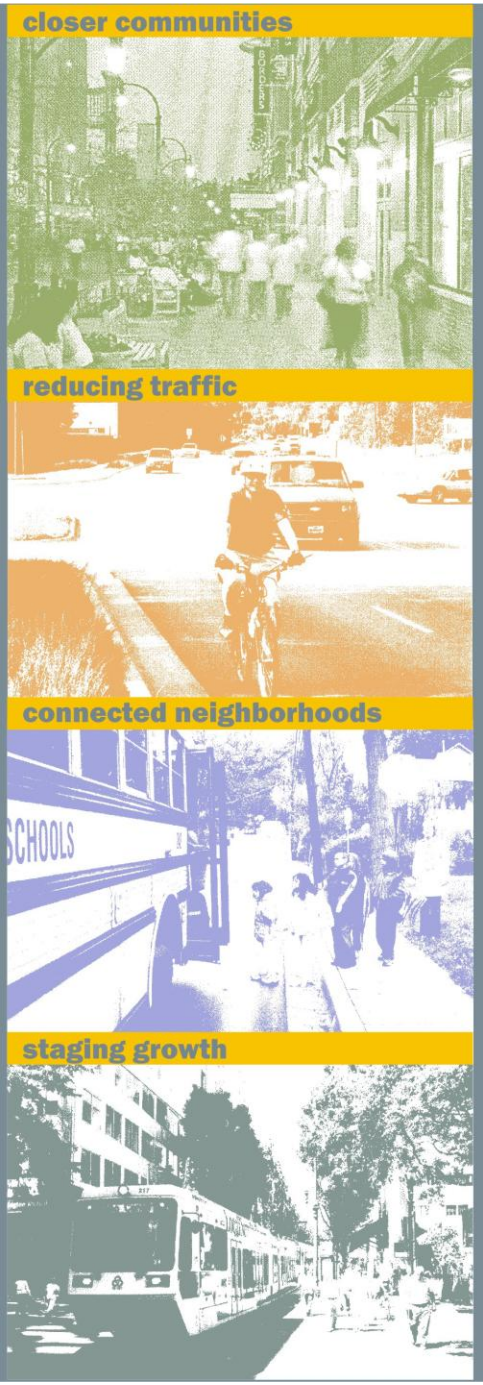
staff draft

June 2012

growing smarter

2012-2016 Subdivision Staging Policy



Montgomery County Planning Department
The Maryland-National Capital Park and Planning Commission

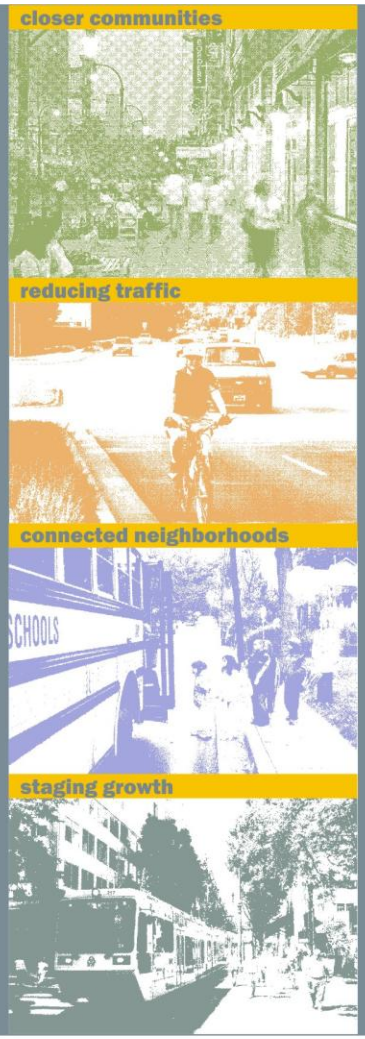
MontgomeryPlanning.org

staff draft

June 2012

growing smarter

2012-2016 Subdivision Staging Policy



Montgomery County Planning Department
The Maryland-National Capital Park and Planning Commission

MontgomeryPlanning.org

Contents

Introduction

The County's approach to managing growth has always focused on transportation and school capacity to ensure that this vital infrastructure is provided in an equitable and timely way. However, this must be done in concert with growth and development patterns that will make the County more sustainable. In other words, while aaccommodating the continuing growth of our population and economy, we must minimize the resources consumed, be cost effective, and promote more community interaction and physical activity.

This 2012-2016 Subdivision Staging Policy makes recommendations that refine our transportation analyses and maintain our school capacity measurements, while looking at these measures within a larger context of community character, both to understand changing trends and to broaden our thinking about the infrastructure of community.

Overview

What is the Subdivision Staging Policy?

The Subdivision Staging Policy (SSP) is a set of policy tools that guide the timely delivery of public facilities (schools, transportation, water, sewer, and other infrastructure) to serve existing and future development.

The Planning Board uses this policy to establish growth and funding priorities, which are then recommended to the County Council to make a final decision on a preferred approach.

The Planning Board proposes new and updated policy tools that meet the mandate to "limit or encourage growth and development in a manner that best enhances the general health, welfare, and safety of the residents of the County" (Council Bill No. 38-09).

Until 2009, the Growth Policy was reviewed and adopted every two years. The new policy, renamed the Subdivision Staging Policy (SSP) will be updated every four years—midway through each Council term.

The General Plan, as amended by approved and adopted master, sector and functional plans, regulates the amount, pattern, location, and type of development. The Subdivision Staging Policy's report on growth and development trends assesses the status of infrastructure and environmental conditions resulting from these plans. It recommends how facilities and service improvements should be programmed to best serve the planned growth and to support the goals of the General Plan.

The tools recommended by this report to implement the Subdivision Staging Policy will be established by a County Council resolution. That resolution will describe the service and facility standards that must be achieved and prescribe the contributions necessary from the public and private sectors to ensure that infrastructure keeps pace with growth. These policy tools are intended to incentivize smarter growth and ensure that sufficient funds are in place to serve areas where growth is approved.

The 2009-2011 Growth Policy (renamed in 2010 to the Subdivision Staging Policy) revised policy tools to promote smarter growth and built on the framework of the General Plan to focus that growth in transit-served areas. An example of this was establishing "Special Mitigation Standards" for Policy Area Mobility Review (PAMR) that reduced developers' trip mitigation costs by 25 percent if they

located close to a Metro station, built predominantly residential units, and agreed to meet specific energy efficiency standards. That approach continues in this *2012-2016 Subdivision Staging Policy*.

What's New in the 2012-2016 Subdivision Staging Policy?

The *2012-2016 Subdivision Staging Policy* will restructure the transportation tests used for development review and master planning and provide more information to inform decisions about public and private investment in transportation improvements. The 2012 SSP proposes replacing the areawide test known as Policy Area Mobility Review (PAMR) with Transportation Policy Area Review (TPAR). TPAR increases transparency, provides a separate analysis of roadway congestion and transit service, and provides the tools to tie transportation expenditures to areas where growth is projected to put additional pressure on roads and transit. The contributions required of private development are used to leverage the public investment in needed improvements. The Local Area Transportation Review (LATR) also is being refined to include a further review of delays and queuing at intersections where development will cause traffic to approach congested conditions, measured as Critical Lane Volume (CLV).

Current school capacity policies are effectively addressing the demand for new facilities and are not recommended for change at this time. However, school construction costs are recommended to be updated, as are student generation rates.

A key message of the 2009-2011 Growth Policy was that the County has nearly run out of developable greenfields and must direct future growth toward smarter, mixed-use redevelopment and infill to accommodate expected growth and to continue to protect the Agricultural Reserve. This message has been endorsed by the County Council, and all our recent master and sector plans have focused on the redevelopment of transit-served centers.

The 2012 Subdivision Staging Policy continues this position and analyzes growth implications and opportunities. It provides:

- more depth and flexibility in the tests for both transportation and school facilities
- more information that can shape how the County spends taxpayer funds to create the needed facilities and services
- information about environmental conditions that could be addressed in future policies

Growth Status and Trends

Montgomery County's future can be seen as a series of challenges and opportunities that affect our quality of life. The two primary challenges are the character of change, particularly our demographics, and enhancing the historic pattern of development to serve and shape that changing character. Schools and transportation infrastructure are currently the tools, and these are examined here in the context of larger community needs. In the future, new tools may be needed to accomplish our goals for the quality of life and place.

The character of change and the pattern of development are related. The shrinking number of working-age adults and the increasing senior population will create new infrastructure costs and social service demands. Traffic, mostly in single-occupancy vehicles, clogs our roadways and makes it difficult for bicyclists and pedestrians to enjoy more active modes of transportation. Older development, built before stormwater controls, has degraded the natural environment. An abundant single-family housing stock and

lack of developable greenfields have broadened our approach to new housing.

But with these challenges come opportunities to refine our growth policies to provide new choices in housing and transportation for all members of the community. The County already has seen an increase in development applications proposed for transit-served areas as well as more private funds and projects directed to providing timely infrastructure.

Character of Change

The face of Montgomery County has been changing steadily over the years, and shifts in ethnic diversity and age patterns will continue in the near future. The 2010 Census marked the first time whites became a minority in the County. The highest percentage of change in our non-white population occurred in the 45 and younger age group. And by 2030, the baby boomers all will be seniors. These dramatic changes will alter the demands for housing and change our land use patterns.

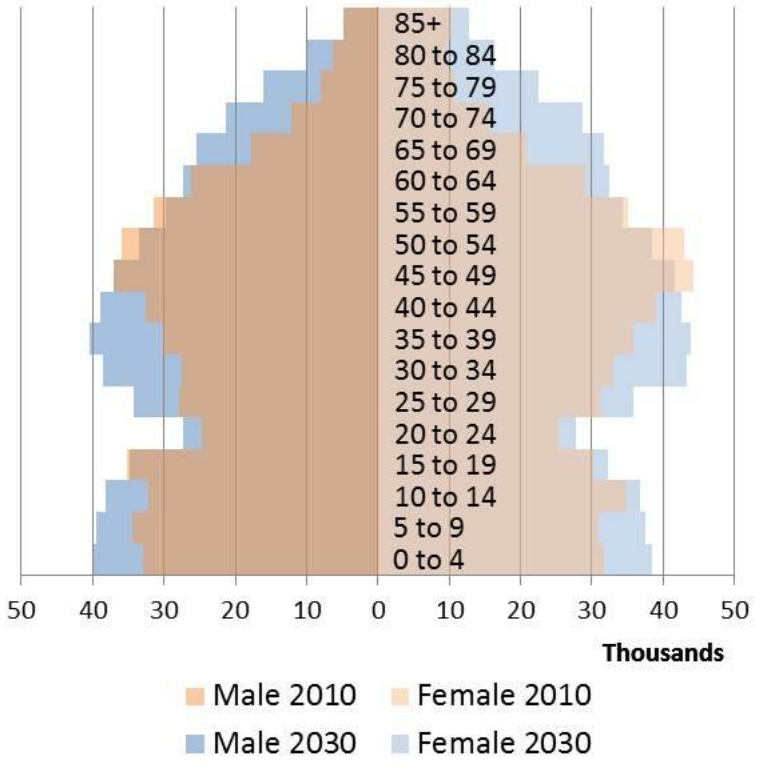
The recent recession has had an impact on the County, slowing foreign immigration by two percent from 2007 to 2010. Over the same period, there was a six percent drop in people moving within the County, as current residents became reluctant to risk changing jobs or recognized that their houses could not be sold at a profit. Also, for the first time in a decade, the number of people moving to Montgomery County from other states increased. Due to the influence of the Federal government, the Washington metropolitan region has been seen as more stable at a time when other regions' economies have taken a larger hit.

Census Bureau data shows another trend, estimating that exurban growth is waning in favor of growth in urban areas and inner-ring suburbs—largely due to costs. Counties in the center of metropolitan areas made up a 94-percent share of U.S. growth from 2010 to 2011—up from 85 percent prior to the recession. As John McIlwain of the Urban Land Institute said, "I'm not sure we're going to see outward sprawl even if the urge to sprawl continues. Counties are getting to the point that they don't have the money to maintain the roads, water, sewer… This is a century of urbanization."

Between 2007 and 2010, the County also saw an increase in the younger adult population. 18- to 24-year-olds increased 18 percent, and 25- to 34-year-olds increased 30 percent. That latter category represented a fifth of all foreign arrivals and a third of all in-state and out-of-state arrivals.

