



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

December 14, 2007

**MEMORANDUM**

**TO:** Montgomery County Planning Board

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**SUBJECT:** 355/270 Corridor Project

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**RECOMMENDATION**

Review the 355/270 Corridor Project with the attached appendix and transmit the documents to the County Council.

**DISCUSSION**

During the summer of 2007, the Planning Board discussed five themes (work, life, access, health, and design) in a series of 355/270 Corridor Project round table discussions. The Planning Board provided comments and suggestions to staff at each of these sessions. Written comments were received from the Planning Board in October and November 2007. Staff has incorporated the comments and suggestions into this final draft document.

A summary of the modifications follows:

- The document text has been formatted to reflect the organizational suggestions made by the Planning Board.
- A summary of recommendations has been added to the document.

- The appendix has been expanded to include: a summary of the underlying research prepared for this project, a list of centers in the Corridor, and the summary PowerPoint presentation.
- Text has been expanded to reflect the comments and suggestions made by the Planning Board throughout the process.

JAC:ha: M:\MD 355\PB Memo December 14

Attachments:

Final Draft: 355/270 Corridor Project

PowerPoint Presentation 355/270 Corridor

# **GUIDING THE FUTURE OF THE MD 355/I-270 CORRIDOR:**

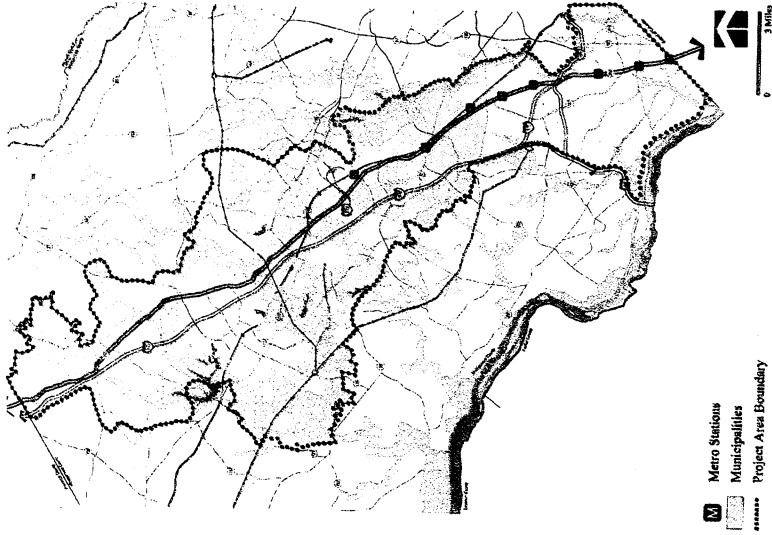
Montgomery County's Main Street

December 2007

The Montgomery County Planning Department



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# INTRODUCTION

The MD 355/I-270 Corridor is a historic travel route that links a series of communities in Montgomery from Frederick County to Washington, D.C. The area has emerged as a “world class” center for advanced technology and biotechnology industries. It is also a regional shopping and cultural destination, as well as a highway through Montgomery County’s Agricultural Reserve. The centers of development in the Corridor are often isolated, and not always connected and complementary. Making the most of opportunities for coordinating the planning and design for the transportation system, community building, and the natural environment requires a holistic view that can be implemented in master plans and sector plans. Planning for the communities should respond to the global and local forces of climate, economy 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:

- Enhance the centers transforming the existing isolated centers into a group of complete centers that function together as an integrated community.
- Connect the centers by fostering improvements to the linkages within each center, between centers, and from the centers to the regional park system.
- Respond to issues arising from global and local forces that will shape the Corridor in the 21<sup>st</sup> Century
- Establish a set of themes that provide a framework for planning in the Corridor.
- Recommend a new zoning tool that emphasizes that design of centers and pedestrian connections adjacent to Metro stations and other transit stations.

## Master Plans Underway

**Germantown Employment Corridor Master Plan** – This project underway will establish mixed-use development of office, residential, retail, corporate offices, and biotechnology companies. The mix of uses and the number jobs and housing allowed will be determined in the Sector Plan presently underway.

