

Guiding the Future of the MD 355/I-270 Corridor



January 2008

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The Montgomery County Planning Department

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1 INTRODUCTION

The MD 355/I-270 Corridor is a historic travel route that links a series of communities in Montgomery County from Washington, D.C. to Frederick County. The area has emerged as a “world class” center for advanced technology and biotechnology industries. It is also a regional shopping and cultural destination. The communities in the Corridor do not function as an integrated series of complementary centers with strong linkages. Making the most of opportunities for coordinating the planning and design for the transportation system, community building, and the natural environment requires a combined view that can be implemented in Master Plans and Sector Plans. In addition, planning for the communities should respond to the global and local forces of climate, economic, and demographic change.

PURPOSE

This project provides guidance to the upcoming Master Plans and Sector Plans in the MD 355/I-270 Corridor, the most dynamic corridor in the General Plan ... on Wedges and Corridors. The project is intended to accomplish the following:

- Transform the existing series of separate centers in the Corridor into a group of complete centers that function together as one linked community with a series of complementary centers.
- Connect the centers by fostering improvements to the linkages within each center, between centers, from the centers to the regional park system, and to the other resources of the Washington region.
- Respond to issues arising from global and local forces that will shape the Corridor in the 21st Century.
- Establish a set of themes that provide a framework for planning.
- Recommend zoning tools that emphasize quality design of centers, the creation of pedestrian connections to Metro stations, and a mix of uses.

Plans Underway

Germantown Employment Corridor Master Plan

This project presently underway will establish mixed-use development including office, residential, retail, corporate offices, and biotechnology uses.

Gaithersburg West Master Plan

This plan will link to other centers by the Corridor Cities Transitway. The area is a center for higher education (University of Maryland Center for Advanced Research in Biotechnology and Johns Hopkins University), life sciences, and housing.

Shady Grove Sector Plan

This completed Sector Plan provides an increase in housing. Implementation of this Sector Plan is underway.

Twinbrook Sector Plan

The Planning Board Draft of the Twinbrook Sector Plan supports a mixed-use community of residential, retail, advanced technology, and urban industrial uses.

White Flint Sector Plan

The White Flint Sector Plan envisions White Flint as North Bethesda's downtown characterized by multiple urban villages with a mix of office, entertainment, residential, and retail uses connected with improved pedestrian access between developments.

MD 355/I-270 Study Area



STUDY AREA

The MD 355/I-270 Corridor extends through Montgomery County from Washington, D.C. to Frederick County. The map on the previous page delineates the study area. The land use character ranges from urban centers, to stable suburban residential neighborhoods, to major open spaces such as the Little Bennett Regional Park.

The transit facilities in the Corridor include the Metro Red Line, the MARC Rail Line, and the future Corridor Cities Transitway. The major roads in the north/south direction include I-270 and MD 355. As a limited access highway, I-270 serves through traffic, and it has less connection to the surrounding communities. MD 355 has become less of a through travel artery, and more of a roadway that provides direct connections to the surrounding communities.

SUMMARY OF RECOMMENDATIONS

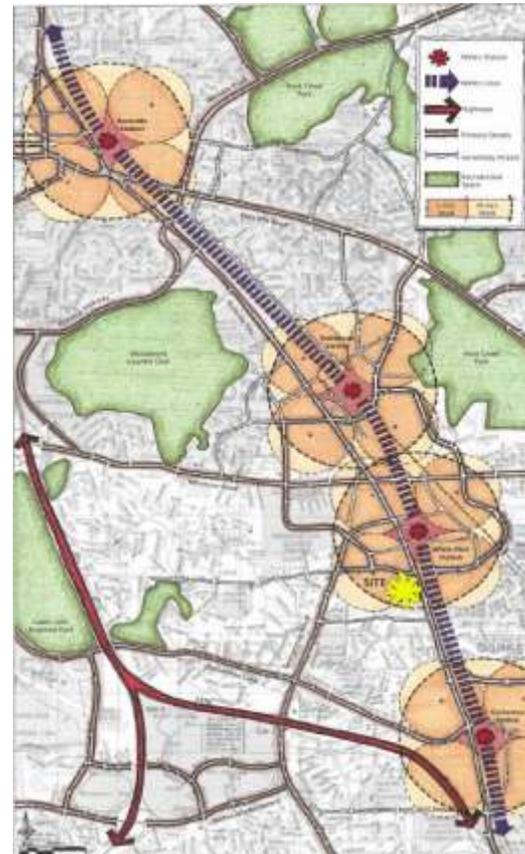
Enhancing the Centers

Today, the MD 355/I-270 Corridor includes a wide variety of centers that serve separate and often unique roles. These centers include clusters of biotechnology and advanced technology industries, centers with significant housing resources, central business districts, and corridor cities. Enhancing the function and design of these centers to serve the needs of the 21st Century is a primary goal of this project.

This project recommends improving the balance of jobs and housing to reduce the impact on the transportation system and establish centers that serve the needs of a knowledge-based community.

Connecting the Corridor

Addressing mobility in the Corridor is a key goal of the project. Providing a wide range of transportation options including the use of Metro stations, MARC Rail stations, and the stations along the future Corridor Cities Transitway is a key recommendation. Enhancing access to the local and regional park system is also provided. Creating transit and pedestrian oriented centers is a hallmark of this project.



- Centers of North Bethesda and Rockville:**
1. City of Rockville Town Center
 2. Twinbrook
 3. White Flint
 4. Grosvenor

Major Themes:

The following major themes shape this study of the MD 355/I-270 Corridor and identify aspects of a well rounded community:



- **Work**
Establish an economic strategy that meets the needs of the basic and non-basic sectors of the knowledge based economy in Montgomery County.
- **Life**
Enhance the quality of life in centers and communities in the Corridor to serve the needs of the 21st Century.
- **Access**
Improve access in the Corridor through multi-modal connections by providing a mobility strategy to serve the Corridor's economic and social functions.
- **Health**
Foster sustainable growth by developing a strategy for improving environmental and personal health for residents and workers in the Corridor.
- **Design**
Redesign MD 355 to embrace the character of the different centers and communities it serves by creating both general design principles for the Corridor as a whole and more specific design principles for each segment.

The Appendix includes the PowerPoint presentations that summarize the discussions with the Planning Board.

2 ANALYSIS

The Analysis Chapter includes three sections:

- Role of the Corridor in History
- Role of the Corridor Today
- Global and Local Forces

ROLE OF THE CORRIDOR IN HISTORY

Trail to Serve Adjacent Farmland

Known as the Great Road, MD 355 began as a Seneca Indian trail. By the 1700's, the trail was widened to accommodate horse-drawn wagons that served farmland between the City of Frederick and Georgetown. In 1755, the trail was improved by General Braddock and his troops during the French and Indian War. After the war, stagecoaches traveled the two-lane trail. Benjamin Latrobe, the architect of the Capitol, traveled the trail and made sketches of the Village of Clarksburg and Sugarloaf Mountain.

Turnpike to Serve Adjacent Farmland and Rural Villages

In the early 1800s, the Washington Turnpike Company received Montgomery County's first charter, selling one-dollar shares to fund improvements to change the existing trail into a turnpike. In the mid-eighteenth century, development intensified along the turnpike with taverns, general stores, blacksmiths, and wheelwrights to serve the nearby farms, and Rockville, Gaithersburg, Germantown, Clarksburg, and Hyattstown. The post Civil War era brought the B&O Railroad to serve Montgomery County thereby providing transportation options to MD 355. By 1895, electric trolleys also ran along MD 355.



Arterial road connecting residential suburbs in Bethesda/Green Mile

Major arterial road serving automobile oriented uses in North Bethesda



Arterial Road Connecting Washington, D.C. to Residential Suburbs

In the beginning of the 20th Century, the use and reliance on the automobile began to change communities along the turnpike. Grand estates and summer homes with lush gardens were built along the road. By 1917, automobiles were common in the Corridor ferrying government workers to the expanding residential suburbs. Produce stands and restaurants emerged along the road in the 20th Century serving the residents moving to the area. I-270 was constructed in 1953 to begin to shift through traffic from MD 355.

Major Arterial Road to Serve Automobile-Oriented Retail

In the 1960s and 70s, high-rise commercial and residential buildings, fast food restaurants, regional shopping centers, and the construction of Montgomery College defined much of North Bethesda from White Flint Mall to the City of Rockville. Today, this area is a regional shopping destination. I-270 plays the role of carrying most of the through traffic, and MD 355 provides access to businesses.

Major Arterial as a Transportation Spine for Montgomery County's Corridor Cities Train

Today, MD 355, I-270, Metrorail, MARC Train service, and the County's bus system provide access in the Corridor. Although MD 355 is the Corridor's "main street," it is not the busiest street. I-270 carries the traffic commuting to Washington, D.C. The State of Maryland is currently studying the need to widen a portion of I-270. A draft environmental impact study is underway for the planned Corridor Cities Transitway to run north of the Shady Grove Metro Station to Frederick, Maryland. The proposed Purple Line will create an east-west transit link and connect together the east and west legs of the Metro Red Line between the Bethesda and Silver Spring Central Business Districts. The Inter-county Connector will also provide a new east-west connection between I-270 and I-95 to improve access from Montgomery County to Baltimore, Prince Georges County, and the Baltimore-Washington International Airport.

ROLE OF THE CORRIDOR TODAY

Over time, MD 355 has changed from a trail to a major arterial. The MD 355/I-270 Corridor is home to almost half of Montgomery County's workforce, but more than one-third of the Corridor's employed residents commute to jobs outside of the County.