Looking ahead two decades, we see growth in all but the older working population (ages 45 to 64). That group, during their prime wage-earning years, will see a five-percent decrease in their share of the total population. The number of young people will increase considerably, with children 0 to 19 rising 13 percent. Those in their 20s will increase by 15 percent, while 30- to 44-year-olds will have 25-percent growth. But the senior population (age 65 and up) will have an unprecedented increase of 63 percent—a 44-percent change in their share of the population. This means the ratio of working age adults to seniors—already declining in recent years—will go from 5:2 in 2010 to 3:4 in 2030.

household population by age and sex - 2010 and 2030



Trends from Generation Y—those born in the 1980s and 90s—are helpful for anticipating future housing demand. Generation Y is:

- waiting to buy—the average age of all homeowners is 35
- looking to rent
- waiting to marry—among ages 25 to 34, half never married
- taking longer to establish a career
- waiting to have kids
- looking for mobility
- experiencing greater unemployment—30 percent
- looking for smaller units
- looking for a convenient lifestyle

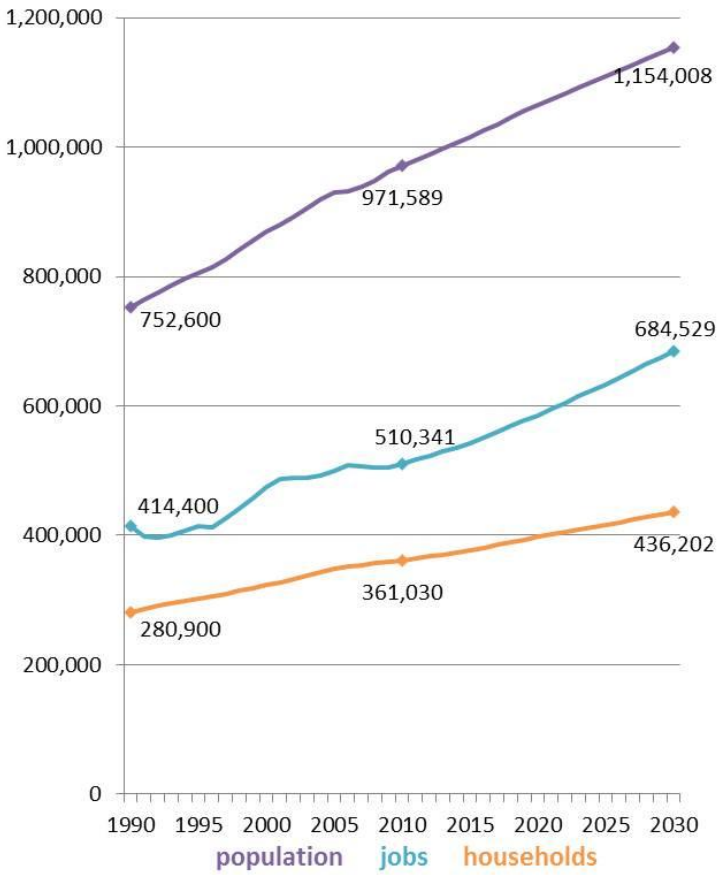
Seniors also will change the demand for housing type and location. They are looking for smaller, one-level floor plans with less property maintenance than their previous residences. They also want easy access to amenities and services in anticipation of no longer being able to drive.

All of these trends highlight the need to improve our pedestrian infrastructure and build smaller homes and more compact communities connected to goods and services, allowing more people to live independently for longer periods. We have a large supply of single-family homes that is turning over and becoming available to younger families and those who want the suburban lifestyle. We need more housing for people who would prefer a smaller unit that is more accessible to transit, employment, retail, and other services.

Pace and Pattern of Growth

At the County level, the **pace of growth** from 2010 to 2030 is forecast to be consistent with historic trends—with a steady increase over time. Households will increase by 75,172 units to 436,202 in 2030—a 21-percent increase in 20 years. Population will increase 19 percent or 182,419, totaling 1.15 million in 2030. And 2030 will see 684,529 jobs, a 34-percent (174,188) increase over the same period.

pace of growth 2010-2030

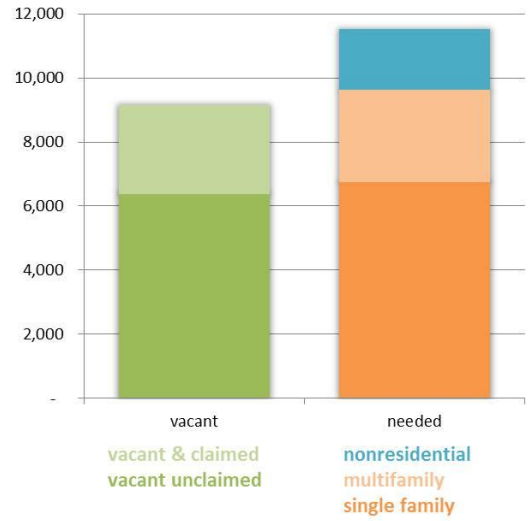


The pattern of this growth will be increasingly concentrated in policy areas along the I-270 corridor and in downcounty urban areas. These policy areas, which account for only 18 percent of the County's land, will take in the largest share of the growth in jobs and housing; they will absorb 88 percent of new jobs, 84 percent of new households, and 77 percent of population growth.

Two factors explain the concentration of forecasted growth in these policy areas: the lack of vacant, developable land and recent master plans calling for increased zoning capacity to incentivize the redevelopment of our traditional centers.

Only 2.8 percent (9,149 acres) of the County's land is vacant and developable, of which 2,783 acres, or 30 percent, is already approved for development projects. The vacant land remaining is fragmented and scattered. Most of the parcels measure a third of an acre or less, and many have environmental restrictions with stream, wetlands, or steep slope buffers limiting their development.

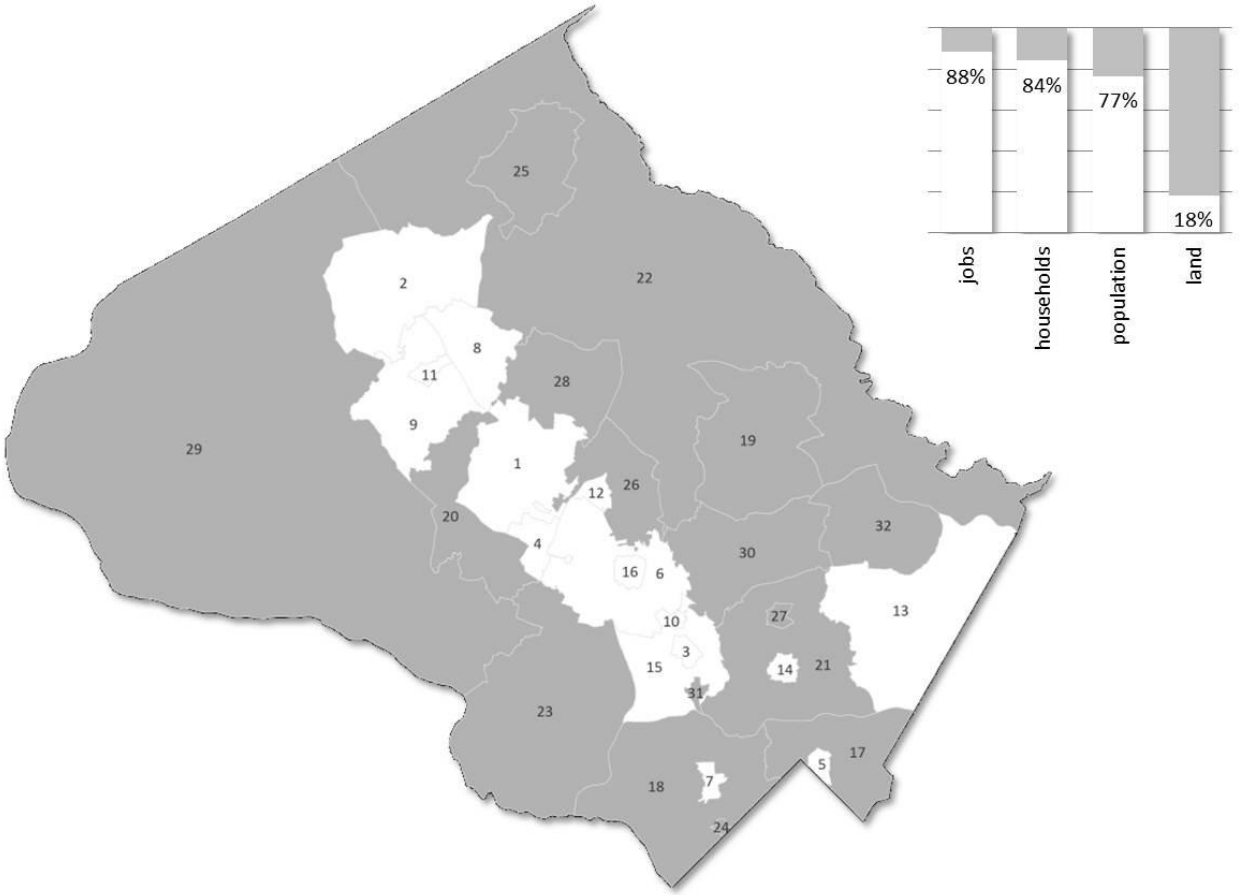
estimation of land needed for forecast growth 2010-2030



See appendix 1 for methodology

Map 1 – forecast pattern of growth 2010-2030

rank	policy area
1	Gaithersburg City
2	Clarksburg
3	White Flint
4	R&D Village
5	Silver Spring CBD
6	Rockville City
7	Bethesda CBD
8	Germantown East
9	Germantown West
10	Twinbrook
11	Germantown Town Center
12	Shady Grove Metro Station
13	Fairland/White Oak
14	Wheaton CBD
15	North Bethesda
16	Rockville Town Center
17	Silver Spring/Takoma Park
18	Bethesda/Chevy Chase
19	Olney
20	North Potomac
21	Kensington/Wheaton
22	Rural East
23	Potomac
24	Friendship Heights
25	Damascus
26	Derwood
27	Glenmont
28	Montgomery Village/Airpark
29	Rural West
30	Aspen Hill
31	Grosvenor
32	Cloverly



Rank for share of growth calculated by averaging policy areas' job growth rank and household growth rank.

The forecasted growth cannot be accommodated on this small amount of vacant developable land, and a more efficient development pattern is needed to accommodate new residents and businesses. Using standard square footage factors for office, retail, industrial, and other job growth, more than 1,900 acres would be required to accommodate the projected 20 years of job growth. Using average lot acreages for existing housing units by type and area of the County, forecasted single-family household growth will require 6,732 acres, and multifamily growth will require almost 2,900 acres by 2030. This total demand for land (11,530 acres) surpasses the total amount of developable vacant land by more than 2,000 acres.

For the next 20 years, and certainly beyond, **more efficient use of land is essential**. Our master planning efforts reflect this reality and have capitalized on the real opportunities for economic development, environmental mitigation, and healthier lifestyles that this future presents. Plans like White Flint and Wheaton will be a catalyst for redeveloping older buildings and large parking lots into denser, high-quality, mixed-use communities that take full advantage of their Metro station locations.

Accompanying this growth is the need to preserve the **environmental resources and health benefits** of the open space we treasure. Saving important resources and enhancing those degraded by past development practices promises a greener, healthier future for our residents. Both the park acquisitions recommended in our master plans and the Forest Conservation Program continue to provide the green areas that serve our communities. Expanded efforts to integrate green areas in our urban master and sector plans are essential to ensuring livable neighborhoods.

How we grow affects the cost of that growth for both **County and household budgets**. Growth patterns also can have costly impacts on the natural environment and human health, as well as the level of meaningful interaction with our neighbors. The County's pattern of dispersed single-family home development has led to large public expenditures to extend infrastructure and for ongoing maintenance costs. Vehicle Miles Traveled (VMT) continue to increase, diminishing our air quality and absorbing a greater percentage of a household's income.

Capital costs for dispersed single-family development can be 2.6 times more per unit than compact development, with schools and roads contributing 70 to 80 percent of those costs.