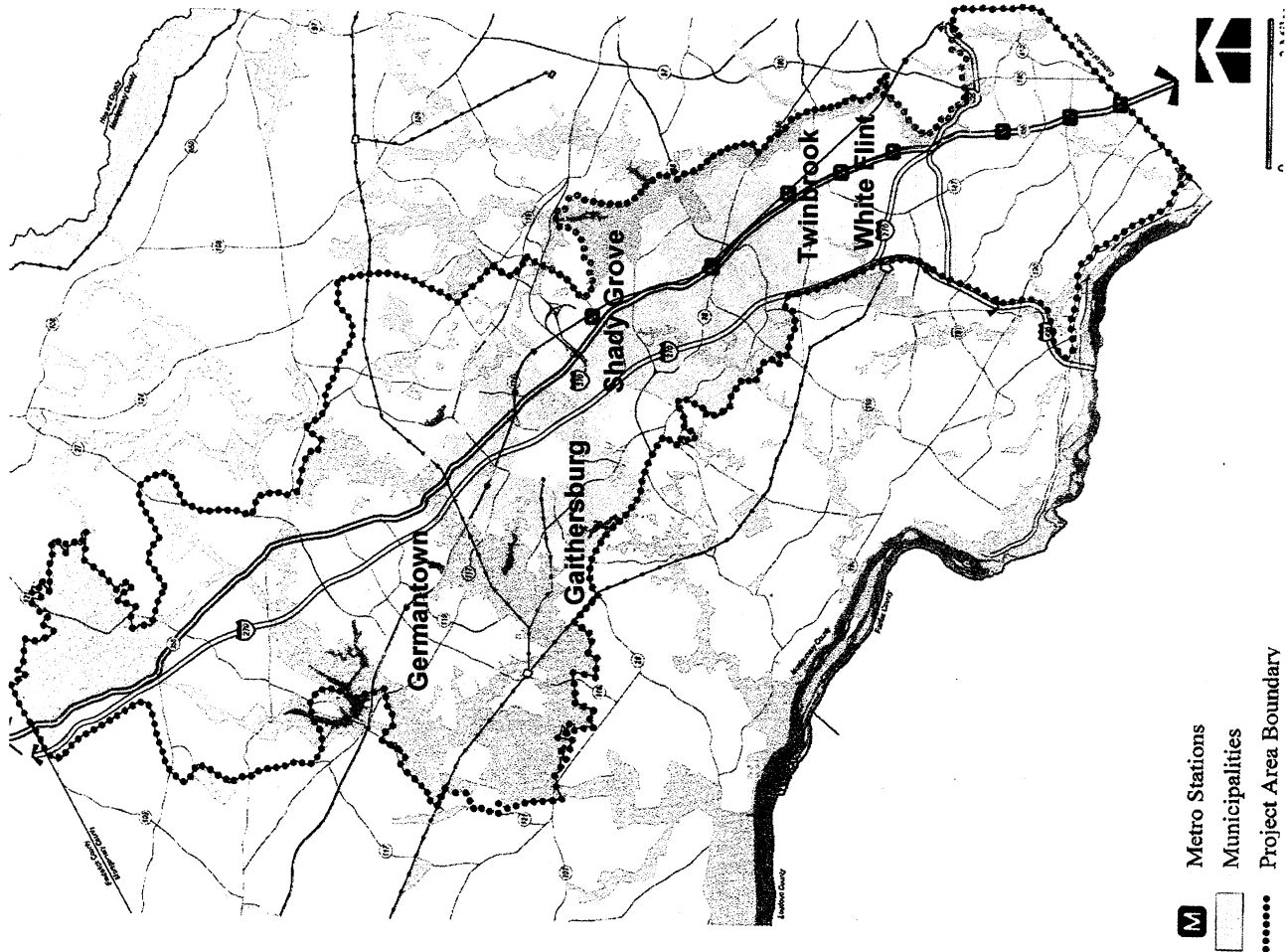
**Gaithersburg West Master Plan** – This plan will link to other centers by the Corridor Cities Transitway. The area is a center for higher education (University of Maryland Center for Advanced Research in Biotechnology and Johns Hopkins University), life sciences, and housing.

**Shady Grove Sector Plan** - This recently completed sector plan provides an increase in housing. Implementation of this sector plan is underway.

**Twinbrook Sector Plan** – The Public Hearing Draft of the Twinbrook Sector Plan supports a mixed-use community of residential retail, advanced technology, and urban industrial services.

**White Flint Sector Plan** – The White Flint Sector Plan envisions White Flint as North Bethesda's downtown with mixed-use, high-rise development. Office, entertainment, and retail uses will be connected with improved pedestrian access between developments.

