Inc. (CCO) to provide a minimum of 500 standard bus shelters in the County. CCO has first choice of locations for these shelters, a number of which will carry advertising. Standard bus shelters provided under LATR must be located in areas where CCO chooses not to provide shelters. CCO must be offered right of first refusal for any new sites before shelter placement is accepted from the developer.
- Super Shelters include heating and lighting, have larger capacity, four walls (with openings to enter and exit), and a higher level of design than standard shelters. A Super Shelter is located on Rockville Pike near Marinelli Road (as part of an agreement with Target/Home Depot). They may be provided only where CCO has chosen not to provide shelters. If agreed to by MCDOT and the developer, Super Shelters should be incorporated as part of development planning and coordinated with existing and planned locations for standard shelters.

All shelters must be on a bus route, at an existing stop or a new stop approved by DTS, within one-quarter mile of the edge of the proposed development. The service frequency must be at 20 minute intervals or less during the weekday morning and evening peak periods.

### **Bike Racks and Lockers**

An applicant may propose to reduce LATR impact by providing bike racks, lockers, or a secured bike area in a parking garage for a minimum of eight bikes, at an activity center located within a one-mile radius of the edge of the proposed development.

### **Transit Information Signs and Kiosks**

An applicant may propose to reduce LATR impact by providing static or electronic signs and information kiosks at bus shelters, large office buildings, retail centers, transit centers, or residential complexes. The signs should communicate scheduled or real-time transit information, for example, the scheduled or estimated arrival of the next bus on a given route. The applicant must work with and obtain approval from WMATA for Metrobus routes or with the Montgomery County Division of Transit Services (DTS) for Ride On routes.

Static transit information signs may be provided only at locations other than CCO-provided standard bus shelters, since they include that information. The applicant will be required to provide for way to change static transit information as often as three times a year.

### **Other Non-Auto Facilities**

An applicant may reduce LATR impact by providing other non-auto facilities, including but not limited to bus layover spaces, crosswalks or pedestrian bridges, on-road bicycle lanes, park-and-ride lots, park trails, transit stations, streetlights, transitways, and busways.

For these facilities, pedestrians and bicyclists should be able to safely cross any roadway to reach their destination. The applicant may provide improvements that Planning Department, MCDOT, and SHA staffs agree would increase the safety of the crossing.

### ***Applying Trip Reduction Measures***

Applicants may only apply a trip reduction measure after the total number of peak hour trips is determined using standard trip rates. Developments generating more than 30 total weekday peak hour trips will be required to complete a traffic study, which should include proposed trip reduction strategies. Applicants may be required to gather data on current bus patronage or pedestrian/bicycle activity within the local area to aid in evaluating the strategies.

### **Payment Instead of Construction**

Where an applicant has made a good faith effort to implement an acceptable improvement and where the Board finds that a desirable improvement cannot feasibly be implemented by the applicant but that it can be implemented by a public agency within six years after the subdivision is approved, the County Council has authorized the Planning Board to accept payment to the County of a fee commensurate with the cost of the required improvement.

# Transportation Policy Area Review

## INTENT AND STANDARDS

Transportation Policy Area Review (TPAR) is a policy area-wide test of public transportation facilities. The test is separate from LATR in that it considers average transportation system performance for defined policy area boundaries. This process evaluates the adequacy of transit and roadways separately to allow more in-depth analysis and staging of improvements of these two types of transportation.

TPAR measures transit adequacy by evaluating neighborhood bus service using three measures of adequacy: coverage, peak headway, and span of service.

- Coverage is the percentage of the “transit-supportive area” of a policy area that is within ¼-mile of a bus stop or ½-mile of a transit station. This definition is consistent with the Transportation Research Board’s *Transit Capacity and Quality of Service Manual* (2nd edition, 2002) that describes a “transit-supportive area” as one with a household density of at least three units per gross acre or an employment density of at least four jobs per gross acre. Transit-supportive areas do not include land uses such as parks, farms, golf courses, bodies of water, major road rights-of-way, and low-density housing and employment zones.
- Peak headway is average time between buses traveling in the same direction during the weekday peak hour in the peak direction.
- Span of service is the average duration of weekday bus service for that subset of routes in each policy area that is scheduled to operate throughout most of the day without a split in service during the midday hours.

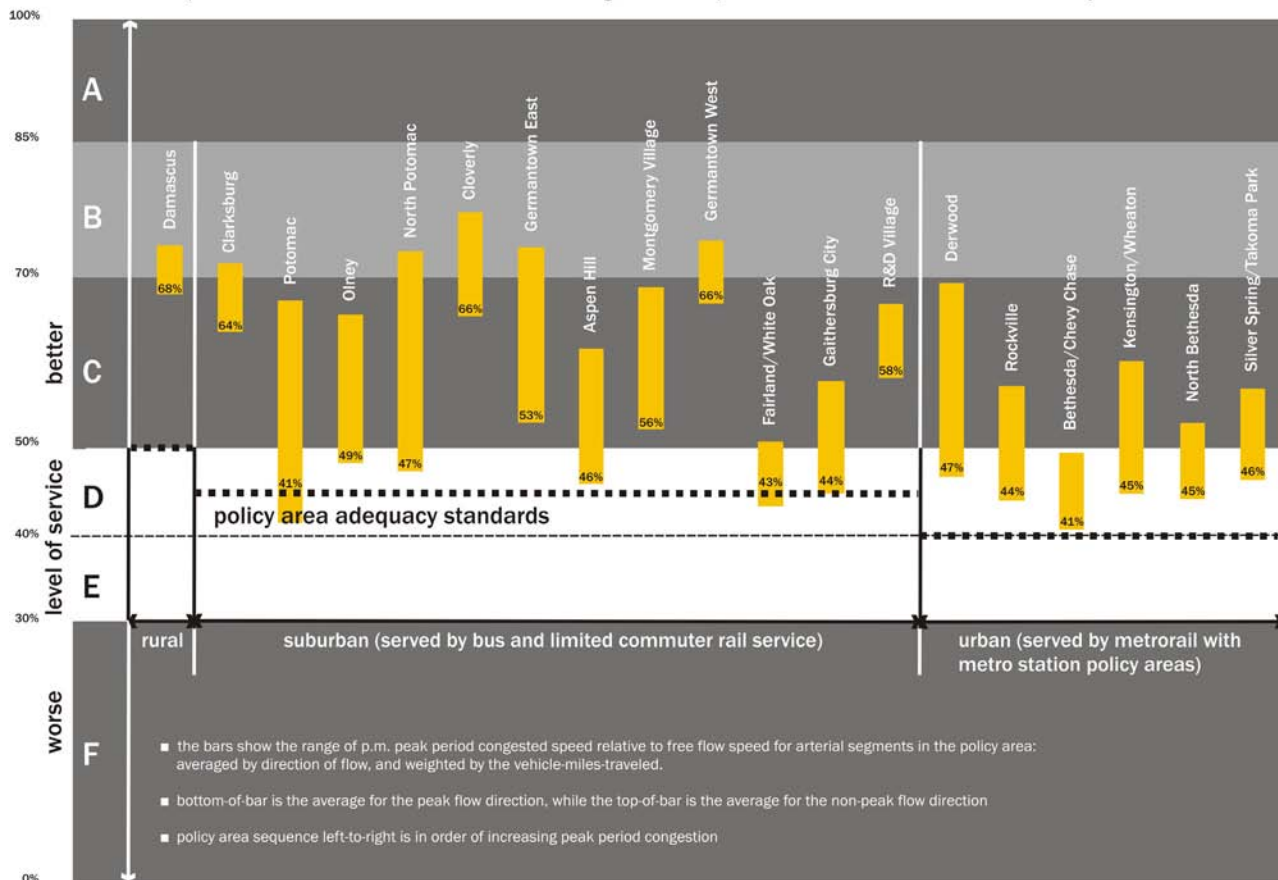
TPAR measures roadway adequacy, based on vehicle miles traveled (VMT) over a 10-year horizon (year 2022) by forecasting travel speed on arterial roads in peak travel directions (derived from the Planning Department's regional travel demand model). This result is compared to uncongested, free flow speed. Roads with the most trips are weight-averaged to reflect their impact on the overall network.

The resulting ratio of forecasted speed to uncongested speed is consistent with analysis standards in the Highway Capacity Manual. It is then compared with Subdivision Staging Policy adequacy standards for Urban, Suburban, and Rural policy areas—40 percent (level of service D/E), 45 percent (mid-Level of Service D), and 50 percent (level of service C/D), respectively.

The results of the TPAR roadway adequacy analysis, by policy area, are depicted in Figure 2.

Figure 2: Adequacy of the main roads countywide summary – Year 2022 Forecast

2022 Development Forecasts with 2012 Roads + 2018 Programmed Improvements + Conditional Transit Headways



Three policy areas—Potomac, Fairland/White Oak, and Gaithersburg City—are forecast to be inadequate or approach inadequacy by 2022.

Table 7 summarizes the TPAR transportation adequacy status and transportation mitigation payment requirement for each policy area between January 1, 2013 and July 1, 2014.

