City of Rockville

Community Planning and Development Services

Municipal Growth Element

Comprehensive Master Plan

December 2010

City of Rockville, Maryland

Municipal Growth Element
Comprehensive Master Plan

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1) Executive Summary

Introduction/Background

In order for Rockville to grow in a manner that will enhance the City's vitality, while protecting and even improving the quality of life for existing and future residents, it is crucial to assess the potential impacts of projected growth. By doing so, Rockville will have a better foundation for policy decisions and determinations regarding investments in public services and infrastructure. These assessments also need to be understood and integrated into Montgomery County and State of Maryland policies and investments, because those governments provide direct and indirect service to Rockville citizens.

House Bill 1141, passed in 2006, amended Article 66B of the Annotated Coded of the State of Maryland to require that all municipal comprehensive plans in Maryland include Municipal Growth and Water Resources Elements. This document is the Municipal Growth Element (MGE). The MGE includes a Development Capacity Analysis (DCA), which the State of Maryland also newly requires.

The MGE provides projections of population and employment growth in Rockville, including the general locations within the city where this growth is likely to occur. It then assesses the impacts of projected growth on certain public services and infrastructure. As required by the State, areas of analysis include police, fire and emergency medical services, public schools, libraries, and parks and open space. The City recognizes that there are other areas of public services and infrastructure that are affected by growth, including transportation. These other areas are beyond the scope of this document, but will be addressed in the broader revision to the City's Master Plan that is scheduled to begin in the near future. The City has solicited and received input from the public and many local and State agencies in the development of this document.

In accordance with State requirements, the MGE also discusses potential changes to Rockville's municipal boundaries.

Growth Projections (Development Capacity Analysis)

Projections for growth in Rockville are as follows:

Table 1: Forecasts for Rockville, COG Round 8

	2010 (est.)	2020	2030	2040	Change 2010-2040	% Change 2010-2040
Population	62,476	71,874	77,644	83,929	21,453	34%
Household	24,327	28,784	31,509	34,509	10,182	42%
Employment	74,549	91,600	99,403	105,403	30,854	41%

Note: Forecasts produced by City of Rockville as part of the COG Round 8 process.

These Round 8 forecasts do not take into account the potential impact of the City's Adequate Public Facilities Ordinance (APFO), which constrains development if certain public services and facilities are not sufficient to accommodate growth. Assuming that the APFO remains in place in its current form, it is unlikely that the growth projected in Table 1 will occur unless significant investments are made in public schools, fire and rescue services, and transportation by the City, County and State.

Impacts of Growth

Public Schools

Public schools serving Rockville children are part of the Montgomery County Public Schools (MCPS) system. In 2010-2011, 8,090 students with Rockville home addresses were enrolled in MCPS, representing 13% of the overall Rockville population.

A significant number of neighborhood/zoned schools that serve Rockville children have enrollment that exceeds MCPS-defined program capacity. Some schools exceed the 110% of program capacity that triggers a moratorium on children-generating development, under the City's APFO. Development through 2040 is expected to generate significantly more students. Key findings include:

- In the school year 2010-2011, 11 of the 20 schools serving Rockville neighborhoods had enrollment of 100% or more of the MCPS program capacity. Five of those schools exceeded 110% of program capacity, with particularly acute situations at Beall Elementary School (ES) (136%) and Ritchie Park ES (133%).
- MCPS enrollment projections for 2016-2017 show seven schools being at more than 110%, with particularly acute situations at Beall ES (155%), Ritchie Park ES(150%), Twinbrook ES (117%) and Meadow Hall ES (127%), as well as Julius West Middle School (136%)
- All of the elementary schools and Middle School in the Richard Montgomery Cluster are projected to exceed 110% of program capacity, meaning that there will be a moratorium on children-generating development in this cluster unless MCPS rapidly addresses the challenge of program capacity.
- Under the MCPS methodology for projecting development-induced enrollment increases, which is based on Student Generation Rates (Table 12), Rockville's growth through 2040 is expected to generate 1,243 additional MCPS students, representing 5.8% of the city's population increase.
- An alternative approach is to assume that the proportion of MCPS students to the overall Rockville population will remain constant at 12.6%. Under this scenario, growth through 2040 would generate 2,703 additional MCPS students.
- MCPS staff has stated that there are sufficient land assets to accommodate either scenario, due to the ability to expand existing schools and to build new schools in sites that have been reserved in newly constructed developments (e.g., King Farm and Fallsgrove). In the Capital Improvement Program (CIP) recommendation for Fiscal Year 2012, the construction of a new elementary school is proposed in the cluster to alleviate overcrowding.

- MCPS schools saw an enrollment boom well past their projections as a result of unexpected increases during the current school year of 2010-2011. MCPS had about 144,000 students—2,300 more than last fall and 800 more than projected. The largest increase is in kindergarten and elementary school classrooms. In general, Rockville requests that MCPS develop a methodology that more accurately predicts MCPS enrollment for periods longer than five years, so that schools will not continue to be over their program capacities.

The City will continue to urge MCPS to invest in addressing the current needs, but to do so in a manner that takes into account future needs. MCPS may need to alter its projection methodology to take into account the other factors that produce overcrowded schools, including generational changes in neighborhoods, immigration, and other factors. Rockville children should not be forced to continually attend schools whose enrollment exceeds capacity.

Public Libraries

Public Libraries in Rockville are provided by Montgomery County Public Libraries (MCPL), which has 21 branches. Two of those branches are within Rockville's boundaries: the Rockville Memorial Library and the Twinbrook Library. There are other branches nearby. In addition, the Library system permits all resources in the system to be accessed from any library, including through use of Internet-based services.

At present, the approximately 90,000 square feet of library facilities in Rockville far exceeds the standard of the American Library Association, which is 1,000 square feet of library space for each 10,000 in population. That standard will still be met if population in Rockville increases to approximately 84,000 in 2040, or if nearby property is annexed into the City.

Police

The City of Rockville is currently served by the Rockville City Police Department in conjunction with the Montgomery County Police Department (MCPD). Although increased population growth will generate a need for an increase in the number of police officers, the appropriate levels of staffing will depend upon local conditions. Completion of the new headquarters for the Rockville Police Department is expected to provide sufficient space for the department through 2040, including a potential need for an additional 19 officers, if the proportion of officers-to-population remains the same. The City will continue to collaborate with the County to determine and plan for policing needs as factor change.

Fire and Emergency Services

Montgomery County Fire and Rescue Services (MCFRS) provides fire and emergency services to the City of Rockville. There are currently two fire stations within Rockville, but there are others nearby; and the entire network of stations is available to serve the entire County (and even the region, in cases of extreme need). Both fire stations need expansion and renovation and may be moved as part of that effort. Station 23 on Rollins

Avenue, in particular, may be moved toward the White Flint Sector as part of its expansion.

Rockville collaborates with MCFRS to determine that all development applications are compliant with the Fire Code and meet the City APFO requirements. MCFRS analysis shows that all areas of Rockville are within 10 minutes response time by at least 1-2 fire stations, and the vast majority of Rockville can be served by at least three fire stations within 10 minutes.

The City's APFO prohibits development of certain high-risk uses where there is no ability for three stations to respond within 10 minutes. Those uses are schools, hospitals, nursing homes, places of assembly seating 500, and commercial buildings of more than three stories that do not have sprinklers.

MCFRS is planning for a new station just outside of Rockville at Shady Grove Road and Rt. 28. Another station has been cited as desirable as part of the Shady Grove Master Plan, nearer to the Shady Grove Metro Station. If both are built, all APFO limitations should be addressed. The City will continue to urge MCFRS to make these investments as soon as possible.

In addition, of critical importance is whether increasing traffic congestion will limit the ability for stations to respond within 10 minutes. Rockville will monitor such response times, along with MCFRS.

Recreational Land and Open Space

Rockville owns and operates approximately 1,199 acres of parks, open space and recreational land, for a ratio of 19 acres for every thousand residents. If the City's population grows by approximately 21,000 over the next 30 years, approximately 378 acres would be needed in order to maintain the City's goal of 18 acres per thousand residents. It will be a great challenge to meet this goal, as there are no readily available parcels. However, there are enormous resources (such as Rock Creek Park) immediately outside the City, owned and operated by other government entities, which are expected to continue to serve the needs of Rockville residents.

A significant challenge in addressing growth will be to define the types of open spaces that are most appropriate in mixed-use redevelopment contexts, as well as to address the local neighborhood-scale deficits that exist at present in certain neighborhoods. The City will continue to collaborate and work with the County and State to ensure that adequate services are available to Rockville residents.

Financial Mechanisms to Accommodate Growth

Expansion of public services and infrastructure to accommodate growth is financed by a series of city, county, state and federal sources, as well as through impact fees, additional taxes paid by developers, and fees for City services (e.g., water, stormwater). The City's goal is that growth should pay for itself and that services to existing residents should not be degraded as a result of growth. In order to achieve that goal, the City will need to

coordinate with other levels of government and continually review its policies with respect to fees and taxes.

Other levels of government, in turn, must recognize the importance of investing in the public infrastructure that serves Rockville. Rockville's position in one of the key growth areas of Montgomery County and Maryland, along the 355/270 corridor, calls for significant investments in order to accommodate that growth. The analysis within this document shows that schools and fire and rescue services are in need of immediate investments, while parks and police will need investment over time as growth occurs. In addition, though not covered in this document, such areas as transportation and water resources also need significant investments by other levels of government.

Maximum Expansion Limits

After completion of this element, an area may not be annexed into the City of Rockville unless the area has been identified as being within the City's urban growth boundary, or Maximum Expansion Limits (MEL) in the MGE. The City's MEL has not been revised since 1970. This document recommends expansion of the MEL to include land just south of Shady Grove Road near the Shady Grove Metro Station, and land south of Montrose Road to the new Montrose Parkway. These areas are logical extensions of Rockville's existing boundaries and MEL.

The City has no annexation plan and no current intention to aggressively pursue these new properties within the MEL. However, the City would entertain and review petitions from property owners, should they wish to be annexed into Rockville.

Conclusion

Rockville is identified by Montgomery County and the State of Maryland as being in the center of a key growth corridor. The City leaders and residents see value in vitality-enhancing growth, but not at the expense of important quality-of-life measures. The City will continue to invest in service and infrastructure areas for which it has authority, but Montgomery County and Maryland must do the same in their areas of authority and service. The Municipal Growth Element has identified Public Schools, Fire and Rescue Services, Police and PROS (Parks, Recreation and Open Space) as areas needing attention from other levels of governments. Though not part of this document, Transportation and Water Resources are also in need of investments.

The City of Rockville will be proactive on behalf of its citizens in ensuring that their needs are met in these areas. The City will continue to use its core policy tools, which include zoning and the Adequate Public Facilities Ordinance, to achieve its goals with respect to growth and quality of life.

2) Introduction

In order for Rockville to grow in a manner that will enhance the City's vitality, while protecting and even improving the quality of life for existing and future residences, it is crucial for Rockville to assess the potential impacts of projected growth. By doing so, Rockville will have a better foundation for policy decisions and determinations regarding investments in public services and facilities/infrastructure. These assessments also need to be understood and integrated into Montgomery County and State of Maryland policies and investments, because those governments provide direct and indirect service to Rockville citizens.

The Municipal Growth Element (MGE) is a new requirement of Article 66B of the Annotated Code of Maryland as amended by House Bill 1141 (HB 1141) in 2006. HB 1141 requires the addition of an MGE to a jurisdiction's Comprehensive Master Plan (CMP).

"The municipal growth element must examine past growth trends and patterns. It shall include a projection of future growth in population and resulting land needs based on a capacity analysis of areas selected for future municipal annexation and growth. It also requires an examination of the effects of growth on infrastructure and natural features both within and adjacent to the present municipality and on future growth areas that may be annexed."[1]

Under the new requirements of Article 66B, municipalities must:

- Complete an analysis of land capacity available for development, including infill and redevelopment, and document the level of growth anticipated at densities consistent with its zoning ordinance and the CMP;

- Include a Municipal Growth Element in the CMP that specifies where the municipality intends to grow outside its existing corporate limits. Once a comprehensive plan growth element is in place for a municipality, a municipality's annexation plan, if it has one, must be consistent with the growth element of the municipality[2].

- Share with other planning agencies, especially those that are affected and adjacent, an annexation plan that is consistent with its growth element in the CMP.

- Examine the interrelationships between land use and the projections for growth of population and housing, and their impacts on public facilities and services. The MGE needs to address in broad terms the expected impact on the demand for

[1] http://www.mdp.state.md.us/PDF/OurProducts/Publications/ModelsGuidelines/mg25.pdf, p. 1.
[2] http://www.mdmunicipal.org/documents/pubdocs/MunicipalAnnexationHandbook.pdf (p. 6)

public services and infrastructure resulting from the projected growth within the municipal growth areas. Subject areas include public schools, public safety, libraries, recreation, and the water elements. Other sections of the CMP provide more detail on plans for enhanced community facilities.

- Identify the infrastructure needed to serve future growth and the anticipated financing mechanisms available to support necessary public services.

This document meets the goals and technical requirements of the MGE, as described in the Annotated Code (Article 66B, §3.05(a)(4)), by incorporating all of the required components in the methodology. Water and Sewer Services and Storm Water Management Systems are addressed separately in the Water Resources Element. The requirement of identifying Rural Buffer and Transition Areas does not apply to the City of Rockville because of its location in an urbanized area.

The initial deadline for meeting the requirement of adopting the Municipal Growth Element for all municipalities in Maryland was October 1, 2009. The Maryland Department of Planning (MDP) approved a deadline extension for Rockville until October 1, 2010 (Appendix B), per the City's request as provided for in the legislation. MDP has informed Rockville that, if this new deadline is not met, Rockville (just as with any municipality) will not be permitted to rezone property until it has submitted the MGE to the State. MDP has clarified that this provision does not apply to zoning appeals, variances and historic designations; it only applies to changes in zoning classifications or comprehensive rezoning.

This document also includes, and serves as Rockville's compliance with, the State requirement to complete and adopt a Development Capacity Analysis (DCA). "Local governments in Maryland are now committed to conduct and include a development capacity (i.e. build-out) analysis when they update their comprehensive plans."[3]

The primary purpose of the DCA is to estimate the growth that is expected in a local jurisdiction, including whether the available land within a jurisdiction can accommodate the projected demand. According to State of Maryland guidance, the DCA is "an estimate of the total amount of development that may be built in an area under a certain set of assumptions, including applicable land use laws and policies (e.g., zoning), environmental constraints, etc."[4]

State guidance has provided local governments with flexibility regarding the approach to the DCA. The City developed an approach, which it submitted to the Maryland Department of Planning for approval. Appendices C and D provide the City's suggested approach, and Maryland Department of Planning's approval of this approach, which is discussed in more detail later in this document.

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[3] http://www.mdp.state.md.us/PDF/OurWork/dev_cap/Final_Guidebook.pdf, p. 2.
[4] http://www.mdp.state.md.us/PDF/OurWork/dev_cap/Final_Guidebook.pdf, p. 3.

The DCA is the foundation for the MGE in that the DCA provides the growth projections upon which the MGE conducts analysis. The DCA has also been used as a foundation for the Water Resources Element (WRE), in that the analysis within the WRE also relies on the DCA growth projections. The DCA does not represent a recommended level of growth. Instead, it represents a projection of how growth could occur given current zoning and other policies.

This document is organized in accordance with the Maryland Department of Planning's "Models and Guidelines, Volume 25, Writing the Municipal Growth Element to the Comprehensive Plan"[5], which provides guidance on the elements required to be covered, including how the DCA is incorporated into the analysis.

[5] http://www.mdp.state.md.us/PDF/OurProducts/Publications/ModelsGuidelines/mg25.pdf

3) Purpose, and Relationship to City's Long-Term Vision

There are local and State purposes for the MGE. Rockville's primary regulatory purpose for completing the MGE is to comply with State requirements, which includes the State-required Development Capacity Analysis (DCA), which is Chapter 7 of this document.

More fundamentally, the purpose of the MGE, and its relationship to the City's long-term vision and plans, is to examine the interrelationships among land use, population growth, employment growth and municipal boundaries; and the related impacts on public facilities and services. From these results, the City will have a stronger basis for setting land use and growth management policies in the future, through a better understanding of the multi-dimensional implications of change.

The broader State purpose of the MGE is to be able to combine the MGE-cited impacts from the various local governments, in order to determine overall impacts that may require State resources as a response. The State of Maryland may, for example, use this information to determine the amount and location of State transportation or park resources needed to serve the growth that is projected.

In addition, conducting the MGE at this point is strategically useful for Rockville. In 2009, Rockville completed the State-required 6-year review of its Comprehensive Master Plan (CMP). A key result of that review was the Mayor and Council's determination that a broader revision of the CMP is warranted, beginning in 2011. Having a completed MGE, in combination with new 2010 Census data, will provide a strong basis on which to begin the community outreach, visioning and planning process. It will also provide key inputs for analysis that will support revision of other CMP elements, including but not limited to Transportation, Community Facilities, Housing and Economic Development.

One of the most important impacts of growth is how it affects water resources. The DCA's growth projections have provided key input to the State-required Water Resources Element (WRE), which is being completed in parallel with the MGE.

Furthermore, the MGE provides a tool for the City to coordinate with other jurisdictions to understand what is proposed near the City boundaries, and regarding areas where annexation is possible. When all local governments prepare their MGEs, all jurisdictions have a better understanding of the intentions and goals of their neighbors, which offers the potential of better coordination among governments. For Rockville, the MGE is a tool to coordinate better with the City of Gaithersburg, Montgomery County, the State of Maryland and the region; and for Rockville to protect its interests.

In particular, Rockville is identified by Montgomery County and the State of Maryland as being in the center of the key 355/270 growth corridor. Rockville also sees value in vitality-enhancing growth, but not at the expense of important quality-of-life measures. Rockville will continue to invest in service and infrastructure areas for which it has

authority, but Montgomery County and Maryland must do the same in their areas of authority and service.

The City of Rockville will be proactive on behalf of its citizens in ensuring that their needs are met in these areas. The City will continue to use its core policy tools, which include zoning and the City's Adequate Public Facilities Ordinance, to achieve its goals with respect to growth and quality of life.

4) Process for Developing and Approving the MGE

The process for completing the Municipal Growth Element of the City of Rockville's Comprehensive Master Plan involves a series of discrete steps, which are described in greater detail in their respective sections in this document.

Step 1: Growth Projections and the Development Capacity Analysis - Develop projections for Rockville's population, household and employment growth up to 2040, based on the approved methodology for conducting the Development Capacity Analysis.

Step 2: Link these projections to potential increase in demands on public services and infrastructure resulting from this growth.

Step 3: Consider areas beyond the current City boundaries where annexation would be considered by the City of Rockville, were property owners to petition the City to be annexed. These areas are known as the City's Maximum Expansion Limits (MEL). Review existing MEL and determine whether expansion of the MEL is recommended.

Step 4: Estimate population and household growth for the entire MEL.

Step 5: Produce public draft of document and send to the State, surrounding jurisdictions, and the public for comments 60 days in advance of the Planning Commission Public Hearing.

Step 6: Planning Commission Public Hearing.

Step 7: Planning Commission review and recommendation to Mayor and Council.

Step 8: Mayor and Council Public Hearing.

Step 9: Mayor and Council review, approval and adoption into the City's Comprehensive Master Plan.

Step 10: Send completed, approved and adopted Municipal Growth Element to the Maryland Department of Planning.

Prior to the release of the MGE document, Rockville staff met with the Maryland-National Capital Park and Planning staff for discussions on the City's proposed Maximum Expansion Limits. This document was developed after extensive discussions with staff from Montgomery County Public Libraries, Montgomery County Public Schools, the State and the City of Gaithersburg. These discussions are ongoing and will continue even after the adoption of the document to ensure that the City of Rockville's Master Plan recommendations are included when any new development plan is proposed within and in the vicinity of City limits.

Public notification and the opportunity to provide testimony on the MGE have been advertised through multiple means that meet and exceed Article 66B requirements. The Public Hearing draft was sent in April to the State of Maryland, various departments in Montgomery County (Maryland National Capital Parks and Planning Commission, Montgomery County Parks, Department of General Services and Executive Office), Maryland Department of Natural Resources, Montgomery County Police Department, Montgomery County Fire and Rescue Services, Montgomery County Public Schools, Washington Suburban Sanitary Commission, Metropolitan Washington Council of Governments and the City of Gaithersburg and other related agencies.

The City has followed all required protocol and has exceeded the requirement for outreach and publicity of the document. The document has been posted on the City's Web site since it was released. The City issued press releases announcing the availability of the document for review, distributed the document using Rockville's listserv, and published an article on this topic in Rockville Reports, the City's newspaper that is distributed to all Rockville Homes. All Rockville Planning Commission and Mayor and Council meetings on the subject were televised. Since the release of the draft documents, the public has had the opportunity to provide testimony by the following means:

- Online through the Web page, at http://www.rockvillemd.gov/masterplan/elements
- Email to masterplan@rockvillemd.gov, giving full name and address
- Email to mayorandcouncil@rockvillemd.gov, giving full name and address
- Mail to City of Rockville, Long Range Planning Division, CPDS,111 Maryland Avenue, Rockville, MD 20850
- Mail to the City Clerk, 111 Maryland Avenue, Rockville, MD 20850
- In person at the City Hall, 111 Maryland Avenue, Rockville, MD 20850, at the Public Hearings conducted by the Planning Commission and the Mayor and Council.

5) Past Growth Patterns

The U.S. Census Bureau's 2009estimate of Rockville's population was 62,105, making it the second largest incorporated municipality in Maryland, behind Baltimore (637,418).[6] The Cities of Gaithersburg (59,986 and Frederick 59,644) were the third and fourth largest in Maryland, respectively. Rockville's 2010 estimated population is 62,476.[7]

Rockville was incorporated as a city in 1860 by an act of the Maryland General Assembly. At that time, Rockville was 73 acres and had a total population of 365. The City is authorized under its enabling authority to annex property. Over the years the city has grown outward from its center through many annexation actions.

Following World War II, the presence of utilities, availability of land, and proximity to Washington, DC, with good road and rail access spurred a population and housing boom in Rockville. The largest single annexation in terms of land area occurred on June 1, 1949, when 2,210 acres were added to the City, followed by large-scale housing development on that annexed land. Rockville's population grew by 276%, or an average rate of 13.6% each year, during the 1940s and 1950s. Key new communities included Twinbrook, Hungerford Town, Roxboro Estates and Croyden Park.

A series of factors promoted growth west of Rockville Pike (MD Route 355) in the 1960s, including a new interstate highway (I-270) extending north from the Washington Beltway (I-495), the extension of the Watts Branch trunk sewer line west of the interstate, the City's 1960 Comprehensive Plan and the adoption of a new zoning ordinance. Population growth averaged 5.1% annually during this decade. In accordance with the Plan and Zoning, pre-planned neighborhoods were built at suburban densities. Key new communities included Woodley Gardens, College Gardens, Fallsmead, and New Mark Commons.

Population growth slowed during the 1970s and 1980s. The arrival of Metro stations in Rockville in the early 1980s, however, provided additional connections for Rockville with Washington, DC and the rest of the region. Two large annexations occurred to the northwest part of the city during the 1990s. Rockville annexed Fallsgrove (254 acres, formerly known as Thomas Farm) and King Farm (440 acres) in 1993 and 1995, respectively. Both King Farm and Fallgrove developed in a mixed-use manner, with a mix of single-family, townhouse and multifamily housing; as well as office, retail, schools and open space, all within walking distance of public transportation. By 2000, Rockville had grown to 8,320 acres in size (13.4 square miles) with a population of 47,399, and these projects had not yet been completed.

Population in Rockville has grown by an estimated annual average of 2.7% since the 2000 census. This growth has come from two primary sources: 1) residential

[6] U.S. Census, Annual Estimates of the Resident Population for Incorporated Places in Maryland
[7] Round 8 Forecast Estimates prepared by City of Rockville, CPDS

development in areas annexed during the 1990s (King Farm and Fallsgrove), and 2) "infill" development and redevelopment.

The 12.5-acre Rockville Town Square is a key example of the second type. The project was completed in 2007, in implementation of the City's Town Center Master Plan. This mixed-used project included 644 dwelling units, retail/restaurants, offices, and public and non-profit uses. The project is transit-oriented, as it is immediately across MD Route 355 from the Rockville Station that serves Metro, MARC, Amtrak and Ride-One bus service. Other examples of infill redevelopment included The Fitz and Congressional Village, both adding housing along MD Route 355.

This mixed-use redevelopment of properties, which had primarily been single-story commercial uses, with higher densities resulted in an increase in overall population density. Whereas population density in Rockville had for the entire 20th century been under 4,000 people per square mile, the estimated 2010 population density is approximately 4,600. Rockville's overall density clearly establishes it as an urban area according to the U.S. Census Bureau's definition, which judges 1,000 persons per square mile in the "core census block groups" to be urbanized density.[8] Rockville exceeds this density for the entire city. Since 2000, several small-scale annexations have occurred bringing Rockville's total square miles to 13.54 or 8,665.5 acres in 2010.

