

## Attachment B

### Appendices A-O: Scope of Work for Growth Policy Studies and Analyses

Resolution 16-376 requires several follow up studies to the 2007-2009 Growth Policy be delivered as part of the 2009-2011 Growth Policy. A scope of work for these studies, along with additional analyses, are organized as separate appendices to follow. Below is a list of the appendices and the related follow up study number as indicated on pages 24 through 26 in Resolution 16-376, (see Attachment A).

<b>Appendix</b>	<b>Title</b>	<b>Resolution Study</b>
A	Impact tax Issues	F9
B	Analysis of the Current/Future Pace and Pattern of Growth	F11
C	Analysis of Factors Affecting Demand for Public Facilities	F11
D	Sustainability Indicators	F11
E	Master Plan Implementation Status Report	F11
F	Biennial Highway Mobility Report	F11
G	Prioritization of Public Facilities	F11
H	Changes to Policy Area Boundaries	
I	Policy Area Mobility Review	
J	School Capacity and Enrollment	
K	Allocating Development Capacity	F12c
L	Report on Current Jobs/Housing Balance	F12d
M	Potential Changes to APF Tests for Transportation and Schools	
N	Smart Growth Criteria and Exemptions	
O	Carbon Offset at the Local Level	

**Objective:** To address impact tax issues designated for follow-up, with specific focus on the potential refinement of land use categories, charging impact taxes for additional public facilities or purposes, and charging linkage fees to non-residential development for affordable housing.

**Scope of Work:** The objective identifies 3 separate aspects of the inquiry:

- 1) Potential further refinement of land use categories
- 2) Consideration of charging impact taxes for additional public facilities or purposes
- 3) Consideration of charging linkage fees to non-residential development for affordable housing

The inquiry is to be led by the County Executive, with the support of the Planning Board and the Board of Education.

Staff will be providing input, as appropriate, to the Executive in the preparation of the Executive's recommendations. In general, Staff anticipates that the Executive Branch will recommend few changes as a result of the F9 inquiries and interagency discussions.

Upon completion of the Executive Branch inquiries, Staff will transmit to the Planning Board a summary of the work completed by the Executive Branch; that summary will include Staff recommendations or commentary as appropriate.

Staff has other work products to complete on impact tax modifications for transportation and schools. These products are described as part of Appendix M.

Growth Policy Study: Appendix B –Analysis of the Current/Future Pace and Pattern of Growth (Resolution 16-376 F11)

Lead Staff: Wayne Koempel

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**Objective:** Provide an analysis of the current and future pace and pattern of growth in the County.

**Scope of Work:** The Montgomery County Planning Department prepares the County’s official employment, household, and population forecasts. These forecasts are prepared as part of a cooperative effort with other member jurisdictions of the Metropolitan Washington Council of Governments (COG). Since the inception of this process in 1975, major rounds of the cooperative Forecasts have been prepared every three to five years; Round 7.0, completed in 2005, is the forecast round. Between rounds, yearly adjustments may be made by the member jurisdictions. The latest Cooperative Forecast is Round 7.2 completed in 2009.

The City of Rockville has been a participant in the COG cooperative forecasting process, producing their own forecasts. The City of Gaithersburg participated in the COG cooperative forecasting process producing forecasts for the first time in the Round 7.2. The cities forecasts are based on their current city boundaries and do not assume any annexations. The Planning Department coordinates with the Cities of Gaithersburg and Rockville and their forecasts are included in the Montgomery County forecasts.

Estimates and the Round 7.2 forecasts will be used to analyze the County’s current (2000 to 2010) and future (2010 to 2030) pace and pattern of employment, household, and population growth. The analysis will include, County-wide trends, the proportion of the County’s growth that is anticipated in the Cities of Gaithersburg and Rockville, and analysis by Policy Area.

Figures 1 and 2 show the current development levels graphically, with total jobs and housing shown by color and density depicted by height.