Major Economic Role of the Corridor in Montgomery County and the State of Maryland

- **Jobs** - Sixty percent of the jobs in Montgomery County are located in the MD 355/I-270 Corridor. The basic industries for the County's knowledge-based economy include: scientific research and development, computer system design and related services, pharmaceutical and medical research, corporate services, associations, the federal government, and defense industries. A third of the state's biotechnology firms and a third of the information technology workforce is clustered in the County.
- **Federal Government** - Montgomery County is the home of major federal institutions. The federal presence in the Corridor includes the National Institutes of Health, the National Institute of Standards and Technology, satellite offices of the Department of Health and Human Services, the Department of Energy, Walter Reed Army Medical Center, Bethesda Naval Medical Center, and the Uniformed Services University of the Health Sciences. These facilities are the backbone to the County's economy. Because technology requires collaboration between interrelated activities, Montgomery County's technology clusters which include these facilities, attract economic development activity to the County and the region.
- **Industrial** - The Corridor accounts for seventy-three percent of the County's industrial acreage. High land costs, strict environmental standards, a dearth of large industrial tracts, and other factors greatly limit the County's overall competitiveness as an industrial location. Strong support service tenants generally can afford the Corridor's higher lease rates for industrial land. Less stable sectors such as startups and businesses in riskier sectors, including biotechnology companies, find this land too expensive and often a less attractive option. The existing industrial space, warehousing, and other support functions are critical to supporting the advanced technology industry and supplying other businesses and residents with conveniently located goods and services. Competition from local business or residential service providers for existing light industrial land along with growing pressure to convert land to more profitable non-industrial use presents a challenge to preserving, assembling, and expanding space for biotechnology and advanced technology sectors of the knowledge based economy in Montgomery County.
- **Office Space** - Nearly eighty percent of the County's leased office space is located in the I-270 Corridor. The Corridor contains eighty-one percent of the County's Class A office space or the most prestigious properties. Most of the Class A office buildings are located in the Bethesda and Rockville areas.
- **Retail** - The majority of retail centers in the County are located in the Corridor. The Corridor also contains Montgomery County's largest and best-known retail outlets, including regional shopping centers of Bethesda's Westfield Shopping Town Montgomery, White Flint Mall in North Bethesda, and Lake Forest Mall in Gaithersburg. MD 355 is the County's primary commercial main street, and it also serves the region. The Corridor accounts for fifty-six percent of retail sales in the County. The road is the defining element dictating the character and linear configuration of this commercial area. Today, the North Bethesda shopping district along MD 355 is anchored to the south by the White Flint Mall and extends north beyond the City of Rockville. The Corridor also has

three “power centers” including the I-270 Center in Gaithersburg, Milestone in Germantown, and Bethesda Row. Despite multiple shopping opportunities, retail spending by Corridor residents exceeds local sales indicating that people are going outside the Corridor for many of their shopping needs. Research shows that Corridor residents are most likely to go outside the County to shop in department stores and superstores.

Centers of Technology

These centers perform unique economic functions, ranging from activities of national or regional significance to providing local services. They contain some supporting business activity and housing, but their function is primarily employment. These centers include the following:

- The National Institutes of Health/Bethesda Naval Medical Center is an internationally known federal research complex. It is a catalyst for Montgomery County’s biotechnology industry.
- Twinbrook currently functions as a federal government office center, and an advanced technology and industrial center. This center is planned for greater diversity, including housing, retail, advanced technology, and light industrial services.
- National Institute of Standards and Technology is another federal complex. It promotes U.S. innovation and industrial competitiveness by advancing science, standards of measurement, and technology.
- The Shady Grove Life Sciences Center includes a hospital, the Center for Advanced Research in Biotechnology of the University of Maryland, a significant research and education center of Johns Hopkins University, and advanced technology and biotechnology companies. The center has both national and international significance.

Centers with Significant Residential Resources

The Corridor has a variety of urban, suburban, and rural residential communities. In more urbanized areas, such as Friendship Heights and Bethesda, apartments and condominiums are available in transit

and pedestrian-oriented neighborhoods. Many auto-oriented, suburban, single-family detached communities are also located proximate to MD 355. Centers with significant housing resources include Grosvenor, Shady Grove, and Friendship Heights.

Central Business Districts

Bethesda and Friendship Heights are central business districts in the MD 355/I-270 Corridor. These centers provide diversified services, high-density housing, and regional retail. They are served by Metrorail and other high volume public transportation. They also perform local retail functions for adjacent residential communities. These Metro accessible centers are located at the southern end of the Corridor. Friendship Heights hosts some of the most exclusive shopping in the County. It shares a border with the District of Columbia and has significant housing resources and professional medical offices. Bethesda has the largest proportion of Class A office space in the County. These areas are the employment hubs. They are served or planned to be served by Metrorail and the Corridor Cities Transitway. The Corridor Cities include the City of Rockville (the County Seat), Gaithersburg, Germantown, and Clarksburg. They primarily serve local and sub-regional markets, but contain some regional employment activity. Germantown has the potential to evolve into a regional center for the northern sector of the Corridor with the opening of the Corridor Cities Transitway station.

Civic and Cultural Facilities

Montgomery County has made a significant investment in civic and cultural institutions along MD 355. The three most notable facilities are the varied arts offerings at Grosvenor, the North Bethesda Conference Center, and the Black Rock Center for the Arts.



Education

The Corridor hosts three major educational institutions: the Eight Universities of Maryland at Shady Grove, the John Hopkins University at the Shady Grove Life Sciences Center, and Montgomery College. The Computer Science Program at the University of Maryland is highly ranked in the nation. Johns Hopkins has been first in research and development expenditures in the United States for twenty-six years. Montgomery College has a campus in Rockville and Germantown. Montgomery College plays an important role in supporting biotechnology in the Corridor. These three educational institutions provide industry training and staff for biotechnology companies. They are often responsible for launching start-up companies that have transitioned into stand alone companies.

Montgomery County's Busiest Travel Corridor

I-270 serves as the largest conduit for travel along the corridor, carrying about 90,000 vehicles per day as a four-lane freeway at the Frederick County line and about 260,000 vehicles per day as a twelve-lane freeway directly north of I-495. MD 355 is known as the "main street" in the Corridor, and it carries about 10,000 vehicles per day as a two-lane roadway at the Frederick County line and about 70,000 vehicles per day as a six-lane major highway directly south of the Capital Beltway. Roadway congestion in the arterial roadway network is most often experienced at signalized intersections. Five of the County's ten most congested intersections, identified by volume-to-capacity ratio in the Department's 2006 Highway Mobility Report, are along MD 355. Other roadways carrying more than 50,000 vehicles a day in the Corridor include Montgomery Village Avenue, Shady Grove Road, I-370, and Montrose Road.

Johns Hopkins University, Shady Grove Life Sciences Center



Travel demands are generally heavier in the southern, more developed portion of the Corridor. Transportation facilities are primarily radial from a regional perspective, and they link the Corridor Cities together. These facilities are generally oriented in the north-south direction (Metro Red Line, the Corridor Cities Transitway, I-270, MD 355, and Great Seneca Highway). Facilities that connect the radial facilities and form the east-west "rungs" of the network include Ridge Road (MD 27), MD 118, Middlebrook Road, MD 124, Shady Grove Road, Gude Drive, and the Montrose Parkway. The future Intercounty Connector, Purple Line, and the Capital Beltway (I-495) will provide the most significant regional connections eastward toward Prince George's County.

GLOBAL AND LOCAL FORCES

Development in the Corridor is shaped by global and local forces that shape the economy. Examining the forces will help guide short-term, mid-term, and long-term planning efforts.

Global Forces

Climate Change

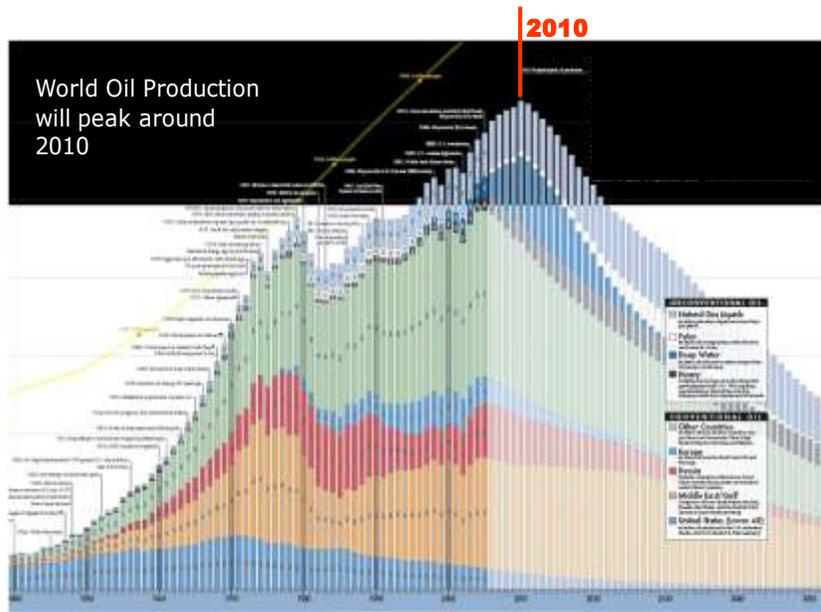
According to an overwhelming majority of scientists, greenhouse gases are building up in the atmosphere and causing the global climate to change with potentially disastrous results. Climate change will affect how people live and work in the MD 355/I-270 Corridor and sustain a healthy life. Climate change will require reducing the carbon footprint of development, reducing auto emissions, and conserving water. A related and overlapping concern is the deterioration of the Chesapeake Bay and its tributaries in the Corridor.

Globalization and Competition

Globalization is challenging the dominance of the American economy by transferring technology abroad. Shifts in information technology that allow the rapid transmission of information coupled with an increasingly educated workforce have contributed to the increased competition for jobs and investment. Global competition will require a focus on clusters of basic industries: international airport access; basic research; venture capital; support services in law, finance and accounting, media and management; high quality public services; recreational and cultural facilities; and opportunities for affordable housing.