**Table 7: TPAR Transportation Adequacy Analysis Results and Transportation Mitigation Payment Requirements**

Policy area	Transit test	Roadway test	TPAR payment
<b>Rural areas</b>			
Rural East	exempt	exempt	
Rural West	exempt	exempt	
Damascus	adequate	adequate	
<b>Suburban areas</b>			
Aspen Hill	adequate	adequate	
Clarksburg	inadequate	adequate	25 % of Impact Tax
Fairland/White Oak	adequate	inadequate	25 % of Impact Tax
Gaithersburg City	adequate	inadequate	25 % of Impact Tax
Germantown East	inadequate	adequate	25 % of Impact Tax
Germantown West	inadequate	adequate	25 % of Impact Tax
Montgomery Village/Airpark	inadequate	adequate	25 % of Impact Tax
Cloverly	inadequate	adequate	25 % of Impact Tax
North Potomac	inadequate	adequate	25 % of Impact Tax
Olney	inadequate	adequate	25 % of Impact Tax
Potomac	inadequate	exempt	25 % of Impact Tax
R&D Village	inadequate	adequate	25 % of Impact Tax
<b>Urban areas</b>			
Derwood	inadequate	adequate	25 % of Impact Tax
Rockville City	inadequate	adequate	25 % of Impact Tax
North Bethesda	inadequate	adequate	25 % of Impact Tax
Bethesda-Chevy Chase	inadequate	adequate	25 % of Impact Tax
Germantown Town Center	inadequate	adequate	25 % of Impact Tax
Kensington-Wheaton	inadequate	adequate	25 % of Impact Tax
Silver Spring-Takoma Park	inadequate	adequate	25 % of Impact Tax
<b>CBDs and Metro Station Policy Areas</b>			
Bethesda CBD	exempt	adequate	
Silver Spring CBD	exempt	adequate	
Wheaton CBD	exempt	adequate	
Friendship Heights CBD	exempt	adequate	
Glenmont MSPA	exempt	adequate	
Grosvenor MSPA	exempt	adequate	
Rockville Town Center MSPA	exempt	adequate	
Shady Grove MSPA	exempt	adequate	
Twinbrook MSPA	exempt	adequate	
White Flint MSPA	exempt	exempt	

## EVALUATING A TPAR CONDITION

Staff will evaluate the following information submitted by the applicant, using the TPAR adequacy standards in the relevant policy area.

- The development's policy area.
- The type of development as defined in the development impact legislation.

## TPAR MITIGATION OPTIONS

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:

- fully mitigate the incremental traffic impact of the subdivision by adding capacity or implementing a trip reduction program
- pay a Transportation Mitigation Payment as provided in County law.

The Transportation Mitigation Payment is charged to developments in policy areas determined as inadequate for transit or roadway conditions based on the analysis prepared every two years by Planning Department staff and approved by the Planning Board. It is calculated as an amount equal to a percentage of the General District Transportation Impact Tax based on the type and amount of development. Table 7 shows which Policy Areas are required to pay the Transportation Mitigation Payment. The General District Transportation Tax rate for different types of development is updated by County Council and can be found at:

<http://permittingservices.montgomerycountymd.gov/DPS/fee/ImpactTaxes.aspx>

The TPAR payment must be made prior to release of any building permit and may not be credited toward the applicable development impact tax. The funds are used to make transportation improvements that will bring a policy area into roadway and transit adequacy.

- No TPAR compliance is necessary if the Planning Board finds that the proposed development will generate three or fewer new peak hour trips, or if the proposed development is in a policy area adequate for both transit and roadways.
- Developments in MSPAs are exempt from Transportation Mitigation Payments.
- TPAR compliance is necessary in policy areas found inadequate. Payment rates for roadways and transit are to equal 25 percent of the General District Transportation Impact tax for the same project based on the type and amount of development. In areas inadequate for both roadways and transit, payment rates are set to equal 50 percent of the General District Transportation Impact Tax for the same project based on the type and amount of development.

It is possible to provide significant improvements to transit and/or roadway capacity instead of making the payment.

To fully mitigate the subdivision's incremental traffic impact (by adding capacity or implementing a trip reduction program), added capacity must improve congestion in the affected policy area by addressing roadway inadequacies or transit inadequacies. Transit improvements can be used to address either roadway or transit inadequacies if they can be shown to improve roadway capacity. See Appendix 6 for preferred roadway improvements.

Roadway improvements must:

- Improve transportation capacity in the same policy area as the development project
- have logical end points and connect at least two signalized intersections
- be approved by MCDOT for operation and safety considerations.

Transit improvements to improve capacity under TPAR may only consist of the purchase of new Ride On buses to provide improved transit service in the relevant policy area if that policy area is inadequate for peak headway or coverage. The number of buses required to achieve mitigation will be determined in consultation with Planning Department and MCDOT staffs. If the relevant policy area is inadequate for span of service, the TPAR payment is the only option.



The cost of the transportation capacity improvement must be equal to or exceed the value of the TPAR payment and the expenditure is not creditable for future use under the transportation impact tax (that is, the TPAR payment and the impact tax are additive). In general, any mitigation measure or combination of mitigation measures must be scheduled for completion or be operating before or at the same time the proposed development is scheduled to be completed. The nature, design, and scale of any additional facility or program must receive approval from any government agency that would construct or maintain it and the applicant and public agency must execute an appropriate agreement before the Planning Board approves a record plat.

# Appendix

## APPENDIX 1 LATR Weekday Peak Hour Trip Generation Formulas and Rates

Table 1-1: General Office

Applicable Size	Formula/Rate	Directional Distribution			
		AM		PM	
Under 25,000 sf GFA	AM: $T = 1.38(A)$ PM: $T = 2.24(A)$	Enter	Exit	Enter	Exit
25,000 sf GFA and over	AM: $T = 1.70(A) - 8$ PM: $T = 1.44(A) + 20$	87%	13%	17%	83%
Over 300,000 sf GFA with special characteristics (See Table B-1)	AM: $T = 1.70(A) + 115$ PM: $T = 1.44(A) + 127$				
Within 1,000-foot radius of Metrorail station and outside the Beltway (D)	AM: Deduct $P = 50\%$ total trips from "T" PM: Deduct $P = 4 (1000-D)/100$ from "T"				

T = weekday peak-hour vehicle trips  
P = percentage reduction in trips (P/100)

A = gross floor area (GFA) of building in 1,000 sf  
D = straight line distance (in feet) from the main entrance to station

Table 1-2: General Retail

Applicable Size	Formula/Rate*	Directional Distribution			
		AM		PM	
All sizes except convenience retail	AM: Use 25% of the weekday evening peak-hour trips	Enter	Exit	Enter	Exit
Under 50,000 sf GLA	PM: $T = 12.36(A)$	52%	48%	52%	48%
From 50,000 sf up to 200,000 sf GLA	PM: $T = 7.43(A) + 247$				
Over 200,000 sf GLA	Special analysis required by applicant or use two times applicable ITE rate				
Convenience retail not part of a shopping center or groups of stores	AM and PM: Use applicable ITE formula/rate				

T = weekday peak-hour vehicle trips  
\*For no major food chain store, deduct (P):

A = gross leasable area (GLA) of building in 1,000 sf  
P =  $0.05 + 0.002 (200-A)$

Table 1-3: Fast Food Restaurants

	Formula/Rate	Directional Distribution			
		AM		PM	
Weekday peak-hour trip-generation rates of fast food restaurants vary based on their type of menu selection (e.g., hamburgers vs. tacos vs. chicken) and their location relative to traffic volume on the adjacent roadway.	Develop trip-generation rates based on driveway counts from existing similar fast food restaurants at similar locations (e.g., McDonald's Restaurant on major highways) if data are available or can be obtained from previous studies.  Otherwise, use ITE trip-generation data.	Enter	Exit	Enter	Exit
		53%	47%	53%	47%

Table 1-4: Residential

Applicable Size	Formula/Rate		Directional Distribution			
Single-Family Detached	Under 75 units	75 units or over	AM		PM	
	AM: $T = 0.95 (U)$	AM: $T = 0.62 (U) + 25$	Enter	Exit	Enter	Exit
	PM: $T = 1.11 (U)$	PM: $T = 0.82 (U) + 21$	25%	75%	64%	36%
Townhouses	Under 100 units	100 units and over	AM		PM	
	AM: $T = 0.48 (U)$	AM: $T = 0.53 (U) - 5$	Enter	Exit	Enter	Exit
	PM: $T = 0.83 (U)$	PM: $T = 0.48 (U) + 35$	17%	83%	67%	33%
Garden and Low-Rise Apartments	Under 75 units	75 units and over	AM		PM	
	AM: $T = 0.44 (U)$	AM: $T = 0.40 (U) + 3$	Enter	Exit	Enter	Exit
	PM: $T = 0.48 (U)$	PM: $T = 0.47 (U) + 1$	20%	80%	66%	34%
High-Rise Apartments	Under 100 units	100 units and over	AM		PM	
	AM: $T = 0.40 (U)$	AM: $T = 0.29 (U) + 11$	Enter	Exit	Enter	Exit
	PM: $T = 0.46 (U)$	PM: $T = 0.34 (U) + 12$	25%	75%	61%	39%

T = weekday peak-hour vehicle trips

U = housing units

Note: For residential units in the Bethesda, Friendship Heights, and Silver Spring CBD Policy Areas, use Appendix 3. For residential units in all other Metro Station Policy Areas, the number of trips in Table 1-4 may be reduced by 18 percent.

