



**MONTGOMERY COUNTY PLANNING DEPARTMENT**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

## Memorandum

To: Montgomery County Planning Board  
From: Karl Moritz, Chief, Research & Technology Center  
Re: Growth Policy Studies

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### Summary

The Montgomery County Council adopted a new *2007-2009 Growth Policy* for Montgomery County in November of 2007. When County officials debate “growth policy,” the subject can include a variety of growth-related topics. Technically, however, the “Growth Policy” is a resolution that contains procedures for implementing the County’s adequate public facilities ordinance: how to determine if transportation, schools and other public facilities are adequate to support proposed development projects.

Each Growth Policy resolution contains a list of work program items, called “Issues to be Addressed in the Future.” In the 2007-2009 Growth Policy, a number of these tasks are due to be delivered to the County Council on or before August 1, 2008.

The Planning Board’s worksession on July 21 will focus on five studies due to the Council in August. These are attached to this memo as separate memoranda from the planning staff leading these studies. In some cases, staff has recommendations that we would like the Planning Board to endorse. In general, however, our request is that the Planning Board approve the transmittal of these studies to the County Council.

### Background

The *2007-2009 Growth Policy* contains six tasks or studies for delivery to the Council on or before August 1, 2008. Five of these will be discussed with the Planning Board at our July 21 worksession. In this section, the task description is shown in italics, followed by a summary of the work completed by staff.

1. *F3 Alternatives to PAMR: The Planning Board, with the aid of the Executive, must evaluate alternatives to Policy Area Mobility Review (PAMR) as a policy area level transportation test. As part of this study, the Planning Board must evaluate alternative*

*methods to calculate the key components of PAMR, relative arterial mobility and relative transit mobility, and options to replace PAMR and LATR in Metro station policy areas with a broad requirement for trip mitigation from new development.*

Staff recommends that the Planning Board approve transmittal of staff recommended policy to the County Council for their review and comment. Key staff recommendations related to alternatives to PAMR are:

- Retain the overall PAMR measurement tool as instituted in 2007-2009 Growth Policy for the time being.
- Immediately introduce an \$11,000 value per vehicle trip to be mitigated for applications that need PAMR mitigation for between 3 and 30 vehicle trips. For these smaller applications an applicant should be able to proceed directly to the “payment-in-lieu of construction”.
- Review means to integrate our sustainability and design excellence objectives into PAMR during the comprehensive growth policy studies due to the Council next spring.

2. ***F4: Guidelines for Non-Auto Facilities:*** *The Planning Board, with the aid of the Executive, must evaluate its guidelines for trip credits for non-automobile facilities, including the text and chart that appears on pages 26-29 of its Local Area Transportation Review Guidelines. In reviewing these credits and acceptable facilities, the Board must consider factors such as the likelihood of the action reducing peak hour auto trips and the approximate construction costs of each action, to allow some equivalency between actions. The Board must also evaluate its procedures to monitor the construction of facilities for which credits are given. The Board must submit any revisions of these trip credit guidelines to the Council for its review.*

Staff recommends following a three-step approach to address the peak period trip credit for implementing the non automobile transportation facilities:

- Establish an \$11,000 cost per peak period trip unit.
- Establish a list of eligible facilities.
- Identify a list of candidate projects available to assist applicants to develop their mitigation plan.

Application of the Non-Automobile Transportation Facility measures in Table 5 of the LATR guidelines will be pursued in the foreseeable future, unless an applicant requests a mitigation action worth \$11,000 per peak period trip based on an approved cost estimate for the proposed mitigation. Staff has a proposed list of eligible facility types, but no specific candidate projects are yet identified. When MCDOT provides the Planning Department with a list of specific facilities ready for implementation and their costs, we will be able to shift more fully to the new paradigm . The shift would be completed with the Board’s adoption of the next generation of the LATR/PAMR Guidelines, anticipated next spring.

3. ***F5 Development Activity Status Report:*** *The Planning Board must prepare a status report of development activity that has occurred since this Growth Policy took effect. The Board must report, to the extent that it is able, on the effect of Growth Policy and impact tax changes on development activity in Clarksburg relative to nearby areas inside and outside the County.*

Staff has reviewed development activity statistics for the two-year period preceding the adoption of the Growth Policy, and for the six months that followed. Although the pace of development approval activity (as well as actual construction activity) has declined significantly over the period, much of this is likely due to the economic climate in the county, region and nation rather than changes to the County's growth policy.

4. ***F6 Design of Public Facilities:*** *The Planning Board, with the aid of the Executive, must convene a "design summit" of public agencies involved in the design and development of public facilities and the review of private land development to develop a consensus and commitment to design excellence as a core value in all public and private projects and focus on how to improve design of public facilities and private development through various means, including better coordination among agencies.*

In response to this request from the County Council, the Planning Department completed a series of Design Seminars in conjunction with Roger K. Lewis, FAIA. The purpose of the Design Seminar series was to develop policy recommendations and practices that foster high quality civic design in planning sustainable centers and communities, regulation of development projects, and construction of public facilities.

To expand the outreach efforts and to improve the involvement of the agencies responsible for the design of public facilities, a final seminar or design summit will be held in the fall of 2008 to develop a consensus and commitment to design excellence as a core value in all public projects as directed by the County Council. The recent completion of the design charrette for SilverPlace is an example of a collaborative effort to produce a high quality public project.

5. ***F7 Transportation-Housing Affordability Index:*** *The Planning Board must conduct the necessary research and analysis to develop a transportation-housing affordability index for the County. The Board must develop the index as part of its FY08 work on a Housing Policy Element of the General Plan unless it concludes that the index is better developed as part of F9 Sustainable Quality of Life Indicators.*

The Planning Department has partnered with Arthur C ("Chris") Nelson, formerly with Virginia Tech and now Director of Metropolitan Research with the University of Utah, on producing this index for Montgomery County. Dr. Nelson worked with the Center for Neighborhood Technologies in Chicago to develop a housing-transportation affordability index -- initially for the Minneapolis-St. Paul region and now for 52 regions around the United States.

6. ***F8 Public agency signoff:*** *The Planning Board, after consulting Executive staff, must evaluate and submit a recommendation to the Council for any necessary changes to*

*current law or policy regarding the point or points in the development process when an agreement between an applicant and a public agency is required for an additional facility or program which would be a condition of development approval.*

Planning staff has developed a recommended policy for the required signoffs from public agencies on conditions of approval of development applications. The recommended policy, in the form of a flow chart and a set of recommendations, is the culmination of discussions with Commission staff, Department of Transportation (DOT) staff, County Council staff, and a public forum held at MRO in June.

Staff recommends the Planning Board's review process be revised to incorporate the following recommendations:

1. Facilitate greater interagency collaboration with applicants prior to the submission of a formal LATR/PAMR study or development review application, including M-NCPPC and DOT concurrence on the general mitigation approach.
2. Permit an increase in DOT/SHA review time for staff approved LATR/PAMR studies to 60 days for those applications proposing mitigation.
3. Define major off-site capital projects that may require mandatory referral.
4. Formalize the reconsideration process and timeframe for agency concerns with Planning Board approvals.

The first two recommendations would require a change to the Planning Board's LATR/PAMR Guidelines (amended both April 15, 2008 and May 15, 2008) to require applicant compliance. We find that all four recommendations should ultimately streamline the development review process. To avoid "guideline amendment fatigue", we propose to pursue the promotion of all four recommendations but withhold formal Board adoption of the recommendations until the next formal amendment of the LATR/PAMR Guidelines anticipated next spring.

## Index of Growth Policy Study Reports

- 1) Study F3 – Alternatives to PAMR
- 2) Study F4 – Guidelines for Non-Auto Facilities
- 3) Study F5 – Development Activity Status Report
- 4) Study F6 – Design Seminars
- 5) Study F7 – Housing-Transportation Affordability Index
- 6) Study F8 – Public Agency Signoff



July 15, 2008

**MEMORANDUM**

TO: Karl Moritz, Chief  
Research and Technology Division

VIA: Daniel K. Hardy, Acting Chief DKH  
Transportation Planning

FROM: Eric Graye, Planning Supervisor EG  
Transportation Planning

SUBJECT: 2007-2009 Growth Policy Study Update  
Resolution No. 16-376  
**Study F3: Alternatives to Policy Area Mobility Review (PAMR)**

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**INTRODUCTION**

This memorandum presents staff recommendations pertaining to Study F3 under County Council Resolution 16-376 related to the evaluation of alternatives to Policy Area Mobility Review (PAMR) as a policy area transportation test. This task included an evaluation of alternative methods to calculate key components of PAMR, relative arterial mobility and relative transit mobility, as well as options to replace PAMR and Local Area Transportation Review (LATR) with a broad requirement for trip mitigation from new development. Recommendations and discussion related to six (6) alternative refinements to PAMR are provided below.

**RECOMMENDATIONS**

Staff recommends that the Planning Board approve transmittal of staff recommended policy to the County Council for their review and comment. Key staff recommendations related to alternatives to PAMR are:

1. Retain the overall PAMR measurement tool as instituted in 2007-2009 Growth Policy for the time being.
2. Immediately introduce an \$11,000 value per vehicle trip to be mitigated for applications that need PAMR mitigation for between 3 and 30 vehicle trips. For these smaller

applications an applicant should be able to proceed directly to the “payment-in-lieu of construction”.

3. Review means to integrate our sustainability and design excellence objectives into PAMR during the comprehensive growth policy studies due to the Council next spring. We believe the PAMR approach remains a valid analysis tool, but we need to re-examine:
  - a. what our multimodal mobility expectations should be. In essence, our auto mobility expectations are probably set too high, so we should consider redrawing the lines of acceptability on the PAMR chart.
  - b. how we continue to use the mitigation approaches (such as the \$11,000 per trip cost combined with impact tax credit discussions this fall) to both encourage, and provide revenue for, funding transit investment
  - c. whether special taxing districts, in conjunction with strict staging mechanisms, such as that contemplated for the White Flint Sector Plan area, could be established to provide a more streamlined delivery of transportation infrastructure in our more intensely developed transit-oriented districts.

## **DISCUSSION**

Our analysis evaluated six different alternatives to, or changes within, PAMR. The analysis and findings of each are summarized below.

### **1. Proportional Staging**

This alternative would allow forecasted master planned development to occur in proportion to the amount of un-built master planned transportation capacity for defined subareas of the County. While conceptually appealing, this approach has a “fatal flaw” in that it assumes a “fixed” end-state condition. This assumption is problematic because it:

- assumes every policy area has an optimal land use/transportation balance (neither too much, nor, importantly, too little) land use at end state and
- allows no flexibility to modify either the transportation or land use in master plans over time in response to change conditions.

One possible way to address this fatal flaw would be to use a “sliding scale” in order to redefine the end-state condition when a previously undefined master planned transportation project is introduced. That scale would be “adjusted” so that a change in the definition of end-state transportation capacity would accompany a commensurate change in the level of master planned land use development. As a hypothetical example:

Say the “Inside the Beltway” subarea has 81.1% of forecasted housing and 87.7% of forecasted transportation capacity. Then suppose the master plan for this subarea assumes 100 units of development capacity, of which 87.7 are built. Then assume a previously non-master planned transportation facility, like the Purple Line, is adopted in the plan. Assume the Purple Line

provide 10 units of transportation capacity that would yield a new total level of transportation capacity at  $100 + 10 = 110$  units. With no adjustment to the housing forecast for the area the 87.7 existing + programmed transportation units would account for only 79.7% of the planned capacity (i.e.,  $87.7/110$ ), until the Purple Line is programmed. The action of adding the Purple Line to the master plan would cause the subarea to go from adequate to inadequate.

But if the area was simultaneously “up-zoned” to reflect the additional housing that could now be accommodated as a result of the additional transportation capacity added to the plan, that action would “re-adjust” the definition of end-state accordingly. Since the Purple Line increased transportation capacity by 10% (i.e.,  $110/100$ ), the percentage of forecasted housing would have to be adjusted similarly so as to reflect a 10% increase in the housing forecast. As a result of the up-zoning, the new percentage of forecast housing in the plan area would be reset to 81.1%. This approach would keep the proportional supply of transportation capacity ahead of the proportional demand for housing.

The primary drawback to this approach is that it too closely binds land use decisions to transportation decisions (again, based on the assumption that the current end-state is perfectly balanced.) The addition of any new master planned transportation capacity (say, a new BRT guide-way along Veirs Mill Road) would mandate higher zoning. Conversely, the removal of any new master planned transportation capacity (say, the removal of the Rockville Pike/Nicholson Lane interchange) would mandate downzoning. Staff finds that this is not a prudent means for master planning.

## **2. Disaggregated Relative Transit Mobility (RTM)**

One critique of the Relative Transit Mobility (RTM) measure, as currently developed, is that the aggregation of travel times considers the aggregation of journey-to-work travel times from any subject policy area to all other areas in the region (weighted by total trips by mode, rather than first considering relative transit access for specified origin-destination pairs prior to the weighting by total trips. Staff has calculated the year 2012 PAMR results using the current as well as the alternative disaggregated RTM methodology. A comparison of the results of the two approaches is described below.