## MD 355/I-270 Study





## STUDY AREA

The Corridor created by MD 355 and I-270 runs 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 agricultural open space.

The Corridor includes the Metro Red Line and the future Corridor Cities Transitway. As a limited access highway, I-270 serves through traffic, and it has less connection to surrounding communities. MD 355 serves less as a through traffic artery, and it provides direct connections to the surrounding communities.

## SUMMARY OF RECOMMENDATIONS

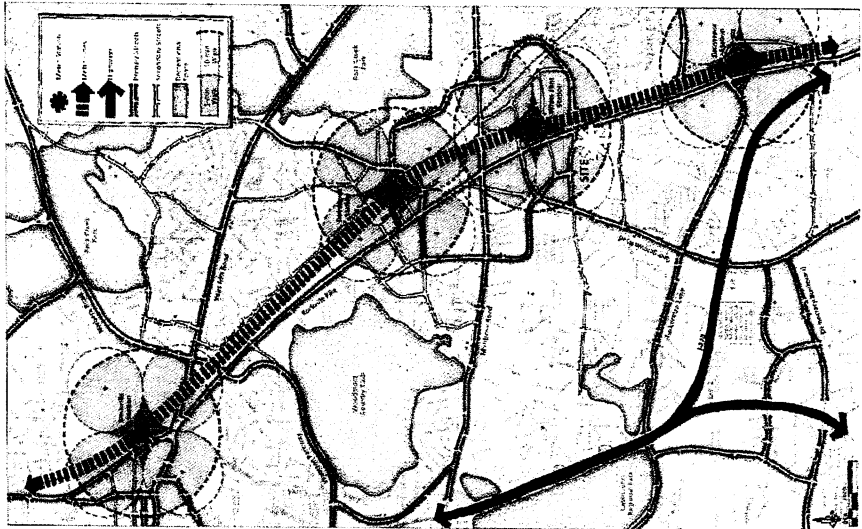
### Enhancing the Centers

Today, the MD 355/I-270 Corridor includes a wide variety of centers that serve separate and often isolated 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 21<sup>st</sup> 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

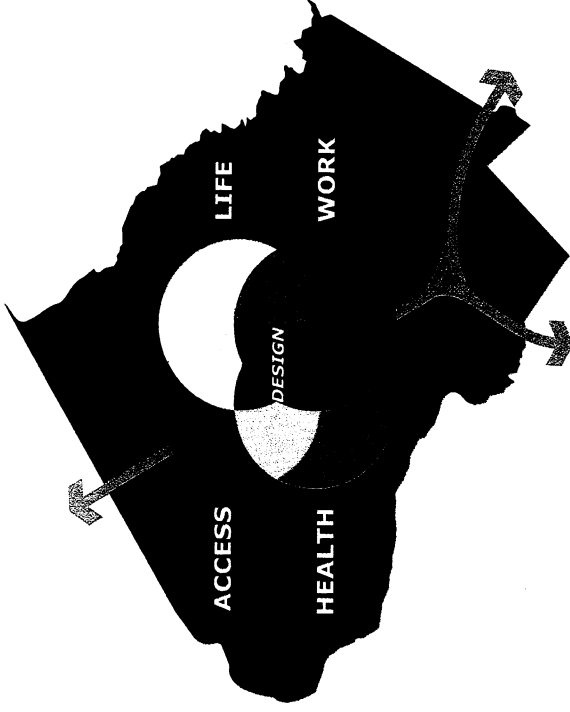
Addressing mobility in the Corridor is also a key goal of the project. Providing a wide range of transportation options including the use of Metro stations and stations along the Corridor Cities Transitway is a key recommendation. Enhancing access to the local and regional park system is also provided.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



*Centers of North Bethesda and Rockville: Grosvenor, White Flint, Twinbrook, and the City of Rockville connected by the Metro red Line and MD 355)*

**Major Themes:**

The following major themes shape this study of the 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 Corridor centers and communities to serve the needs of the 21<sup>st</sup> 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 a macro design for the corridor as a whole and “nested” micro-design strategies for individual centers, cities, and communities.

The Appendix includes a description of each center, a research document, and the PowerPoint presentations that summarizes the discussions with the Planning Board during the summer of 2007.