Table 2: Land Area and Population Density

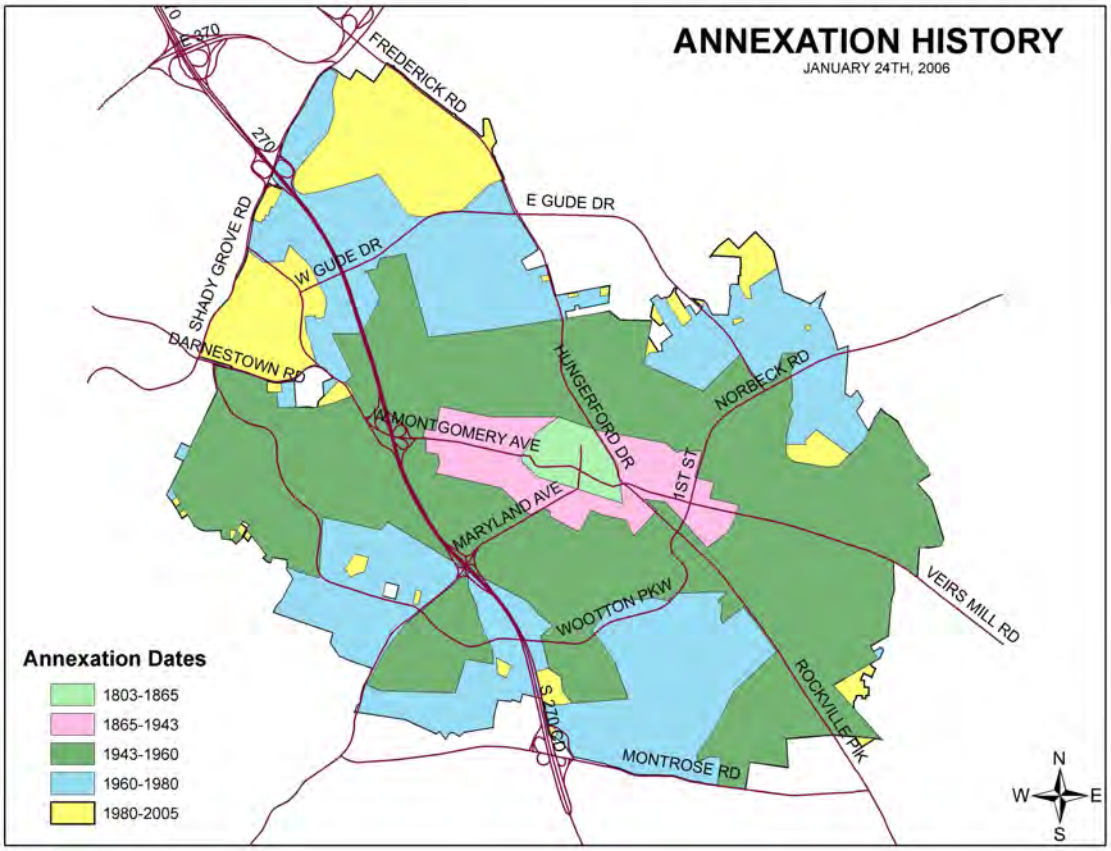
CITY OF ROCKVILLE-LAND AREA AND POPULATION DENSITY				
YEAR	POPULATION	LAND AREA (ACRES)	CITY LAND AREA IN MILES	POPULATION DENSITY PER SQ MILE
1860	365	73	0.2	1,825
1870	660	134	0.2	3,300
1880	688	139	0.22	3,127
1890	1568	228	0.35	4,480
1900	1,110	354	0.55	2,018
1910	1,181	354	0.55	2,147
1920	1,145	354	0.55	2,082
1930	1,422	354	0.55	2,585
1940	2,047	466	0.73	2,804
1950	6,934	2,753	4.3	1,613
1960	26,090	4,473	6.99	3,732
1970	42,739	7,047	10.9	3,921
1980	43,811	7,146	11.16	3,926
1990	44,835	7,744	12.1	3,705
2000	47,388	8,320	13.4	3,536
2010	62,476*	8,665	13.5	4,628*

Source for Population Data: US Census for 1860-2000
Source for Land Area data is from City sources.
*CPDS Round 8 Estimate for 2010

[8] http://www.census.gov/geo/www/ua/ua_2k.html

Figure 1 provides a graphic illustration of the growth history for Rockville's municipal boundaries.

Figure 1: Annexation History



6) Land Use and Zoning

This section provides a summary of how land is currently used in Rockville, and a summary of the zoning that will guide how land will be used in the future.

Considering that there is very little developable land that does not already have some level of development, the vast majority of all growth in the foreseeable future is expected to come from redevelopment and increased density. In an effort to manage this type of future growth, the City recently updated and revised its Zoning Ordinance. The new Ordinance was adopted in December 2008 and incorporates land use concepts that emerged during the development of both the most recent version (2002) of the overall Comprehensive Master Plan (CMP), and a series of local plans that were adopted into the CMP, including Town Center, East Rockville, Lincoln Park and Twinbrook. The Ordinance is designed to help shape a city that is maturing toward full development, while maintaining the high quality of life that the residents of Rockville desire.

Protecting the integrity of the residential neighborhoods where single-family housing is predominant has been a consistent goal of previous City and neighborhood plans and will remain a primary goal. With this goal in mind, the single-unit residential zones have been retained in the new Ordinance, with minor modifications.

Seven new mixed-use zones, representing approximately 15% of the City's land area, have replaced the former single-use commercial zones. These new zones allow a mix of residential, office and other commercial uses, and a range of densities, according to location. The highest levels of density are proposed for areas adjacent to Metro stations and other public transit. Also, land use flexibility was codified in specific areas while doing away with optional and overlay zoning categories.

Figures 2 and 3, together with Tables 2 and 3, provide information regarding Land Use and Zoning in Rockville. Land Use describes how land is being used currently, regardless of zoning. Zoning describes the permitted uses for future development projects. Though Land Use and Zoning are frequently the same on a given property, such as for the majority of properties zoned exclusively Residential, there are times when the current Land Use is different than the Zoning. For example, the Land Use category for an existing shopping center along Rockville Pike is listed as "Commercial (Retail/Wholesale)", while the Zoning category is mixed use.

Figure 2 and Table 2, together, provide a summary of current Land Use categories. Figure 3 and Table 3 provide a summary of Zoning under the new Ordinance. Appendices F and G provide more details regarding the Land Use and Zoning categories.

Figure 2: Current Land Uses in Rockville

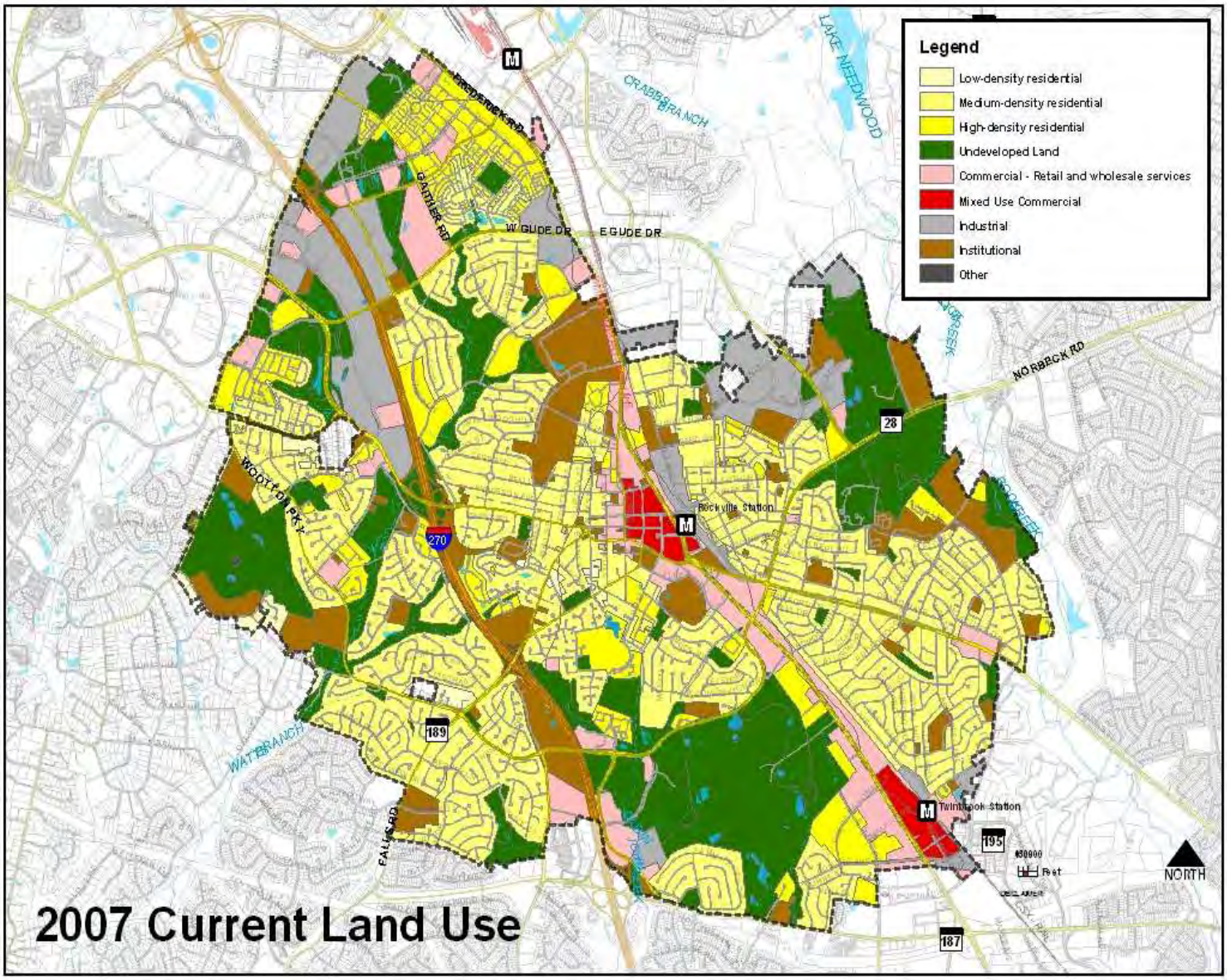


Table 3: Existing Land Use

LAND USES - 2007	ACRES	% OF TOTAL
RESIDENTIAL (ALL TYPES)	4,275	49.3%
UNDEVELOPED (E.G., FOREST, WETLAND, PARKLAND, GOLF COURSES)	1,913	22.1%
INSTITUTIONAL	811	9.4%
INDUSTRIAL	694	8.0%
COMMERCIAL (RETAIL/WHOLESALE)	628	7.2%
TRANSPORTATION	232	2.7%
COMMERCIAL MIXED-USE	114	1.3%
TOTAL	8,667	100.0%
SOURCE: CITY OF ROCKVILLE, CPDS		

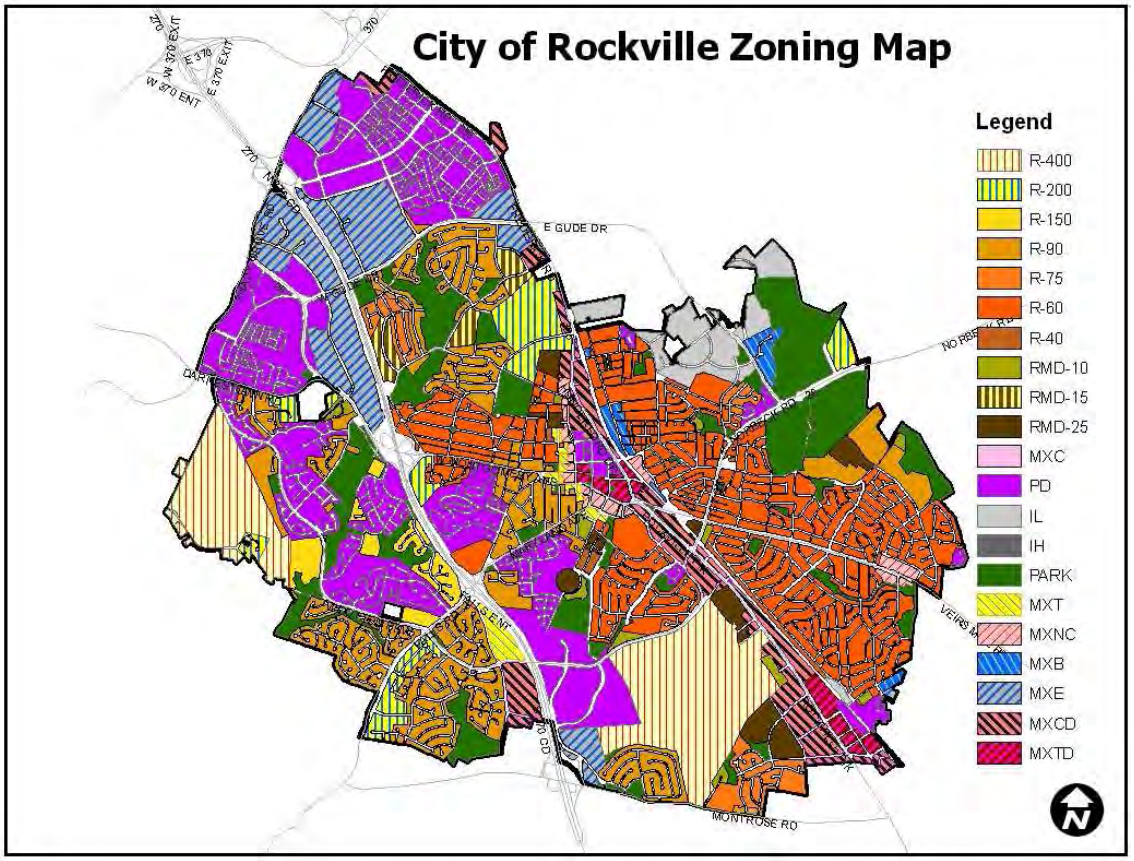
The largest land use is Residential, which covers nearly 50% of the City's land area. More than 22% of Rockville's land area is undeveloped, with a large portion being protected forest, wetlands, or parkland that are likely to remain undeveloped. However, some of the land listed as "Undeveloped" under land use has zoning that would permit redevelopment. Important examples are the two private golf courses (Lakewood and Woodmont), which together account for more than 600 acres of the undeveloped land. Those properties are zoned R-400, which is a residential zone. The 130-acre City-owned Redgate Golf course is in the "Undeveloped" category in the Land Use Map and is a part of the 856 acres zoned as "Park" on the zoning map.

Table 4: Zoning Categories

CURRENT ZONING	ACRES	%OF TOTAL
RESIDENTIAL (ALL TYPES)	3,653	51.4%
PLANNED DEVELOPMENT (RESIDENTIAL & COMMERCIAL)	1,315	18.5%
MIXED-USE	1,022	14.4%
PARK	856	12.0%
LIGHT INDUSTRIAL	184	2.6%
NO ZONE	80	1.1%
TOTAL	7,110	100.0%
SOURCE: CITY OF ROCKVILLE, CPDS, 2008 ZONING MAP		

Notes: The current Zoning Ordinance was adopted in 2008. Public rights-of-way, including roads, are not included in zoning figures. This accounts for the difference between land use and zoning totals.

Figure 3: City of Rockville Zoning Map



Additional information, on the zoning ordinance, including a full copy the zoning ordinance and map and a description of zoning categories, is available at www.rockvillemd.gov/zoning.

In this document, both the current land use and the zoning are crucial to estimating Rockville's growth, because most of Rockville's growth will come from redevelopment. Redevelopment frequently involves eliminating the current land use to replace it with a use or mix of uses that are now permitted under the new zoning ordinance. The growth will, then, be the incremental growth – the "new" development minus the "old" development.

7) Development Capacity Analysis (Growth Projections)

The core information upon which the Municipal Growth Element (MGE) relies is the projection for growth within the existing city limits and within the areas where the expansion of municipal boundaries could occur (Maximum Expansion Limits). The State of Maryland requires that municipalities prepare a Development Capacity Analysis (DCA) to determine the amount of growth that can be absorbed, and that the DCA be used as the base for the MGE to anticipate the impacts and needs arising from that projected growth. This section fulfills this requirement.

It is very important to understand that growth projections presented in this document do not represent recommended growth or recommendations for a particular type of development pattern. They represent, instead, a forecast of what may occur based on existing laws and assumptions that are discussed below.

Projection Methodology in an Uncertain World
In May 2009, the Maryland Department of Planning (MDP) approved the City's DCA, which rests on the City's existing methodology for projecting growth. (Appendices C and D).

The City's existing methodology has been employed as part of Rockville's participation in the regional cooperative forecasting effort that the Metropolitan Washington Council of Governments (COG) coordinates. The most recent forecast developed by the City was COG Round 8, the results of which the City submitted to Montgomery County and COG in October 2009. The COG Board of Directors adopted the overall regional forecast in January 2010.[9]

The core of the methodology relies, first, on "baseline" data that estimates the current amount of employment, population and households. The baseline comes from both the U.S. Census Bureau and in-house staff work. In preparation for the DCA, MGE and MWCOG Round 8, staff did a comprehensive count of all residential units in the City, and a thorough review of employment-generating square footage (e.g., offices, industrial buildings, etc.) in an attempt to develop a better baseline.

After the baseline was established, growth was estimated based on the amount of development that is projected to occur. In the near term, usually within 10 years, forecasts rely mostly on individual projects that are underway, are approved by the appropriate authority (e.g, Planning Commission, Mayor and Council), or are expected to occur. A key step to this exercise is to project the 5-year period when certain projects will be completed and when the new buildings will be occupied. The City's population (or employment) will only be projected to increase at the time when a building is expected to be occupied.

[9] This section provides a brief summary of the City's forecasting methodology and its relationship to the COG Cooperative Forecasting efforts. A more-detailed description is provided in Appendix E.

The projections are adjusted on a regular basis, based on project-specific changes and, especially over the past two years, because of the changes in the market for real estate and the overall economy. Due to the dramatic change in the real estate market over the past 2-3 years, quite a few development projects that were expected to be complete and occupied by now have been delayed, modified or cancelled. As a result, near-term growth projections have been modified downward.

For projection periods beyond 10-15 years into the future, there are very few specific development plans upon which projections can be made. Instead, zoning, master plans, and other qualitative assessments of development potential are taken into account. It is fully recognized that forecasts become more speculative the longer into the future one attempts to forecast. In addition to the lack of specific projects upon which to rely, there are many other factors that will contribute to determining the amount and location of growth in Rockville. They include government policies and investments, as well as market factors.

Government policies and investments at the city, county, state and federal level can and do affect growth in Rockville. The City's Zoning Code, for example, has a significant impact on the amount of growth that can occur; and changes in it could potentially make large changes to the trajectory of growth. The City's Adequate Public Facilities Ordinance (APFO), adopted in 2005, also provides policy that can potentially affect growth in Rockville. The APFO constrains growth if public facilities do not meet Rockville's standards. The impact of the APFO has not been incorporated into these projections because there is no existing methodology to do so. Any growth constraints related to the APFO, such as a local school exceeding capacity, can be relaxed by policies and investments that would once again permit there to be growth.

Rockville is also affected by County and State policies and investments in infrastructure. Particular importance should be placed on transportation investments, which can greatly affect the extent and location of population and employment growth. In this National Capital region, decisions the U.S. government makes regarding federal buildings and functions can have an impact on Rockville.

Perhaps the most important factors affecting growth are those that have impacts on the broader regional and national economy and the resulting market for real estate. Those factors include interest rates, demographic trends, immigration, consumer tastes, and many other factors over which the City of Rockville has virtually no power.

As a final point, which combines both market and policy factors, the City's growth can also be affected by what happens in the City's immediate vicinity. Most importantly, it is unclear at this point how the large amount of projected growth over the next 30-40 years in neighboring portions of unincorporated Montgomery County (White Flint Sector and Gaithersburg West), or in the neighboring City of Gaithersburg, will affect the City's growth; but the impact may very well be large.

For the purposes of the MGE, and in order to generate forecasts, this document assumes that there will be general continuity of policy over the next 30 years, and that there will be sustained economic growth similar to historic patterns over the past two decades. The extent to which this assumption is true over time will have a direct impact on the accuracy of the projections.

Generating Numbers from Development Projections

Household growth projections come from estimating the number of residential units that are expected to be built over the next 30 years, and applying assumptions regarding the number of people that tend to live in certain housing types.[10] Staff then diminishes the estimates of total residential population, both current and future estimates, by applying a vacancy rate to multifamily units.[11]

Employment growth comes from estimating the amount of square footage of employment space (offices, industrial space, retail, etc.) that is expected to be built, and applying assumptions regarding the number of employees that work in certain types of employment spaces.[12] These total numbers are reduced by applying a vacancy rate. The vacancy rate for 2010 has been elevated based on the difficult economic circumstances. Future vacancy rates are based on historical averages for the past two decades.

Round 8 Forecasts for Rockville – Results of the DCA

The Table, below, provides the Rockville Round 8 estimates of population, households and employment by 10-year increments, for the period 2010 through 2040. Highlights of the changes from 2010 to 2040 are as follows:

- Population is projected to increase by 34%, from 62,476 to 83,929
- Households are projected to increase by 42%, from 24,327 to 34,509
- Employment is projected to increase by 41%, from 74,549 to 105,403

[10] Assumptions were developed in-house based on input from the Metropolitan Washington Council of Governments (COG) and results from Census household size for the City. Rockville assumes that 2.095 people live in each unit multifamily unit (e.g., apartments and condominiums); 2.597 people live in single-family attached homes (e.g., townhouses); and 2.915 people live in single-family detached homes.

[11] Vacancy rates are taken from Census 2000 and Census Update Surveys 2005

[12] Based on input provided by COG and Maryland National Park and Planning Commission (M-NCPPC). Assumptions are: one employee per 250 square feet in office space; one employee per 400 square feet in retail space; one employee per 450 square feet in industrial space; and one employee per 500 square feet in other space. The number of employees has been investigated for specific cases that do not fit neatly into any of these categories, such as schools.

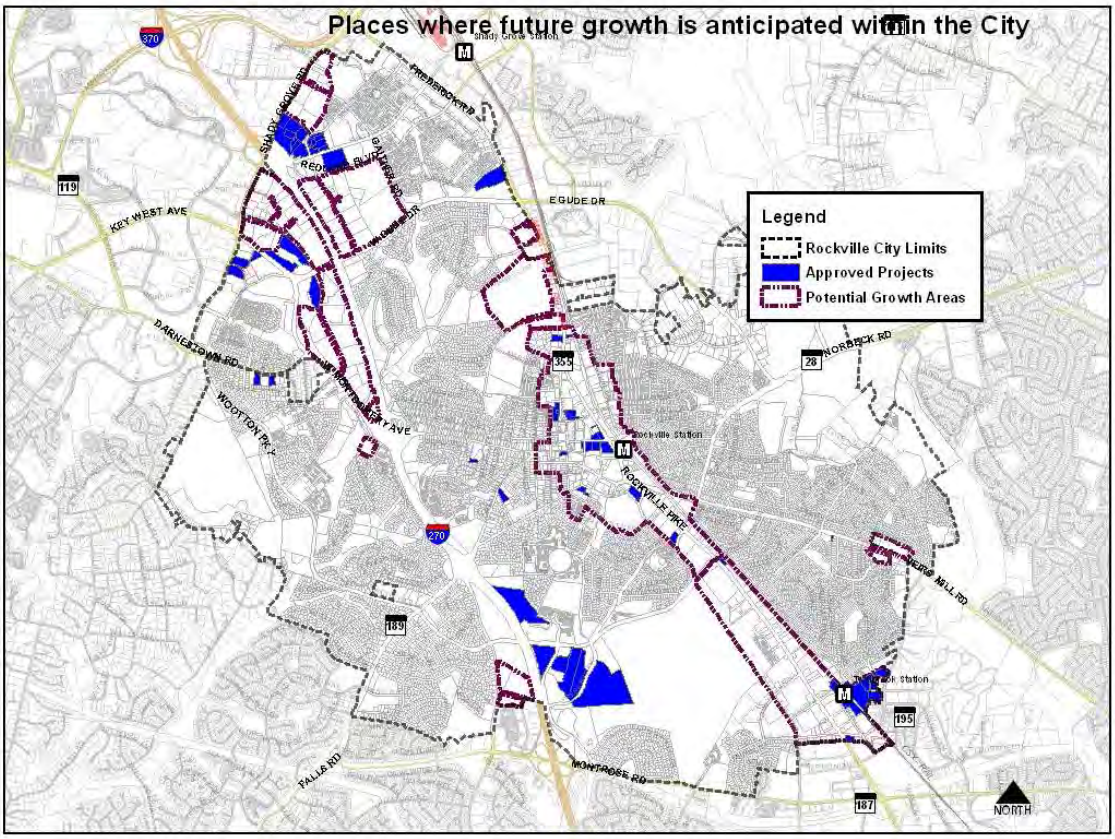
Table 5: Round 8 Forecasts, Rockville

	2010 (est.)	2020	2030	2040	Change 2010-2040	% Change 2010-2040
Population	62,476	71,874	77,644	83,929	21,453	34%
Household	24,327	28,784	31,509	34,509	10,182	42%
Employment	74,549	91,600	99,403	105,403	30,854	41%

Areas available for growth in Rockville are virtually all infill locations, where projects will involve redevelopment of previously developed sites. At present, these areas are overwhelmingly single-use commercial or single-use office/laboratory spaces, where the zoning and market are likely to support mixed-use redevelopment.