The year 2012 PAMR charts resulting from the application of the current and alternative disaggregated RTM methods are shown as Exhibit 1 and Exhibit 2, respectively. A table reporting the RTM values resulting from the two approaches is provided as Exhibit 3. In general, the disaggregated RTM values are 5% to 10% lower than the current method. Based on the PAMR scores resulting from the alternative process, nearly one-half of the County (11 policy areas) would fall into the “Acceptable with Full Mitigation” category (i.e., Germantown East, Gaithersburg City, North Potomac, Montgomery Village/Airpark, Damascus, Clarksburg, Fairland/White Oak, Rockville City, Bethesda/Chevy Chase, Silver Spring/Takoma Park and Potomac). The policy areas that would be required to mitigate 100% of the trips generated from new development using the current and disaggregated RTM methods in the 2012 PAMR analysis are shown in Exhibit 4 and Exhibit 5, respectively.

A hypothetical example of the two alternative RTM methods is provided as Exhibit 6. In the example, traffic zone A has two origin-destination pairs, A to B and A to C. A total of 1000 trips



(800 by auto with an average travel time of 15 minutes and 200 by transit with an average travel time of 30 minutes) travel the relatively short distance from A to B. A total of 200 trips (150 by auto with an average travel time of 75 minutes and 50 by transit with an average travel time of 60 minutes) travel the relatively long distance from A to C. Given this scenario, the current (aggregate travel time) method yields a RTM value of 68%. Implementation of the disaggregated method yields a RTM value of 62.5%.

A key point to note is that the variation in distance between the two O-D pairs makes a difference in RTM when computed using the two approaches. If transit-oriented destinations are farther away in distance than auto-oriented ones, then weighting the RTM to reflect trip lengths (as reflected in the current approach) would result in a higher RTM. The current RTM approach also reflects the fact that transit mode shares are generally higher for longer distance commutes.

### **3. PAMR without Relative Transit Mobility**

This approach would establish Relative Arterial Mobility standards for selected groupings of policy areas using an approach other than Relative Transit Mobility. This type of approach was used prior to 1994 when area roadway congestion standards were set by considering several different transit service parameters. An example of this concept is displayed in the table provided as Exhibit 7. Staff finds this approach is undesirable for several reasons, including:

- it does not address transit access or mobility measures;
- it is subject to arbitrary designation and;
- it provides a framework that makes it difficult for policy areas to move from one group designation to another.

### **4. Regional Accessibility Indices**

In the context of transportation planning, accessibility is typically defined as the number of jobs and/or housing units that can be reached with a specified time budget from a specified location. Staff finds that accessibility indices are excellent technical measures for evaluating the relative performance of alternative land use/transportation scenarios (an application regularly performed by MWCOCG) or gauging time-series data trends. It is also a measure for which land use changes are often an effective strategy. However, this measure suffers the same fatal flaw as proportional staging; there is no easy way to define and communicate an absolute standard of adequacy (i.e., having 500,000 jobs within 45 minutes is acceptable but having only 450,000 jobs within that same travel time is not ...). Staff recommends continuing to pursue accessibility as measure of sustainability, but not as a staging tool.

### **5. Mandatory Trip Reduction**

This approach, in lieu of PAMR and perhaps LATR, would take the Alternative Review Procedure already in available in MSPAs (including payment of a higher transportation impact tax and provision of programs to achieve a 50% reduction in peak vehicle trips generated) and make it mandatory. The primary concerns with this proposal are:

- Whether it would tend to encourage or discourage desired development and
- Whether the effects of the 50% “unmitigated” traffic on adjacent (or “parent”) policy areas are sufficiently addressed through the current PAMR process.

A secondary concern is related to the amount of inter-agency staff effort needed to monitor Traffic Mitigation Agreements over the long haul.

The primary benefits of the mandatory trip reduction proposal are that it streamlines the development review process and encourages private sector participation in the provision of travel demand management (TDM) programs and services. These advantages were seen as incentives when the Alternative Review Procedure was established for MSPAs in 1997. However, only two development projects, Twinbrook Station (subsequently annexed by the City of Rockville) and North Bethesda Town Center, have applied under this procedure. The lack of historic participation suggests that if it were made mandatory, it could dampen, rather than incent, MSPA development.

This concern would be particularly true for smaller, single-use projects. Both Twinbrook Commons and the North Bethesda Town Center were large (more than 15-acre) mixed use projects and the ability to apply “internal capture” of trips from one use to another on the same site was viewed as integral to the ability to reduce 50% of the peak hour vehicle trips that would otherwise be generated by the site. Neither site has yet developed to the point where the Traffic Mitigation Agreements are active to demonstrate conformance with the trip reduction requirement. We understand that the risk of non-performance may also affect developer interest in the alternative process.

We are exploring a similar concept in the development of the White Flint Sector Plan which would replace the LATR and PAMR processes with a special taxing and administrative district of sorts. Within this district, needed infrastructure would be funded by a pro-rata assessment based on property characteristics associated with travel demand generation (similar to the process used to set the County’s current transportation impact tax, but calibrated to the Sector Plan needs). The Sector Plan would also need a staging mechanism that ensured periodic achievement of transportation performance goals. Most TDM programs and services, such as shuttle services and ridesharing programs, benefit from economies of scale, so that involving all Sector Plan development in a common trip reduction goal would be both more efficient, and more likely attainable, than requiring that each individual property achieve the same goal. We will continue to develop this concept for White Flint with an eye to how it could be applied elsewhere in the County.

## **6. PAMR De-Minimis and Payment-in-Lieu Provisions**

The current Growth Policy requires consideration of PAMR impacts for any development that generates more than three (3) weekday peak-hour trips. The establishment of a de-minimis level for the proposed PAMR test was not explicitly discussed during the spring or summer of 2007. Staff had developed the test with the presumption that the same 30-vehicle trip threshold would apply for both LATR and PAMR. For comparison purposes, the Institute of Transportation Engineers suggests that a 100-vehicle trip threshold is an appropriate minimum level for

requiring a traffic impact study considering both the significance of the impact and the administrative cost of traffic study development and review.

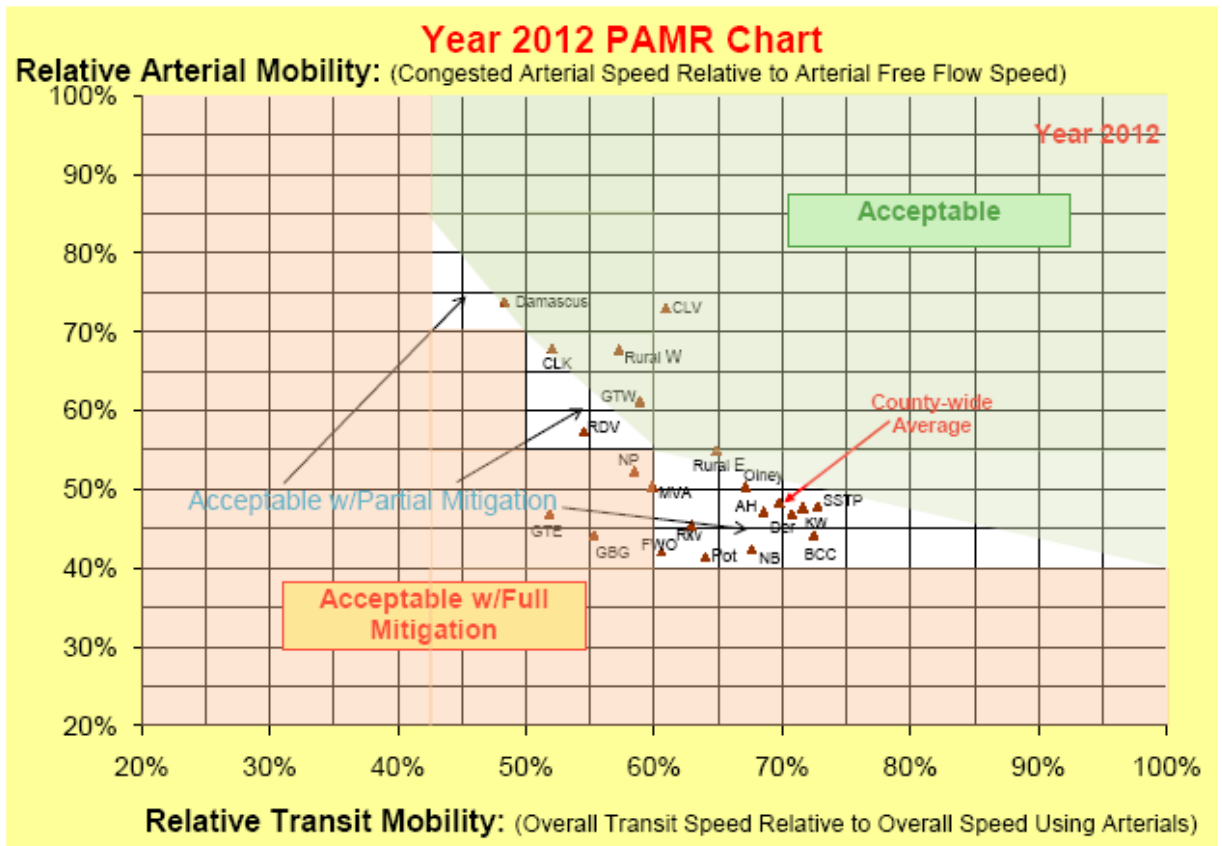
Planning Department staff have subsequently (along with MCDOT) been evaluating proposals for the installation of individual handicap ramps for a revised APF finding at time of building permit. In such cases, the administrative cost to the taxpayer of staff time can approach installed values of the mitigation device itself. Staff therefore recommends revamping the approach for those applications that generate between 3 and 30 peak hour trips to allow an applicant to proceed directly to the payment-in-lieu of construction approach.

Attachments (7)

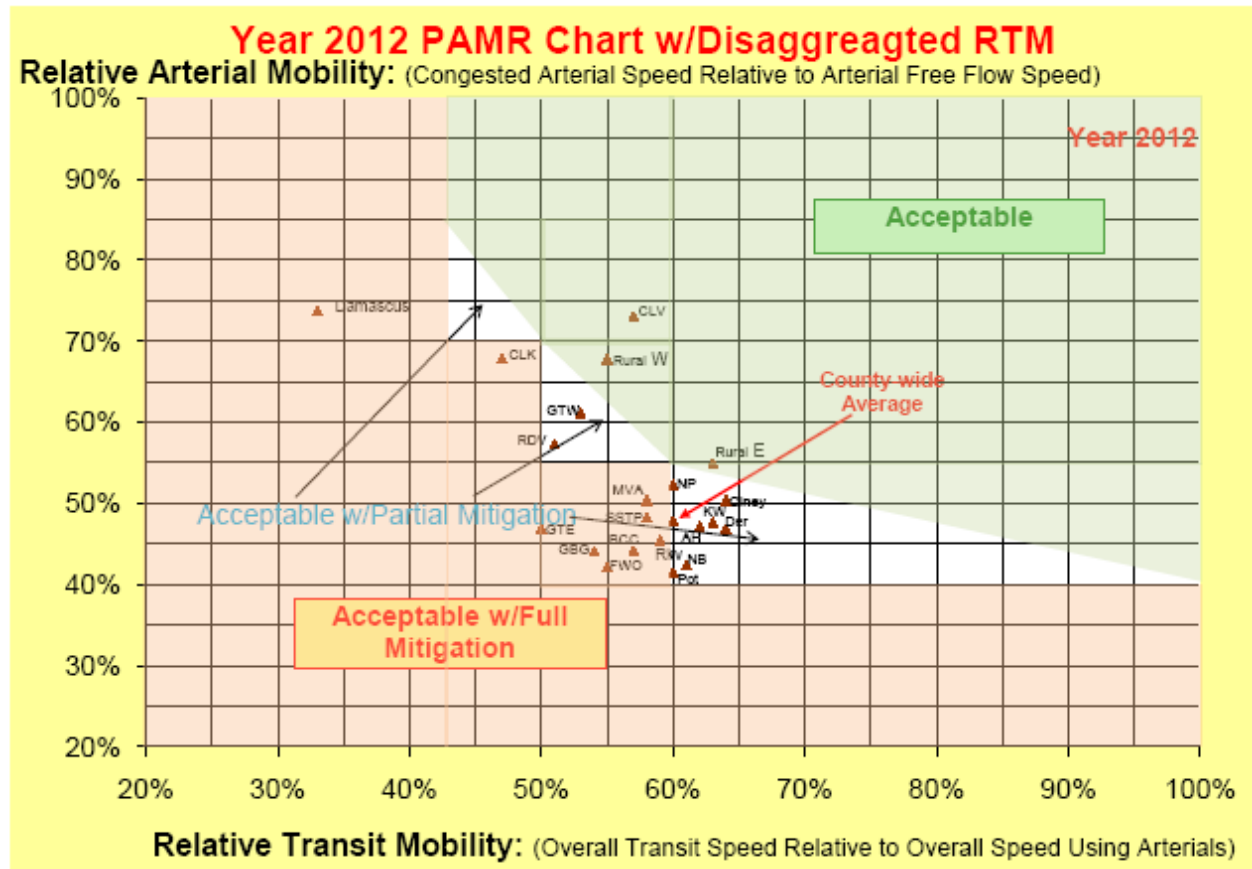
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**Exhibit 1: 2012 PAMR Chart**