# 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 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.

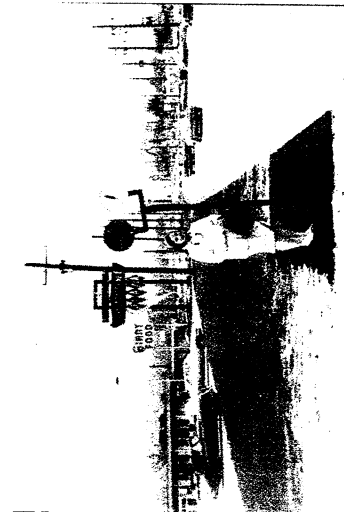
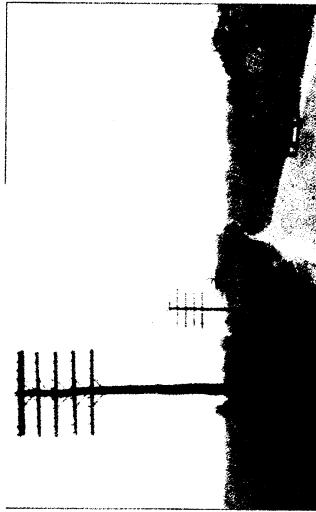
### Turnpike to Serve Adjacent Farmland and Rural Villages

In the early 1800s, the Washington Turnpike Company received the 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 the rural villages of Rockville, Gaithersburg, Germantown, Clarksburg and Hyattstown. The post Civil War era brought the B&O Railroad to serve the county thereby providing transportation options to MD 355. By 1895, electric trolleys also ran along the road.

### 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

Turnpike to Arterial Road



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 and Regional Malls**

In the 1960s and 70s, high-rise commercial and residential buildings, fast food restaurants, shopping malls, and the construction of Montgomery College defined much of the 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 local businesses and residences.

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

Today, MD 355, I-270, Metro, 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 its busiest street. I-270 carries the traffic commuting to Washington, D.C. The State is currently studying widening 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 Fredrick, Maryland. The proposed Purple Line will create an east-west transit connection and bring together the east and west legs of the Metro Red Line between Bethesda and Silver Spring central business districts. The Inter-County Connector will provide a new east-west connection between I-270 and I-95 better connecting Montgomery County to Baltimore, Prince Georges County, and the Baltimore-Washington International Airport.

Major Arterial Road



## **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 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 Montgomery County. The County has the largest concentration of laboratory space in the region.
- **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 Uniform Health Services University of the Health Sciences (USUHS). 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 thereby a less attractive option. The existing industrial uses, 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 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 other critical economic clusters.
- **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 Bethesda and Rockville.
- **Retail** - The majority of shopping centers in the County are located along the Corridor. It 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. Shoppers from the region flock to the area daily and on the weekends. 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 performs a special functions as a federal government office, and an advanced technology and industrial center. This center is planned for greater diversity, including housing, retail, advanced technology, and light industrial services.

The 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. This center has both national and international significance.

### **Centers with Significant Housing 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 pedestrian-oriented and transit serviceable 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. Grosvenor is also the county's premier cultural arts center.

### **Central Business Districts**

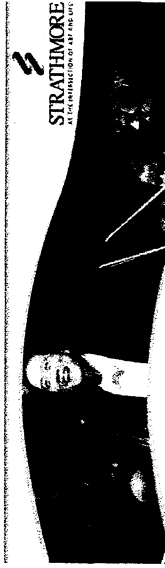
Bethesda and Friendship Heights are central business districts. These centers provide diversified services, high density housing, and regional retail. They are served by Metro and other high volume public transportation. They also perform local market functions for a larger area of lower density residential communities. These Metro accessible centers are located at the southern end of MD 355. 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. Its large restaurant and growing entertainment district has a regional draw.

### **Corridor Cities**

These areas are the employment and market hubs. They are served or planned to be served by Metro and the Corridor Cities Transitway. The Corridor Cities include 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 nearby Black Rock Center for the Arts.





## Education

The Corridor hosts three major educational institutions: the University of Maryland, the John Hopkins University at the Shady Grove Life Science Complex, 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.

Travel demands are generally heavier in the southern, more developed portion of the corridor. Transportation facilities are primarily radial from a regional perspective and 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)/Father Hurley Boulevard, 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 and southwest towards northern Virginia.

# FORCES

Development in the Corridor is affected by global and local forces that shape the economy, population characteristics and development demand. 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. This will affect how people live and work in the 355/270 Corridor and sustain a healthy life. Climate change will require reducing the carbon footprint of development, reducing auto emissions, and conserving water.

