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

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Summary:

- Changes to the APF tests for transportation adequacy should include a revision to PAMR Arterial LOS standards, described as symmetrical level of service, to reflect the most efficient use of roadway capacity in areas with the highest level of transit service.
- Lower residential trip generation rates should be used in traffic studies for Metro Station Policy Areas that do not already have
- Transportation mitigation proposals should be based on a common value of $11,000 per peak hour vehicle trip to be mitigated.
- Special procedures in White Flint should replace PAMR and LATR with taxes/assessments.
- Changes to the APF test for schools should adjust the threshold for school facilities payments.
- In certain cases, residential applications should be grandfathered when a school cluster enters moratorium after the Planning Department accepts an application as complete.

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.

Staff evaluated several 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 were analyzed with respect to changing the transportation impact tax calculation based on trips to one based on VMT.

Staff believes that the LATR and PAMR processes can be improved through several policy-related changes that could 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.

Section 1 of this appendix describes the proposed changes to the definitions of adequacy for both transportation and schools. Section 2 describes several additional analyses performed to consider various parameters involved in the evaluation of impacts and mitigation for both transportation and schools.

1. DEFINITION OF ADEQUACY

Transportation:

Policy Area Mobility Review establishes criteria for Relative Transit Mobility and Relative Arterial Mobility that are based on Level of Service (LOS) criteria published by the Transportation Research Board in the *Highway Capacity Manual* (2000) and the *Transportation Capacity and Quality of Service Manual* (2003). The details of the PAMR process are contained in the Planning Board's LATR/PAMR Guidelines.

As PAMR was developed in the 2007, both staff and the Planning Board recommended in 2007 that the relationship between Transit LOS and Arterial LOS in the PAMR process be "symmetrical" as shown in Table 1.

Table 1. PAMR "Symmetrical" LOS Standards

If Transit LOS is	Then Arterial LOS Must Be
F	A
E	B
D	C
C	D
B	E
A	F

Staff retains the position stated in 2007 that the application of symmetrical LOS supports the argument that the provision of multimodal transportation service is applied equitably throughout the County. Of course, the County Council has the prerogative to establish adequacy thresholds, and jurisdictions nationwide use alternative LOS criteria, including both LOS E (as the Council established as the minimum acceptable PAMR Transit LOS) and LOS D (as the Council established as the minimum acceptable PAMR Arterial LOS).

From a more practical perspective, staff recognizes that on an areawide basis, it is extremely unlikely that any policy area will experience LOS A or LOS F conditions for either Arterial LOS or Transit LOS. The pragmatic question is therefore whether or not LOS E arterial conditions

should be appropriate for areas with LOS B transit service. Staff finds that LOS E conditions are appropriate for two reasons.

First, from a technical perspective, **LOS E is the condition at which the throughput of a roadway facility is maximized**. This is somewhat counterintuitive simply due to the fact that the LOS grading system is oriented toward the customer. For the customer, LOS A represents the least delay, and therefore the best level of service. Provision of LOS A service to all customers, however, is not practical from either fiscal or community-building perspectives. Most jurisdictions across the country require conditions ranging from LOS C to LOS E.

Second, from a community-building perspective, the establishment of more stringent LOS requirements in urban areas can create pressures to widen roadways to provide auto capacity, an action which not only uses valuable property but also tends to reduce pedestrian comfort and accessibility. In the White Flint Sector Plan, staff has recommended that the end-state conditions, which would result in Transit LOS B and Arterial LOS E conditions, should reflect an appropriate balance between land use and transportation.

Adopting symmetrical LOS standards would reduce the amount of anticipated PAMR mitigation by removing five policy areas (Bethesda/Chevy Chase, Derwood, Kensington/Wheaton, Olney, and Silver Spring/Takoma Park) from the "partial mitigation" category and reducing the percent mitigation requirements in three others (Aspen Hill, Rockville City, and North Bethesda).

Figure 1 shows the current PAMR "chart" identifying Policy Areas requiring both full mitigation and partial mitigation and Figure 2 shows the same chart with the "Symmetrical LOS" standards.

Both Figures 1 and 2 show the forecasted conditions for each policy area under the FY 10 conditions approved by the Planning Board in May 2009. In other words, the policy area "dots" on the chart are the same in both Figures 1 and 2, but the lines representing the boundaries between "acceptable", "acceptable with partial mitigation", and "acceptable with full mitigation" are different.

Figures 3 and 4 provide a graphic comparison of the approved FY 10 mitigation requirements by policy area and those that would apply under the staff proposal for symmetrical LOS standards.

Figure 1. Current PAMR Chart for FY 10

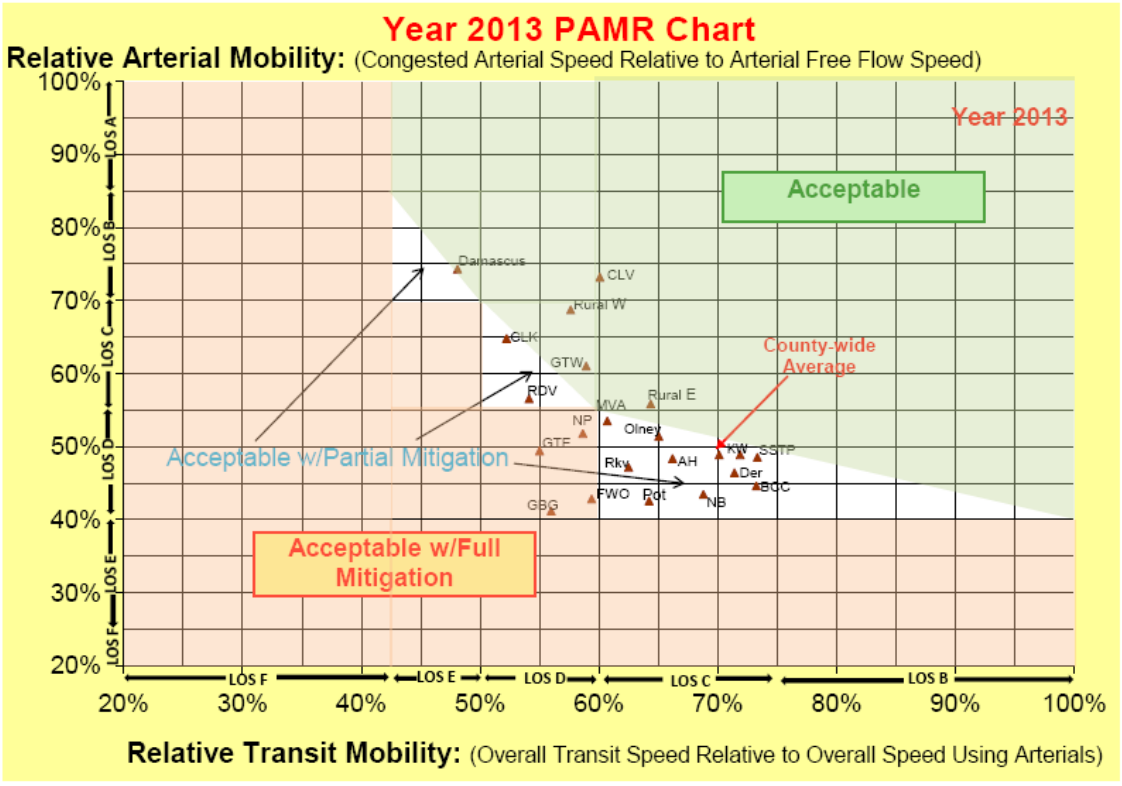


Figure 2. PAMR Chart for FY 10 with Proposed "Symmetrical LOS"