Table 1-5: Private School (Weekday Morning Peak Period)

Applicable Size		Formula/Rate		Comments	
K-8		AM: $T = N \times 0.92$		For the weekday morning peak period, a special study is required to determine the trip-generation rate for private schools with over 400 students.	
K-12		AM: $T = N \times 0.78$		For the evening peak period, the applicant may be required to provide more data on site-generated traffic if it is anticipated that there will be major school-sponsored events during the evening peak period that would generate 50 or more weekday peak-hour trips.	
Private schools predominately grades 10-12		Use the rates in the Institute of Transportation Engineer's Trip Generation Report for high schools (Land Use Code 530)		Trip-generation formulas or rates for private schools were developed based on the number of students during only the weekday morning peak period. Since classes for private schools end before the weekday evening peak period, a trip-generation rate during the weekday evening peak period was not developed.	
Trip Purpose				Directional Distribution	
Grade	New	Pass-by	Diverted	Enter	Exit
K-8	53%	15%	32%	54%	46%
K-12	65%	6%	29%	59%	41%

T = weekday peak-hour vehicle trips

N = number of students

Table 1-6: Automobile Filling Station

Applicable Size	Formula/Rate			
For stations with/without car washes, convenience stores, and garages $T = N \times (\text{trip rate})$	<b>Trip Rates per Pumping Station<sup>1</sup>:</b>	AM	PM	
	Station with fuel sales and:		Upcounty <sup>2</sup>	Downcounty <sup>2</sup>
	1) no other facilities	11.31	14.96	14.96
	2) garage	11.00	16.67	11.09
	3) convenience store <sup>3</sup>	12.28	21.75	12.32
	4) car wash and convenience store	17.33	21.75	15.08

Percentage by Trip Purpose				Directional Distribution			
Weekday Peak Period	New	Pass-by	Diverted	AM		PM	
				Enter	Exit	Enter	Exit
AM	15%	60%	25%	53%	47%	51%	49%
PM	15%	50%	35%				

T = weekday peak-hour vehicle trips

N = number of pumping stations (or positions)

<sup>1</sup> A pumping station is defined as the area at which any one vehicle can stop and pump fuel at any one time. A pumping station could also be referred to as a fueling position in front of a single nozzle dispenser or a multi-produce dispenser

<sup>2</sup> Downcounty locations are considered the urbanized areas with a congestion standard of 1,500 or higher (see Table 1). All other locations are considered up-County.

<sup>3</sup> Note: A convenience store as an accessory use to an automobile filling station must have less than 1,650 square feet of patron area. Otherwise, such land uses are considered to be a "convenience store with gasoline pumps" with trip-generation rates in the ITE Trip Generation Report under Land Use Code 853.

Table 1-7: Senior/Elderly Housing

Type of Facility	Formula/Rate
Retirement Community with active seniors and minimal support services	Use ITE Land Use Code 250
Independent-Living Facilities with some support services plus minimal assisted-living and nursing home facilities	<p><u>Formula</u></p> <p>Up to 150 units: AM: <math>T = 0.05 (U)</math> PM: <math>T = 0.04 (U)</math></p> <p>Over 150* units: AM: <math>T = 0.08 (U)</math> PM: <math>T = 0.11 (U)</math></p>
Assisted-Living Facilities	<p>AM: <math>T = 0.03 (U)</math></p> <p>PM: <math>T = 0.06 (U)</math></p>
Nursing Homes	As a land use requiring a special exception, site-generated traffic can be determined based on the statement of operations rather than using ITE's trip-generation data. Except for the administrative staff, employees usually arrive before the weekday morning peak period to prepare and serve breakfast. They usually stay through the weekday evening peak period to prepare and serve dinner.

T = weekday peak-hour vehicle trips

U = detached, attached apartment unit and/or room

\*Usually large facilities with different levels of support services; may be considered "life cycle" care

Table 1-8: Mini-Warehouse

Type of Facility	Formula/Rate	Comments
On-Site Vehicle Rental		
No	AM: $T = 0.01 (N)$ PM: $T = 0.01 (N)$	Based on ITE Land Use Code 151 supplemented with more current local data
Yes	AM: $T = 0.015 (N)$ PM: $T = 0.02 (N)$	

T = weekday peak-hour vehicle trips

N = number of storage units

Table 1-9: Child Daycare Center

Type of Facility				Formula/Rate			
For 6 to 25 staff				AM: $T = 1.75N + 17$ PM: $T = 2.06N + 16$			
Trip Purpose				Directional Distribution			
Peak Period	New	Pass-by	Diverted	AM		PM	
				Enter	Exit	Enter	Exit
AM	32%	27%	41%	53%	47%	49%	51%
PM	27%	12%	61%				

T = weekday peak-hour vehicle trips

N = number of storage units

## APPENDIX 2 LATR Weekday Peak Hour Trip Generated by Land Uses

Table 2-1: Number of Weekday Peak Hour Trips Generated by General Office

General		
Bldg Size	Weekday	
(SF of GFA)	Peak-Hour Trips	
	AM	PM
5,000	7	11
10,000	14	22
15,000	21	34
20,000	28	45
25,000	35	56
30,000	43	63
40,000	60	78
50,000	77	92
60,000	94	106
70,000	111	121
80,000	128	135
90,000	145	150
100,000	162	164
110,000	179	178
120,000	196	193
130,000	213	207
140,000	230	222
150,000	247	236
160,000	264	250
170,000	281	265
180,000	298	279
190,000	315	294
200,000	332	308
220,000	366	337
240,000	400	366
260,000	434	394
280,000	468	423
300,000	502	452
320,000	536	481
340,000	570	510
360,000	604	538
380,000	638	567
400,000	672	596
420,000	706	625
440,000	740	654
460,000	774	682
480,000	808	711
500,000	842	740

### Equations Used

AM peak-hour trips =  $1.38(\text{GFA}/1000)$

PM peak-hour trips =  $2.24(\text{GFA}/1000)$

25,000 sf and over

AM peak-hour trips =  $1.70(\text{GFA}/1000) - 8$

PM peak-hour trips =  $1.44(\text{GFA}/1000) + 20$

Special Cases		
If a building is within 1,000 feet of a Metrorail station and outside the Beltway, reduce weekday peak-hour trips from chart at left.		
Straight Line Distance to Station (in feet)	Percent Reduction in Trips	
	AM	PM
0	50%	40%
50	50%	38%
100	50%	36%
150	50%	34%
200	50%	32%
250	50%	30%
300	50%	28%
350	50%	26%
400	50%	24%
450	50%	22%
500	50%	20%
550	50%	18%
600	50%	16%
650	50%	14%
700	50%	12%
750	50%	10%
800	50%	8%
850	50%	6%
900	50%	4%
950	50%	2%
1,000	50%	0%
Bldg Size	Weekday	
(SF of GFA)	Peak-Hour Trips	
	AM	PM
5,000	7	11
10,000	14	22
15,000	21	34
20,000	28	45
25,000	35	56
30,000	43	63
40,000	60	78
50,000	77	92
60,000	94	106
70,000	111	121
80,000	128	135

### Equations Used

AM peak-hour trips =  $1.70(\text{GFA}/1000) + 115$

PM peak-hour trips =  $1.44(\text{GFA}/1000) + 127$

Note: Trip generation rates are calculated using the size of individual buildings, not the combined size of a group.

Table 2-2: Number of Weekday Peak Hour Trips Generated by General Retail

With Major Food Chain Store			Without Major Food Chain Store		
Bldg Size	Peak-Hour Trips		Bldg Size	Peak-Hour Trips	
(SF of GFA)	AM	PM	(SF of GFA)	AM	PM
50,000	155	619	5,000	9	35
55,000	164	656	10,000	18	70
60,000	173	693	15,000	27	108
65,000	182	730	20,000	36	146
70,000	192	767	25,000	46	185
75,000	201	804	30,000	57	226
80,000	210	841	35,000	67	268
85,000	220	879	40,000	78	311
90,000	229	916	45,000	89	356
95,000	238	953	50,000	101	402
100,000	248	990	55,000	108	433
105,000	257	1027	60,000	116	464
110,000	266	1064	65,000	124	496
115,000	275	1101	70,000	132	529
120,000	285	1139	75,000	141	563
125,000	294	1176	80,000	149	597
130,000	303	1213	85,000	158	633
135,000	313	1250	90,000	167	668
140,000	322	1287	95,000	176	705
145,000	331	1324	100,000	186	743
150,000	340	1362	105,000	195	781
155,000	350	1399	110,000	205	820
160,000	359	1436	115,000	215	859
165,000	368	1473	120,000	225	899
170,000	378	1510	125,000	235	941
175,000	387	1547	130,000	246	982
180,000	396	1584	135,000	256	1025
185,000	405	1622	140,000	267	1068
190,000	415	1659	145,000	278	1112
195,000	424	1696	150,000	289	1157
200,000	433	1733	155,000	301	1203
<b>Equations Used</b>			160,000	312	1249
<u>50,000 to 200,000 sf</u>			165,000	324	1296
AM peak-hour trips = $0.25 [7.43 (GLA/1000) + 247]$			170,000	336	1344
PM peak-hour trips = $7.43 (GLA/1000) + 247$			175,000	348	1393
<u>Adjustment Factor for No Major Food Chain Store</u>			180,000	360	1442
$P = 0.05 + 0.002 [200 - (GLA/1000)]$			185,000	373	1492
Note: Under 50,000 sf, no equations, since major food chain store is typically at least 50,000 sf			190,000	386	1543
			195,000	399	1594
			200,000	412	1646
			<b>Equations Used</b>		
			<u>Under 50,000 sf</u>		
			AM peak-hour trips = $0.25 [12.36 (GLA/1000)](1-P)$		
			PM peak-hour trips = $[12.36 (GLA/1000)](1-P)$		
			<u>50,000 to 200,000 sf</u>		
			AM peak-hour trips = $0.25 [7.43 (GLA/1000) + 247](1-P)$		
			PM peak-hour trips = $[7.43 (GLA/1000) + 247](1-P)$		