### Globalization and Competition

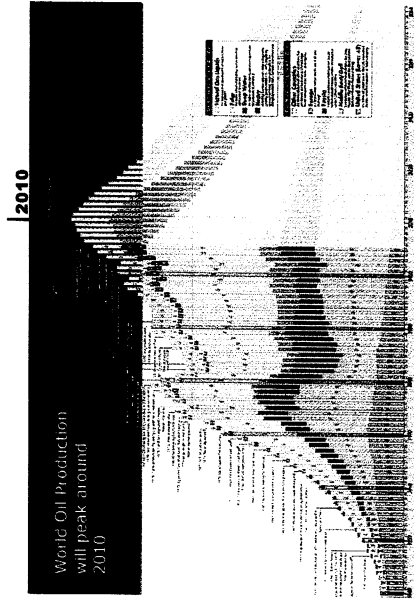
Globalization is challenging the dominance of the American economy by transferring technology abroad. Shifts in information technology that allow the rapid transmission of information coupled with an increasingly educated workforce have contributed to the increased competition for jobs and investment. 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, management, health; high quality public services, recreational and cultural facilities; and opportunities for affordable housing.

### Technological Innovation

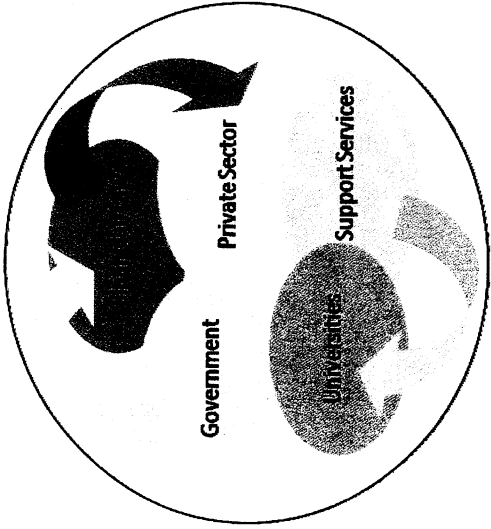
Biotechnology and nanotechnology could have a profound influence on the U.S. economy in coming decades. The manipulation of matter at the atomic scale will revolutionize services, products, and manufacturing. For example, health care will likely integrate molecular-genetic advances to yield personalized 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, there will be opportunities to integrate new energy technologies into the built environment. Advances in the areas of solar technologies, super-efficient electrolysis, cold fusion, and heat pumps 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 to 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 that can 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.

**Local Forces**

**Population Changes**

The County's increase in population 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.

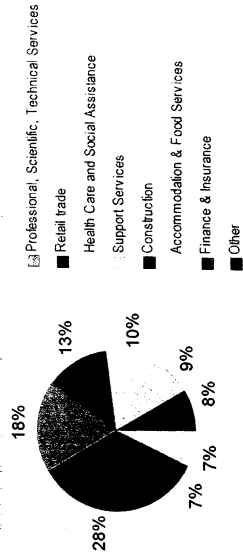
**Availability of Land**

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, Regan/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.

Corridor employment base



### Basic Research

Montgomery County's 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 monies from large pharmaceutical companies, state and local funding sources, and venture capital.

### 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 county-wide.

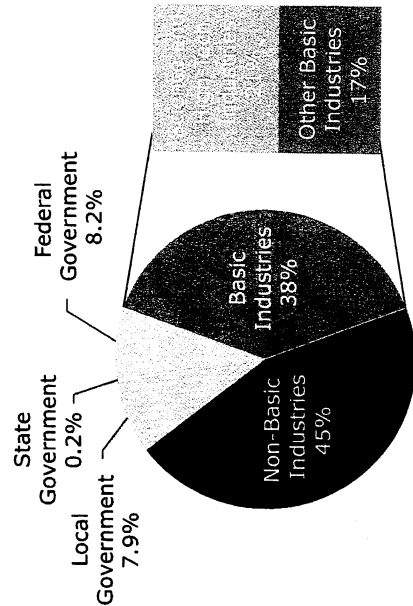
### Public Services, Recreational, and Cultural Facilities

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 a rewarding job with 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 shut out. 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 in urban areas is a local problem that affects quality of life, particularly time, money, and pollution. Roadway congestion has increased dramatically in 20 years with an increase in car ownership and total miles traveled.