Technological Innovation

Biotechnology and nanotechnology could have a profound influence on the U.S. economy in coming decades. The manipulation of matter at the atomic scale will revolutionize services, products, and manufacturing. For example, health care will likely integrate molecular-



genetic advances to yield personalized medicines. The RAND Corporation believes businesses will be smaller with an increase in self-employed and e-workers.

Energy

As oil production peaks and the search for new energy sources continue, opportunities will be available to integrate new energy technologies into the built environment. Advances in the areas of solar technologies, super-efficient electrolysis, and cold fusion are at various stages of development and application. The University of Maryland has recently established the Energy Research Center. Federal energy research is located in the Corridor and could spur future economic development in the energy sciences. Planning, and design implementation activities will need to accommodate new energy technologies as they become standard practice in the building industry.

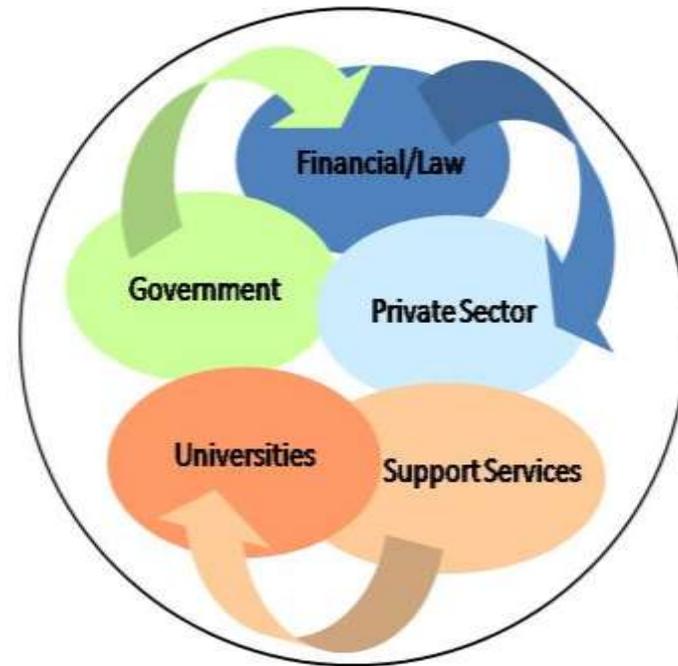
Greater Emphasis on Non-automobile Mobility

Roadway congestion has increased dramatically across the U.S. due to increases in car ownership and total miles traveled. Pressure on federal and state budgets for infrastructure repair and other expenses will continue to reinforce the existing trend to shift travel costs from taxes to user fees. Changing behavior, building facilities, and improving land use will all be necessary to continue to provide access in the Corridor.

Focus on Clusters of Industries

The Brookings Institute has found that advanced technology industries clustered in a collaborative setting can foster scientific advancements. Clusters are agglomerations of interrelated activities. They provide a mix of uses, living environments, and attention to high quality design necessary to attract the highly mobile employees of knowledge based industries. Continuous innovation and scientific advancement requires a sharing of formal and informal information between firms and workers in the high technology industry that can be provided in clusters.

A sample diagram of the key facilities to be included in an industry cluster



Local Forces

Population Changes

The County's increase in population in the next decade is expected to be highest in people aged 35-65 years and older. The younger cohort is drawn by the area's strong job market, and the older cohort will grow as the existing population of baby-boomers age. An increase is also expected in children aged 0-19. Housing and services will be needed to serve this population raising families, facing retirement, and facing advanced age. Providing affordable housing choices will continue to be a challenge.

Availability of Land

Montgomery County's historic development pattern focuses growth along the Corridor and reserves a significant portion of land for open space and agriculture. This pattern should continue with infill and redevelopment incorporated into existing street patterns, co-existing with older buildings, and accessible to transit. Communities should be created with a mix of housing types and neighborhood serving retail that is easily accessible from home and work. Open space that serves environmental and recreational functions should be incorporated into development.

International Airport Access

Montgomery County does not have a major commercial airport. It depends on the region's three international airports for air transportation services: Baltimore/Washington International Airport, Reagan/Washington National Airport, and Dulles International Airport. To remain competitive, Montgomery County needs to improve connectivity with other advanced technology clusters around the country and the world by providing better connections to these regional facilities. Montgomery County has service for small private planes at the Montgomery County Air Park located in Gaithersburg.

Public Services, Recreational, and Cultural Facilities

Business growth depends on attracting and retaining highly skilled workers. Employers rely on a talented and skilled workforce, internationally recognized research and educational institutions, and high quality communities for workers. In addition to ample compensation, workers desire quality living environments that include good schools for their children, cultural facilities, and recreation opportunities.

Affordable Housing

High owner-occupancy rates mask the serious consequences of rapid housing price appreciation. Many homeowners could not afford to purchase their current homes today. Middle and lower-income residents and people moving in from less expensive regions are being excluded from the housing market. Some businesses report that the cost of housing has made it much harder to recruit recent graduates and employees with young families.

Access

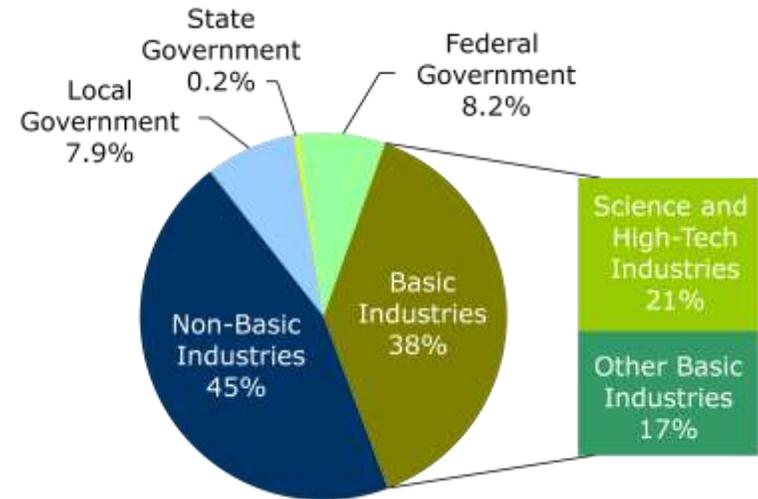
Ease of access is a significant local problem that affects quality of life, particularly time, money, and the impact of pollution. Roadway congestion has increased dramatically in 20 years with an increase in car ownership and total miles traveled.

Support Services in Law, Finance and Accounting, Media, Management, and Health

About fifty-nine percent of the County's economy is in the private sector. This sector includes professional and technical services, construction jobs, and retail. The Corridor's 18,000 plus businesses employ more than 300,000 people, or seventy-four percent of industry employment countywide.

Basic Research

Montgomery County's economic niche is in the research, and in the development of prototypes of biotechnology. Approximately fifty percent of the jobs in the technology sector are research-oriented. This includes research, testing, and other support services for pharmaceutical companies and federal agencies. The biotechnology industry in Montgomery County was born out of the federal research laboratories at the National Institutes of Health, the Food and Drug Administration, the Uniformed Services University of the Health Sciences, and the National Institute of Standards and Technology. These federal facilities provide a critical mass of bioscience labor force, including scientists who become entrepreneurs of biotechnology firms. The federal government has several programs that encourage entrepreneurship by its scientists. The founders of The Institute for Genomic Research, Human Genome Sciences, and Celera Genomics came from these facilities.

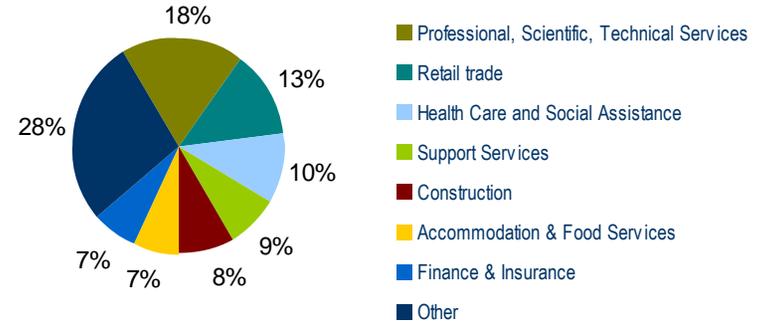


Technology Transfer and Venture Capital Markets

Technology transfer and venture capital markets are critical to the biotechnology industry in ensuring a strong financial base. There is a weak presence of venture capital in the state to support the bioscience community. Other states are ahead of Maryland in tapping funds from large pharmaceutical companies, state and local funding sources, and venture capital.

Corridor employment base

Source: M-NCPPC analysis of 2004 County Business Pattern data



3 RECOMMENDATIONS

VISION

The Corridor has evolved from a rural area into an important work place for 360,000 workers, and a community of choice for 425,000 residents. Along its 27 mile length, MD 355 has changed from a trail to major artery carrying as many as five million person trips per day. This project is intended to help transform the Corridor from a series of often separate and unrelated places into a related series of connected and enhanced, livable centers. The project is also intended to transform MD 355, the “main street” of the Corridor into a unique boulevard that reflects the best characteristics of the adjacent communities. The centers in the Corridor will be connected by an augmented transportation system. To realize this vision for the Corridor, the following recommendations were developed as overall guides to decision-making.

ENHANCING THE CENTERS

Foster Sustainability and Enhance the Natural Environment

Emphasizing green community and building design will reduce the negative impacts of development on the environment and may contribute to improving it. Reducing carbon dioxide, providing walkways and bikeways, decreasing imperviousness, and planting trees are key components in creating green communities and buildings. Opportunities for exercise and recreation should be integrated into the design of centers and their connections.