Table 2-3: Number of Weekday Peak Hour Trips Generated by Residential Units

No. of Units	Single-Family		Townhouse		Garden Apartment		High-Rise Apartments	
	AM	PM	AM	PM	AM	PM	AM	PM
1	1	1	0	1	0	0	0	0
5	5	6	2	4	2	2	2	2
10	10	11	5	8	4	5	4	5
15	14	17	7	12	7	7	6	7
20	19	22	10	17	9	10	8	9
25	24	28	12	21	11	12	10	12
30	29	33	14	25	13	14	12	14
35	33	39	17	29	15	17	14	16
40	38	44	19	33	18	19	16	18
45	43	50	22	37	20	22	18	21
50	48	56	24	42	22	24	20	23
55	52	61	26	46	24	26	22	25
60	57	67	29	50	26	29	24	28
65	62	72	31	54	29	31	26	30
70	67	78	34	58	31	34	28	32
75	72	83	36	62	33	36	30	35
80	75	87	38	66	35	39	32	37
85	78	91	41	71	37	41	34	39
90	81	95	43	75	39	43	36	41
95	84	99	46	79	41	46	39	44
100	87	103	48	83	43	46	40	46
110	93	111	53	88	47	53	43	49
120	99	119	59	93	51	57	46	53
130	106	128	64	97	55	62	49	56
140	112	136	69	102	59	67	52	60
150	118	144	75	107	64	72	55	63
160	124	152	80	112	67	76	57	66
170	130	160	85	117	71	81	60	70
180	137	169	90	121	75	86	63	73
190	143	177	96	126	79	90	66	77
200	149	185	101	131	83	95	69	80
210	155	193	106	136	87	100	72	83
220	161	201	112	141	91	104	75	87
230	168	210	117	145	95	109	78	90
240	174	218	122	150	99	114	81	94
250	180	226	128	155	103	119	84	97
275	196	247	141	167	113	130	91	106
300	211	267	154	179	123	142	98	114
325	227	288	167	191	133	154	105	123
350	242	308	181	203	143	166	113	131
375	258	329	194	215	153	177	120	140
400	273	349	207	227	164	189	127	148
425	289	370	220	239	173	201	134	157
450	304	390	234	251	183	213	142	165
475	320	411	247	263	193	224	149	174
500	320	431	260	275	203	236	156	182
550	366	472	287	299	223	260	171	199
600	397	513	313	323	243	283	185	216

#### Equations Used

##### SINGLE-FAMILY DETACHED

###### Under 75 Units

AM peak-hour trips =  $0.95(\# \text{ of units})$

PM peak-hour trips =  $1.11(\# \text{ of units})$

###### 75 Units and Over

AM peak-hour trips =  $0.62(\# \text{ of units}) + 25$

PM peak-hour trips =  $0.82(\# \text{ of units}) + 21$

##### TOWNHOUSES OR SINGLE-FAMILY ATTACHED

###### Under 100 Units

AM peak-hour trips =  $0.48(\# \text{ of units})$

PM peak-hour trips =  $0.83(\# \text{ of units})$

###### 100 Units and Over

AM peak-hour trips =  $0.53(\# \text{ of units}) - 5$

PM peak-hour trips =  $0.48(\# \text{ of units}) + 35$

##### GARDEN AND LOW-RISE APARTMENTS

###### Under 75 Units

AM peak-hour trips =  $0.44(\# \text{ of units})$

PM peak-hour trips =  $0.48(\# \text{ of units})$

###### 75 Units and Over

AM peak-hour trips =  $0.40(\# \text{ of units}) + 3$

PM peak-hour trips =  $0.47(\# \text{ of units}) + 1$

##### HIGH-RISE APARTMENTS

###### Under 100 Units

AM peak-hour trips =  $0.40(\# \text{ of units})$

PM peak-hour trips =  $0.46(\# \text{ of units})$

###### 100 Units and Over

AM peak-hour trips =  $0.29(\# \text{ of units}) + 11$

PM peak-hour trips =  $0.34(\# \text{ of units}) + 12$

Note: For residential units in the Bethesda, Friendship Heights, and Silver Spring CBD Policy Areas, use Appendix 3. For residential units in all other Metro Station Policy Areas, the number of trips in Table 2-3 may be reduced by 18 percent.

Table 2-4: Number of Weekday Peak Hour Trips  
Generated by a Child Daycare Center

Number of Staff	Total AM Trips	Total PM Trips
5,000	7	11
10,000	14	22
15,000	21	34
20,000	28	45
25,000	35	56
30,000	43	63
40,000	60	78
50,000	77	92
60,000	94	106
70,000	111	121
80,000	128	135
90,000	145	150
100,000	162	164
110,000	179	178
120,000	196	193
130,000	213	207
140,000	230	222
150,000	247	236
160,000	264	250
170,000	281	265

Directional Distribution			Trip Purpose		
Peak Period	Entering	Exiting	New	Pass-by	Diverted
AM	53%	47%	32%	27%	41%
PM	49%	51%	27%	12%	61%

Note: For six or fewer staff, there is no need for a traffic study to satisfy LATR. The applicant may proffer a specific schedule of the arrival and departure of those staff arriving during weekday peak periods specified in the special exception statement of operation.

Table 2-5: Number of Weekday Peak Hour Trips  
Generated by a Private School

Number of Students Enrolled	School Program for Kindergarten to:	
	12th Grade	8th Grade
25	20	23
50	38	46
75	59	69
100	78	92
125	98	115
150	117	138
175	137	161
200	156	184
225	176	207
250	195	230
275	215	253
300	234	276
325	254	299
350	273	322
375	293	345
400	312	368

Note: For over 400 students, a special study is required to determine the trip-generation rate.

Table 2-6: Number of Weekday Peak Hour Trips Generated by an Automobile Filling Station

No. of Pumping Stations	With Fuel Only		With Fuel and Garage Only				With Fuel and Convenience Store Only				With Fuel, Car Washes, and Convenience Store			
	All Areas AM	All Areas PM	Upcounty AM	Upcounty PM	Downcounty AM	Downcounty PM	Upcounty AM	Upcounty PM	Downcounty AM	Downcounty PM	Upcounty AM	Upcounty PM	Downcounty AM	Downcounty PM
1	11	15	11	17	11	11	12	22	12	12	17	22	17	15
2	23	30	22	33	22	22	25	44	25	25	35	44	35	30
3	34	45	33	50	33	33	37	65	37	37	52	65	52	45
4	45	60	44	67	44	44	49	87	49	49	69	87	69	60
5	57	75	55	83	55	55	61	109	61	62	87	109	87	75
6	68	90	66	100	66	67	74	131	74	74	104	131	104	90
7	79	105	77	117	77	78	86	152	86	86	121	152	121	106
8	90	120	88	133	88	89	98	174	98	99	139	174	139	121
9	102	135	99	150	99	100	111	196	111	111	156	196	156	136
10	113	150	110	167	110	111	123	218	123	123	173	218	173	151
11	124	165	121	183	121	122	135	239	135	136	191	239	191	166
12	136	180	132	200	132	133	147	261	147	148	208	261	208	181
13	147	194	143	217	143	144	160	283	160	160	225	283	225	196
14	158	209	154	233	154	155	172	305	172	172	243	305	243	211
15	170	224	165	250	165	166	184	326	184	185	260	326	260	226
16	181	239	176	267	176	177	196	348	196	197	277	348	277	241
17	192	254	187	283	187	189	209	370	209	209	295	370	295	256
18	204	269	198	300	198	200	221	392	221	222	312	392	312	271
19	215	284	209	317	209	211	233	413	233	234	329	413	329	287
20	226	299	220	333	220	222	246	435	246	246	347	435	347	302
Rate per Pumping Station	11.31	14.96	11.00	16.67	11.00	11.09	12.28	21.75	12.28	12.32	17.33	21.75	17.33	15.08

### APPENDIX 3 LATR Weekday Peak Hour Trip Generation Rates and Directional Splits for the Bethesda, Friendship Heights, and Silver Spring CBDs

Table 3-1: Weekday Morning and Evening Peak-Hour Trip Generation Rates for the Bethesda and Friendship Heights CBDs

Land Use Per Trip Rate Unit	Rate AM Peak-Hour Vehicle Trips per Unit of Development	% In	% Out	Rate PM Peak-Hour Vehicle Trips per Unit of Development	% In	% Out
Office (1,000 sf)	1.50*	85	15	1.50	25	75
Retail (1,000 sf)	0.65	50	50	2.60	50	50
Grocery Store (1,000 sf)	1.22	70	30	6.20	50	50
Residential High Rise (dwelling unit)	0.30	20	80	0.30	67	33
Residential Garden Apt. (dwelling unit)	0.45	20	80	0.45	67	33
Residential Townhouse (dwelling unit)	0.45	20	80	0.45	67	33
Residential Single-Family (dwelling unit)	0.80	25	75	0.80	67	33
Hotel (room)	0.22	60	40	0.22	55	45
Miscellaneous Service (1,000 sf)	1.30	50	50	1.30	50	50
Hospital (employee)	0.33	70	30	0.29	30	70
Industrial (1,000 sf)	1.10	85	15	1.10	15	85

Table 3-2: Weekday Morning and Evening Peak Hour Trip Generation Rates for the Silver Spring CB

Land Use	Rate	Morning		Rate	Evening	
		% In	% Out		% In	% Out
Office (existing vacant/1,000 sf)	1.60*	85	15	1.60	15	85
Office (pending + future/1,000 sf)	1.40	85	15	1.40	15	85
Industrial (1,000 sf)	1.00	85	15	1.00	15	85
Retail (1,000 sf)	0.50	50	50	2.00	50	50
Residential (high rise)	0.30	20	80	0.30	70	30
Residential (townhouse)	0.45	20	80	0.45	67	33
Hotel (room)	0.20	60	40	0.20	55	45

Information in Table 1-4 and 2-3 as annotated may be used in lieu of the residential trip generation rates in Appendix 3.