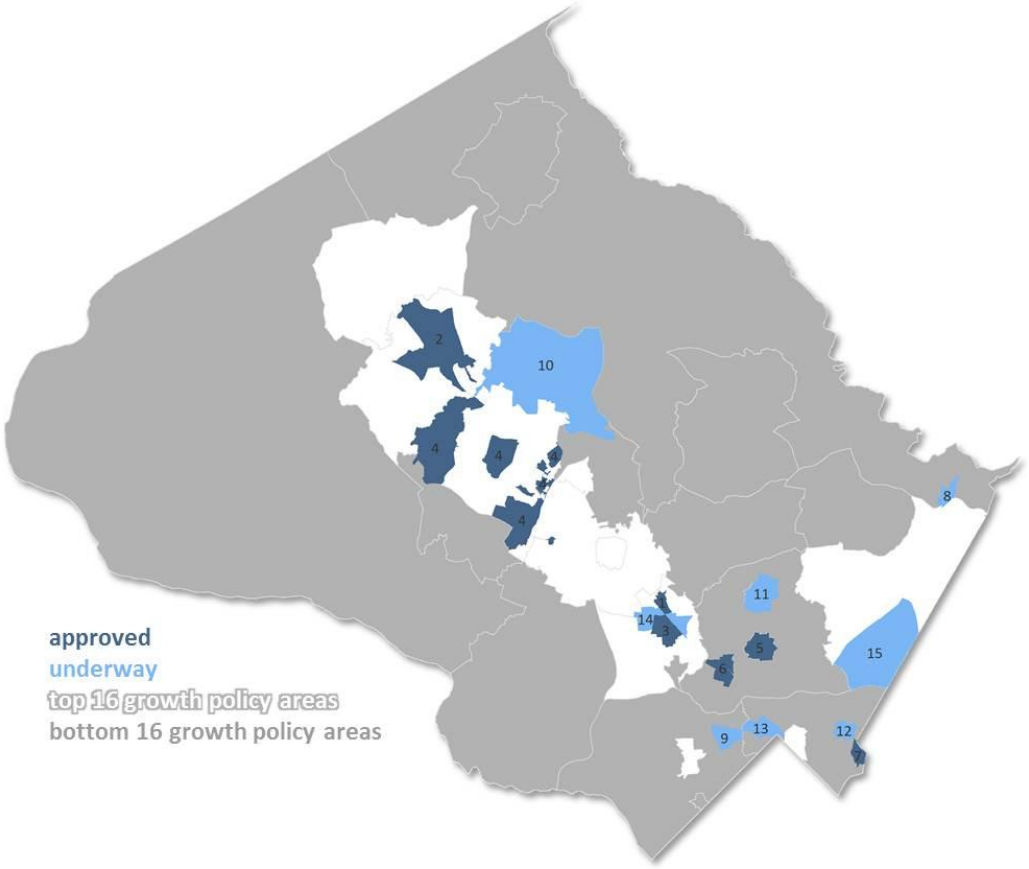
Compact, transit-accessible, walkable, mixed-use redevelopment in our urban centers allows cost-effective reuse of existing infrastructure. For example, with 50 percent of our large water mains in need of replacement, redevelopment presents a real opportunity to upgrade the existing system within the redevelopment process. Adding new residents to an already served area increases revenue that can be used to offset the cost of repairs, rather than adding new pipes in greenfield areas. Furthermore, redevelopment decreases per capita energy use in buildings and brings down total vehicle miles travelled by giving residents healthier multi-modal options for accessing employment, retail, and cultural activities.

Household budgets also feel the impact of dispersed development. When examining the costs of a mortgage or rent combined with commuting expenses, it is clear that density and transit access can keep affordability at manageable levels. Data on Montgomery County from the Center for Neighborhood Technology shows that households in urban centers near transit tend to spend less than 45

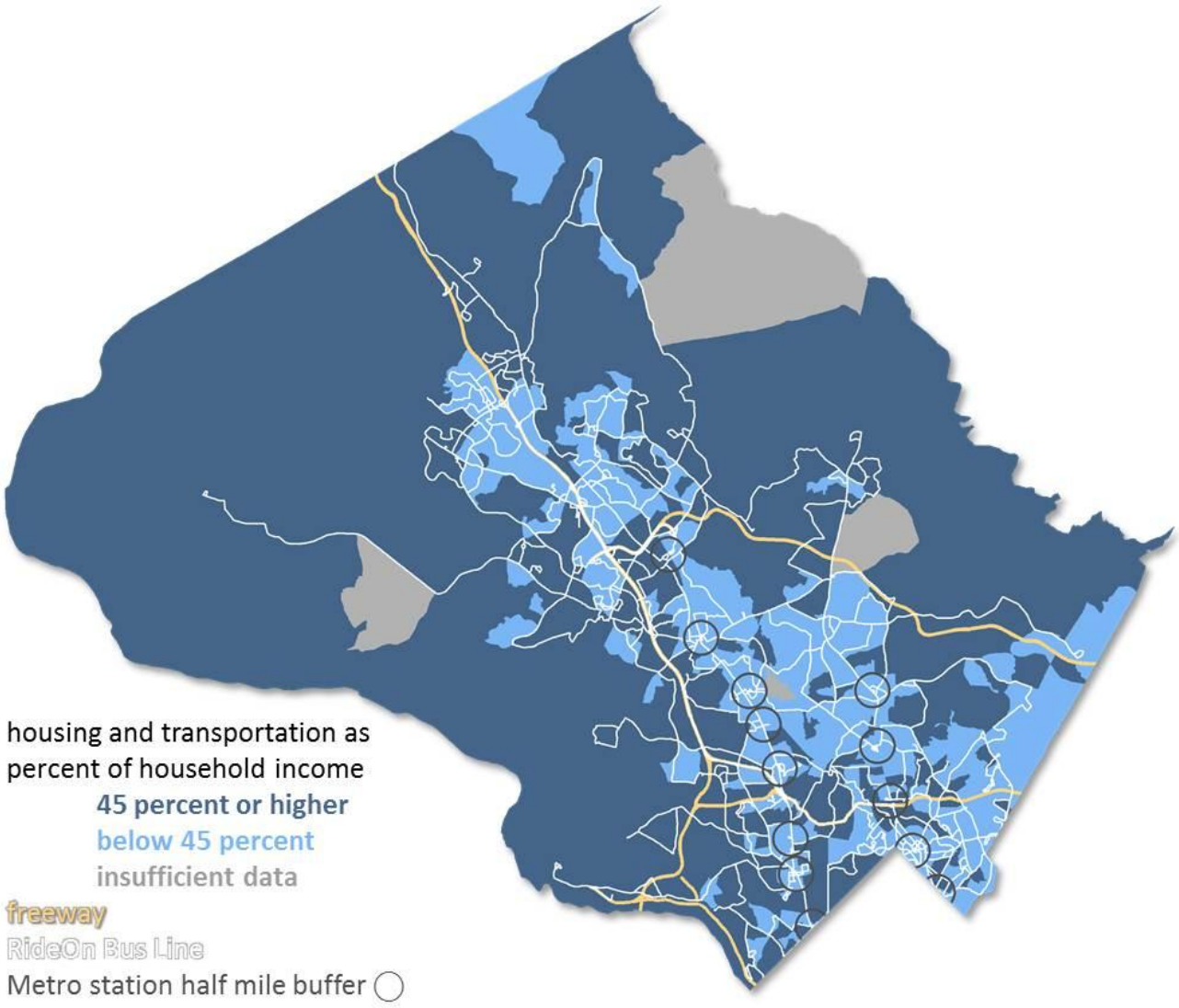
percent of their incomes on combined housing and transportation costs, while other households spend a higher percentage.

Map 2 recent master plans and approval status

#	master plan	approval date
1	Twinbrook	1/21/2009
2	Germantown	10/21/2009
3	White Flint	4/21/2010
4	Great Seneca Science Corridor	6/23/2010
5	Wheaton	11/27/2011
6	Kensington	3/12/2012
7	Takoma/Langley	4/24/2012
8	Burtonsville Crossroads	underway
9	Chevy Chase Lake	underway
10	Gaithersburg East	underway
11	Glenmont	underway
12	Longbranch	underway
13	Lyttonsville	underway
14	White Flint 2	underway
15	White Oak Science Gateway	underway



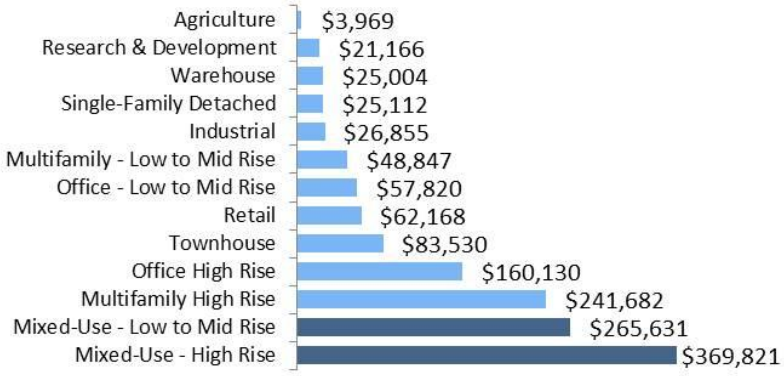
Map 3 housing and transportation cost



Source: Center for Neighborhood Technology

Higher densities and mixed uses also mean more efficient growth in tax revenues. On average, the County reaps more than three times the tax yield per acre from a townhouse than from a single-family detached house. The revenue per acre of office and multifamily buildings of five or more stories dwarfs that of other land uses. Mixed uses bring even higher revenue per acre—even with buildings of less than five stories (mid- to low-rise). A mixed-use high rise averages more than twice the tax revenue per acre than an office high rise and 50 percent more than a multifamily high rise.

average tax yield per acre 2011



Source: Montgomery Planning Department Parcel Snapshot First Quarter 2011. Properties include non-tax exempt parcels with an assessed value greater than $10,000 and an area greater than 0.025 acres. Only land use categories for which at least 75% of properties are taxable are included. Tax yield is calculated based on the FY2011 General County Tax millage rate ($0.71 per $100 of assessed value). Mixed use land use types are Office or Multi-Family High Rise land use types that have retail or food establishments. The retail establishments do not include companies selling goods over the internet. The food establishments do not include caterers or cafeterias.

A comparison of two Silver Spring properties highlights the differences in revenue efficiency. One is a high-rise residential condominium with street-level retail. The other is a single-family detached house in the Woodside neighborhood. Each is on a lot just under half an acre. With a difference of more than $37 million in assessed values, the mixed-use lot generates 66 times the property tax revenue of the single-family lot. The County receives about 136 times the income taxes from the high rise residents. In two years, 16 condos have been sold, generating recordation tax revenue far surpassing the two sales at the Woodside property in the last 20 years. And with more than 250 residents at the one location versus only one family at the other, both the sales tax revenue and personal spending at the former better support our economy.

Quality of place also adds value. Buildings near parks and open space can be valued as much as 20 percent higher than others. Quality urban parks and open space can provide community gardens, play and gathering spaces, as well as programmed spaces for events and farmers' markets. These opportunities create a more a more vibrant community as well as an environmentally sound way to distribute food while spurring the local economy.

The County's development pattern has significantly reduced the benefits provided by **natural resources**. The costs of the clean air and water we enjoy are often internalized by government entities that must purify drinking water, heat and cool buildings, retrofit or replace vehicle fleets, restore stream banks, replace bridges, and repair deteriorating building or paving materials. These costs could be avoided or forestalled by encouraging development patterns that actually enhance environmental conditions.

The County's new strategy of accommodating growth through redevelopment can help reduce pollution by incorporating stormwater controls where there were none before. Turning parking lots and low density commercial areas into mixed-use buildings with underground parking and integrated green spaces can improve water quality, especially in areas that were developed with inadequate green space and stormwater management. Redevelopment can help improve air quality by reducing the use of automobiles and providing more energy-efficient communities, streets, and buildings. Redevelopment will play an important role not only in improving the County as a place to live, but also in achieving local and regional air and water quality standards.

An environmental approach to redevelopment involves urban design that incorporates innovative and creative community design, enhanced and networked urban green space and tree canopy, Environmental Site Design (ESD), and greener building design to achieve multiple objectives. Enhanced urban green spaces can improve human health and quality of place with not only local green space, but also through networks that form urban greenways linked to other communities and to the County's wealth of natural green areas and abundant parklands.

Our nation's decades of dispersed development have been a contributing factor to our current obesity epidemic and related health problems. Development patterns focused on single mode transportation, and single land uses created a predominant need for a car to get anywhere, decreased walking or biking, and added more and more emissions to the air and earth's atmosphere. Our future growth must provide multi-modal transportation options and make active transportation—human-powered modes like walking and biking—a viable way to access goods and services and improve our health at the same time.

We cannot build enough roads to allow room for the majority of County residents to drive in single-occupant vehicles for all of their daily needs. The proposed Bus Rapid Transit network will increase accessibility and mobility for most of the county's residents without requiring them to drive. Investments in complete streets and safer pedestrian and bike accessibility around transit stops will not only increase mode share in non-auto modes of travel but also will play a role in curbing vehicle emissions and trimming our waistlines. The BRT network may also provide connections to future mixed-use centers.

Preservation of and access to parks, open space, and the beauty of the natural world contributes to the health of both the environment and residents. A recent change to our forest conservation laws now allows some of mitigation money provided by developers to be used to meet urban tree canopy goals, which will improve the quality of place, air, and health in the urban areas where we wish to concentrate growth. Trees increase the energy efficiency of buildings, reduce heat island effect, and create wildlife habitat, making our community centers more attractive, pleasant, and livable.