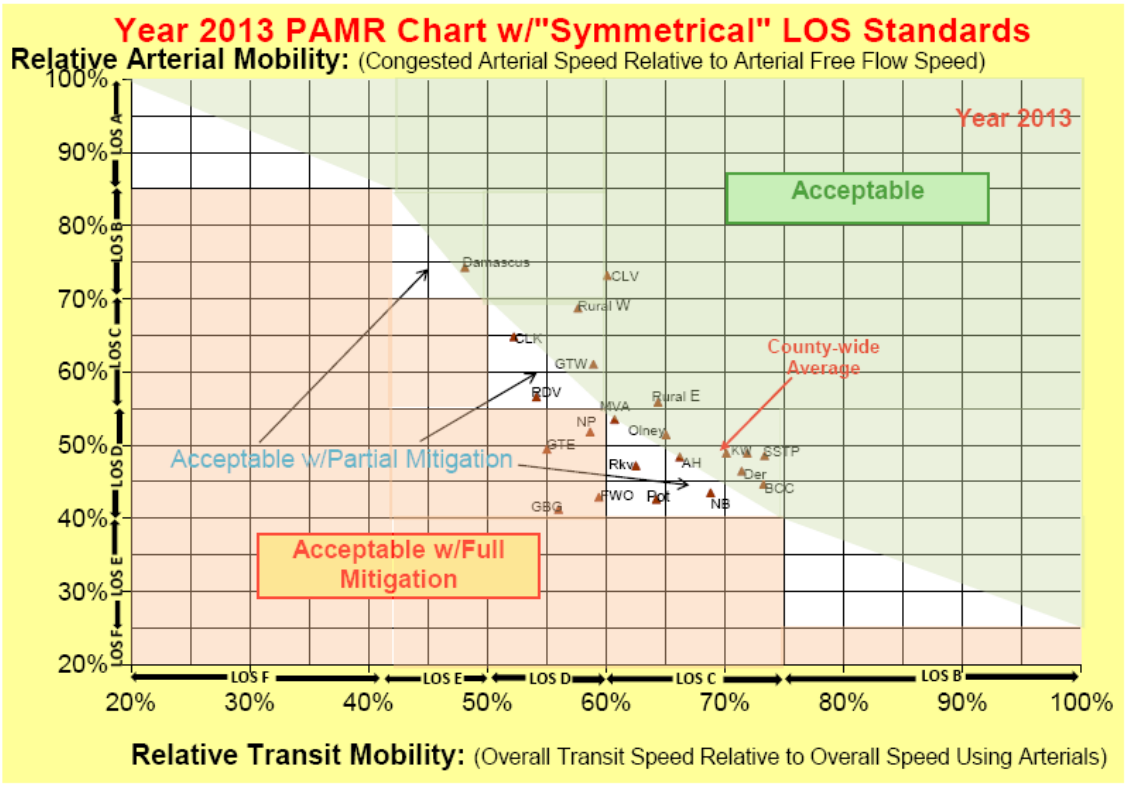


Figure 3. Current PAMR Mitigation Requirements for FY 10

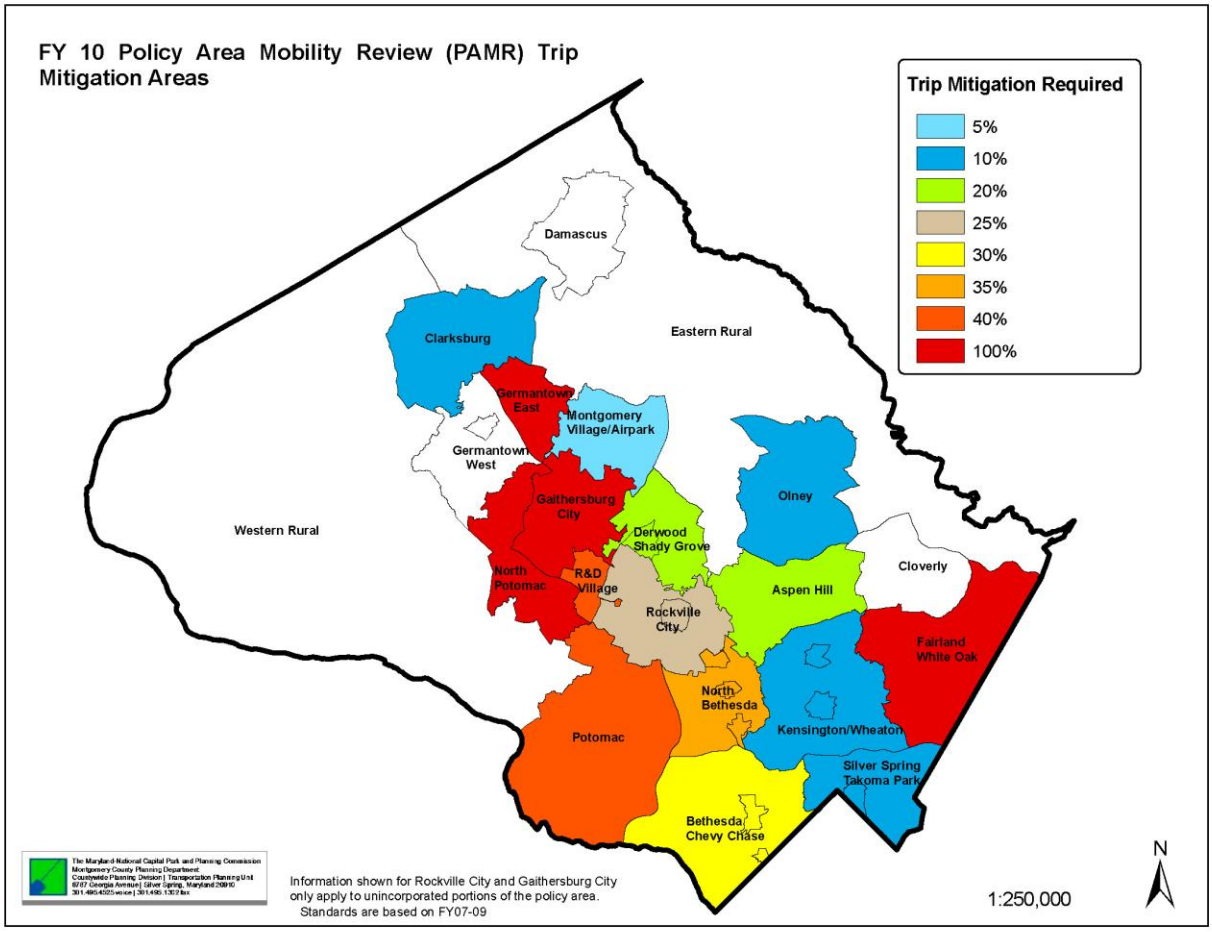
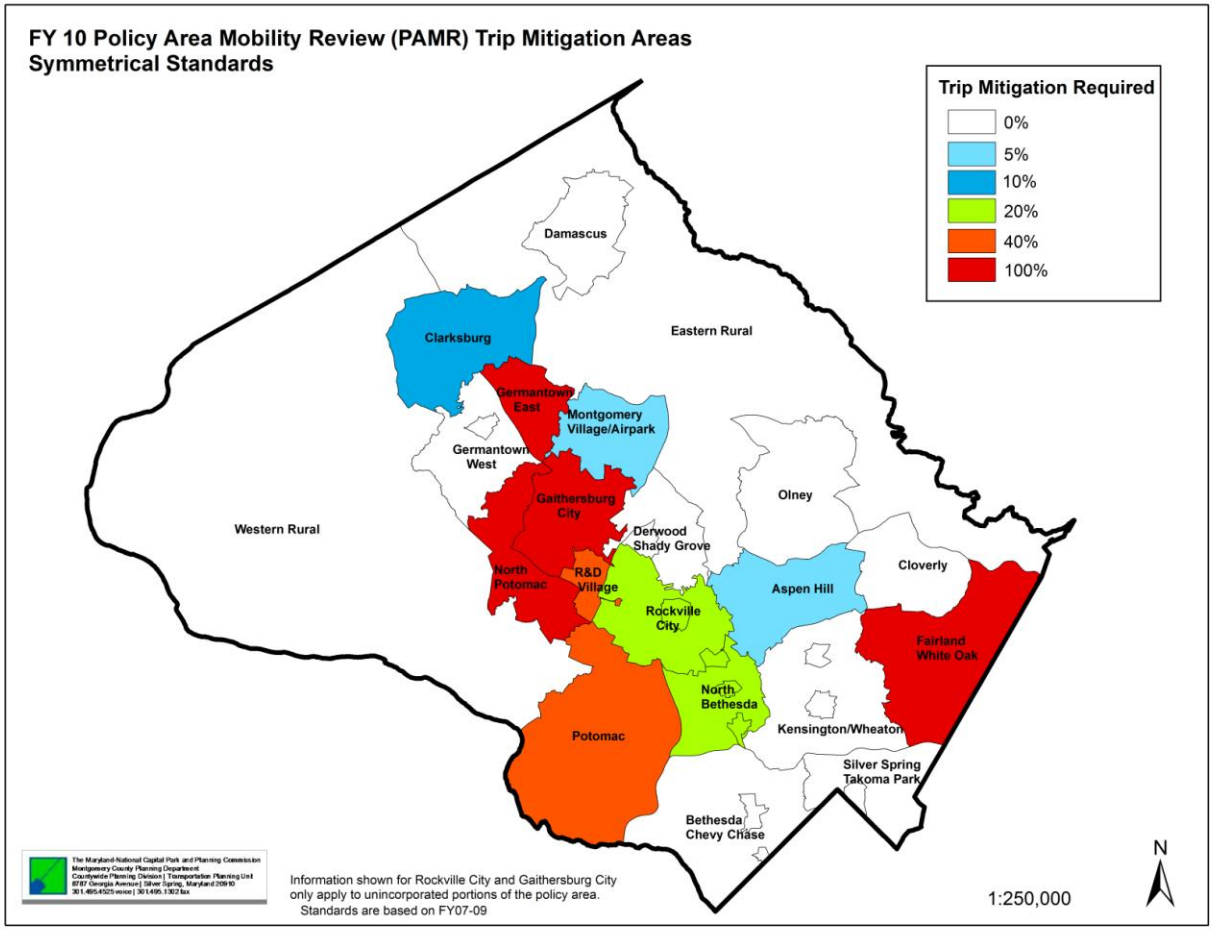


Figure 4. PAMR Mitigation Requirements for FY 10 with Proposed "Symmetrical LOS"



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 as described in Appendix H. These changes would revise LATR congestion standards at intersections within the expanded boundaries.

Schools:

The 2007-2009 Growth Policy established the definition of capacity as the MCPS program capacity in a high school cluster at each level: elementary, middle, and high. The practice of 'borrowing' excess capacity from adjacent clusters at the high school level was eliminated. Borrowing at the middle and elementary school levels was eliminated in the 2003-2005 Growth Policy. In addition, currently, a cluster goes into a residential moratorium if its enrollment 5 years from now would exceed 120 percent of cluster-wide program capacity at any level. For

FY2010, residential development in the B-CC, Clarksburg and Seneca Valley clusters will be in moratorium.

A residential subdivision is required to make a School Facilities Payment if its enrollment 5 years from now would exceed 105 percent of cluster-wide program capacity at any level but would be less than 120 percent. In FY2010, residential development in 9 clusters will require a School Facilities Payment to proceed: Walter Johnson, Richard Montgomery, Northwest, Northwood, Paint Branch, Quince Orchard, Rockville, Wheaton and Whitman.

Staff recommended that the test for the adequacy of public school facilities be revised so that the threshold that triggers a School Facilities Payment is 110 percent of MCPS program capacity. Given periodic shifts in enrollment trends within clusters, either through new development, changes in neighborhood demographics or changes in the birthrate, it is fairly common to have utilization rates between 5 and 10 percent over or under capacity. Facility planning occurs in response to individual school capacity; the level at which an individual school requires additional infrastructure is an approximately 6 classroom deficit. For the average high school (1,600 student capacity) this would be equivalent to approximately 150 students over capacity; a utilization rate of 109.4 percent. At 110 percent, the School Facility Payment threshold more closely relates to facility programming in the CIP. The Planning Board recommends that the test for the adequacy of public school facilities be revised so that the threshold that triggers a School Facilities Payment is 110 percent of MCPS program capacity.

Staff did not recommend any changes to School Facility Payment rate. For FY2010, the costs per unit type are shown in Table 2:

Table 2. School Facility Payment Rates for FY 2010

Cost per unit by housing type	Elementary	Middle	High
Single-family detached	$6,245	$3,659	$3,734
Single-family attached	$4,118	$3,100	$3,050
Multi-family garden apt.	$2,986	$1,423	$2,081
High-rise; low-rise w/structured parking	$820	$991	$941

During the 2007-2009 Growth Policy, the move from “growth policy” capacity to “program “ capacity tightened the APF for schools. In recognition of this the Planning Board and the School Board recommended increasing the threshold at which a school facility payment is required as well as increasing the threshold for moratorium. The recommendation was to equate the capacity level at which a school facility payment would be required or a moratorium triggered under the prior (growth policy) capacity level to an equivalent threshold at the new (program) capacity level. Thus, the recommendation for the school facility payment threshold moved

from 100 percent of "growth policy capacity" to 110 percent of "program capacity" and the moratorium threshold increased from 110 percent of "growth policy capacity" to 135 percent of "program capacity".

The County Council supported the switch from "Growth Policy" capacity to "program capacity" but did not agree with the school facility payment threshold or the threshold for moratorium. The Council's concern with the moratorium threshold was that at its equivalent level under "Growth Policy" capacity, the test was rarely failed. After committee and Council debate, the eventual compromise landed the threshold at 120 percent. The Board does not have any a priori reason to recommend a change in the threshold for moratorium at this time, but recognizes that the choice of such a parameter is as much "art" as "science".

Until recently, the threshold for imposition of a moratorium had rarely been exceeded, but when it was, new school facilities were promptly programmed. This suggests that there is some utility to retaining a standard that serves an "alarm" function when enrollment and capacity are out of balance. If this trigger is set relatively low, 120 percent compared to 135 percent then one could argue that programming for capacity deficits may occur sooner.

The Planning Board does not recommend changing the De Minimis, senior housing or enterprise zone exemptions. Currently, subdivisions of three units or fewer are exempt from the school adequacy test, as is senior housing. The School Facilities Payment is waived in an enterprise zone (Wheaton CBD and Long Branch) or an area that was formerly an enterprise zone (Silver Spring CBD). Staff does not recommend changing these parameters.

2. OTHER PARAMETERS

The remaining portions of Appendix M describe seven additional parameters that staff examined, including:

- The definition of De-Minimis Thresholds
- Adjustments to acceptable peak hour trip generation rates (which the Planning Board supported in part)
- The value of trip mitigation actions to establish an $11,000 per peak hour vehicle trip standard (which the Planning Board supported)
- The development of several Alternative Review Procedures (in addition to the Smart Growth Criteria) that would encourage development in urban areas
- Expanding Alternative Review Procedures from Metro Station Policy Areas to all road code urban areas
- Changing impact tax rates
- Grandfathering of school moratoria status for certain applications (which the Planning Board supported).

1. 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 proposes at this time that no change be made to the De-Minimis PAMR threshold, as:

- The Planning Board's 2008 approach to accept payment-in-lieu for applications generating less than 30 peak hour trips improves predictability and efficiency for smaller applications
- Staff proposes to expand the Alternative Review Procedure options to mitigate PAMR requirements, including those described elsewhere in Appendix M and in the smart growth criteria in Appendix N.

Schools

The 2007 Growth Policy established a De Minimis threshold of greater than three units to apply the cluster capacity test.

Staff does not recommend changing the De Minimis provision at this time.

2. Adjustments to Acceptable Peak Hour Vehicle Trip Rates

Staff recommended the development of a new peak hour vehicle trip generation rate for residential developments in urban areas as defined by Section 49 of the County Code. These urban areas are locations in the County where street and highway designs are particularly tailored to a pedestrian environment, including wider sidewalks and slower targeted travel speeds. This environment must be created in part by the promotion of urban land uses, development designs, and pedestrian activity levels. Each of the urban areas already has a base of commercial development that provides some basic services and a level of transit service higher than the surrounding suburban development. These urban areas are also locations where appropriately scaled transportation improvements should be based on best available estimates of forecast traffic demand to avoid implementing more capacity for auto travel than will be needed as development comes online.

The LATR/PAMR Guidelines contain vehicle trip generation rates appropriate for developments in Montgomery County. The LATR/PAMR trip generation rates were developed based on data collection efforts conducted for developments countywide, primarily during the 1980s. Separate trip generation rates were developed for the Silver Spring, Bethesda, and Friendship Heights CBDs as sector plans for those areas were adopted in the 1990s. A discounting factor is available for offices near Metrorail stations to reflect the higher transit mode share at those locations.

The LATR/PAMR Guidelines contain county-specific trip generation rates for 12 land uses:

- General office
- General retail
- Fast food restaurants
- Single-family detached residential
- Townhouses
- Garden and mid-rise apartments
- High rise apartments
- Private schools
- Automobile filling stations
- Independent and assisted living facilities
- Mini-warehouse
- Child day-care center

For other land uses, applicants are directed to data in the report *Trip Generation*, published by the Institute of Transportation Engineers (the 8th edition was published in fall 2008). The ITE *Trip Generation* rates are based on data collected in studies nationwide, and reflect a wide range of socioeconomic environments. The separate rates in the LATR/PAMR Guidelines reflect the fact that conditions in Montgomery County are different from conditions in many areas of the country, particularly considering that Montgomery County's household income, education, and available transit services are above nationwide averages. 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 that reflect the type of use and environmental conditions that are comparable to the proposed development.

During the last two years, there has been interest in developing special trip generation rates that could be applied to other areas such as White Flint or Wheaton. In particular, the dynamics of internal trip capture for mixed-use developments creates potential for reducing vehicle-miles of travel in a suburban activity center. The LATR/PAMR Guidelines support the use of internal capture methodology in the ITE *Trip Generation: A Recommended Practice*, in which the synergy between office, retail, and residential development in a development is reflected by subtracting vehicle trips based on the relative amounts of each type of

development. This methodology is based in large part on research conducted as part of NCHRP Report 323, *Travel Characteristics at Large-Scale Suburban Activity Centers*, completed in 1989.

Substantial literature suggests that a diversity of uses is a trip-reducing variable with a stronger relationship for reducing trip generation than is reflected in current NCHRP or ITE documents, but that further study would be needed to develop a significant relationship appropriate for development review purposes.

This need for more comprehensive and current information on mixed use development is the basis for NCHRP Study 08-51, Enhancing Internal Trip Capture Estimation for Mixed-Use Developments. This study will present a classification system for mixed-use developments to enhance the internal capture estimation process and is scheduled to be completed during the summer of 2009.

Staff evaluated available data resources on trip generation rates and recommended:

- Establishing a new **LATR/PAMR Guidelines peak hour trip generation rate for all residential development in the County's urban areas that is 18% lower than that for countywide rates**, based on information obtained by the Metropolitan Washington Council Governments (MWCOG) 2008 Household Travel Survey and supported by guidance documents for the use of California Environmental Quality Act environmental assessments.

- Conducting **further study for the 2011-2013 Growth Policy on additional changes to trip generation rates for commercial and mixed-use development**, including
    - review and incorporation of NCHRP Project 08-51 findings,
    - collection of selected local trip generation data based on gaps anticipated in NCHRP Project 08-51, particularly relating to differences between community-serving retail and regional destination retail uses.