# 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 isolated places into a series of 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

### Create a Hierarchy of Centers

A hierarchy 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 Corridor. High technology uses should be clustered, with increased housing, entertainment, and retail options developed in relation to federal facilities and higher educational opportunities that drive job creation and innovation.

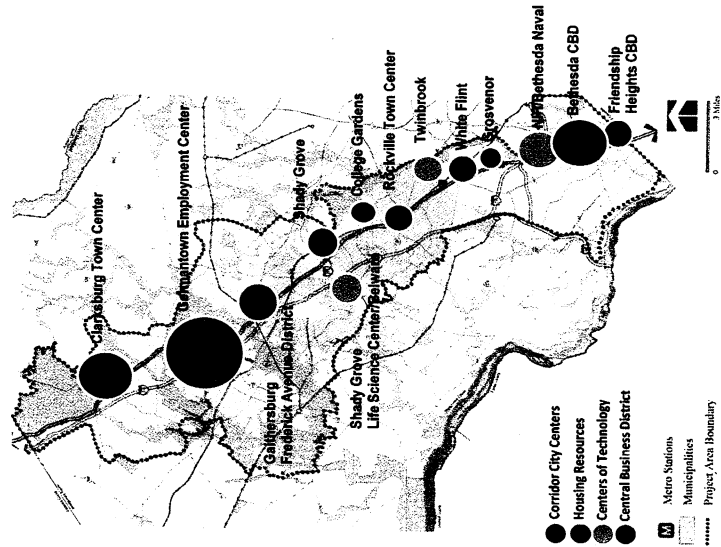
### Foster Sustainability and Enhance the Natural Environment

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.

### Emphasize Civic Design in Each Center

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

Hierarchy of centers in the Corridor



### Augment the Open Space and Recreation Hierarchy

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

## CONNECTING THE CORRIDOR

### Connect the Centers

Connecting the varied centers with transitways, bikeways, and pedestrian routes 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.

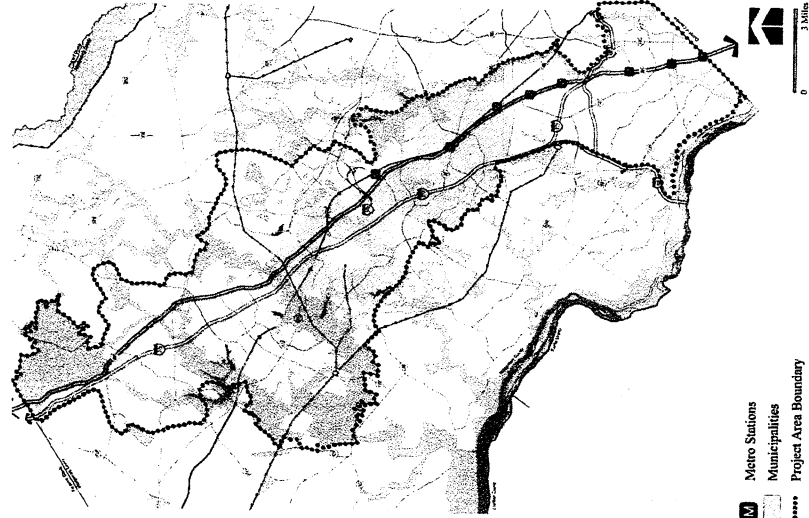
### Establish MD 355 as a Boulevard

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.

## 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 Corridor centers and communities to serve the needs of the 21<sup>st</sup> 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.



## WORK

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

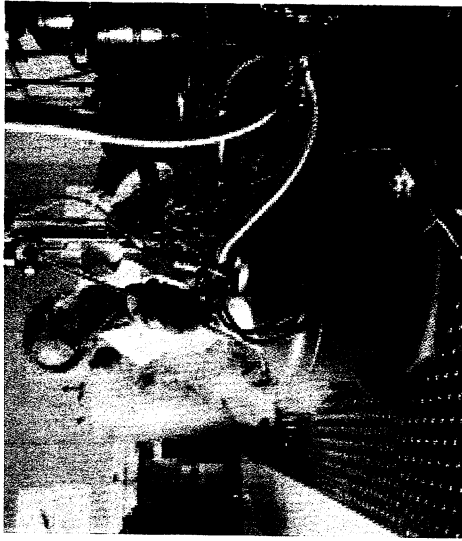
Economic competition is expected to become even more intense over time due to overseas advanced educational systems, lower wages, and an ever expanding global workforce. With this in mind, the State of Maryland subsidizes incubator space, has its own venture capital fund of which forty percent goes to 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 center, 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 a knowledge based economy as follows:**

- Cluster future job and industry development into compact, mixed-use centers proximate to federal and higher educational facilities to drive job creation and innovation, and foster collaboration.
- Connect the centers to each other and to the world to provide better access to information, 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 services facilities, amenities, and environmental quality.
- Foster social 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 transportation planning.