Additionally, park planning has become increasingly integral to the master plan and sector plan process as we concentrate on redeveloping traditional centers. Greener pedestrian and bike trails that connect to natural resources outside urban areas, as well as internal recreational loops like the one proposed in White Flint, will give residents greater opportunities and incentive for a healthy and active lifestyle, with parks, recreation centers, and other public facilities accessible by active transportation.

Park projects like the redesign of Woodside Urban Park include the creation of rain gardens alongside other amenities as a smarter way to deal with stormwater runoff and give residents and workers easy access to serene spaces.

Level of Service Conditions

Facing the future requires more sophisticated tools to take advantage of changing conditions and opportunities. We no longer take the simplistic approach of allowing or withholding development approvals based on the capacity of the infrastructure. Instead, our focus is on how to address the shortcomings of the system in advance of development with the help of those who wish to build. So it is important to understand the existing conditions of our major infrastructure systems and the level of service provided by each (to the degree that it is measureable). This section looks at the status of transportation, schools, water and sewer and environmental conditions.

Transportation

Mobility is a significant challenge for future growth. Our roads are choked with cars that often carry only one person while pedestrians and bicyclists are not accommodated in ways that encourage more of us to walk, bike or take transit to work or other daily activities. The transportation modes that are the most efficient in terms of energy or space have not received as much attention as the automobile. In addition, large expanses of surface parking contribute to pollution and urban heat islands, and the provision of underground parking is often seen as cost prohibitive.

If we exclusively address the need for mobility by adding traffic lanes to serve more single-occupancy autos, it would change character and function of homes and/or businesses along the affected roadways at a significant public cost. Shifting toward a more efficient use of the infrastructure we already have by reducing the need for single-occupant automobiles is essential to accommodate anticipated growth.

This 2012 SSP introduces a new way to assess the adequacy of services provided by our transit and roadways systems: the Transportation Policy Area Review (TPAR). This process evaluates the adequacy of transit and roadways separately to allow more in-depth analysis of these two types of transportation.

TPAR's **transit adequacy** assessment is based on current local bus service. It identifies three measures of adequacy: coverage, peak headway, and span. Coverage is the amount of a policy area within a mile from rail stations or within a third of a mile from bus stops. Peak headway is the average time between buses. Span is the duration of weekday bus service.

TPAR sets standards for transit service based on the County's Strategic Transit Plan for three types of policy areas: urban (with and without Metrorail), suburban and rural. The characteristics upon which these categories were based are shown below.

Table 1 policy areas by type

Policy Areas by Four Categories of Type of Transit and Population and Employment Density for TPAR 2012 (6-7-12)										Forecasts of Population and Employment Densities			
	Number of Bus Routes									2022		2040	
	Total of all Routes	Peak Period Only	All-Day Routes	Metro Rail?	MARC Com-muter Rail?	Future Light Rail and/or BRT?	Gross Area of the Policy Area (sq. mi.)	Pop. Density in 2010 (person per sq. mi.)	Emp. Density in 2010 (emp. per sq. mi.)	Popula-tion Density	Employ-ment Density	Popula-tion Density	Employ-ment Density
"Urban" Policy Areas, with Metrorail													
Silver Spring/Takoma Park	35	14	21	Y	Y	Y	10.49	8,622	4,376	9,900	4,800	10,300	5,400
North Bethesda	15	4	11	Y	Y	Y	9.25	5,216	7,430	7,400	8,800	9,500	10,600
Kensington/Wheaton	29	12	17	Y	Y		19.26	4,853	1,230	5,600	1,380	6,000	1,450
Bethesda/Chevy Chase	17	6	11	Y		Y	20.24	4,962	4,339	5,800	4,800	6,100	5,100
Rockville City	16	2	14	Y	Y	Y	13.64	4,314	5,794	5,300	6,900	6,100	7,700
Derwood	7	2	5	Y	Y		8.22	2,274	2,556	2,800	3,100	4,000	4,000
"Urban" Policy Areas, without Metrorail													
R&D Village	5	2	3			Y	2.38	3,076	8,764	4,100	11,400	9,100	17,700
Gaithersburg City	10	1	9		Y	Y	11.03	5,446	4,967	6,400	6,000	7,600	7,600
Montgomery Village/Airpark	9	3	6				9.41	5,472	1,372	5,300	1,320	5,600	1,420
Germantown West	9	2	7		Y	Y	10.98	5,652	1,347	5,900	1,810	6,900	2,920
Germantown East	5	2	3			Y	6.57	3,568	1,310	3,800	2,140	4,400	3,600
"Suburban" Policy Areas													
Fairland/White Oak	14	7	7				20.66	3,700	1,495	3,700	2,000	3,700	2,350
Aspen Hill	11	3	8				13.05	4,644	478	4,900	550	4,600	560
Cloverly	2	2	0				9.83	1,621	137	1,600	160	1,590	160
North Potomac	7	3	4				10.49	2,570	143	2,600	160	2,900	170
Olney	5	4	1				17.36	1,887	317	1,960	320	2,120	330
Potomac	10	2	8			Y	28.07	1,696	431	1,770	520	1,820	530
Clarksburg	2	1	1			Y	14.91	934	255	2,170	460	2,620	1,300
"Rural" Policy Areas													
Rural West	1	1	0		Y		132.90	157	20	160	20	170	20
Damascus	1	0	1				9.42	1,119	248	1,190	280	1,350	280
Rural East	1	0	1				117.18	289	48	310	60	330	60

Five of 21 policy areas show inadequacy in coverage; 14 policy areas could improve evening peak headways to address inadequacy. Only the Cloverly Policy Area shows inadequacy for span of service. Inadequate areas are highlighted in yellow in the table.

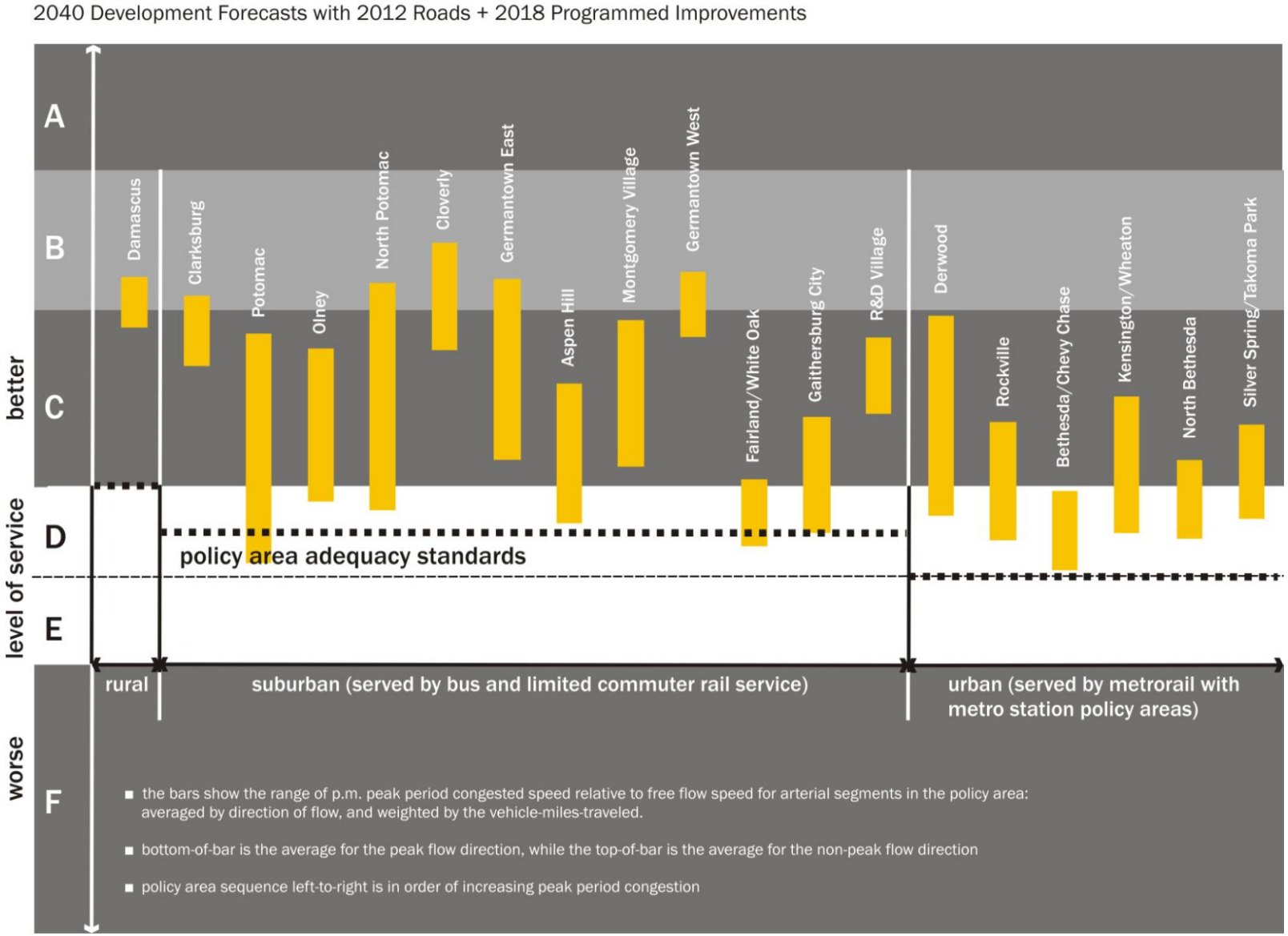
Table 2 - transit adequacy results – 2012

	Number of Bus Routes	Coverage (Percent of area within 1 mile rail; 1/3 mi.of bus)	Peak Headway by Bus in PM Peak Hour (minutes)	Span: Duration of Weekday Bus Service (hours)
"Urban" Policy Areas served by Metrorail				
Silver Spring/Takoma Park	35	96%	18.2	18.9
North Bethesda	15	87%	21.3	17.7
Kensington/Wheaton	29	82%	20.7	18.5
Bethesda/Chevy Chase	17	81%	20.4	17.4
Rockville City	16	80%	21.2	17.8
Derwood	7	70%	21.1	18.8
Inadequate versus	**xx.x**	**more than 80%**	**less than 20.0**	**more than 18.0**
"Urban" Policy Areas not served by Metrorail				
R&D Village	5	76%	25.8	15.8
Gaithersburg City	10	75%	20.0	17.6
Germantown West	9	48%	21.8	18.6
Montgomery Village/Airpark	9	47%	21.0	18.0
Germantown East	5	39%	21.4	17.8
Inadequate versus the Standards shown	**xx.x**	**more than 80%**	**less than 15.0**	**more than 16.0**
"Suburban" Policy Areas				
Fairland/White Oak	14	48%	19.1	18.8
Aspen Hill	11	44%	19.9	19.3
Cloverly	2	30%	26.5	8.0 *
North Potomac	7	29%	24.3	17.0
Olney	5	26%	25.0	22.3
Potomac	10	23%	21.1	16.4
Clarksburg	2	16%	30.0	14.1
Inadequate versus	**xx.x**	**more than 30%**	**less than 20.0**	**more than 14.0**
"Rural" Policy Areas				
Rural West	1	8%	30.0	6.3 *
Damascus	1	7%	20.0	15.7
Rural East	1	7%	20.0	15.7
Inadequate versus the Standards shown	**xx.x**	**more than 5%**	**less than 30.0**	**more than 4.0**