The Planning Board supports the application of lower residential trip generation rates in the Metro Station Policy Areas that do not already have specific trip generation rates (the Silver Spring, Bethesda, and Friendship Heights CBDs). The Planning Board does not recommend extending the lower rates to all urban areas in the County, recognizing that the averages identified in the MWCOG survey probably do not apply to the northernmost areas of Montgomery County such as Olney or Damascus. The Planning Board would incorporate this change in the next version of the *LATR and PAMR Guidelines*; Council action is not required to effect this technical adjustment.

<u>Comparison of Local Trip Generation Guidelines with TCRP Report 128</u>

Staff also reviewed Transit Cooperative Research Project (TRCP) Report 128, *Effects of TOD on Housing, Parking, and Travel*. This research report, released by the Transportation Research

Board in fall 2008, contains data collected at 17 transit-oriented developments nationwide, including two sites in Montgomery County (the Avalon at Grovesnor Station and the Lenox Apartments in the Silver Spring CBD), and derives certain trip generation relationships that are similar to those already incorporated in our LATR/PAMR Guidelines.

Staff concurs with the basic findings of TCRP Report 128:

- Vehicle trip generation rates for transit-oriented development are substantially lower than those in the ITE *Trip Generation*
- A positive relationship should be expected between lowered trip generation rates and each of the following independent variables: accessibility to high-quality transit, restricted on-site parking, and proximity to the regional center.
- A reduction in parking requirements for TOD can improve development efficiency by reallocating scarce resources (both in terms of physical space and construction/maintenance costs) from parking to either additional smart growth development or other on-site amenities.

Staff has drawn three additional conclusions that are not included in TCRP Report 128:

- For the most urban densities, the LATR/PAMR Guidelines already have trip generation rates substantially lower than the ITE *Trip Generation* rates, and our current rates remain appropriate.
- For TOD in more suburban locations, the LATR/PAMR Guidelines rates are lower than ITE rates, but slightly higher than the average rates found in TCRP 128.
- TCRP Report 128 concludes that the lower vehicle trip generation rates for TOD should result in a lowering of traffic-related impact fees or exactions. Staff finds that because TOD generate a higher amount of transit ridership, the prudent course of action may be not to lower transportation fees, but rather to **shift both the fee assessment basis and the application of fee and exaction revenue for TOD toward transit service improvements**, particularly in considering funding for capital expansion projects such as the Corridor Cities Transitway and BRT improvements that are planned along Veirs Mill Road and Georgia Avenue and being studied on other corridors throughout the county.

For comparison purposes, consider the relationship between the two sites observed in Montgomery County.

Table 3. Montgomery County Sites in TCRP Report 128

	Avalon (Grosvenor)	Lenox Apartments (Silver Spring CBD)	Average of TCRP Report Sites
Number of units	497	406	288 (median)
Height (floors)	4	16	4 (median)
Distance to rail transit	1,000’	400’	920’ (median)
AM Peak Hour Trip Generation Rate (vehicle trips per unit)			
TCRP Report Observed	0.44	0.18	0.28
ITE Trip Generation Rate	0.55	0.55	0.54
LATR/PAMR Trip Generation Rate	0.41	0.30	0.36
PM Peak Hour Trip Generation Rate (vehicle trips per unit)			
TCRP Report Observed	0.37	0.22	0.39
ITE Trip Generation Rate	0.67	0.67	0.66
LATR/PAMR Trip Generation Rate	0.47	0.30	0.39

Table 3 indicates that the LATR Trip Generation Rates are appropriate for high rise residential units (which are almost by definition located in areas well served by transit) and the Bethesda, Silver Spring, and Friendship Heights CBDs. The average results from the two sites in Montgomery County have exactly the same observed peak hour trip generation rate (0.39 for the PM peak period) as the LATR/PAMR Guidelines would yield. The Lenox Apartments have a lower observed trip generation rate than the LATR/PAMR Guidelines would yield, but are located only 420’ from the Silver Spring Metrorail station and have only one on-site parking space per unit, both characteristics that would be expected to lower trip generation rates even below the average TOD trip generation rate.

The LATR/PAMR Guidelines PM peak period trip generation rate outside of Bethesda, Silver Spring, or Friendship Heights are 0.48 trips per unit for apartments and 0.83 trips per unit for townhouse developments, higher than the TCRP Report averages but lower than the ITE *Trip Generation* rates.

TCRP 128 contains suggested adjustments to ITE trip generation rates for TOD that would appear to be promising in reflecting independent variables such as the walking distance to transit and the number of parking spaces per unit. Unfortunately, the regression formulae developed have very limited application to Montgomery County development. The most promising trendline linked trip rates to density and walking distance to transit, but would result in a negative trip generation rate for communities with a density of more than 25 units per acre (such as Bethesda and Silver Spring). The conclusions regarding walking distance to transit, parking ratios, and distance to the regional core appear somewhat supported by anecdotal

evidence, although none of the regression analyses cited have an R-squared value of more than 0.21 for both AM and PM peak hours. Staff therefore does not recommend directly adopting any of the trip generation rates for wholesale use in development review.

Review of URBEMIS Application

URBEMIS (short for Urban Emissions) is an air quality application tool developed in 2005 by the California Air Resources Board for use in the evaluation of California Environmental Quality Act (CEQA) environmental analysis of land use projects. The tool allows users to adjust ITE trip generation rates to reflect the effect of local environmental variables such as density, diversity, and design elements as well as other travel demand mitigation proposals. The URBEMIS model itself is very complex, applying hundreds of input variables (including development construction phases in addition to end-state conditions) calibrated for use in California jurisdictions.

The URBEMIS model does provide insight as to the state-of-the-practice for CEQA applications. Figure 5 shows a summary of trip reduction potential credits for different physical and operating measures excerpted from an URBEMIS user's guidebook, "Crediting Low Traffic Developments", published by Nelson-Nygaard Consultants in 2005.

Figure 5. Summary of URBEMIS Trip Reduction Potential

	Residential (1)	Non-Residential
Physical Measures		
Net Residential Density	Up to 55%	N/A
Mix of Uses	Up to 9%	Up to 9%
Local-Serving Retail	2%	2%
Transit Service	Up to 15%	Up to 15%
Pedestrian/Bicycle Friendliness	Up to 9%	Up to 9%
Physical Measures subtotal	*Up to 90%*	*Up to 35%*
Demand Management and Similar Measures		
Affordable Housing	Up to 4%	N/A
Parking Supply (2)	N/A	No limit
Parking Pricing/Cash Out	N/A	Up to 25%
Free Transit Passes	25% * reduction for transit service	25% * reduction for transit service
Telecommuting (3)	N/A	No limit
Other TDM Programs	N/A	Up to 2%, plus 10% of the credit for transit and ped/bike friendliness
Demand Management subtotal (4)	*Up to 7.75%*	*Up to 31.65%*

Notes:
(1) For residential uses, the percentage reductions shown apply to the ITE average trip generation rate for single-family detached housing. For other residential land use types, some level of these mitigation measures is implicit in ITE average trip generation rates, and the percentage reduction will be lower.
(2) Only if greater than sum of other trip reduction measures.
(3) Not additive with other trip reduction measures.
(4) Excluding credits for parking supply and telecommuting, which have no limit.

The LATR/PAMR Guidelines rates already account for the residential density credits (as noted in the footnote, the 55% percentage reduction is taken from a single-family detached housing rate). Figure 5 does indicate the potential for trip generation reductions for mix of uses (up to 9%), local serving retail (2%) and pedestrian/bicycle friendliness (up to 9%), elements that are not explicit in the LATR/PAMR Guidelines rates. This information supports the staff recommendation that standard trip generation rates in the County's urban areas be reduced by 18% from the general Countywide rates.

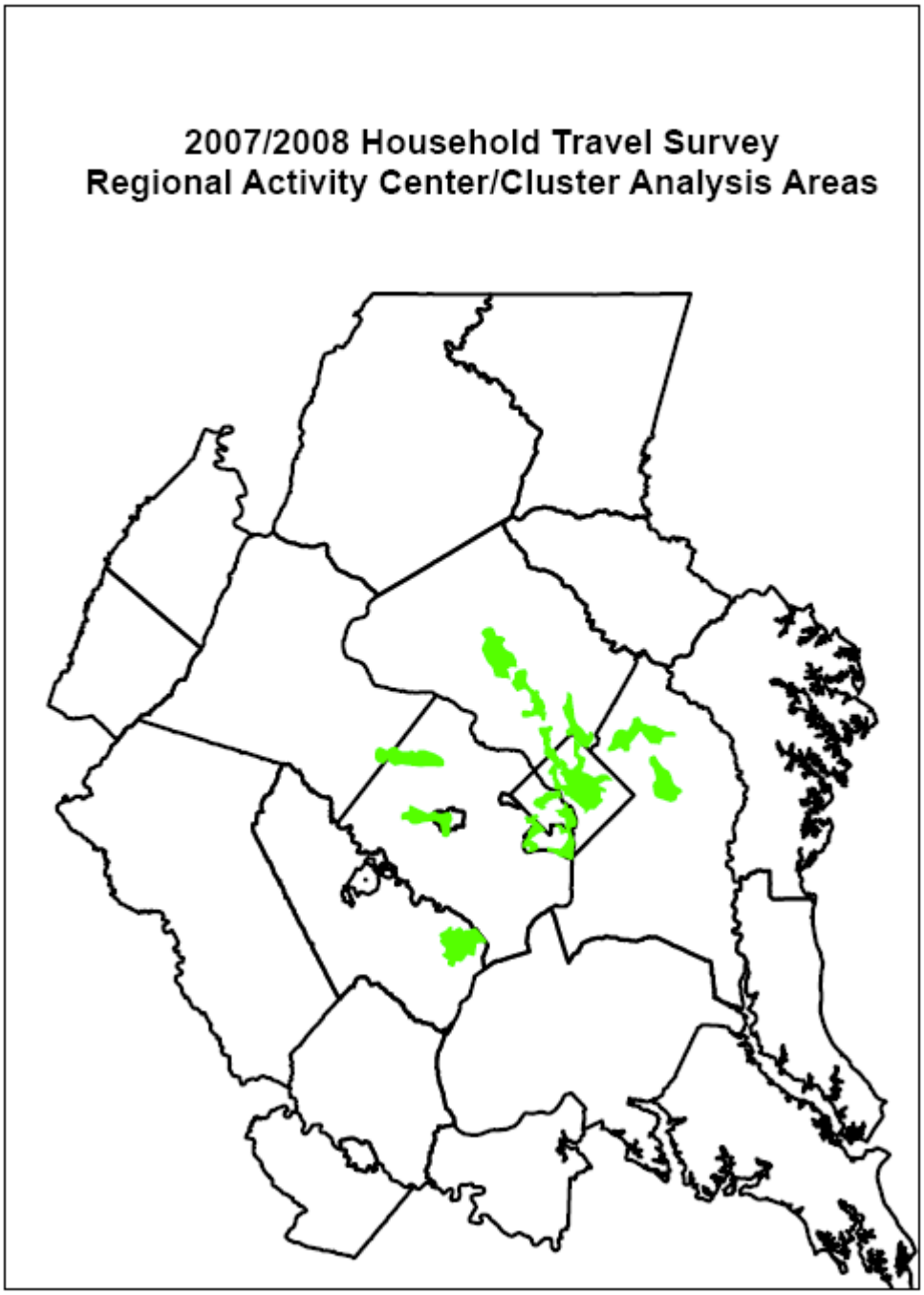
MWCOG Household Travel Survey

The Metropolitan Washington Council of Governments (MWCOG) conducted a survey of 11,000 households between February 2007 and March 2008 to identify areawide travel patterns. Preliminary reports from the survey effort are being released during spring and summer 2009. One of the initial results is the report on daily vehicle trip generation and VMT comparisons between residents in the region's Regional Activity Centers and Clusters compared to those who reside outside of the activity center areas.

Figure 6 shows the areas in the MWCOG region identified as Regional Activity Centers and Clusters. In Montgomery County, these areas include:

- Most of the Silver Spring/Takoma Park policy area west of Sligo Creek
- The Georgia Avenue corridor from Forest Glen to Glenmont
- The MD 355 corridor from Friendship Heights through Rockville Town Center, including Rock Spring Park
- Much of the City of Gaithersburg and the Life Sciences Center
- Most of the Germantown Sector Plan area and the Clarksburg Town Center.

Figure 6. MWCOG Regional Activity Centers and Clusters



Residents in Regional Activity Centers and Clusters are found to generate:

- About 18% fewer auto trips (4.6 per day as compared to 5.6 per day), and
- About 33% less VMT (19.6 per day as compared to 29.3 per day).

A substantial portion of this difference in trip-making is due to demographic differences. Residents in Regional Activity Centers and Clusters typically have:

- Fewer persons per household (24% of center/cluster households have three or more residents compared to 45% of households outside these areas)
- Fewer workers per household (37% of center/cluster households have two or more workers compared to 51% of households outside these areas)
- Fewer autos per household (18% of center/cluster households do not own a vehicle, compared to 3% of households outside these areas)

Information to normalize the trip generation and VMT findings to account for variables such as household size are not yet available. Some of the differences in the survey results could be due to the fact that multifamily dwelling units, with lower trip generation rates, are slightly over-represented in the activity centers. Nonetheless, staff recommends that the MWCOG household survey information, combined with the URBEMIS information, support the reduction of expected residential trip generation rates in the County's urban areas.

3. Value of Trip Mitigation Actions

Transportation:

The current PAMR requirements, building upon the previously adopted LATR Guidelines, have resulted in a variety of mitigation techniques. The LATR/PAMR Guidelines are designed to encourage flexibility in mitigation approaches so that they can be tailored to the needs of each applicant. Ironically, the same flexibility that allows applicants to propose creative approaches to their mitigation is sometimes a burden in gaining regulatory review agency approval of the same creative approaches.