\*May use the lower Countywide rate of 1.38\*(gross square feet of building in 1,000 sf

## APPENDIX 4 Trip Distribution and Traffic Assignment Guidelines

### Introduction

This document provides trip distribution guidance to be used in all traffic studies prepared for development sites in Montgomery County. Vehicle trip distribution and trip assignment are described in Sections VII-D and VII-F of the Guidelines. For most development sites, the process is a combination of trip distribution and traffic assignment.

### Definitions

Trip distribution specifies the location where trips that originate at a development site are destined to, and the origin of trips that are destined to a development site.

Traffic assignment specifies the individual local area intersections used to access (enter and leave) a development site.

### Discussion

The tables in this appendix provide generalized assumptions for trip distribution for both background development(s) and the development site. For the purpose of reviewing trip distribution, Transportation Planning staff divided the region into 16 geographic areas, called super districts. Eleven of these super districts are in Montgomery County, as shown in Map 4-1. The remaining five super districts represent neighboring jurisdictions.

The trip distribution assumptions are contained in Tables 4-1 through 4-11 for developments within each of the eleven super districts in Montgomery County. For each super district, the assumed distribution of trips for general office development and for residential development is listed. For instance, 18.1 percent of trips generated by a general office development in Germantown (see Table 4-9) would be expected to travel to or from Frederick County. However, only two percent of trips generated by a residential development in Germantown would be expected to travel to or from Frederick County.

The trip distribution assumptions in these tables are based on 1990 census journey-to-work information, updated to reflect regional housing and employment totals as of 1998. The distribution for residential development in each super district is based on the reported workplace locations for 1990 census respondents who lived in that super district. Similarly, the distribution for office development for each super district is based on the distribution of all census households nationwide that reported a workplace in that super district. Trip distribution for other land uses will be decided based on consultation with staff and the applicant prior to submission of the traffic study.

The application of the trip distribution information in Tables 4-1 through 4-11 is straightforward in cases where a traffic study has a limited number of alternate routes. In other cases, judgment is required to convert the trip distribution information into traffic assignment information useful for conducting the Local Area Transportation Review.

Figure 4-2 provides an example of how the trip distribution information can be converted to traffic assignment information for a hypothetical case in the Rockville/North Bethesda super district with both office and residential components.

The leftmost column of data shows the trip distribution by super-district as found in Table 4-4 (used for development in the Rockville/North Bethesda super district). The information located in the center of the table (inside the boxes) describes the assumed route, or assignment, taken for trips between the site and each super-district. The data inside the boxes must be developed using judgment and confirmed by Transportation Planning staff. The rightmost portion of the table multiplies the percent of trips distributed to each super-district by the percent of trips from that super-district assigned to each route to calculate the percent of total site-generated trips using each combination of distribution and assignment. The assignment data is then summed to develop an aggregate trip assignment for the trips generated by the office and residential components of the site, respectively.

Map 4-1: Super Districts in Montgomery County

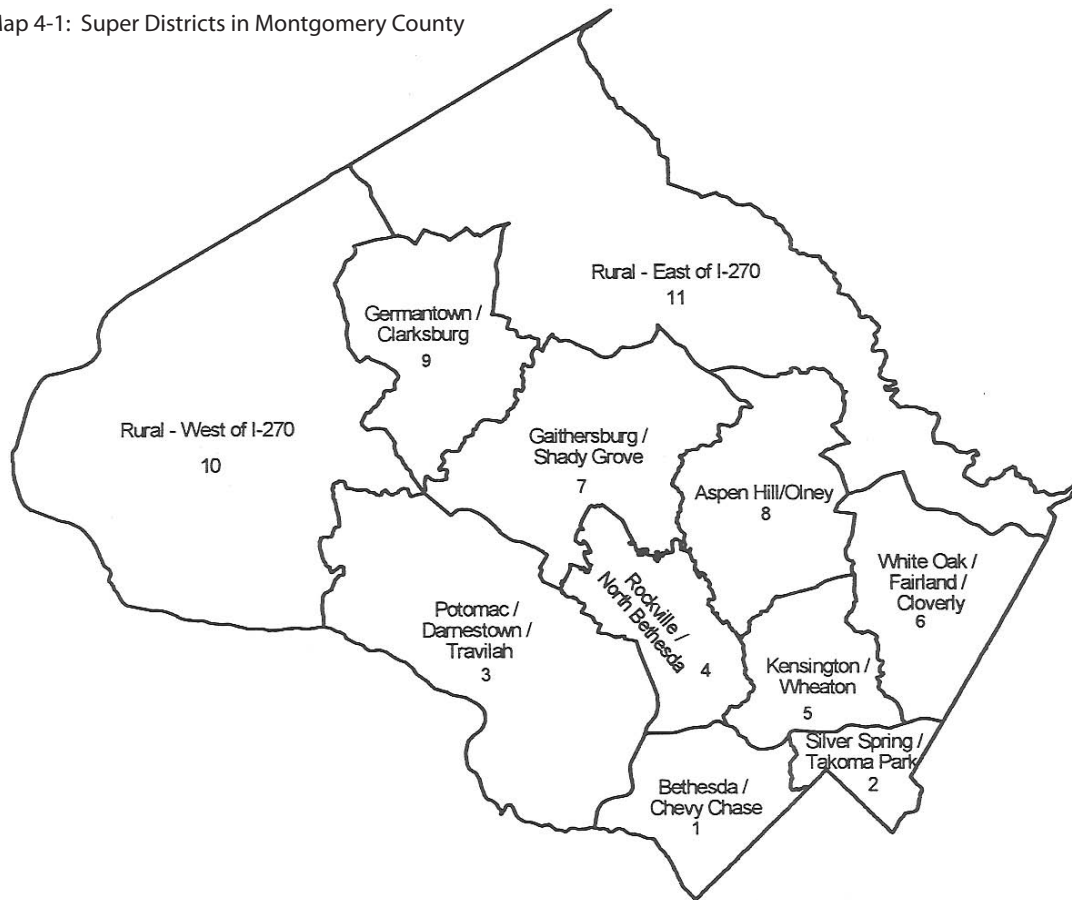


Table 4-1: Trip Distribution - Assignment Matrix  
Hypothetical Case in North Bethesda with both Office and Residential Components

Part 1 - Office Component

Trip distribution by super district		Trip assignment for origin by super-district						Trip assignment for development case					
		Montrose west	MD 355 north	Randolph east	Md 355 south	MD 187 south	TOTAL	Montrose west	MD 355 north	Randolph east	Md 355 south	MD 187 south	TOTAL
Bethesda	3.5%				50%	50%	100%	0.0%	0.0%	0.0%	1.8%	1.8%	3.5%
Silver Spring	2.2				100%		100%	0.0	0.0	0.0	2.2	0.0	2.2
Potomas	8.0	80%				20%	100%	6.4	0.0	0.0	0.0	1.6	8.0
Rockville	12.8	25%	75%				100%	3.2	9.6	0.0	0.0	0.0	12.8
Kensington	7.2			80%	20%		100%	0.0	0.0	5.8	1.4	0.0	7.2
Fairland	4.1			80%	20%		100%	0.0	0.0	3.3	0.8	0.0	4.1
Gaithersburg	14.4	75%	25%				100%	10.8	3.6	0.0	0.0	0.0	14.4
Olney	8.5	20%	50%	30%			100%	1.7	4.3	2.6	0.0	0.0	8.5
Germantown	6.5	90%	10%				100%	5.9	0.7	0.0	1.0	0.0	6.5
Agricultural Area (West)	0.9	100%					100%	0.9	0.0	0.0	0.0	0.0	0.9
Agricultural Area (East)	4.2	40%	40%	20%			100%	1.7	1.7	0.8	0.0	0.0	4.2
Washington, DC	3.6	70%				30%	100%	2.5	0.0	0.0	1.1	0.0	3.6
Prince George's County	8.8				100%		100%	0.0	0.0	0.0	8.8	0.0	8.8
Virginia	7.8	80%		10%		10%	100%	6.2	0.0	0.8	0.0	0.8	7.8
Frederick County	4.6	100%					100%	4.6	0.0	0.0	0.0	0.0	4.6
Howard County	2.9		10%	10%	80%		100%	0.0	0.3	0.3	2.3	0.0	2.9
								43.9%	20.1%	13.5%	18.4%	4.1%	100%
<b>TOTAL</b>	100%						<b>USE &gt;</b>	44%	20%	14%	18%	4%	100%

Part 2 - Residential Component

Trip distribution by super district		Trip assignment for origin by super-district						Trip assignment for development case					
		Montrose west	MD 355 north	Randolph east	Md 355 south	MD 187 south	TOTAL	Montrose west	MD 355 north	Randolph east	Md 355 south	MD 187 south	TOTAL
Bethesda	15.6%				50%	50%	100%	0.0%	0.0%	0.0%	7.8%	7.8%	15.6%
Silver Spring	2.4				100%		100%	0.0	0.0	0.0	2.4	0.0	2.4
Potomas	3.3	80%				20%	100%	2.6	0.0	0.0	0.0	0.7	3.3
Rockville	31.0	25%	75%				100%	7.8	23.3	0.0	0.0	0.0	31.0
Kensington	2.6			80%	20%		100%	0.0	0.0	2.1	0.5	0.0	2.6
Fairland	0.7			80%	20%		100%	0.0	0.0	0.6	0.1	0.0	0.7
Gaithersburg	10.6	75%	25%				100%	8.0	2.7	0.0	0.0	0.0	10.6
Olney	1.7	20%	50%	30%			100%	0.3	0.9	0.5	0.0	0.0	1.7
Germantown	1.0	90%	10%				100%	0.9	0.1	0.0	0.0	0.0	1.0
Agricultural Area (West)	0.0	100%					100%	0.0	0.0	0.0	0.0	0.0	0.0
Agricultural Area (East)	0.2	40%	40%	20%			100%	0.1	0.1	0.0	0.0	0.0	0.2
Washington, DC	13.9	70%				30%	100%	9.7	0.0	0.0	4.2	0.0	13.9
Prince George's County	6.1				100%		100%	0.0	0.0	0.0	6.1	0.0	6.1
Virginia	9.7	80%		10%		10%	100%	7.8	0.0	1.0	0.0	1.0	9.7
Frederick County	0.5	100%					100%	0.5	0.0	0.0	0.0	0.0	0.5
Howard County	0.7		10%	10%	80%		100%	0.0	0.1	0.1	0.6	0.0	0.7
								37.7%	27.0%	4.2%	21.7%	9.4%	100%
<b>TOTAL</b>	100%						<b>USE &gt;</b>	38%	27%	4%	22%	9%	100%