Figure 1

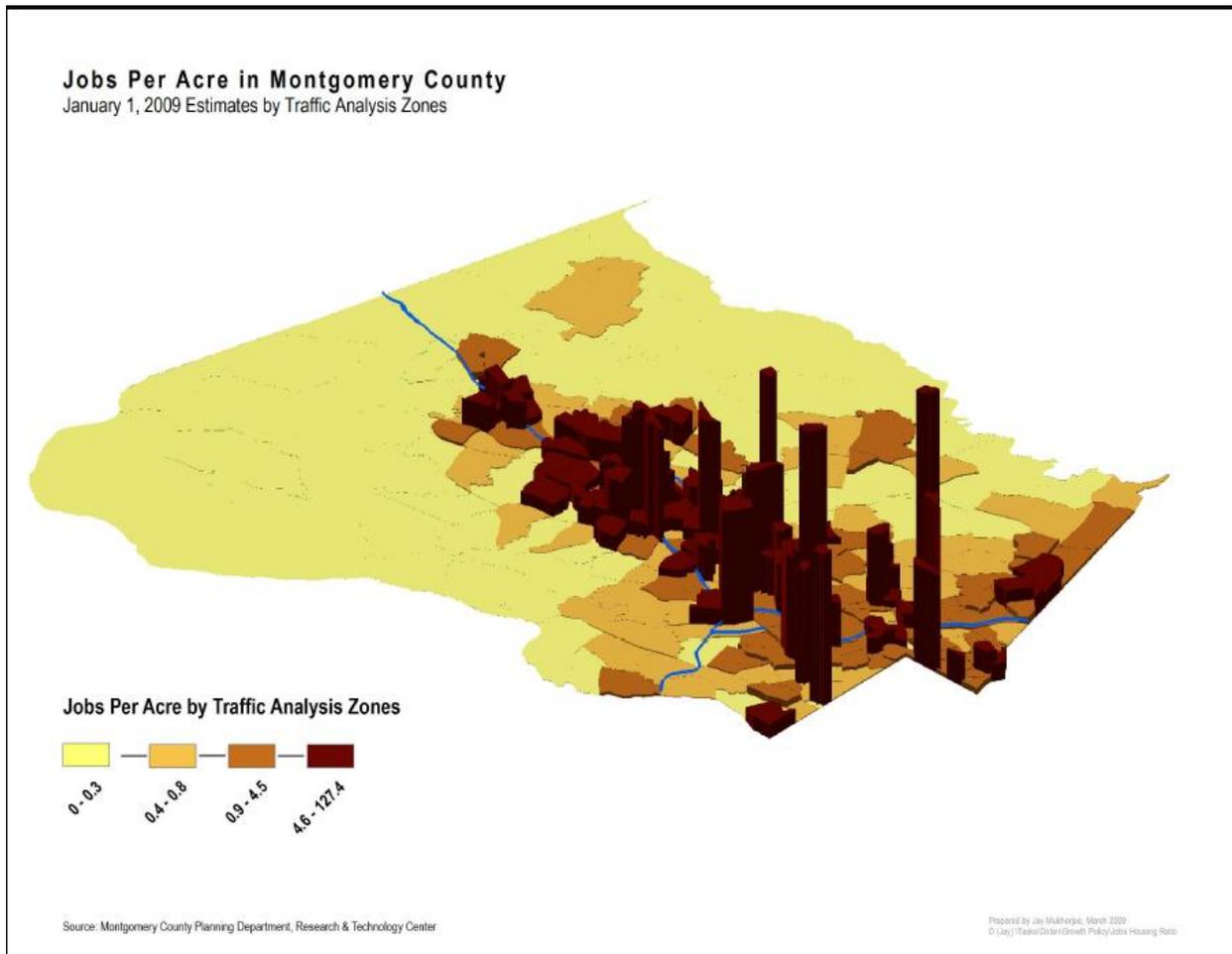
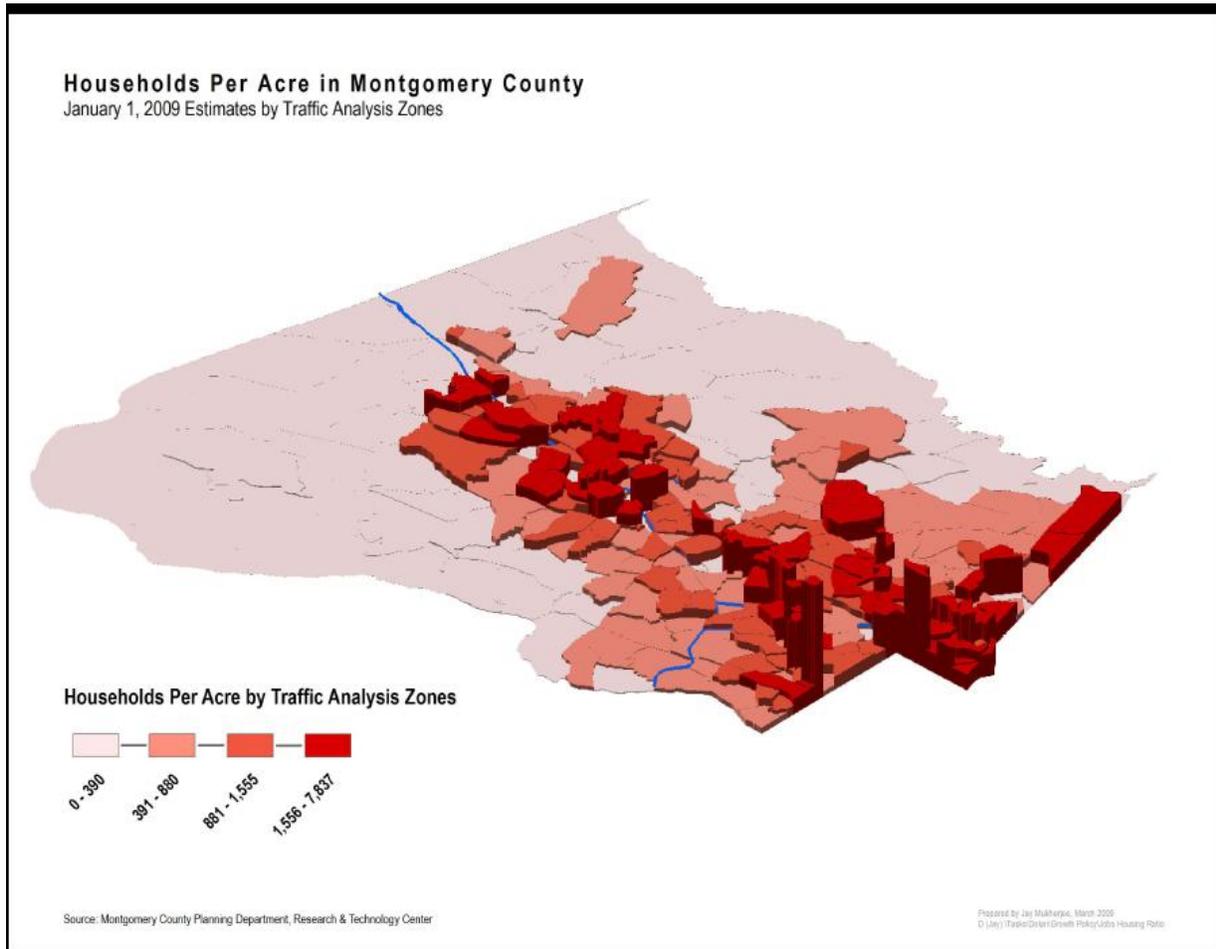


Figure 2



Growth Policy Study: Appendix C- Analysis of the Factors Affecting the Demand for Public Facilities in Established Neighborhoods (Resolution 16-376 F11)

Lead Staff: Khalid Afzal

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**Objective:** Provide an analysis of the factors that may affect the demand for public facilities and how to meet that demand in established communities.

**Scope of Work:** Factors affecting demand in established communities may include: demographics (more families with younger children moving into a neighborhood); standards or expectations (class size changes may influence the need for more class rooms); economic conditions (recent economic downturn has created more demand for library services); and technology (more water efficient household devices help reduce demand for water).

Traditionally, Growth Policy has focused on the affect of new development on the demand for public facilities. Yet, new development is not the only source of demand for public facilities. For example, as neighborhoods “age”, older residents move out, younger ones in, and the school age population within the neighborhood will increase. Thus the demand for school facilities increases without an increase in development.

The department currently coordinates its assessment of public facilities through its coordination with the County and other agencies responsible for meeting demand for public services as part of its master plans and regulatory review processes. The analysis will include County-wide trends and highlighting of any specific communities experiencing change as well as new trends in the future demand for public facilities anticipated as a result of changing demographics and other factors.

Growth Policy Study: Appendix D – Sustainability Indicators (Resolution 16-376 F11)

Lead Staff: Mary Dolan

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**Objective:** To show the distribution of the Healthy and Sustainable Communities Indicators across the Policy Areas.

**Scope of Work:** The Planning Board (with assistance from the County Executive staff), selected several indicators of Healthy and Sustainable Communities and collected and reported Countywide data and trends, where available. Environmental Planning staff and IS/GIS staff are disaggregating the data for those indicators with sufficient information to show patterns across the County. In addition to the indicators chosen by the Planning Board, the County Executive pursued indicators for other initiatives such as education, public safety and others. This process produced additional information on community health that was not included in the report approved by the Planning Board.

The results of the disaggregation process will be prepared as graphics and presented to the Planning Board in June as part of the Growth Policy discussion.

Lead staff: Glenn Kreger

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**Objective:** To assess the progress toward implementing the facilities recommended in each master/sector plan.

**Scope of work:** A master plan status report is prepared periodically by the Vision Division to evaluate the County's progress in achieving the vision in each plan. It is expected that the Executive staff will use the report to establish the appropriate sequence and funding priorities for public facilities in the CIP to implement the recommendations in approved master plans.

The master plan status report was first published in 1998 and was last published in April 2008. The next report would be produced in 2010. This schedule provides the information in the year prior to each growth policy update. It is recommended that the next status report be completed in 2011 (rather than 2010) to improve the synchronization between the report and the growth policy exercise.

In order to facilitate the current growth policy discussion, the Vision Division will update the 2008 report to add the following:

- A summary reflecting the recommendations in the new Twinbrook Sector Plan;
- An update on the staging recommended in the Clarksburg Plan and the progress toward buildout; and
- A summary of the staging in the Shady Grove Sector Plan and the status of implementation efforts.

The master plan status report typically addresses both the status of public facilities and the status of the policies recommended in each master/sector plan. In order to facilitate a discussion of the public facilities recommended in the master/sector plans and their staging, staff will also prepare a matrix comparing the recommended public facilities (e.g., roads, schools, police, fire/rescue) to the recommended time frame for implementation. Facilities needed in the near term (years 1-6) will be labeled to identify their CIP status.

Facilities that would contribute to development in Metro station areas will also be labeled.