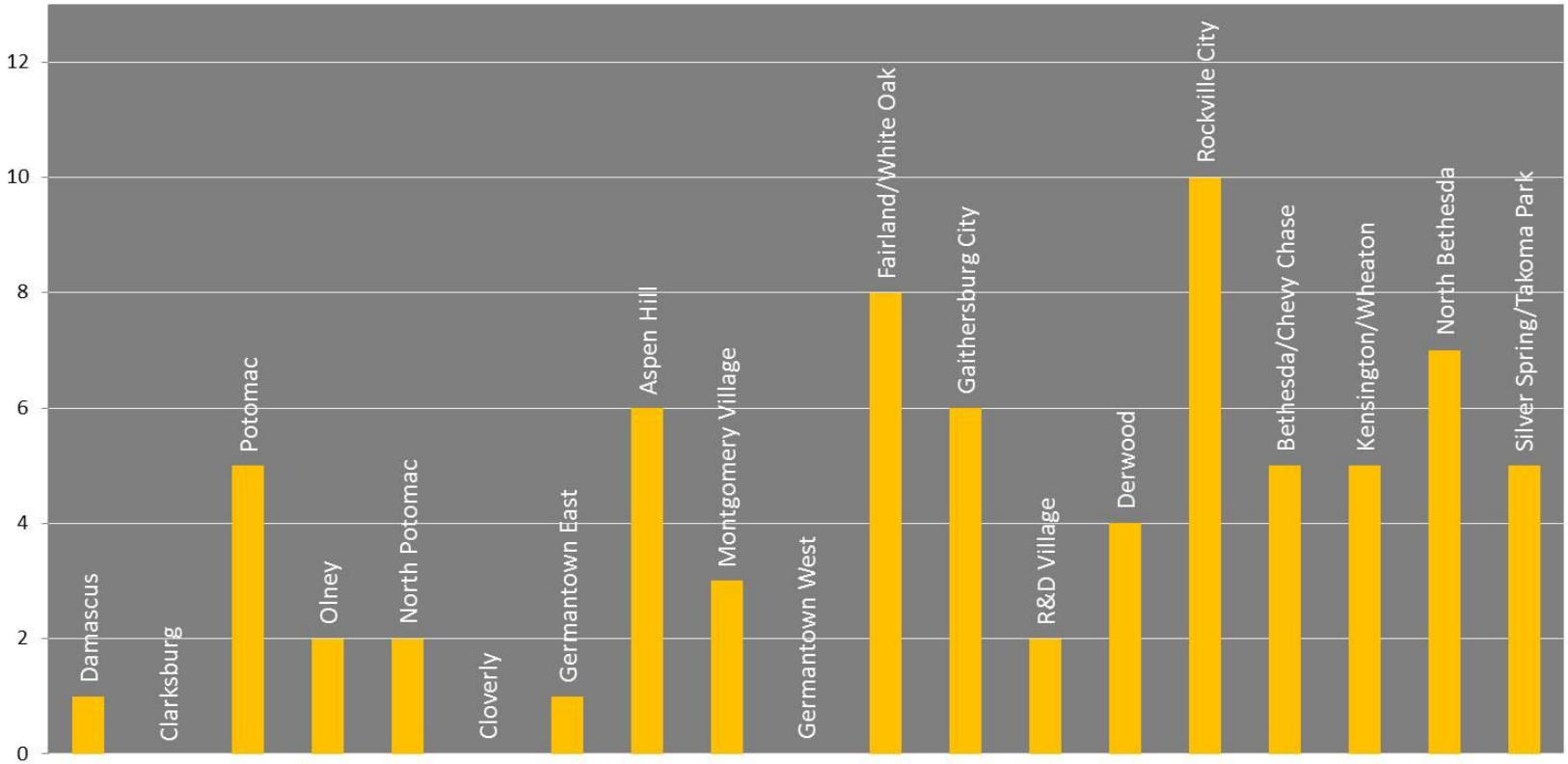
TPAR measures **roadway adequacy** using arterial mobility predicted by a regional traffic model; five policy areas are forecasted to be inadequate or approach inadequacy by 2022 as measured by the average congestion on all major roads in these areas. These policy areas are Potomac, Fairland/White Oak, Gaithersburg, Aspen Hill, and Bethesda/Chevy Chase. However, TPAR also offers a finer-grain look at roadway mobility within policy areas and identifies the more congested roads that are affecting an area's average mobility. Only one policy area, Germantown West, forecasts all arterials to operate above the area's adequacy standard in 2022.

Analysis of local intersection congestion, based on Critical Lane Volume (CLV), remains another measure of mobility in the County. CLV provides a snapshot of intersection performance at a particular time and place. We have recently begun measuring intersection congestion by comparing the CLV for an intersection with the standard for Local Area Transportation Review (LATR). A CLV/LATR ratio of one or greater indicates that an intersection is operating at or below the standard. Of the 317 intersections analyzed in the County, nearly half (48 percent) are approaching or exceed the LATR standard adopted in the 2007-2009 Subdivision Staging Policy. Since 2009, there has been very little change in the CLV/LATR ratios, with nearly half of the sampled intersections approaching or exceeding policy area CLV standards.

adequacy of the main roads countywide summary - 2012



number of congested intersections by policy area



Source: M-NCPPC traffic count database (sampling of county intersections)

Schools

The SSP defines adequate **school capacity** by establishing thresholds for school use. These thresholds are used in the annual school test to determine whether residential development within a particular area will be subject to an assessment (school facility payment) or moratorium.

The adequate school capacity calculation compares projected enrollment numbers with existing and planned facility capacity. The current SSP school test uses a definition of facility capacity based on Montgomery County Public School (MCPS) program capacity. Program capacity is the number of students planned per classroom per school level (elementary, middle, or high school) based on curriculum standards.

Since 2007, there has been a marked increase in school system enrollment—especially at the elementary school level. One factor in this growth was the State mandate for public schools to provide full-day kindergarten programs.

The enrollment factors are, in some years, difficult to predict. One unexpected consequence of the recession was an unprecedented surge in enrollment that began in 2008. This sudden change in the enrollment trend was particularly pronounced in downcounty elementary schools (the Bethesda-Chevy Chase, Walter Johnson, and Richard Montgomery clusters), in communities with little new housing construction. Catching up to these rapid increases in enrollment will take several years as school capacity projects are planned and funds requested through the capital improvements program (CIP).

The annual school test evaluates school utilization levels in all 25 school cluster areas at the elementary, middle, and high school levels (referred to in the SSP Resolution as grade levels). Each year, MCPS prepares the data on school cluster utilizations for the annual school test; the Planning Board adopts the results effective July 1, and the standards apply to the following fiscal year.

If school utilization levels exceed certain thresholds, mitigation actions are prescribed in subdivision applications.

The current SSP test thresholds are:

- School Facility Payment Threshold - If projected enrollment five years in the future, at any grade level in any cluster, is greater than 105 percent but does not exceed 120 percent utilization, the Board may approve a residential subdivision in that cluster during the next fiscal year if the applicant commits to pay a School Facility Payment. School Facility Payments must be made by final inspection or within 6 months of receiving a building permit for residential construction, whichever is earlier.

- Moratorium Threshold - If projected enrollment at any grade level in any cluster will exceed 120 percent utilization, the Planning Board must not approve any residential subdivisions in that cluster during the next fiscal year.

There are a few exceptions to these requirements. The Planning Board may approve a subdivision in a cluster in moratorium if:

- the residential portion of a subdivision consists solely of multifamily housing and related facilities for elderly or handicapped persons
- multifamily housing units are located in the age-restricted section of a planned retirement community.

- the subdivision consists of no more than three housing units and the applicant commits to a School Facilities Payment as otherwise required before receiving a building permit.

A new component introduced in the 2007-2009 Growth Policy was the administration of a school capacity ceiling, commonly referred to as the School Queue. If a subdivision would cause a cluster to exceed the 120-percent threshold at any level, only the number of dwelling units that would reach but not exceed the threshold would be allowed. Similarly, if a subdivision would cause a cluster to exceed the 105-percent threshold at any level, then the number of dwelling units that would exceed the threshold would be subject to a School Facilities Payment to proceed to approval.

For **the FY2013 school test**, 15 clusters exceed the 105 percent program capacity. Five of those exceed the threshold at more than one school level. No school cluster exceeds the 120 percent program capacity ceiling. Therefore, residential subdivisions will not be under moratorium in any school cluster. (see map 4)

According to the analysis, a school facility payment will be required in the following clusters at the elementary school level: Blake, Gaithersburg, Magruder, Paint Branch, Quince Orchard, Rockville, and Seneca Valley. At the middle school level, residential development in the Blair, Walter Johnson, Rockville, Springbrook, Wheaton, and Whitman clusters will require a school facility payment. And, at the high school level, a school facility payment will be required in the Bethesda-Chevy Chase, Blake, Walter Johnson, Northwood, Quince Orchard, Whitman, and Wootton clusters. A school facility payment will be levied at each school level found to be inadequate.

Water and Sewer Service

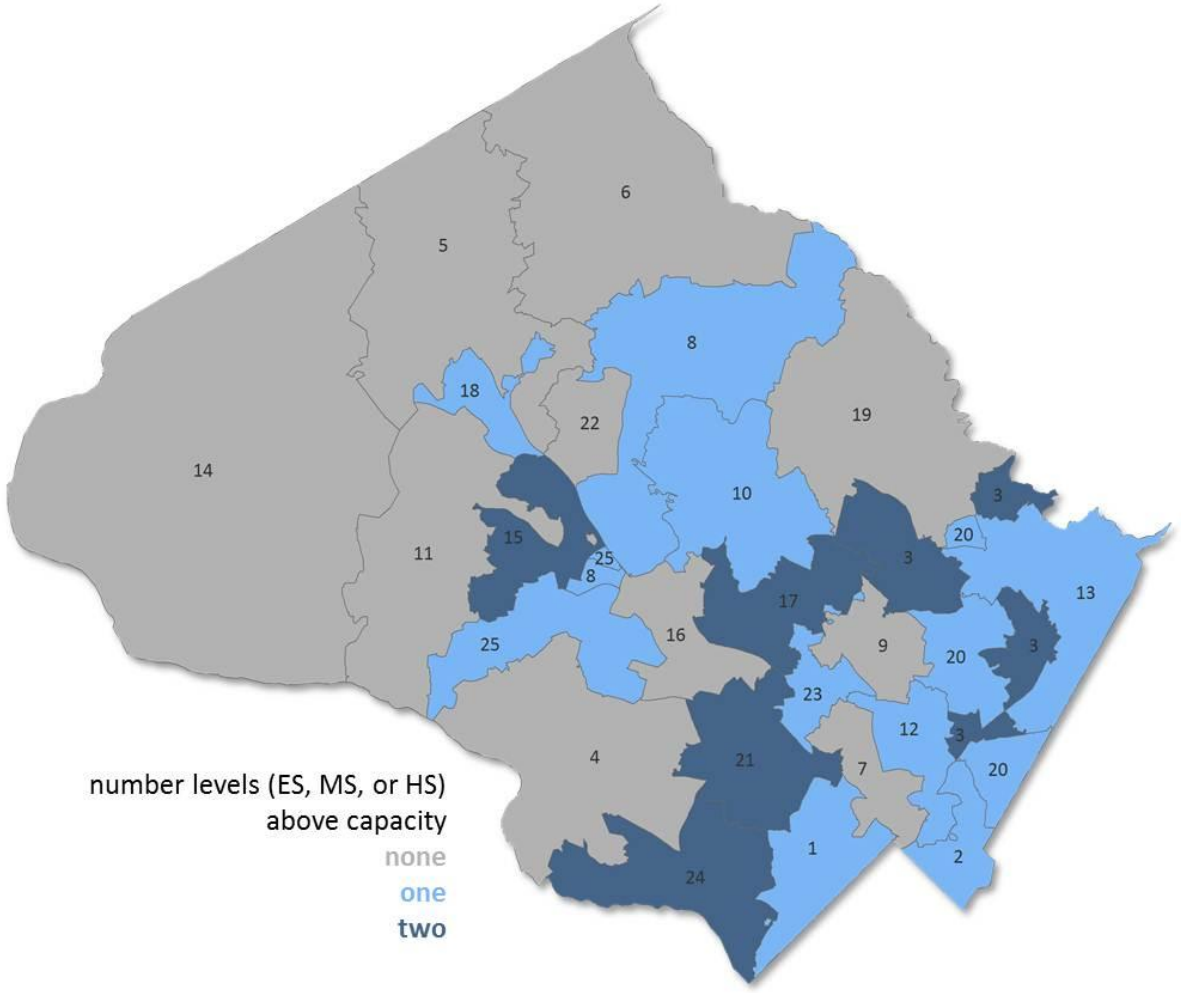
The Washington Suburban Sanitary Commission (WSSC) delivers drinking water from the Patuxent and Potomac Rivers through filtration plants to consumers in Montgomery County through a series of pumping facilities, transmission mains, and storage facilities. Once this water is used, the sewerage system collects and conveys it to sewage treatment plants in the County and the District of Columbia. The County's water distribution and sewage collection system is aging, and maintenance and replacement of this infrastructure is vital for continued adequate public water service, which provides for fire suppression and a potable water supply, along with treatment of sewerage before it is discharged to our rivers and the Chesapeake Bay. It is also important to prevent stream erosion and adverse water quality impacts that result from water and sewer line breaks. WSSC is completing a *Utility-Wide Master Plan* to ensure that its entire infrastructure is adequate to meet the service area's present and future needs.

One important concern is the monitoring and eventual replacement of large, high pressure water mains shown on the map below. These mains distribute water to all parts of the system and help maintain adequate service and pressure. Unfortunately, some of the materials in these pipes are beginning to fail and can cause catastrophic consequences from explosions and flooding if the potential for failure is not caught in time. While these pipes are closely monitored and WSSC has allocated substantial funds to repair and replace them, it is difficult to take them out of service and still maintain proper water distribution and pressure. Over 88 miles of these pipes occur in Montgomery County.