Create a Coordinated System of Centers

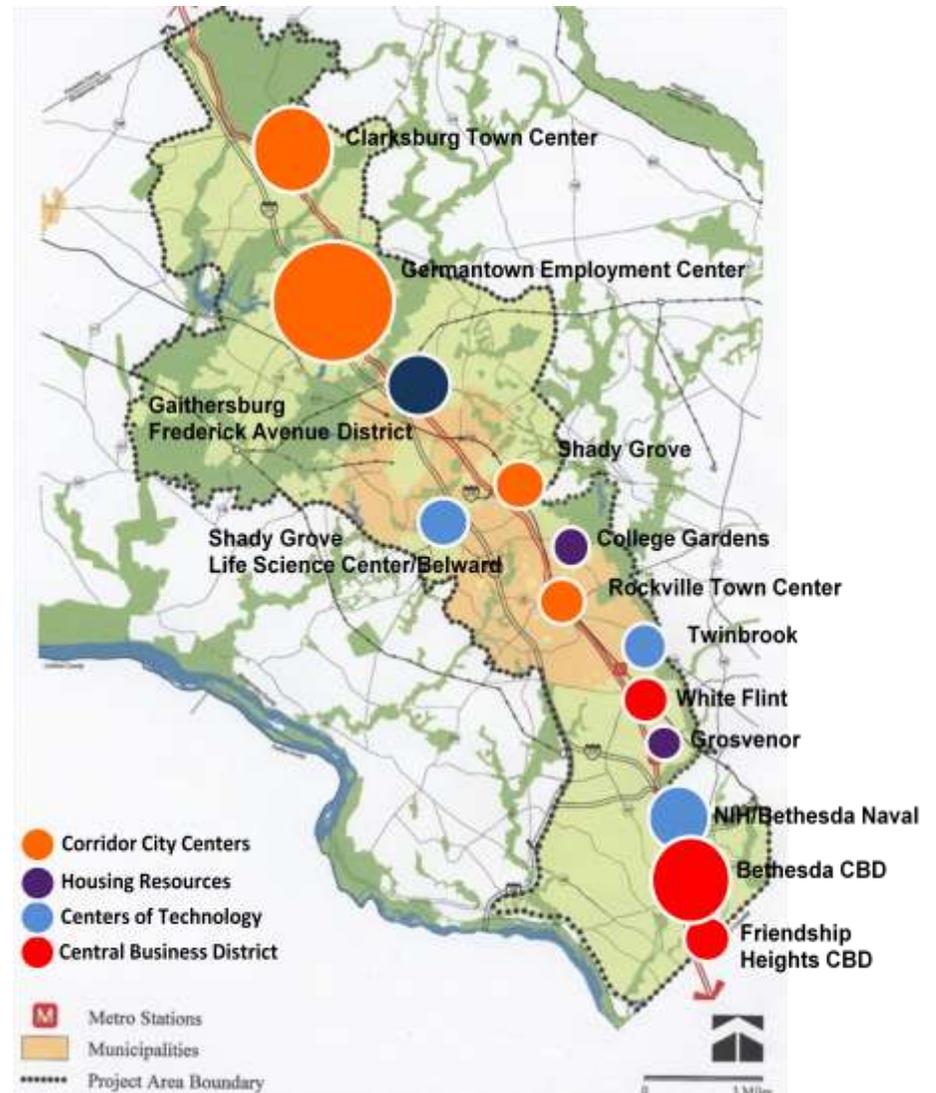
A coordinated system of distinct centers based on the role, location, land use, and amount of development will create communities with unique character and economic position throughout the MD 355/I-270 Corridor. Advanced technology and biotechnology uses should be clustered, with increased housing, entertainment, and neighborhood retail options developed in relationship to federal facilities and higher educational opportunities that drive job creation and innovation.

Emphasize Civic Design in Each Center

An increase in density and mix of uses requires attention to the quality of civic design. Centers should be designed for livability, with attention to the character of the streets and pathways, open space, and place making features. The form and function of each center should reflect its role in the Corridor.

Augment the Open Space and Recreation Opportunities

A variety of open space and recreation opportunities will include stream valley parks, green space in residential areas, urban parks, and other open spaces.



The adjacent map identifies the centers in the MD 355/I-270 Corridor

CONNECTING THE CORRIDOR

Connect the Centers

Connecting the varied centers with transitways, bikeways, and pedestrian routes will improve the ability of workers and residents to take advantage of the range of opportunities in the Corridor.

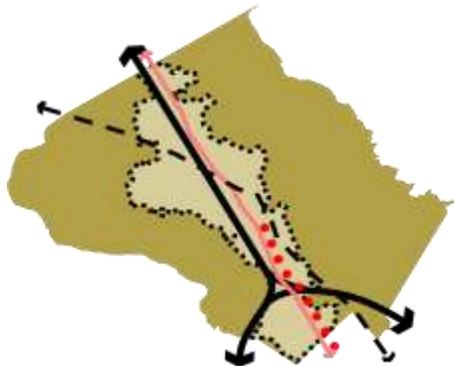
Connecting the Corridor to downtown Washington, D.C. and to the park system will expand living and working opportunities in the Corridor.

Enhance Mobility

Residents and workers will need easy access to activities that make up their daily lives, including the benefits of walking instead of driving. Constructing facilities including roads, transit, bicycle routes, and pedestrian paths integrated with land use patterns and staged to ensure delivery will add mobility options.

Establish MD 355 as a Boulevard

MD 355 forms a significant impression of the Corridor and adjacent neighborhoods. Improving its form and function will provide a special identity for MD 355 and the adjacent communities. Design features will make each community distinct with place making features, parks, and open spaces.



This diagram of Montgomery County and the Study Area identifies I-270, I-495, and MD 355. It also shows the Metrorail stations and the MARC Transit Line

MAJOR THEMES

In response to the opportunities arising from the forces discussed earlier, the following recommendations should be considered when planning in the Corridor.

- **WORK**
Establish an economic strategy that meets the needs of the basic and non-basic sectors of the knowledge based economy in Montgomery County.
- **LIFE**
Enhance the quality of life in centers and communities in the Corridor to serve the needs of the 21st Century.
- **ACCESS**
Improve access in the Corridor through multi-modal connections by providing a mobility strategy to serve the Corridor's economic and social functions.
- **HEALTH**
Foster sustainable growth by developing a strategy for improving environmental and personal health for residents and workers in the Corridor.
- **DESIGN**
Design MD 355 to improve the character of the different centers and communities it serves by creating both general design principles for the Corridor as a whole and more specific design principles for each segment.

WORK

Establish an economic strategy that meets the needs of the basic and non-basic sectors of the knowledge based economy in Montgomery County.

Economic competition is expected to become even more intense over time due to advanced educational systems, lower wages, and an ever expanding global workforce. With this in mind, the State of Maryland subsidizes incubator space, has its own venture capital fund of which forty percent goes to biotechnology companies, provides tax relief to early-stage biotechnology ventures, and has appointed a Maryland Stem Cell Research Commission. Supporting the expansion of university programs and federal research facilities is important for the future to continue broadening interest in the Corridor to attract students, workers, and entrepreneurs. As a major research and development area, the Corridor is well positioned to remain internationally competitive if it responds effectively to global forces.

Strengthen the County's comparative advantage in biotechnology and advanced technology sciences by establishing an economic strategy that meets the needs of the knowledge based economy as follows:

- Cluster future job and industry development into compact, mixed-use centers proximate to federal and higher educational facilities to increase job creation and innovation, and foster collaboration.
- Connect the centers to each other, to the region, and to the world to provide better access to information, research, jobs, and activities.
- Connect to Baltimore-Washington International Airport.
- Expand the basic knowledge based industries in the Corridor by supporting industrial, laboratory, wholesale firms, and space for new firms to start and grow.
- Maintain high quality public facilities and amenities.
- Foster population diversity.

- Create strong and vibrant centers.
- Strengthen the Johns Hopkins University and University of Maryland research and graduate programs in Shady Grove as well as connections to the main campuses and federal research facilities including NIH and NIST.

Address the energy problem as follows:

- Promote the use of alternative energy sources, conservation measures, recycling, and alternative modes of transportation.
- Emphasize public transit, walking, biking, and telecommuting.
- Establish an energy audit program and promote energy efficiency in all buildings and community planning.



Example of a laboratory building in the Shady Grove Life Sciences Center

LIFE

Enhance the quality of life in Corridor centers and communities to serve the needs of the 21st Century.

The centers of development in the MD 355/I-270 Corridor vary widely and often lack strong, identifiable character. This is largely due to sprawling automobile oriented development patterns, limited opportunities for gathering in areas with clustered uses, and lack of a fine grained street pattern. Amenities are important to current residents, and they need to be part of the community with easy access. They will be even more important in the future to attract workers to live and work in the Corridor.



*Farm Women's Market,
Bethesda CBD*

*Proposed public open space,
Shady Grove Metro Station*



Because the lifestyles people want for themselves and their families are varied and unique, Montgomery County will need to provide a wide variety of options within the Corridor including a range of neighborhoods and housing types, parks and recreation opportunities, art and cultural venues, and well designed civic spaces. Provide for a diverse and growing population in the Corridor as follows:

- Plan for complete communities that contain a wide range of housing types and choices to meet the needs of all incomes, ages, and household types.
- Implement improvements to the design and operation of MD 355 as it traverses through the Corridor in a manner that improves the character and design of the adjacent centers.
- Establish a better balance of jobs and housing within the Corridor to reduce travel distance, conserve energy, and reduce emissions from automobiles.
- Increase entertainment, recreation, and retail opportunities.
- Maintain high quality public schools and expanding higher education opportunities in the Corridor, with special attention to graduate education programs that are related to workforce development.
- Include new small urban spaces and neighborhood parks.
- Provide new urban parks and trail connections to the regional stream valley park system.
- Focus on community design in the centers with attention to livability, character, varied open spaces, and place making features to help define distinct communities and provide an overall positive impression of the Corridor.
- Augment and enhance existing high quality communities.
- Preserve and enhance the character of the Historic Districts of Clarksburg and Hyattstown.
- Focus development in compact clusters including employment and housing served by public transportation.
- Provide housing that together with transportation is affordable for households with incomes below the County median.