Lead Staff: Justin Clarke

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**Objective:** To document the Department's annual analysis of constraints to mobility within Montgomery County. These transportation indicators are intended for use by the Planning Board and County Council to inform their commentary on this year's State Consolidated Transportation Program (CTP) project priorities. Recommendations and analysis provided with this report will be an update of work provided in the May, 2008 HMR.

**Scope of Work:** Constraints to mobility (i.e. congestion) are represented within the report in the form of historical, current, and future motor vehicle traffic congestion trends and patterns. Current congestion measurements included in this study are Critical Lane Volume (CLV) and arterial travel time for priority intersections and corridors (respectively) in the County. When applicable, the report includes historical comparisons made by staff in order to determine level of service and capacity trends for the past several years. Future congestion data is derived from volume to capacity ratios (V/C) as portrayed by the Department's TRAVEL/3 model.

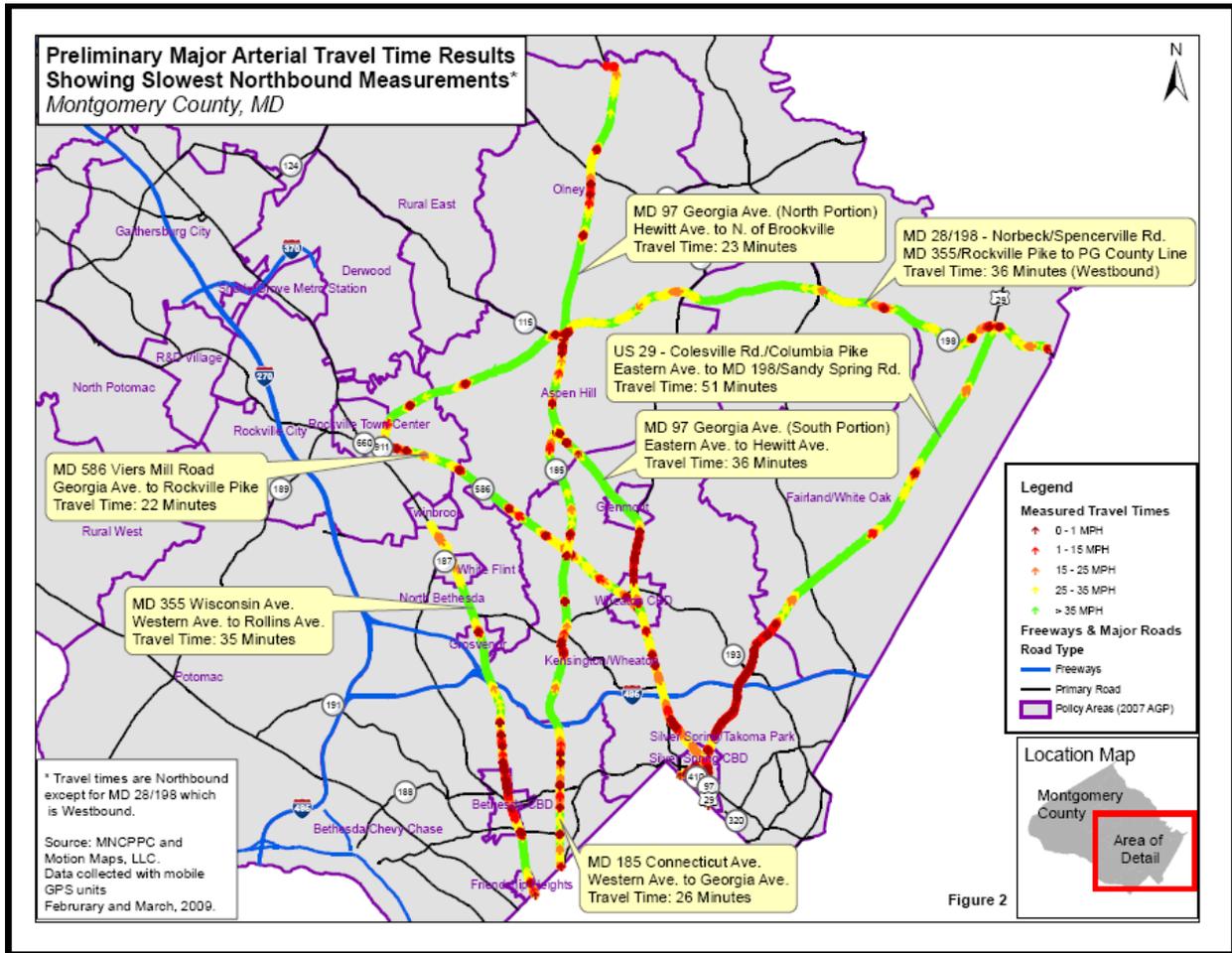
Historically, this report has focused on vehicular mobility. In order to describe a more holistic analysis of transportation in the report, pedestrian count, bus movement and other transit data have been identified. These new data sources will become integrated into this mobility report, as the constraints and validity of the data are vetted by Department staff. Broader mobility measurements will therefore be incorporated in the Highway Mobility Report on an ongoing basis.

Department staff is currently coordinating consultant teams which are gathering turning movement counts at roughly 140 intersections across the County as well as travel time measurements along five major arterial roadways and many key routes in I-270 Corridor Policy Areas. Pedestrian counts have also been collected for these intersections with the anticipation that, at minimum, pedestrian/vehicular count ratios will be determined at selected intersections. At this time, roughly 1/3 of the 140 intersection counts have been completed and delivered to staff for analysis (see Figure 1). To date, CLV calculations have been run for approximately 50 intersections (based on new data from the State Highway Administration). All major arterial travel time measurements have been completed and work is underway on measurements in the northern portion of the County.

Data collection is scheduled through March with analysis running concurrently through March and into the beginning of April. The major arterial travel time analysis has begun, yielding graphics attached in Figure 2. Preliminary analysis indicates that travel times are faster than the 2007/2008 sample runs but not in a uniform manner.



Figure 2: Map depicting Travel Time study to date



Growth Policy Study: Appendix G – Prioritization of Public Facilities  
(Resolution 16-376 F11)

Lead Staff: Lawrence Cole

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**Objective:** To prioritize the facilities needed to realize the vision in approved Master/Sector plans.

**Scope of Work:** The identification and prioritization of new capital projects needs to reflect both the Growth Policy vision and the needs identified in Master Plans. Staff will use the following criteria in prioritizing projects for capital funding. The highest priority projects support:

**Master/Sector Plan** goals and objectives, and particularly those projects specifically identified in a master plan. Projects that a prerequisites within a master plan staging element should have priority if the plan is otherwise ready to move to the next stage of development. For transportation projects, the status of air quality conformity analysis and funding sources that lead to inclusion of the project in the region’s Constrained Long Range Plan (CLRP) should also be considered. Projects that promote the objectives in the Climate Protection Plan are also high priority.

**Growth Policy** principles for connectivity, design, diversity, and the environment as outlined below.

- Connectivity
  - meeting transportation serviceability goals
    - Highway Mobility Report (HMR)
    - traffic forecasts
    - emergency preparedness
  - coordinating public facilities with private development
  - linking jobs to housing
  - linking neighborhoods to services
- Design excellence
  - ensuring safety
  - ensuring that transportation facilities function well during both peak and off-peak hours
  - enhancing community identity
- Diversity
  - provide community facilities that serve all types of neighborhoods and interests
  - promote travel other than SOV: pedestrian accommodation, bikeways, transit; multi-modal Quality of Service
- Environmental protection
  - restoration of, or minimal impacts to, natural resources

**Sustainability** in terms of cost, environmental impact, and social equity

- Location within Metro Station Policy Areas, other urban areas, and State Priority Funding Areas
- Highest priority for development/revitalization in transit station areas
- Leverage outside funding sources (developer, State, Federal)

The candidate projects will be evaluated in a matrix format that facilitates comparison across the evaluation criteria described above.