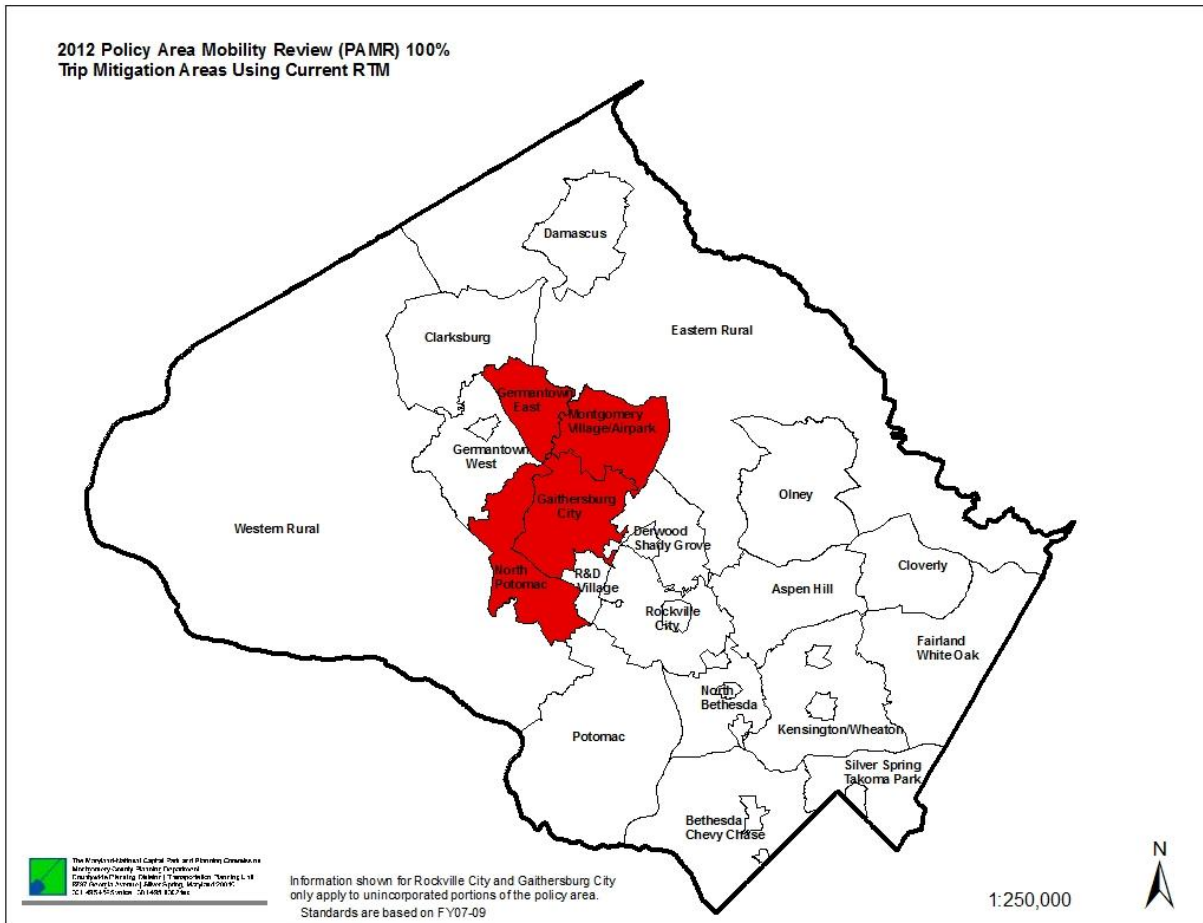
**Exhibit 2: 2012 PAMR Chart with Disaggregated RTM**



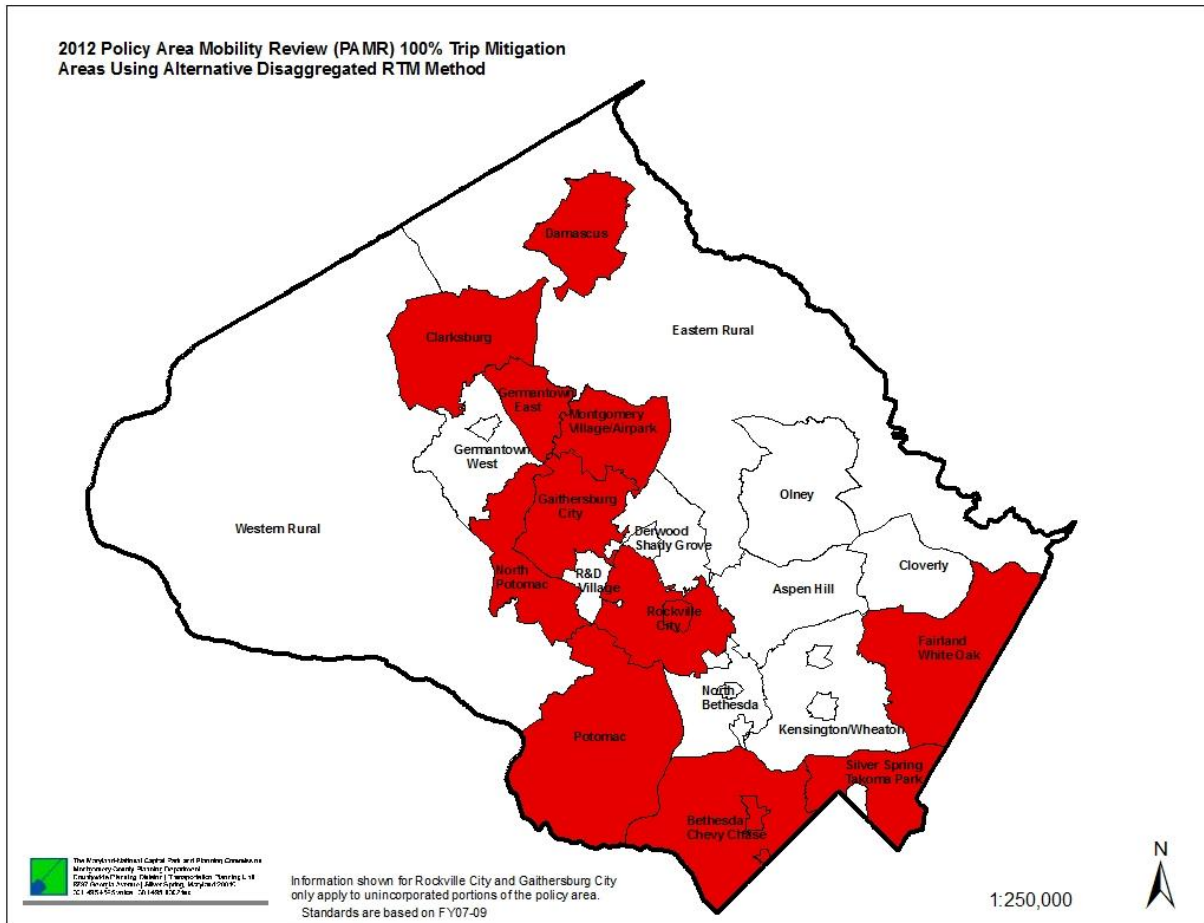
### Exhibit 3: Comparison of Year 2012 Aggregated and Disaggregated RTM

Policy Area	RTM (Aggregated)	RTM (Disaggregated)
Aspen Hill	69%	62%
Bethesda/Chevy Chase + MSPAs	72%	57%
Clarksburg	52%	47%
Cloverly	61%	57%
Damascus	48%	33%
Derwood + Shady Grove	71%	64%
Fairland/White Oak	61%	55%
Gaithersburg City	55%	54%
Germantown East	52%	50%
Germantown West + TCPA	59%	53%
Kensington/Wheaton + MSPAs	72%	63%
Montgomery Village/Airpark	60%	58%
North Bethesda + MSPAs	68%	61%
North Potomac	58%	60%
Olney	67%	64%
Potomac	64%	60%
R & D Village	55%	51%
Rockville City	63%	59%
Sil Spring/Takoma Park + MSPAs	73%	60%
Rural East	65%	63%
Rural West	57%	55%
<b>Montgomery County</b>	<b>70%</b>	<b>58%</b>

### Exhibit 4: 2012 PAMR 100% Trip Mitigation Policy Areas Using Current RTM



## Exhibit 5: 2012 PAMR 100% Trip Mitigation Areas Using Disaggregated RTM

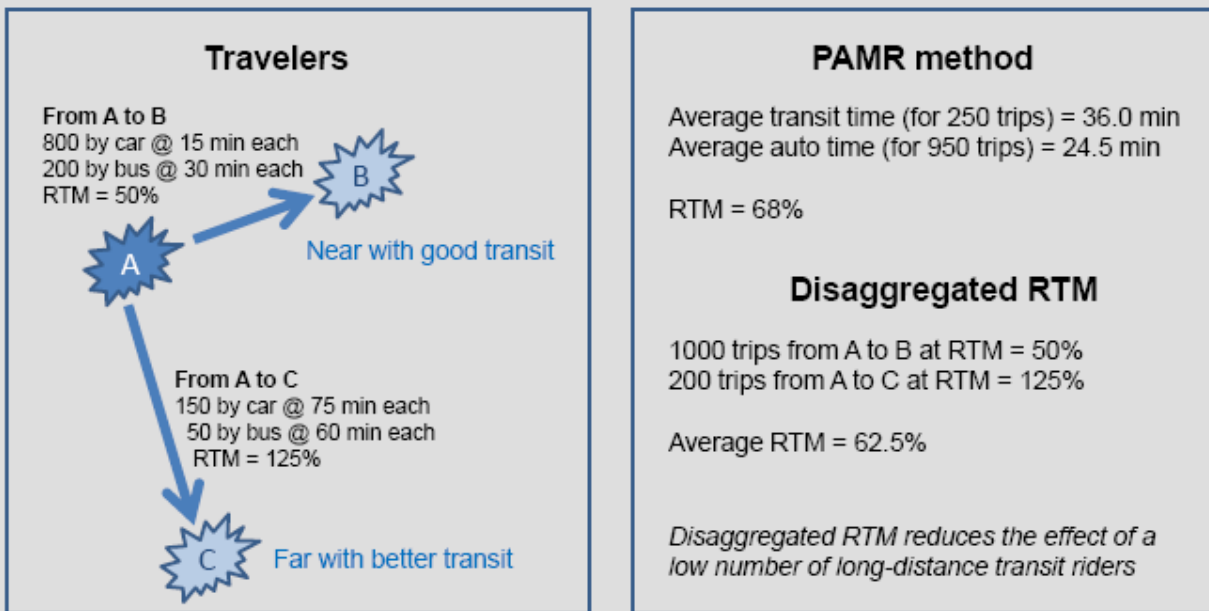




**Exhibit 6: Hypothetical Example of Alternative Relative Transit Mobility Methods**

## F3 - Alternatives to PAMR

Example of alternative Relative Transit Mobility (RTM) methods:



## Exhibit 7: Table Quantifying the Correspondence Between Transit Availability and Average Level of Service Standards

CHART 1: QUANTIFYING THE CORRESPONDENCE BETWEEN TRANSIT AVAILABILITY AND AVERAGE LEVEL OF SERVICE STANDARDS

Average Roadway Level of Service Standards	Group Classifications	Public Transport Alternatives to Automobile Travel	Transit Services Available or Programmed					
			Auto Dependent System	and/or	Bus Base Systems		and/or	Fixed Guideway Systems
			Park/Ride Access	Community and Local Bus Service	Regional Park/Ride Express Bus and High Occupancy Vehicle Priority Systems	Commuter Rail or Light Rail	Metrorail	
Representative Quantification Measures**								
			1. Number of Park/Ride Spaces Serving the Policy Area	2. Average Bus Frequencies in AM Peak Hour on Combined Routes (Buses per hour)	3. Number of Parking Spaces in Fringe Parking Lots	4. Average Frequency of Commuter Rail AM Peak Hour (Trains per hour)	5. Average Frequency of Metrorail in AM Peak Hour (Trains per hour)	
*	I	Marginal	Marginal access to stations or bus routes outside of the area	Not available	Not available	Marginal amount of the area is within walk access	Not available	
C	II	Limited	Limited number of park/ride spaces  100 to 500	Limited coverage and frequency  2 to 3.5	Limited park/ride spaces or lots with local bus service  100 to 500	Limited park/ride access and walk access  3 to 6	Park/ride and kiss/ride access limited to nearby stations outside of the area  0	
C/D	III	Moderate	Moderate number of park/ride spaces, limited kiss/ride service  500 to 1,000	Moderate coverage, service limited to policy frequencies  3.5 to 5	Moderate express bus service in conjunction with a system of park/ride lots  500 to 2,250	Moderate parking or walk access with system transfers  6 or more	Moderate station coverage and train frequencies in the area with associated feeder access  0 to 15	
D	IV	Frequent	Very good number of park/ride spaces and moderate kiss/ride service  1,000 to 1,500	Moderate coverage, combined policy and frequent demand-based service  5 to 8	Priority treatment for frequent express buses, local circulation feeder services in conjunction with a system of park/ride lots  More than 2,250	Same as Group III above	Much denser spacing of stations and bus routes, frequent train service  15 to 35	
D/E	V	Full	Substantial park/ride with full reliance on kiss/ride access  1,500 to 2,250	Full area coverage and a large number of routes with frequencies based on demand  8 to 10	Same as Group IV above	Same as Group III above	Full frequency and full reliance on kiss/ride, easier walk and bicycle access  More than 35*	
*	VI	Expanded	Expanded park/ride with reliance on kiss/ride access	Expanded bus frequencies, 100 buses on all routes in PM Peak Hour	Same as Group IV above	Same as Group III above	Full frequency, station in designated CBD with controlled parking and Transportation Mgmt. District  More than 35	

\* See text of the adapted AGP for methods and standards of assessing traffic.