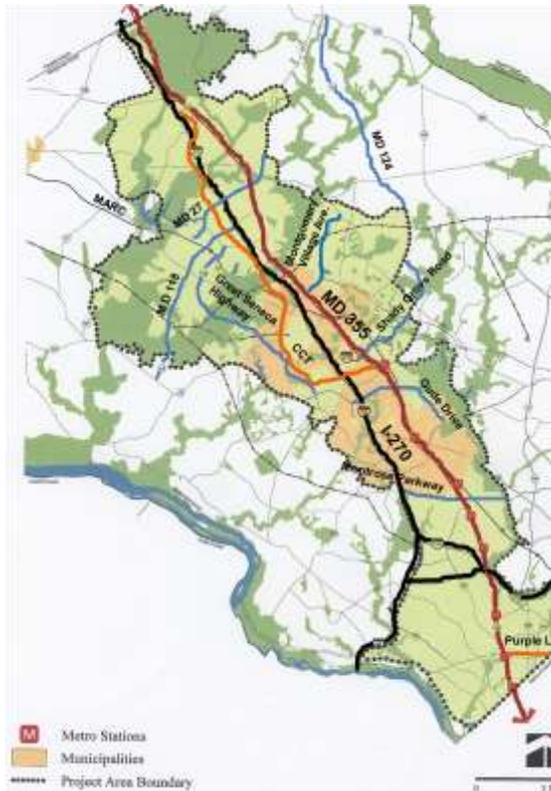
ACCESS

Improve access in the Corridor through multi-modal connections by providing a mobility strategy to serve the Corridor's economic and social functions.

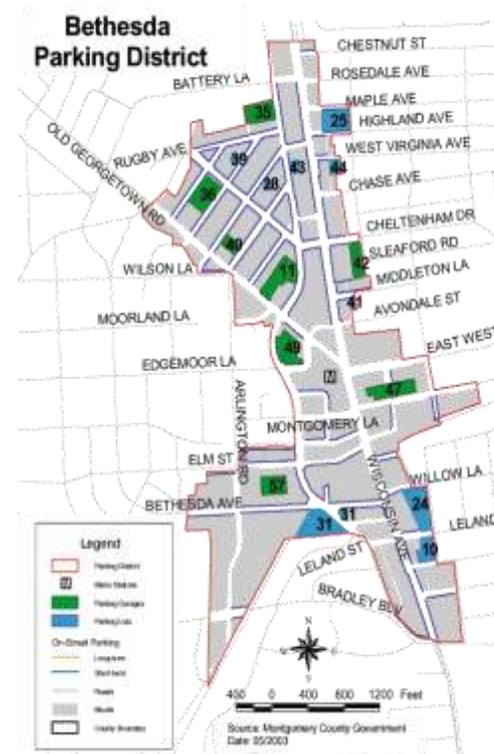
Access affects the quality of life by connecting home, work, services, education, entertainment, and recreation. Congestion is a major constraint on the intensity and distribution of land uses in the Corridor. More than half the jobs in the Corridor will be filled by residents living elsewhere. Travel within the Corridor is largely north to south and can be expected to increase with development in Frederick County, Clarksburg, Germantown, and Gaithersburg. Improving access by connecting the Corridor's centers with transitways, bikeways, and pedestrian routes will help the Corridor function as a single place. The Metro Red Line and the future Corridor Cities Transitway link centers within the Corridor and to the region's resources. Providing adequate access in the Corridor will require policies that result in modifying travel behavior, adding facilities, and refining land uses to encourage non-automobile travel. Without all three types of policies, further expansion of the Corridor will be severely constrained. Changing travel behavior will require public policies that manage parking through restrictions on the location, pricing, and supply of parking spaces to discourage single-passenger automobile use. Improve access in the Corridor as follows:

- Require new development and provide incentives to existing development to enter traffic demand management programs and provide facilities to reduce automobile trips and promote transit, walking, and biking.
 - Identify appropriate park and ride lots to intercept longer distance trips and provide access to transit.
 - Improve information systems to educate travelers on mode, route, and time-of-day options for both real time and planning decisions.
 - Continue to provide funding for transportation system capacity and maintenance, especially for transit vehicles.
- Explore area congestion pricing for central areas to influence both the time of travel (combined with flex time for workers) and choice of mode for travel.
 - Use value pricing for express lanes on I-270, the Inter-county Connector, and I-495.
 - Build the Corridor Cities Transitway from Shady Grove to Clarksburg.
 - Build the Purple Line from Bethesda to Silver Spring to New Carrollton through portions of Prince George's County.
 - Expand MARC Train service including a new White Flint Station. MARC is a key element of the overall strategy of reducing the growth in automobile trips as it serves a market for longer trips.
 - Identify funds for MARC Rail equipment acquisition and rehabilitation if service is to be maintained and improved over time.
 - Maintain the capacity expansion schedule for the Metro Red Line, and protect the current investment in Metrorail, along with enhancing its ability to accommodate future transit oriented development is critical.
 - Identify funds to increase Metro capacity at Shady Grove for passenger access and egress to and from the platform. Longer term, there is a need for new station entrances at Bethesda, Medical Center, White Flint, and near Montgomery College.
 - Build bikeway systems in centers, along the Corridor, between centers, and links to stream valley and other bikeways to provide a fully connected system.
 - Implement new Road Code standards.
 - Focus on pedestrian access to Metro stations and bus stops.
 - Incorporate intermodal transfer stations and needs into Master Plans and Sector Plans.
 - Improve transit operations (e.g., shorter headways on major arterials, bus lanes, and queue jumping for express service).
 - Increase private investment for system capacity and traffic demand management.

Corridor Access:
Map of Metro Stations,
Metro Purple Line,
Corridor Cities
Transitway, I-495,
I-270, and other roads



- Find a location for all bus and rail infrastructure including garages, maintenance areas needed for additional Metrorail, Metrobus, and Ride-On services as well as the Corridor Cities Transitway and the North Bethesda Transitway.
- Purchase more Ride-on buses to serve the Corridor.
- Improve signal coordination especially along MD 355.
- Improve street systems and transit station access through creation of street grids.
- Implement policies that change the design and operation of MD 355 as it traverses the County so that it contributes to the character and design of the centers and open spaces.



Bethesda Parking District:
Potential for the White Flint
and Twinbrook Metro Station
areas

- Improve the housing to job ratio in the Corridor to allow more new Corridor workers to live nearer their work. Land use determines the viability of alternative transportation options, and careful consideration of the jobs/housing balance, and the character and location of development near transit facilities should include mobility. Revise existing land use policies to permit housing and other supporting uses to be added in areas where they were previously excluded from employment areas, and use new Sector Plans and Master Plans to create higher density mixed-use, transit-oriented centers.
- Transform roadways that divide communities to ones that help connect and unify communities.

HEALTH

Foster sustainable growth by developing a strategy for improving environmental and personal health for residents and workers in the Corridor.

Through planning and design, development should foster sustainable design that produces a safe, healthful environment. Montgomery County needs to increase the proximity of housing and jobs, and create an environment that encourages walking, biking and use of transit, and sets exemplary environmental standards. Planning should integrate varied land uses, open space, mobility, natural resources, and efficient energy use. Plan for sustainability as follows:

- Accommodate growth by transforming the Corridor's automobile-oriented development pattern into one that is transit-oriented and walkable.
- Emphasize green site and building design to reduce impacts of development on the environment.
- Increase tree cover in the Corridor by requiring aggressive forest conservation measures, planting street trees, and landscape planting.
- Reduce impervious surfaces to improve the water quality of watersheds by requiring green building practices, "context sensitive" street and road design to create greener streets, and increased requirements for pervious open space.
- Enhance opportunities for active and healthful living through the protection of the Agricultural Reserve as a source of local food and provide farm markets in the Corridor for sale of local fresh produce.
- Improve opportunities for an active life style for Corridor residents and workers by providing a continuous network of walkways and bikeways, recreation centers, and parks throughout the Corridor.
- Create a variety of open space and recreation opportunities along MD 355 to provide significant active and passive recreation options including regional stream valley parks, green space

adjacent to residential areas, local urban parks, and other open spaces.

- Incorporate health care facilities in Corridor Cities and centers with connections to major hospitals and medical research centers.
- Create opportunities through the Zoning Ordinance to conserve energy and reduce the dependence on fossil fuels by encouraging the use of: alternative energy sources; salvaged, refurbished, or remanufactured materials, products, and structures; reusable or recycled materials; locally available building materials; recycled or recyclable product packaging; and durable products that are longer lasting than conventional products.



Open space area in the MD 355/I-270 Corridor



Improvements to MD 355 at Shady Grove Road

Enhanced local street in the MD 355/I-270 Corridor



DESIGN

Design MD 355 to improve the character of the different centers and communities it serves by creating both general design principles for the Corridor as a whole and more specific design principles for each segment.

The MD 355/I-270 Corridor within Montgomery County from Friendship Heights to Frederick County will include the following design elements:

- **Centers** - High quality pedestrian oriented areas with both public and private employment opportunities, local and regional retail, a mix of residential unit types, and Historic Districts.
- **Boulevards and Streets** - These connections accommodate a variety of functions including automobiles, service vehicles, bicycles and pedestrians. Enhancing the character of MD 355 as the main street for the Corridor should be a priority.
- **Open Spaces** - Augment and enhance the variety of open spaces including stream valley parks, urban parks, public spaces, and recreation areas.
- **Landmarks and Icons** - Establish place making features including landmarks and nodes that enhance the character of the Corridor as a special place.