Growth Policy Study: Appendix H – Changes to Policy Area Boundaries

Lead Staff: Wayne Koempel

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**Objective:** To recommend changes to Policy Area boundaries.

**Scope of Work:** Staff will review the consistency of Policy Area boundaries with adopted Master Plans and Sector Plans and in light of recent changes to municipal boundaries. Recent changes have occurred in White Flint, Gaithersburg and Germantown due to changes in the Master/Sector Plan and annexation.

The Planning Board will review the findings and make appropriate recommendations for changing Policy Area boundaries.

Growth Policy Study: Appendix I – Policy Area Mobility Review (PAMR)

Lead Staff: Eric Graye

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**Objective:** To present the results of the annual Policy Area Mobility Review (PAMR) for Board approval.

**Scope of Work:** Using the Department’s Travel/3 transportation model in support of the application of the PAMR methodology, staff will evaluate the year 2013 relationship between the set of transportation projects fully-funded in the four-year capital program and the geographic pattern of existing and approved but un-built (i.e., pipeline”) jobs and housing units in the County. A key result of this analysis will be the determination of a revised set of required trip mitigation percentages by policy area. Staff will be requesting the Planning Board’s acceptance these trip mitigation requirements for FY 10.

Staff has initiated coordination efforts with MCDOT and County Council staff to confirm the identification of the appropriate transportation projects to be assumed in the 2013 PAMR network. The development of the 2013 existing plus pipeline demographic scenario is underway. This demographic dataset will also include adjustments to account for Base Realignment and Closures (BRAC) - related employment in the County.

Lead Staff:

Pam Dunn

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**Objective:** To present the results of the annual school test for Board approval.

**Scope of Work:** The annual school test determines if residential subdivisions in any school clusters should be subject to either a school facilities payment or a moratorium.

The school test compares projected 2015 enrollment with 2015 classroom capacity for each of the 25 high school clusters at the elementary, middle and high school levels. At all three levels, elementary, middle, and high school, enrollment must not exceed 105 percent of program capacity and “borrowing” from adjacent clusters is not permitted. If projected enrollment at any level exceeds 105 percent of program capacity, residential subdivisions in the affected cluster will be required to make a school facility payment.

In addition, at all three levels, elementary, middle and high school, projected enrollment must not exceed 120 percent of program capacity and “borrowing” from adjacent clusters is not permitted. If projected enrollment at any level exceeds 120 percent of program capacity, residential subdivisions in the affected cluster will be under moratorium.

Staff will be requesting the Planning Board’s acceptance of the school test results for FY10. The results will specify which school clusters exceed the 105 percent program capacity ceiling and will indicate which school level exceeds the ceiling. Residential development in any cluster exceeding the 105 percent school capacity ceiling will be subject to a school facility payment.

In addition, the results will also specify any school clusters that exceed the 120 percent program capacity ceiling; these clusters will be placed under moratorium for residential subdivisions.

Lead Staff: Shahriar Etemadi and Cathy Conlon

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**Objective:** To evaluate the possibility of establishing a system whereby development rights can be traded among developers.

**Scope of Work:** The evaluation of trading development rights results from an interest to both streamline the provision of transportation capacity and, over time, reduce the unused backlog of pipeline capacity that requires new development entering the queue to reflect the growth of the assumed 30 million square feet of approved commercial development already in the queue ahead of them. There are two general issues to describe in this analysis:

- The geographic areas between which development capacity could be traded, and
- The administrative methods to exchange the capacity

### **Geographic Areas**

Two general approaches are described below.

- **Development capacity trading within the same MSPA.**

Establish a development ceiling stage within the same MSPA and allow one or more applicants to trade development potential of their property within a candidate MSPA. This could be called MSPAs Transfer of Development Rights (MTDR). An example of this would be the application called Woodmont Central, currently pending at the Planning Department within the Woodmont Triangle Area. Two separate sites within the Woodmont Triangle area have submitted a request to exchange development density between the two sites in order to maximize the development potential of both sites. Without trading the development density, these two sites could not each contain the land uses proposed on each location.

Under the MDTR scenario, some of the design and planning regulations must be modified to accommodate this request. The existing zoning ordinance limits the ability of taking full advantage of this density transfer. All master plan recommendations relating to transportation design must be strictly enforced. This capacity trading will allow the flexibility to pace and locate developments within the area. It also maximizes the benefit of development potential transferred from one property to another closer to the Metrorail station to take advantage of better use of transit. If the receiving parcel uses the full potential of sending parcel, this location (sending area) could be designated for public use such as a neighborhood park.

This incentive facilitates development of property that is otherwise limited by location or parcel size restrictions. Another advantage is in case a property is on a recorded lot and proposed a standard method of development with restriction on less than full density build out, the excess density can be transferred to a new development for higher density. Other development restrictions such as height could also be modified.

- **Development capacity trading from non-MSPAs into MSPAs**

A second scenario would be to allow an applicant or applicants that have extensive approved development in the pipeline in a location not well served by transit to transfer the development right to an area down-county where the market for development is more desirable or provides a better transportation system with higher levels of transit mobility. The transfer of development rights would be the same amount placed in a location allowing higher density. The primary concern with this method would be the equity of re-evaluating transportation system requirements that were conditions of the sending development (and may have already been built). This concern could be alleviated in part by limiting the distance of the allowed transfer, such as limiting sending areas to be only from policy areas that are adjacent to the receiving MSPA.

### Administrative Mechanisms

Three types of administrative mechanisms to address APF requirements for trading development rights are described below.

- **Status quo: Multiple applicants share one improvement**

Currently, transportation improvements required for LATR may be the responsibility of more than one applicant. Each applicant affecting a substandard transportation element, such as an over-congested intersection, is conditioned to make the same improvement but whoever proceeds first with implementation of their project is responsible for completing the total improvements to gain building permits. The applicant who is making the total improvements must be compensated by other applicants responsible for the same improvement based on a pro-rata-share of their impact. The definition of pro-rata share is agreed to by the applicants themselves.

- **Transportation improvement cap and trade**

This policy would allow an applicant who provides more than the transportation capacity necessary to mitigate its impact, to transfer the excess transportation capacity for use of a second development or offer it “for sale” to the second applicant within the same policy area. If this policy is adopted for all areas and is not limited only to MSPAs, it encourages the applicants to provide more than necessary capacity at earlier stage of development (which means it could be provided at a lower cost). For example, the Montgomery General Hospital will likely design and construct a transit station that provides for more than their required trip mitigation. In this case, the excess credit created by the applicant could be transferred to another applicant at a value to be agreed upon between the two applicants.

- **Transportation mitigation bank**

A transportation mitigation bank similar to the Forest Conservation Bank (with modifications tailored for addressing the transportation facilities issues) could be set up to collect, spend, and keep track of all the resources to improve overall transportation in the county. In this model, the Montgomery General Hospital could theoretically collect a refund from the Transportation Mitigation Bank for the excess capacity being constructed. Any other applicant in the Olney Policy Area could then proceed by paying a deposit into the bank equivalent to the amount of capacity used.