The map, below, identifies locations where this growth is expected. In general, growth will be concentrated along the MD Route 355 and I-270 corridors, with individual sites as exceptions in other locations throughout the City.

Figure 4: Location of Future Rockville Growth



None of these growth areas are amenable to single-family housing, because of both zoning and other site characteristics. As a result, the vast majority of new housing in Rockville is expected to be multifamily apartments or condominiums. As reflected in the table below, multifamily projects are expected to be 98% of all residential development in the City of Rockville over the next 30 years.

Table 6: Residential Forecast by Housing Type, Rockville

Housing Type	Existing (2010)		Forecast (2040)		Change	
	Units #	Population	Units #	Population	Units #	Population
Multifamily	9,496	19,893	19,473	40,795	9,977	20,902
Single Family Attached	3,440	8,934	3,586	9,313	146	379
Single Family Detached	11,391	33,205	11,450	33,377	59	172
Others*		444		444	0	0
Total	24,327	62,476	34,509	83,929	10,182	21,453

*Others include the assisted living category such as the National Lutheran Home, which is classified as group quarters by the census

Between 2010 and 2040, Rockville's population is estimated to increase from 62,476 to 83,929, an increase of 21,453. The number of households is projected to increase by more than 10,000 from 24,327 to 34,509 from 2010 to 2040. Since the majority of the growth is in multifamily housing, which consistently has, on average, fewer people per household as compared to single-family housing, it is expected that average household size in Rockville will decline over the next 30 years.

The following table presents the estimated existing and projected employment growth in Rockville by type of employment.

Table 7: Round 8 Employment Forecasts, Rockville

	Existing 2010	Forecast 2040	Change
	Jobs	Jobs	Jobs
Office	47,835	71,372	23,537
Retail	12,138	15,025	2,887
Industrial	5,564	6,743	1,179
Others	9,011	12,263	3,252
Total's	74,548	105,403	30,855

The total number of jobs in the City of Rockville also referred to as "at-place employment" is estimated to increase by approximately 31,000 jobs from 2010 to 2040, within the existing boundaries. A large percentage of Rockville's workforce currently is and expected to be in the office sector.

Most of Rockville's current employment is along Rockville Pike, Research Boulevard area and I-270, with industrial jobs concentrated along Gude Drive, Stonestreet Avenue

and Southlawn Lane. Over the next 30 years, employment growth is expected to be concentrated along MD Route 355 and at Tower Oaks, King Farm, Research Boulevard and Fallsgrove.

8) Impacts of Projected Growth

One of the key purposes of the MGE is to explore the impacts of growth on a set of public services and infrastructure, to begin the process of planning for the long-term future of the city. This section makes these linkages.

This section makes linkages only to those categories of impacts from growth that are specified in the Maryland Department of Planning Guidance Document on the MGE.[13] Specifically listed are schools, libraries, police facilities, fire and emergency services, and recreational land. Examples of areas not required, and therefore not covered in this document, are social services and transportation.

Transportation, in particular, is of great importance to a Comprehensive Master Plan; and there is no question that growth has a significant impact on the demand for transportation resources. Furthermore, the type of expected growth, multifamily and commercial development in a mixed-use redevelopment context, is likely to require a changing emphasis for transportation than was the case when residential growth was predominantly in single-family, single-use neighborhoods. In particular, this type of growth will offer opportunities to expand multi-modal transportation opportunities; though the City expects the automobile to remain the predominant use for the foreseeable future and limits the traffic generated through development through the Adequate Public Facilities Ordinance (APFO).

The scope and complexity of transportation is far beyond the scope of the MGE. Furthermore, decisions about the direction for transportation in Rockville will require an exploration of the city's values and goals in this regard. The City's plan to engage in broader revisions of the Comprehensive Master Plan beginning in 2011 offers the context for this discussion.

This section also does not attempt to project the impact of growth in either the existing Maximum Expansion Limits (MEL) or the areas that are proposed for MEL expansion, which are discussed in the next section of this document. The City does not have an assertive annexation plan. Instead, the City will respond if a property owner petitions the City to be annexed. Were such a petition to occur, the City would conduct an analysis of the impacts, both benefits and costs, involved in such an annexation, in order to decide whether to respond positively to the petition. There is no need or purpose to conduct a broad-based analysis for the entire MEL, because there is no current expectation that the entire MEL will become part of the City in the foreseeable future. Nonetheless, maps in this section include the existing and proposed expanded MEL.

The City also is carefully monitoring the growth that is projected immediately outside of its borders, whether within the MEL or not. The large-scale growth being promoted in

[13]Models and Guidelines, Managing Marylands Growth., Writing the Municipal Growth Element to the Comprehensive Plan available on the MDP web site at http://planning.maryland.gov/pdf/ourproducts/publications/modelsguidelines/mg25.pdf

the newly approved plans for the White Flint Sector and Great Seneca Sciences Corridor, as well as projected growth in the City of Gaithersburg, may, if not carefully implemented, have strong impacts on the quality of life of Rockville residents. Though this document does not include analysis of the impacts of this growth, as it is not required by State guidance, these factors should be taken into account in the upcoming broader revision to the Comprehensive Master Plan.

Public Schools

Summary of Schools and Enrollment

Public schools serving Rockville children are part of the Montgomery County Public School (MCPS) System. MCPS is the 16th largest school district in the United States.[14] The total number of students enrolled in the entire system in the 2010-2011 school year was 144,458, based on the preliminary September 30, 2010 enrollment numbers. This number is 2,681 more students than the 2009-2010 school year number of 141,777 students. Since 2007-2008, MCPS enrollment has increased by 6,173 students. Enrollment growth is the result of increases in county residents births, movement into the system of students from nonpublic schools, and a significant reduction in the number of households, moving out of Montgomery County. Another factor attributing significantly to student growth appears to be generational change within certain Rockville neighborhoods, in which younger families with children are replacing older families whose children have long since graduated from MCPS.

Table 8: Enrollment in Montgomery County Public Schools

Year	Montgomery County Population*	School-Age Children In Montgomery County***	MCPS Enrollment**	Children Registered As Being Home Schooled****
2010	967,900	Data Not Available	144,458	Data Not Available
2009	957,200	167,618	141,777	2,415
2008	948,700	164,617	139,237	2,365
2007	940,100	161,659	137,667	2,590
2006	936,500	165,919	137,746	2,242
2005	929,078	170,364	139,311	2,461
2004	918,562	168,251	139,310	2,268
2003	905,630	169,403	139,098	2,201
2002	891,789	167,704	138,879	2,034

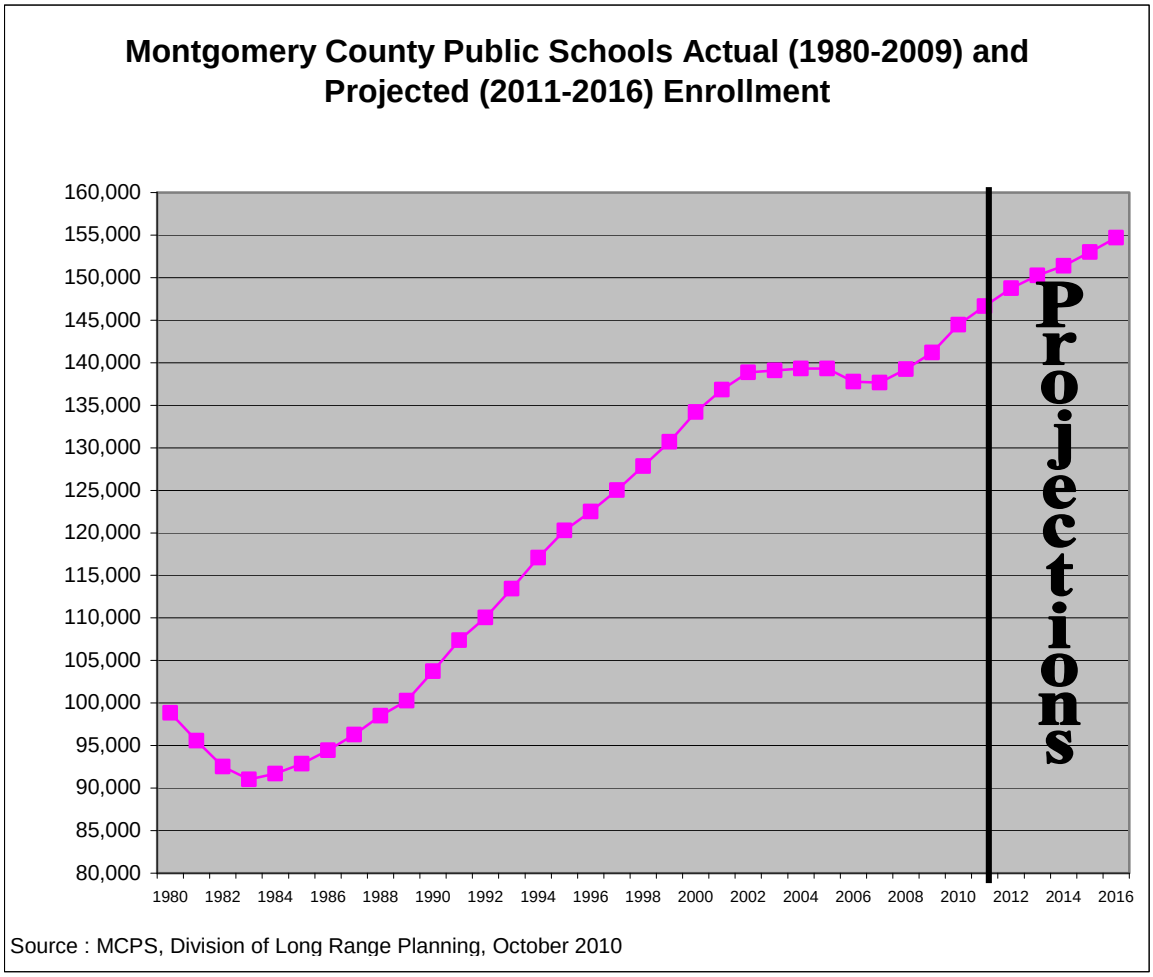
* Estimates are from M-NCPPC, at http://www.montgomeryplanning.org/research/data_library/estimates_population.shtm
** MCPS enrollment data are for the school year that begins in the year listed. Thus, 2009 refers to the 2009-2010 school year. Data are from *Schools at a Glance* for each school year, on MCPS' Web site, http://www.montgomeryschoolsmd.org/departments/regulatoryaccountability/glance/
*** Estimates derived from U.S. Census, American Community Survey 1-year estimates

[14] http://montgomeryschoolsmd.org/about/

****Data from MCPS Long-Range Planning Division. Neither MCPS nor Rockville has comparable data on private school enrollment, because there is no requirement that MCPS be alerted when a child is enrolled in a private school.

This relative stability of MCPS enrollment follows a long-term trend of increased enrollment, as shown in Figure 5. MCPS is also projecting renewed increases in overall enrollment in the next five years. MCPS total enrollment is projected to rise by 10,000 students by the 2016-2017 school year.

Figure 5: Enrollment in Montgomery County Public Schools



The number of Rockville children enrolled in MCPS in 2010-2011 is shown in Table 9, below:

Table 9: MCPS Students with Rockville Home Addresses

Grade Level	Total # Of Students
Pre-K	171
Elementary	3,776
Middle	1,673
High	2,470
Total	8,090

Source: Data provided by MCPS staff, November 2010

School boundaries for neighborhood schools do not match city boundaries. The school boundaries are organized along High School "clusters", in which elementary and middle schools are associated with a particular high school and "feed" children into it. As a result, some Rockville children attend their "neighborhood" schools outside of the city, and some non-Rockville children attend their "neighborhood" schools inside of the city. Rockville children in MCPS attend the following:

- Neighborhood/zoned schools located within Rockville
- Neighborhood/zoned schools located outside of Rockville
- Schools with special programs in which students are not bound by their neighborhood/zone.

As examples, both Wootton and Rockville High Schools, which are in Rockville draw students who live outside of Rockville, even though they are in the home "zone" for that school. In addition, students in the northern section of Rockville's King Farm neighborhood attend schools in Gaithersburg; students in the southernmost portion of Rockville attend schools in North Bethesda; and some middle school students in the eastern portion of Rockville attend Earl Wood Middle School (MS), which is just outside of the city limits.

MCPS also has many special programs that draw students from other parts of the County into Rockville and attract residents to move into the clusters. As an example, College Gardens Elementary School (ES) has an International Baccalaureate (IB) Primary Years Programme (PYP). PYP is the elementary version of the prestigious International Baccalaureate (IB) program. College Gardens ES has a Chinese Immersion Program, as well. Richard Montgomery High School (HS) has been feaured in Newsweek Magazine over the past several years as one of the top 100 high schools in the nation, and is home to one of the most highly acclaimed International Baccaluareate Programs in the world. Julius West MS also offers the International Baccalaureate (IB) Middle Year Programme for all of its students. Maryvale ES has a French immersion program that serves students living in the northern part of Montgomery County. Special needs programs at Carl Sandburg ES and the Rock Terrace School also bring in students from outside of Rockville.

MCPS schools also have special programs that attract Rockville residents to schools outside of Rockville. Examples include, but are not limited to, countywide programs for the deaf, highly gifted, language immersion, humanities, and math/science.

MCPS schools located within the city limits, and special programs offered in those schools are presented in Table 10, below.

Table10: MCPS Schools and Special Programs in Schools Located in Rockville

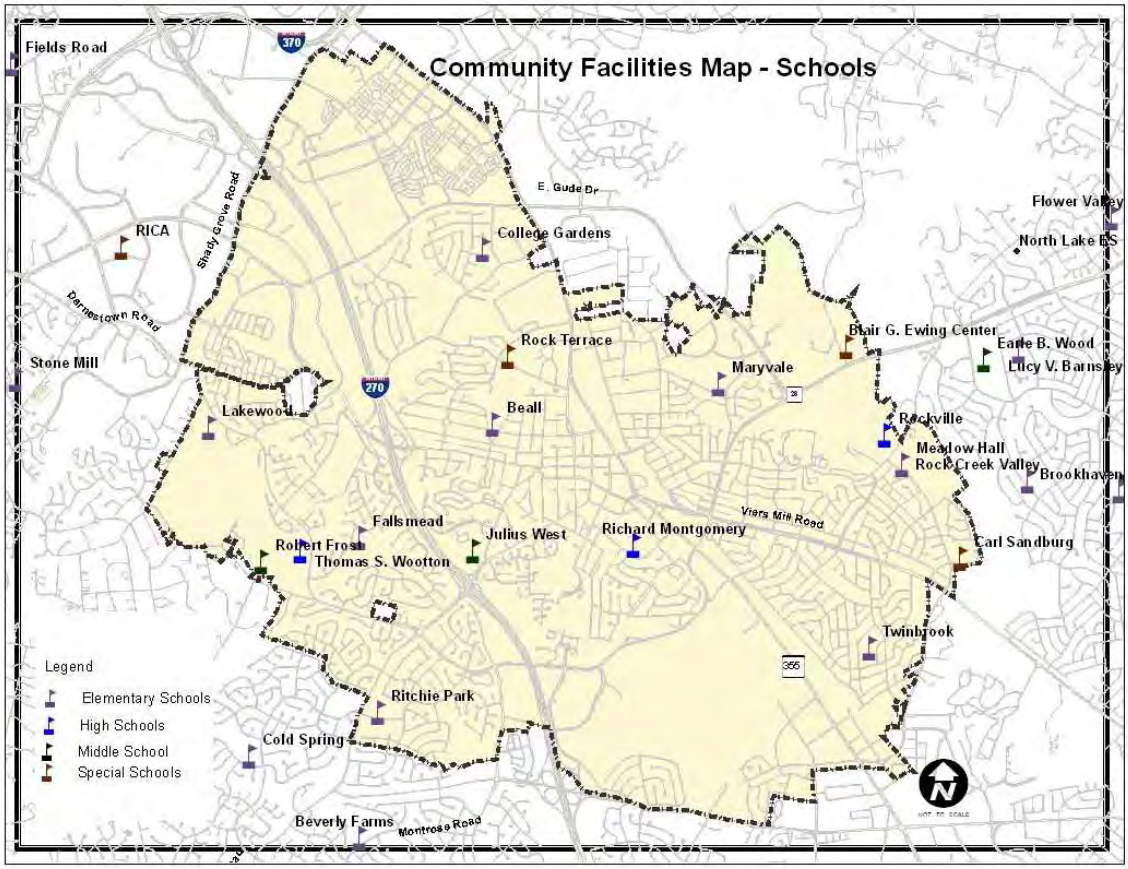
School Type	School Name	Special programs
High schools	Richard Montgomery	International Baccalaureate Program Emotional Disabilities Learning and Academic Disabilities International Baccalaureate Middle Years Academy for Teacher Education
	Rockville	Autism Deaf & Hard/Hearing Learning and Academic Disabilities Learning for Independence Ninth Grade Academy Journalism Academy International Baccalaureate Network Operations Academy Project Lead the Way Academy Advancement Via Individual Determination
	Thomas S. Wootton	Humanities and Arts Signature Learning and Academic Disabilities Learning for Independence (11-12) School/Community-Based Career Pathways College Institute Academy of Information Technology Education Academy Science, Technology and Research Scholars Academy DNA Academy
Middle Schools	Julius West	Multidisciplinary Educational Training and Support Emotional Disabilities Learning and Academic Disabilities International Baccalaureate Middle Years Positive Behavioral Interventions and Supports
	Robert Frost	Learning and Academic Disabilities
Elementary schools	Beall	Focused Academic Support-Local Funds Head Start MCPS Preschool Augmentative Communication (K-2) Language Disabilities (Pre-K)
	College Gardens	Head Start International Baccalaureate - Primary Years Partial Chinese Immersion Autism Resource Positive Behavioral Interventions and Supports
	Fallsmead	Learning and Academic Disabilities
	Lakewood	Learning for Independence
	Maryvale	Focused Academic Support Head Start (3 and 4 year olds) MCPS Preschool Total French Immersion Linkages to Learning Autism (Pre-K) Program of Assessment, Diagnosis and Instruction Positive Behavioral Interventions and Supports

School Type	School Name	Special programs
	Meadow Hall	Focused Academic Support Autism Learning and Academic disabilities Positive Behavioral Interventions and Supports
	Ritchie Park	Resource
	Twinbrook	Focused Academic Support Head Start - Full Day MCPS Preschool Learning and Academic Disabilities Program of Assessment, Diagnosis and Instruction Positive Behavioral Interventions and Supports
Special Needs Schools	Carl Sandburg Learning Center	Carl Sandburg is a special school that serves students with multiple disabilities including autism, language impairments, intellectual disabilities, specific learning disabilities and emotional disabilities. This is a school-serving students county-wide.
	Rock Terrace School	Rock Terrace is a special education school-serving students from middle schools through age 21 who, because of the needs arising from their multiple disabilities, require a separate facility. The students follow the MCPS Fundamental Life Skills and general education curriculum. They earn a certificate of attendance upon graduation. Positive Behavioral Interventions and Supports
	Blair G. Ewing Center	Located in the Blair G. Ewing Center and as part of the Needwood Academy, the Phoenix Program is a structured recovery program for high school students, grades 9–12, with substance abuse problems that interfere with school attendance, performance, and behaviors.

Source: Montgomery County Public Schools, "Schools at a Glance, 2009-2010" available at http://www.montgomeryschoolsmd.org/

Figure 6 provides a map of the MCPS schools within and near Rockville. Appendix H, which will be discussed in more detail below, provides a full list of all the neighborhood/zoned schools that serve Rockville's children, with associated data.

Figure 6: Schools Within and Near Rockville



As indicated in Table 8, in 2009 approximately 26,000, or 15%, of the more than 167,000 school-age children in Montgomery County did not attend MCPS schools. Neither MCPS nor Rockville has data on enrollment in private schools, but Rockville assumes that most of those non-MCPS students attend private schools. A much smaller percentage is home schooled.

Within Rockville's city limits is a set of strong private schools, which are attended by both Rockville and non-Rockville children. Private schools within Rockville serving K-12 students, include the following:

Table 11: Licensed Private Schools Located in Rockville

SCHOOL NAME
Christ Episcopal Day School
Early Childhood Center
First Baptist Church WEE Center
King David Nursery School
Children of The Cross Preschool
Rockville Nursery School and Kindergarten
Rockville Presbyterian Coop Nursery School
St Elizabeth School

SCHOOL NAME
Georgetown Hill ECC Woodley Gardens Campus
Good Shepherd Montessori School
St Mary's School
Aspen Hill Cooperative Nursery School
St Raphael Catholic School
Rockville Community Nursery School
Community School of MD Twinbrook
New Day Preschool
Goddard School Rockville
Twinbrook Christian Academy
Karma Academy for Boys
Charles E Smith Jewish Day School

Source**:** This list is generated from Montgomery County DTS-GIS data. City staff does not guarantee that this list is complete.

Rockville children also attend private schools outside of the city limits

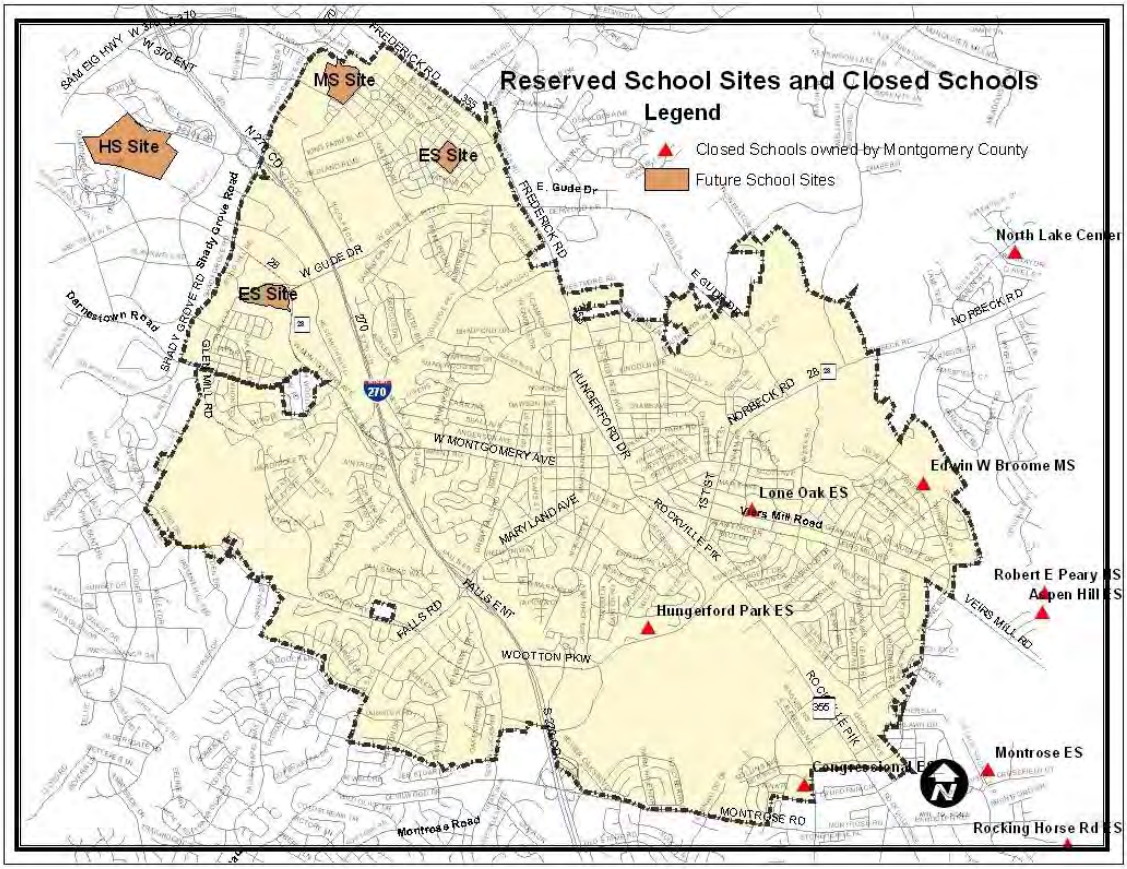
MCPS Enrollment and Program Capacity

MCPS staff coordinates on a regular basis with the Cities of Rockville and Gaithersburg and M-NCPPC (Montgomery) in an attempt to incorporate projections for new development into the MCPS enrollment projections; and to plan for new schools or facilities, or to increase capacity as needed.