Accommodating future growth through redevelopment of traditional centers presents excellent opportunities for improving and funding water supply and wastewater treatment infrastructure

Map 4 - school test results Fiscal Year 2013

1 Bethesda-Chevy Chase (HS)
2 Blair (MS)
3 Blake (ES, HS)
4 Churchill
5 Clarksburg
6 Damascus
7 Einstein
8 Gaithersburg (ES)
9 Kennedy
10 Magruder (ES)
11 Northwest
12 Northwood (HS)
13 Paint Branch (ES)
14 Poolesville
15 Quince Orchard (ES, HS)
16 Richard Montgomery
17 Rockville (ES, MS)
18 Seneca Valley (ES)
19 Sherwood
20 Springbrook (MS)
21 Walter Johnson (MS, HS)
22 Watkins Mill
23 Wheaton (MS)
24 Whitman (MS, HS)
25 Wootton (HS)



See Appendix 3 for additional detail

without extending water and sewer service beyond the current service area. Redevelopment and infill adds revenue and users to the existing infrastructure, allowing more funds to be used for system repairs and replacement.

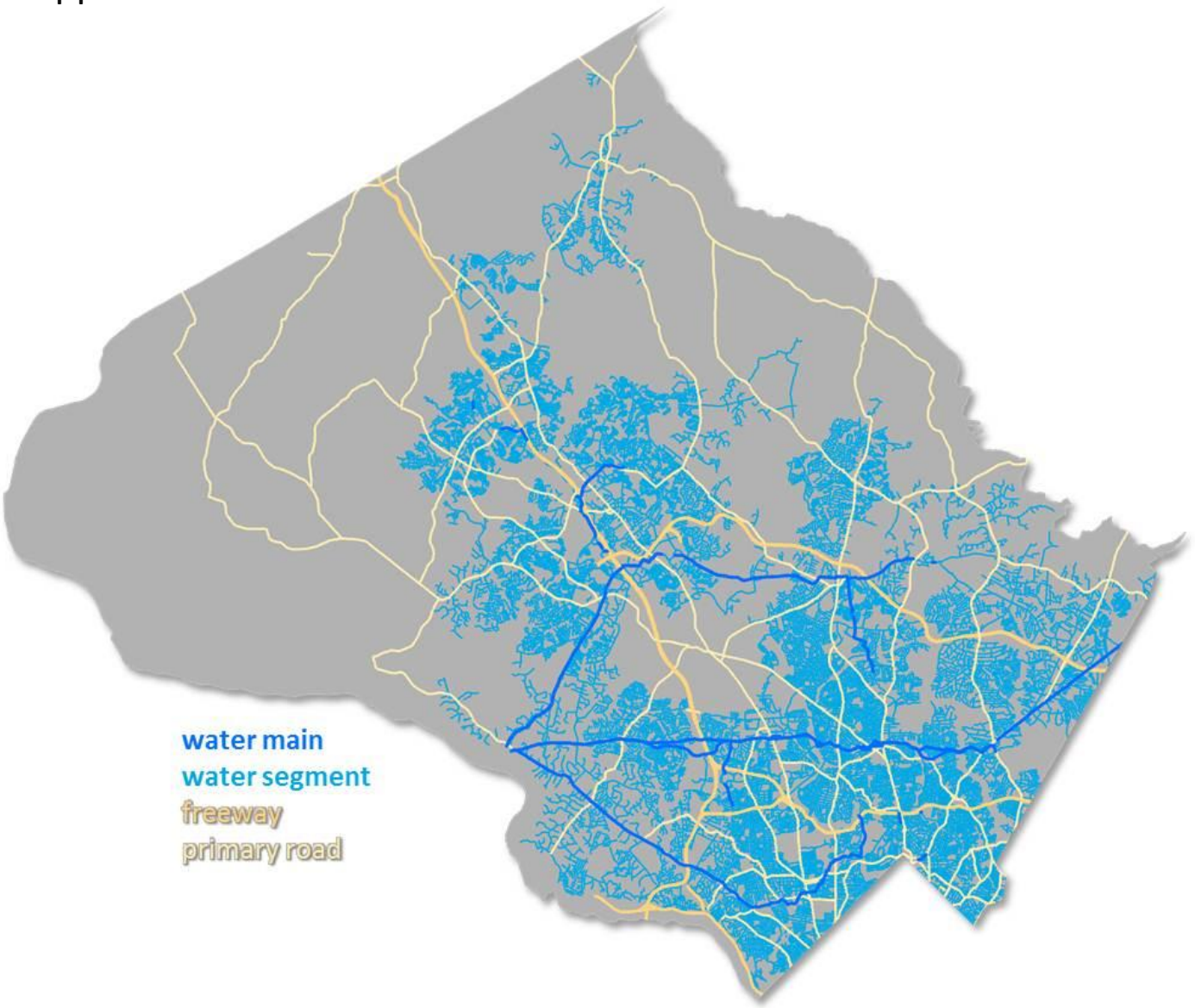
Environment

Increased paving and rooftops (impervious surfaces) and associated stormwater runoff volumes are reflected in the steady decline of water quality in the County's streams. A general pattern of declining stream health follows the pattern of development. The worst conditions are in areas developed before strict requirements were in place to reduce pollution. Degraded water quality has led to new State and federal government regulations to improve degraded streams to meet water quality standards. These requirements are known as Total Maximum Daily Loads (TMDLs)—the maximum amount of a pollutant that a water body can receive and still meet water quality standards. For jurisdictions throughout the Chesapeake Bay watershed, meeting these requirements and reducing pollution while the population and employment continue to grow will take many millions, if not billions of dollars. The County is in the process of determining how to meet the increasingly strict requirements and is looking at how a mitigation or trading program might work to offset increased pollution contributed from new development, especially in greenfield areas.

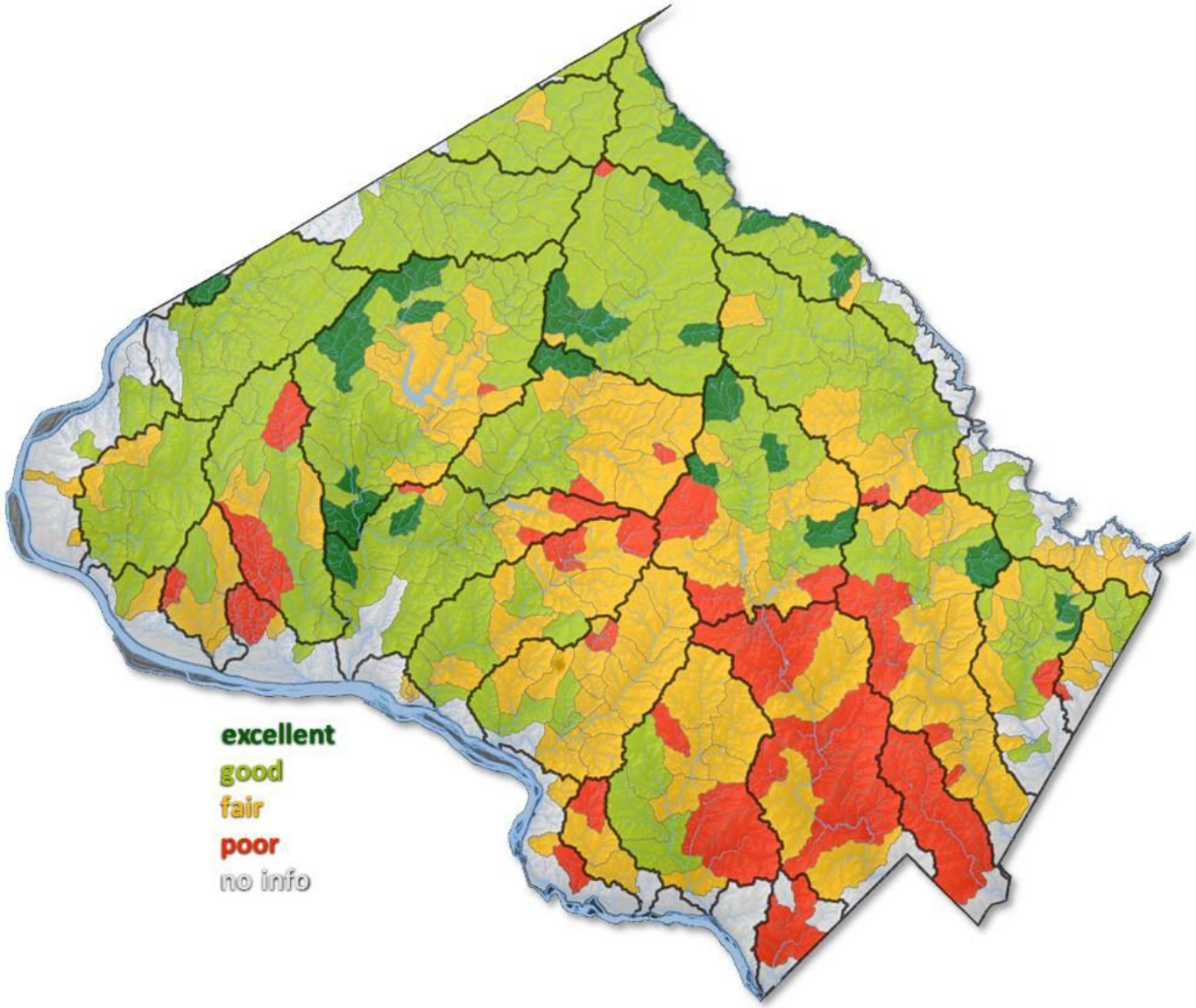
In both local design and networked green spaces, forest and tree canopy are essential elements of quality of place and livability. Trees increase energy efficiency, reduce heat island effect, improve air quality, extend pavement life, enhance pedestrian-vehicular safety, boost real estate values, make retail areas more attractive, absorb water pollution and carbon emissions, and slow runoff and erosion.

Recent analysis shows forest cover has stabilized at around 30 percent of the County's land area, much of that is in our parks and rural areas. In addition, approximately 20 percent of the County is shaded by street trees, individual trees, and small groves in local parks and on private property. While our combined forest and tree canopy of almost 50 percent is commendable, our urban centers are often a sea of buildings, roads, and parking lots with very little tree cover to shade hot pavement, filter air and water and provide relief to those who live and work in these areas. Redevelopment in traditional centers is an opportunity to improve urban tree canopy, our environment and our quality of life.