GENERAL DESIGN PRINCIPLES

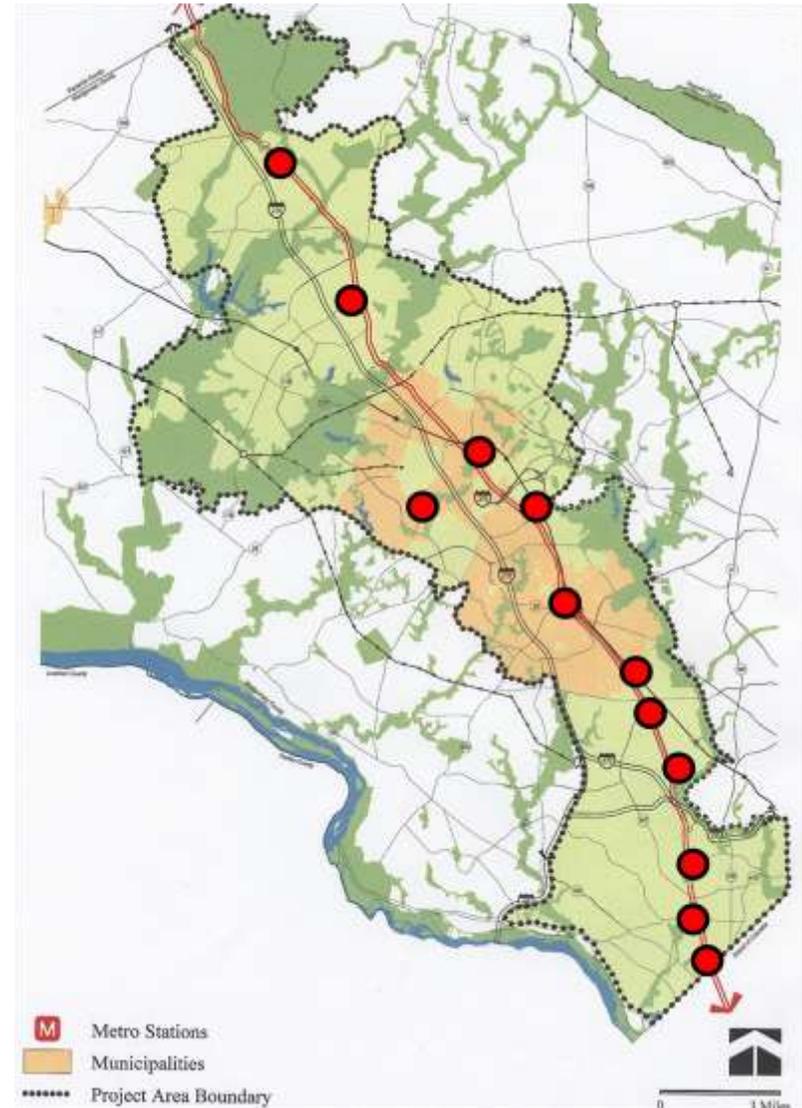
The following general design principles apply to the entire Corridor. This section is followed by more specific design principles for each of the segments along MD 355.

CENTERS

The MD 355/I-270 Corridor includes a variety of mature and emerging centers. The map on the adjacent page locates several of the centers. These centers provide a variety of economic roles and functions including:

- Mixed-Use Central Business Districts (Friendship Heights and Bethesda).
- Federal Government Resources (NIH/Naval Medical, NIST, and the Department of Energy).
- Regional Retail Places (Friendship Heights, White Flint Mall and adjacent retail, and Lake Forest Mall).
- Life Sciences Centers (Shady Grove Life Sciences Center and Twinbrook).
- County Government Center (City of Rockville).
- Historic Villages (Gaithersburg Old Town, Clarksburg, and Hyattstown).
- Housing Resources (Grosvenor, Shady Grove, and Clarksburg Town Center).
- Centers of Education (Shady Grove, City of Rockville, and Germantown).
- Cultural Resources (Strathmore Concert Hall, Germantown Black Rock Center for the Arts, and other facilities in the Bethesda CBD).
- New Center (Between Shady Grove and the City of Rockville with a new Metro station, an education center, and mix of uses).

Centers in the MD 355/I-270 Corridor



Macro Design Principles - Centers

Design principles for the centers in the MD 355/I-270 Corridor include establishing a system of communities and centers based on the function and role they perform. New development should be concentrated in these centers. Improving the design to serve the function and role of each center will provide a resource for the 21st Century that is greater than each center acting separately. The key macro design principles for these centers include the following;

- Design and planning for science clusters.
- Design public spaces that foster collaboration between mixed-uses.
- Provide flexible, mixed-use zoning that includes housing, retail, offices and laboratories.
- Provide parking districts or the equivalent.
- Design new public spaces.
- Design for including neighborhood serving retail.
- Improve the character and function of all streets including closely spaced street trees, additional public use space, and stronger pedestrian networks.
- Demand exceptional design for major buildings and public facilities
- Provide buildings as well as neighborhoods that meet the standards for Leadership in Energy and Environmental Design.
- Focus on the design and function of the public realm with attention to livability, visual impression, varied and active public streets and open spaces, and place making features that make communities distinct and provide an overall positive impression.
- Implement a “tenting” approach to development, with the highest densities nearest to Metro.
- Design the portals of each center along MD 355 to signal that one is entering or leaving a particular district or center.

As example, the White Flint Metro Station area should be designated as the downtown of North Bethesda with a diverse mix of uses and a compact, pedestrian oriented environment.



*Twinbrook Metro Station Area:
Example of a science cluster with new public spaces, neighborhood retail, streetscape standards, highest densities near the Twinbrook Metro Station*

BOULEVARDS AND STREETS

The boulevards and streets in the MD 355/I-270 Corridor serve a variety of roles and functions. Augmenting and enhancing the character of MD 355 should be a high priority. The design challenges for the Corridor include recognizing that boulevards and streets serve a variety of functions as follows:

- I-270 - Major freeway for long distance and through travel connections, automobile oriented.
- MD 355 - Main street of the Corridor for local travel within and between centers, first impression of the Corridor, space for transit vehicles, and often pedestrian oriented.
- Urban Streets - Primary public realm for each center that may serve automobiles, transit vehicles, service vehicles, bicycles, and pedestrians.
- Residential Streets – Important places that serve the stable, single-family neighborhoods.
- Main street for the Historic Districts of Clarksburg and Hyattstown.

Macro Design Principles - Boulevards and Streets

- Substantially augment and enhance the character of MD 355 as a boulevard, and consider Wisconsin Avenue as the primary name.
- Create streets that are context sensitive to the centers and communities, and establish design principles that identify and support the different characteristics of communities along the entire length of MD 355.
- Create opportunities to design streets to reduce the speed of through traffic and make communities more pedestrian oriented.
- Design each segment of MD 355 to signify and reflect the character of each center (e.g., urban boulevard, parkway, business district street, or two-lane rural road).
- Create street grids to distribute local traffic.
- Provide for pedestrian crosswalks, and on-street parking.
- Provide closely spaced street trees.
- Provide a grid system of streets to distribute local traffic.
- Provide for sidewalks and crosswalks for pedestrians
- Establish special street furniture (e.g. street lights and benches) in the centers.

Green Mile Boulevard, Bethesda



Urban Boulevard, Bethesda CBD



Rural Road, Hyattstown



OPEN SPACES

The MD 355/I-270 Corridor has a variety of high quality open spaces. These open spaces include:

- Stream Valley and Regional Parks – Rock Creek Stream Valley Park, Black Hill Regional Park, the Germantown Buffer, Great Seneca Park, and Little Bennett Regional Park.
- Recreation Parks and School Fields.
- Urban Parks and Open Spaces – Friendship Place Plaza, Bethesda Metro Center/Chevy Chase Bank Park, Twinbrook Station Public Park (approved), Shady Grove Metro Park (proposed), Clarksburg Triangle Park (approved Legacy Open Space).



Macro Design Principles - Open Spaces

- Expand the opportunities for providing high quality public use spaces through incentive zoning techniques (e.g. Village Commons at Friendship Heights, Hampden Square, Shady Grove Park, Clarksburg Town Center, and Rockville Town Center).
- Connect the centers to the regional park system and other open spaces.
- Increase recreation opportunities within walking distance of each center.
- Incorporate environmental preservation and enhancement to complement the built environment in each center.

Variety of Open Spaces:

- Wisconsin Place, Friendship Heights
- Hampden Square, Bethesda
- Town Green, City of Rockville



LANDMARKS AND ICONS

Landmarks and icons are important place making features. These features establish the character of each area. Some of the important place making features include:

- District of Columbia Marker, Friendship Heights.
- Madonna of the Trails, Bethesda.
- Bethesda Crescent Building, Bethesda.
- Public Art Projects, Bethesda.
- Bethesda Naval Medical Building, Bethesda.
- Strathmore Hall and Concert Hall, Grosvenor.
- Nuclear Regulatory Building, White Flint.
- Old Montgomery County Court House and Civil War Soldier, Rockville.
- COMSAT Building, Clarksburg.

Macro Design Principles – Landmarks and Icons

- Include public art as a part of an expanded incentive zoning program.
- Incorporate public art in public use spaces that celebrates the unique characteristics of each local place or center.
- Develop a unique streetscape program for each center.
- Focus on high quality design of both public and private buildings that could serve as icons.
- Provide flexibility in zoning regulations that provides opportunities to design high quality science buildings.