Staff has three primary concerns with this process. First, unlike the Forest Conservation Bank, in which the exchange rate is always acres of forest, the multimodal and geographic aspect of transportation impacts and mitigation create a public acceptance challenge that all congested intersections or transit centers can be valued equally. Second, this complexity requires establishment of:

- exchange currency (dollars, square feet of different types of land uses, or trips/VMT),
- cash flow management (how to incorporate construction escalation costs and completion dates into the valuation process)
- effect on taxes, fees, and credits
- public concern that the approach from a theoretical perspective would be a return to the days of “pay-and-go”.

Growth Policy Study: Appendix L - Report on Current Jobs/Housing Balance  
(Resolution 16-376 F12d)

Lead Staff: Eric Graye and Pam Dunn

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**Objective:** To report on the current jobs/housing balance by policy area across the County evaluating implications for housing affordability and traffic congestion.

**Scope of Work:** Jobs and housing units are considered to be “in balance” when there are roughly as many jobs as workers living in the County. On average, there are about 1.6 workers per household in Montgomery County, and roughly 1 household per housing unit. As a result, a ratio of 1.6 jobs per housing unit is considered “balanced”.

A balance of jobs and housing is intended to meet two main goals: to provide an adequate number of employment opportunities for County residents, and to minimize the distance a worker has to travel to his or her job.

These goals have important secondary affects: a balance of jobs and housing helps to minimize the impact of growth on the transportation network and helps improve housing affordability through reduced transportation costs.

The current jobs/housing ratios in the County are shown in Figure 1, with the J/HH ratio shown in color and total development density depicted by height. The concentration of jobs in the I-270 corridor contributes to out east-west transportation challenge.

The County’s current and forecast jobs/housing ratios are being calculated as part of the Round 7.2 forecast. These ratios will be evaluated in relationship to the new PAMR analysis. Evaluation of jobs/housing in relationship to PAMR by policy area can provide useful information on the significance of congestion thresholds or Master Plan Staging. For example, a policy area with PAMR mitigation over fifty percent and a jobs/housing balance above 3.0 could indicate the need for either increased transit (due to the high proportion of jobs and low proportion of households), or prioritization of planned road improvements, or incentives through exemption from all/part of PAMR mitigation to encourage residential development.

In addition to evaluating jobs/housing in relationship to PAMR, jobs/housing balances will be evaluated against a housing/transportation affordability index developed as part of the 2007-2009 Growth Policy and shown in Figure 2. The value of this comparison is to help target policy efforts aimed at retaining existing affordable housing. As shown in Figure 2, the most affordable housing, incorporating transportation costs and reflecting household income, is located in the upper I-270 corridor and the eastern part of the County.

Over the past decade, the County and the region have moved to the current 1.6 jobs-per-housing unit ratio. This ratio is used by the Metropolitan Washington Council of Governments (COG). The Metropolitan Washington Council of Governments is currently

developing a Constrained Long Range Plan (CLRP) Aspirations Scenario using the 1.6 ratio as a regional goal.

Jobs/housing ratios will be calculated using the Round 7.2, 2030 forecast as well as a Round 7.2, 2030 “balanced” forecast. This “balanced” forecast is similar to the COG (CLRP) Aspirations Scenario.

Figure 1

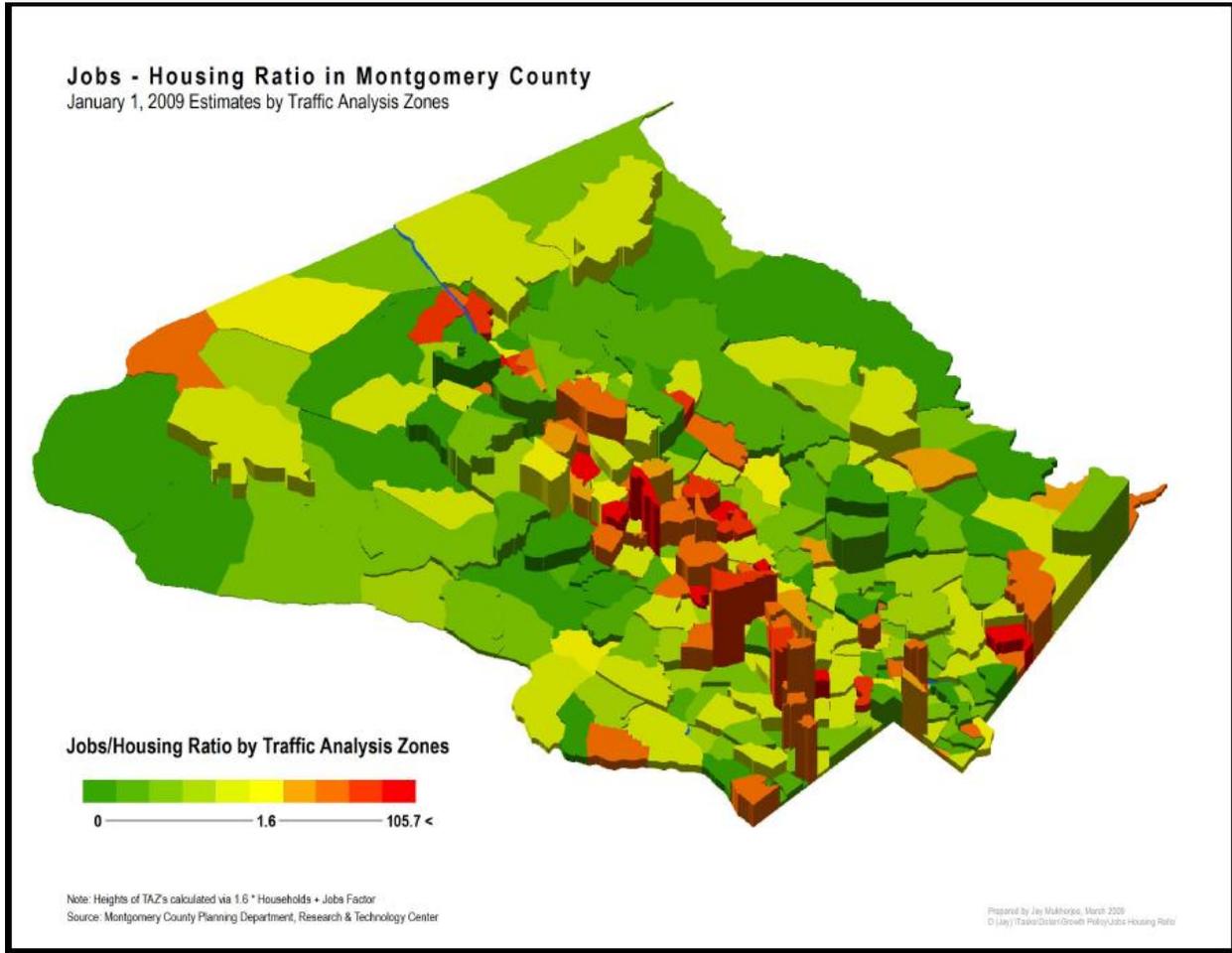
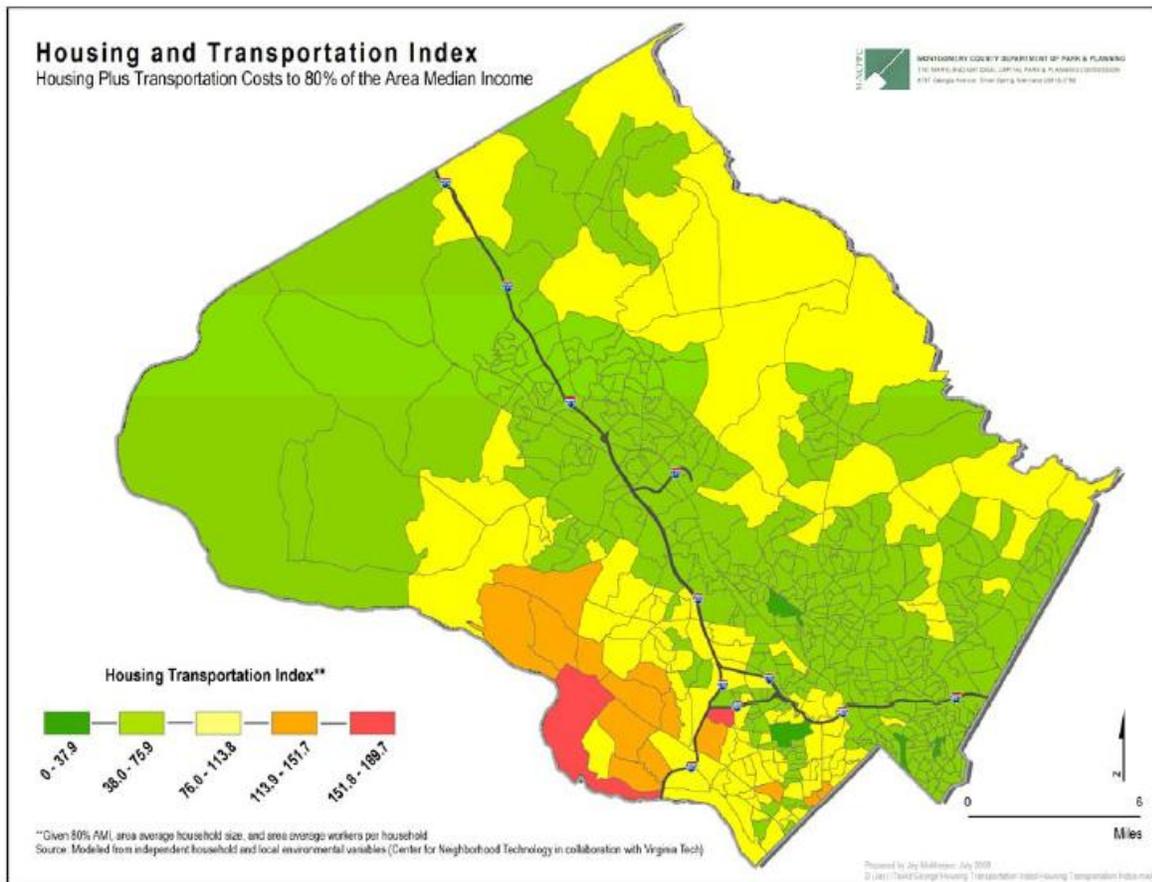