The $11,000 value per vehicle trip value is based on a summer 2008 review of a range of capital project costs and benefits as well as sample payment-in-lieu-of-construction practices in other jurisdictions, summarized in Figure 7. This report (part of Growth Policy study "F4") was discussed with the Planning Board on July 21, 2008 and is available at:

http://www.montgomeryplanningboard.org/agenda/2008/documents/20080721_growth_studies_all.pdf

In October 2008, the Planning Board revised the LATR/PAMR Guidelines to allow applicants to directly pursue payment to the County of an $11,000 per vehicle trip mitigation fee for applications requiring mitigation of fewer than 30 peak hour vehicle trips. This was a response in part to cases such as the Wheaton Hills building permit (#470270) in which staff estimated approximately 55 hours in coordination was spent to implement two handicap ramps, an estimated total value of about $1,500 of mitigation. The staff report for that Planning Board action is available at:
http://www.montgomeryplanningboard.org/agenda/2008/documents/20081002_pamr_mitigation_print.pdf

The current LATR and PAMR Guidelines indicate that the $11,000 value should escalate automatically for any fiscal year during which a new value is not established. Given the current economic climate, staff recommends retaining the $11,000 value established by the Planning Board unchanged for both FY 10 and FY 11.

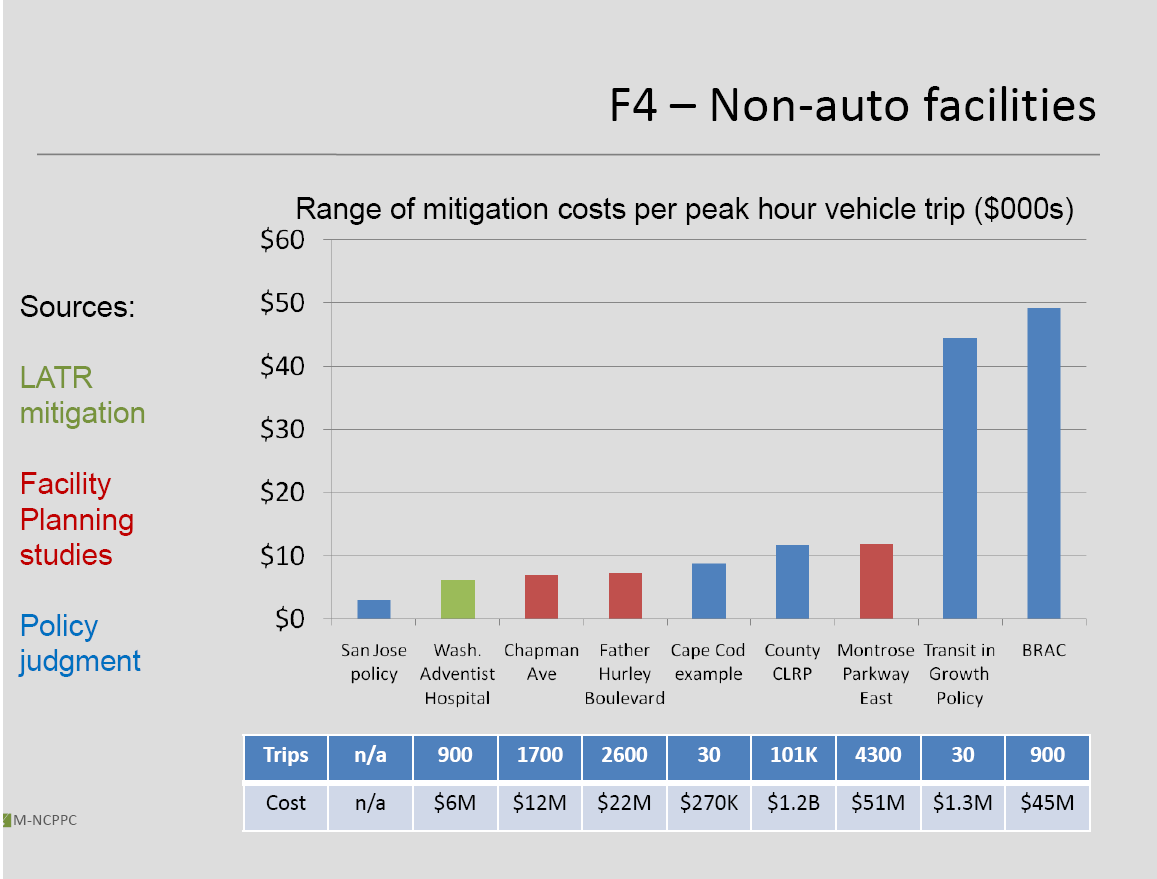


Figure 7. Cost of Non-auto facilities

The County Executive is not supportive of this approach to proceed directly to payment-in-lieu at any level of mitigation. The fact that handicap ramps are overvalued in the current LATR/PAMR Guidelines is the latest manifestation of the "whimsical bus bench" critique the Planning Board heard in Growth Policy testimony during 2007.

However, other PAMR mitigation cases have resulted in substantial success, including two cases heard by the Planning Board in June 2009:

- The Montgomery General Hospital special exception case (CBA-2521-J) needed to mitigate 45 trips. To mitigate these trips, the applicant will build a transit center at an estimated cost of $959,526; or about $21,000 per trip.
- The Wendy's Colesville preliminary plan amendment case (12002056A) needed to mitigate 20 trips. To mitigate these trips, the applicant will fully construct a portion of Vital Way, a master plan business street, at an estimated cost of $200,000; or about $10,000 per trip.

Also in June 2009, the Planning Board approved the Fishers Place at Twinbrook Metro preliminary plan (11999043C) amendment. The applicant needed to mitigate 128 LATR trips and proposed a means to satisfy the requirements by installing transit kiosks and other non-auto amenities per the LATR/PAMR Guidelines that would have a value of $261,000, or about $2,050 per trip. Instead, the Planning Board conditioned the contribution of $261,000 toward our CIP Project No. 048703, the Rock Creek Trail Pedestrian Bridge over Veirs Mill Road.

In the 4500 East-West Highway case (120080360), the applicant worked with WMATA to install additional real-time transit information signs in the Metrorail system to mitigate 80 vehicle trips. Given the differences between the transit information signs used by WMATA for Metrorail and those associated with a DOT bus shelter, the WMATA cost is expected to work out to less than $1,000 per vehicle trip, demonstrating that the Table 5 per-trip equivalencies are subject to a wide range of interpretation.

The following cases also applied the $11,000 per trip payment:

- Wildwood Manor (11989271A); mitigation of 30 trips
- Woodmont Central (120090140); mitigation of 29 trips
- Pike Center (820090020); mitigation of 7 trips
- The Monty (120090060); mitigation of 2 trips

In addition to these cases, the following non-auto facilities have been required in Planning Board approvals since January 1, 2007:

- The Galaxy (12005089A, 82006013A); 3 super bus shelters, 2 real-time transit information signs, 16 bike lockers, 2 bike racks to mitigate 100 trips
- Chevy Chase Bank Hillandale (12005004A); 420 feet of sidewalk and 3 handicap ramps to mitigate 23 trips
- 1050 Ripley Street (120070580); Extend Ripley Street beyond site frontage to mitigate 20 trips
- Sunrise Senior Living of Olney (120060280); funding for a real-time transit information sign to mitigate 6 trips

On average, staff estimates that PAMR mitigation may have averaged about $3,000 per trip since the 2007 Growth Policy was adopted. Our sense is that there is a positive relationship between predictability, speed, and dollar values; some applicants will accept a higher dollar value associated with mitigation if it can be readily determined.

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 is shown in Figure 8.

Figure 8. Current Value of Non-Auto Facilities

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

Staff estimates that the net effect of the three proposed (and offsetting) policy changes in the proposed 2009-2011 Growth Policy are likely to increase, rather than decrease, the value of total mitigation associated with PAMR, as:

- The average mitigation cost per trip might be expected to triple
- The number of trips requiring mitigation might be expected to be cut by about one-third
- The combined effect would be a doubling of resources for PAMR mitigation countywide.

Staff recommended the following changes:

- Elimination of specific per-trip credit values for all measures in Figure 8 except the provisions of sidewalks and bikeways. Any applicant wishing or unable to provide sidewalks and bikeways must develop a mitigation proposal based on an $11,000 per vehicle trip value as established by the Planning Board.

- Expansion of the potential types of non-auto facilities to include transit centers, park-and-ride lots, pedestrian street lighting, park trails, and other capital facilities that contribute to pedestrian, bicycle, or transit user accessibility or mobility.

- Establishment of a formal system of collecting and spending the revenue generated from the $11,000 per trip payment-in-lieu fees. Staff is currently working with the Montgomery County Department of Transportation to resolve the difficulties of applicants choosing non-auto transportation amenities including payment-in-lieu fees for applications mitigation fewer than 30 trips to satisfy PAMR requirements.

- The staff intent in summer 2008 was to update the $11,000 per vehicle trip value annually based on the Construction Cost Index. While the Engineering News Record CCI rose 5.1% from April 2008 to April 2009 (higher than the general rate of inflation), staff recommends no increase to the $11,000 value at this time based on our observation of County efforts to avoid actions that might dampen economic stimulus activities.

The Planning Board supported the staff recommendations summarized in the three bullets above.

4. Alternative Review Procedures for Metro Station Policy Areas or Other Urban Areas

Transportation:

This Growth Policy has examined additional methods to incentivize development in our urban areas, where our transit investment and potential for non-auto commuting is greatest. Encouraging development in the 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 contain one Alternative Review Procedure. It allows development to satisfy both LATR and PAMR requirements by paying additional impact taxes and committing 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.

Staff examined other Alternative Review Procedures that could allow development to satisfy the adequacy of transportation facility tests by expanding the ways to mitigate PAMR impacts. The options listed below would create incentives to channel development into urban areas.

- **Replace the LATR / PAMR tests in urban areas with replacement adequacy definitions per concepts outlined in the following bullets**

Some have suggested that there be 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. Therefore, staff finds that Alternative Review Procedures for PAMR in urban areas or MSPAs must address the concern regarding congestion outside the immediate impact of the project as evaluated in the LATR test. Options include:

- **Establish congested operating speed requirements for arterials serving urban areas**

Staff recommends that PAMR could be satisfied for development in urban areas if arterials affected by site traffic can be shown to maintain an adequate Arterial LOS as defined by PAMR standards. Staff proposes to pursue the following elements for this Alternative Review Procedure:

- The Arterial LOS standard appropriate for each policy area would be applied to any arterial examined under this Alternative Review Procedure.
- An arterial will require analysis if the application will add more than 5 peak hour trips per lane at the MSPA boundary (mirroring the 5 CLV de-minimis policy already in the Growth Policy) in the peak direction.
- Both the peak hour in the AM and PM peak periods and in both directions will be analyzed (with removal of off-peak direction analysis considered at discretion of staff).
- A minimum of three runs must be made between 9 PM and midnight to establish the free flow speed.
- Sufficient runs need to be made during the peak hour to establish a 95% confidence level within +/- 3 MPH.
- SYNCHRO analysis software must be used to forecast the future volume and speed on the arterial with background traffic and site trip generation added to the existing traffic as an input into SYNCHRO to determine the arterial mobility under total future traffic conditions and any proposed mitigation actions needed to achieve an acceptable Arterial LOS.

The Planning Board considered this staff proposal but did not support it due to the complexity and uncertainty of this operational procedure. The Planning Board recommends that

operational procedures such as arterial-specific mobility analysis could be vetted through a broader examination for the 2011-2013 Growth Policy. The Planning Board reiterates its support for a study of alternatives to LATR, a study proposed but not funded during the past two years.

- **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 was considered. In theory, as long as observed counts remained below the cordon line capacity, 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 as defined by PAMR.

The current Growth Policy has such a cordon line capacity for the Silver Spring CBD; development is ultimately capped by a PM peak hour outbound cap of 17,500 vehicles. This limit was established in conjunction with the master planning process. However, there are no interim staging requirements that phase development toward the ultimate cordon line cap, and all LATR and PAMR requirements still apply to Silver Spring CBD development. This cap provides a set of "suspenders" in addition to the LATR/PAMR "belt".

A future growth policy could examine combining the capacity of transit and highway systems to arrive at a "seats per hour" capacity ceiling for development within the MSPA. This could be accomplished by establishing a multi modal cordon line limit of transportation capacity around the MSPAs or urban area. 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.

Limit the number of parking spaces in the MSPAs to limit traffic increase in the MSPAs. A periodical inventory of long-term parking space capacity and utilization would be necessary to ensure that the demand does not exceed supply.

The 2009-2011 Growth Policy should incorporate the White Flint Sector Plan proposal to replace LATR and PAMR with an implementation district that would assess transportation impact fees on a pro-rata trip generation basis to implement transportation system improvements recommended in the Plan.

The 2011-2013 Growth Policy should incorporate a parking cap in the White Flint Sector Plan area, per the recommendations of the White Flint Sector Plan:

- Establish an end-state long-term parking cap of 0.61 spaces (public and private) per employee
- Conduct an initial inventory of long-term parking spaces to establish a current baseline
- Establish interim parking cap ratios that interpolate between the baseline rate and the end-state ratio to use during transportation analysis needed to support moving from Stage 1 to Stage 2 and from Stage 2 to Stage 3.

In White Flint, therefore, the Growth Policy parking cap would have a staged implementation level (to be determined in Stage 1 of the Plan) and would replace the LATR/PAMR "belt" with the parking cap "suspenders". The Planning Board Draft Plan for White Flint estimates that 29,700 long term (public and private) parking spaces would be need to serve the end-state demand. The parking cap requirements would need to be set after the Council adopts the White Flint Sector Plan and the amount of development and number of parking spaces is finalized.