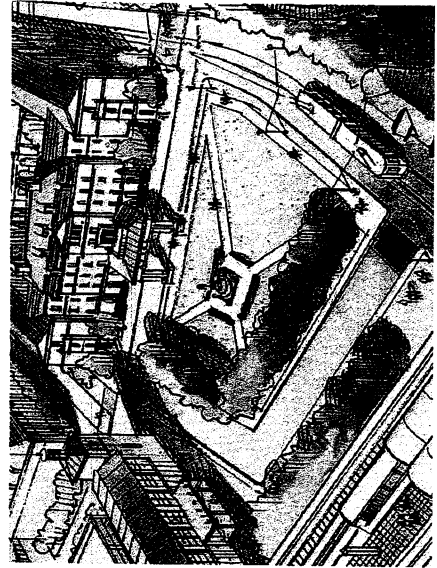


## LIFE

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

The centers of development along MD 355 vary widely and often lack strong identifiable character. This is largely due to sprawling auto-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 need to be part of community so they can be easily accessed. They will be even more important in the future to attract workers to live and work in the Corridor. 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 neighborhood and housing types, parks and recreation opportunities, art and cultural venues, and well designed civic spaces. Accommodate a more 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 needs of all incomes, ages and household types including young workers, families, and seniors.
- Implement improvements to the design and operation of MD 355 as it traverses through the Corridor in 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 culture and shopping 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.
- Organize community development in compact, high-density employment and housing clustered in centers served by public transportation.
- 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 enhancing the character of the existing rural villages such as Hyattstown.
- Provide new urban parks and trail connections to the regional stream valley park system.
- Include new small urban spaces and neighborhood parks.
- Provide housing, together with transportation costs that is affordable for all households with incomes below the county median.