Figure 7 shows sites that have been reserved for future schools within the new Rockville communities of King Farm and Fallsgrove, and the City of Gaithersburg; and sites identified for future schools in Montgomery County's Shady Grove Master Plan. An additional site has been identified south of White Flint Mall in the White Flint Sector Plan. Other sites have been discussed as potentially being needed, including in Montgomery County's recently approved Great Seneca Sciences Corridor Master Plan.

Figure 7 also includes sites/buildings previously used as schools within Rockville and still owned by Montgomery County, as these sites could, with significant renovation, potentially once again be used as schools. Appendix I includes an inventory of relevant schools and facilities owned by Montgomery County Public Schools, Montgomery County, Maryland-National Capital Parks and Planning Commission, and the City of Rockville.

Figure 7: Reserved and Closed School Sites in and near Rockville



Appendix H provides data regarding all of the MCPS neighborhood/zoned schools attended by Rockville children. It shows overall enrollment, which includes Rockville and non-Rockville children; program capacity, as defined by MCPS; and information regarding whether school enrollment is over or under the program capacity.

In 2010-2011, 11 of the 20 schools serving Rockville's neighborhoods had enrollment of more than 100% of the MCPS program capacity for those schools, with 5 being more than 110%. Of particular note were Beall ES and Ritchie Park ES, at 136% and 133%, respectively; as well as College Gardens ES at 118%. Meadow Hall ES at 113%and Wootton HS, at 116%.

The remaining 9 schools were under 100% of program capacity, with Tilden MS and Rockville HS notable for being under 85%. MCPS projects increased enrollment for both of these schools over the next 5 years, though the schools are both expected to remain under 100% of program capacity.

MCPS projections for 2016-2017 show a deteriorating situation. MCPS projects 7 schools to be over 110% of program capacity in that school year, but the following schools are projected to be even more highly over-capacity than they are at present: Beall

ES (155%), Ritchie Park ES (150%), College Gardens ES (123%), Twinbrook ES (117%) and Meadow Hall ES (127%). In addition, Julius West MS is projected to reach 136% by 2016-2017.

MCPS's policies regarding when expansion and/or modernization of schools occurs are as follows:

- When a school is over its program capacity by 92 seats, or four classrooms, the study process is triggered.
- The MCPS Demographer looks at the school grade-by-grade and year-by-year to determine projected growth patterns.
- If warranted by projected growth, a Feasibility Study is scheduled into the 6-year CIP. This study is conducted to determine what the needs for the school are.
- Planning and construction money will then be allocated through the CIP, based on the results of the Feasibility Study.

Appendix H shows that four schools that serve Rockville neighborhoods are currently more than 92 students over program capacity: Beall ES, College Gardens ES, Ritchie Park ES, and Wootton HS. MCPS projections are that, in 2016-2017, seven schools will have met the 92-student trigger. They include the four elementary schools and one middle school in the Richard Montgomery HS Cluster, plus Wootton HS and Meadow Hall ES.

MCPS's recently released (October 28, 2010) Superintendent's Recommended FY2012 Capital Budget and Amendments to the FY 2011-2016 Capital Improvement Program concludes that the only solution to overcrowding in the Richard Montgomery Cluster Elementary schools is to develop a comprehensive approach for the cluster, which is likely to include a new elementary school, expansion of existing elementary schools and an expanded middle school.

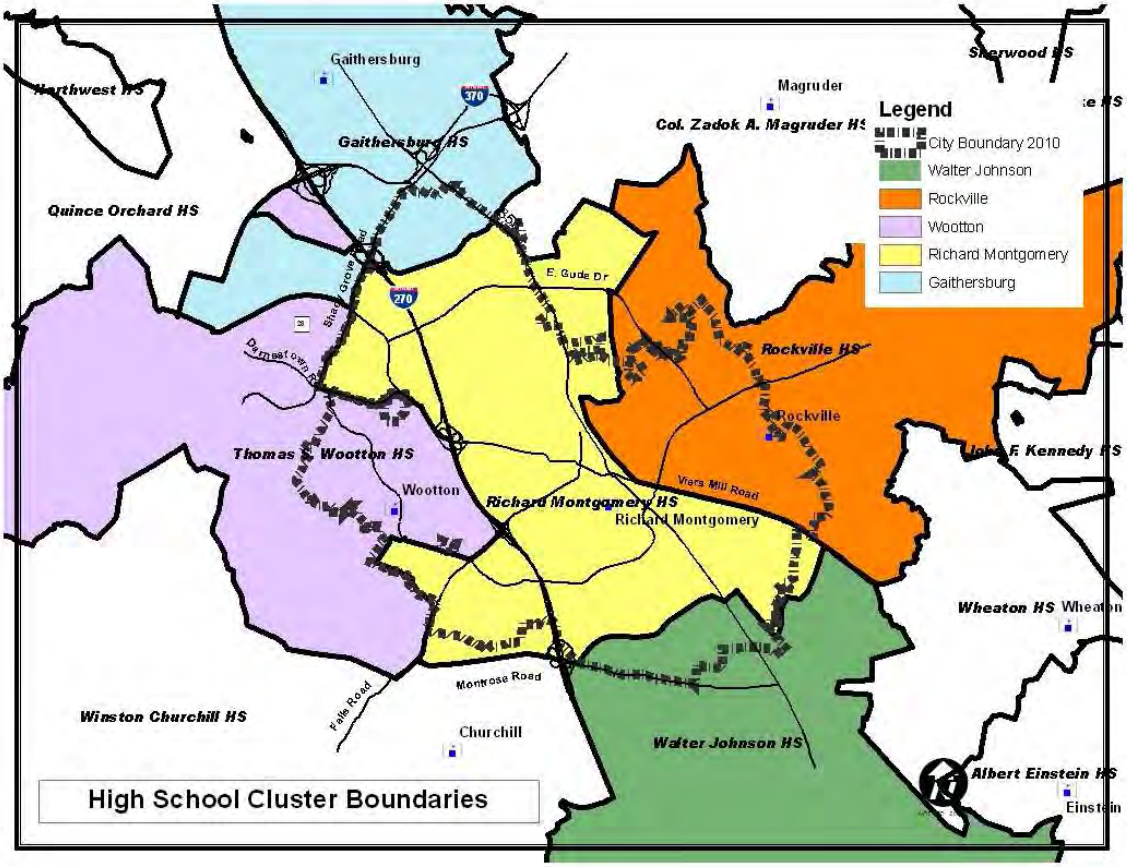
At the overall cluster level, both the Richard Montgomery cluster (106%) and the Wootton cluster (110%) are significantly above the program capacity. MCPS projects the Wootton cluster enrollment/capacity ratio to improve by 2017-2018(down to 100%), but projects the Richard Montgomery cluster to deteriorate to 118%.

Moreover, there is demand for residential growth in Rockville, especially as the economy emerges from the recent recession. Under the City of Rockville's Adequate Public Facilities Ordinance (APFO), development projects that are likely to generate new children in the community may not be approved if the local elementary school is projected to exceed 110% of program capacity in the "test year" (two years into the future). As a result, the entire Richard Montgomery HS Cluster is entering into a condition of moratorium for family-serving residential development.

As can be seen in Figure 8, which shows the boundaries of the various clusters, the Richard Montgomery Cluster covers much of the areas in Rockville that are projected to absorb the city's household and population growth (see Figure 4) over the next 30 years. Assuming that the City's APFO stays in place in its current form, the projected growth as

presented in the MGE's Development Capacity Analysis, including in the near term, will take place only if MCPS provides sufficient school capacity in this cluster.

Figure 8: High School Cluster Boundaries



City concerns are consistent with the concerns highlighted on page 5 and 6 in the letter from Dr. Jerry Weast, Superintendent of Schools, to the Montgomery County Board of Education. This letter served as the introduction to the *Superintendent Recommended FY 2012 Capital Budget and the FY-2011-2016 Capital Improvements Program.* The letter recognizes that the Richard Montgomery Cluster has seen dramatic growth in all four elementary schools, Beall, College Gardens, Ritchie Park and Twinbrook, all of which are currently at overcapacity. The cluster's only middle school, Julius West, is projected to be 300 students overcapacity by 2016. Studies are already being done at Beall, Ritchie Park and Twinbrook elementary schools to determine if additional classroom space is feasible. In addition, the letter is now recommending:

- A feasibility study for an expansion to Julius West Middle School.
- A feasibility study for the construction of a new elementary school at the site of the former Hungerford Park Elementary School on West Edmonston Drive.
- The eventual re-location of the district-wide Chinese Immersion Program from College Gardens Elementary to the new elementary school. The program's 150 students would remain at College Gardens until the new school opened.

Any recommendations for new school construction will be considered as part of the CIP for FY2013-2018, which will be submitted to the Board of Education next year.

MCPS must make addressing capacity issues in Rockville a very high priority. Considering that 1) the Feasibility Studies for these schools are not yet completed; 2) studies and construction can take years; 3) projected overall MCPS enrollment increases, and 4) current MCPS budgetary challenges, Rockville is extremely concerned that the highly over-capacity conditions in these schools will remain for many years to come. Rockville supports the proposal of opening a new elementary school in Rockville, studying the possibility of that school being at the site of the former Hungerford Park Elementary School or at the reserved elementary school site in King Farm. Rockville also urges the MCPS to modernize and expand Twinbrook ES, Ritchie Park ES and Beall ES.

In addition, Rockville urges that MCPS ensure that the cluster-wide strategy for the Richard Montgomery Cluster elementary schools and Julius West MS be developed in time for construction funding to be approved in next year's CIP. If this goal is not met, construction will not be complete for at least 6-7 years, meaning that children in this cluster will be attending elementary schools at or above 150% of capacity for many years; and Julius West MS will quickly arrive at a very difficult situation. Rockville is also requesting that MCPS address overcrowding at Wootton HS, Meadow Hall ES and Maryvale ES.

Household Growth and Growth in Student Enrollment

Assuming that MCPS is able to address the capacity challenges in Rockville-serving schools, and growth occurs as projected in the Development Capacity Analysis, new students will be added to MCPS schools. The MCPS process for estimating future student enrollment that can be attributed to new housing units employs standard "Student Generation" factors. These factors vary based on the region of Montgomery County and on the type of housing unit, with the categories being "single-family detached," "town house," "multi-family garden," and "High-Rise/Mid-Rise."

Table 12, provides the factors that MCPS uses for the Southwestern Region of the county, which includes four of the five Rockville-serving high school clusters (Richard Montgomery, Wootton, Rockville and Walter Johnson), as well as clusters in Bethesda, Potomac and Wheaton (the Bethesda-Chevy Chase, Churchill, Einstein, Wheaton, and Whitman clusters). It does not include the Gaithersburg HS cluster, which serves the far northern section of Rockville.

Table 12: Student Generation Rates in Southwestern Montgomery County

Housing Type	Factors (Number of students generated per housing unit)			
	Elementary	Middle	High	Total (K-12)
Single Family Detached	0.341	0.136	0.099	0.575
Town House	0.254	0.112	0.127	0.493
Multi-Family Garden	0.119	0.034	0.043	0.196
High-Rise/Mid-Rise W/Structured parking (Countywide Rates)	0.042	0.039	0.033	0.114

Source: 2008 Census Update Survey, M-NCPPC Department of Park and Planning

As indicated in Table 12, rates for High-Rise/Mid-Rise development are countywide, rather than being specific to a specific portion of the County. Since all of the projected Rockville development that will be served by the Gaithersburg HS cluster is in the High-Rise/Mid-Rise category, the countywide rates are valid in this portion of the city.

The forecasted total increase of housing units in Rockville from 2010 to 2040 is 10,182. Applying the factors from Table 12, by Housing Type, produces the results in Table 13.

Table 13: Estimated Increase in MCPS Students in Rockville, 2010-2040

Housing Type	# of Housing Units	Increase in Elementary School Students	Increase in Middle School Students	Increase in High School Students	**Total Increase in MCPS Students**
Single Family Detached	59	20	8	6	**34**
Single Family Attached	146	37	16	19	**72**
Multi-Family Garden	0	0	0	0	**0**
High-Rise/Mid-Rise W/Structured parking	9,977	419	389	329	**1,137**
Totals	10,182	476	413	354	**1,243**

This methodology, which MCPS uses for assisting M-NCPPC in its neighborhood planning efforts that require projections beyond 5 years, produces a projected addition of 1,243 Rockville students to the MCPS system by 2040. This total represents approximately 5.8% of the projected increase of 21,453 in population.

At present, 12.6% (7,863) of the City's estimated 2010 population (62,476) is enrolled in MCPS. Under the MCPS methodology, in 2040, 9,106 (10.8%) of Rockville's population of 83,929 is projected to be enrolled in MCPS (Table 14).

Table 14: Estimated Number of Additional Development-Generated Rockville Children in MCPS, 2040

Rockville Projected Population Growth – 2010-2040	21,453
Projected Added Number of Rockville Children in MCPS, by 2040, based on MCPS Student Generation Rates	1,243
Rockville students enrolled in MCPS – 2009-2010	7,863
Projected Total Number of Rockville Children in MCPS, 2040	9,106 (7,863 + 1,243)

Note: Projected Total Uses MCPS Student Generation Rates for SW Montgomery County

For various reasons, it is possible that the assumptions underlying the forecasts could be incorrect. A particularly important assumption is the lower level of children that MCPS projects to be generated from High-Rise/Mid-Rise residential buildings as compared to other types of housing. The Student Generation Rates for this category in Table 12 are derived from countywide existing conditions and recent development projects, according to staff in the MCPS Long-Range Planning Division. The rates are used for their 5-year forecasts. For a 30-year forecast, however, this factor may change. As Montgomery County becomes more densely populated, and new High-Rise/Mid-Rise buildings increase as a proportion of overall development, it is possible that families with children will choose increasingly to reside in High-Rise/Mid-Rise housing units.

An alternative scenario is that MCPS enrollment, as a proportion of overall Rockville population, would remain similar to that which exists currently – 12.6%. If that were the case, projected growth would be calculated as follows:

Table 15: Alternative Estimated Number of Additional Development-Generated Rockville Children in MCPS, 2040

Rockville Projected Population Growth – 2010-2040	21,453
Assumed % of Rockville Population in MCPS	12.6%
Alternative Projected Added Number of Rockville Children in MCPS, by 2040	2,703
Rockville students enrolled in MCPS – 2009-2010	7,863
Alternative Projected Total Number of Rockville Children in MCPS, 2040	10,566 (7,863 + 2,703)

Note: Alternative Projected Total assumes constant ratio of Rockville children in MCPS to overall Rockville population, 2010-2040.

MCPS Long-Range Planning staff informed the City of its opinion that, over time, it can meet the expansion needs of either of these two scenarios – an additional 1,243 or an additional 2,703 students. This opinion is based on the combination of two factors: 1) the ability of existing schools to expand, and 2) the existence of sites reserved for future schools. The City is also aware of buildings in Rockville within Montgomery County's ownership that were formerly used as schools, as shown in Figure 7.

MCPS informed the City that its policy is to expand elementary schools up to a maximum of approximately 740 students, as long as the sites are sufficiently large. Under this policy, for example, the two reserved elementary school sites could, alone,

provide 1,480 student positions. In the Richard Montgomery HS cluster, expanding the four over-capacity elementary schools to 740 students each would provide a total of 828 additional positions. The projected 2015-2016 deficit in that cluster is 728 positions, meaning that expansion should be able to respond to the projected capacity deficit.

Addressing capacity needs appears to be a challenge of cost, budgeting and scheduling rather than the availability of property. Certain Rockville schools, especially in the Richard Montgomery HS cluster, but also Wootton HS and Meadow Hall ES, need investments now; but schools in Rockville will need even more investments in order to accommodate projected growth. The City's APFO will prevent children-generating development in large portions of Rockville unless these investments are made.

It is also important to note that factors other than new development play a large role in actual student enrollment. MCPS Long-Range Planning staff has informed the City that the large majority of the growth in student enrollment in recent years has come from existing homes, rather than new development. Broader demographic changes, including generational change within neighborhoods, fertility rates and immigration, can influence enrollment trends.

Policy changes within MCPS also affect the program capacity within schools. Recent changes have included reductions in class size in certain schools for certain grades, and the shift from half-day to full-day kindergarten. Both of these changes have had the effect of reducing program capacity relative to overall enrollment.

The City of Rockville strongly urges MCPS to develop better projections models that take into account factors other than new development, especially for periods beyond its current 5-year forecasting horizon. Otherwise, situations such as what has occurred at College Gardens ES and Richard Montgomery HS will be repeated. In both of these schools, recently completed construction projects have been followed soon after by enrollments that exceed program capacity.

Higher Education

The City of Rockville has a great interest and concern about the ability of Montgomery County and the State of Maryland to continue to expand its offerings of colleges and universities consistent with the growth in population. There is one college within the city limits of Rockville, and there are two additional university resources just outside of the city.

Montgomery College's Rockville Campus is located on MD Route 355 north of Rockville Town Center. This highly diverse and popular campus, which is part of a broader County community college system, has an enrollment of approximately 15,000 per semester[15]. The Campus serves students through Montgomery County. The College is in the process of developing an updated 5-year facilities plan that will attempt to address at least some of the large demand for its services. According to the Montgomery College Facilities Master Plan, Rockville Campus enrollment is expected to grow 6.3%

[15] http://www.montgomerycollege.edu/Departments/rprovost/annualreports/AnnualReport2008.pdf

through 2016. The Rockville Campus portion of the Plan is designed to support the increase in enrollment through construction of 330,000 net square feet of new space and the renovation/reallocation of additional space in existing campus buildings[16].

Just across the border from Rockville toward the northwest is the Universities of Maryland at Shady Grove, which is an amalgam of "satellite" programs from universities in other parts of the state. Nearby is the Montgomery County campus of Johns Hopkins University, which offers various academic programs, with a focus on biosciences, engineering, education and business. It also has long-term plans to build a large Life Sciences Center focusing on research and biosciences.

The County and the State must invest long-term resources to expand higher-education opportunities as the populations of Rockville and Montgomery County continue to grow. Montgomery County has no complete four-year university that serves its growing population.

Public Libraries

Public Libraries in Rockville are provided by Montgomery County. The Montgomery County Department of Public Libraries (MCPL) system consists of 21 branches serving more than 950,000 county residents. Two library branches are in the City of Rockville; the Rockville Regional Library (65,000 square feet) in Rockville Town Center, and the Twinbrook Library (25,000 square feet) on the east side of the City. Other library branches within five miles of Rockville include Aspen Hill (16,100 square feet), Davis (16,000 square feet), Potomac (16,000 square feet) and Quince Orchard (17,500 square feet). In general, MCPL attempts to have branches be at least three miles apart, though the Rockville and Twinbrook libraries are slightly closer to each other than that standard.

The American Library Association Standard states that there should be 1,000 square feet of library space for each 10,000 in population. The two libraries in Rockville, with a total of approximately 90,000 square serving a population of just over 62,000, have more than 14 times this standard within the City. MCPL does not have its own defined square-footage standard for provision of library facilities and services, but uses information such as circulation of holdings to determine if additional facilities or services are needed.

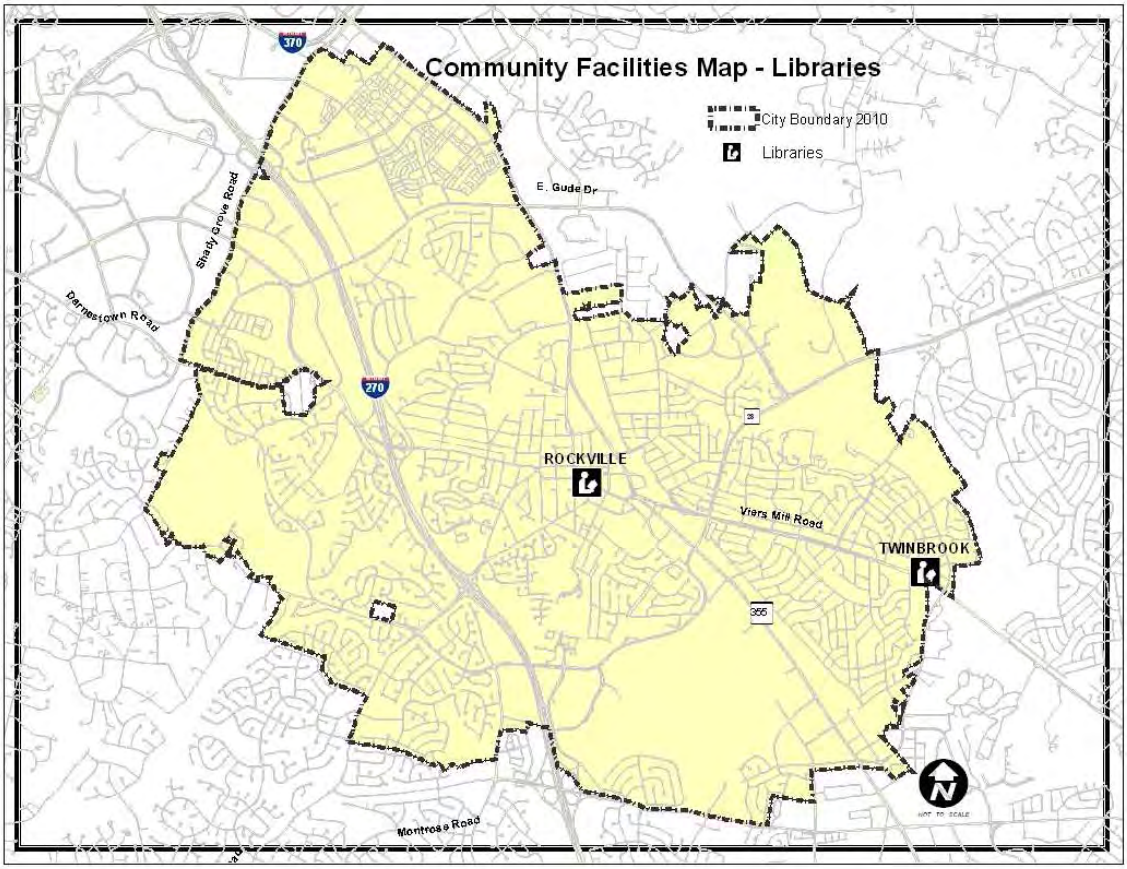
Discussions with MCPL staff indicated their belief that current library services in Rockville would accommodate the needs in Rockville for the foreseeable future, especially considering the recent opening (2007) of the new Rockville Library. As a result, there are no plans for a new library branch to be developed within the City's boundaries. Preliminary discussions have been held, however, for two potential new library sites in Rockville's vicinity to accommodate future growth, in the Shady Grove Sector planning area and in the White Flint Sector planning area.

MCPL is also aware of the evolving nature of how people use libraries. With the advent of electronic media and the Internet, it is highly likely that libraries will be changing away from their core historic model of being a collection of printed material toward a

[16] http://cms.montgomerycollege.edu/EDU/Department.aspx?id=16398

different model that has different emphases. At present, circulation of printed material remains quite high, meaning that this evolution has not yet replaced the historic model. This future is unclear, which makes it difficult to project future needs in terms of square footage. During the next 10-20 years, however, it is unlikely that there will be a need for a new library facility to be constructed in Rockville.[17]

Figure 9: Libraries in Rockville



The library needs will be discussed again as during the revision of the Community Facilities Section of the Comprehensive Master Plan. The City will continue to work with Montgomery County Public Libraries to ensure that City residents are served adequately by Public Libraries.

<u>Police Facilities</u>

The City of Rockville is currently served by the Rockville City Police Department in conjunction with the Montgomery County Police Department (MCPD). County Police District 1 serves Rockville, though the resources of the entire County Department are available if needed. The City has a Memorandum of Understanding with the County outlining priorities and responsibilities.

[17] Rockville is appreciative of the assistance provided for this section by Rita Gale, Public Services Administrator in charge of Strategic Management for MCPL.

Rockville Police Department is currently located at in City Hall. In 2008, the City completed acquisition of a former U.S. Post Office property in Rockville Town Center, one block from City Hall, for adaptive reuse as the City Police Department. Completion of the construction is expected in 2011.

As of the date of this report, the Rockville Police Department has 57 sworn officers, serving the estimated 2010 Rockville population of 62,476, for a ratio of 0.91 officers per 1,000 residents. In 2009 the Montgomery County Police Department reported in its Performance Plan that it maintains a ratio of 1.2 sworn officers per 1,000 residents.[18] As a result, the City of Rockville has at its disposal, should it be needed, an effective ratio of 2.11 sworn officers per 1,000 residents.

The national standard of the International Association of Chiefs of Police is a ratio of 2.6 officers per 1,000 residents, though deployment based on local needs is more important than meeting that national standard. As compared to large counties in the Washington, DC region, Rockville is relatively well served, especially considering its low level of major crimes. According to the Montgomery County Police Department Performance Plan, Prince George's County Police Department has 1.7 and Fairfax County (VA) Police Department has 1.4 sworn officers per 1,000 residents.

Rockville's projected increase in population of approximately 21,000 residents by 2040 is expected to increase the required number of police officers. Were the Rockville Police Department to maintain its ratio of .91 officers per 1,000 residents, there would be a need for 19 additional sworn officers by 2040. Maintaining the overall City-County effective rate of 2.11 would require the County to add sworn officers at a rate that would maintain its current ratio of 1.2 as the County population grows, while at the same time the City maintained its own proportionate growth.