Map 5 water pipe infrastructure

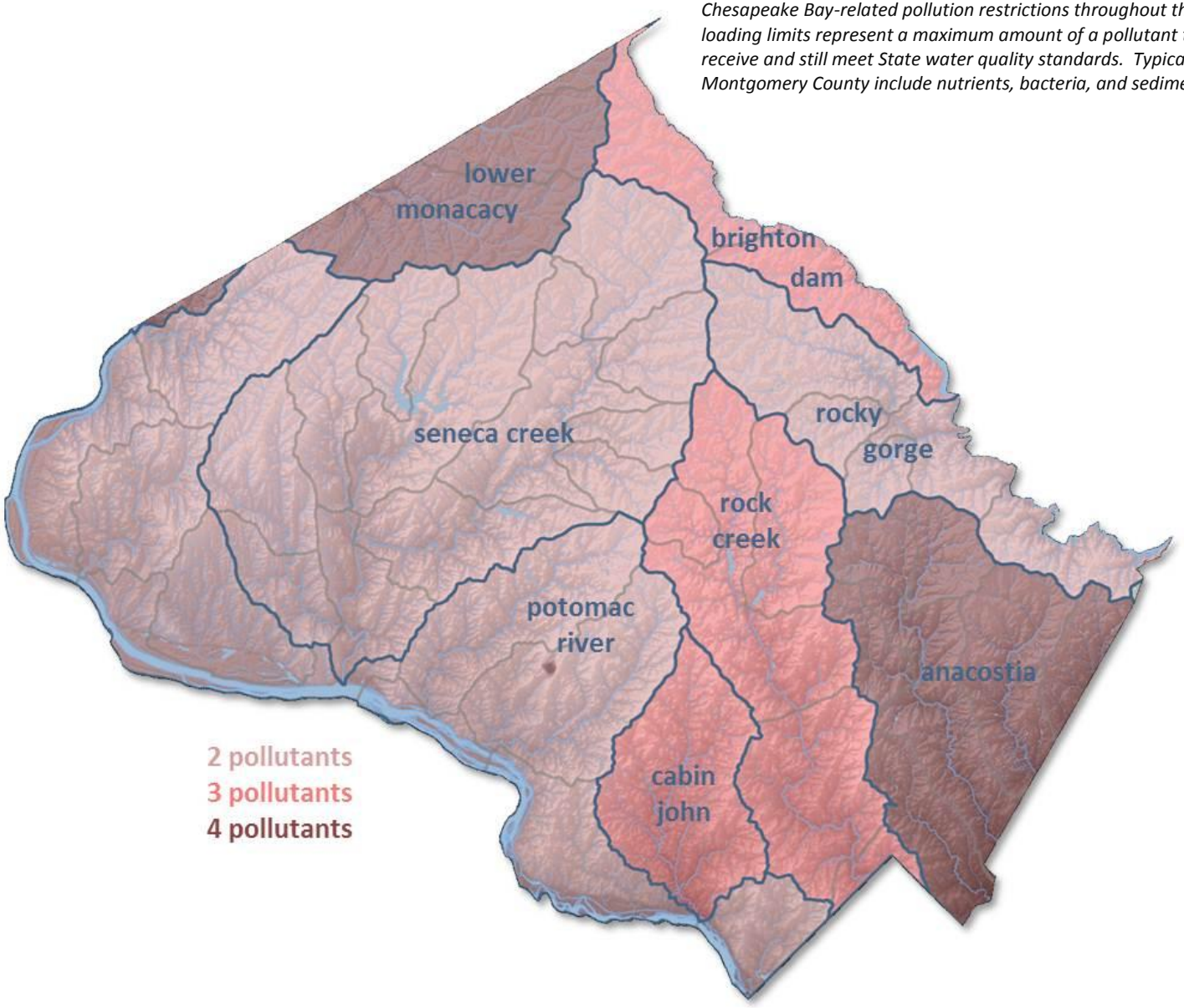


Map 6 stream conditions 2009

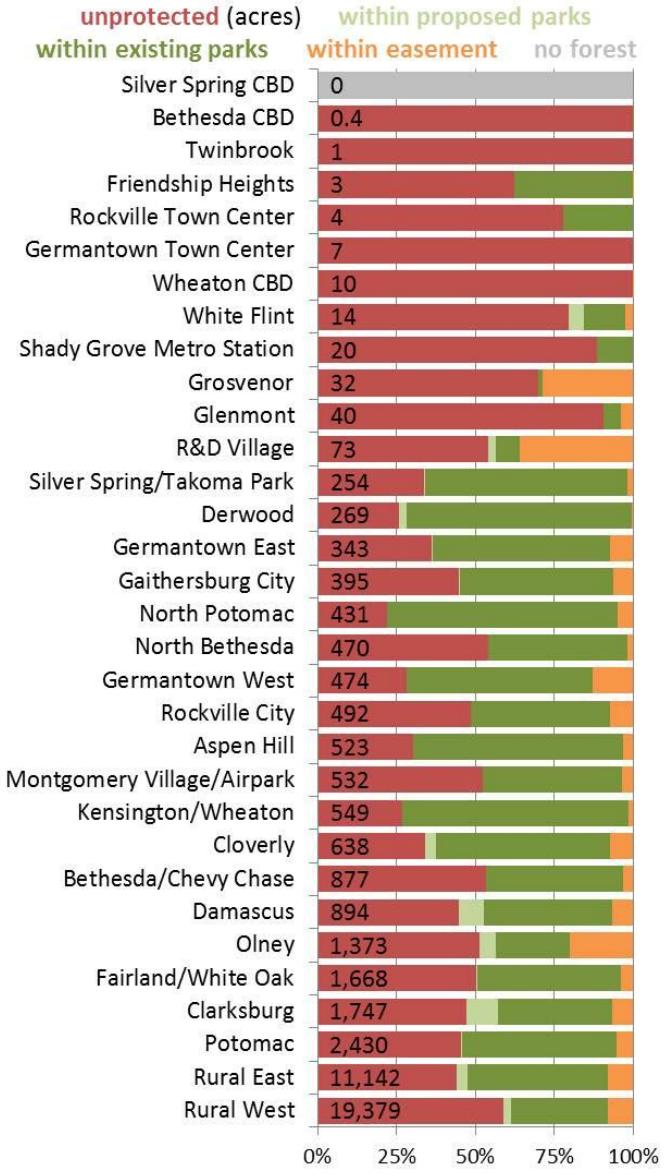


Map 7 restricted pollutants by watershed

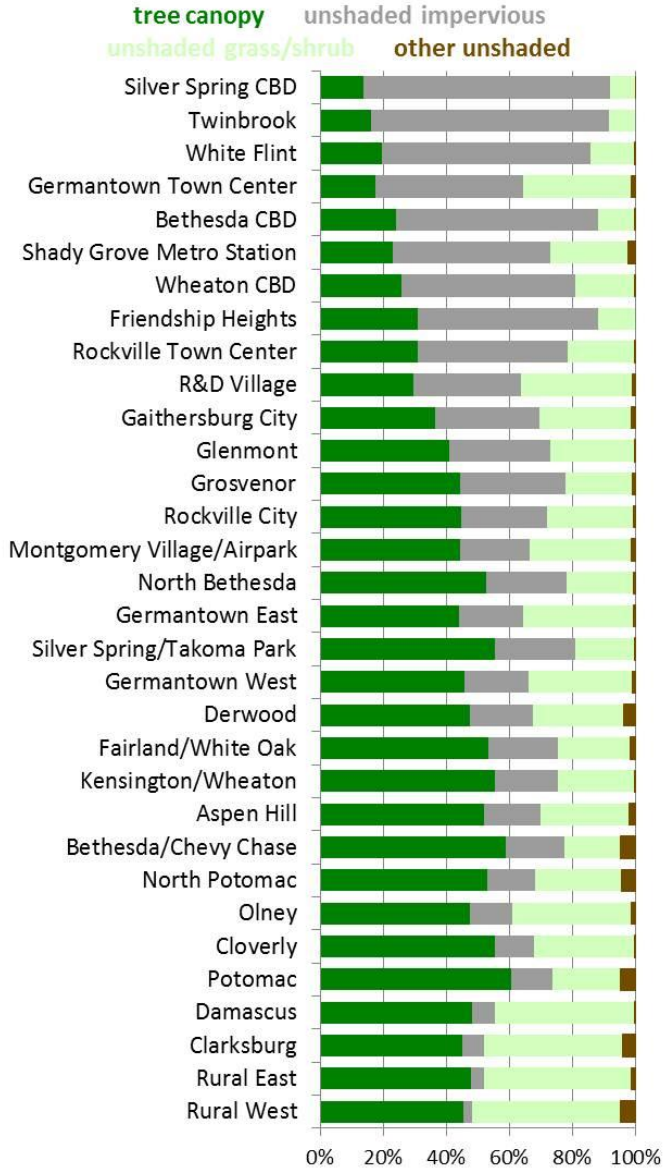
EPA-approved quantitative assessment studies have established local pollutant loading limits (TMDLs) for water bodies in most of the County's watersheds, and Chesapeake Bay-related pollution restrictions throughout the County. These loading limits represent a maximum amount of a pollutant that a water body can receive and still meet State water quality standards. Typical restricted pollutants in Montgomery County include nutrients, bacteria, and sediment.



forest protection by policy area 2010



land cover by policy area 2009



Map 8 silver spring CBD land cover 2009

Direction

In a County with changing demographics and limited room to grow, what do we need to be successful?

We need to provide more:

- public transportation used by a greater percentage of the county's residents
- varied and affordable attached and multi-family housing
- walkable, cohesive neighborhoods

We need to create less:

- traffic congestion
- stormwater runoff
- pollution
- greenhouse gas

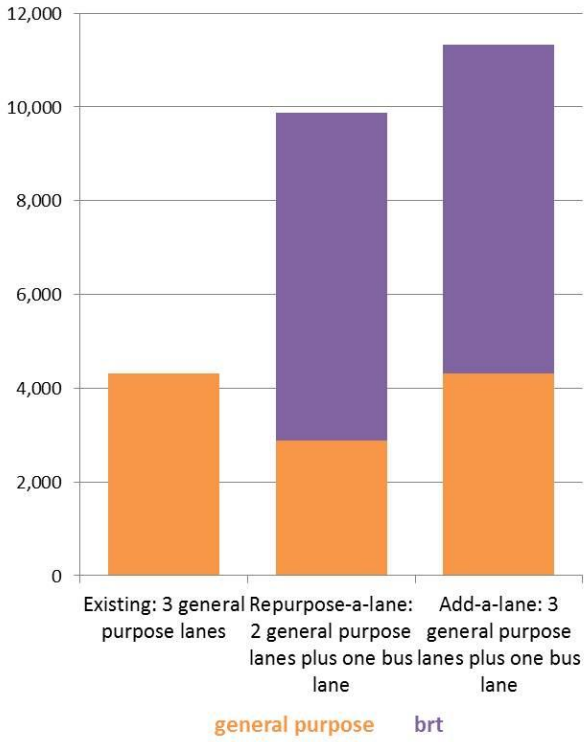
The County's transportation strategies must shift from an emphasis on vehicle-throughput to the concept of person-throughput, valuing the number of people—in cars and buses, or on foot or bikes—rather than the number of vehicles that a right-of-way can accommodate. We can increase the number of people able to be transported on our existing roads, paths, and sidewalks by:

- providing more transit
- developing more activity centers that allow people to live and work in the same area
- developing more activity that allows use of off-peak and reverse peak capacity

An example from our analysis of Bus Rapid Transit (BRT) for the *Countywide Transit Corridors Functional Master Plan* shows that on an arterial with three general purpose vehicle lanes (in one

direction), repurposing one of those lanes exclusively for rapid transit vehicles more than doubles the number of people who can travel on the same roadway. By comparison, adding more paving for a fourth lane to accommodate rapid transit vehicles increases person-throughput only marginally and at a much greater cost.

Bus Rapid Transit person-throughput comparison



A BRT network may also help us rethink our local bus system, allowing local buses to provide more frequent service from neighborhoods to the rapid transit routes. This kind of efficiency reduces travel time without adding new roads and more auto lanes.

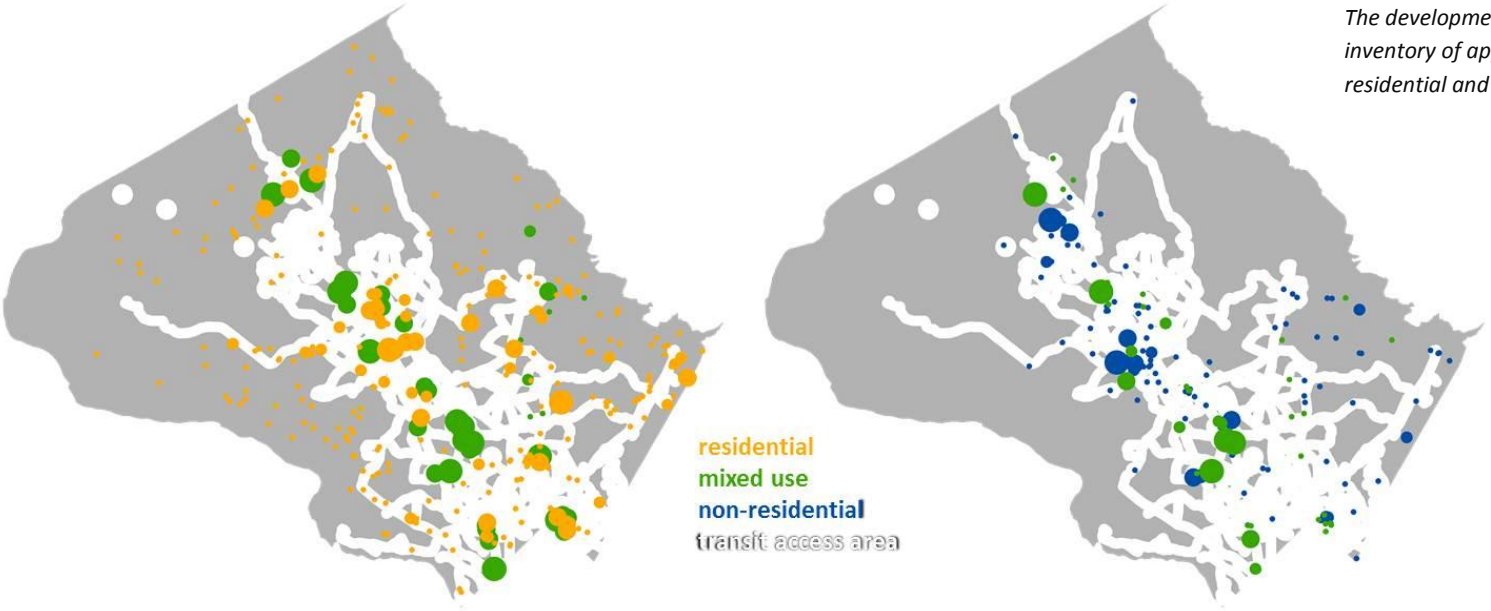
What have we achieved in previous Growth Policy provisions?