**Table 4-2: Trip Distribution Report in Super District 1: Bethesda/Chevy Chase**

Auto-Driver Trip Distribution for Development in Super District 1: Bethesda/Chevy Chase

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	11.7%	22.8%
2. Silver Spring/Takoma Park	3.8%	2.1%
3. Potomac/Darnestown/Travilah	7.3%	1.8%
4. Rockville/North Bethesda	9.4%	9.8%
5. Kensington/Wheaton	8.7%	1.6%
6. White Oak/Fairland/Cloverly	4.3%	0.7%
7. Gaithersburg/Shady Grove	7.5%	4.0%
8. Aspen Hill/Olney	5.1%	0.4%
9. Germantown/Clarksburg	3.3%	0.2%
10. Rural: West of I-270	0.6%	0.0%
11. Rural: East of I-270	2.0%	0.15%
12. Washington, DC	7.4%	39.5%
13. Prince George's County	12.4%	4.6%
14. Virginia	12.2%	11.7%
15. Frederick County	2.1%	0.2%
16. Howard County	2.2%	0.5%

**Table 4-3: Trip Distribution Report in Super District 2: Silver Spring/Takoma Park**

Auto-Driver Trip Distribution for Development in Super District 2: Silver Spring/Takoma Park

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	2.2%	9.1%
2. Silver Spring/Takoma Park	11.5%	13.3%
3. Potomac/Darnestown/Travilah	2.2%	0.9%
4. Rockville/North Bethesda	3.0%	7.7%
5. Kensington/Wheaton	10.0%	4.6%
6. White Oak/Fairland/Cloverly	11.9%	2.7%
7. Gaithersburg/Shady Grove	3.9%	4.2%
8. Aspen Hill/Olney	6.3%	0.8%
9. Germantown/Clarksburg	1.3%	0.6%
10. Rural: West of I-270	0.1%	0.6%
11. Rural: East of I-270	2.8%	0.2%
12. Washington, DC	7.2%	32.5%
13. Prince George's County	24.5%	12.8%
14. Virginia	6.4%	8.9%
15. Frederick County	1.1%	0.2%
16. Howard County	5.6%	1.4%

**Table 4-4: Trip Distribution Report in Super District 3: Potomac/Darnestown/Travilah**

Auto-Driver Trip Distribution for Development in Super District 3: Potomac/Darnestown/Travilah

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	5.7%	13.0%
2. Silver Spring/Takoma Park	2.4%	1.9%
3. Potomac/Darnestown/Travilah	21.0%	6.2%
4. Rockville/North Bethesda	12.1%	20.5%
5. Kensington/Wheaton	6.8%	1.4%
6. White Oak/Fairland/Cloverly	2.3%	0.7%
7. Gaithersburg/Shady Grove	11.1%	13.3%
8. Aspen Hill/Olney	5.1%	0.6%
9. Germantown/Clarksburg	4.5%	1.7%
10. Rural: West of I-270	1.1%	0.1%
11. Rural: East of I-270	2.2%	0.2%
12. Washington, DC	3.8%	22.1%
13. Prince George's County	7.2%	5.1%
14. Virginia	10.4%	12.4%
15. Frederick County	2.8%	0.4%
16. Howard County	1.5%	0.4%

**Table 4-5: Trip Distribution Report in Super District 4: Rockville/North Bethesda**

Auto-Driver Trip Distribution for Development in Super District 4: Rockville/North Bethesda

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	3.5%	15.6%
2. Silver Spring/Takoma Park	2.2%	2.4%
3. Potomac/Darnestown/Travilah	8.0%	3.3%
4. Rockville/North Bethesda	12.8%	31.0%
5. Kensington/Wheaton	7.2%	2.6%
6. White Oak/Fairland/Cloverly	4.1%	0.7%
7. Gaithersburg/Shady Grove	14.4%	10.6%
8. Aspen Hill/Olney	8.5%	1.7%
9. Germantown/Clarksburg	6.5%	1.0%
10. Rural: West of I-270	0.9%	0.0%
11. Rural: East of I-270	4.2%	0.2%
12. Washington, DC	3.6%	13.9%
13. Prince George's County	8.8%	6.1%
14. Virginia	7.8%	9.7%
15. Frederick County	4.6%	0.5%
16. Howard County	5.6%	1.4%

**Table 4-6: Trip Distribution Report in Super District 5: Kensington/Wheaton**

Auto-Driver Trip Distribution for Development in Super District 5: Kensington/Wheaton

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	2.7%	12.3%
2. Silver Spring/Takoma Park	6.2%	6.9%
3. Potomac/Darnestown/Travilah	2.6%	1.6%
4. Rockville/North Bethesda	5.1%	14.8%
5. Kensington/Wheaton	26.0%	11.1%
6. White Oak/Fairland/Cloverly	10.6%	2.2%
7. Gaithersburg/Shady Grove	5.5%	6.0%
8. Aspen Hill/Olney	10.3%	2.0%
9. Germantown/Clarksburg	2.1%	0.6%
10. Rural: West of I-270	0.2%	0.0%
11. Rural: East of I-270	4.3%	0.4%
12. Washington, DC	3.7%	22.6%
13. Prince George's County	11.9%	9.5%
14. Virginia	4.1%	8.2%
15. Frederick County	1.5%	0.2%
16. Howard County	3.2%	1.5%

**Table 4-7: Trip Distribution Report in Super District 6: White Oak/Fairland/Cloverly**

Auto-Driver Trip Distribution for Development in Super District 6: White Oak/Fairland/Cloverly

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	1.3%	6.8%
2. Silver Spring/Takoma Park	4.5%	9.0%
3. Potomac/Darnestown/Travilah	1.7%	0.6%
4. Rockville/North Bethesda	1.7%	9.3%
5. Kensington/Wheaton	6.1%	5.0%
6. White Oak/Fairland/Cloverly	23.5%	9.3%
7. Gaithersburg/Shady Grove	3.2%	3.8%
8. Aspen Hill/Olney	6.2%	1.4%
9. Germantown/Clarksburg	0.4%	0.4%
10. Rural: West of I-270	0.1%	0.0%
11. Rural: East of I-270	2.8%	1.1%
12. Washington, DC	3.7%	23.4%
13. Prince George's County	26.4%	20.1%
14. Virginia	3.4%	7.1%
15. Frederick County	1.6%	0.0%
16. Howard County	5.6%	1.4%

**Table 4-8: Trip Distribution Report in Super District 7: Gaithersburg/Shady Grove**

Auto-Driver Trip Distribution for Development in Super District 7: Potomac/Gaithersburg/Shady Grove

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	1.8%	8.5%
2. Silver Spring/Takoma Park	1.5%	2.2%
3. Potomac/Darnestown/Travilah	6.6%	2.1%
4. Rockville/North Bethesda	5.6%	23.7%
5. Kensington/Wheaton	3.7%	1.9%
6. White Oak/Fairland/Cloverly	2.2%	0.9%
7. Gaithersburg/Shady Grove	25.2%	32.4%
8. Aspen Hill/Olney	5.3%	1.8%
9. Germantown/Clarksburg	10.9%	3.4%
10. Rural: West of I-270	1.6%	0.1%
11. Rural: East of I-270	7.1%	0.8%
12. Washington, DC	2.5%	8.4%
13. Prince George's County	6.7%	4.0%
14. Virginia	4.6%	7.9%
15. Frederick County	12.1%	1.3%
16. Howard County	2.6%	0.6%

**Table 4-9: Trip Distribution Report in Super District 8: Aspen Hill/Olney**

Auto-Driver Trip Distribution for Development in Super District 8: Aspen Hill/Olney

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	1.2%	9.3%
2. Silver Spring/Takoma Park	1.9%	5.5%
3. Potomac/Darnestown/Travilah	1.9%	1.5%
4. Rockville/North Bethesda	6.1%	22.5%
5. Kensington/Wheaton	8.6%	5.7%
6. White Oak/Fairland/Cloverly	5.5%	2.8%
7. Gaithersburg/Shady Grove	9.4%	11.0%
8. Aspen Hill/Olney	26.0%	8.1%
9. Germantown/Clarksburg	3.1%	0.8%
10. Rural: West of I-270	0.1%	0.1%
11. Rural: East of I-270	14.1%	1.3%
12. Washington, DC	2.2%	15.2%
13. Prince George's County	6.4%	7.7%
14. Virginia	3.1%	6.2%
15. Frederick County	4.7%	0.4%
16. Howard County	5.7%	1.9%