The Rockville Police Department cautions against establishing a planning approach that relies too strictly on formulae of this nature. Many factors will affect staffing needs, and are impossible to predict over a 30-year period. One important consideration is that, while Rockville's past growth has had a predominance of single-family detached housing in residential neighborhoods, much of the recent, and the large majority of future, population growth is expected to occur in multifamily housing in more of a mixed-use context. It is as yet unclear how this change will affect staffing needs over time.

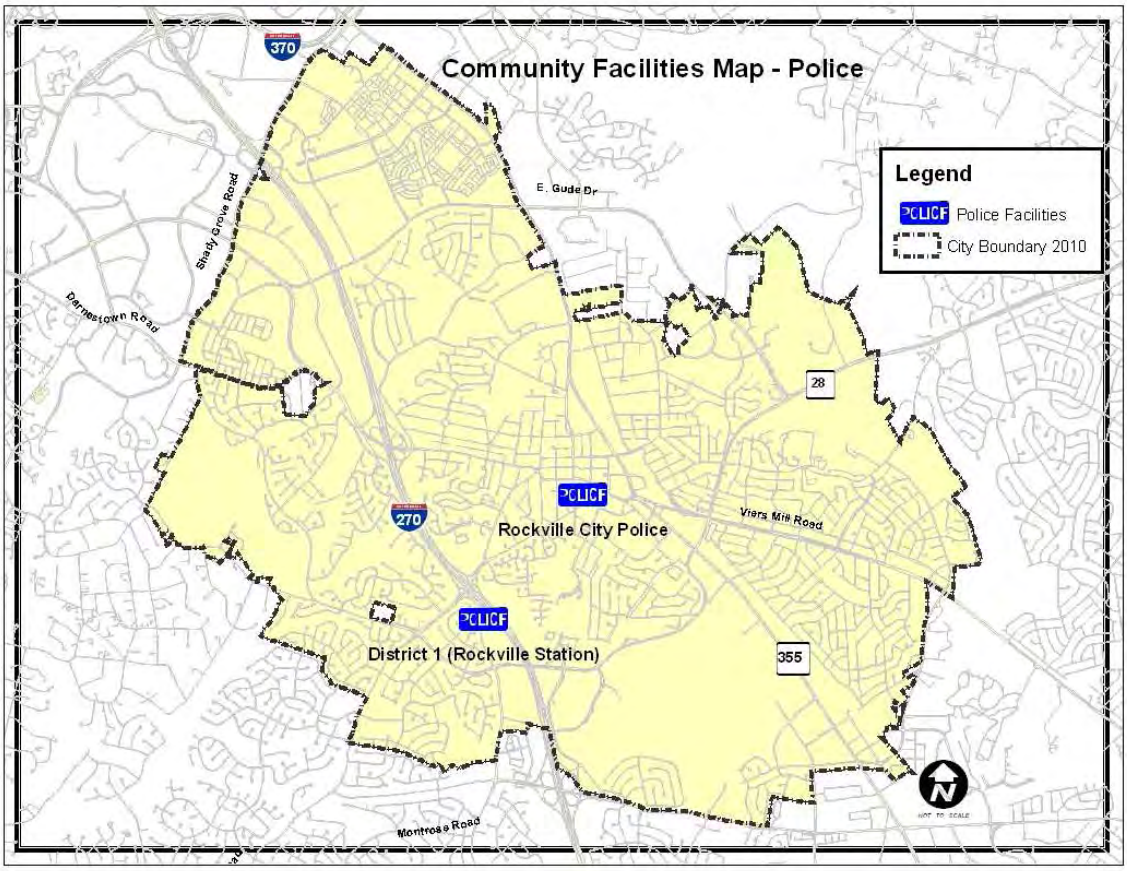
Furthermore, the future geography and demographics of crime cannot be accurately predicted. There have been large swings in crime levels in the last 20 years, both in Maryland and around the country. In addition, technology has helped to increase the efficiency of each police officer in recent years, and this trend is expected to continue.

As a result, while Rockville expects that increased population will generate a need for an increased numbers of police officers, the appropriate levels of staffing for the two police departments will depend upon locally tailored solutions to meet local conditions at that time. Completion of the new headquarters for the Rockville Police Department is

[18] http://www.montgomerycountymd.gov/content/EXEC/stat/pdfs/mcpd_performance_plan_09.pdf, p. 5

expected to provide sufficient space for the department through 2040, even with an increase in staffing proportionate to its current size. The City will continue to collaborate with Montgomery County Police Department and the State and strive to maintain excellent levels of service in the future for Rockville residents.

Figure 10: Police Facilities in Rockville and Vicinity



Fire and Emergency Medical Services

Montgomery County Fire and Rescue Services (MCFRS) provides fire suppression and emergency medical services, as well as rescue and related services, to Rockville. These services are provided by a combination of Montgomery County employees and volunteers. The key volunteer organization in Rockville is the Rockville Volunteer Fire Department (RVFD). RVFD owns four stations that are a part of the MCFRS system, the two in Rockville, but also one in North Potomac and one in Potomac. The RVFD plays an important role in addressing issues associated with the betterment of the fire and rescue service in Rockville and Montgomery County. Rockville does not provide this service as part of its municipal government. Since fire, rescue and emergency medical services transcend municipal boundaries and are provided to an area larger than the City itself, service levels are impacted not only by development within the City but also by development throughout the service areas. Over the next 30 years, a great deal of development is projected both within and just outside of the city.

MCFRS plans for new stations and renovations of existing stations through its *Fire, Rescue, Emergency Medical Services, and Community Risk Reduction Master Plan*, which is generally updated every 5 years and rewritten every 10 years. Montgomery County Council adopted the most recent update to the Master Plan in March 2010. The Plan is MCFRS' approach to meeting the needs and expectations of its county customers, in the areas of programs (both emergency and non-emergency), apparatus and equipment, facilities, and training. The recommendations provided in the plan take into account both existing conditions and growth projections provided to them by the Montgomery County Planning Department (M-NCPPC).

MCFRS has determined that both fire stations currently within the city need either renovation or replacement; and a new station is needed just outside of the city,

The two fire stations within Rockville boundaries are Station 3 at 380 Hungerford Drive and Station 23 at 121 Rollins Avenue, though other stations are available to supplement service in Rockville, as needed.

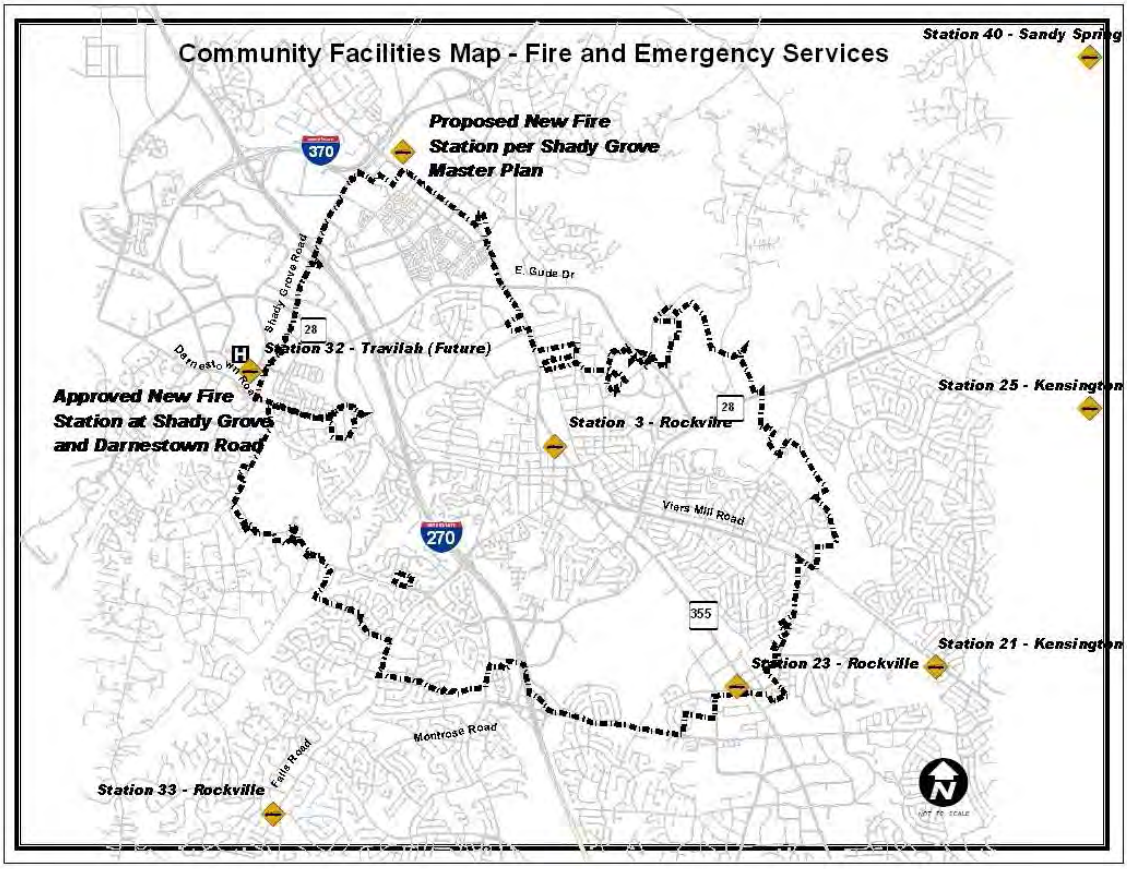
Station 3 is in the center of Rockville and serves mostly Rockville, though it is available to support other County efforts as needed. There is an existing plan to expand and renovate this fire station, though City staff has also worked in partnership with Fire and Rescue personnel to explore whether there is a suitable site for a new station in or near Rockville Town Center that would provide the best response times for the Station 3 service area. To date, no suitable site has been found at a reasonable cost. This challenge can be viewed as reflective of the general resources challenge of retrofitting and/or expanding existing infrastructure to accommodate the goals of infill development.

Station 23 is near the southern border of the City and serves primarily the southern portion of Rockville plus the high-density unincorporated White Flint sector and the surrounding residential and office districts; though it, too, is available for support countywide. The recently completed revision to Montgomery County's White Flint sector plan is expected to facilitate a large increase in residential and office population over the next three decades. Montgomery County is studying how best to adjust Fire and Emergency Medical Services in response both to these increases and the growth that Rockville is projecting along the city's portion of the Rockville Pike (MD Route 355) corridor. Under consideration is a new and expanded station in a different location, perhaps south of the city, which would enhance services to the broader area.

Montgomery County also expects a significant amount of residential and office growth immediately beyond the Shady Grove Road border of Rockville, to the northwest of the city. As part of that planning, Montgomery County had proposed, in its FY 11-16 CIP Budget, construction of a new fire station at the northwest corner of Darnestown Road and Shady Grove Road. This new station, which would be very close to the city boundary, would serve nearby Rockville neighborhoods, as well as the existing and new communities in unincorporated Montgomery County. Furthermore Montgomery County's Shady Grove Master Plan calls for another new fire station in the vicinity of the intersection of Shady Grove Road and MD 355. Once built, this station will provide

improved response times to northern sections of Rockville, which are now served by two of the busiest stations, one in downtown Rockville and the other in Gaithersburg.

Figure 11: Fire and Emergency Facilities in Rockville and Vicinity



As a result of this service being Montgomery County's responsibility, and of the amount of expected growth surrounding Rockville being much larger than the expected growth within Rockville, the City does not have a formula for calculating how the projected approximately 21,000 increase in Rockville's population over the next 30 years will affect service needs in terms of either number of stations or apparatus and equipment. Rockville has provided its projections to Montgomery County and participates in the process of solving targeted problems within its municipal responsibilities.

However, Rockville's authority with respect to land use provides the municipality the ability to ensure that new developments have sufficient fire service before approving the project. Of primary importance for performance measurement is the amount of time it takes to respond to an emergency. Rockville uses its Adequate Public Facilities Ordinance (APFO), which was adopted on November 1, 2005, to ensure that new "higher-risk" developments have sufficient service. The provision states: "Certain higher-risk uses shall be allowed only where a full response from 3 stations within 10

minutes is possible. Such uses would include schools, hospitals, nursing homes, and places of assembly seating more than 500."[19]

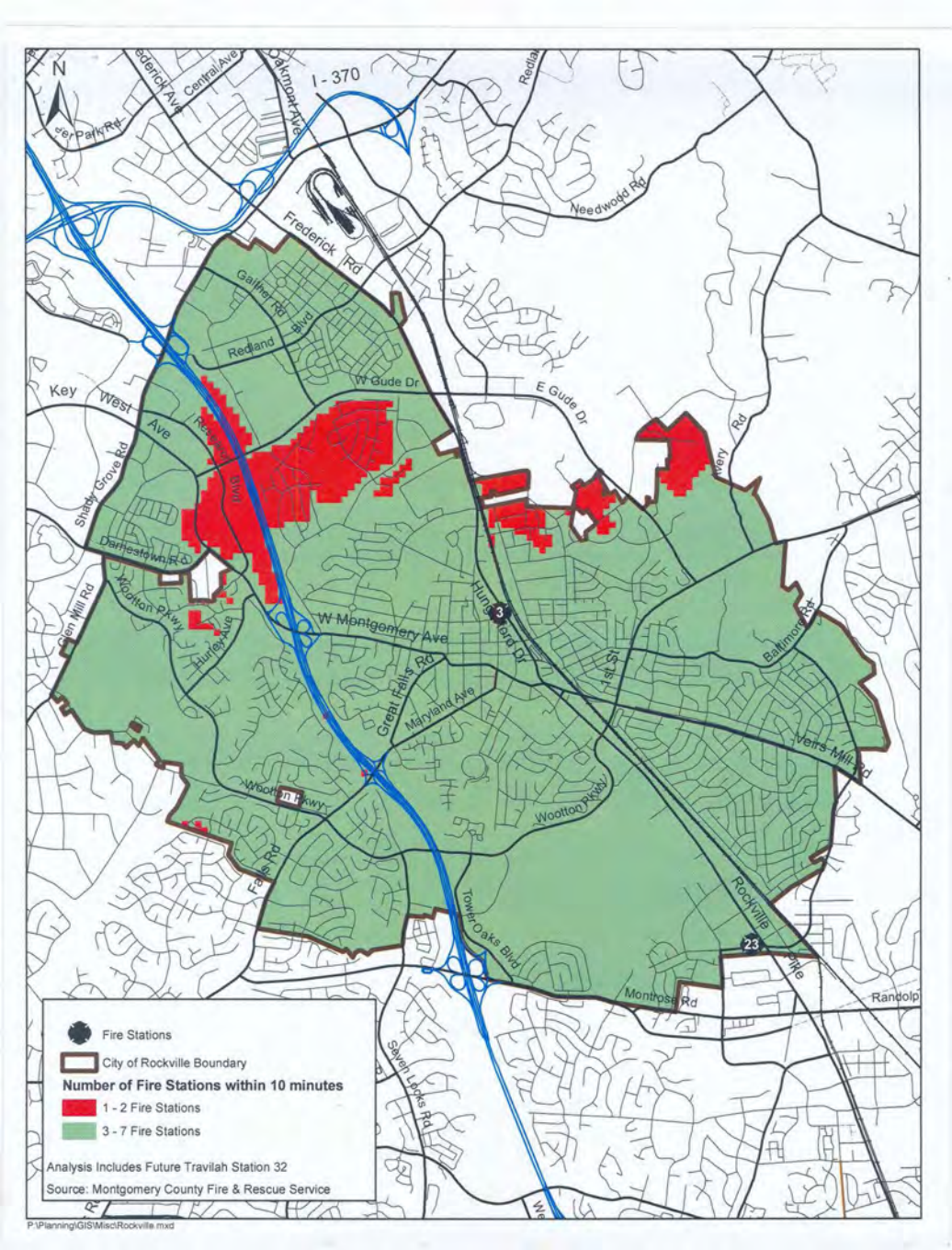
A recent analysis conducted by the MCFRS at the City's request, shows the areas in the City that are served by 1-2 Fire Stations, within a 10-minute response time, and areas that are served by 3-7 Fire Stations, within 10 minutes. The areas served by 1-2 Fire Stations are a concern because uses such as schools, hospitals, nursing homes, and places of assembly seating more than 500 may not be constructed under the current APFO. According to MCFRS, these areas of concern, which are shown in Figure 12, can be eliminated if the proposed fire station at the intersection of Shady Grove Road and MD 355 is constructed and operational, for which the City is recommending that the County approve funding in its CIP budget.

Another area of potential concern, which is outside City boundaries, but within the City's Maximum Expansion limits, is the properties owned by Washington Gas, east of MD 355. An analysis on the response times was not requested on the properties because they are currently outside the City limits. If these or any properties in the vicinity apply for an annexation into the City, they will be subjected to a thorough review to meet the City's standards.

The City will continue to work with MCFRS, to monitor response times and equipment capabilities. In that regard, the City strongly encourages MCFRS to take into account projections for future traffic congestion when planning its facilities, to ensure that traffic does not degrade response times. The City will also continue to implement its APFO on new developments to ensure that acceptable response times and an adequate level of service is maintained or improved over time.

[19] City of Rockville Adequate Public Facilities Standards, Adopted November 1, 2005, p. 9.

Figure 12: Fire/EMS Stations within 10 Minutes Response



Included in Figure 12 is 10-minute response coverage within the City, which includes service provided by future Fire Station # 32 to be located at the northwest corner of Darnestown and Shady Grove Roads, near the City Limits.

Recreational Land and Open Space

Existing Conditions

Rockville contains a large amount of public and private recreational land and open space, both within the city limits and in the immediate vicinity. There are 1,199 acres of parks, open space, and recreational land within Rockville, according to the City of Rockville's Parks, Recreation and Open Space (PROS) Plan, which was approved by Mayor and Council on March 15, 2010. This number includes 164 acres for school sites within Rockville, and 130 acres at Redgate.

The City's goal for parks and open space is 18 acres for every 1,000 residents. The City is presently exceeding that goal, with a total of 19 acres per 1,000 residents, based on an estimated population of 62,476 in 2010. Furthermore, most Rockville homes are less than one-quarter mile and/or within a 10-minute walk from a city park or open space.

Table 16: Parks and Open Space in Rockville, 2010

Parks and Open Space	Number of Sites	Acreage
Citywide Parks	14	407
Neighborhood Parks	36	209
Athletic Parks	7	65
Open Space	12	354
School Sites	17	164
Total	86	1,199

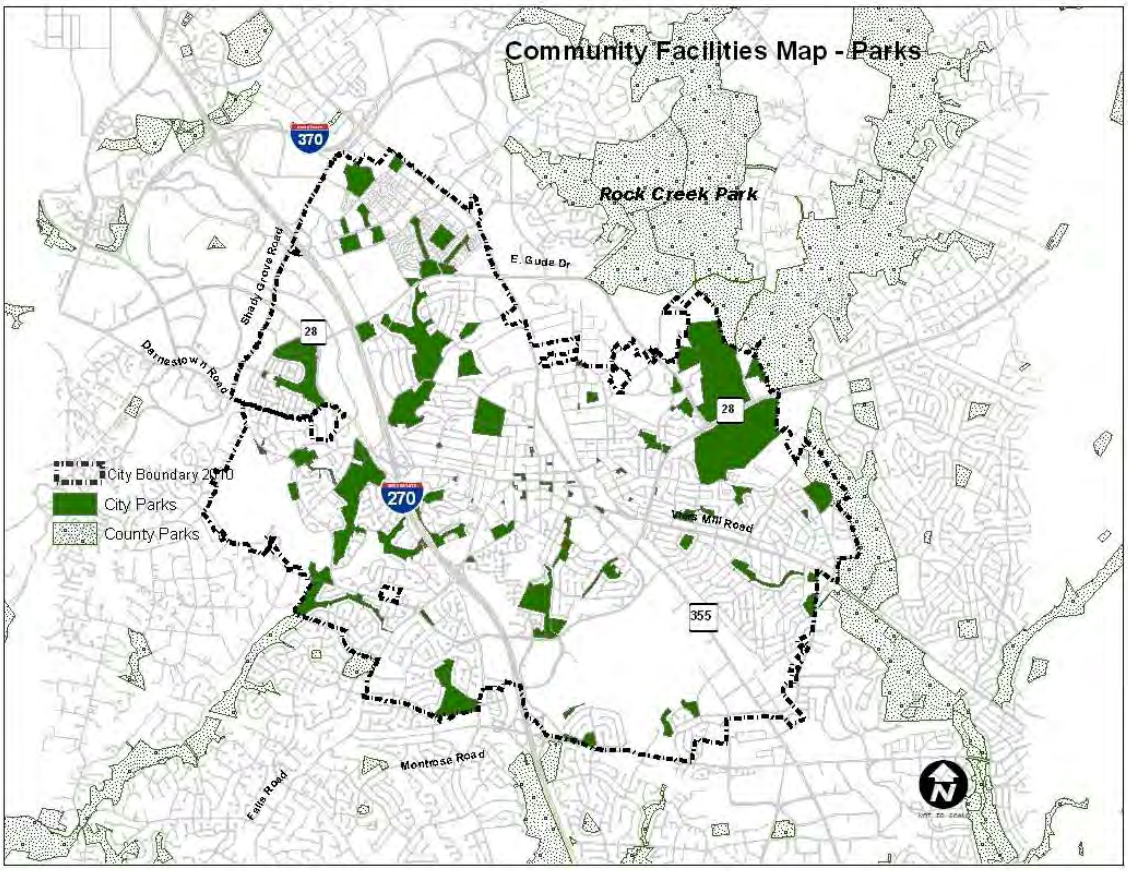
Source: City of Rockville's Parks, Recreation and Open Space Plan, 2010
RedGate Municipal Golf Course is included in the Citywide Parks category. Open Space does not include the private Golf Courses

As a practical matter, however, Rockville residents do not consider the jurisdictional boundaries as providing their only local parks and open space resources. There are very large resources of this nature in the stream valleys and forests surrounding Rockville, including the 1754-acre Rock Creek Park abutting the eastern border of the City and stretching south into Washington, DC; the 540-acrea Cabin John Regional Park just south of city; and the 438-acre Watts Branch Park, which has a portion in the City but the majority of which continues beyond the city limits to the southwest. There are also many smaller local parks in very close proximity to Rockville, of which Rockville residents take advantage. These resources are owned by the Maryland National Capital Park and Planning Commission, which also has a local service-delivery responsibility. Together, both jurisdictions provide resources that greatly exceed Rockville's target and are able to meet the broader State of Maryland's target ratio of 30 acres of parkland per 1,000 people, with a minimum of 15 acres being owned by the local jurisdiction itself. In addition, the entrance to the 6,300-acre Seneca Creek State Park is 8 miles from downtown Rockville.

The greatest current deficit is in particular areas of the city, identified through the PROS Plan process, as being underserved in terms of local parks within walking distance of

homes. These neighborhoods include East Rockville, Twinbrook, portions of Town Center, and residential developments along Rockville Pike.

Figure 13: Parks and Open Space in Rockville and Vicinity



In addition to parks and open spaces, the City also provides and maintains indoor facilities, including the Rockville Municipal Swim Center, and seven activity and community centers. A full listing of these resources can be found in the PROS Plan. In addition, many neighborhoods operate privately owned facilities (e.g., resource centers, swimming pools, ball courts and clubhouses), providing further recreational amenities. Having an adequate park infrastructure is essential to maintain the quality of life for City residents. Future growth in the outskirts of the City will exert additional pressure on existing parklands in the City. The City will continue to collaborate with the County and State to ensure that the PROS standards are met and Rockville resident's quality of life is not compromised.

Future Needs

If Rockville's population grows by approximately 21,000 by 2040, as projected, the City would need to add 378 acres to its inventory of parks and open spaces in order to continue to meet the City target of City-owned 18 acres per 1,000 people. This standard is a significant challenge given the scarcity and cost of vacant land in the City. The Parks Recreation and Open Space (PROS) plan recommended that the City would need to add

142 acres of parkland and open space by 2030.[20] There are no current opportunities for large-scale cost-effective acquisition in this mostly built-out City. It is expected that the above-mentioned MNCPPC resources immediately outside of Rockville will continue to service the citizens of Rockville, thereby providing substantial local and regional park resources. It is important to recognize, however, that Montgomery County is also projecting significant population growth in unincorporated areas near Rockville. Rockville and MNCPPC will both need to keep track of park usage and resident demands as the population grows and usage patterns change.

The most pressing need in the context of mixed-use redevelopment is expected to be ensuring the availability of open space within walking distance of multifamily homes. Some of the goals can be met by Rockville's requirement, with exceptions, that a proportion of the land area on development parcels be dedicated for open space. However, this approach is not always the most appropriate or strategic way to provide open space. First, not all sites can accommodate this set-aside. Furthermore, assembling larger parcels can frequently provide a far better resource for the community than a series of small plots. As a result, in September 2010, Rockville adopted a system by which some developers may contribute a fee to the City, in lieu of providing the open space, to provide some funding for open space acquisition. It is not expected that this source will be sufficient to meet all of the needs.