The Growth Policy and its tools are constantly evolving. Once used to confine growth to areas with less congestion and more school capacity or to halt development in areas with infrastructure inadequacies, it has more recently been used to encourage smarter growth closer to transit in redeveloped areas and allow development to proceed when appropriate mitigation is provided. The evidence suggests that these recent changes, along with new master and sector plans, are having the desired effect as evidenced by the many recent development applications in transit-served areas.

Developers appear to increasingly view transit proximity as a real asset when locating projects—perhaps in recognition of their clients' shifting desire for less auto-dependence combined with a lack of greenfield opportunities. Fifty-eight percent of pipeline projects (approved but unbuilt) are within a quarter-mile of bus transit or within a half-mile of Metrorail or MARC stations.

Of more recent applications, 66 percent of submitted but unapproved preliminary plans and 82 percent of site plans are close to transit. When these projects are complete, 74 percent of dwelling units and 81 percent of nonresidential square footage will be within reasonable walking distance of transit service.

Map 9 proximity to transit - development pipeline plans



The development pipeline is March 2012 inventory of approved but unbuilt residential and commercial project.

Map 10 proximity to transit - pending preliminary plans

Pending plans are those that have been accepted for review by the Planning Department but have not been to the Planning Board. This is a selection of non-amendment preliminary plans pending in April 2012.

During the 2011-2012 school year, MCPS operated 131 elementary schools, 38 middle schools, 25 high schools, one career and technology high school, one alternative program center, and five special program centers – a total of 200 facilities. Since 1983, as enrollment has steadily increased, MCPS has opened 31 elementary schools, 17 middle schools, and six high schools (including 14 re-openings of closed schools). In the past four years, enrollment has increased by over 8,000 students, an amount greater than the total enrollment of most MCPS clusters. Since 2004, over 65 million dollars have been collected in school impact taxes. This represents approximately 25 percent of the annual school budget dedicated to providing additional school capacity through new and modernized facilities. During the next six years, significant additional school capacity will be needed to accommodate continuing increases in enrollment. Overall, MCPS enrollment is expected to increase by more than 9,000 students by 2017.

How can the 2012 Subdivision Staging Policy help achieve more of our development goals?

- Use TPAR to tie growth to the provision of funding for needed transit and roadway improvements to address current and future inadequacies where growth is proposed.

- Develop better intersection analysis methods and standards for LATR to assure that critical intersections are analyzed for delay and queuing.

- Continue to provide private funds to help fund needed school improvements.

- Stimulate redevelopment and infill in transit-served areas to:
    - reduce water pollutant loads by using Environmental Site Design
    - provide opportunities to repair or replace older water and sewer systems
    - provide more green areas, tree canopy and open space for more walkable, cohesive and healthy neighborhoods
    - provide more types of housing for those desiring an urban lifestyle and lower housing and transportation costs.

Our goals for growth:

- use existing infrastructure
- grow green
- accommodate choice

Our goals for growth are reinforced by the Subdivision Staging Policy and ongoing planning efforts:

- Zoning Rewrite
- Commercial-Residential Zones and implementation guidelines
- Bus Rapid Transit and Corridor Cities Transitway
- Building Lot Terminations in the Agricultural Reserve
- Complete streets
- Master and sector plans
- White Flint and Great Seneca Science Corridor implementation guidelines

Recommendations

The Subdivision Staging Policy sets standards for determining if public facilities are adequate to serve growth, and it establishes tools to ensure that those facilities are provided in a timely fashion. Some of the tools are straightforward; for example, development must be in an area served by water and sewer or have obtained permission to use wells and/or septic systems if public services are not available. Ensuring transportation and schools adequacy is more challenging.

In areas where facilities or services are insufficient, the following recommendations will help time both project delivery and the public and private funding needed to match services to projected growth.

Transportation Policy Area Review

1. Adopt the TPAR methodology for determining adequacy of transit and roadway facilities.

2. Determine TPAR fees to be paid by private development based on the cost of improvements needed in each policy area by 2040 divided by the number of new trips projected for each policy area by 2040. Note: The costs and fees will be discussed at Planning Board worksessions and added to the Planning Board draft of this policy.

3. Ensure that projects are placed into the Facility Planning Program when 10 percent of the needed funds are contributed by the private sector and into the Capital Improvement Program when funding agreements are in place for the remainder of the private share.

4. Update the TPAR test every two years starting in 2014 to assist in incorporating new transportation strategies and data and to assist in fine-tuning the priorities for the CIP.

Local Area Transportation Review

5. Require applicants to analyze queuing and delay at intersections where traffic volumes exceed 85 percent of the Critical Lane Volume standard, per the applicable policy area standard.

6. Develop appropriate volume to capacity standards for intersections where queuing and delay are being analyzed.

Critical Lane Volume measures only certain intersection operations (signal phasing, timing, and coordination). It does not measure compatibility with bicycle and pedestrian circulation. Also, CLV fixes an intersection's maximum capacity; it doesn't account for varying capacity created by signal timing, grades, lane widths, etc. This limits CLV's ability to accurately evaluate system management and operations strategies. Incorporating the 2010 *Highway Capacity Manual* (HCM 2010) methodology for evaluating key intersections will use more up-to-date analytical software and industry standard performance measures.

Critical Lane Volume would still be used as a screening measure to identify intersections that are approaching the congestion standard and require more sophisticated analysis. This allows applicants and reviewing agencies to keep a well-known and well-understood analytical tool that can minimize analysis effort in locations where congestion is not an issue. Incorporating HCM 2010 allows the level of service of all travel modes to be documented at intersections that are approaching CLV capacity standards.

Annual School Test

7. Retain the threshold for a school facility payment at school utilization greater than 105 percent and less than 120 percent.

   The current threshold for assessment of a school facility payment, while slightly below the level at which capital programming is undertaken, has proven to be a consistent indicator of the need for capital infrastructure that maintains adequate school capacity.

8. Retain the threshold for school moratoria on new residential subdivisions and construction when at school utilization is greater than 120 percent.

   Until the 2007-2009 Growth Policy, the threshold for imposition of a moratorium was rarely exceeded. Since the 120 percent threshold has been established, several school clusters have been placed under moratorium. In response, school facilities have been promptly programmed. This suggests that the standard serves to alert decision-makers when projected enrollment and capacity are out of balance.

9. Update the school facility payment rates to reflect the most recent school construction costs available.

   The school facility payment fee is 60 percent of the construction cost of providing an additional school seat. The rate varies by school type as construction costs are not the same for an elementary, middle or high school. The rates currently in effect are those approved in 2007.

Tables 3 & 4 - Current School Facility Payment Rates and Proposed School Facility Payment Rates

			Student Generation Rates			
Level	Total Cost per Student	60% of Cost per Student	Single-family detached	Single-family attached	Multi-family garden apt.	High-rise; low-rise w/ structured parking
Elementary School	$32,525	$19,515	0.320	0.211	0.153	0.042
Middle School	$42,352	$25,411	0.144	0.122	0.056	0.039
High School	$47,502	$28,501	0.131	0.107	0.039	0.033

	Facilities Payment*			
Level	Single-family detached	Single-family attached	Multi-family garden apt.	High-rise; low-rise w/ structured parking
Elementary School	$6,245	$4,118	$2,986	$820
Middle School	$3,659	$3,100	$1,423	$991
High School	$3,734	$3,050	$1,112	$941

*Student Generation Rate x 60% Cost per Student

Source: school construction costs 2007 Montgomery County Public schools; student generation rates 2005 Census Update Survey

			Student Generation Rates			
Level	Total Cost per Student	60% of Cost per Student	Single-family detached	Single-family attached	Multi-family garden apt.	High-rise; low-rise w/ structured parking
Elementary School	$35,135	$21,081	0.334	0.188	0.142	0.042
Middle School	$46,000	$27,600	0.127	0.106	0.069	0.039
High School	$50,000	$30,000	0.133	0.147	0.071	0.033

	Facilities Payment*			
Level	Single-family detached	Single-family attached	Multi-family garden apt.	High-rise; low-rise w/ structured parking
Elementary School	$7,041	$3,963	$2,994	$885
Middle School	$3,505	$2,926	$1,904	$1,076
High School	$3,990	$4,410	$2,130	$990

*Student Generation Rate x 60% Cost per Student

Source: school construction costs 2009 Montgomery County Public schools; student generation rates 2008 Census Update Survey

10. Allow the Planning Board to make a mid-cycle finding of school adequacy.

    Over the past few years, for school clusters under moratoria, the County Council has adopted "placeholder" capital projects as amendments to the CIP. This additional funded capacity allows development to be approved if the school facility payments are made. A placeholder is appropriate when facility planning is underway, but the request for design and construction funds has not yet been determined. The placeholder capital project essentially promises support for the full project in the following year's CIP.

    In the fall of 2009, a "placeholder" capital project was approved for three school clusters to resolve ongoing moratoriums. For these clusters to come out of moratorium, the Planning Board would need to conduct a test similar to the annual school test. To accomplish this, the 2009-2011 Growth Policy gave the Planning Board the authority to make a one-time mid-cycle finding of school adequacy for FY2010.

    Since the school queue monitors adequacy during the fiscal year, there is the potential for a cluster to enter a moratorium between annual school tests. Providing the Planning Board the authority to make a mid-cycle finding of adequacy would allow the Board to respond to any County Council approved "placeholder" capital project.

11. Retain the current De Minimis exemption, which allows the Planning Board to approve a subdivision in any cluster where public school capacity is inadequate, provided the subdivision consists of no more than three housing units and the applicant commits to pay a school facility payment as otherwise required.

12. Modify exemption for senior housing such that the Planning Board may approve a subdivision in a cluster where school capacity is inadequate, provided the subdivision consists entirely of housing and related facilities for elderly or handicapped persons or housing units located in an age-restricted section of a planned retirement community. Currently this exemption is restricted to only those units that are multifamily units.

13. Retain all current waivers of the school facility payment as currently regulated under Chapter 52 of the Montgomery County Code, which includes a waiver for projects located in an enterprise zone (Wheaton CBD and Long Branch) or former enterprise zones as well as a waiver for moderately priced dwelling units (MPDU's) built under Chapter 25A.

Other APFO Requirements

No substantive changes are recommended for the Water and Sewer adequacy test (although some minor changes are proposed for clarity) or for the Police, Fire and Health Services provisions of the policy.

Future Approaches

The 2012 SSP not only refines our existing tools that measure transportation and schools adequacy but also takes steps toward introducing measures that will help us realize the varied, sustainable communities that create a distinct quality of place and ensure our quality of life.

The next SSP (2016-2020) should investigate new tools and further refine the ones now in use to help us reach the place we want to be sooner and more efficiently.

Refining the Transportation Policy Area Review

While the TPAR test gives us a better understanding of the transit inadequacies, it does not tell us how the BRT network and bike or pedestrian improvements might be expected to change conditions in future years, or how costs could be allocated to help make those improvements. Additionally, TPAR does not account for the speed of transit service compared to that of auto travel. Incorporating travel time would be an important refinement to the test, particularly in regard to BRT, since much of the reason for pursuing this network is based on its speed. We also lack updated traffic generation rates, especially for mixed-use and development in dense areas. We recommend these additional studies:

- Collect better bicycle and pedestrian data, especially in urban areas.
- Update traffic generation rates, especially for mixed use and dense development.
- Incorporate the BRT system, as adopted into the model, to improve projections.
- Analyze passenger load factors and on-time performance for transit

Updating the PAMR/LATR Guidelines

The new TPAR test will replace the Policy Area Mobility Review in the guidelines, and the LATR provisions must be updated and additional provisions included to improve TPAR's application.

Water Quality as a Growth Tool

Montgomery County is an integral part of a regional whole, and its decisions contribute to the overall health and sustainability of that region. Conversely, regional regulatory requirements have an effect on many County decisions, including how we grow.

The Chesapeake Bay, for example, is failing to meet water quality standards, and Bay Total Maximum Daily Load requirements (TMDLs) have been issued for local jurisdictions that drain to the Bay. In addition to reducing existing nutrient loads to meet the Bay TMDLs, to maintain compliance, all new nutrient loads from new development must be offset as well. For counties with remaining greenfield opportunities, the required offsets can pose a significant challenge. In Montgomery County, new greenfield development will be required to offset additional stormwater loads. The guidance for such an offset program is not yet available, but should be examined for inclusion in the 2016-2020 Subdivision Staging Policy.

staff draft

June 2012

growing smarter

2012-2016 Subdivision Staging Policy

Scan or go to montgomeryplanning.org/growsmart
to learn more and tell us what you think.

6120000015