\*\* Other measures also are used in quantifying level of service; see supporting documentation.

Source: Montgomery County Planning Department, June 1991.



July 15, 2008

**MEMORANDUM**

TO: Karl Moritz, Chief  
Research and Technology Division

VIA: Daniel K. Hardy, Acting Chief <sup>DKH</sup>  
Transportation Planning

FROM: Shahriar Etemadi, Supervisor  
Transportation Planning

SUBJECT: 2007-2009 Growth Policy Study Update  
Resolution No. 16-376  
**Study F-4: Proposed Policy on Non-Automobile Transportation Facilities**

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**INTRODUCTION**

The LATR and PAMR Guidelines provides for the Planning Board to permit a reduction in the amount of roadway improvements or actual trip mitigation if the applicant installs non-automobile transportation facilities such as sidewalks, bikeways or transit bus shelter to obtain trip credits for passing the LATR or PAMR tests. Transportation Planning staff and Montgomery County Department of Transportation have agreed to a three-step approach to accommodate for this provision of LATR in a concise and clear manner.

**RECOMMENDATIONS**

Staff recommends following a three-step approach to address the peak period trip credit for implementing the non automobile transportation facilities:

- Establish an \$11,000 cost per peak period trip unit.
- Establish a list of eligible facilities.
- Identify a list of candidate projects available to assist applicants to develop their mitigation plan.

Application of the Non-Automobile Transportation Facility measures in Table 5 of the LATR guidelines will be pursued in the foreseeable future, unless an applicant requests a mitigation action worth \$11,000 per peak period trip based on an approved cost estimate for the proposed mitigation. Staff has a proposed list of eligible facility types, but no specific candidate projects are yet identified. When MCDOT provides the Planning Department with a list of specific facilities ready for implementation and their costs, we will be able to shift more fully to the new paradigm. The shift would be completed with the Board's adoption of the next generation of the LATR/PAMR Guidelines, anticipated next spring.

## **DISCUSSION**

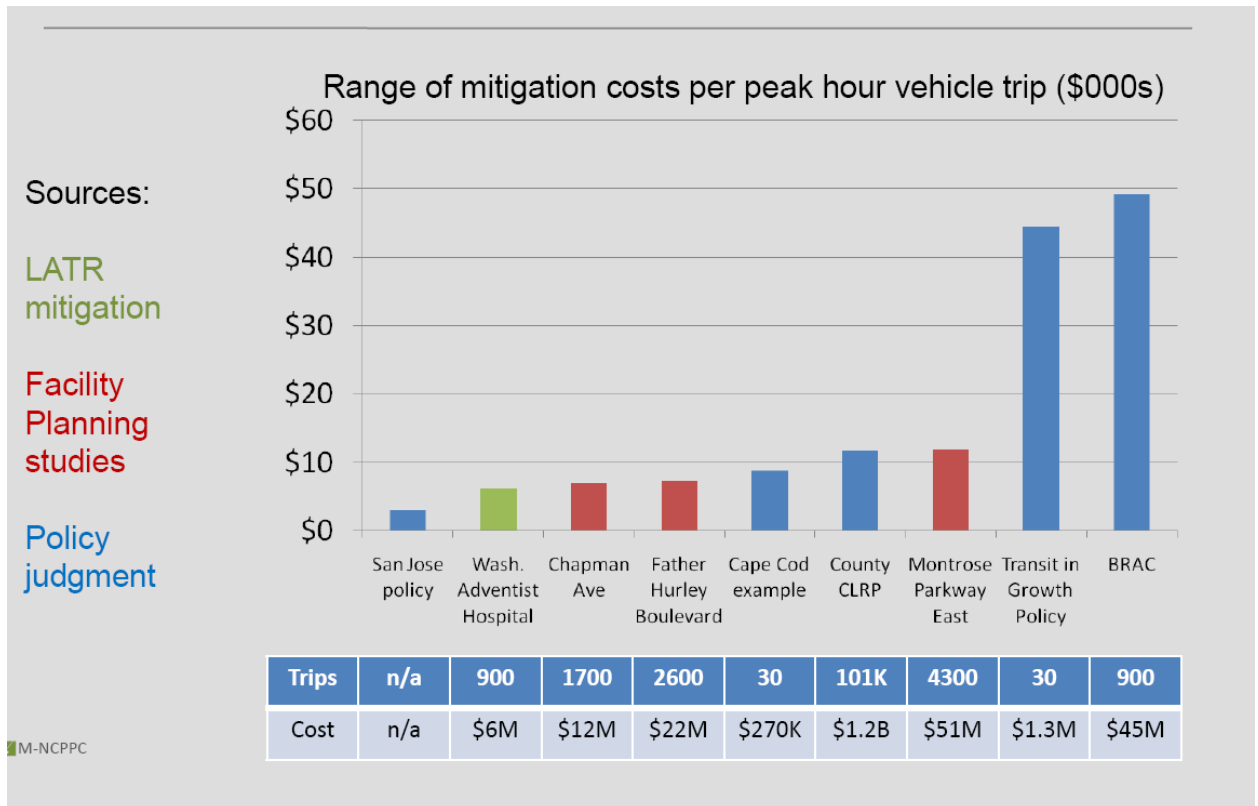
In accordance to the County Council direction, MNCPPC and MCDOT have jointly worked on various provisions of the Growth Policy that included the issue of Non-Automobile Transportation Facilities. The above recommendations are the result of our two departments' effort to determine the best way to implement the Growth Policy's intent. The following is the discussion of each of the recommendations above.

1. Establishing an \$11,000 cost per peak period trip unit was established based on research of standards in other jurisdictions and the cost of currently programmed projects in the county. This amount is for FY 09 based on 2008 dollar value and should have an escalation clause related to construction cost for any new fiscal year in which a new value is not explicitly established.

Figure 1 shows a range of peak hour trip unit cost by different sources, demonstrating values the study team considered. Five sources are identified based on policy documents, including:

- The value (\$2K to \$3K) established by the City of San Jose, CA to avoid widening any of the 24 "protected intersections" in strategic community zones within the city.
- The value of transit service suggested as an example in the guidelines for the Cape Cod Commission (where smaller buses run less frequent service than in Montgomery County)
- The value estimated during last year's growth policy studies for the Montgomery County's 2008-2030 participation in the region's Constrained Long Range Plan. This value was also the starting point for transportation impact tax rates.
- The value estimated for the transit service provision mitigation option in the current Growth Policy, and
- The value of the state's BRAC mitigation program, established by policy (with the same amount applied at each of the three primary BRAC sites in the state).

Figure 1. Range of potential values for peak hour vehicle trip.



- Establish a list of eligible facilities and their respective peak hour vehicle trip credit. These facilities will include but not limited to the following types of improvements:

- Bus layover space (within transit centers)
- Crosswalks
- On-road bicycle lanes
- Park-and-ride lots
- Park trial
- Pedestrian overpasses/underpasses
- Streetlights
- Transit “queue jumper” construction
- Transitway/busway construction
- Utilities undergrounding in urban areas
- Real time bus information signs at selected locations
- Sidewalk/bike path construction to complete missing links
- Pedestrian safety improvements including handicapped ramps.

It is important to note that the provision of bus shelter as a form of trip mitigation is not currently acceptable to DOT due to a contract with Clear Channel to install these shelters. The installation of bus shelter by applicants to mitigate their trips could resume when the DOT's contract with Clear Channel expires in 2009.

We recognize that other facilities proposed by the applicant may merit consideration if DOT and M-NCPPC deem appropriate for installation. In this case, the applicant submits the improvement plan with the cost estimate for their proposal and after review, it may be considered for implementation by the two departments.


The current LATR/PAMR Guidelines establish a conversion factor between vehicle trips and unit values (such as linear feet) for each type of non-auto facility, as shown in Figure 2.

Figure 2. Current LATR/PAMR Credits for Non-Auto Facilities

2008  
LATR/PAMR  
Guidelines

**Table 5**  
Graduated and Maximum Trip Credits Related to Congestion Standards

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



While the current approach appears desirable, it has the unanticipated consequence of directing mitigation resources to those types of offsite facilities that are the least expensive (handicap ramps being a current example), rather than those that are most appropriate to the location or type of development. The unit cost of facilities such as sidewalks can vary by an order of magnitude, as indicated in Figure 3.

Figure 3. Samples of Unit Cost for Non-Automobile Facility Improvements

MC CIP (or SHA CTP*) Project	Surrounding Land Use	Linear Feet	Total Estimated Cost	Cost per Linear Feet
Sidewalks				
MD 108	Suburban	4,350	\$10,138,000	\$2,331
US 29	Suburban	3,300	\$3,820,000	\$1,158
Greentree Road	Suburban	6,400	\$1,788,000	\$279
Bike Paths				
Shady Grove Metro Access	Suburban	5,200	\$2,714,000	\$522
Rockville Millennium, Ph III*	Suburban	3,600	\$678,000	\$188
Trail				
North Bethesda	Suburban	3,600	\$14,700,000	\$4,083
Silver Spring Green	Urban	4,500	\$6,334,000	\$1,408
Matthew Hensen	Suburban	23,885	\$4,792,000	\$201
Pedestrian Overpass				
Forest Glen Road Bridge	Suburban	11326	\$7,709,000	\$681
Rock Creek Ped. Bridge	Suburban	5227	6,800,000	\$1,301
Transit Centers				
Silver Spring	Urban	n/a	\$73,105,000	\$73,105,000
Takoma Park/Langley	Suburban	n/a	\$12,310,000	\$12,310,000
White Oak	Suburban	n/a	\$1,476,000	\$1,476,000

Requiring cost estimates for offsite improvements as a part of the mitigation approach will necessarily increase required coordination in the early stages of the development approval, but we believe it will direct applicants and agencies alike toward the most needed, rather than the most affordable, solutions.

3. Identify a list of candidate projects available to assist applicants to develop their mitigation plan. DOT will identify a list of facilities in each policy area that could be chosen for implementation by the applicants. DOT is currently is working on this list and

when available, it would be included in staff's package of information for applicants when considering mitigation of their trips.

SE:tc





**MONTGOMERY COUNTY PLANNING DEPARTMENT**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

July 16, 2008

Memorandum

**TO:** Karl Moritz, Chief, Research & Technology Center

**VIA:** Roselle George, Research Manager, Research & Technology Center

**FROM:** Pamela Dunn, Research & Technology Center

**SUBJECT:** 2007-2009 Growth Policy Study Update: **Study F-5: Development Activity Status Report**

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**Summary of Findings**

Staff has reviewed development activity statistics for the two-year period preceding the adoption of the Growth Policy, and for the six months that followed. The pace of development approval activity has decreased significantly over the period with residential development exhibiting a greater share of this decline. Construction activity, via issued building permits, has declined less so. Much of this change is likely due to the economic climate in the county, region and nation rather than changes to the County's growth policy. It should be noted that the timeframe for which the analysis has been conducted is relatively short in comparison to the lifespan of most development projects.

**Background**

The 2007-2009 Growth Policy adopted in November 2007 established several new criteria for the application of the County's Adequate Public Facility Ordinance. In recognition of these changes the County Council called for further research to be conducted during FY2008 related to the new transportation tests and the effect of the revised impact tax rates.

The Development Activity Status Report is a review of development activity that has occurred since the 2007-2009 Growth Policy took effect. The report summarizes residential and non-residential development within the County over the past two years. Subdivision applications and issued building permits are reviewed along with information on home sales, business growth and employment.

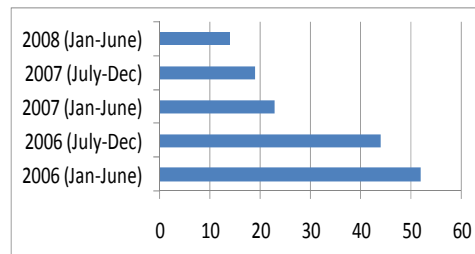
A corollary to the APFO is the development impact tax. The development impact tax is designed to channel funds from development to the County for the provision of infrastructure necessary to support growth.

The 2007-2009 Growth Policy set impact tax rates at a percentage of the marginal cost of growth. The school impact tax rates were set at 90% of the marginal cost of providing additional school facilities for residential development. Transportation impact tax rates were raised 70% across the board. These rates represent a significant increase over the rates in effect prior to December 2007. The new impact tax rates are applicable to all projects for which an application for a building permit is filed on or after December 1, 2007. Impact taxes are paid at the time building permits are issued.

### **Residential Development**

During the past six months, 14 applications for residential development have been submitted. In 2007, 42 residential applications were filed; 19 of these were filed during the last six months of the year. In 2006, 96 applications were filed. If the filing rate remains steady throughout 2008, the number of residential applications for 2008 will be approximately 33% below the total for 2007. Between 2006 and 2007, the number of applications fell 54%.<sup>1</sup>

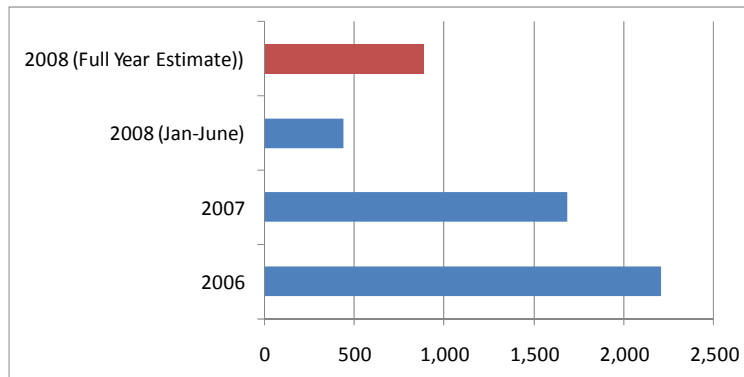
#### **Applications for Residential Development**



The number of units applied for however, have not declined at the same rate. Between 2006 and 2007, the number of proposed units fell 23% (while applications fell 54%), indicating several applications filed in 2007 were for large residential developments. It is difficult to predict the nature of applications yet to be submitted. If applications submitted in the second half of 2008 are similar to those submitted thus far, then the number of proposed residential units could fall by almost 47%. Yet, this could readily change with the submission of a few large-scale development applications.