**Table 4-10: Trip Distribution Report in Super District 9: Germantown/Clarksburg**

Auto-Driver Trip Distribution for Development in Super District 9: Germantown/Clarksburg

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	0.6%	8.1%
2. Silver Spring/Takoma Park	1.4%	1.6%
3. Potomac/Darnestown/Travilah	5.5%	1.8%
4. Rockville/North Bethesda	3.5%	22.9%
5. Kensington/Wheaton	2.3%	1.6%
6. White Oak/Fairland/Cloverly	1.6%	0.2%
7. Gaithersburg/Shady Grove	17.2%	30.2%
8. Aspen Hill/Olney	2.5%	1.3%
9. Germantown/Clarksburg	25.2%	10.5%
10. Rural: West of I-270	2.6%	0.1%
11. Rural: East of I-270	8.0%	1.0%
12. Washington, DC	0.7%	7.0%
13. Prince George's County	5.8%	3.8%
14. Virginia	3.0%	7.4%
15. Frederick County	18.1%	2.0%
16. Howard County	2.1%	0.5%

**Table 4-11: Trip Distribution Report in Super District 10: Rural – West of I-270**

Auto-Driver Trip Distribution for Development in Super District 10: Rural – West of I-270

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	0.8%	9.7%
2. Silver Spring/Takoma Park	2.7%	0.7%
3. Potomac/Darnestown/Travilah	4.3%	2.9%
4. Rockville/North Bethesda	2.1%	20.1%
5. Kensington/Wheaton	0.8%	1.2%
6. White Oak/Fairland/Cloverly	0.0%	0.4%
7. Gaithersburg/Shady Grove	7.0%	30.0%
8. Aspen Hill/Olney	3.0%	0.4%
9. Germantown/Clarksburg	4.1%	7.1%
10. Rural: West of I-270	47.7%	9.1%
11. Rural: East of I-270	1.7%	0.5%
12. Washington, DC	0.0%	7.4%
13. Prince George's County	2.1%	1.7%
14. Virginia	4.8%	4.5%
15. Frederick County	18.9%	3.8%
16. Howard County	0.0%	0.5%

Table 4-12: Trip Distribution Report in Super District 11: Rural – East of I-270

Auto-Driver Trip Distribution for Development in Super District 11: Rural – East of I-270

Trip Distribution to Super District for	Office Development	Residential Development
1. Bethesda/Chevy Chase	0.4%	5.9%
2. Silver Spring/Takoma Park	0.8%	3.9%
3. Potomac/Darnestown/Travilah	1.3%	1.0%
4. Rockville/North Bethesda	1.3%	17.7%
5. Kensington/Wheaton	3.4%	3.8%
6. White Oak/Fairland/Cloverly	8.8%	2.1%
7. Gaithersburg/Shady Grove	9.0%	23.5%
8. Aspen Hill/Olney	8.8%	6.9%
9. Germantown/Clarksburg	4.9%	4.1%
10. Rural: West of I-270	0.4%	0.1%
11. Rural: East of I-270	27.5%	6.7%
12. Washington, DC	0.5%	7.3%
13. Prince George's County	9.8%	7.0%
14. Virginia	0.5%	5.2%
15. Frederick County	10.5%	2.0%
16. Howard County	12.1%	2.8%

## APPENDIX 5     Delegation Procedures for Certain APF Findings by Staff at Time of Building Permit

### Procedures

For a building permit where a traffic exemption statement is submitted to demonstrate that TPAR is not applicable and an LATR traffic study are not needed, or when the LATR traffic study is conducted with a finding that no mitigation is required, Planning Department staff can make a finding that public facilities will be adequate to support the proposed development, set the validity period for the APF approval, and authorize release of the building permit.

For a building permit where the TPAR test requires mitigation less than five trips, Planning Department staff may authorize release of the building permit by letter if:

1. Planning Department staff finds that the public facilities will be adequate for the proposed development with the proposed trip mitigation and sets the validity period for the APF approval; and
2. MCDOT, the Superintendent of the Montgomery County Public School System, County Fire and Rescue Services, the Department of Police, and DPS have been notified of the method of mitigation, and have not explicitly objected; and
3. interested parties and the applicant have been given notice of the pending case, and have not objected to the proposed mitigation (see below, Noticing); and
4. a copy of a permit for construction within the right-of-way for the mitigation item has been received from DPS.

For cases requiring mitigation of five or more vehicle trips, the item will be scheduled for an APF finding at a public hearing before the Planning Board after 1, 2, and 4 above are met. If no objections are raised by any interested parties or any of the agencies listed in 2 above, the case may be scheduled as a consent item before the Planning Board.

If an Applicant requests a hearing before the Planning Board or if any interested party or agency listed in 2 or 3 above objects to the proposed mitigation, the item will be scheduled for an APF finding at a public hearing before the Planning Board.

### Noticing

The applicant must notify all confronting and adjacent property owners, and community and homeowners associations (following the procedure in the Development Review Manual [\[link\]](#)) of the application for APF approval as well as any proposed mitigation measures. The notice must also state that anyone objecting to the proposal must do so in writing within 14 days to Transportation Planning and provide the appropriate contact information.



## APPENDIX 6 Unbuilt Master Plan Projects

Master Planned Transportation Improvements Sorted by Policy Area, Mode, and Improvement Type and Not Programmed by 2018

Policy Area(s)	Project Name	Implementation	Limits	Improvement Type	Facility Type
CLK,GTE,GTW,GBG,RDV,DER,RKV	Corridor Cities Transitway (proposed)	State	Shady Grove to Clarksburg	T	LRT
BCC,SSTP	Purple Line Transitway (proposed)	State	Bethesda to New Carrollton	T	LRT
NB,POT	North Bethesda Transitway (proposed)	State	Grosvenor Metro to Montgomery Mall	T	LRT
OLY,AH,KW	Georgia Avenue Busway (proposed)	State	Glenmont to Olney	T	BRT
POT,BCC,NB,KW,SSTP,FWO	Capital Beltway	State	American Legion Bridge to Woodrow Wilson Bridge	R	1
GTE,MVA,GBG	Midcounty Hwy (proposed)	County	Montgomery Village Av to MD 27	R	2
AH	MD 97 Georgia Ave and MD 28 Norbeck Rd	State	Interchange	R	1
AH	MD 28 Norbeck Rd	State	MD 97 to MD 182	R	2
AH	MD 182 Layhill Rd	State	ICC to Norwood Rd	R	2
AH	Aspen Hill Rd	County	MD 586 to MD 185	R	3
BCC	MD 355 and Cedar Ln	State	Interchange	R	1
BCC	River Rd	State	DC Line to I-495	R	2
BCC	Bradley Blv	State	MD 614 to I-495	R	3
BCC	Goldsboro Rd	State	MD 396 to MD 191	R	3
BCC	Massachusetts Ave	State	Sangamore Rd to MD 614	R	3
CLK	I-270 and Newcut Rd	State	Interchange	R	1
CLK	MD 27 Ridge Rd	State/Dev	MD 355 - Brink Rd to Skylark Rd	R	2
CLK	MD 121 Clarksburg Rd	State/Dev	Top Tidge Dr to Chrisman Hill Dr (Broadway Av to I-270)	R	2
CLK	MD 121 Clarksburg Rd Relocated	State/Dev	West Old Baltimore Rd to Broadway Ave	R	2
CLK	MD 355 Frederick Rd	State/Dev	Brink Rd to Cool Brook Ln	R	2
CLK	MD 355 Frederick Rd Relocated	State	Cool Brook Ln to Snowden Farm Pkwy	R	2
CLK	A-304 (proposed)	County/Developer	MD 121 to Newcut Rd Extended	R	3
CLK	A-307 (proposed)	County/Developer		R	3
CLK	Observation Dr Extended	County/Developer	Little Seneca Cr to Roberts Tavern Dr	R	2
CLK	Hyattstown Bypass (proposed)	State	MD 355 to MD 355	R	3
CLK	Newcut Rd Extended	County/Developer	West Old Baltimore Rd; Broadway Ave. to MD 27	R	2
CLK	Snowden Farm Pkwy (Proposed)	County/Developer	MD 27 to Clarksburg Rd	R	2
CLK	Snowden Farm Pkwy (Proposed)	County/Developer	Clarksburg Rd to MD 355	R	2
CLK	Brink Rd	County/Developer	MD 355 to MD 27	R	3
CLK	Shawnee La	County/Developer	Gateway Center Dr to MD 355	R	3
CLK	Stringtown Rd	County/Developer	Overlook Crossing Dr to Snowden Farm Pkwy	R	3
CLV	Norwood Rd	County	MD 650 to MD 182	R	3
CLV	MD 28 Norbeck Rd	State	MD182 to Peach Orchard Rd	R	2
CLV	Thompson Rd Extended	County	Rainbow Dr to Thompson Dr	R	3

**Master Planned Transportation Improvements Sorted by Policy Area, Mode, and Improvement Type and Not Programmed by 2018**