The establishment and use of either cordon line or parking caps is challenging, because the upper limit of available commercial development is often a theoretical number that is unlikely to ever be achieved due to a combination of market forces and site-specific constraints. The White Flint Sector Plan proposes to assess private sector contribution based on an estimated cordon line volume that will only be reached several decades in the future, and to assess parking caps based on the establishment of a parking authority and a phased implementation of end-state parking space ratios. These complex monitoring and implementation mechanisms will be pursued for White Flint during the next year. Based on the progress achieved on White Flint implementation during the next year, the use of cordon line or parking space caps might be appropriately reconsidered for other urban areas during the 2011-2013 Growth Policy.

5. 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.

Staff proposed allowing all Urban Areas of the county as defined by the County Council in 2007 as part of the Road Code to be able to be tested for APF by the Alternative Review Procedure.

The Planning Board decided that insufficient information exists to warrant alternative review procedures in all of the County's urban areas.

6. Revisions to the Transportation and School Impact Tax

Transportation:

In the 2007 Growth Policy the Planning Board recommended structuring the transportation impact tax by land use and geographic location in the County, with lower rates for uses or locations that generated fewer vehicle trips and lower vehicle miles traveled (VMT). Examples of lower vehicle demand land uses are senior and high rise residential housing, where general retail generates considerably higher demand. The rates recommended by the Board also reflected an updated total cost of County portion of the Constrained Long Range Plan, effectively "what the transportation system would cost." The intent was to portion the tax to match the land use's average impact to the transportation system, so that new development would be levied a tax proportionate to that need. The rates were in some cases significantly higher than prior tax rates, and so the Council chose to not implement the higher VMT based rates as proposed, but did modify the rates to reflect a proportion of impact, if not the total amount.

Staff proposed to further refine the transportation impact tax rate to reflect geographic location in the county, and nest with other policies that reflect a proportionate benefit to locating closer to transit, based on the literature reviewed in considering changes to the LATR/PAMR trip generation rates. The housing schedule for the transportation impact tax should include a new category for housing in urban areas (other than Metro Station Policy Areas).

As described above, the MWCOG Travel Survey conducted in 2007 and 2008 found that housing proximate to regional activity centers generated both fewer trips-per-household and shorter vehicle-miles-traveled, reflecting higher non-automobile use and the proximity of jobs and services prevalent in land use clusters. An equitable approach to taxing the households in these areas would reduce the per capita tax for new dwellings appropriately, similar to the lower rates available in Metro Station Policy Areas. We therefore recommend a new category for these residences to coincide with Urban Areas classified in Chapter 49 of the County Code that are not in MSPAs.

Data from the 2008 MWCOG household survey shows a VMT rate of approximately two-thirds that of a residence located outside of an activity cluster. Households in MWCOG activity centers generated 19.6 VMT per day, compared to 29.3 VMT per day generated by households outside of the activity centers. Therefore, rates proposed are calculated as two-thirds that of the 2007-2009 adopted rate for general residential. These rates are shown in Figure 9 below, with the prior rates for MSPA and non-MSPA shown for context**.**

Figure 9. Potential Transportation Impact Tax rates per Dwelling Unit for New Residential Development (using FY 2009 rates) (proposed changes highlighted in *italic* text)

Building Type	Metro Station	Clarksburg	*Other Urban Area*	General
Single-family detached residential	$5,325	$15,973	*$7,135*	$10,649
Single-family attached residential	$4,357	$13,070	*$5,809*	$8,713
Multifamily residential (garden apartments)	$3,338	$10,164	*$4,517*	$6,776
High-rise residential	$2,420	$7,261	*$3,226*	$4,840
Multifamily-senior residential	$968	$2,904	*$1,291*	$1,936

As described in the section on urban areas, the Planning Board does not recommend establishing lower rates to all urban areas in the County, recognizing that the averages identified in the MWCOG survey probably do not apply to the northernmost areas of Montgomery County such as Olney or Damascus.

Any formal change in transportation impact taxes should be incorporated within the comprehensive review of impact taxes and credits in the 2009-2011 Growth Policy Resolution study F9, remaining underway by the Executive Branch. This review should be continued in the 2011-2013 Growth Policy.

Schools:

Several jurisdictions nationwide have used square footage of new construction as the basis for assessing impact fees. Staff investigated the calculation of school impact taxes on dwelling unit size rather than type.

GIS was used to link parcel file data (which contains housing unit size) with data on household demographic characteristics. Student generation rates were calculated for single-family dwelling units by size and type. These student generation rates were multiplied by the per seat cost of school construction in order to calculate school construction cost impact by unit size and type.

Data limitations did not allow for a calculation of the school construction cost per square foot for multi-family dwelling units. In addition, linking the parcel file and demographic data yielded results that encouraged further investigation of the process.

Staff found that, although a shift to administration of the tax on a square foot basis could provide a more fine-grained methodology, preliminary analysis indicates that for all but the smallest single-family units this would result in an increase in the school impact tax. Current

economic conditions reflect poor timing to recommend higher tax rates, even if the calculation is equitably proposed. This shift in methodology could be revisited again in the next Growth Policy.

7. Grandfather all APF applications completed 12 months prior to a moratorium on residential subdivisions

The most recent school test placed three school clusters into moratorium for residential subdivision approvals. Within these clusters development applications have been submitted and reviewed over the past few months to a year. A school queue was instituted as a result the last Growth Policy; it was meant to monitor school clusters as development applications are completed in order to gauge how quickly any one cluster is approaching either a School Facility Payment or a moratorium. The school queue did not predict the moratorium placed on the B-CC and Seneca Valley clusters.

One significant reason for this is that new development contributes only a small portion to the enrollment changes occurring in most school clusters. In the B-CC cluster, most of the over-crowding has been attributed to the unexpected rise in kindergarten enrollment. This is due, in part to the recent shift to all-day kindergarten, changes in the neighborhood demographics and partly due to an increase in households choosing public education over private.

The APFO directs the Planning Board to approve preliminary plans of subdivision only after finding that public facilities will be adequate to serve the subdivision. For applicants that have completed their application and have engaged in discussions with Planning Staff about requirements to proceed to Board approval, the imposition of a moratorium near the end of this process can be costly and unpredictable. Grandfathering applicants that are within months of review before the Board provides a level of predictability to the development community, without significantly reducing the intent of a moratorium.

Staff recognizes the importance of maintaining integrity in the school test, yet at the same times acknowledges the relatively small impact of new development on changes in school enrollment. To balance administration of the APF with fair treatment in the planning process, the Planning Board approved the recommendation to grandfather all applications completed 12 months prior to a moratorium on residential subdivisions.

Growth Policy Study: Appendix N – Smart Growth Criteria and PAMR Offset Proposals

Lead Staff: Pam Dunn, Mark Pfefferle, and Cathy Conlon

Summary:

The Smart Growth Criteria establishes an Alternative Review Procedure for Policy Area Mobility Review (PAMR) such that PAMR obligations can be offset for smart growth mixed-use projects near transit that exceed otherwise required energy efficiency and affordable housing criteria; a proportion of the PAMR obligation will be directed to transit infrastructure.

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.

Based on a review of best practices in the area of Smart Growth, great potential exists for development of a redirection of transportation mitigation resources from addressing the provision of additional capacity to addressing the reduction of demand, similar to California's SB375 legislation. In addition, LEED ND and LEED for New Construction and Major Renovation are well-known certification programs designed to encourage Smart Growth. Elements of these programs provide reliable standards for the assessment of sustainable development.

Under the realm of Growth Policy APFO finding of adequacy for transportation could 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 or near several, other basic services
- *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

To achieve a better balance between capacity and more sustainable development, smart growth criteria are proposed to incentivize this goal. The proposed Smart Growth approach is divided into two categories – transit and basic services proximity; and urban area boundaries.

Transit & Basic Services Proximity:

The Growth Policy must evolve into more than just a capacity measure. It should promote sustainability through design and infrastructure. If a project is designed to encourage walking to jobs or transit, and if it produces less carbon, these factors should be considered concurrently with traffic and school capacity.

Studies have shown that people living within a half mile of transit are more likely to commute via transit. California has recently led the nation in mandating higher densities near transit, citing the positive benefits of more compact growth.

This growth policy includes recommendations for incentives to be provided for smart growth development. Initially, a revised Alternative Review Procedure was proposed that would allow for projects meeting certain criteria to benefit from either a 100 percent or 50 percent PAMR offset. The amount would depend upon proximity to either transit, or basic services such as grocery stores, dry cleaners, community facilities, restaurants, etc. After lengthy discussion with the Planning Board, the 50 percent PAMR offset for proximity to basic services was not retained.

Below is the *Smart Growth Criteria* as originally proposed whereby projects meeting the criteria are eligible for an offset in PAMR mitigation. The framework is designed to encourage development in areas that are well-served by transit or areas that are well-served by other services. In addition, these projects must provide a mix of residential and commercial uses; they must contribute to diversity in housing affordability; and they must make efficient use of resources through compact design and increased energy efficiency or production.

In other words, in the staff proposal projects that are mixed use with 50 percent residential uses, that propose to build to a minimum of 75 percent of the allowable density of the zone, that meet minimum specific energy efficiency standards, and that provide additional MPDUs or workforce housing would then be assessed under one of the two following scenarios.

Transit proximity:

Developments within ½ mile of an existing or planned major transit stop or high quality transit corridor, including Metro, MARC, or a major bus station, would be eligible for a 100 percent

PAMR offset. A planned transit stop or corridor must be funded for construction in the first four years of the Consolidation Transportation Program or the Capital Improvement Program.

Proximity to basic services:

This category recognizes that not all development in the County will be near a major transit corridor. Many of the 106 strip malls in the County do not qualify. However, they should be redeveloped in a more sustainable manner. A strip mall on Route 29 could offer amenities that would reduce vehicle trips through mixed uses and a minimum of stores that provide services and products that residents and workers use on a daily basis, or what LEED for New Construction and Major Renovation defines as "basic services".

Basic services include grocery stores, dry cleaners, fire stations, medical office, fitness center, etc. People who live near these services frequently walk to them, reducing car trips. For projects that qualify, the PAMR requirement would be offset by 50 percent.

A chart summarizing the staff recommended Smart Growth Criteria follows:

Montgomery County - Smart Growth Criteria

All projects must meet the following criteria to be considered for an Alternative PAMR Review:

- Project must be mixed-use with a minimum 50% residential use and
- Project must seek to achieve the maximum density of the site using 75% or more of the maximum density allowed in the zone (including all applicable bonuses) subject to the limits specified in the master/sector plan and
- Building(s) exceeds energy efficiency standards by 17.5% for new buildings or by 10.5% for existing building renovation. Or, building(s) has on-site energy production such that 2.5% of the annual building energy cost is off-set by the renewable production system *(LEED New Construction/Major Renovation)*
- And, the project must provide additional affordable housing, either workforce housing or moderately-priced dwelling units, above and beyond that required for plan approval such that 50 percent of the PAMR mitigation resource being offset is applied to this obligation.

Mixed-Use Transit Proximity Projects that meet the following criteria are eligible for 100% PAMR offset:	Mixed-Use Urban with Proximity to Basic Services Projects that meet the following criteria are eligible for 50% PAMR offset:
• Project must be located within ½ mile of an existing or planned major transit stop or high-quality transit corridor. A high-quality transit corridor means a corridor with fixed route bus service where service intervals are no longer than 15 minute during peak commute hours. A project shall be considered to be within one-half mile of a major transit stop if all parcels within the project have no more than 25% of their area farther than one-half mile from a transit stop or corridor and if not more than 10% of the residential units in the project are father than one-half mile from the stop or corridor. A planned transit stop or corridor is one that is funded for construction within the first four years of the Consolidated Transportation Program and/or the Capital Improvement Program.	• Project must be located within a *Road Code Urban Area* and be located within ½ mile of at least 10 *Basic Services* ; *Basic Services* include but are not limited to: bank, place of worship, convenience grocery, day care, cleaners, fire station, beauty, hardware, laundry, library, medical/dental, senior care facility, park, pharmacy, post office, restaurant, school, supermarket, theater, community center, fitness center or museum, *(based on LEED for New Construction/Major Renovation)*

In discussions with the Planning Board, three areas of concern arose: definition of transit proximity, proximity to basic services as an eligibility criteria and the inclusion of affordable housing as an eligibility criteria. The Planning Board agreed with staff on the inclusion and definition of transit proximity. The Planning Board did not reach a consensus on the inclusion of proximity to basic services thus this component of the Smart Growth Criteria is not retained. Last, the Board debated the inclusion of affordable housing as an eligibility criteria. Several Board members expressed concern over the need to provide additional resources to transit in the face of proposed incentives designed to encourage single-occupancy vehicle drivers to shift to the County's transit system.

To resolve this concern, the Planning Board recommended reducing the PAMR offset applied to affordable housing from 50 percent to 25 percent, redirecting 50 percent of the PAMR offset to transit infrastructure, and reducing the PAMR obligation to the developer by the remaining 25 percent. In addition, the Planning Board is recommending that 75 percent of the transportation impact tax for these projects be directed to transit funding.