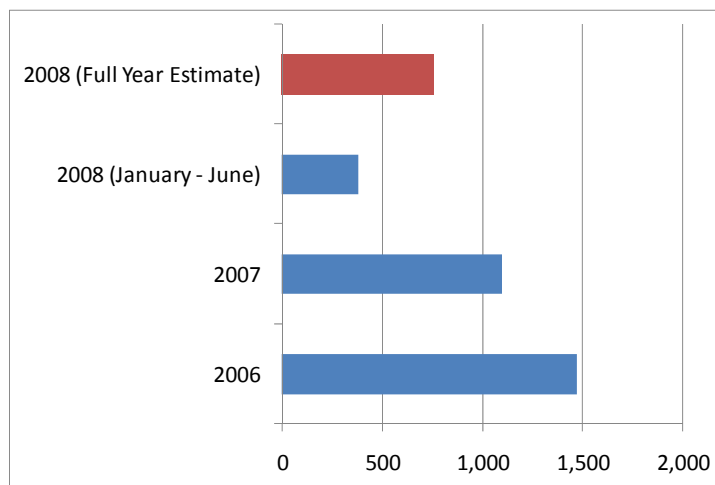
<sup>1</sup> Number of applications does not include applications submitted with amendments to the original plan.

## Applications for Residential Development in Dwelling Units



The number of residential building permits issued so far this year total 386 permits. During 2007, 1,166 residential permits were issued. In 2006, 21 more permits were issued than in 2007, for a total of 1,187 permits. If permits continue to be issued at the same pace throughout 2008, 34% fewer residential permits will be issued this year compared to last.

## Residential Building Permits in Single-family Units



Perhaps, more meaningful than the number of permits is the number of units these permits represent. Building permits to construct 1,473 single-family units were issued in 2006. In 2007, 1,101 single-family units were issued a permit; a 25% decrease from 2006. So far this year, 381 units have been permitted. Again, if this rate remains steady, 762 permits units will be issued a permit in 2008; a 30% decrease over 2007. (Data on permits for multi-family units was not available for this analysis).

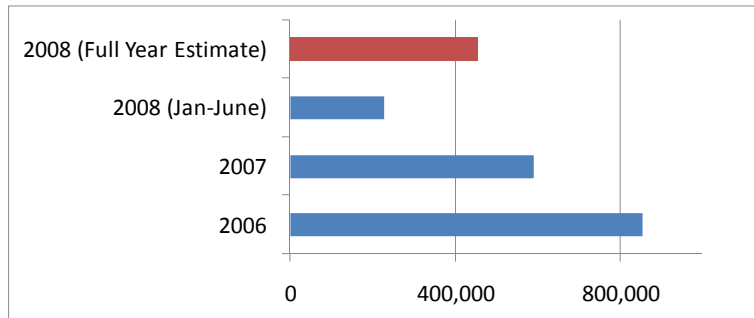
The apparent slow-down in the demand for building permits most likely reflects the slow-down in the residential market in general. The current rise in foreclosures, decrease in home prices, and tightening of financial resources affect the profitability of proceeding with certain residential development projects – causing some planned development to delay or reconsider the decision to proceed. Impact tax rates applied to projects at building permit will contribute to this as well. Yet, given the decline in issued permits between 2006 and 2007, the subsequent decline from 2007 to 2008 should not be entirely attributed to the rise in impact tax rates.

## **COMMERCIAL DEVELOPMENT**

In 2006, 26 subdivision applications for commercial development were filed. In 2007, 12 applications were filed. To date, four applications for non-residential development have been completed.

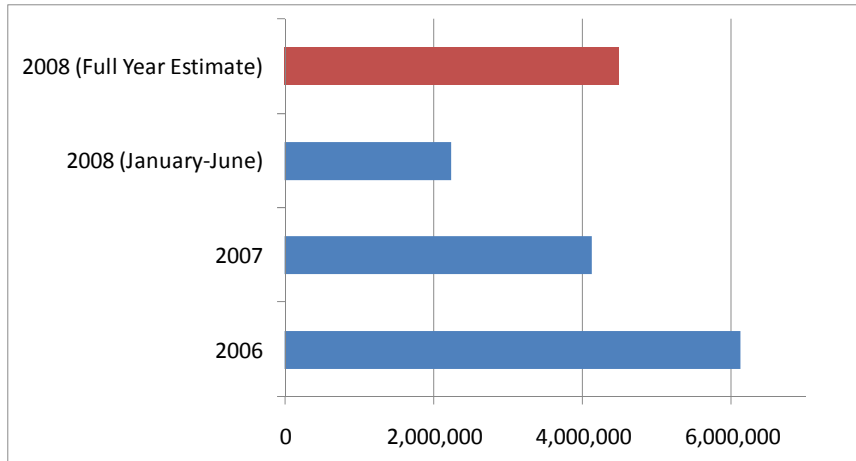
In terms of square feet, approximately 228,000 square feet of non-residential development has been applied for so far this year. During the last six months of 2007, applications for approximately 192,000 square feet were submitted. If the applications for non-residential space remain steady throughout 2008, the total amount of development proposed will have decreased by approximately 20 percent. Thus, although the number of applications has decreased significantly over the past two years, the amount of proposed non-residential development has fallen less so.

## Applications for Non-Residential Development – Square Feet



The number of commercial building permits issued since January 1, 2008 equals 288. In 2007, 703 non-residential building permits were issued. In 2006, 808 were issued. In terms of permitted space, over six million square feet were permitted in 2006. In 2007, approximately 4,134,000 square feet of space was permitted. And so far this year 2,243,513 square feet have been permitted; roughly half the total permitted during 2007. If this continues, there will be no appreciable change in the amount of non-residential space permitted.

## Non-Residential Building Permits – Square Feet

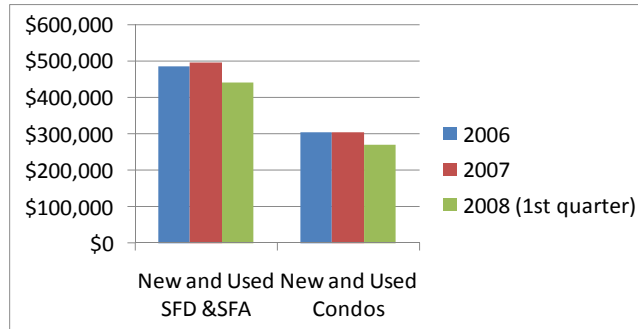


Compared to the residential market, this activity reinforces the assumption that the economic conditions of the housing market are playing a larger role in development activity than are impact tax rates, with the residential sector more decidedly affected than the non-residential sector.

### **HOUSING MARKET**

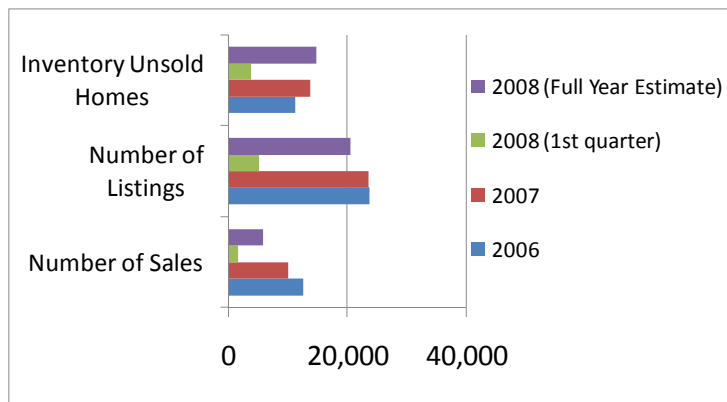
The recent slow-down in the housing market is evident in the declining number of new homes for sale during the first half of 2008 compared with data for 2006 and 2007. Median home values have fallen in recent months as well.

## Median Sale Price for Homes and Condos



In 2006 the total number of single family detached and townhome sales equaled 12,515. In 2007 the number of home sales fell to approximately 9,947. For the first five months of 2008, 1,452 single family detached and townhomes have sold. If this rate of sale remains steady, the total number of home sales for 2008 will be approximately 5,808; more than 40% less than sold in 2007 and 53% less than 2006.

## Single Family Detached and Townhomes for Sale



The number of listings has remained fairly constant with 23,677 in 2006 and 23,640 in 2007. If listings continue at a steady rate throughout 2008, approximately 20,532 new and

used homes will be listed for sale this year. Given the rising number of foreclosures entering the market, it seems reasonable to assume that the number of listings may remain constant.

With sales declining faster than listings, the inventory of unsold homes will increase. In 2006, the inventory of unsold homes was approximately 11,162 homes. In 2007, the level of unsold homes rose to 13,693 homes. By the end of 2008, if sale and listing rates remain steady, the inventory of unsold homes will increase to approximately 14,724 homes – a 32% increase since 2006.

## **BUSINESS GROWTH AND EMPLOYMENT**

One concern over the revised impact tax rates was that higher rates would dampen non-residential development. In the short term, this doesn't appear to be the case. The amount of non-residential permitted space is estimated to be approximately the same for 2008 as for 2007.

Application for non-residential space is estimated to decline by almost 20% during 2008. It is difficult to determine whether this is a result of higher impact fees and/or stricter APFO tests, or if this is indicative of the general market conditions facing the commercial sector such as higher fuel and construction cost, and increasingly stringent lending practices.

Vacancy rates for all types of office space are slightly higher in 2008 than they were in 2007 and in 2006. This gradual trend in vacancy rates would suggest that there is sufficient office space available.

According to CoStar, placed-based employment within the County has fallen 1.2% over the 2007 calendar year. Neighboring jurisdictions, Frederick, Howard and Prince George's County, all had minor gains in this area. Lease rates have increased approximately 10-13% since the first quarter of 2006, possibly contributing to this occurrence.



## Vacancy Rate by Office Class

	Class A	Class B	Class C	All Office Types
2006 1 <sup>st</sup> quarter	8.1	9.1	7.1	8.4
2 <sup>nd</sup> quarter	7.3	9.1	6.6	8.0
3 <sup>rd</sup> quarter	7.7	9.7	8.6	8.6
4 <sup>th</sup> quarter	7.6	9.4	8.7	8.5
2007 1 <sup>st</sup> quarter	8.0	10.5	8.7	9.2
2 <sup>nd</sup> quarter	8.5	10.0	8.6	9.2
3 <sup>rd</sup> quarter	9.4	9.8	8.1	9.4
4 <sup>th</sup> quarter	10.3	10.5	9.1	10.2
2008 1 <sup>st</sup> quarter	9.8	10.2	9.7	9.9
2 <sup>nd</sup> quarter	10.7	10.0	8.2	10.2

### OTHER LOCAL JURISDICTIONS

One specific concern related to the revised impact tax rates involves development in Clarksburg. Transportation impact tax rates increased by 70 percent. Clarksburg continues to be taxed at a higher rate than the rest of Montgomery County. Therefore, there is some concern that the increased tax (on retail in particular as it is the land use taxed at the greatest rate) will impede development in Clarksburg, encouraging development in neighboring jurisdictions instead.

It is hard to say whether development aimed for Clarksburg chose to locate elsewhere in Frederick County, as a whole. Urbana, the closest jurisdiction to Clarksburg in Frederick County, is the most likely alternative. So far this year, the retail market in Clarksburg appears stronger than the market in Urbana with a significantly lower vacancy rate, 3% versus 32%. Annual rental rates per square foot are 44% lower in Clarksburg than Urbana. Neither jurisdiction has any retail development currently under construction. While both have one proposed retail project yet to break ground; 93,228 square feet in Clarksburg and 94,000 square feet in Urbana.

Given both jurisdictions have no retail construction underway, and both have relatively the same amount of proposed retail in the near future, the recent increase in impact tax rates does not yet appear to have pushed development out of Clarksburg in favor of Urbana.

## Retail Activity in Select Jurisdictions

Existing	Montgomery County	Clarksburg	Frederick County	Urbana
Number of Properties	1,514	10	245	6
Inventory	34,108,277	78,190	7,830,937	177,530
Vacancy rate	3.0%	3.0%	7.0%	32.0%
Annual Average SF Rent	\$29.19	\$14.00	\$17.23	\$25.00
<b>Under Construction</b>				
Number of Properties	4	0	1	0
Total Space	631,322	0	100,000	0
<b>Proposed</b>				
Number of Properties	28	1	10	1
Total Space	1,856,370	93,228	940,400	94,000

Source: CoStar Property, 2<sup>nd</sup> Quarter 2008



**MONTGOMERY COUNTY PLANNING DEPARTMENT**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

July 15, 2008

**MEMORANDUM**

**TO:** Karl Moritz, Chief  
Research and Technology Center

**FROM:** John Carter, Chief  
Urban Design and Special Projects

**SUBJECT:** Growth Policy Study  
F6 Design of Public Facilities (Resolution No. 16-376)  
Design Excellence Program

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**COUNTY COUNCIL RESOLUTION**

During the review of the Growth Policy Study, the County Council passed the following resolution.