Another approach is to continue to construct pocket parks and open space throughout the City such as Courthouse Square Park, which has been very successful, and offer opportunities to develop "paper" streets, rights-of way and street corners into usable open spaces.

Rockville is prepared to be innovative, but recognizes that there will be a great challenge to provide open space in the context of growth through infill development. As a result, the City will need additional resources~~,~~ from the City, County and State.

The challenge to provide additional neighborhood-scale open space is even greater in the more-established and mostly built-out neighborhoods of East Rockville and Twinbrook, where there are very few realistic opportunities for property acquisition.

Impact on Sensitive Environmental Features

There is no expectation that population and employment growth in Rockville will have a significantly detrimental effect on sensitive environmental features beyond impacts that already exist. As previously noted, the large majority of future development will take the form of redeveloping existing single-use properties in commercial areas; and Rockville has no plan to permit expansion of the extent of development beyond areas that have already been developed.

In fact, a goal that is increasingly codified in Rockville ordinances is that the environmental performance of redevelopment sites can be enhanced through the redevelopment process. The City is committed to developing in an environmentally

[20] City of Rockville Parks, Recreation and Open Space Plan, September 2009

sustainable manner. In addition to complying with all State regulations, Rockville adopted the "Strategy for a Sustainable Rockville" in October 2007. The Strategy lays out an eleven-point program aimed at incorporating sustainable practices into City policies and programs. A new Zoning Ordinance incorporating sustainable land use practices was adopted in December 2008. On May 10, 2010, the Mayor and Council adopted comprehensive amendments to Chapter 5 of the City Code, "Building and Building Regulations." The new article, Article XIV, entitled "Green Building Regulations," improves the efficiency and environmental quality of buildings and homes. The ordinance, effective July 1, 2010, applies to new or substantially renovated commercial and residential properties. Information on these topics can be found at the Sustainable Rockville Web site, at http://www.rockvillemd.gov/environment/index.html.

Of primary importance for Rockville are the three watersheds within the City boundaries: Watts Branch, Rock Creek, and Cabin John Creek. Each watershed has a management plan that is reviewed and updated on a regular basis, which can sometimes result in changes to regulations. Stream-valley parks incorporating natural stream buffers are a feature of many neighborhoods; and the John G. Hayes Forest Preserve preserves 120 acres of forestland and open meadows. Rockville is a gold member partner of the Chesapeake Bay restoration initiative and participates in the Lower Potomac Tributary Team sponsored by the Maryland Department of Natural Resources.

There are no agricultural lands either within the City's borders, or in the surrounding areas.

In summary, Rockville is very cognizant of the environmental impacts of growth, and is committed to developing and enforcing a set of policies that will minimize the impact of growth on the environment.

Other Public Services and Infrastructure

As discussed, other public services and infrastructure are also greatly affected by growth. They are mentioned briefly in this section.

Water and Sewer Facilities

Rockville residents are served by the City of Rockville and Washington Suburban Sanitary Commission to meet their water and sewer needs. The Water Resources Element (WRE), prepared in conjunction with the MGE, indicated that Rockville has adequate drinking water available for its current and future populations projected for 2040. However, Rockville is taking substantial steps to upgrade the water treatment plant and distribution system as well as curbing per capita water consumption. At this time, there are no anticipated wastewater capacity issues for the City or WSSC.

Rockville is part of three sub-watersheds, the Rock Creek, Cabin John Creek and Watts Branch. Rockville has stringent regulatory controls to prevent water quality degradation in these sub-watersheds. A detailed discussion of water capacity, sewer treatment capacity and availability of drinking water supply sources is contained in the Water Resources Element.

Transportation
Although it is recognized that growth and transportation are interlinked, estimating the effects of growth on transportation infrastructure, roads and public transit is beyond the scope of this document. The subject will be addressed more broadly in the context of the broader revision of Master Plan, where such complex issues as traffic congestion, road and parking areas, pedestrian movement, cycling areas, trip generation, transit systems and other areas of concern within Rockville need to be incorporated within the context of quality-of-life, growth and mobility goals.

Financial Mechanisms to Accommodate Growth
The infrastructure and services required in order to accommodate the projected growth in Rockville will require significant financial resources from a variety of sources. Services and infrastructure in Rockville are funded by the City, Montgomery County and the State of Maryland, depending on the responsibility. This section will discuss in general terms the financial mechanisms that are available to Rockville.

City of Rockville Funds
The City's Operating Budget and Capital Improvements Program (CIP) budget together serve as the annual financial plan for the City. As the City's population grows and new development or redevelopment occurs, the City's revenue and expenditure budgets will likely increase, assuming that tax rates and fees remain in a similar range as they are at present, controlling for inflation.

The City's total budget is divided into twelve operating funds. The City's largest fund is the General Fund, which is the primary operating fund of the City and is used to account for all financial resources except those required to be accounted for in another fund (special revenue fund or enterprise fund). Many of the City's administrative functions are supported through this fund. The major revenue sources for the General Fund are property tax, income tax, hotel tax, tax duplication payments from Montgomery County, and charges for services.

The City strives to develop and maintain a diversified and stable revenue stream to avoid becoming overly dependent on any single type of revenue and to minimize the effects of economic fluctuations on revenues. The major General Fund revenue sources that are directly related to increases in new development and increased population include property tax (both real and personal), income tax (which is included in the category "Revenues from Other Governments" in the Table, below), and charges for services. The City's largest source of General Fund revenue is real property tax. Residential properties make up approximately 60% of real property tax revenue, while commercial properties make up approximately 40%.

Table 17: Sources of General Fund Revenues, FY09

General Fund Revenues	Actual FY09	% of Total
Property Taxes	34,526,050	55%
Licenses and Permits	1,606,198	3%
Income Tax	10,438,811	16.6%
Revenues from Other Governments	7,362,671	11.7%
Charges for Services*	5,473,186	9%
Fines and Forfeitures	648,477	1%
Use of Money/Property	330,784	1%
Other Revenue**	2,451,549	4%
Total	62,837,728	100%

*The Charges for Services include fees for recreation programs, requests for police at community events, sale of materials from City publications, inspections and permits, etc.
**Other Revenue includes hotel taxes, sale of vehicles at auctions, grants, etc.

The City's six enterprise funds (Water, Sewer, Refuse, Parking, Stormwater Management, and Red Gate Golf Course), operate and account for their transactions in a way similar to private businesses. On an annual basis, the City sets fees and rates for the enterprise funds at levels that fully cover debt service requirements as well as operations; maintenance, administration and capital improvement costs, except where the City is not the sole provider of the service and competitive rates must be taken into consideration. The main source of revenue for enterprise funds is from charges for services. The revenue from charges for services will increase over time as usage volume increases and/or if rates are increased in a manner that dos not result in significantly decreased usage volume. For systems that require capital investments to accommodate growth, a combination of development construction and impact fees, along with long-term fees, provide resources for these investments.

Table 18: Sources of Enterprise Fund Revenues, FY09

Enterprise Fund Revenues	Actual FY09	% of Total
Charges for Services	19,486,364	85%
Other Revenue	2,246,183	10%
Transfers In	1,073,000	5%
Total	22,805,547	100%

The Capital Projects Fund, the primary fund that supports the CIP, is used to account for financial resources used for the acquisition or construction of major capital facilities and general capital construction, including: streets, parks, and public buildings (other than those financed by enterprise funds). The Capital Projects Fund budget is mainly funded from four components over a five-year period: debt, cash ("pay-go" transfer from the General Fund), government grants, and developer contributions.

The City strives to maintain a high reliance on pay-go financing for its capital improvements in order to maintain debt within prudent limits. When issuing debt is prudent or necessary, each debt issue is accompanied by an assessment of the City's capacity to repay the debt. This assessment addresses the effects on the current operating budget, as well as identifies the resources that will be utilized to repay the debt over time. In addition, it is the City's policy that long-term borrowing will not be used to finance current operations or normal maintenance and will only be considered for significant capital and infrastructure improvements.

Table 19: Sources of Capital Projects Fund Revenues, FY09

Capital Projects Fund Revenues	Actual FY09	% of Total
Grants/Gov't Revenue	4,349,929	32%
Use of Money/Property	191,096	1%
Other Revenue	374,110	3%
Transfers In / Pay-go	8,533,695	63%
Total	13,448,830	100%

Montgomery County

Montgomery County has primary responsibility for funding key areas related to growth, such as public schools, libraries, Fire and Emergency Services, portions of Transportation, and many other services beyond the scope of this document (e.g., health, social services).

Funding comes from a similar mix of funds as for the City, from the General Fund, service charges, transfers from other governments (State and Federal), impact fees charged to developers, and other sources. Fire and Emergency Services receives additional human resources through its inclusion of volunteers in its service provision.

Rockville provides growth projections to Montgomery County for it to use in long-term projections for service and infrastructure demands. Those projections are also key inputs to the County's capital improvements program.

State of Maryland

A series of State programs are available to assist Rockville in providing and ensuring services in the context of regional and local growth. They include Program Open Space; Transportation resources for both State Highways and transit; funding for education; infrastructure grants for water protection; and much more.

Rockville will continue to work closely with State counterparts to identify opportunities for State participation.

Private Resources and Public-Private Partnerships

Recent large-scale developments in Rockville have included requirements that the developers deliver new infrastructure along with the private development. Fallsgrove, King Farm and Twinbrook Station all included construction of roads, water, sewer lines,

stormwater management facilities, open space, and other infrastructure and amenities. The City has complemented their investments with public investments. In King Farm, the City complemented the new private development with the new Mattie Stepanek Park, which opened in 2008. In Fallsgrove, Rockville also built the Thomas Farm Community Center, which opened in 2009.

As Rockville's growth moves toward redevelopment, it is anticipated that the development community will incur a significant portion of the costs of upgrading or replacing inadequate infrastructure, and will contribute land for public facilities and open space.

Some of these private resources will also come through the impact taxes that Montgomery County imposes to fund both schools and traffic mitigation. As a municipality within Montgomery County, the City of Rockville does not have the responsibility of funding school construction or fire and rescue facilities.

In summation, the future growth of Rockville should be based on policies that attempt to ensure that growth pays for itself. The City of Rockville can remain financially stable during future growth periods by working with developers, Montgomery County, and the State of Maryland to ensure that all parties carry their appropriate responsibility for continuing the high quality of life in Rockville.

9) Future Land Needs and Boundary Expansion

Article 66B requires that the Municipal Growth Element discuss the potential for expanding municipal boundaries. Once the element has been completed, any plan for annexation must be consistent with the MGE. The City does not, at present, have an annexation plan. Property owners may engage the City for their desire to be annexed into the municipality, however the City of Rockville does not seek out individual properties to be annexed. Furthermore, State law requires that, in most cases, the property owner be the initiator of any annexation. The Annotated Code of Maryland, Article 23 A, Section 19, prescribes procedures for enlarging municipal boundaries.[21]

Nonetheless, Rockville has a long history of expanding its boundaries. This section provides a framework for how Rockville will consider potential expansion, organized as follows:

- State-required discussion of future land needs related to projected residential demand.[22]
- Current opportunities for annexation
- The City's existing and recommended new Maximum Expansion Limits

Future Land Needs

At present, the City of Rockville does not have any identified future land needs that require expansion of municipal boundaries. The growth in residential, commercial and other development in Rockville that is projected is based on the City's existing land, current zoning and other factors, and can be accommodated within the existing City limits. There is no demand-based approach that would project growth beyond the City's current boundaries.

Current Opportunities for Expansion/Annexation

Recently passed State legislation associated with House Bill 220 and Senate Bill 350 permits municipalities with an opportunity to unilaterally annex unincorporated properties if the land proposed for annexation is 5 acres or less and partially within the City boundaries. The City is currently reviewing the small area annexation provisions to consider annexing eligible parcels along Twinbrook Parkway, and along E. Gude Drive and Southlawn Lane.

The City is also reviewing existing stipulations regarding the unincorporated Hectic Hill enclave, which is entirely surrounded by land within Rockville, to determine whether there is an opportunity to annex these properties, as well as both the benefits and costs of doing so.

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[21] http://www.mdmunicipal.org/documents/pubdocs/MunicipalAnnexationHandbook.pdf. Municipalities may annex unincorporated territory contiguous to and adjoining the municipal boundaries, but may not annex land within another incorporated municipality. An annexation also should not create an unincorporated enclave within the City that is surrounded on all sides by property within the municipality.

[22] http://www.mdp.state.md.us/PDF/OurProducts/Publications/ModelsGuidelines/mg25.pdf, p. 7.

Rockville's Maximum Expansion Limits

Rockville uses the term Maximum Expansion Limits (MEL) to describe areas outside of, but adjacent to, the City's jurisdictional boundaries where the City would consider annexation should a property owner petition the City to annex the property. **A property's being part of the City's MEL does *not* mean that the City is targeting that property for annexation.**

The concept of Maximum Expansion Limits was an important element of the City's first comprehensive plan in 1960. The purpose was to allow the city to enlarge in an orderly way and guide development, roads, community facilities and utility capacity needed for the population growth that was forecasted at that time. The MEL concept has been a part of every CMP since then.

The 1970 Master Plan established five criteria for expansion[23]:

- The boundaries should be at generally equal distances from the center of the City, but the total size would be consistent with the philosophy of a responsive government.
- The outer boundaries should be physically identifiable.
- The MEL should contain natural drainage areas that can be efficiently served with City water and sewer.
- The establishment of reasonable and attainable MEL must recognize those existing conditions that make future annexations to the City improbable.
- The MEL should not divide logical neighborhood limits.

The policy to annex properties that are only capable of being efficiently served by Rockville water and sewer was reversed in the 1993 Master Plan. This change permitted annexation and development of King Farm and Twinbrook Station. City water and sewer serve only a portion of King Farm, and none of Twinbrook Station is so served. However Washington Suburban and Sanitary Commission (WSSC) serve these areas, for water and sewer facilities.

The 2002 Comprehensive Master Plan retained the 1993 Master Plan MEL boundary recommendations. Those limits can be viewed in Figure 10, below, defined by the red boundary lines, contain approximately 2000 acres of land.

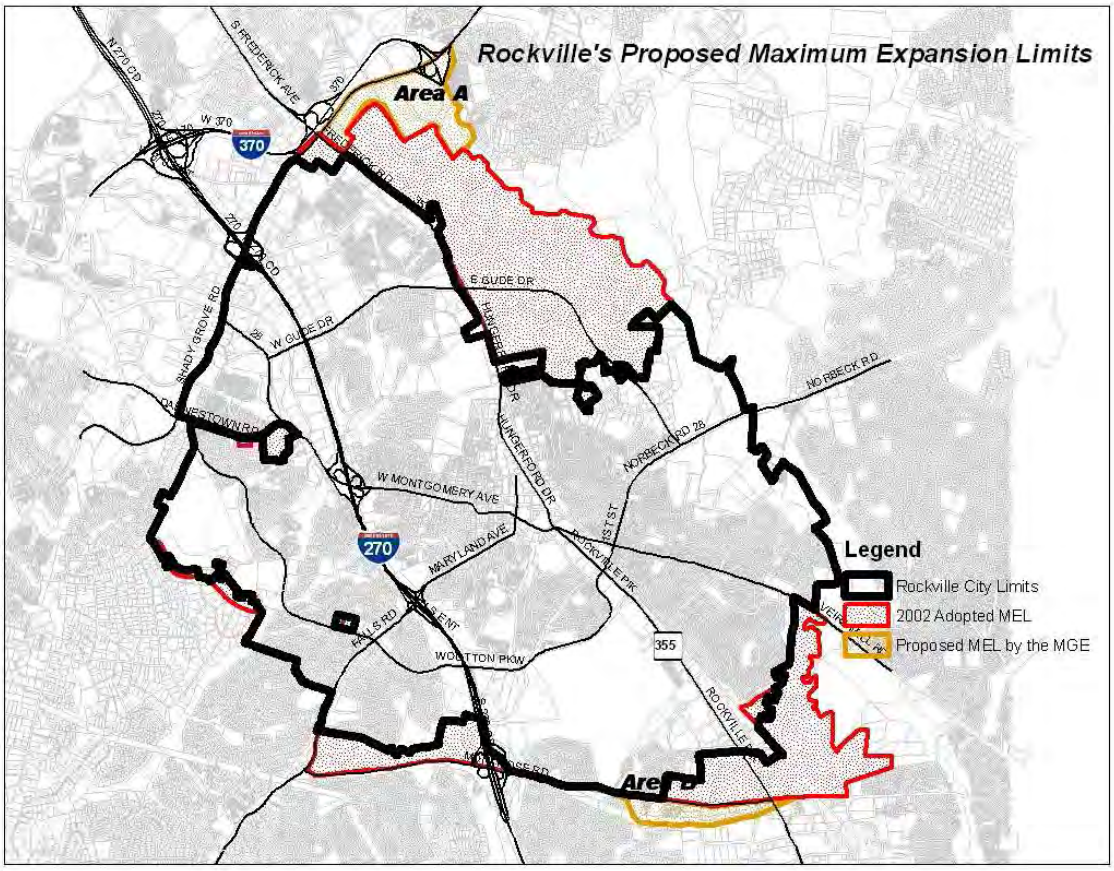
Changes to Maximum Expansion Limits

During development of the MGE, a review was conducted of the existing MEL and areas adjacent to the existing MEL, in terms of potential MEL expansion. Analysis was conducted in terms of the above-listed criteria, but also in terms of the potential fiscal, economic, and other impacts. The result is two areas recommended for MEL expansion.

The areas identified for inclusion in the MEL are indicated as "Area A" and "Area B" in the following map.

[23] Approved and Adopted Master Plan, City of Rockville, 1993

Figure 14: Rockville's Maximum Expansion Limits, Existing and Proposed



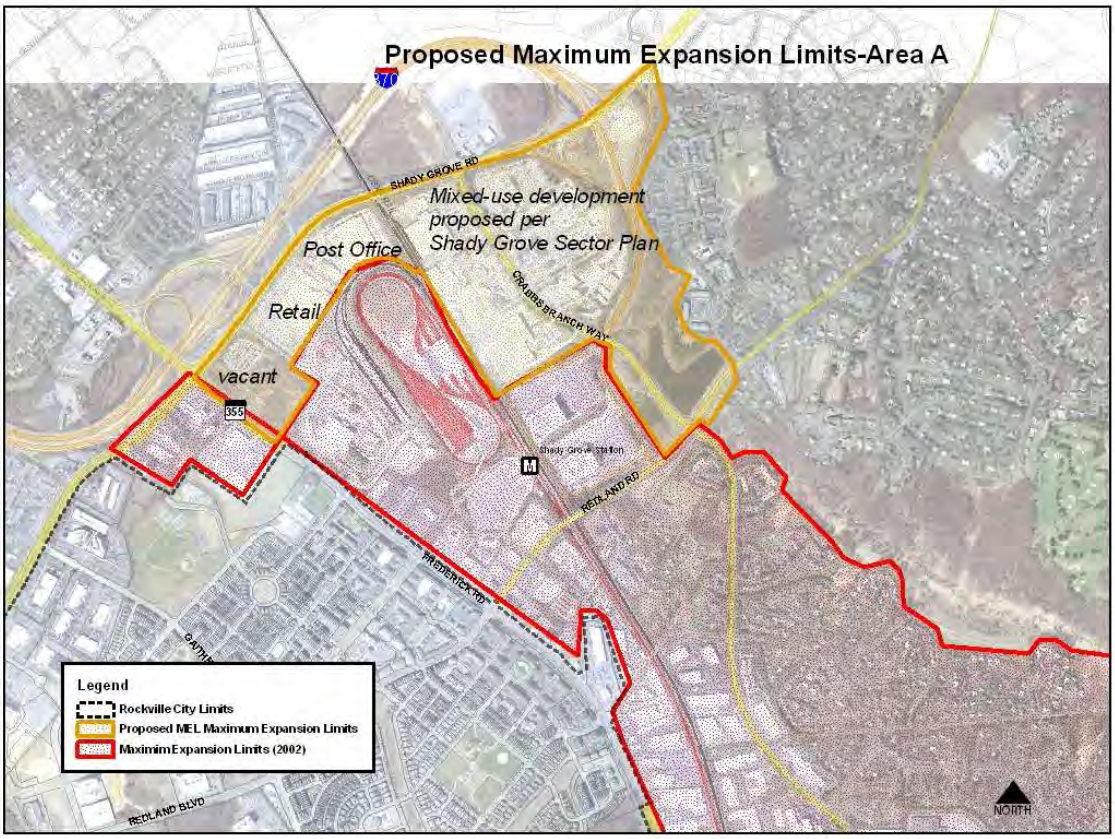
The benefits of including those parcels to the City include positive fiscal impacts, more control over development anticipated in those areas, and allowing for a logical expansion of City boundaries. For the residents within the area, benefits include enhanced local representation, City police protection, City maintenance and snow removal, and access to public utilities.

Once again, it must be emphasized that inclusion of any area within the MEL does not commit the City or any property owner to annexation.

Area A

Area A is approximately 225 acres, consolidating the MEL on the south side of Shady Grove Road, and provides a more continuous eastern boundary with the existing MEL and the City line, further to the south. It includes three parcels immediately to the east of MD Route 355 west of the train tracks, and south of Shady Grove Road, and the land around the Shady Grove Metro Station owned mostly by Montgomery County. This entire area is currently covered under Montgomery County's Shady Grove Plan, similar to the status of King Farm before it was annexed by Rockville. Staff knows of no current plan for any of the property owners to petition the City to be annexed. Inclusion of these properties in the MEL would be consistent with the set of criteria that has been used in the past.

Figure 15: Rockville's Proposed MEL - Area A



The primary benefits of including Area A in the MEL include:

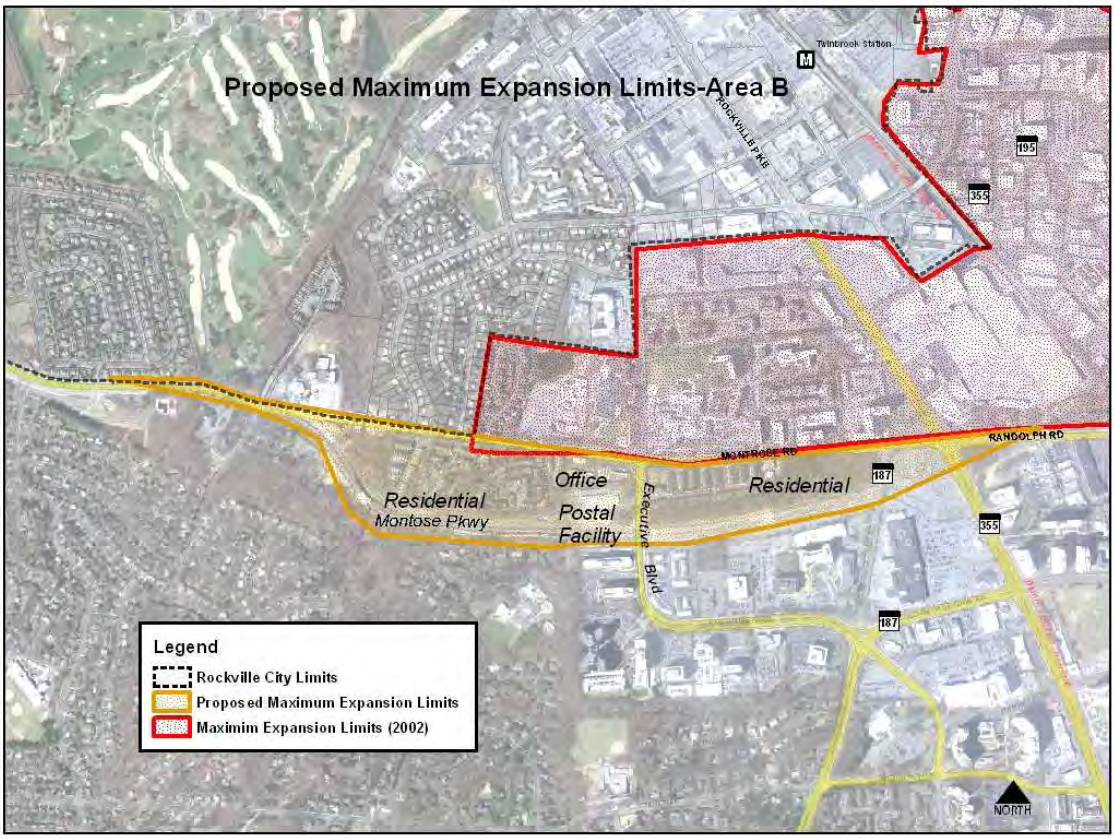
- In combination with the existing MEL, it would consolidate a logical area for potential City expansion. It would consolidate areas that are adjacent to the City and the existing MEL south of Shady Grove Road.
- There are potentially positive fiscal impacts for Rockville, were owners of the redevelopment sites in the Shady Grove Master Plan to petition to become part of Rockville. Rockville would also potentially be able to have a greater influence over development that occurs.