Figure 2



Growth Policy Study: Appendix M –Potential Changes to the APF Tests for Transportation and School Adequacy

Lead Staff: Shahriar Etemadi and Pam Dunn

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**Objective:** To evaluate revisions to PAMR, LATR and school capacity. And, to evaluate revision to the derivation of the transportation impact and school impact taxes.

**Scope of Work:** The retention of the Adequate Public Facilities review for transportation and school facilities remains an important element of the development approval process. Staff analyzed alternatives to LATR and PAMR in both the 2007 Growth Policy and the 2008 subsequent studies and did not find a better framework on which to build the APF process. Therefore, staff recommends the retention of the basic Local Area Transportation Review (LATR) and Policy Area Mobility Review (PAMR) tests as well as the school test.

However, staff will evaluate revisions to the current tests such as threshold changes for both transportation congestion and school capacity, development of a cordon-line method exemption and a parking cap method exemption from PAMR and LATR, and review of adequacy tests for other public facilities. In addition, impact tax calculations will be analyzed possibly changing the transportation impact tax calculation based on trips to one based on VMT. In the same vein, school impact taxes will be evaluated on a square foot basis compared to unit type. These changes would benefit development with lower carbon footprints.

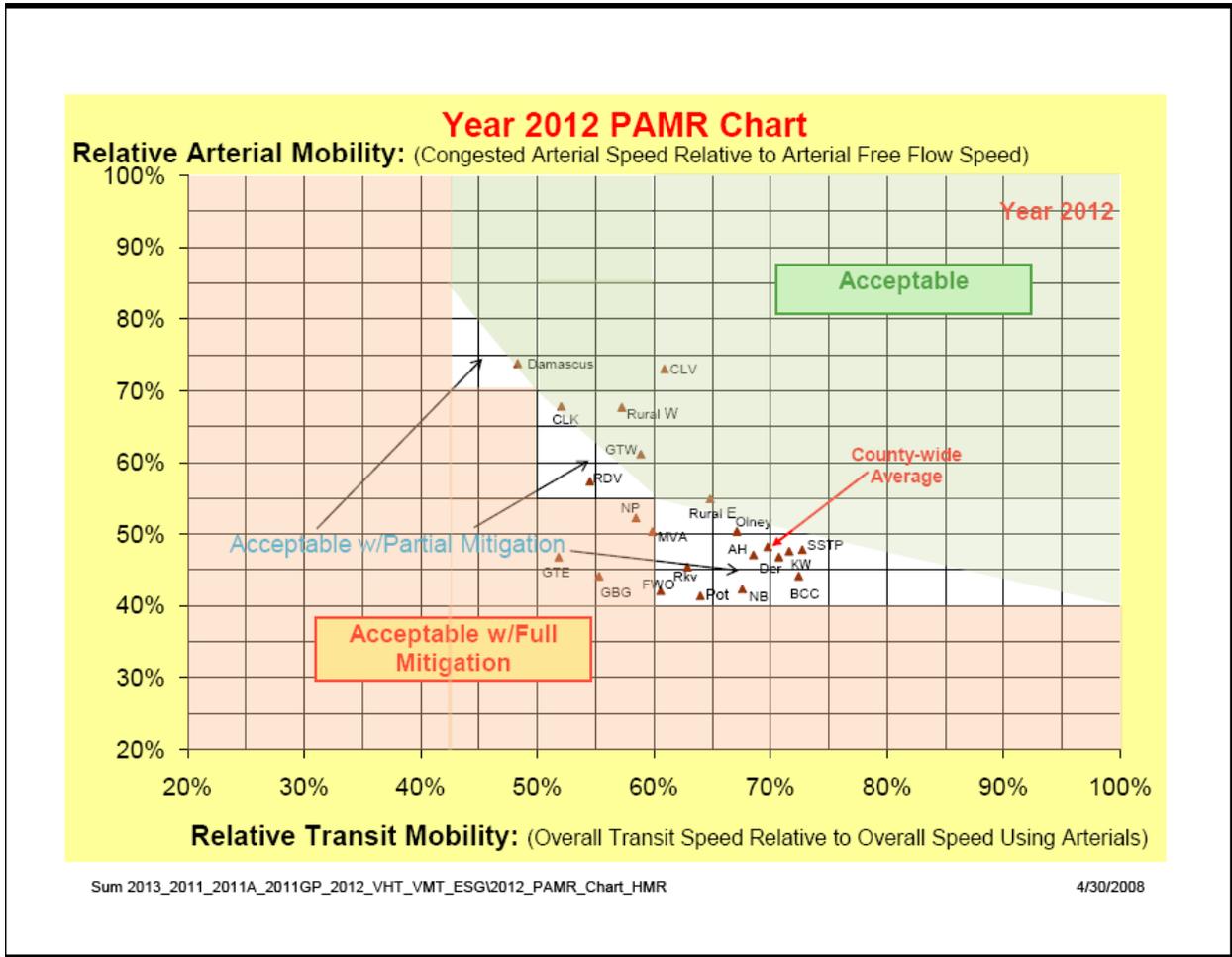
Staff believes that the LATR and PAMR processes can be improved and propose to examine several policy options that will help incentivize high-quality, transit-oriented growth and streamline development review processes where appropriate. Staff has started to pursue some of these recommendations as part of the White Flint and Gaithersburg West master planning processes.