**F6 Design of Public Facilities (Resolution No. 16-376)** - The Planning Board, with the aid of the Executive, must convene a “design summit” of public agencies involved in the design and development of public facilities and the review of private land development to develop a consensus and commitment to design excellence as a core value in all public and private projects and focus on how to improve design of public facilities and private development through various means, including better coordination among agencies.

**DISCUSSION**

In response to this request from the County Council, the Planning Department completed a series of Design Seminars in conjunction with Roger K. Lewis, FAIA. The purpose of the Design Seminar series was to develop policy recommendations and practices that foster high quality civic design in planning sustainable centers and communities, regulation of development projects, and construction of public facilities. The focus of the Seminar Series was on the upcoming master plans and sector plans, and the review process. The series was attended by representatives of the Planning Department, the Department of Parks, the County Executive, the County Council, community members,

property owners, architects, developers, and land use attorneys. The following list identifies the completed Design Seminars, dates, and the topics of discussion:

- **Introduction and Overview**  
Wednesday, March 12, 2008  
Introduction by Royce Hanson, Chairman  
Overview, Purpose, and Organization by Roger K. Lewis, FAIA  
Presentation - With and Without Design Review by John A. Carter, AIA  
Discussion of design excellence facilitated by Roger K. Lewis, FAIA
- **Case Study No. 1: Urban Neighborhoods and Public Spaces**  
Wednesday, March 26, 2008  
Discussions in the field included establishing design excellence in urban neighborhoods in Montgomery County and the project plan and site plan review of specific projects in the urban neighborhoods of Fenton Street Village and the Woodmont Triangle.
- **Discussion: Urban Neighborhoods and Public Spaces in Montgomery County**  
Wednesday, April 16, 2008  
Group discussion included recommendations for improving the implementation of the master plan recommendations and establishing design guidelines for open spaces, and streets and roads as part of the Road Code, and the design and function of amenities. The discussion was applied to the review of projects in Fenton Village and the Woodmont Triangle.
- **Case Study No. 2: Emerging Neighborhoods**  
Wednesday April 30, 2008  
Discussion in the field with officials of the City of Alexandria concerning the Carlyle Development in Alexandria Virginia including the specialized design review process for this project, the pedestrian access to transit, location and layout of buildings, design of public spaces, and building materials.
- **Discussion - Emerging Centers in Montgomery County**  
Wednesday, May 21, 2008  
Group discussion included the review of White Flint, Germantown Employment Corridor, and the Shady Grove Life Sciences Center and Gaithersburg West area.
- **Case Study No. 3: Mature Commercial Centers**  
Wednesday, June 4, 2008  
Discussion in the field included the mature commercial centers in the Rosslyn/Ballston Corridor with officials of the Arlington County Government led by Roger K. Lewis with a focus on the design review process.
- **Discussion - Mature Commercial Centers in Montgomery county**  
Wednesday, May 21, 2008

Group discussion included the review of examples of redevelopment of mature commercial centers in Montgomery County such as Mid-Pike Plaza in the White Flint area as part of implementing master plans. The discussion was facilitated by Roger K. Lewis, FAIA.

- **Conclusions - Observations, Lessons Learned and Next Steps**

Wednesday, June 25, 2008

Presentation and discussion included the results of all the observations of the case studies, lessons learned, and findings facilitated by Roger K. Lewis, FAIA. This seminar Identified potential improvements to the site plan review process including coordination between agencies to foster design excellence in community building.

The Seminar Series demonstrated a consensus on the part of the participants for a commitment to design excellence as a core value in all public and private projects. It examined a variety of methods to improve the design of public facilities and private development through various means, including better coordination among agencies. The final seminar was not well attended because of schedule conflicts, and the Planning Department will repeat this session with specific recommendations. In accordance with County Council Resolution No.16-376 (Growth Policy, page 279), the following four areas of the public realm will be the focus of the final seminar:

- **Streets and Highways** - Emphasizing design excellence to improve street character to be included in the revisions to the Montgomery County Road Code
- **Public Spaces** - Enhancing the design and function of public spaces as required in the Montgomery County Zoning Ordinance during project plan and site plan review in central business districts and other areas
- **Blocks and Buildings** - Enhancing the findings for compatibility and provision of adequate, safe and efficient layout of buildings and open space as required in the findings for the review of site plans
- **Pedestrian Access** - Improving the pedestrian environment especially in the redevelopment of commercial centers and mixed-use developments as required in the findings for the review of site plans

To expand the outreach efforts and to improve the involvement of the agencies responsible for the design of public facilities, a final seminar or design summit will be held in the fall of 2008 to develop a consensus and commitment to design excellence as a core value in all public projects as directed by the County Council. The recent completion of the design charrette for SilverPlace is an example of a collaborative effort to produce a high quality public project.

G: design seminars for growth policy



**MONTGOMERY COUNTY PLANNING DEPARTMENT**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

## Memorandum

To: Montgomery County Planning Board

From: Roselle George, Research & Technology Center

Thru: Karl Moritz, Chief, Research and Technology Center

Re: Housing Transportation Index

Date: July 16, 2008

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### Summary

***F7 Transportation-Housing Affordability Index:*** *The Planning Board must conduct the necessary research and analysis to develop a transportation-housing affordability index for the County. The Board must develop the index as part of its FY08 work on a Housing Policy Element of the General Plan unless it concludes that the index is better developed as part of F9 Sustainable Quality of Life Indicators.*

The Planning Department has partnered with Arthur C (“Chris”) Nelson, formerly with Virginia Tech and now Director of Metropolitan Research with the University of Utah, on producing this index for Montgomery County. Dr. Nelson worked with the Center for Neighborhood Technologies in Chicago to develop a housing-transportation affordability index. Attached is the index, which will be presented at the Planning Board on Monday, July 21.

# **Housing + Transportation Cost Index Montgomery County, Maryland**

**Arthur C. Nelson, Ph.D., FAICP  
Presidential Professor of City and Metropolitan Planning  
Director of Metropolitan Research  
University of Utah  
July 16, 2008**

## **Overview**

Montgomery County, Maryland, wishes to create an index that allows planners to compare the combination of housing and transportation costs in different parts of the county. The index, which is the sum of the share of household income devoted to housing and to transportation, indicates the relative burden that different locations impose on households at different income levels. The index is applied to transportation analysis zones in the county. High index scores indicate that households have a higher share of their income devoted to housing and transportation than lower index scores. There are several potential uses of the index such as targeting lower and moderate income housing efforts, extending public transit, exploring other ways to reduce index scores especially for lower income households, and perhaps to reduce impact fees to encourage development where lower index scores are prevalent – thus reflecting the savings to the county in terms of road improvements. An index is developed and applied to Montgomery County, Maryland.

## **Acknowledgements**

The analysis is based in part on work pioneered in part by Dr. Thomas W. Sanchez presently at the University of Utah, Dr. Casey J. Dawkins presently at Virginia Tech, and Carrie Makarewicz presently at the University of California at Berkeley. Updated data were supplied by the Center for Neighborhood Technology for use in this application only.

# 1. Introduction

Affordable and good quality housing for working families is increasingly becoming scarce throughout the nation. Many working families are spending more than one-half of their budgets for housing alone. While housing is often the largest household expense, it is but one of the many significant expenses facing working families. Transportation is a close second for most households in the U.S. and it is an even higher or equal percentage of income for lower income households. As gasoline prices and interest rates rise and regions expand further out into undeveloped areas away from established communities and job centers, housing and transportation costs are only getting higher. Rising costs and households in financially difficult situations also impact neighborhoods, regions, and communities. Sprawling development causes higher infrastructure costs for cities, congestion causes greater levels of pollution, and long commutes affect businesses through lost productivity, greater levels of absenteeism and tardiness, and ultimately turnover when a worker leaves in search of a better commute.

A recent study by the Center for Housing Policy, *Something's Gotta Give: Working Families and the Cost of Housing*, using the microsample from the Bureau of Labor Statistics Consumer Expenditure Survey (CES), documented the excessive housing and transportation cost burdens on working households.<sup>1</sup> The study found that 44.3% of all working families spend more than half their total expenditures on just these two costs. The Surface Transportation Policy Project and Center for Neighborhood Technology have also reported on these two combined costs in the three *Driven to Spend* reports since 2000. Based on the 2003 CES, the 2005 *Driven to Spend* report showed that the median income households in the 28 areas covered in the study spent \$21,213, or 52%, of expenditures on housing and transportation.<sup>2</sup>

Yet, there has not been enough analysis of the combined housing and transportation costs for working families at a specific and small unit of geography, e.g. a neighborhood or census tract. The CES expenditures that are reported by *specific income levels* are not available below the four major regions in the U.S. and the expenditures at the metropolitan level are only available for the *median income* household. This level of information (region and metropolitan) and frequency of the survey (the CES is reported annually based on quarterly surveys), makes the CES a useful source for identifying conditions and trends over time, but without detailed geographic information tied to these costs it does not lend itself to assessing the specific problems or causes in neighborhoods and/or regions that might be associated with household costs—particularly for lower income households.

For instance, in 1990 the combined housing and transportation costs in the CES survey were as low as 37% in Kansas City and as high as 47% in San Francisco, San Diego, Los Angeles, and Miami. By 2000, the range had jumped from to 48% at the low end, St. Louis, to 58% at the high end, San Diego. While some of this variation can be explained by the variation in the cost of living from region to region, it is not completely clear how much the costs vary within a region, particularly by incomes within a region.

Of the two costs—housing and transportation—uncovering the reasons for transportation cost variation

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<sup>1</sup> Center for Housing Policy. "Something's Gotta Give: Working Families and the Cost of Housing". New Century Housing, Volume 5, Issue 2, 2004.

<sup>2</sup> Center for Neighborhood Technology and Surface Transportation Policy Project. "Driven to Spend: Pumping Dollars from our Households and Communities", June 2005, from [www.transact.org](http://www.transact.org).



is especially challenging. According to the 2000 CES, transportation was 18% of expenditures for households earning \$51,298 in Kansas City, but 20% for households earning roughly the same income, \$51,292, in Seattle. Was this difference statistically insignificant since these are regional averages, or is the difference in expenditures due to regional price differences in taxes, gasoline, and autos, or to variations in auto use and the necessity to drive more or less in one region or the other? Some critics have suggested it is simply regional differences in preferences for either higher priced or cheaper autos, but there is no support for this.

An additional comparison of similar incomes but different transportation costs for three regions further illustrates the need for more specific information below the metropolitan area. In the 2002-2003 survey, the surveyed households in Miami, Tampa, Phoenix, and Milwaukee earned between \$48,411 and \$49,794, a difference of \$1,383. Tampa had the highest income and Miami had the lowest. But their transportation expenditures ranged from a low of \$6,797 in Milwaukee to a high of \$8,659 in Phoenix, a difference of \$1,862. Yet, the Milwaukee households—those paying the lowest in absolute terms for transportation—had the highest reported vehicle ownership, 2.0 vehicles per household, and Phoenix had the lowest reported average, 1.8 vehicles. Typically, vehicle ownership is the most expensive portion of total transportation costs, yet Milwaukee households own more vehicles and have the lowest total costs. The differences in costs in this case were in the “other vehicle expenses” and “gasoline and motor oil” line items. How much of the difference in these expenses are from prices of gasoline, tires, oil, and insurance, versus higher maintenance costs due to wear and tear and mileage or weather is not clear. Unfortunately, the survey findings do not provide sufficient information to answer these questions. Without answers, it’s difficult to suggest solutions.

This study extends on prior analysis to apply the concept of housing plus transportation costs to a specific county: Montgomery County, Maryland. It attempts to examine these costs at the neighborhood level in dozens of neighborhoods for hundreds of thousands of households, to understand how location affects both housing affordability and transportation affordability. The relative affordability of these two costs in lower and moderate income neighborhoods is then compared to physical characteristics of neighborhoods and regions, such as housing unit density, the location of all jobs, the concentration of employment centers, and the concentrations of affordable housing units, in order to identify links between housing costs and shortages, transportation costs, commuting patterns and traffic congestion.

Using 2000 Census combined with more recent locally collected census data on: household income, housing costs as a percentage of income, and transportation costs as a percentage of income. A housing plus transportation (H+T) cost index is created.

We find that costs vary by neighborhood and that lower income households most often have a higher cost burden for *both* housing and transportation in all neighborhoods where transit options are not prevalent. However, in instances where neighborhoods had local concentrations of affordable housing, households had lower housing *and* transportation costs.

## 2. Approach and Methods

To characterize the impacts of housing and transportation costs on lower and moderate income households and the neighborhoods in which they live, we analyze several factors influencing a household's transportation costs and how they compare and combine with their housing costs according to the location in the county and the characteristics of that location.

### Housing Costs as a Percent of Income

Figure 1 illustrates the distribution of block groups by housing cost (H) quintiles as a percent of 80% of area median income (AMI). The average housing costs per household is calculated for each block group as an index where 100% means that such costs in that block group are equal to 80% of the AMI. The upper two quintiles (noted in orange and red) are the most burdened block groups in this respect, basically located in the southwestern-most part of the county but also including some of the county's highest income neighborhoods.