Madonna of the Trails, Bethesda



Crescent Building, Bethesda CBD



Naval Hospital Center, Bethesda-Chevy Chase



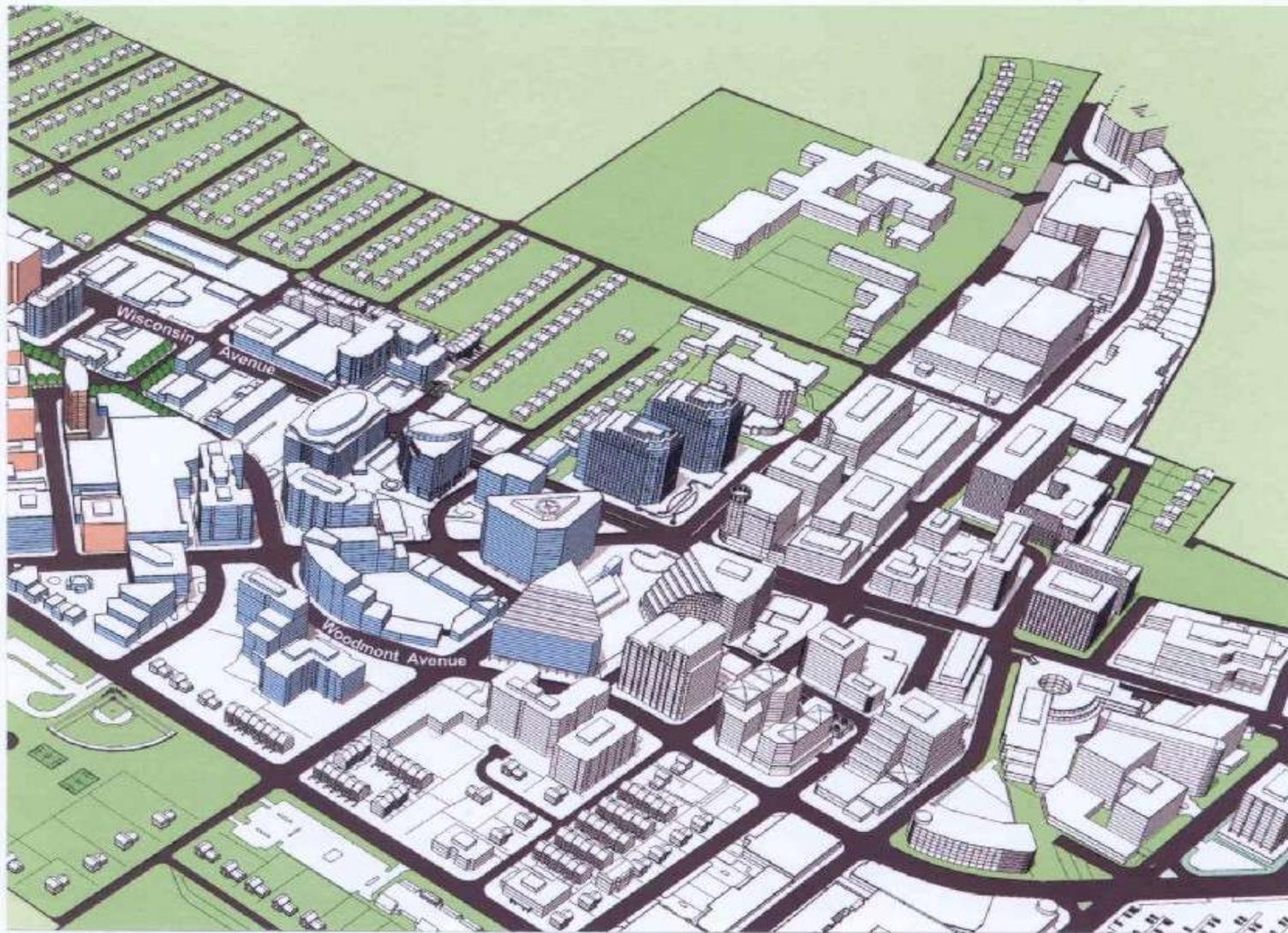
DESIGN PRINCIPLES FOR EACH SEGMENT ALONG MD 355

The segments include the following areas:

- **Bethesda-Chevy Chase**
Western Avenue to I-495
- **North Bethesda including Grosvenor, White Flint and Twinbrook**
I-495 to Twinbrook
- **City of Rockville**
Twinbrook to Gude Drive including Montgomery College
- **City of Gaithersburg and Shady Grove**
Gude Drive to Great Seneca Creek (Germantown)
- **Germantown**
Great Seneca Creek to MD 27 (Clarksburg)
- **Clarksburg**
MD 27 to Hyattstown

Bethesda-Chevy Chase

Western Avenue to I-495



MD 355/Wisconsin Avenue through the Bethesda CBD

Bethesda-Chevy Chase: Role and Character

The design emphasis for this area should focus on augmenting and enhancing the existing stable communities along MD 355. New development should be concentrated in the centers. The centers include the following:

- Friendship Heights CBD - Southwestern “gateway” to Montgomery County with a concentration of medical and professional offices, high-rise residential buildings, and retail facilities.
- Bethesda CBD - High quality offices, residential buildings, a concentration of retail and restaurants, and entertainment facilities.
- National Institutes of Health/Naval Medical Center – Federal facilities including research, and hospital facilities important to the economy of the Corridor and Montgomery County.
- Westbard - Neighborhood shopping area along River Road.

The area along MD 355 between Friendship Heights and the Bethesda CBD is referred to as the “Green Mile,” and it is envisioned as a grand boulevard that preserves the green and residential character of the adjacent communities. New development should be concentrated in the centers and away from the “Green Mile” and the stable residential areas.

Design Recommendations

- Maintain and enhance the special streetscape for the Bethesda and Friendship Heights Central Business Districts
- Retain and improve the green, residential character of MD 355 between Friendship Heights and Bethesda (e.g. the “Green Mile”) and other residential areas as follows:
 - Add trees and other plantings to the median.
 - Retain and enhance the existing green character by enhancing the perimeter landscaping.
 - Provide continuous sidewalks on both sides of the street.
 - Retain building setbacks and maintain the existing setbacks as green space.
 - Limit the use of Special Exceptions.

- Improve bike connections.
- Enhance bus service along MD 355 including connections to the National Institutes of Health and the Bethesda Naval Medical Center.
- Maintain the setbacks from MD 355 for the existing federal facilities.
- Improve the pedestrian access to the NIH Metro Station from the Naval Hospital area.

The 2005 Base Realignment and Closure (BRAC) Study is recommending relocating some functions currently at the Walter Reed Army Hospital to the Bethesda Naval Medical Center. Montgomery County is currently evaluating a range of recommended actions to address growth issues of the Naval Medical Center.

MD 355/Wisconsin Avenue in the Bethesda CBD



North Bethesda including Grosvenor, White Flint and Twinbrook

I-495 to Twinbrook

Role and Character

This segment of MD 355 is envisioned as an area that transitions from I-495 to more intense development at the White Flint area. This area includes institutional uses, a cultural facility, residences, and a portion of Rock Creek Park. This area also includes significant strip commercial development and the White Flint Mall with significant surface parking areas and large setbacks of buildings. The centers in this area include:

- Grosvenor
- White Flint
- Twinbrook
- Rock Spring Park

Design Recommendations

- Increase green space including small urban parks and other open spaces.
- Provide additional crosswalks, sidewalks and curbs to improve the pedestrian safety.

- Consider on-street parking in the White Flint area especially during off-peak times.
- Limit off-street parking along MD 355, and provide adequate landscaping for parking lots.
- Increase design alternatives for transit including local buses
- Expand and improve the medians.
- Expand the grid system of streets especially in the Twinbrook and White Flint areas.
- Establish a parking district or an equivalent in the White Flint and Twinbrook areas.
- Improve design standards by creating incentive zoning tools, and establishing a new zoning framework or form-based code.
- Create a business improvement district to assist in funding of maintenance and promotion.
- Reinforce the role of the White Flint area as a multi-faceted downtown for North Bethesda with a rich mix of uses.
- Maintain the role of the Grosvenor area as a primary cultural center for the Corridor.
- Improve connections to Rock Creek Stream Valley Park and the Rockville Millennium Trail.
- Build the North Bethesda Transitway to connect Rock Spring Park to the Metrorail system.

Variety of Centers



Surface parking and low density development



Proposed White Flint Crossing



Existing Rockville Pike/MD 355



City of Rockville

Twinbrook to Gude Drive including Montgomery College

Role and Character

The City of Rockville is the location of the County Government with high-rise office buildings, stable residential areas, and a newly revitalized Town Center. Along MD 355 and south of the Town Center, automobile-oriented retail uses continue. Beyond the Town Center, low scale retail uses are located along MD 355 to Gude Drive and the Campus of Montgomery College. The City of Rockville is beginning a study of the potential to improve the function and character of MD 355. Improving the coordination between the City of Rockville and Montgomery County for the design of MD 355 is a unique opportunity.

Rockville Town Center and Public Library



MD 355/I-270 Project

Design Recommendations

- Coordinate with the City of Rockville to transform the form and function of MD 355 into a boulevard.
- Create a grand avenue with a “green character” that accommodates new development at Montgomery College, more businesses, and residential uses.
- Establish a new Metro station near Montgomery College.
- Provide a local shuttle service or transit circulator.
- Utilize existing parking areas for redevelopment.
- Create more pedestrian connections to establish a walkable environment.
- Build closer to the street with spacious sidewalks.
- Create a grid of streets to improve access and connectivity.
- Use new mixed-use zones and design guidelines to achieve desirable form.
- Update environmental streetscape standards.