Policy Area(s)	Project Name	Implementation	Limits	Improvement Type	Facility Type
DAM	none				
DER	MD 355 Frederick Rd and Gude Dr	State	Interchange	R	1
DER	ICC and Mid-County Hwy	State	Interchange	R	1
DER	Metro Access Crabbs Branch Wy	County/ Developer	Interchange	R	1
DER	Crabbs Branch Way Extended	County/ Developer	Shady Grove Rd to Amity Dr	R	3
FWO	US 29 and Blackburn Dr	State	Interchange	R	1
FWO	US 29 and Fairland	State	Interchange	R	1
FWO	US 29 and Greencastle Rd	State	Interchange	R	1
FWO	US 29 and Musgrove Rd	State	Interchange	R	1
FWO	US 29 and Stewart Dr	State	Interchange	R	1
FWO	US 29 and Tech Rd	State	Interchange	R	1
FWO	MD 28 Norbeck Rd	State	Peach Orchard Rd to Prince George's Line	R	2
FWO	Briggs Chaney Rd	County	ICC to PG Line	R	3
FWO	Burtonsville Blv	State/ Developer	MD 198 to Dustin Rd	R	3
FWO	Calverton Blv	County	Cherry Hill Rd to PG Line	R	3
FWO	Fairland Rd	County	MD 650 to PG Line	R	3
FWO	Greencastle Rd	County	Robey Rd to PG Line	R	3
GBG	I-270 and Watkins Mill Rd	County/ State/ Developer	Interchange	R	1
GBG,NP	MD 117 West Diamond Ave	State	Seneca Creek St Pk to Muddy Branch Rd	R	2
GBG,NP	MD 124 Montgomery Village Ave	State	MD 28 to Longdraft Rd	R	2
GBG,NP	Muddy Branch Rd	County	MD 28 to MD 117	R	2
GBG,NP	Longdraft Rd	County	MD 124 to MD 117	R	3
GBG	Oakmont Ave Extended	County	Oakmont Av to Washington Grove Ln	R	3
GBG	Odenhal Ave	County	Lost Knife Rd to Summit Av	R	3
GTE	MD 27 and MD 355	State	Interchange	R	1
GTE	MD 27 and Observation Dr	State	Interchange	R	1
GTE	MD 118 and MD 355	State	Interchange	R	1
GTE	MD 118 and Midcounty Hwy	State	Interchange	R	1
GTE	MD355 and Middlebrook Rd	State	Interchange	R	1
GTE	Shakespeare Dr	County/ Developer	Watkins Mill Rd to MD 355	R	3
GTE	Watkins Mill Rd	County	Midcounty Hwy to Midcounty Hwy	R	3
GTE	Dorsey Mill Rd	County	Bridge over I-270	R	3
GTW	MD 117 Clopper Rd	State	Seneca Creek SVP to east of MD 121	R	2
GTW	MD 119 Great Seneca Hwy	State	Longdraft Rd to Middlebrook Rd	R	2
GTW	Father Hurley Blv	County	Wisteria Dr to Crystal Rock Dr	R	2
GTW	Crystal Rock Dr Extended	Developer (Kinster Dr to Dorsey Mill Rd)	Kinster Dr to Dorsey Mill Rd	R	3
GTW	Dorsey Mill Rd	County/ Developer	Bridge over I-270	R	3
GTW	Observation Dr Extended	County	Waters Discovery Ln to Little Seneca Cr	R	3

Master Planned Transportation Improvements Sorted by Policy Area, Mode, and Improvement Type and Not Programmed by 2018

Policy Area(s)	Project Name	Implementation	Limits	Improvement Type	Facility Type
KW	MD 586 Veirs Mill Rd and Randolph Rd	State	Interchange	R	1
KW	MD 586 Veirs Mill Rd	State	Twinbrook Pkwy to Randolph Rd	R	2
KW	Capitol View Ave Relocated	State/ Developer	Edgewood Rd to Stoneybrook Dr	R	3
MVA	MD 115 Muncaster Mill Rd	State	Redland Rd to MD 124	R	2
MVA	MD 124 Woodfield Rd	State	Emory Grove Rd to Warfield Rd	R	2
MVA	MD 124 Montgomery Village Av	State	Russell Av to Midcounty Hwy	R	2
MVA	Goshen Rd Widening	County	Oden'hal Rd to Warfield Rd	R	2
MVA	Snouffer School Rd	County/ Developer	MD 124 to Goshen Rd	R	3
MVA	Wightman Rd	County	Goshen Rd to Brink Rd	R	3
NB	Montrose Pkw (proposed)	State	Maple Av to Parklawn Dr	R	2
NB	Montrose Pkw (proposed)	County	Parklawn Dr to MD 586	R	2
NB	Old Georgetown Rd	County	MD 355 to Nebel St	R	2
NB	Twinbrook Pkw	County	Chapman Av to Ardennes Av	R	3
NB	Woodglen Dr Extended	County/ Developer	Nicholson Ln to Marinelli Rd	R	3
OLY	MD097 Brookeville Byp (proposed)	State	Goldmine Rd to Georgia Av	R	2
OLY	MD 97 Georgia Ave	State	MD 108 to Prince Phillip Dr	R	2
OLY	MD 28 Norbeck Rd	State	MD 97 to MD 182	R	2
OLY	MD 108 Olney-Laytonsville Rd	State	Muncaster Rd to Olney Mill Rd	R	2
POT	MD 189 Falls Rd Relocated	State	Democracy Blvd to Rockville Line	R	2
POT	MD 190 River Rd Relocated	State	Riverwood Dr To River Oaks Ln	R	2
POT	Montrose Rd Extended	County	MD 189 to Falls Rd Relocated	R	3
POT	Montrose Rd	County	Seven Locks Rd to I-270	R	3
POT	Westlake Dr	County	Westlake Ter to Tuckerman Ln	R	3
RDV	MD 28 Key West Ave and MD119 Great Seneca Hwy	State	Interchange	R	1
RDV	Sam Eig Hwy and Fields/ Diamondback Dr	State/County	Interchange	R	1
RDV	Sam Eig Hwy and MD 119 Great Seneca Hwy	State	Interchange	R	1
RDV	Shady Grove Rd and MD 28 Darnestown Rd	State	Interchange	R	1
RDV	Darnestown Rd Relocated	County	Darnestown Rd to Great Seneca Hwy	R	2
RDV	MD 119 Great Seneca Hwy Relocated	County/State	Darnestown Rd to Sam Eig Hwy	R	2
SSTP	Lyttonsville Rd	County	Grubb Rd to Lyttonsville Pl	R	3
SSTP	Seminary Rd	County/ Developer	MD 192 to MD 97	R	3
RKV,GBG,GTE, GTE,CLK	I-270 (HOV and widening)	State	I-370 to Frederick Co Line	R	1
RURW	MD118 Germantown Rd	State	MD 28 to MD 117	R	2
RURW	Whites Ferry Rd Relocated	County	Partnership Rd to west of Partnership Rd	R	3

**MEMORANDUM OF UNDERSTANDING BETWEEN**  
**THE CITY OF GAITHERSBURG**  
**AND**  
**THE CITY OF ROCKVILLE**  
**AND**  
**THE MONTGOMERY COUNTY PLANNING BOARD OF**  
**THE MARYLAND-NATIONAL CAPITAL PARK AND**  
**PLANNING COMMISSION**  
**FOR**  
**THE COORDINATION OF TRAFFIC IMPACT STUDIES**  
**FOR PROPOSED DEVELOPMENT PROJECTS**

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This Memorandum of Understanding (MOU) is entered into by and between Montgomery County Planning Department of The Maryland-National Capital Park and Planning Commission, the City of Gaithersburg, and the City of Rockville (collectively, the Parties)

WHEREAS, the purpose of this MOU is for the Parties to work cooperatively to better manage traffic conditions given the inter-jurisdictional impact of traffic generated by development in close proximity to nearby jurisdictions through the exchange of information regarding traffic reports (traffic impact study or applicable traffic statement) of proposed development and through the coordination and review of such reports; and

WHEREAS, the parties acknowledge that each has a different set of standards for traffic reports within their jurisdiction.

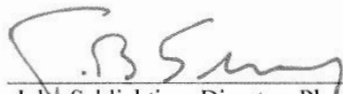
NOW, THEREFORE, the Parties agree to the following:

1. The methodology for determining the scope of traffic reports for proposed development projects, and also for analyzing the intersections included in such reports, will be determined in accordance with the standards set by the approving jurisdiction.
2. If a proposed development project has a signalized intersection within the scope's study area and located in a neighboring jurisdiction (one of the other parties to this MOU), that such intersection will be analyzed as part of the required traffic reports in accordance with the standards set by the approving jurisdiction.

3. Each Party will notify their neighboring jurisdiction when a project is submitted for review that includes a signalized intersection within the scope's study area and located in that neighboring jurisdiction. This includes notification of pre-Development Review Committee/Development Review Team (DRC/DRT) meetings and regular DRC/DRT meetings for such project.
4. When a signalized intersection falls within a neighboring jurisdiction, the approving jurisdiction will provide the neighboring jurisdiction with a copy of the applicable traffic report scope between the applicant and the approving jurisdiction. The approving jurisdiction will also provide the accepted traffic report to the neighboring jurisdiction. The neighboring jurisdiction will then be allowed up to thirty (30) days to review and submit comments back to the approving jurisdiction regarding the proposed development's traffic report.

**IN WITNESS WHEREOF**, the undersigned being duly authorized by the respective agencies, has signed this MOU.

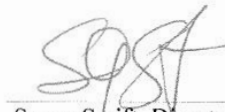
**City of Gaithersburg, Maryland:**



John Schlichting, Director, Planning and Code Administration

Date: 10/10/12

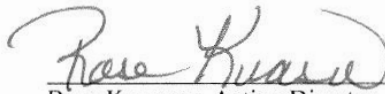
**City of Rockville, Maryland:**



Susan Swift, Director, Community Planning & Development Services

Date: 10-2-12

**Montgomery County Planning Department:**



Rose Krasnow, Acting Director

Date: 9-27-12



# Local Area Transportation Review and Transportation Policy Area Review Guidelines

January 2013



the maryland-national capital park and planning commission  
8787 georgia avenue, silver spring, maryland 20910  
[www.montgomeryplanning.org](http://www.montgomeryplanning.org)



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