Area B

Area B contains approximately 101 acres. This proposed new area, along the southern side of the City, is a mix of office, retail and residential uses. It follows the line of the newly constructed Montrose Parkway until its connection with Randolph Road just east of Rockville Pike.

Staff knows of no current interest by property owners to petition Rockville for annexation. Montgomery County Council adopted the comprehensive master plan amendment for this area, North Bethesda/Garret Park, in November of 1992. Staff from MNCPPC-Montgomery has indicated that they may initiate a revision to the plan when the White Flint Sector plan has been completed.

Figure 16: Rockville's Proposed MEL - Area B



The primary benefits of including Area B in the MEL are:

- Annexation of any privately owned parcels as they develop/redevelop would increase the City's tax base, with a likely positive fiscal impact to the City.
- The City could potentially have more influence and control during the development process, if any portion of this area were redeveloped as part of the City of Rockville.
- Using the new Montrose Parkway as a boundary allows for a logical expansion of City boundaries, allowing for a better-defined service and delivery area. Montrose Road has served this purpose in the past.
- There are many property owners in this district who already use Rockville as an address, indicating identification with Rockville.

Growth Projections in Rockville's Maximum Expansion Limits (MEL)

The projections for growth outside the City boundaries, but within the City's existing and new MEL, were obtained from Montgomery County's Round 7.2 projections.[24] An estimated 10,514 people live within Rockville's MEL (existing and new). Montgomery

[24] The County's Round 8 numbers for the MEL areas were not available at the time that this document was being prepared.

County projects growth of 19,645 people in that area over the next 30 years, to reach a total of 30,159.

Table 20: Residential Forecasts, Rockville's MEL

Housing Type	Est., 2010		Forecast, 2040		Change, 2010-2040	
	# Units	Population	# Units	Population	# Units	Population
Multifamily	4,180	8,757	13,388	28,048	9,208	19,291
Single Family Attached	258	670	364	945	106	275
Single Family Detached	353	1,087	400	1166	47	79
Totals	4,791	10,514	14,152	30,159	9,361	19,645

Note: Data comes from MNCPPC-Montgomery, COG Round 7.2 Projections

Just as within the City of Rockville, the large preponderance of growth in households is projected to be in multifamily units. Population in Rockville's MEL in 2040 is projected to increase more than 180 percent over 2010.

There is no expectation that all areas within the existing and the proposed MEL will be annexed into the City in the foreseeable future. Therefore, projecting the impacts on City services of this growth will not provide a meaningful view of future City service needs. However, to respond to a State request, Table 24 was generated to show the potential impacts on Public Services and Facilities of future growth in the MEL. The assumptions used to generate the impact numbers are consistent with the standards used for projecting services within the City. It should be noted that the County solely provides the schools, libraries and the Fire and Emergency services, and the City shared the responsibility of providing recreational and open space and the police services with the County and State. Detailed impacts by individual projects will be analyzed by the City on case-by-case basis as a part of annexation process.

The residential projections for the MELs were provided by Montgomery County, and therefore are already incorporated into the County's own projections for County-provided infrastructure and service needs. As discussed in the previous sections, Montgomery County Public Library staff has informed staff that there are potential discussions for two new library sites in Rockville's vicinity to accommodate future growth, one of which is in the Shady Grove Sector Planning Area. Similarly, the Montgomery County Fire and Rescue Services have also proposed a new Fire Station in the Shady Grove Sector Plan area to meet the needs of additional growth.

Table 21 represents the anticipated impacts to public services and infrastructure based on additional 9,361 housing units and 19,645 residents projected in the City's Maximum Expansion Limits.

Table 21: Impacts on Schools of Household Growth within Rockville's MEL, MCPS Methodology

# of Additional Housing Units	School Category Impacted	Student Generation Rate	Additional Students
High-Rise/Mid-Rise W Structured Parking			
9,208	Elementary	0.042	387 Students
9,208	Middle	0.039	359 Students
9,208	High	0.033	304 Students
Town House			
106	Elementary	0.254	27 Students
106	Middle	0.112	12 Students
106	High	0.127	13 Students
Single Family Detached			
47	Elementary	0.341	16 Students
47	Middle	0.136	6 Students
47	High	0.099	5 Students
			Total - 1,129 Students

Table 24 uses MCPS' methodology for these projections. Rockville does not have existing data on the current proportion of students to the existing population in order to replicate the alternative methodology presented above in Table 15. However, an approximation of the alternative projection can be derived by using the ratio of the results of the Alternative Methodology to the MCPS Projection Methodology, from the analysis of student growth within Rockville's existing borders. The results are in Table 25, and show that the Alternative Methodology would project 2,450 students in the Rockville MEL.

Table 22: New Development-Generated Students in Rockville MEL, Alternative Methodology

	# New Students 2010-2040 Within Current Rockville Borders	# New Students 2010-2040 Within Rockville Mel
MCPS Methodology	1,243	1,129 (Table 24)
Alternative Methodology (Table 15)	2,703	**2,450** (Derived)
Ratio of Alternative to MCPS	2.17	2.17

Because there is no expectation that the entire MEL will be annexed, Rockville has not conducted an analysis of school capacity relative to projected enrollment. Rockville would do so in the context of any annexation petition.

Table 23: Impacts on Public Services and Facilities of Population Growth in Rockville's MEL

Public Services and Facilities	# of Additional People*	Impact Standard or Ratio	Impact on Service Provider
Public Libraries – Service Provided by Montgomery County	19,645 needing MCPL service	1,000 Sq. ft. per 10,000 persons**	This population growth in the MEL would theoretically add 1,964 sq. ft of demand for additional library space, though Rockville's current Library supply far exceeds the ALA standard.
Police – Service provided by both Rockville and Montgomery County	30,159 needing Police services, including City Police.	Current ratio of 0.91 Rockville Police officers per 1,000 persons	27 additional Rockville Police Officers would be required in order to maintain the current ratio if the entire MEL were annexed. Actual coverage would be determined by circumstances and coordination with Montgomery County.
Fire and EMS – Service provided by Montgomery County	19,645 additional persons needing MCFRS service	MCFRS and APFO standards	Montgomery County is planning for this growth through the new planned stations. Rockville's APFO would apply to development applications.
Parks, Recreation and Open Space – Service Provided by multiple governmental entities	30,159 needing PROS resources, including those provided by Rockville	City goal of 18 acres of City-owned PROS resources per 1,000 persons***	Approximately 543 acres of City-owned would be needed in order to maintain the City goal. (Total MEL is approximately 2000 acres.)

* For services provided entirely by Montgomery County (Libraries and Fire/EMS), the impact that is measured is the 19,645 new residents expected beyond the existing estimated 10,514. When services are provided by the City, and there is a relevant City standard or ratio (Police and PROS), the projected 2040 population of the entire MEL is used for estimating impacts on City services.
**American Library Association Standard
***Rockville's Goal for Open Space

As with Public Schools, no additional analysis has been done because there is no expectation that the entire MEL will be annexed. Analysis of these factors, and others (e.g., Transportation) would be conducted in the context of any annexation petition.

Additional Forecasts for the MEL and the Combination of Existing Rockville and MEL

The following forecasts have been provided in order to be compliant with the requirements of State guidance, though; again, there is no expectation that the entire area of the MEL will be annexed into Rockville in the foreseeable future.

The table, below, shows the results of combining Rockville and the MEL residential forecasts.

Table 24: Residential Forecasts, Rockville City and MEL

Housing Type	Est. Existing (2010)		Forecast (2040)		Change (2010-2040)	
	Units #	Population	Units #	Population	Units #	Population
Multifamily	13,676	28,650	32,861	68,843	19,185	40,193
Single Family Attached	3,698	9,604	3,950	10,258	252	654
Single Family Detached	11,744	34,292	11,850	34,543	106	251
Others	444	444				
Totals	29,562	72,990	48,661	113,644	19,543	41,098

Existing employment and projected growth within the Rockville MEL are shown in the table, below.

Table 25: Existing and Forecasted Employment, Rockville's MEL

	Est. Existing (2010) Jobs	Forecast (2040) Jobs	Change (2010-2040) Jobs
Office	17,689	19,317	1,628
Retail	4,786	5,118	332
Industrial	6,820	8,080	1,260
Others	1,467	1,242	-225
Totals	30,762	33,757	2,995

Source: M-NCPPC (Montgomery)

The table, below, shows the results of combining data regarding existing and forecasted employment for Rockville within its current boundaries and the MEL.

Table 26: Employment Forecasts, Combined Rockville and MEL

	Est. Existing (2010) Jobs	Forecast (2040) Jobs	Change (2010-2040) Jobs
Office	65,524	90,689	25,165
Retail	16,924	20,143	3,219
Industrial	12,384	14,823	2,439
Others	10,478	13,505	3,027
Totals	105,310	139,160	33,850

To repeat, however, there is no expectation that Rockville will annex the entire extent of the MEL.

10) Conclusion

Summary of MGE and DCA Results
By 2040 the population of Rockville within the existing boundaries is projected to have risen to nearly 84,000 people, living in nearly 35,000 households. Employment is projected to have grown to more than 105,000.

Areas available for growth in Rockville are virtually all infill locations, where projects will involve redevelopment of previously developed sites, mostly along the MD355 and I-270 corridors. At present, these areas are mostly single-use commercial or single-use office/laboratory spaces, where the existing zoning and the future market are likely to support mixed-use development; though the past decade has already begun to see changes. None of these growth areas are suitable for large amounts of single-family housing. As a result, the vast majority of new residences in Rockville are projected to be multi-family apartments and condominiums.

Rockville maintains prudent budgeting and investment policies and has adjusted quite well, historically, to its projected growth; but Rockville does not control all of the services and facilities that will be needed. Montgomery County and the State of Maryland are also important service providers in accommodating growth. Rockville Montgomery County, and Maryland will, at minimum, need to be prepared to provide resources for schools, higher education, recreational facilities, police personnel, facilities for fire/emergency service, and transportation infrastructure. Rockville and Montgomery County will also need to maintain policies by which developers provide appropriate levels of infrastructure, or resources that help to fund such investments, as part of their projects.

The projected growth in Rockville can be accommodated within Rockville's existing municipal boundaries, as long as the public facilities and infrastructure are available to meet the public needs generated by that growth. Therefore, there is no demand-generated need for Rockville to expand its municipal boundaries. However, there may be positive benefits to opportunistic expansion, if an owner adjacent to Rockville expresses the desire to become part of the City. Furthermore, there may be benefits to expanding Rockville's Maximum Expansion Limits (MEL), in order to open the possibility for the positive fiscal benefits and some control over future development in areas that already affect Rockville.

The document recommends expanding the MEL to include the broader area around the Shady Grove Metro Station (Area A), and certain areas immediately south of the City boundary in the area of the new Montrose Parkway and a portion of Executive Boulevard (Area B). Expanding the MEL to these areas does not constitute an annexation plan. Even if Rockville were to stop growing, areas bordering the City, particularly to the south and northwest, are likely to become much more densely developed over the next few decades. Densities proposed for the areas covered by the Greater Seneca Sciences Corridor Plan and the White Flint Sector Plan are shown in the table below. Growth

outside Rockville's boundaries will have an impact on the quality of life in Rockville in such areas as school enrollment and traffic volumes.

Rockville will be Affected by Higher Density Development in Areas to its Northwest and South		
	Life Sciences Area of Greater Seneca Science Corridor Draft Plan *	White Flint Sector Draft Plan*
Acreage (Sq. miles)	883 (1.38)	430 (0.67)
Dwelling Units	9,000	14,341
Density (D.U/Acre)	10.2	33.4
Commercial (sq. ft.)	20,000,000	12,980,000
Jobs	60,000	48,600
Jobs/Housing Ratio	6.7	3.4
* Estimated at Master Plan Build-out: 2035-2045 for Life Sciences Area and 2030 or later for White Flint.		

Source: Maryland-National Capital Park and Planning
Planning Board Draft Gaithersburg West Master Plan, July 2009 and White Flint Sector Plan, Approved and Adopted March 2010.

Rockville is identified by Montgomery County and the State of Maryland as being in the center of a key growth corridor. Rockville also sees value in vitality-enhancing growth, but not at the expense of important quality-of-life measures. Rockville will continue to invest in service and infrastructure for which it has authority, but Montgomery County and Maryland must do the same in their areas of authority and service. The Municipal Growth Element has identified Public Schools, Fire and Rescue Services, Police and PROS (Parks, Recreation and Open Space) as areas needing attention from other levels of governments. Though not part of this document, Transportation and Water Resources are also in need of investments.

The City of Rockville will be proactive on behalf of its citizens in ensuring that their needs are met in these areas. The City will continue to use its core policy tools, which include zoning and the City's Adequate Public Facilities Ordinance, to achieve its goals with respect to growth and quality of life.

Rockville is striving to be a leader in environmentally sustainable activities that enhance our community's quality of life. The City will continue on its path to achieve economic prosperity, while protecting the City's natural systems, in order to meet the needs of the present generation without compromising the opportunities available for future generations.

Next Steps

Once adopted by the Mayor and Council, the Municipal Growth Element will become part of the City's Comprehensive Master Plan (CMP). Based on the recently completed 6-year review of the CMP, the City plans to initiate a broader revision of the CMP over the next two-three years. The Municipal Growth Element, together with the Water Resources Element, will serve as key data and analysis for that broader effort and will assist the community as it revisits its goals for Rockville into the future.

Appendices

Appendix A: Sources and References

Maryland Department of Planning, Estimating Residential Development Capacity: A Guidebook for Analysis and Implementation in Maryland. August 2005

City of Rockville, Adequate Public Facilities Standards, Rockville Maryland, Adopted November 1, 2005"

City of Rockville, Parks, Recreation and Open Space Plan Adopted March 2010

City of Rockville, Approved and Adopted Master Plan, October1993

City of Rockville, Comprehensive Master Plan, Approved and Adopted, 2002

Maryland Department of Planning, Managing Maryland's Growth: Writing the Municipal Growth Element; Models and Guidelines Series.
http://www.mdp.state.md.us/pdf/OurWork/mg26supp.pdf

The Maryland Municipal League, Municipal Annexation Handbook
http://www.mdmunicipal.org/documents/pubdocs/MunicipalAnnexationHandbook.pdf

The Maryland-National Capital Park and Planning Commission, Great Seneca Science Corridor Plan (Formerly Gaithersburg West Master Plan), Planning Board Draft, July 2009

City of Gaithersburg, City of Gaithersburg, Municipal Growth, A Master Plan Element, Adopted April 6, 2009

The Maryland-National Capital Park and Planning Commission, Shady Grove Sector Plan, Approved and Adopted March 2006

The Maryland-National Capital Park and Planning Commission, White Flint Sector Plan, Approved and Adopted March 2010

The Maryland-National Capital Park and Planning Commission, North Bethesda Garrett Park Master Plan, Approved and Adopted 1992

Montgomery County Public Libraries, Strategic Facilities Plan, 2004-2009

Montgomery County, Maryland, Fire, Rescue, Emergency Medical Services, and Community Risk Reduction Master Plan, Approved and Adopted October 2005 & Update of the Maryland, Fire, Rescue, Emergency Medical Services, and Community Risk Reduction Master Plan, Approved and Adopted March 2010

Montgomery County Public Schools "*Superintendent's Recommended FY2012 Capital Budget and Amendments to the FY 2011-2016 Capital Improvements Program (CIP).*"

Maryland Department of Planning

Martin O'Malley
Governor
Anthony G. Brown
Lt. Governor

Richard Eberhart Hall
Secretary
Matthew J. Power
Deputy Secretary

February 3, 2010

Susan Swift
Director
Community Planning and Development Services
City of Rockville
111 Maryland Avenue
Rockville, Maryland 20850

Dear Ms. Swift,

I am in receipt of your January 29, 2010 letter requesting an additional six month extension to complete the City's Water Resources and Municipal Growth Elements.

Your letter indicates that you have made significant progress toward completing these elements and are bringing them forward for review through the public hearing process, however, adoption will not occur prior to April 1, 2010.

Based on the above, your request is approved. The City of Rockville now has until October 1, 2010 to adopt its WRE and MGE. As referenced in my previous correspondence, MDP and MDE staff are available to help with any questions or needs you might have.

Sincerely,

Richard Josephson
Director, Planning Services

cc: Craig Simoneau, Director, Rockville DPW
Mark Charles, Rockville DPW
David B. Levy, CPDS
Manisha Tewari, CPDS
Cynthia Kebba, CPDS
Ann Wallas, CPDS
Peter G. Conrad, Director, MDP Local Planning Assistance
Jason Dubow, MDP Water Resources Planner
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Claire F. Funkhouser

CITY ATTORNEY
Debra Yerg Daniel

May 6, 2009

Richard Josephson, Director of Planning Services
Maryland Department of Planning
301 W. Preston Street
Baltimore, MD 21201-2365

Re: City of Rockville's proposed methodology for conducting Development Capacity Analysis

Dear Mr. Josephson:

The purpose of the letter is to inform and receive feedback from the Maryland Department of Planning (MDP) about the City of Rockville's proposed methodology for preparing our Development Capacity Analysis. A letter of this nature was recommended by Peter Conrad, MDP's Director of Local Government Assistance, a few weeks ago, and confirmed in a conversation on May 4, 2009, based on Rockville's particular circumstances. As you know, the Development Capacity Analysis is a key input to the development of the new State-required Municipal Growth Element and Water Resources Element for the Comprehensive Master Plan.

Brief Description of Rockville

The City of Rockville is the County seat of Montgomery County and occupies 13.5 square miles within the metropolitan Washington DC area. Rockville's population is estimated at 62,119 for 2009. The City is located 12 miles northwest of the nation's capital. A major portion of the I-270 corridor is within the City's corporate limits. Two Metro rail stations, Rockville and Twinbrook, are within the city limits; and a third, Shady Grove, is just north of the city limits. The Rockville station also has MARC and Amtrak stops.

There is very limited vacant land that is zoned for development within the city limits or within its existing Maximum Expansion Limits for which there is any near-term prospect for development. Unless the context changes dramatically, all future development in Rockville or in its immediate surroundings will be in the context of redevelopment and/or adding density and additional uses to sites that currently have lower-density development.

Background To Rockville's Proposed Approach

As discussed by telephone with Mr. Conrad, guidance documents produced by MDP regarding how to prepare the Development Capacity Analysis focus on estimating how much growth will occur on previously undeveloped parcels. The documents referenced are "Estimating Residential Development Capacity: A Guidebook for Analysis and Implementation in Maryland" and "Managing Maryland's Growth: Writing the Municipal Growth Element; Models and Guidelines Series." We understand that, at present, there is no specific guidance for how to manage redevelopment scenarios.

As a result, the City of Rockville proposes to submit for its Development Capacity Analysis the following methodology, which produces forecasts of growth over the next 30 years, and supplement with projections to calculate capacity as detailed in the methodology. The forecasts and projections are prepared in cooperation with other local governments as a part of regional effort coordinated by the Metropolitan Washington Council of Governments (MWCOG). Table 1 below summarizes the estimates and forecasts of population, households and employment for the period of 2000-2040 that were prepared for the MWCOG transportation model. Table 1 numbers are for Round 7.2. We are currently working with MWCOG on Round 8, which is scheduled to be completed in fall of 2009.

Table 1. Round 7.2 Forecasts-City of Rockville, Maryland

	2000	2005	2010	2015	2020	2025	2030	2035	2040
Population*	47,388	59,556	62,129	66,837	70,627	73,988	76,792	80,336	83,479
Households*	17,193	22,485	23,688	25,915	27,724	29,314	30,789	32,481	33,981
Employment**	68,739	76,597	79,060	85,140	92,024	98,314	100,793	103,793	106,793

*Baseline population and household numbers are from Census 2000
**Baseline employment numbers are developed in-house.
Round 7.2 was adopted by the COG Board in October 2008

The forecasts and projections are prepared in a manner that is as consistent as possible with market conditions and projections, planned transportation improvements, adopted land use plans and zoning requirements.

Proposed Methodology for Estimating Development

Rockville proposes to use the projections from Round 8 as a base for the capacity analysis. The City uses a "bottom up" approach that incorporates the following steps.

Step 1 - Identify parcels within the current City boundaries that have development potential, which include:

- "Pipeline" parcels that already have development approvals.
- Underdeveloped parcels that have been identified using GIS parcel data, aerial photography, master plans, analysis of assessment values, site visits, and in-house expertise.

Step 2 – Estimate development on the identified parcels:

- Zoning calculations are performed to determine the yield of households and commercial/institutional square footage, with a 75% yield rate assumed.
- Valuation analysis is conducted on select parcels to determine the improvements-to-land ratio. If the ratio is below one (meaning that the improvements are assessed as less valuable than the land) the property is considered to be "underutilized" and is more likely to be developed over time than properties with higher ratios. Specific knowledge about the redevelopment potential of a site, however, may lead to the inclusion of that site event where the ratio is more than one.
- Where a neighborhood or an area master plan exists and provides relevant guidance, that guidance is used for development projections.

Step 3 - Identify annexation parcels within the Maximum Expansion Limits:

- The same analysis is conducted as described in Steps 1-3 for parcels outside of the City of Rockville's current boundaries, but within Rockville's Maximum Expansion Limits.

Estimating population and employment growth

- Population projections are derived from the number of new housing units that are projected to be completed, in addition to the existing "base," for each 5-year increment. Then, we apply a household-size factor for each housing type, as developed by the Washington Metropolitan Council of Governments (MWCOG). For the City of Rockville, a multifamily unit is assumed to have 2.095 people. Single Family Attached Units are assumed to have 2.597 people, and Single-Family Detached Units are assumed to have 2.915 people.

- Employment projections are derived from the square footage of commercial and institutional space that are projected to be completed, in addition to the existing "base," for each 5-year increment. The total number of employees is then derived based on an assumed average space occupied per employee, as developed by Metropolitan Washington Council of Governments (COG). The average amount of space per employee in is 250 square feet for office uses, 400 square feet for retail, 450 square feet for industrial, and 500 square feet for other uses. Assumptions regarding vacancy rates have also been included, based on economic conditions and public reports.

Rockville intends to use the following assumptions as a basis for the analysis:

- The base numbers for population, households and employment will be used from our existing forecasting process.
- The time frame for analysis is through 2040.
- Environmentally constrained areas are assumed to be unavailable for development. Such areas include open spaces identified as parks by Rockville's Zoning Ordinance, parcels with easements, protected land, historic districts, and built-out areas.
- Recently developed buildings (<10 years old) are not expected to redevelop, or generate additional capacity, and are therefore not accounted for in the analysis.
- The City is, by and large, built out. With very few exceptions, new population and employment growth is expected to come from redevelopment projects.
- Forecasts of future potential development are based on the City's new Zoning Ordinance, adopted in December of 2008.
- For sites where redevelopment is projected with a mix of uses (e.g., residential and commercial), projected density of each use is based on market trends.
- Redevelopment is assumed not to be likely on properties where existing development is at or near the maximum capacity as prescribed by the Zoning Ordinance.
- The City's Adequate Public Facilities Ordinance (APFO) is incorporated into the analysis to the degree possible.

We look forward to any comments that you may have regarding this proposed approach, including endorsement such that Rockville will be able to meet all requirements under Article 66B. For questions or comments, please contact either me at (240) 314-8272 or dlevy@rockvillemd.gov; or our staff project lead, Manisha Tewari, at (240) 314-8213 or mtewari@rockvillemd.gov.

Thank you very much for your consideration.

Sincerely,

David B. Levy
Chief of Long Range Planning and Redevelopment

cc: Susan Swift, Director, Community Planning and Development Services
Manisha Tewari, Planner
Ann Wallas, Planner
Cindy Kebba, Planner

Maryland Department of Planning

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May 27, 2009

David B. Levy
Chief of Long Range Planning and Redevelopment
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111 Maryland Avenue
Rockville, Maryland 21201-2365

Re: City of Rockville's proposed methodology for conducting Development Capacity Analysis

Dear Mr. Levy,

Thank you for your letter requesting MDP's comments on your proposed methodology for conducting a Development Capacity Analysis for the City of Rockville.

As your letter states, there is a limited amount of vacant land in Rockville to accommodate future development. It is anticipated that most future development will be on redeveloped sites and/or by increasing the density of development and adding uses to zoning for existing developed sites.

Your proposed methodology uses the Round 8 MWCOG projections for population, households and employment growth as a base for the development capacity analysis. A three step process includes 1) identifying pipeline development and parcels that are underdeveloped, 2) estimating development potential/yield on the identified parcels by looking at zoning, conducting a valuation analysis that determines whether the parcel(s) is underdeveloped, and looking at neighborhood or area master plans for guidance on future development, and 3) conducting the above analysis for parcels located outside the City's current boundaries but identified within its expansion limits.

Population, housing and employment projections are derived from the amount of development that is estimated to occur. Assumptions are made with regard to the base year, the year for which projections are made (2040), areas not susceptible to development due to environmental and other constraints, zoning, APF requirements, and other factors.