Twinbrook Station Project



City of Gaithersburg and Shady Grove

Gude Drive to Great Seneca Creek (Germantown)

Role and Character

Employment, commercial, and residential development are located along MD 355 (Frederick Avenue) in the City of Gaithersburg. The primary centers in the City of Gaithersburg include:

- Lake Forest Mall area
- Gaithersburg Old Town

Automobile oriented businesses are located along MD 355 between the Rockville Metro Station and Shady Grove and outside the City of Gaithersburg. The centers in this area include the following:

- Shady Grove Metro Station Community - This center will be a mixed-use community with a concentration of residential uses instead of the existing County Service Park.
- King Farm (Rockville) - A mixed-use, transit-oriented community located west of MD 355 directly across from the Shady Grove Metro Station.
- Shady Grove Life Sciences Center - This center includes the Adventist Hospital, Eight Universities of Maryland, and a concentration of biotechnology and advanced technology companies.
- Belward Campus of Johns Hopkins University - This center will be a research and education facility for the life sciences.
- NIST - This key federal facility provides an important center for improving and measuring technology innovation in the Corridor.

MD 355 is envisioned to have streetscape improvements and accommodations for pedestrians with an enhanced median.

Design Recommendations

The City of Gaithersburg's 1999 Frederick Avenue Corridor Plan envisions the MD 355/I-270 Corridor as a distinct environment that is visually improved and includes pedestrian and bicycle facilities and an improved economic environment. The City divides this link into three districts:

- Northern Employment District
- Fairgrounds Commercial District
- Southern Residential District

Proposed Crown Farm Mixed-Use Development:

Housing, retail, office and high school along the Corridor Cities Transitway





Proposed open space at the Shady Grove Metro Station

MD 355 Improvements: Street trees, crosswalks, wide sidewalks, trees in the median, and location for the Corridor Cities Transitway



Recommendations for the area outside the City of Gaithersburg include:

- Create zoning tools that allow for the creation of science clusters in the Gaithersburg West area that serve the needs for the 21st Century including:
 - A mix of uses including provisions for laboratory buildings, office buildings and residential space.
 - Foster local serving retail and hotel space.
 - Focus on pedestrian and bicycle circulation within each center and to the regional park system.
 - Create an extensive system of small urban spaces that foster collaboration between residents and employees throughout each cluster
- Improve the character of MD 355 between Gude Drive and I-370:
 - Incorporate a green landscaped median into future improvements to MD 355.
 - Require more trees and landscaping.
 - Change the classification of MD 355 from an arterial to a business district street.
 - Create space for dedicated bus lanes as part of the shared use of streets.
- Increase the importance of the pedestrian movements over vehicular movements.
- Build closer to the street with spacious sidewalks.
- Limit surface parking along MD 355 and Shady Grove Road.

Design coordination between the City of Gaithersburg, the City of Rockville and Montgomery County is critical to improving the character of MD 355 in this area.

Germantown

Great Seneca Creek to MD 27 (Clarksburg)

Role and Character

In Germantown, MD 355 is located in the eastern portion of the Master Plan area. The centers include:

- Germantown Campus of Montgomery College - This campus is located east of I-270 in the southeastern area of Germantown. It will include education buildings as well as buildings for private research and development.
- Milestone area - This area includes a concentration of “big box” retail and residential development along MD 355 and east of I-270.
- Germantown Town Center and Employment Corridor along I-270 - The Town Center includes existing retail shops and the Black Rock Center for the Arts located west of I-270. In addition, the Town Center has significant areas for expansion to the north and along I-270 to the Germantown Buffer area.

The villages of Middlebrook and Neelsville are located along MD 355. Each village is distinguished by its own identity and character. Each village has a mix of housing types, retail, and identifiable activity areas. The existing Germantown Master Plan envisions MD 355 as more hospitable to pedestrians.

Design Recommendations

The Germantown Employment Corridor will be a comprehensive, connected urban center extending from the MARC Station on the west side of I-270 through the Town Center transit and civic core to MD 355, the Milestone Retail Center, and Montgomery College on the east side of I-270.

Recommendations include:

- Transform the employment area along I-270 to a mixed-use area with a concentration of employment, local serving retail and housing to create a high quality Corridor designed to serve the needs of the 21st Century as follows:
 - Create tree-lined, pedestrian oriented streets.
 - Add an internal circulator, transit route with safe pedestrian access.
 - Provide flexible mixed-use zoning.
 - Provide an opportunity for new housing and building types to distinguish Germantown from other locations.
- Build the Corridor Cities Transitway.
- Improve access to the Black Rock Center for the Arts from the future Corridor Cities Transitway.
- Design the site of Montgomery College as a place for academics, and research and development.
- Provide the opportunity to redevelop the Milestone Center into a “main street” retail format with mixed-use, connected storefronts, and structured parking located on internal parcels.



Proposed expansion to the Germantown Town Center indicating the Corridor Cities Transitway

Clarksburg

MD 27 to Hyattstown

Role and Character

This area serves as a gateway to the County that respects, highlights, and connects the historic and natural areas including the large expanse of parkland. The Clarksburg area includes the following centers connected by the Corridor Cities Transitway:

- COMSAT
- Shawnee Lane Center
- Clarksburg Town Center

In addition, the area includes the Historic Districts of Clarksburg and Hyattstown located along MD 355. The area between Clarksburg and Hyattstown includes the Little Bennett Regional Park.

Design Recommendations

- Maintain the mix of uses, design guidelines and planning principles for the Transit Corridor Area established in the Clarksburg Master Plan.
- Locate public facilities including schools along MD 355 and minimize the location of high density housing in close proximity to MD 355.
- Require street facing buildings with parking in the rear along MD 355.
- Enhance the Historic Districts as follows:
 - Design a bypass for the Historic District of Clarksburg.
 - Maintain the buffer to the Historic District of Hyattstown
 - Encourage infill that accommodates revitalization.
 - Maintain the two lane character of MD 355 in each District.
- Provide a transit connection to Little Bennett Regional Park.
- Provide connecting bike paths and walkways.

- Establish MD 355 as a four lane boulevard through most of the Transit Corridor area in Clarksburg.
- Establish Observation Drive as a main street for the Transit Corridor with the Corridor Cities Transitway located in the median.



Two Lane MD 355 rural road, Hyattstown

4 IMPLEMENTATION

Short-Term

Current Master Plans

The Shady Grove Sector Plan and the Woodmont Triangle Amendment to the Bethesda CBD Sector Plan have been completed, and the Twinbrook Sector Plan is scheduled for a public hearing with the County Council in early 2008. The recommendations reinforce each area's role in the Corridor and together will increase housing by over 16,800 dwelling units. In Shady Grove and in the Woodmont Triangle, the job potential is decreased in favor of housing.

Twinbrook Sector Plan

This Sector plan creates an opportunity to establish a new advanced technology and biotechnology cluster in Twinbrook. This Sector Plan expands the proposed transit oriented neighborhood located adjacent to the Twinbrook Metro Station. It also maintains a location for industrial uses that serve the central portion of Montgomery County as well as the high technology cluster. This Sector Plan also establishes green community planning principles, and connects this center to the Metro system, and the regional and local park system.

Zoning Tools

Create new zoning tools that will foster the creation of a mixed-used center at the Metro stations and the other transit stations along the Corridor Cities Transitway. The zoning tools should emphasize the design of each center, and transit and pedestrian orientation. The zoning tools should include a requirement for consistency with Master Plan recommendations.

Growth Policy Studies

The project will address jobs/housing balance, parking management and design excellence.

Mid-Term

White Flint

The White Flint Sector Plan is scheduled for completion in 2008, and it will provide an opportunity to increase housing and create a distinct downtown for North Bethesda.

Germantown

A Germantown Master Plan amendment is underway for the area's employment corridor. This Master Plan will provide another opportunity to add housing and create a mixed-use center that establishes an attractive living and working environment.

Gaithersburg

The Master Plan for Gaithersburg West is an opportunity to enhance the Life Sciences Center, supported by Johns Hopkins University and the University of Maryland.

Federal Facilities

Changes in the Corridor include the expansion of some federal facilities. The relocation of the Walter Reed Army Medical Center to the Bethesda Naval Medical Center is expected to have transportation, housing, and local economic impacts. Expansion of NIH, NIST and NRC facilities is also expected.

Long-Term

Future Master Planning

The Master Plan for the Gaithersburg East Vicinity, and phase two of the White Flint Sector Plan is included in the Long-Term Program.

Transportation Facilities

The planned Metro Purple Line and the Corridor Cities Transitway will influence redevelopment in the Corridor. Suggested by the community and under consideration by WMATA is a new Metro station to serve the Rockville Campus of Montgomery College located between Shady Grove and the City of Rockville. An expanded bus network and

improvements to MD 355 and I-270 are also critical transportation projects. New parking districts in the White Flint and other areas should be considered, along with additional pedestrian and bicycle connections to the transit stations and the stream valley park system are needed. Completion of the Bethesda Trolley Trail from the White Flint Metro Station and the Capital Crescent Trail would provide one of the needed connections.

Housing Policy Element to the General Plan

The Housing Policy Element as an amendment to the General Plan will address affordable housing in the Corridor. Special emphasis on retaining the supply of existing affordable multi-family housing will be a focus of this effort.

Capital Improvements Program (CIP)

Facilities will be created through a combination of CIP and private sector funding.

Building Green Communities

Encouraging green buildings during regulatory planning will be an ongoing effort intended to maintain and enhance air, water, forest resources and reduce dependence on the automobile. The M-NCPPC is taking on particular studies to address these issues. The Green Infrastructure Functional Plan will identify and evaluate existing sensitive and important environmental features, and identify natural resources and opportunities for conservation, mitigation, restoration, and enhancement. The Water Resource Functional Plan will assess the County's capacity to sustain future development in the areas of water supply, wastewater and stormwater management that meet federal and state water quality standards. The Environment and Energy Plan will examine how Montgomery County can meet ongoing environmental, economic and social needs, and it will identify actions to improve sustainability through reducing green house gas emissions, improving watershed protection, increasing the green infrastructure, improving forest conservation, establishing green community and building standards, and providing impervious surface control.

5 APPENDIX

PowerPoint Presentations

(Available as Separate Document)