Below is a chart of the Planning Board Smart Growth Criteria:

Montgomery County - Smart Growth Criteria

All projects must meet the following criteria to be considered for an Alternative PAMR Review and 100 % PAMR Offset:

- Project must be located within ½ mile of an existing or planned major transit stop or high-quality transit corridor. A high-quality transit corridor means a corridor with fixed route bus service where service intervals are no longer than 15 minute during peak commute hours. A project shall be considered to be within one-half mile of a major transit stop if all parcels within the project have no more than 25% of their area farther than one-half mile from a transit stop or corridor and if not more than 10% of the residential units in the project are father than one-half mile from the stop or corridor. A planned transit stop or corridor is one that is funded for construction within the first four years of the Consolidated Transportation Program and/or the Capital Improvement Program and
- Project must be mixed-use with a minimum 50% residential use and
- Project must seek to achieve the maximum density of the site using 75% or more of the maximum density allowed in the zone (including all applicable bonuses) subject to the limits specified in the master/sector plan and
- Building(s) exceeds energy efficiency standards by 17.5% for new buildings or by 10.5% for existing building renovation. Or, building(s) has on-site energy production such that 2.5% of the annual building energy cost is off-set by the renewable production system *(LEED New Construction/Major Renovation)*
- And, the project must provide additional affordable housing, either workforce housing or moderately-priced dwelling units, above and beyond that required for plan approval such that 25 percent of the PAMR mitigation resource being offset is applied to this obligation.

The PAMR Offset will be directed as follows:

- Fifty percent of the PAMR mitigation resource being offset must be directed to transit infrastructure.
- Twenty-five percent of the PAMR mitigation resource being offset must be applied to the provision of additional affordable housing, either workforce housing or moderately-priced dwelling units, above and beyond that required for plan approval.
- The remaining twenty-five percent of the PAMR mitigation resource will be retained by the developer.

Urban Area Boundaries

A second staff recommendation related to the Smart Growth Criteria involves urban area boundaries. Currently, an Alternative Review Procedure for PAMR is offered to projects in Metro Station Policy Areas. Staff proposed that this Growth Policy expand the Alternative Review Procedures into all urban areas where urban areas are defined as the *road code urban areas*.

These changes are intended to encourage mixed use development in areas that are well-served by transit or by basic services. Moving capacity from commercial to residential development contributes to housing affordability, and energy efficiency.

The smart growth approach to growth policy combines several positive elements of important initiatives that are surfacing across the country.

- transit proximity
- green building technology
- retail and service diversity
- compact development

Although staff viewed the urban area designation appropriate, in part because these are the areas that the County Council has directed the application of urban street design standards, and because tools that help direct smart growth (even in small doses) could generate needed pedestrian activity in these areas, the Planning Board opted to limit the application of all Alternative Review Procedures to the Metro Station Policy Areas. The Planning board suggested that further research into the relationship between basic services proximity and vehicle miles traveled be conducted.

Staff believes that encouraging mixed-use projects close to transit and basic services will help reduce vehicle trips and promotes County's Climate Protection Plan goals. This is a first step to further work and research into how this approach can evolve with the next growth policy two years from now.

Several follow up studies are being recommended for completion prior to the 2011-2013 Growth Policy. The studies related the Smart Growth Criteria include:

Study F3 - Investigation into the Use of LEED

Planning staff will study emerging changes to the LEED for Neighborhoods, and LEED for New Construction or Major Renovation classification systems to determine those which can further encourage smart growth and may form recommendations in the next Growth Policy.

Study F4 - Investigation into the Use of Carbon Offsets

Planning staff will look into the potential of carbon offsets for mitigating automobile trips. For example, a green roof reduces a building's carbon emissions by a specific factor that on an annual basis could be compared to vehicle emissions. In this way, green building features could be provided as a direct offset for the vehicle emissions generated by a development, rather than a mitigation solution of an intersection.

F5 Dedicated Transit Revenue

County Executive agencies should report on the potential to create area specific funds, where the PAMR mitigation fees are paid to help finance transit improvements within that district to meet the needs created by redevelopment.

Several examples of the implementation of the new Alternative PAMR Review follows. The first two charts are an example of the Alternative PAMR review applied in an MSPA with 35%mitigation. The next two charts are an example of the Alternative PAMR Review applied in a suburban area with 100% mitigation. The last four charts are the same two examples described above, but include a proximity to basic services component that the Planning Board did not retain.

How would the Alternative PAMR Review work in practice?

Consider a hypothetical project in an MSPA with partial PAMR mitigation of 35% (for FY 10). The affordable housing and PAMR requirements would be assessed as follows. First, the application must meet the following criteria:

- Within ½ mile of the Metrorail station (or other transit route with 15 minute frequency transit service during peak periods)
- Using at least 75% of the allowable density
- Minimum 50% residential use
- Meet specified energy efficiency requirements

Suppose the application had the following parameters (shown in the following exhibits on Pages N-12 and N-13 as Smart Growth Criteria proposal for mixed-use transit proximity):

- A 100,000 square foot site with a 3.0 FAR resulting in 300,000 square feet of building footprint,
- A 55% residential component, resulting in 165,000 square feet of residential space,

- A commercial component split between office (25% of the total building space) and retail (20% of the total building space)
- An average gross DU size of 1,000 square feet, resulting in 165 residential dwelling units, of which 12.5% (20 units) must be affordable and 10% (16 units) must be workforce.

This application:

- Would generate 379 peak hour trips,
- With 35% mitigation, 133 peak hour trips would require PAMR mitigation,
- At $11,000 a trip, the PAMR mitigation would have an expected value of $1,463,000

Under the Alternative PAMR Review, the applicant could retain 25% of the PAMR savings, or $365,750, if an equal amount (25%) were applied toward providing additional affordable housing and 50% of the PAMR mitigation resource was applied to transit.

If the applicant could be expected to take a $50,000 loss on each affordable housing unit (the difference between the cost to build and the sales cost). The $365,750 would cover approximately 7 units at $50,000 each. Therefore, to meet the alternative review criteria, the number of affordable units would need to be increased from 21 units to 28 units (while retaining the 165-unit total).

The combination of PAMR and development impact taxes provides a financial incentive when considered on a per-square foot basis. This application would pay:

- $955,690 in transportation impact taxes and
- $565,399 in school impact taxes, for a total of
- $1,521,089 in development impact taxes, plus
- $365,750 in PAMR requirements redirected toward affordable housing, plus
- $731,500 toward transit services, resulting in a total of
- $2,618,339 in tax/PAMR payments, or about $8.73 per square foot.

Without the Alternative PAMR Review, a similarly sized development of 300,000 GSF without a residential component (described as “Comparison: Increased FAR Without Residential” on Pages N-12 and N-13 of the example exhibits.):

- Would generate 690 peak hour vehicle trips

- With 35% mitigation, 242 peak hour trips would require PAMR mitigation,
- At $11,000 a trip, the PAMR mitigation would have an expected value of $2,662,000

The application without Alternative PAMR Review would pay:

- $1,386,150 in transportation impact taxes and
- $0 in school impact taxes, for a total of
- $1,386,150 in development impact taxes, plus
- $2,662,000 in PAMR requirements, resulting in a total of
- $4,048,150 in tax/PAMR payments, or about $13.49 per square foot.

For comparison, a similar project (located in an MSPA with 35% PAMR mitigation) not choosing the Alternative PAMR review, and only building to a density of 1.50 FAR would pay:

- $693,075 in transportation impact taxes and
- $0 in school impact taxes, for a total of
- $693,075 in development impact taxes, plus
- $1,342,000 in PAMR requirements, resulting in a total of
- $2,035,075 in tax/PAMR payments, or about $13.57 per square foot.

Now, consider a hypothetical project in a suburban area with 100% PAMR mitigation (for FY 10). This application is described in the following exhibits on Pages N-14 and N-15. The affordable housing and PAMR requirements would be assessed as follows. First, the application must meet the following criteria as before:

- Within ½ mile of the Metrorail station (or other transit route with 15 minute frequency transit service during peak periods)
- Using at least 75% of the allowable density
- Minimum 50% residential use
- Meet specified energy efficiency requirements

Suppose the application had the following parameters, as in the previous example:

- A 100,000 square foot site with a .85 FAR resulting in 85,000 square feet of building footprint,
- A 50% residential component, resulting in 42,500 square feet of residential space,
- A commercial component split between office (45% of the total building space) and retail (5% of the total building space)
- An average gross DU size of 1,200 square feet, resulting in 35 residential dwelling units, of which 12.5% (4 units) must be affordable and 10% (3 units) must be workforce.

This application:

- Would generate 118 peak hour trips,
- With 100% mitigation, 118 peak hour trips would require PAMR mitigation,
- At $11,000 a trip, the PAMR mitigation would have an expected value of $1,298,000

Under the Alternative PAMR Review, the applicant could be retain 25% of the PAMR savings, or $324,500, if an equal amount (25%) were applied toward providing additional affordable housing and 50% of the PAMR mitigation resource was applied to transit.

If the applicant could be expected to take a $30,000 loss on each affordable housing unit (the difference between the cost to build and the sales cost). The $324,500 would cover approximately 11 units at $30,000 each. Therefore, to meet the alternative review criteria, the number of affordable units would need to be increased from 4 units to 15 units (while retaining the 35-unit total).

The combination of PAMR and development impact taxes provides a financial incentive when considered on a per-square foot basis. This application would pay:

- $543,010 in transportation impact taxes and
- $194,680 in school impact taxes, for a total of
- $737,690 in development impact taxes, plus
- $324,500 in PAMR requirements redirected toward affordable housing, plus
- $649,000 toward transit services, resulting in a total of
- $1,711,190 in tax/PAMR payments, or about $20.13 per square foot.

Without the Alternative PAMR Review, a similarly sized development of 85,000 GSF without a residential component (described as "Comparison: Increased FAR Without Residential" on Pages N-14 and N-15 of the example exhibits.):

- Would generate 156 peak hour vehicle trips
- With 100% mitigation, 156 peak hour trips would require PAMR mitigation,
- At $11,000 a trip, the PAMR mitigation would have an expected value of $1,716,000

The application without Alternative PAMR Review would pay:

- $814,980 in transportation impact taxes and
- $0 in school impact taxes, for a total of
- $814,980 in development impact taxes, plus
- $1,716,000 in PAMR requirements, resulting in a total of
- $2,530,980 in tax/PAMR payments, or about $29.78 per square foot.

For comparison, a similar project (located in a suburban area with 100% PAMR mitigation) not choosing the Alternative PAMR review, and only building to a density of .50 FAR would pay:

- $479,400 in transportation impact taxes and
- $0 in school impact taxes, for a total of
- $479,000 in development impact taxes, plus
- $1,100,000 in PAMR requirements, resulting in a total of
- $1,579,400 in tax/PAMR payments, or about $31.59 per square foot.

Case Study #1. Metro Station Policy Area With 35% PAMR Mitigation Requirement

PLANNING BOARD RECOMMENDATIONS
PAMR MITIGATION

	Lot Area (Square Feet)	Floor Area Ratio		Proposed Development				PAMR Trips Mitigated		PAMR Cost	
		Allowed	Proposed	Office	Retail	Residential	TOTALS	Percent	Total	Per Trip	Total
Sample Proposal Without Smart Growth Criteria											
Percent FAR by Use	100000	3.00	1.50	55%	45%	0%	100%				
Average Size of Dwelling Unit (SF)						1000					
Square Footage by Type				82500	67500	0	**150000**				
Number of Dwelling Units						0					
Peak Hour Trips Generated (retail at 75% pass-by)				139	209	0	**348**	35%	122	$ 11,000	$ 1,342,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**2.32**				
PAMR Offset								0%			$ -
Net PAMR Cost											**$ 1,342,000**
Alternative Review Proposal #1 - Mixed Use Transit Proximity											
Percent FAR by Use	100000	3.00	3.00	25%	20%	55%	100%				
Average Size of Dwelling Unit (SF)						1000					
Lot and Building											
Square Footage by Type				75000	60000	165000	**300000**				
Number of Dwelling Units						165					
Number of Dwelling Units Subject to Impact Tax						144					
Peak Hour Trips Generated (retail at 75% pass-by)				115	185	79	**379**	35%	133	$ 11,000	$ 1,463,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**1.26**				
PAMR Offset Waived								25%			$ 365,750
PAMR Offset Applied Toward Affordable Housing								25%			$ 365,750
PAMR Resources Applied Toward Transit Services								50%			$ 731,500
											$ 1,097,250
Housing Mitigation Requirement											
Assumed Value of MPDU / WFDU						$ 50,000					
PAMR Offset Applied Toward Affordable Housing						$ 365,750					
Number of Units Needed						7					
Total Units Subject to Impact Tax						137					
Comparison: Increased FAR Without Residential											
Percent FAR by Use	100000	3.00	3.00	55%	45%	0%	100%				
Average Size of Dwelling Unit (SF)						1000					
Square Footage by Type				165000	135000	0	**300000**				
Number of Dwelling Units						0					
Peak Hour Trips Generated (retail at 75% pass-by)				273	417	0	**690**	35%	242	$ 11,000	$ 2,662,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**2.30**				
PAMR Offset								0%			$ -
Net PAMR Cost											**$ 2,662,000**

Notes:
Site assumed to be 750 feet from Metrorail station for Offset Proposal 1
Base case assumeds MPDU percentage is 12.5%

Case Study #1. Metro Station Policy Area With 35% PAMR Mitigation Requirement

PLANNING BOARD RECOMMENDATIONS
COMPARISON OF PAMR AND IMPACT TAX COSTS

	Sample Proposal Without Smart Growth Criteria	Alternative Review Proposal #1 - Mixed Use Transit Proximity	Comparison: Increased FAR Without Residential
IMPACT TAX COSTS TO APPLICANT			
Transportation Impact Tax Office			
GSF	82500	75000	165000
Rate	$ 4.85	$ 4.85	$ 4.85
Extension	$ 400,125	$ 363,750	$ 800,250
Transportation Impact Tax Retail			
GSF	67500	60000	135000
Rate	$ 4.34	$ 4.34	$ 4.34
Extension	$ 292,950	$ 260,400	$ 585,900
Transportation Impact Tax - High Rise Residential			
DU (subject to impact taxes)	0	137	0
Rate	$ 2,420.00	$ 2,420.00	$ 2,420.00
Extension	$ -	$ 331,540	$ -
School Impact Tax - High Rise Residential			
DU (subject to impact taxes)	0	137	0
Rate	$ 4,127.00	$ 4,127.00	$ 4,127.00
Extension	$ -	$ 565,399	$ -
TOTAL IMPACT TAX	$ 693,075	$ 1,521,089	$ 1,386,150
PAMR COSTS TO APPLICANT			
Applied toward MPDUs	$ -	$ 365,750	$ -
Applied toward transit services	$ 1,342,000	$ 731,500	$ 2,662,000
TOTAL PAMR COST	$ 1,342,000	$ 1,097,250	$ 2,662,000
TOTAL PAMR COST PLUS IMPACT TAX	$ 2,035,075	$ 2,618,339	$ 4,048,150
Total Development GSF	150000	300000	300000
TOTAL PAMR COST PLUS IMPACT TAX / GSF	$ 13.57	$ 8.73	$ 13.49
Resources Provided for Transportation	$ 2,035,075	$ 1,687,190	$ 4,048,150
Resources Provided for Schools	$ -	$ 565,399	$ -
Resources Provided for Affordable Housing	$ -	$ 365,750	$ -
TOTAL	$ 2,035,075	$ 2,618,339	$ 4,048,150
Transportation Resources Per New Vehicle Trip	$ 5,848	$ 4,452	$ 5,867

Note: All scenarios reflect adoption of $11,000 value for vehicle trips requiring mitigation
Under FY 2007-2009 Growth Policy, PAMR costs range estimated to average $3,000 per vehicle trip.