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Mr. David Levy
May 27, 2009
Page 2 of 2

After reviewing your proposed methodology with MDP staff, we would concur with your approach. The City of Rockville is a mostly built out City with limited development potential on vacant land and will rely on redevelopment to accommodate most of its future housing and employment needs. We would welcome the opportunity to work with you as you move forward with your analysis. The process you have identified could well serve as a model for other jurisdictions that face similar circumstances as Rockville.

Thank you for the opportunity to comment. Please don't hesitate to contact me should you have any questions.

Sincerely,

Rich Josephson
Director, Planning Services

cc: Melissa Appler, MDP
Stephanie Martins, MDP

Appendix E: Rockville's Forecasting Methodology

The process for preparing the Development Capacity Analysis, as approved by the Maryland Department of Planning (see Appendices C and D), rests on the process for growth forecasting currently employed by the City of Rockville's Department of Community Planning and Development Services (CPDS). This Appendix provides more detail on the City's process of preparing projections.

Rockville generates forecasts for city employment, population and households as part of Cooperative Forecasting, a process by which the Metropolitan Washington Council of Governments (MWCOG) coordinates forecasts by local governments throughout the COG region.[25] The COG region can be seen in the map, below.

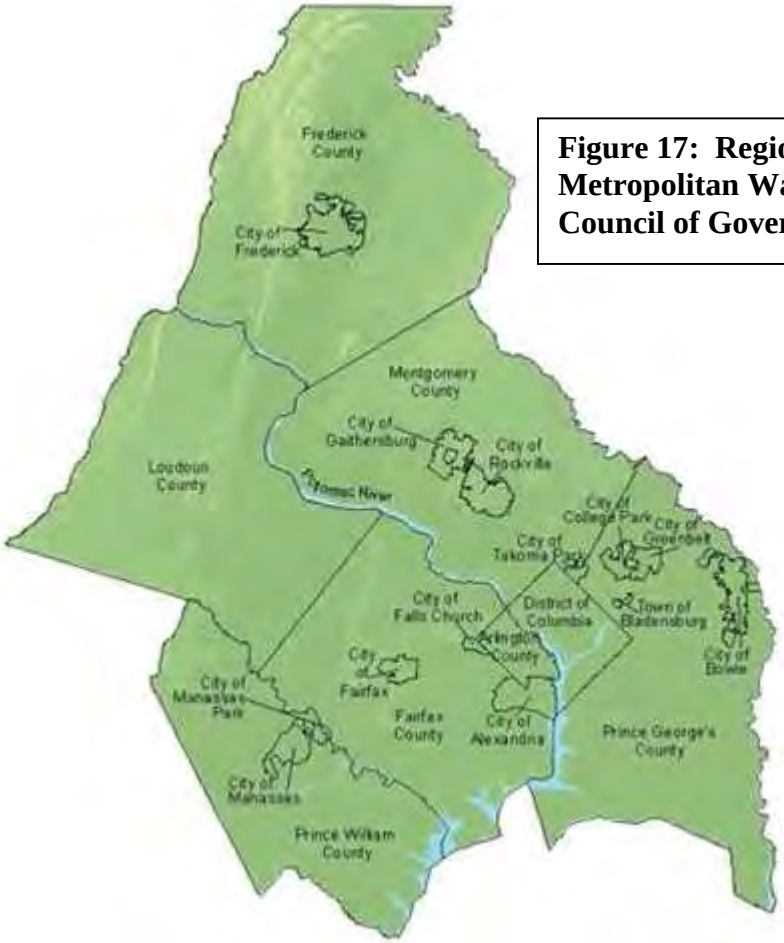


Figure 17: Region of the Metropolitan Washington Council of Governments (COG)

[25] The jurisdictions included in the Cooperative Forecasts for the region are: Washington, DC; the Virginia Counties of Fairfax, Arlington, Loudoun, Prince William, and Stafford; the Virginia Cities of Alexandria, Falls Church, Fairfax, Manassas and Manassas Park; the Maryland Counties of Montgomery, Prince George's, Calvert, Charles and Frederick.

COG's Cooperative Forecasts provide key data for the COG transportation model, which is developed to determine the region's conformity with the EPA air quality regulations. The forecasts are also used by COG to conduct regional land use analyses. Representatives from each jurisdiction prepare their forecasts independently, but a COG forecasting group convenes monthly to discuss methodologies and assumptions. This group is a subcommittee to the COG Planning Directors Technical Advisory Committee. The cooperative forecasts are a major component of COG's work, and the forecasts are used by public and private entities for various purposes.

The Cooperative Forecasting Process

For every new COG effort to forecast population, households and employment, two parallel processes are conducted: 1) COG produces forecasts for the region as a whole, and 2) COG member jurisdictions produce their local forecasts. The jurisdictions transmit their forecasts to COG, which sums the jurisdictional forecasts and compares the jurisdictional totals to the Regional forecasts. Rockville and Gaithersburg, the only Montgomery County municipalities that participate in COG forecasting, coordinate with Montgomery County in the submission of forecasts.

As a control to the jurisdictional forecasts, COG requires that the sum of the jurisdictions forecast be within three percent of the COG regional forecasts. If the sum of the jurisdictional forecasts does not fall within three percent of the COG Regional Forecasts, the forecasts are reconciled, which sometimes involves jurisdictions being asked to adjust their own forecasts. After reconciliation and adoption by various COG committees, the COG Board of Directors adopts the sum of the jurisdictional forecasts as the official COG cooperative forecasts for the region.

Major "rounds" of cooperative forecasts (e.g., Round 6, Round 7, Round 8) generally are produced about every three to four years when new data from the US Census Bureau or other sources is available. *Minor* rounds (e.g., Round 6.1, Round 7.1) are produced annually or bi-annually, in which jurisdictions make adjustments to forecast series taking into account revised land use plans or pipeline projects, changes to underlying assumptions, or new data.

The forecast used for the Development Capacity Analysis is Round 8, which is the ongoing almost-completed COG Round. The forecast previous to Round 8 was Round 7.2, which was adopted by the COG Board in June 2009. The Round 7.2 forecast had a 2005 base year and forecasts were in five-year intervals through 2040. It was the first forecast to go beyond 2030.

Round 8 was conducted in 2009 and 2010 and also worked off of a base year of 2005. A new and updated econometric/demographic model has produced the 5-year Regional control totals through 2040. This econometric model was developed with the help of John McClain, Deputy Director of the Center for Regional Analysis at George Mason University.

All COG forecasts are organized by Traffic Analysis Zones (TAZs), which is the standard approach for assembling data for traffic projections. Prior to Round 8, COG

coordinated a process to create a new set of TAZ boundaries throughout the region. The City provided key input to the restructured traffic zones and Rockville now has 30 TAZs, which is an increase from the 24 that previously were in Rockville. Across the region, the number of TAZs increased from 2,000 to 3,600. Rockville's 2005 base year estimates were revised to reflect the restructured traffic zones, to facilitate comparisons across years.

Rockville submitted its Round 8 forecast to Montgomery County and COG in October 2009, and the reconciliation process is underway. Both Montgomery County and COG staff have accepted Rockville's totals, though various COG committees and subcommittees continue to review the forecasts. Round 8 was adopted by the COG Board of Directors in November 2010.

How Rockville's Forecasts are Prepared

The "Baseline"

In general, forecasts of population, households and employment start with "baseline" data from a prior year, and then project forward based on expected development in the city. As the forecasts were conducted in 2009, the first 5-year period for Round 8 was 2005-2010. As a result, all participating jurisdictions needed to establish a "base" for 2005, off of which forecasting could be conducted.

In preparation for Round 8, Rockville conducted an intensive effort to verify the 2005 base of households and commercial/institutional square footage in the city. Every housing unit was counted and the non-residential square feet were updated through the City's Geographic Information System, the State Department of Assessments and Taxation and other sources.

Whereas the DCA projection period for this document is* 2010-*2040, the City's Round 8 Cooperative Forecast period is for* 2005-*2040. For the DCA, City staff has used the same numbers for 2010, 2015, 2020, 2025, 2030, 2035 and 2040 as were used for Round 8.

Development Projections

Rockville uses three types of expected development projects for the projections: 1) projects currently in progress; 2) projects approved for development by the appropriate authority (e.g., City Council or the Planning Commission), which are known as "pipeline projections;" and 3) estimates of future development based on existing zoning, master plans, and staff assessment. In general, there is more confidence in the nearer-term projections, as they are based on "real" projects. Although there is less confidence in the longer-term projections, it would be a mistake to conclude that no growth would occur, especially considering that Montgomery County and the entire COG region projects growth in the longer term.

The population estimates are derived, for each individual assumed development, by multiplying the number of residential units by the average household size, taking into

account differences for housing type. Average household sizes used in Rockville's projections are: 2.095 people in a multifamily unit, 2.597 people in a Single-Family Attached Unit, and 2.915 for a Single-Family Detached Unit. These averages are consistent with Montgomery County and COG's assumptions for this portion of the region.

Assuming a vacancy rate for multifamily units diminishes the population totals. A vacancy rate of 3.5% has been attributed to the 2005 base for multifamily units, based on an extrapolation of Census 2000 data. A vacancy rate of 5% is assumed for the 2005-2010 period, based on the difficult 2009 market conditions, and in-house knowledge of the vacancy rates in new developments in Rockville. For periods beyond 2010, vacancy rates are not assigned, which is consistent with the methodology deployed by Montgomery County.

The number of jobs (employment) is derived, for each individual assumed development, by multiplying the amount of square feet the average space (in square feet) an employee occupies per a type of non-residential space. This approach, also, is consistent with that of Montgomery County. The assumptions for space are: 250 square feet for an office employee, 400 square feet for a retail employee, 450 square feet for an industrial employee, and 500 for other uses. Other methodologies are employed for determining employment in other uses, such as for schools or City government buildings.

The number of Office jobs has been reduced by assumed vacancy rates that come from data developed by the CoStar Group. The average office vacancy rate in the City of Rockville was 8% based on a review of annual Costar data from 1993-2006. An 8% office vacancy rate has therefore been assumed for all projection periods except for 2005-2010, for which market conditions led staff to assume a 15% office vacancy rate. Consistent with Montgomery County, the current methodology does not at present account for vacancies in retail and or "other" non-residential uses.

The following other key assumptions have been used in generating projections for Round 8:

- Projects that are approved for development by the approving authority (e.g., City Council, Planning Commission, staff) will move forward, sooner or later.
- Calculations of projected uses and densities in the longer term are based on the 2008 adopted zoning ordinance. No assumption is made that zoning will change in the future.
- Uses discussed in adopted master plans, such as those for Town Center and East Rockville, are considered as part of the forecasting process.
- It is normal for larger projects to take more than one year to be fully occupied by either the residential or non-residential occupants, after completion of the construction. Therefore, increases in jobs and population for larger projects are assigned to more than one year.
- Moderate growth is projected in the latter parts of the 30-year forecasting periods, under the assumption of continued demand for housing and employment in the

greater Washington, DC region, limited in Rockville by the scarcity of available undeveloped land.

- No change of use is anticipated for the very large Lakewood, Woodmont, or Redgate golf courses.

Forecast Results

Table 17 summarizes the Round 8 estimates and forecasts of population, households and employment for the period of **2005 through 2040**.

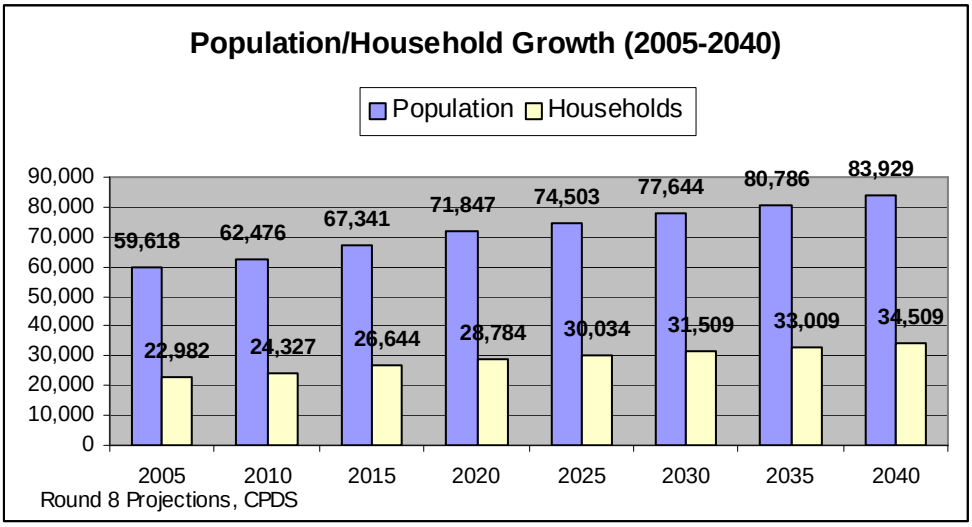
Table 27: Round 8 Forecasts, Rockville

	2005	2010	2015	2020	2025	2030	2035	2040	Change 2005-2040	Percentage Change 2000-2040
Population	59,618	62,476	67,341	71,874	74,503	77,644	80,786	83,929	24,311	40.8%
Households	22,982*	24,327	26,644	28,784	30,034	31,509	33,009	34,509	11,527	50.2%
Employment	76,597	74,549	83,596	91,600	96,783	99,403	102,403	105,403	28,806	37.6%

***** The detailed count of residential units for the 2005 base determined that there were 23,736 households in the City in 2005. Diminishing by the assumed 3.5% vacancy in multifamily units results in 22,982 households.

Population and Household growth is displayed graphically, below.

Figure 18: Population/Household Growth, 2005-2040



Appendix F: Rockville Land Use Categories

Land Use	Distinguishing Features
Low-density residential	Under 3 dwelling units per acre or less
Medium-density residential	3 – 25 dwelling units per acre
High-density residential	More than 25 dwelling units per acre
Undeveloped land	Parks, forest preserve, stream valleys, golf courses
Commercial – Retail and wholesale services	Low to medium-density retail, wholesale, service, office, laboratory etc.
Mixed Use Commercial	Higher density retail, office, service and residential uses in areas served by public transit
Industrial	Light industrial, office, laboratory, services and limited retail etc.
Institutional	Government and community facilities including offices, courts, schools, recreation centers etc.

Appendix G: Rockville Zoning Districts

Name of Zone	Type of Zone	Distinguishing Feature
R-400 Residential Estate	Residential Single unit Dwellings (detached and semi-detached)	40,000 sq ft minimum lot area
R-200 Suburban Residential		20,000 sq ft minimum lot area
R-150 Low Density Residential		15,000 sq ft minimum lot area
R-90 Single unit Detached Dwelling, Restricted Residential		9,000 sq ft minimum lot area
R-75 Single unit Detached Dwelling, Residential		7,500 sq ft minimum lot area
R-60 Single unit Detached Dwelling, Residential		6,000 (or 5,000) sq ft minimum lot area
R-40 Single unit Detached Dwelling, Residential		4,000 sq ft minimum lot area
RMD-10 Residential Medium Density	Residential single unit (detached, semi-detached and attached)	20,000 sq ft minimum tract area; allows single-unit detached, semi-detached, and townhouses up to 10 du/acre
RMD-15 Residential Medium Density	Residential single unit and multiple unit dwellings	1-acre minimum tract area; allows detached, attached, and multi-unit residential dwellings up to 15 du/acre
RMD-25 Residential Medium Density	Residential single unit and multiple unit dwellings	2-acre minimum tract area; allows detached, attached, and multi-unit residential dwellings up to 25 du/acre
MXC Mixed Use Commercial	Mixed Use	Low-density retail, service, office and residential uses within or in close proximity to single-unit residential uses
PD Planned Development	Planned Developments	Prior to March 16, 2009, Planned Developments that allowed a variety of development standards and types of uses were approved. Please see Zoning Ordinance section 25-14-07 for details on individual PDs
I-L Industrial Light	Industrial	Lower impact industrial zone allowing live-work units
I-H Industrial Heavy		Higher impact industrial zone
PARK ("PZ")	Park	Placed on all City parks and recreation areas to provide for open space, recreational, and other compatible uses
MXT Mixed Use Transition	Mixed Use	Low-density multi-unit, attached and townhouse residential development, may include other neighborhood-serving uses for areas located between moderate or high-density development and single-unit detached residential neighborhoods
MXNC Mixed Use Neighborhood Commercial		Low to moderate density retail, service, office and residential in areas that are in close proximity to single-unit detached residential. Not intended for major employment.
MXB Mixed Use Business		Retail, service, light industrial, office and residential uses at a range of densities in areas convenient to both high-density mixed use and single-unit residential areas.
MXE Mixed Use Employment		Medium density office, light industrial, retail and residential. Mix of uses, including live-work/work-live is encouraged.
MXCD Mixed Use Corridor District		Medium density retail, office and residential uses in areas along major highways. Flexible site requirements.
MXTD Mixed Use Transit District		High-density retail office and residential in areas near Metro stations.

Appendix H: Capacity and Enrollment
Schools that Serve Rockville Children in Neighborhood/Zoned Schools

Cluster	MCPS Schools Serving Rockville Children who Attend Neighborhood/Zoned Schools	Actual School Enrollment & Program Capacity 2005-2006 School Year				Projections for 2010-2011 School Enrollment & Program Capacity, Completed in 2004-2005				Actual School Enrollment & Program Capacity 2010-2011 School Year				Projected School Enrollment & Program Capacity 2016-2017 School Year			
		Enrollment	Published Capacity	% of Capacity	Over capacity (-) or Available Spaces	Enrollment	Future Capacity	% of Capacity	Over capacity (-) or Available Spaces	Enrollment	Published Capacity	% of Capacity	Over capacity (-) or Available Spaces	Enrollment	Published Capacity	% of Capacity	Over capacity (-) or Available Spaces
Gaithersburg	Gaithersburg HS	2202	1800	122%	-402	2190	2125	103%	-65	2029	1974	103%	-55	2163	2284	95%	121
	Forest Oak MS	893	959	93%	66	866	942	92%	76	855	873	98%	18	914	873	105%	-41
	Rosemont ES (CSR)	492	361	136%	-131	572	611	94%	39	489	621	79%	132	573	621	92%	48
	Cluster Totals	**3587**	**3120**	**115%**	**-467**	**3628**	**3678**	**99%**	**50**	**3373**	**3468**	**97%**	**95**	**3650**	**3778**	**97%**	**128**
Walter Johnson	Walter Johnson HS	2012	1900	106%	-112	2137	2136	100%	-1	2159	2153	100%	-6	2242	2274	99%	32
	Tilden MS	767	943	81%	176	774	943	82%	169	743	984	76%	241	910	984	92%	74
	Farmland ES	564	463	122%	-101	582	613	95%	31	577	617	94%	40	661	728	91%	67
	Cluster Totals	**3343**	**3306**	**101%**	**-37**	**3493**	**3692**	**95%**	**199**	**3479**	**3754**	**93%**	**275**	**3813**	**3986**	**96%**	**173**
Richard Montgomery	Richard Montgomery HS	1986	1561	127%	-425	1909	1980	96%	71	2065	2232	93%	167	2113	2232	95%	119
	Julius West MS	1051	1044	101%	-7	1018	1044	98%	26	1039	995	104%	-44	1357	995	136%	-362
	Beall ES (CSR)	590	686	86%	96	682	686	99%	4	714	526	136%	-188	815	526	155%	-289
	College Gardens ES (CSR)	525	508	103%	-17	601	661	91%	60	791	670	118%	-121	825	670	123%	-155
	Ritchie Park ES	391	403	97%	12	497	403	123%	-94	516	387	133%	-129	579	387	150%	-192
	Twinbrook ES (CSR)	568	631	90%	63	633	631	100%	-2	560	541	104%	-19	633	541	117%	-92
	Cluster Totals	**5111**	**4833**	**106%**	**-278**	**5340**	**5405**	**99%**	**65**	**5685**	**5351**	**106%**	**-334**	**6322**	**5351**	**118%**	**-971**
Rockville	Rockville HS	1332	1632	82%	300	1233	1605	77%	372	1257	1530	82%	273	1439	1516	95%	77
	Wood MS	924	1029	90%	105	916	1029	89%	113	845	968	87%	123	1025	952	108%	-73
	Maryvale ES	623	705	88%	82	639	705	91%	66	566	570	99%	4	644	570	113%	-74
	Meadow Hall ES	364	442	82%	78	420	442	95%	22	390	344	113%	-46	436	344	127%	-92
	Cluster Totals	**3243**	**3808**	**85%**	**565**	**3208**	**3781**	**85%**	**573**	**3058**	**3412**	**90%**	**354**	**3544**	**3382**	**105%**	**-162**
Wootton	Wootton HS	2369	2067	115%	-302	2289	2067	111%	-222	2411	2082	116%	-329	2241	2109	106%	-132
	Frost MS	1131	1134	100%	3	1064	1134	94%	70	1122	1058	106%	-64	970	1058	92%	88
	Fallsmead ES	524	451	116%	-73	529	404	131%	-125	551	574	96%	23	546	574	95%	28
	Lakewood ES	577	676	85%	99	628	641	98%	13	614	569	108%	-45	546	569	96%	23
	Cluster Totals	**4601**	**4328**	**106%**	**-273**	**4510**	**4246**	**106%**	**-264**	**4698**	**4283**	**110%**	**-415**	**4303**	**4310**	**100%**	**7**
All Clusters	**Totals**	**19,885**	**19,395**	**103%**	**-490**	**20,179**	**20,802**	**97%**	**623**	**20,293**	**20,268**	**100%**	**-25**	**21,632**	**20,807**	**104%**	**-825**

Notes

Information is from Montgomery County Public Schools - Superintendent's Recommended FY 2012 Capital Budget and Amendments to the FY 2011-2016 Capital Improvements Program (http://www.montgomeryschoolsmd.org/departments/planning/CIPMaster_Current2.shtml)

Changes already made that affect program capacity - incorporated into table

"CSR" indicates schools that have had class size reductions in Grade K-2, with class sizes reduced to approximately 18

Gaithersburg HS 16-room addition completed in 2006. Rosemont ES 16-room addition completed 2004. Walter Johnson HS modernization completed 2009.

Farmland ES 8-room addition completed 2006. Richard Montgomery HS modernization completed 2007. College Garden ES modernization completed 2008.

Fallsmead ES offering full-day kindergarten began August 2006. Lakewood ES offering full-day kindergarten began August 2007.

Planned changes that will affect program capacity - incorporated into table

Modernization of Gaithersburg HS is projected for completion in 2013.

Modernization of Farmland ES is projected for completion in 2011.

Facility planning funds have been approved for planning additions at Beall, Ritchie Park, and Twinbrook Elementary Schools. However, no additional capacity is shown by MCPS until construction funds are approved.

APPENDIX I

Real Property Inventory for Closed Schools and Facilities Within the Five Clusters that Serve Rockville's Neighborhoods, as of June 2010

NAME	ADDRESS	CLUSTER	CURRENT USE
Grosvenor Center	5701 Grosvenor Lane	W. Johnson	Holding School
Montrose ES	12301 Academy Way	Johnson	Leased to private school
North Lake Center	15101 Bauer Drive	Rockville	Holding School
Park Street ES (demolished)	401 Fleet Street	R. Montgomery	Reclaimed for R. Montgomery HS
Tilden Center	6300 Tilden Lane	W. Johnson	Holding School
Alta Vista ES	5615 Beech Avenue	W. Johnson	Leased to private school
Aspen Hill ES	4915 Aspen Hill Road	Rockville	Leased to private school
Ayrlawn ES	5650 Oakmont Avenue	W. Johnson	YMCA
Broome JHS	751 Twinbrook Parkway	Rockville	Board of Elections; various other users
Congressional ES	1801 East Jefferson Street	W. Johnson	Bldg razed; elderly housing-DHCD
English Manor ES	4511 Bestor Drive	Rockville	Leased to private school
Hungerford Park ES	332 W. Edmonston Avenue	R. Montgomery	Family resources; child services
Kensington ES	10400 Detrick Avenue	W. Johnson	HOC Offices
Kensington JHS	3701 Saul Road	W. Johnson	Bldg razed; local park and HOC
Lone Oak ES	1010 Grandin Avenue	Rockville	CHI Centers, Inc./Elderly day care
Peary HS	13300 Arctic Avenue	Rockville	Leased to private school
Woodley Gardens ES	1150 Carnation Drive	R. Montgomery	Senior Center

Future Public School Sites within the Five Clusters that Serve Rockville's Neighborhoods as of June 2010

Name	Address	Clusters
Future school sites owned the Board of Education		
Laytonsville MS	Warfield Road	Gaithersburg
Wootton ES # 7	Cavanaugh Drive	Wootton
Master Plan School sites owned by others as shown in the County Master Plan		
Central Area HS	Fields Road	Gaithersburg
Fallsgrove ES	Shady Grove Road	Richard Montgomery
King Farm MS	Piccard Drive	Gaithersburg
King Farm ES	Watkins Pond Road	Richard Montgomery
Jeremiah Park ES	SE Shady Grove Road and Crabbs Branch Way	Gaithersburg

∗ As published in the 2006-2007 Montgomery County Public Schools Boundaries for Elementary and Secondary Schools boundary map books.