## **1. Definition of Adequacy**

### **Transportation:**

The Planning Board recommended in 2007 that the relationship between Transit Level of Service (LOS) and Arterial Level of Service in the PAMR process be symmetrical so that the areas with LOS B transit service could support LOS E arterial service. Staff will revisit these recommendations through our outreach process. We will also consider the effect of altering or removing the partial mitigation requirements. Figure 1 shows the current PAMR “chart” identifying Policy Areas requiring both full mitigation and partial mitigation.

Figure 1



Changes to certain Policy Area boundaries to better define transit station services areas are recommended in the draft White Flint, Germantown, and Gaithersburg West master plans. These changes would revise LATR congestion standards at intersections within the expanded boundaries.

**Schools:**

The Planning Board recommended in 2007 a capacity threshold of 130% for moratorium. The County Council approved a capacity threshold for moratorium of 120%. Staff will revisit this recommendation.

**2. Definition of De-Minimis Thresholds**

**Transportation:**

The 2007 Growth Policy established a de-minimis threshold of 3 vehicle trips to trigger PAMR mitigation. The staff and private sector efforts required to define mitigation measures for small (< 30 vehicle trip) applications was not practical, with public sector review costs often exceeding the value of the mitigating action. The Planning Board determined in July 2008 that payment-in-lieu of \$11,000 per vehicle trips for applicants

generating between 3 and fewer than 30 vehicle trips is an appropriate solution. Staff will consider whether de-minimis thresholds should be adjusted for either LATR or PAMR.

**Schools:**

The 2007 Growth Policy established a de-minimis threshold of greater than 3 units to apply the cluster capacity tests. A large proportion of the County's future housing growth is expected to be in multi-family units. Given this assertion, increasing the de-minimis for application of the school test may be relevant. Staff will re-evaluate this recommendation.

**3. Adjustments to Acceptable Peak Hour Vehicle Trip Rates**

The LATR/PAMR Guidelines contain vehicle trip generation rates appropriate for developments in Montgomery County. Separate rates are included for the Silver Spring, Bethesda, and Friendship Heights CBDs and a discounting factor is available for offices near Metrorail stations to reflect the higher transit mode share at those locations. The LATR/PAMR Guidelines also note that staff may consider case-by-case adjustments from the approved trip generation rates if the adjustment can be documented from reliable sources.

In fall 2008, the Transportation Research Board released Transit Cooperative Research Project (TRCP) Report 128, Effects of TOD on Housing, Parking, and Travel. This research report contains data collected at transit-oriented developments nationwide, including sites in Montgomery County, and derives certain trip generation relationships that are similar to those already incorporated in our LATR/PAMR Guidelines. Staff will evaluate TCRP 128 to determine if another category of pre-approved trip generation rates for TOD are suitable for incorporation in the LATR/PAMR Guidelines.

**4. Value of Trip Mitigation Actions**

**Transportation:**

The value of providing transit services needs to be reviewed. The PAMR process introduced the concept of buying a transit vehicle for Ride-On to operate as a mitigating measure. The value (one vehicle plus 12 years of operating costs equals 30 peak hour vehicle trips) reflected our estimates of costs and benefits but was not found to be a practical option by any applicants. Table 5 in the LATR Guidelines for Non-Automobile Transportation Facilities, shown in Figure 2, will be updated to reflect staff's recommendations in the July 15, 2008 memorandum to the Planning Board.

Figure 2

Non-Automobile Transportation Facility	Trip Credit vs Congestion Standard		
	1350-1500	1550-1600	1800
100 linear feet of five-foot wide sidewalk	0.5	0.75	1.0
100 linear feet of eight-foot wide bike path	0.5	0.75	1.0
Curb Extension/Pedestrian Refuge Island/Handicap Ramp	2.0	3.0	4.0
Accessible or Countdown Pedestrian Signals/ Intersection	1.0	2.0	3.0
Bus Shelter	5.0	7.5	10.0
“Super” Bus Shelter	10.0	15.0	20.0
Bus Bench with Pad	0.5	0.75	1.0
Information Kiosk	1.5	3.0	4.5
Bike Locker (set of eight)	2.0	3.0	4.0
Real-Time Transit Information Sign	10.0	15.0	20.0
Static Transit Information Sign	0.25	0.4	0.5
Maximum Trip Credits	60	90	120

**5. Alternative Review Procedures for Metro Station Policy Areas (MSPAs)**

**Transportation:**

This Growth Policy should examine additional methods to incentivize development in our Metro station areas, where our transit investment and potential for non-auto commuting is greatest. Allocating development capacity to Metro Station Policy Areas (MSPAs) has been a part of the Growth Policy in Montgomery County for more than a decade. Over the years, the Planning Board has evaluated different ways to optimize the balance between the allocated development and adequacy of transportation capacity to accommodate that land use. Currently, the LATR/PAMR Guidelines allow development to be exempted from the LATR/PAMR requirements if applicants agree to pay additional impact taxes and commit through a binding Traffic Mitigation Agreement to reduce 50% of their vehicle trips. The Alternative Review Procedure has been in place for over eight years and has not yet been tested (only the LCOR North Bethesda Project has entered into an agreement). Our understanding is that the risk of non-performance in the Traffic Mitigation Agreement process creates a level of risk that reduces the attractiveness of this Alternative Review Procedure.

Other Alternative Review procedures could allow for development to occur without the test for adequacy of transportation facilities. The options listed below would create incentives to channel development into the MSPAs.

- **Waive the LATR / PAMR tests in MSPAs, alone or in combination with replacement adequacy definitions per concepts outlined in the following bullets**

This alternative would suggest that there is no mobility adequacy requirement for development in MSPAs. However, even if traffic congestion in the MSPAs is determined to be not a concern from a policy perspective, development within the MSPAs also increases traffic on major highways, arterials and primary residential streets connecting to the MSPAs.

- **Establish congested operating speed requirements for arterials serving MSPAs**

Arterials serving MSPAs could be provided with a set of adequacy standards such as requiring traffic to be maintained at 40% of the design speed or free flow speed of traffic on the roadways within a secondary boundary of the MSPAs. This would restrict development within MSPAs with possible improvement mitigation may be more feasible outside the core area.

- **Establish cordon line caps (vehicles or seats) and/or long-term parking space caps to limit in-commuting to MSPAs to a maximum amount supported by the adjacent network**

A cordon line limit of traffic volume for all major highways, arterials and primary residential streets at the boundary of the MSPAs must be maintained. As long as this limit is maintained, development can continue in the MSPAs. The limit could be set by allowing adjacent policy areas to “sink” to the lowest allowable levels of mobility.