Case Study #2. Suburban Area With 100% PAMR Mitigation Requirement

PLANNING BOARD RECOMMENDATIONS
PAMR MITIGATION

	Lot Area (Square Feet)	Floor Area Ratio		Proposed Development				PAMR Trips Mitigated		PAMR Cost	
		Allowed	Proposed	Office	Retail	Residential	TOTALS	Percent	Total	Per Trip	Total
						Base					
Sample Proposal Without Smart Growth Criteria											
Percent FAR by Use	100000	1.00	0.50	90%	10%	0%	100%				
Average Size of Dwelling Unit (SF)						1200					
Square Footage by Type				45000	5000	0	**50000**				
Number of Dwelling Units						0					
Peak Hour Trips Generated (retail at 75% pass-by)				85	15	0	**100**	100%	100	$ 11,000	$ 1,100,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**2.00**				
PAMR Offset								0%			$ -
Net PAMR Cost											**$ 1,100,000**
Alternative Review Proposal #1 - Mixed Use Transit Proximity											
Percent FAR by Use	100000	1.00	0.85	45%	5%	50%	100%				
Average Size of Dwelling Unit (SF)						1200					
Lot and Building											
Square Footage by Type				38250	4250	42500	**85000**				
Number of Dwelling Units						35					
Number of Dwelling Units Subject to Impact Tax						31					
Peak Hour Trips Generated (retail at 75% pass-by)				75	26	17	**118**	100%	118	$ 11,000	$ 1,298,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**1.39**				
PAMR Offset Waived								25%			$ 324,500
PAMR Offset Applied Toward Affordable Housing								25%			$ 324,500
PAMR Resources Applied Toward Transit Services								50%			$ 649,000
											$ 973,500
Housing Mitigation Requirement											
Assumed Value of MPDU / WFDU						$ 30,000					
PAMR Offset Applied Toward Affordable Housing						$ 324,500					
Number of Units Needed						11					
Total Units Subject to Impact Tax						20					
Comparison: Increased FAR Without Residential											
Percent FAR by Use	100000	1.00	0.85	90%	10%	0%	100%				
Average Size of Dwelling Unit (SF)						1000					
Square Footage by Type				76500	8500	0	**85000**				
Number of Dwelling Units						0					
Peak Hour Trips Generated (retail at 75% pass-by)				130	26	0	**156**	100%	156	$ 11,000	$ 1,716,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**1.84**				
PAMR Offset								0%			$ -
Net PAMR Cost											**$ 1,716,000**

Notes:
Site assumed to be adjacent to Ride-On Route 55 stop for Offset Proposal #1
Base case assumeds MPDU percentage is 12.5%

Case Study #2. Suburban Area With 100% PAMR Mitigation Requirement

PLANNING BOARD RECOMMENDATIONS
COMPARISON OF PAMR AND IMPACT TAX COSTS

	Sample Proposal Without Smart Growth Criteria	Alternative Review Proposal #1 - Mixed Use Transit Proximity	Comparison: Increased FAR Without Residential
IMPACT TAX COSTS TO APPLICANT			
Transportation Impact Tax Office			
GSF	45000	38250	76500
Rate	$ 9.69	$ 9.69	$ 9.69
Extension	$ 436,050	$ 370,643	$ 741,285
Transportation Impact Tax Retail			
GSF	5000	4250	8500
Rate	$ 8.67	$ 8.67	$ 8.67
Extension	$ 43,350	$ 36,848	$ 73,695
Transportation Impact Tax - High Rise Residential			
DU (subject to impact taxes)	0	20	0
Rate	$ 6,776.00	$ 6,776.00	$ 6,776.00
Extension	$ -	$ 135,520	$ -
School Impact Tax - High Rise Residential			
DU (subject to impact taxes)	0	20	0
Rate	$ 9,734.00	$ 9,734.00	$ 9,734.00
Extension	$ -	$ 194,680	$ -
TOTAL IMPACT TAX	$ 479,400	$ 737,690	$ 814,980
PAMR COSTS TO APPLICANT			
Applied toward MPDUs	$ -	$ 324,500	$ -
Applied toward transportation projects	$ 1,100,000	$ 649,000	$ 1,716,000
TOTAL PAMR COST	$ 1,100,000	$ 973,500	$ 1,716,000
TOTAL PAMR COST PLUS IMPACT TAX	$ 1,579,400	$ 1,711,190	$ 2,530,980
Total Development GSF	50000	85000	85000
TOTAL PAMR COST PLUS IMPACT TAX / GSF	$ 31.59	$ 20.13	$ 29.78
Resources Provided for Transportation	$ 1,579,400	$ 1,192,010	$ 2,530,980
Resources Provided for Schools	$ -	$ 194,680	$ -
Resources Provided for Affordable Housing	$ -	$ 324,500	$ -
TOTAL	$ 1,579,400	$ 1,711,190	$ 2,530,980
Transportation Resources Per New Vehicle Trip	$ 15,794	$ 10,102	$ 16,224

Note: All scenarios reflect adoption of $11,000 value for vehicle trips requiring mitigation
Under FY 2007-2009 Growth Policy, PAMR costs range estimated to average $3,000 per vehicle trip.

Case Study #1. Metro Station Policy Area With 35% PAMR Mitigation Requirement

STAFF DRAFT RECOMMENDATIONS
PAMR MITIGATION

	Lot Area (Square Feet)	Floor Area Ratio		Proposed Development				PAMR Trips Mitigated		PAMR Cost	
		Allowed	Proposed	Office	Retail	Residential	TOTALS	Percent	Total	Per Trip	Total
Sample Proposal Without Smart Growth Criteria											
Percent FAR by Use	100000	3.00	1.50	55%	45%	0%	100%				
Average Size of Dwelling Unit (SF)						1000					
Square Footage by Type				82500	67500	0	**150000**				
Number of Dwelling Units						0					
Peak Hour Trips Generated (retail at 75% pass-by)				139	209	0	**348**	35%	122	$ 11,000	$ 1,342,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**2.32**				
PAMR Offset								0%			$ -
Net PAMR Cost											**$ 1,342,000**
Alternative Review Proposal #1 - Mixed Use Transit Proximity											
Percent FAR by Use	100000	3.00	3.00	25%	20%	55%	100%				
Average Size of Dwelling Unit (SF)						1000					
Lot and Building											
Square Footage by Type				75000	60000	165000	**300000**				
Number of Dwelling Units						165					
Number of Dwelling Units Subject to Impact Tax						144					
Peak Hour Trips Generated (retail at 75% pass-by)				115	185	79	**379**	35%	133	$ 11,000	$ 1,463,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**1.26**				
PAMR Payment Waived								100%			$ 1,463,000
Net PAMR Cost to Applicant											**$** -
Housing Mitigation Requirement											
Assumed Value of MPDU / WFDU						$ 50,000					
PAMR Offset Applied Toward Affordable Housing						$ 731,500					
Number of Units Needed						15					
Total Units Subject to Impact Tax						129					
Alternative Review Proposal #2 - Proximity to Basic Services											
Percent FAR by Use	100000	3.00	3.00	25%	20%	55%	100%				
Average Size of Dwelling Unit (SF)						1000					
Lot and Building											
Square Footage by Type				75000	60000	165000	**300000**				
Number of Dwelling Units						165					
Number of Dwelling Units Subject to Impact Tax						144					
Peak Hour Trips Generated (retail at 75% pass-by)				128	185	79	**392**	35%	137	$ 11,000	$ 1,507,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**1.31**				
PAMR Payment Waived								50%			$ 753,500
Net PAMR Cost to Applicant											**$ 753,500**
Housing Mitigation Requirement											
Assumed Value of MPDU / WFDU						$ 50,000					
PAMR Offset Applied Toward Affordable Housing						$ 376,750					
Number of Units Needed						8					
Total Units Subject to Impact Tax						136					
Comparison: Increased FAR Without Residential											
Percent FAR by Use	100000	3.00	3.00	55%	45%	0%	100%				
Average Size of Dwelling Unit (SF)						1000					
Square Footage by Type				165000	135000	0	**300000**				
Number of Dwelling Units						0					
Peak Hour Trips Generated (retail at 75% pass-by)				273	417	0	**690**	35%	242	$ 11,000	$ 2,662,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**2.30**				
PAMR Offset								0%			$ -
Net PAMR Cost											**$ 2,662,000**

Notes:
Site assumed to be 750 feet from Metrorail station for Offset Proposal 1
Base case assumeds MPDU percentage is 12.5%

Case Study #1. Metro Station Policy Area With 35% PAMR Mitigation Requirement
STAFF DRAFT RECOMMENDATIONS
COMPARISON OF PAMR AND IMPACT TAX COSTS

	Sample Proposal Without Smart Growth Criteria	Alternative Review Proposal #1 - Mixed Use Transit Proximity	Alternative Review Proposal #2 - Proximity to Basic Services	Comparison: Increased FAR Without Residential
IMPACT TAX COSTS TO APPLICANT				
Transportation Impact Tax Office				
GSF	82500	75000	75000	165000
Rate	$ 4.85	$ 4.85	$ 4.85	$ 4.85
Extension	$ 400,125	$ 363,750	$ 363,750	$ 800,250
Transportation Impact Tax Retail				
GSF	67500	60000	60000	135000
Rate	$ 4.34	$ 4.34	$ 4.34	$ 4.34
Extension	$ 292,950	$ 260,400	$ 260,400	$ 585,900
Transportation Impact Tax - High Rise Residential				
DU (subject to impact taxes)	0	129	136	0
Rate	$ 2,420.00	$ 2,420.00	$ 2,420.00	$ 2,420.00
Extension	$ -	$ 312,180	$ 329,120	$ -
School Impact Tax - High Rise Residential				
DU (subject to impact taxes)	0	129	136	0
Rate	$ 4,127.00	$ 4,127.00	$ 4,127.00	$ 4,127.00
Extension	$ -	$ 532,383	$ 561,272	$ -
TOTAL IMPACT TAX	$ 693,075	$ 1,468,713	$ 1,514,542	$ 1,386,150
PAMR COSTS TO APPLICANT				
Applied toward MPDUs	$ -	$ 731,500	$ 376,750	$ -
Applied toward transportation projects	$ 1,342,000	$ -	$ 753,500	$ 2,662,000
TOTAL PAMR COST	$ 1,342,000	$ 731,500	$ 1,130,250	$ 2,662,000
TOTAL PAMR COST PLUS IMPACT TAX	$ 2,035,075	$ 2,200,213	$ 2,644,792	$ 4,048,150
Total Development GSF	150000	300000	300000	300000
TOTAL PAMR COST PLUS IMPACT TAX / GSF	$ 13.57	$ 7.33	$ 8.82	$ 13.49
Resources Provided for Transportation	$ 2,035,075	$ 936,330	$ 1,706,770	$ 4,048,150
Resources Provided for Schools	$ -	$ 532,383	$ 561,272	$ -
Resources Provided for Affordable Housing	$ -	$ 731,500	$ 376,750	$ -
TOTAL	$ 2,035,075	$ 2,200,213	$ 2,644,792	$ 4,048,150
Transportation Resources Per New Vehicle Trip	$ 5,848	$ 2,471	$ 4,354	$ 5,867

Note: All scenarios reflect adoption of $11,000 value for vehicle trips requiring mitigation
Under FY 2007-2009 Growth Policy, PAMR costs range estimated to average $3,000 per vehicle trip.