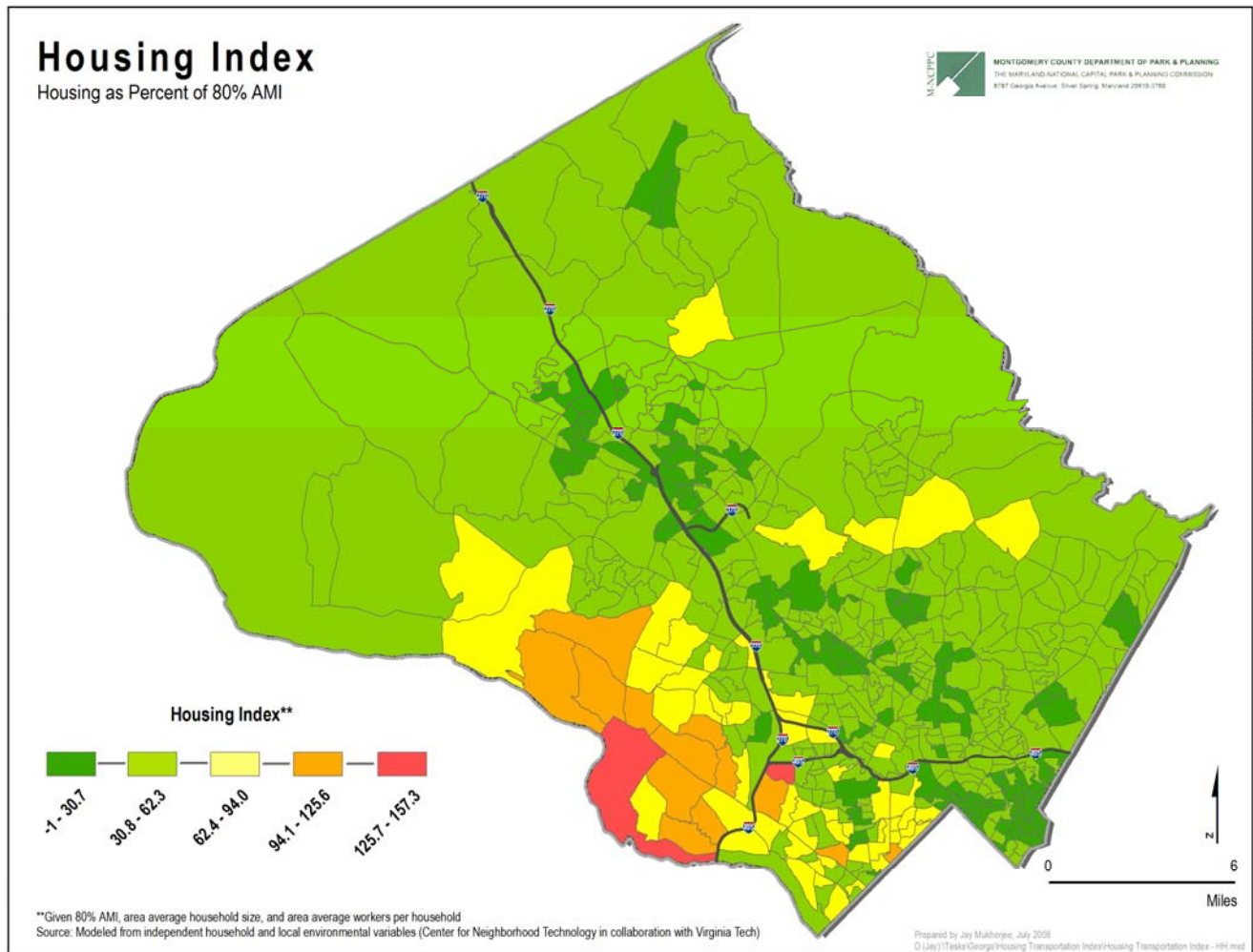


Figure 1. Housing Cost Index by Block Group, Montgomery County, MD

## Transportation Costs as a Percent of Income

Figure 2 illustrates the distribution of block groups by transportation housing cost (T) quintiles as a percent of 80% of AMI. The average transportation costs per household is calculated for each block group as an index where 100% means that such costs in that block group are equal to 80% of the AMI. Costs include owning and operating vehicles plus imputed costs of commuting time. The upper two quintiles (noted in orange and red) are the most burdened block groups in this respect. The middle quintile (noted in yellow) shows the county's least burdened block groups in this respect. (Overall, the county is moderately to heavily burdened in transportation costs as seen by the prevalence of yellow, orange and red block groups.) The middle quintile predominates around the main transportation corridor through the center of the county, where public transit accesses employment and mixed-use centers.

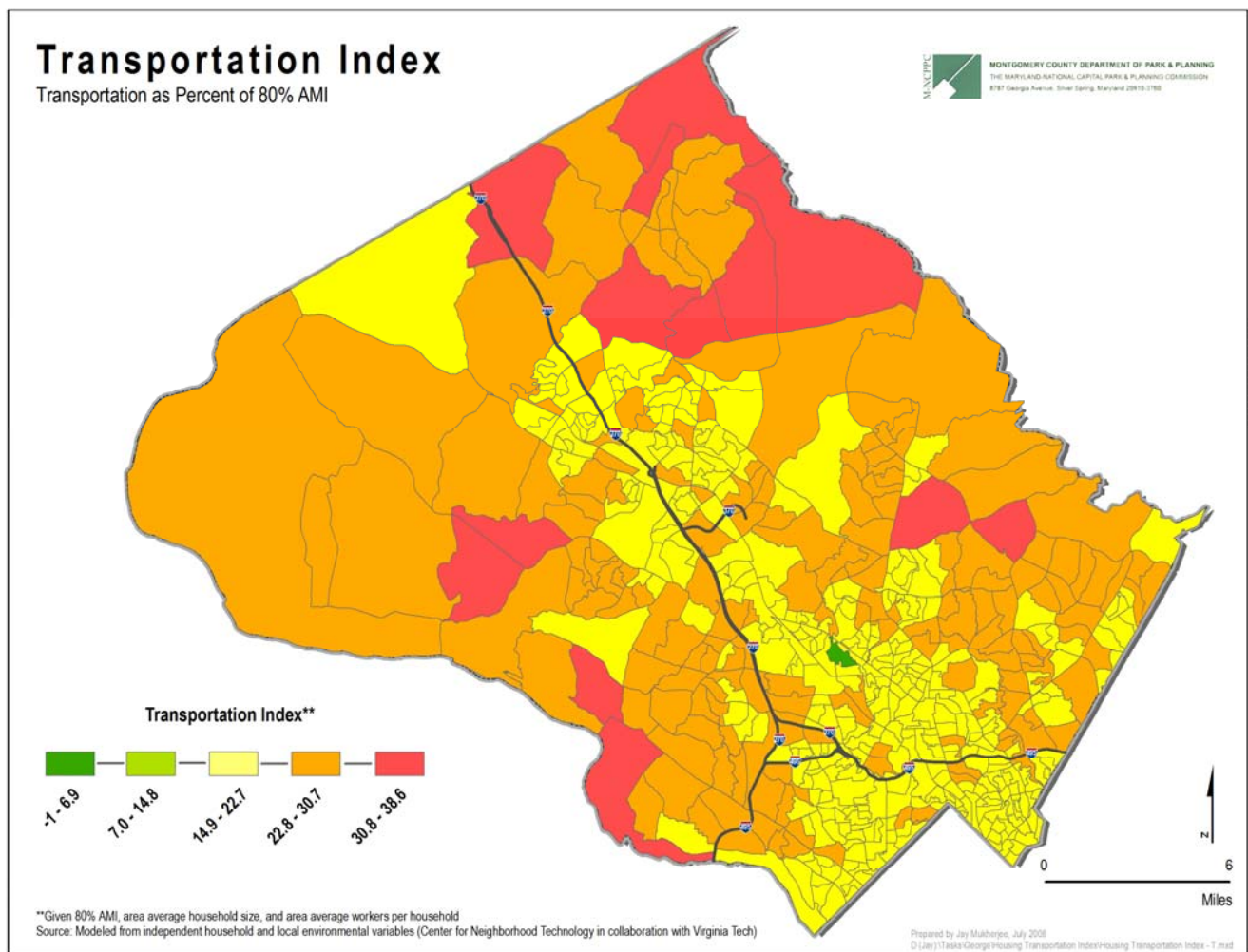


Figure 2. Transportation Cost Index by Block Group, Montgomery County, MD

## Housing + Transportation Costs as a Percent of Income

Figure 3 illustrates the distribution of block groups by housing + transportation housing cost (H+T) quintiles as a percent of 80% of AMI. The average H+T costs per household is calculated for each block group as an index where 100% means that such costs in that block group are equal to 80% of the AMI. The upper two quintiles (noted in orange and red) are the most burdened block groups in these combined respects; notice the similarity to Figure 1. These lowest H+T burdens are found mostly along transportation and especially public transit corridors, and where employment and housing is mixed, and where densities and intensities of each are higher than the metropolitan region average.

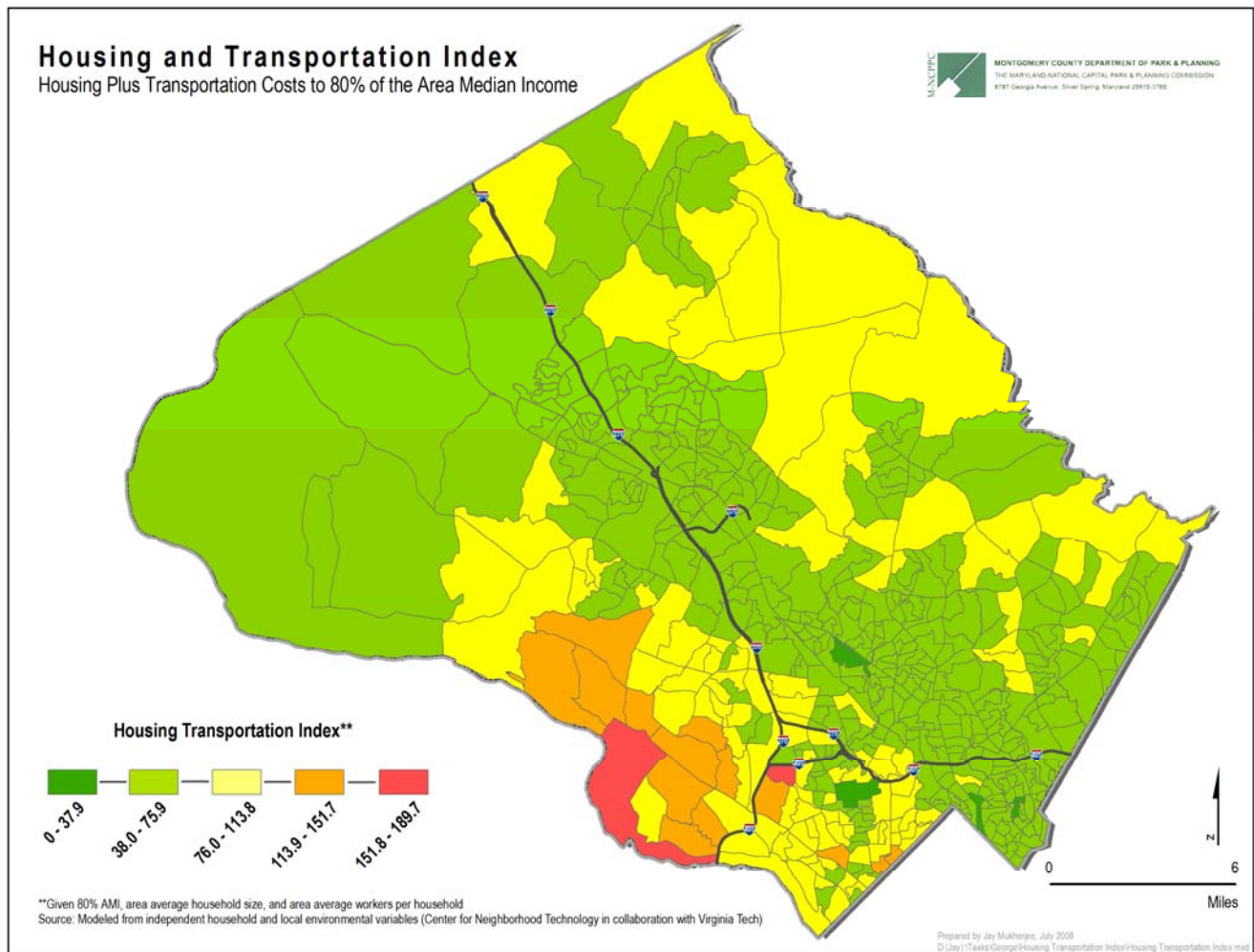


Figure 3. Housing + Transportation Cost Index by Block Group, Montgomery County, MD

### 3. Policy Considerations

There are four principal policy implications based on work conducted by the Center for Neighborhood Technology in collaboration with Virginia Tech:

- I. Policies for workforce housing should be paired with policies that both support and improve workforce transportation and with policies to promote better planning of the location and distribution of employment and job centers within regions. Workforce-based transportation would imply major improvements to the frequency, extent, and capacity of public transit. Communities would need to be developed and redeveloped in ways that can support transit to and from the employment centers and within communities; this help ensure that workforce-based transportation occurs allowing households to save money, not to mention reduce congestion (or at least minimize the level of congestion that may occur without such efforts). Targeting employment to areas that already house a substantial number of working families could also benefit working households.
- II. Inclusionary zoning and mixed-income housing in employment center areas with high housing prices would allow lower income households to live near major centers of employment and may help to reduce regional congestion. This is especially important in areas with a high concentration of jobs within in employment centers and a high percentage of employment centers surrounded by high income neighborhoods. The Center for Neighborhood Technology, for instance, finds that congestion is caused in part by dense destinations and origins and a lack of capacity for all income levels to live in these major work destinations. As high income households occupy the majority of neighborhoods near employment centers, lower income households are forced to drive further distances to access the employment clusters because they cannot afford to live near them. This increases their transportation costs and contributes to the congestion on highways and roads serving those centers.
- III. Targeted job development in low income neighborhoods in urban nodes and close-in areas would help to raise the incomes of the households living there. Without incentives, however, employers will likely continue to follow the high income households and abandon or overlook the low income neighborhoods.
- IV. Household transportation costs need to be communicated to consumers, policy makers, and planners. Consumers can use the information to make location decisions before they make choices on housing costs alone. Local planners and policy makers can use transportation costs estimated by the CNT to adjust zoning so that commercial and industrial land uses can be proximate to affordable housing and existing/planned public transportation systems. This will allow some of the many daily household trips to be made on foot or by transit rather than by auto. MPO staff can map transportation cost data to plan new transit lines and stations, and compare them to highway options and areas that are targeted for housing growth. Savings to households and communities from reduced congestion could be used as justification for greater expenditures on public transit and community planning.