A screen line limit of traffic volume will be established only at specific locations where the aim is to protect residential neighborhoods from increasing traffic as the consequence of increased traffic in the MSPAs.

Limit the number of parking spaces in the MSPAs to limit traffic increase in the MSPAs. Periodical Parking study is necessary to ensure that the demand does not exceed supply. For example, when the usage of parking supply reaches a limit, the development must stop or additional reduction in trips results in reduced demand for parking within the established limit.

- **Establish a multimodal cordon line analysis**

Combine the capacity of transit and highway systems to arrive at a “seats per hour” capacity ceiling for development within the MSPA. This will be accomplished by establishing a multi modal cordon line limit of transportation capacity around the MSPAs. For example, suppose the average traffic volume to capacity ratio of all roadways leaving an MSPA is 95%. A parallel measure of the volume to capacity ratio of all transit modes could be calculated by counting the ratio of occupied seats in each

transit mode to the total number of available seats. Suppose in the same MSPA, this ratio is 75%. The average transportation capacity of all modes in this area could be estimated to be 85% (the average of the two). With this policy, development can occur until the established limit of combined transportation capacity for the area is reached even if one of the two systems is operating above its congestion standard. Cordon line capacity could also then be increased by adding transit service.

- **Establish an implementation authority and funding structure**

Establish a transportation capacity ceiling for development within the MSPA, a defined set of end-state transportation improvements, and a staging and implementing mechanism to manage the funding, staging, and construction of the improvements. This is the approach proposed in the Public Hearing Draft of the White Flint Sector Plan. Staff does not propose expanding this method for any other MSPAs until the White Flint proposal has been vetted.

## **6. Expansion of MSPA Alternative Review Procedures to additional urban areas**

The entire North Bethesda Transportation Management District could be allowed to use Alternative Review Procedure (ARP) as a permitted procedure for APF testing. This area contains three MSPAs with permitted ARP testing for APF and the remaining area of North Bethesda surrounding these MSPAs could be permitted for use of ARP under the umbrella of the TMD to monitor traffic mitigation.

## **7. Proposed Revision to the Transportation and School Impact Tax**

### **Transportation:**

Transportation impact taxes could shift basis of calculation from vehicle trips to vehicle miles traveled (VMT). In addition, a greater degree of disaggregation of areas could be incorporated in the analysis to reflect trip-length ranges for transportation impact fees. For example, a single family detached home in Damascus would have a higher trip length on average than a single family detached home in Fairland based on VMT.

Separate transit infrastructure needs could be identified, and a higher proportion of the transportation impact tax could be appropriated for strategic locations.

### **Schools:**

School impact taxes could shift basis of calculation from dwelling unit type to square footage. In addition, the amount of the school facility payment and school impact tax could be recalculated based on updated school construction cost figures.

**Objective:** To explore the option of creating an exemption from certain requirements of the adequate public facilities ordinance (APFO) test for the Growth Policy in exchange for development that meets specific standards and criteria for Smart Growth.

**Scope of Work:** The current adequate public facilities ordinance focuses on transportation tests, school tests and impact taxes that are designed to ensure that necessary facilities are provided as development occurs. This approach limits the locations where development can occur and in doing so, potentially limits the ability to create the types of sustainable, well-designed and strategic development that is desired. This alternative will explore ways to promote sustainable development by creating exemptions from the APFO test and other requirements of the County Code.

The steps involved in this task include developing exemptions or other incentives to encourage good development, and determining the criteria that must be met for a project to be eligible.

Based on a review of best practices in the area of Smart Growth, great potential exists for development of an exemption process similar to California’s SB375 legislation. Under the realm of Growth Policy an exemption from an APFO finding (for transportation) should be based on design elements that improve transportation efficiency. Staff believes these elements should include the following prerequisites that lead to reduced auto travel:

- *Connectivity* – Projects located in areas with the highest transit service
- *Diversity* – Projects that provide a mix of residential and commercial uses as well as a mix of housing types
- *Design* – Projects built with compact design taking advantage of the maximum zoning density

LEED ND and LEED for New Construction and Major Renovation are well-known certification programs designed to encourage Smart Growth. Planning staff is reviewing and assessing both of these LEED programs to determine their applicability to subdivision plans.

As staff evaluates the applicability of LEED for use in the subdivision process, other growth management initiatives may be required such as changes to other regulatory processes, zoning, or other code conditions. For use in future Growth Policies, staff will continue researching and developing potential incorporation of LEED principles such as those contained in LEED ND and LEED for New Construction and Major Renovation into the subdivision approval process.

Some of the options for incentives and exemptions that staff will be exploring over the next couple of months include:

- Opportunities for increased density
  - Modified standards for lot size, setbacks, building coverage
  - Greater FAR or du/acre
- Opportunities for public participation/subsidies
- Tax breaks
- Reduced fees (all types)
  - Project/Subdivision/Site Plan
  - Zoning
  - Building permits
  - Inspection
  - Infrastructure review (roads, water/sewer, utilities)
- Eliminate/reduce LATR/PAMR requirements
  - Permit lower required LOS at tested intersections
  - Permit increased CLV thresholds
- Expedited Plan Review
- Reduce/modify regulatory requirements
  - Waive road right-of-way, cross-section and access requirements that inhibit desirable project design
  - Expand parking lot districts or otherwise find additional ways to lower parking requirements
  - Permit stream buffer encroachment or elimination
  - Wetland preservation (follow MDE requirements but no more stringent)
  - Eliminate minimum onsite forest requirements in optional method zones and look at other places where our ordinance is more stringent than the state law

With regard to the eligibility criteria, some examples of the elements that will be explored include:

- Location in relation to existing/future development and infrastructure
  - Within ½ mile of transit stop
  - Has public water and sewer and underground (or will underground) utilities
- Mix of uses
  - Minimum 50% residential
  - Minimum 25% commercial/retail
- Site Design
  - Minimum 40% public use space requirement (either onsite or offsite)
  - Removes non-significant existing features and buildings that stand in the way of desired sustainable design
- Transit accessibility
  - Within ½ mile of transit stop

- Pedestrian oriented
  - Pedestrian accessibility
  - No surface parking
  - Building location and design
  - Mixed uses
- Re-use of existing buildings, especially historic
  - Maintain 95% of existing walls, floors and roof
  - Divert 50% of construction waste from disposal
- Green building features
  - Minimum LEED Silver
  - Must exceed minimum standards for all LEED criteria

Growth Policy Study: Appendix O – Carbon Offsets at the Local Level

Lead Staff: Mark Pfefferle

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**Objective:** To explore the possibility of using carbon trades or offsets to equate to vehicle miles traveled, or vehicle trips generated.

**Scope of Work:** Planning staff is working with George Washington University students in a Capstone Project to analyze potential carbon offsets at the local level. The students will conduct the initial research by assessing various policy instruments (taxes, regulations, trading and offsets) and then explain how carbon offsets could work in Montgomery County. The results of the Capstone Project will be presented to the Planning Board on May 7, 2009.

Upon completion of the Capstone Project staff will need to determine carbon reductions related to various building elements including green roofs, solar and wind power, geothermal energy, and other energy efficiency measures. Once the reductions are determined, a carbon equivalency can be established.

We expect the research to yield a need for further study to apply the emerging theories of carbon offsets to the development review arena. For use in future Growth Policies, staff may recommend continued research to pursue a carbon offset system.