Case Study #2. Suburban Area With 100% PAMR Mitigation Requirement

STAFF DRAFT RECOMMENDATIONS
PAMR MITIGATION

	Lot Area (Square Feet)	Floor Area Ratio		Proposed Development				PAMR Trips Mitigated		PAMR Cost	
		Allowed	Proposed	Office	Retail	Residential	TOTALS	Percent	Total	Per Trip	Total
						Base					
Sample Proposal Without Smart Growth Criteria											
Percent FAR by Use	100000	1.00	0.50	90%	10%	0%	100%				
Average Size of Dwelling Unit (SF)						1200					
Square Footage by Type				45000	5000	0	**50000**				
Number of Dwelling Units						0					
Peak Hour Trips Generated (retail at 75% pass-by)				85	15	0	**100**	100%	100	$ 11,000	$ 1,100,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**2.00**				
PAMR Offset								0%			$ -
Net PAMR Cost											**$ 1,100,000**
Alternative Review Proposal #1 - Mixed Use Transit Proximity											
Percent FAR by Use	100000	1.00	0.85	45%	5%	50%	100%				
Average Size of Dwelling Unit (SF)						1200					
Lot and Building											
Square Footage by Type				38250	4250	42500	**85000**				
Number of Dwelling Units						35					
Number of Dwelling Units Subject to Impact Tax						31					
Peak Hour Trips Generated (retail at 75% pass-by)				75	26	17	**118**	100%	118	$ 11,000	$ 1,298,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**1.39**				
PAMR Payment Waived								100%			$ 1,298,000
Net PAMR Cost to Applicant											**$** -
Housing Mitigation Requirement											
Assumed Value of MPDU / WFDU						$ 30,000					
PAMR Offset Applied Toward Affordable Housing						$ 649,000					
Number of Units Needed						22					
Total Units Subject to Impact Tax						9					
Alternative Review Proposal #2 - Proximity to Basic Services											
Percent FAR by Use	100000	1.00	0.85	45%	5%	50%	100%				
Average Size of Dwelling Unit (SF)						1200					
Lot and Building											
Square Footage by Type				38250	4250	42500	**85000**				
Number of Dwelling Units						35					
Number of Dwelling Units Subject to Impact Tax						31					
Peak Hour Trips Generated (retail at 75% pass-by)				75	26	17	**118**	100%	118	$ 11,000	$ 1,298,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**1.39**				
PAMR Payment Waived								50%			$ 649,000
Net PAMR Cost to Applicant											**$ 649,000**
Housing Mitigation Requirement											
Assumed Value of MPDU / WFDU						$ 30,000					
PAMR Offset Applied Toward Affordable Housing						$ 324,500					
Number of Units Needed						11					
Total Units Subject to Impact Tax						20					
Comparison: Increased FAR Without Residential											
Percent FAR by Use	100000	1.00	0.85	90%	10%	0%	100%				
Average Size of Dwelling Unit (SF)						1000					
Square Footage by Type				76500	8500	0	**85000**				
Number of Dwelling Units						0					
Peak Hour Trips Generated (retail at 75% pass-by)				130	26	0	**156**	100%	156	$ 11,000	$ 1,716,000
Net Trip Generation Rate - Trips per 1000 Square Feet							**1.84**				
PAMR Offset								0%			$ -
Net PAMR Cost											**$ 1,716,000**

Notes:
Site assumed to be adjacent to Ride-On Route 55 stop for Offset Proposal #1
Base case assumeds MPDU percentage is 12.5%

Case Study #2. Suburban Area With 100% PAMR Mitigation Requirement
STAFF DRAFT RECOMMENDATIONS
COMPARISON OF PAMR AND IMPACT TAX COSTS

	Sample Proposal Without Smart Growth Criteria	Alternative Review Proposal #1 - Mixed Use Transit Proximity	Alternative Review Proposal #2 - Proximity to Basic Services	Comparison: Increased FAR Without Residential
IMPACT TAX COSTS TO APPLICANT				
Transportation Impact Tax Office				
GSF	45000	38250	38250	76500
Rate	$ 9.69	$ 9.69	$ 9.69	$ 9.69
Extension	$ 436,050	$ 370,643	$ 370,643	$ 741,285
Transportation Impact Tax Retail				
GSF	5000	4250	4250	8500
Rate	$ 8.67	$ 8.67	$ 8.67	$ 8.67
Extension	$ 43,350	$ 36,848	$ 36,848	$ 73,695
Transportation Impact Tax - High Rise Residential				
DU (subject to impact taxes)	0	9	20	0
Rate	$ 6,776.00	$ 6,776.00	$ 6,776.00	$ 6,776.00
Extension	$ -	$ 60,984	$ 135,520	$ -
School Impact Tax - High Rise Residential				
DU (subject to impact taxes)	0	9	20	0
Rate	$ 9,734.00	$ 9,734.00	$ 9,734.00	$ 9,734.00
Extension	$ -	$ 87,606	$ 194,680	$ -
TOTAL IMPACT TAX	$ 479,400	$ 556,080	$ 737,690	$ 814,980
PAMR COSTS TO APPLICANT				
Applied toward MPDUs	$ -	$ 649,000	$ 324,500	$ -
Applied toward transportation projects	$ 1,100,000	$ -	$ 649,000	$ 1,716,000
TOTAL PAMR COST	$ 1,100,000	$ 649,000	$ 973,500	$ 1,716,000
TOTAL PAMR COST PLUS IMPACT TAX	$ 1,579,400	$ 1,205,080	$ 1,711,190	$ 2,530,980
Total Development GSF	50000	85000	85000	85000
TOTAL PAMR COST PLUS IMPACT TAX / GSF	$ 31.59	$ 14.18	$ 20.13	$ 29.78
Resources Provided for Transportation	$ 1,579,400	$ 468,474	$ 1,192,010	$ 2,530,980
Resources Provided for Schools	$ -	$ 87,606	$ 194,680	$ -
Resources Provided for Affordable Housing	$ -	$ 649,000	$ 324,500	$ -
TOTAL	$ 1,579,400	$ 1,205,080	$ 1,711,190	$ 2,530,980
Transportation Resources Per New Vehicle Trip	$ 15,794	$ 3,970	$ 10,102	$ 16,224

Note: All scenarios reflect adoption of $11,000 value for vehicle trips requiring mitigation
Under FY 2007-2009 Growth Policy, PAMR costs range estimated to average $3,000 per vehicle trip.

Background Information on the Evolution of California's SB375 Legislation:

In 2006 the California General Assembly passed and Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act of 2006. This statute, AB32, directed California's Air Resources Board to reduce greenhouse gas emissions by 2020 to their 1990 levels.

The statute also called upon the Air Resources Board (CARB) to pull together an advisory plan to recommend the most cost-effective technologies and reduction methods. In February 2008, this 20-member advisory panel submitted its 300-page final report. Access a fact sheet on AB 32 at http://www.arb.ca.gov/cc/ab32/ab32.htm or access the advisory panel report at http://www.arb.ca.gov/cc/ab32/ab32.htm.

State Senator Darrel Steinberg , among others, found that AB 32 as written could not be implemented effectively. AB 32 clearly lays out the mobile and stationary sources of greenhouse gas emissions (GHG) that need to be controlled. However, it does not make the connection between land uses and GHG. Moreover, AB 32 has a top-down structure. Local governments do not appear to have a voice.

State Senator Darrell Steinberg—who chairs of the Natural Resources and Water Committee--authored SB 375 and shepherded it through the Assembly to successful passage. Governor Schwarzenegger signed the bill on September 2008. Co-sponsoring the bill were the California League of Conservation Voters (CCLV) and the National Resources Defense Council (NRDC).

Steinberg described SB 375 to a statewide newsletter, the Planning Report, in this way: it requires the state's 18 metropolitan planning organizations to show that their future planning scenarios will result in a reduction in carbon. The requirement will engage regions in a process similar to a process pioneered in my region of Sacramento, known as "the blueprint," which essentially says that we need to plan as a region, not just as individual cities and counties. Air quality, traffic congestion, and carbon know no artificial boundaries. These issues must be tackled regionally. Access the interview at http://www.planningreport.com/tpr/?module=displaystory&story_id=1257&format=html.

SB 375 is based on the Sacramento Blueprint. The Sacramento BluePrint is a model developed by the Sacramento Association of Counties (SAC)—similar to our MWCOG—in 2004 to promote compact, mixed-use development and more transit choices as an alternative to low density development. Access the Blueprint at http://www.sacregionblueprint.org/sacregionblueprint/home.cfm or http://www.sacregionblueprint.org/sacregionblueprint/the_project/BP_Insert_JUN_2007.pdf

The SAC in its analysis considered several development scenarios. The summary report describes the Base Case analysis and an alternative development scenario. If the region continued with their current development pattern what could they expect by 2050 in terms of the job/housing balance, traffic congestion, etc.—this is the base case. What could they expect under an alternative development scenario?

SAC in the summary report (link noted above) also lists next steps:

- Maintain database of regional models and tools
- Provide assistance to local communities
- Track and publicize conformance to the Blueprint action plan by participating jurisidictions
- Prepare a 2035 forecast and land allocation projection
- Develop and implement a benchmarking system

The co-sponsors of SB 375 have issued a summary document: Guide to California's SB 375. http://www.ecovote.org/pdf/sb375.pdf . The endnotes to this summary document reference some supporting and related research. Professors at Virginia Tech's Metropolitan Institute provide an assessment of the legislation. Access these papers via http://www.google.com/search?q=uploads+nelson+Smart+growth+Conf+site:www.mi.vt.edu . Thomas Sanchez wrote a paper on reviewing the role of Metropolitan Planning Organizations (MPO) in social justice and transportation equity. MPO's play a critical role in the implementation of SB 375. And, Reid Ewing, based at the University of Maryland, wrote a paper examining the relationship between urban form and energy use. Arthur Nelson examined the impact of urban growth on land use.

During an interview with California Governor's Office of Planning and Research state Clearinghouse (OPR), Seth Litchney described the implementation strategy that is currently being worked out. Generally speaking the idea is

1. CARB (Air Resource Board) will set the GHG targets
2. Metropolitan planning organizations must create a sustainable communities strategy to ensure that participating jurisdictions meet those targets.
3. If jurisdictions cannot meet the targets under current transportation planning and land use critieria then alternative planning scenarios must be developed.
4. Each jurisdiction must review and adopt the alternative planning scenario.

The Governor's office was not involved in crafting the legislation or in providing supporting material. OPR suggested contacting the State Senate's staff consultant on the Natural Resources committee, Bill Craven. Mr. Craven admitted that much of the "research" lifting was done by the CCLV and NRDC. It appears that the most compelling component in moving the bill through committee and the senate was expert testimony. There wasn't anyone arguing against reducing greenhouse gas emissions. The friction was in how SB 375 would be implemented. Bill Higgins of the League of California Cities said commented that their opposition was grounded in the governance and politics of the legislation not the science. Craven said that there were 15 points of contention. However, there were only three big issues:

1. Whether the state is usurping local land use authority?
2. Is the requirement for a sustainable communities strategy replacing general land use plans?
3. How to coordinate regional housing and transportation requirements and timelines?

Since the passage of SB 375, the Natural Resources Committee staff has received a number of calls from U.S. Senators and Representatives as well as from other states—legislative staff, governor's staff or from state agencies. Montgomery County is the only county government to call inquiring about the logistics of SB 375.

In short, the debate wasn't centered on whether greenhouse gas emissions are a problem rather the debate focused on how to get support for 'this' framework for reduction. It appears through numerous interviews with legislators and planner in California that research and statistics did not play a starring role in crafting or moving this piece of legislation. Darrell Steinberg came in with a vision, he saw SB 375 following the example set by the Sacramento Council of Governments.

California State University at Santa Bernardino has a link to a nice PowerPoint summarizing SB 375 and AB 72:

http://leonard.csusb.edu/outreach/documents/FINAL_GHGReductionOverview-AB32_SB375_ARC.pdf

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

Lead Staff: Mark Pfefferle

Summary:

The appendix demonstrates that further evaluations are necessary to identify a means to encourage reductions in future carbon emissions that are generated by growth.

In January 2009, Planning Department staff began working with a group of George Washington University Master of Public Policy studies to explore different methods of reducing greenhouse gases. Specifically, staff directed the students to research and explore various approaches to reduce greenhouse gases applicable to new development and redevelopment plans. The students found programs that address greenhouse gas emissions at the state and local levels to be in their infancy. Since the programs are new, there is little data available indicating the success of the programs in reducing greenhouse gas emissions.

The students identified three approaches to reduce greenhouse gas emission generated by development and redevelopment: direct regulation, offset the existing AFPO fees, or initiate new impact fees. The direct regulation approach would mandate developers implement greenhouse gas reduction actions during the development process. The approach to either offset the existing AFPO fee or new impact fees would provide incentives to induce developers to reduce greenhouse gas emissions by reducing existing or pre-requisites for fees so that the greater the greenhouse gas emissions the greater the fee reduction.

Staff is recommending a continued analysis of the various techniques to reduce greenhouse gases generated by new development. In particular, further analysis is needed to determine which of the approaches mentioned above are most appropriate for Montgomery County. All of the approaches would require developers employ and implement technologies that are not used elsewhere in the Washington Metropolitan area. Care would need to be taken to ensure that an approach does not become a disincentive for development and yield little of few results. Any program, such as the new fee program, must be used for the intended purpose, that is to reduce greenhouse gas emissions and not as an attempt to slow growth or raise revenue for the County. Furthermore, the students recommend and staff concurs that a full cost-benefit analysis be undertaken to determine the greenhouse gas reduction impact, cost savings to businesses, changes in desirability of developing in Montgomery County, historic

development rates, and transaction costs before implementing a greenhouse gas emissions program.

A copy of the Capstone report: “Strategies for Reducing Greenhouse Gas Emissions During Development and Redevelopment in Montgomery County, Maryland” and the accompanying appendices to that report can be found on the GrowingSmarterMontgomery webpage:

http://www.montgomeryplanning.org/research/growth_policy/growth_policy09/agp_growing_smarter.shtm