July 15, 2008

**MEMORANDUM**

TO: Karl Moritz, Chief  
Research and Technology Division

VIA: Daniel K. Hardy, Acting Chief DKH  
Transportation Planning

FROM: Cherian Eapen, Planner/Coordinator CE  
Transportation Planning  
301-495-4525

SUBJECT: 2007-2009 Growth Policy Study Update  
Resolution No. 16-376  
**Study F8: Proposed policy for required public agency signoff for conditions of approval for development applications**

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**INTRODUCTION**

This memorandum presents staff recommended policy related to Study F8 required under Resolution 16-376 for delivery to the County Council on or before August 1, 2008, on required signoffs from public agencies to impose conditions of approval on development applications. The recommended policy, in the form of a flow chart and a set of recommendations, is the culmination of discussions with Commission staff, Department of Transportation (DOT) staff, County Council staff, and a public forum held at MRO on Monday June 16, 2008.

Staff believes that key to obtaining required signoffs from relevant public agencies in a timely fashion is good communication and coordination between all parties involved. The policy, as recommended, requires an Applicant to initiate the application process as early as possible to yield optimum results.

The recommended policy may in general be followed regardless of whether an Applicant is proposing Traffic Mitigation Agreements (TMAg's), Transportation Demand Management (TDM) strategies, Transportation Management Plans (TMP), transit capacity additions, physical road/intersection improvements, non-auto transportation facilities, or fee in-lieu payments. These



options are available to Applicants to meet Local Area Transportation Review (LATR) and/or Policy Area Mobility Review (PAMR) requirements during determination of Adequate Public Facilities (APF) at Preliminary Plan, Zoning, Special Exception, Site Plan, or Building Permit.

## **RECOMMENDATIONS**

Staff recommends that the Planning Board approve transmittal of staff recommended policy, with any changes the Board may wish to make, to the County Council for their review and comment.

**Staff concludes that no changes to County laws are required to implement these recommendations.** The changes can be incorporated within the development review process manuals and guidelines prepared by the Planning Board and the Executive Branch agencies.

Staff recommends the Planning Board's review process be revised to incorporate the following recommendations:

1. Facilitate greater interagency collaboration with Applicants prior to the submission of a formal LATR/PAMR study or development review application, including M-NCPPC and DOT concurrence on the general mitigation approach.
2. Permit an increase in DOT/SHA review time for staff approved LATR/PAMR studies to 60 days for those applications proposing mitigation.
3. Define major off-site capital projects that may require mandatory referral.
4. Formalize the reconsideration process and timeframe for agency concerns with Planning Board approvals.

The first two recommendations would require a change to the Planning Board's LATR/PAMR Guidelines (amended both April 15, 2008 and May 15, 2008) to require applicant compliance. We find that all four recommendations should ultimately streamline the development review process. To avoid "guideline amendment fatigue", we propose to pursue the promotion of all four recommendations but withhold formal Board adoption of the recommendations until the next formal amendment of the LATR/PAMR Guidelines (anticipated in spring 2009).

## **DISCUSSION**

The proposed policy for signoffs required from public agencies, leading toward conditions of approval for an application, is illustrated in an exhibit included as Attachment No. 1. As shown on the exhibit, Study F8 recommends dividing the sign-off procedure into five stages:

- Stage I: Pre-application coordination
- Stage II: LATR/PAMR study review
- Stage III: APF finding
- Stage IV: Building Permit
- Stage V: Post-construction

## Stage I: Pre-application Coordination

Stage I is the pre-application stage where an Applicant, based on an initial trip generation estimate for a development, would identify mitigation requirements, potential mitigation measures, and obtain preliminary agency concurrence on the mitigation measure. An Applicant is recommended to contact the Transportation Planning Supervisor (including staff from other agencies, as appropriate) early in the application process (i.e., well before a traffic study is submitted) and discuss mitigation requirements and potential mitigation measures. The available mitigation measures typically fall under the following categories:

1. Traffic Mitigation Agreements (TMAg's),
2. Transportation Demand Management (TDM) strategies,
3. Transportation Management Plans (TMP),
4. Addition of transit capacity/service,
5. Installation/construction of non-auto transportation facilities,
6. Construction of intersection improvements and roadway link improvements, and
7. Payment of fee in-lieu towards CIP/CTP projects.

The above measures in general must follow guidelines provided in Section VI.B and Section VIII of the current LATR/PAMR Guidelines. TMAg/TDM traffic mitigation proposals/strategies, if any, included in a traffic study must have concurrence from Transportation Planning staff, TMAg Reviewer, DOT staff, and Maryland State Highway Administration (SHA) staff. TMAg proposals must also follow general guidelines provided in Section III.B.13, Section V.E, and Section VI.A.1 of the LATR/PAMR Guidelines. Similarly, any proposed TDM strategies must also have staff/agency concurrence and must follow general guidelines provided in Section IV.D of the LATR/PAMR Guidelines. In addition, new transit service proposal(s) and non-auto transportation facilities, if any, included in a traffic study must have concurrence from Transportation Planning staff, TMAg Reviewer, DOT staff, and/or SHA staff (as appropriate).

Similarly, any proposed road intersection/link improvements must also have staff/agency concurrence and must follow general guidelines provided in Sections IV.A through IV.C, Section V-B.2.b, Section V.F, and Section VI.A.2 of the LATR/PAMR Guidelines. In addition, Section VII.K.13 of the Guidelines require traffic studies to include a listing of all transportation improvements that an Applicant agrees to provide and a scaled drawing of each improvement showing available or needed right-of-way, proposed roadway widening, as well as area available for any required sidewalks, bike path, landscaping, handicapped ramp, etc. The purpose of the scaled drawings will be to determine whether the proposed measures are implementable or not, and must not be an effort to detail design the mitigation measure. The preliminary information will help staff determine if the set of proposed mitigation measures are subject to future Mandatory Referral review. Transportation Planning staff must be copied on all intersection/link improvement plans submitted to other reviewing agencies.

Any Applicant proposal to pay a fee in-lieu towards CIP/CTP projects must follow general guidelines provided in Section III.B.7, Section V.F, Section VI.C, and Section VII.A of the



LATR/PAMR Guidelines, with a possible exception granted to PAMR mitigation for fewer than 30 vehicle trips as proposed in Study F3.

#### Stage II: LATR/PAMR Study Review

Once agency concurrence is obtained on potential mitigation measures in Stage I, an application will move to Stage II with the submission of an LATR/PAMR study to Transportation Planning Supervisor. Once staff determines the study to be complete, the study will be forwarded to DOT and/or SHA staff for review and comment and for formal approval of traffic mitigation measures previously concurred to by the agencies.

Transportation Planning staff will follow guidelines in Section III.A of the LATR/PAMR Guidelines in ensuring timely review of traffic study submissions. This section requires staff to provide comments to the Applicant within 15 working days of the submission of a traffic study. Consistent with Section II of the LATR/PAMR Guidelines, staff is recommending that the reviewing agencies be provided 30 calendar days to review and comment on traffic studies that do not require approval of any traffic mitigation measures. Staff is recommending that the reviewing agencies be provided an additional 30 calendar days (i.e., a total of 60 calendar days) to review and comment on traffic studies that require approval of traffic mitigation measures.

If staff receives no response from a reviewing agency that must sign-off on a specific mitigation measure in 60 calendar days, staff recommends that the matter be discussed and conflicts, if any, resolved in a meeting between the Applicant, planning staff, DOT staff, and SHA staff (as appropriate).

An application will not be scheduled before the Planning Board until referral memos are received from all reviewing agencies that approve proposed traffic mitigation measures. Section II of the LATR/PAMR Guidelines requires receipt of agency comments at least four weeks prior to the Planning Board date for an application. This requirement will also follow guidelines in the current Development Review Manual. Staff recommends that comments from all branches within the County (such as DOT, DTS, DPS, etc.) be coordinated and submitted under a cover letter prepared by the DOT Subdivision Review Supervisor.

To facilitate adequate review and constructive discussion of proposed mitigation measures between the Applicant and review staff, we recommend that Stage I be completed at least 90 working days prior to the Development Review Committee (DRC) meeting. This will ensure availability of an approved traffic study at the time of agency review of development plans and a common forum to discuss potential mitigation implementation issues and to consider alternative/supplementary mitigation measures.

#### Stage III: APF Finding

Once review comments are received from the DOT and SHA, Transportation Planning staff will provide its report to Development Review staff/Planning Board (as applicable) with necessary conditions. In general, approval conditions will include requirement on completing and submitting conceptual design plans for road/intersection improvements and other non-auto transportation

facilities to DOT/SHA at least 45 days in advance of any Planning Board's public hearing. Submission of final design drawings to all relevant permitting agencies will be required prior to the release of initial building permit(s).

If any of the road/intersection improvements in the future become obligations of other development projects, Applicants of other development projects may participate on a pro-rata basis in the joint funding of such improvements. Basis of participation on a pro-rata basis will be the sum of total peak hour trips generated by the subject development relevant to the particular improvement over the sum of total peak hour trips generated by all developments required by the Planning Board to participate in the construction of the particular improvement.

For applications that require APF determination at Site Plan and/or at Building Permit, staff will follow guidelines under Section 8-30 of the Montgomery County Code. The LATR/PAMR Guidelines Appendix E also describes procedures delegating certain APF findings to Planning staff at the time of Building Permit.

Once the Planning Board approves an application, and if there are no further actions (such as a request for reconsideration, etc.), then the Planning Board Opinion/Resolution, as well as Certified Site Plan, Record Plats, etc. related to the application will be processed. Reconsideration request must follow the Rules of Procedure established for the Planning Board. A mitigation measure, that is a major capital project, will also be required to be submitted as a Mandatory Referral, and reviewed and approved.

#### Stage IV: Building Permit

Any TMAg between the Applicant, M-NCPPC, and DOT will be required to be executed and recorded and will be required to be reflected on the record plats. Additionally, as per Section III.A of the LATR/PAMR Guidelines, any required additional transit services, non-auto transportation facilities, intersection capacity improvements, roadway link improvements, fee in-lieu payments towards CIP/CTP projects, etc. stipulated as conditions of approval of a subdivision case, typically, must be met by the Applicant prior to release of initial building permit(s).

Upon issuance of permits, the Applicant must proceed diligently with construction of the road improvements and other installations. All road improvements and other installations must be open to traffic or available to public prior to the Applicant filing any application for Use and Occupancy (U&O), unless otherwise conditioned by the Planning Board. The conditions will include a requirement on the Applicant to submit to the Planning Board staff concurrent written notice of its filing of the permit applications for the use and occupancy.

#### Stage V: Post-construction

In Stage V, in compliance with the TMAg requirements, periodic traffic monitoring reports will be provided to the Planning Board staff and to DOT staff. Similarly, an Applicant will be required to provide as-built plans to agency staff once mitigation improvements are completed and accepted. Staff must also be informed of final approval of road intersection/link improvement design.

An Applicant may change uses on a property after approval of a preliminary plan/site plan. Staff, in coordination with Subdivision Review staff, will consider modifications to the standard language the Planning Board uses in approving subdivision cases. Changes to mitigation measures as a result of changes to a Preliminary Plan/Site Plan will be reviewed with the Applicant to determine if the changes can be approved administratively or should follow general guidelines recommended in this study.

The compliance/enforcement actions are currently managed by both M-NCPPC staff and DPS staff. Status-quo could be maintained or one of the regulatory agencies could take on the sole enforcement responsibility to ensure compliance. Another option would be to create a new agency/department, whose sole regulatory purpose will be to ensure/enforce Applicant compliance with the Planning Board approval conditions. Based on a review of current functioning of the two agencies, both with many recent changes to administrative procedures and staff responsibilities, we recommend that no changes be made to the current set-up.

DKH:SE:CE:tc  
Attachment

cc: Karl Moritz  
Eric Graye  
Greg Leck  
Glenn Orlin  
Corren Giles

# Public Agency Signoff for Developer Actions to Mitigate Transportation Impacts