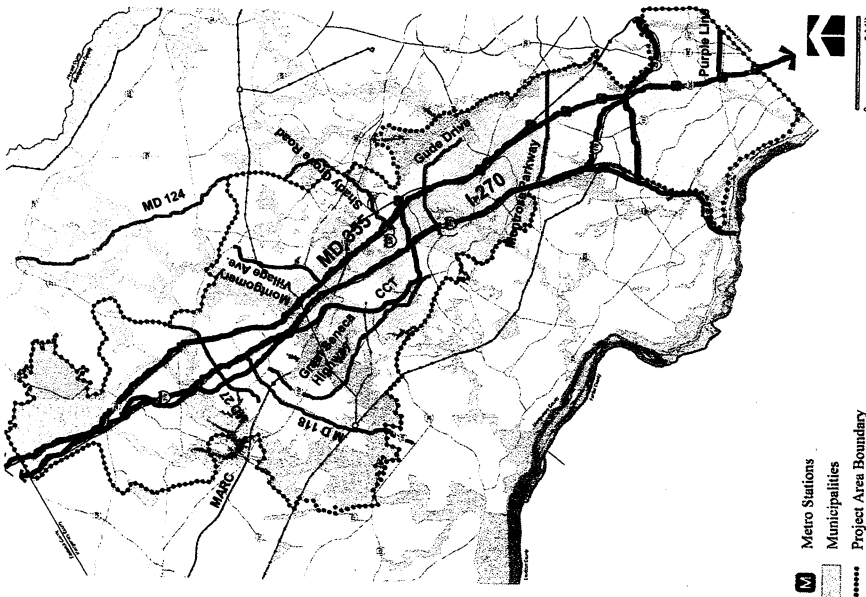


# ACCESS

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

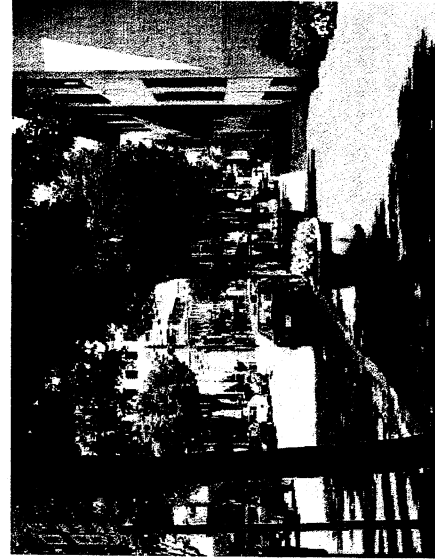
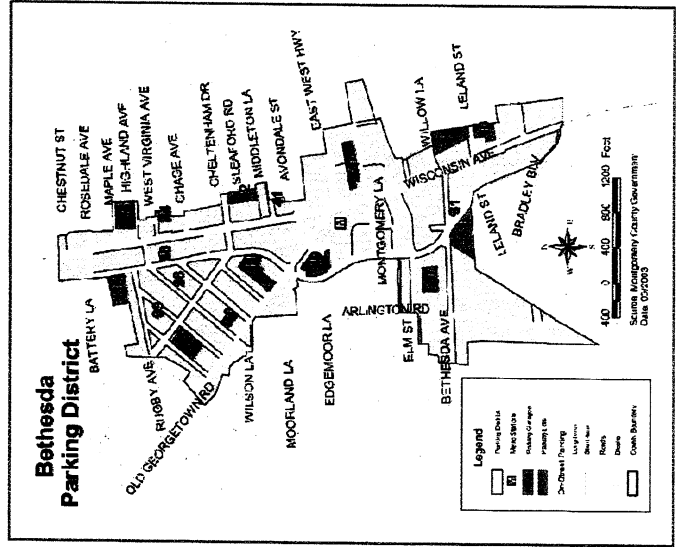
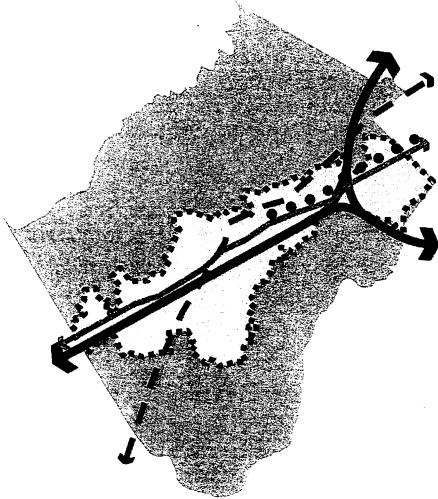
Access affects the quality of life by connecting all the places where people fulfill their aspirations—home, work, goods and services, education, entertainment, and recreation. Congestion is a major constraint on the intensity and distribution of land uses in the corridor. More than half the jobs in 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. Improve access by connecting the corridor's varied centers with transitways, bikeways, and pedestrian routes to allow the Corridor to make best use of its total strength. This will help the Corridor function as a single place. The Metro Red Line and the future Corridor Cities Transitway will link within the Corridor and to the region's housing, employment, retail, and cultural resources. Connecting the Corridor to downtown Washington, D.C. and to the park system will expand living and working opportunities. High auto traffic volume, combined with congestion is a principle source of carbon emissions in the county. Providing adequate access in the Corridor will require policies that result in modifying travel behavior, adding facilities, and refining land uses to encourage non-auto 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 in Corridor employment and housing through restrictions on the location, supply of parking spaces, and pricing to discourage single-passenger auto use.

- 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.
- Introduce 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 and the Inter-County Connector.
- Make a decision on the mode of travel for the Corridor Cities Transitway.
- Build the Purple Line from Bethesda through portions of Prince George's County.
- Expand MARC service including a new White Flint Station. MARC is a key element of the overall strategy of reducing the growth in auto trips as it serves a market for generally longer trip.
- Identify funds for MARC equipment acquisition and rehabilitation if service is to be maintained and improved over time.
- Maintain 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.
- Continue efforts to get the balance of the funding programmed for more Metro cars to avoid over-crowding as demand grows.



Identifying 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, and White Flint.

- Building bikeway systems in centers, along the Corridor, between centers, and links to stream valley and other bikeways to provide a fully connected system.
- Implementing new road code standards.
- Focus on pedestrian access to Metro stations and bus stops.
- Incorporate intermodal transfer stations and needs into master and sector plans.
- Improve transit operations (e.g., shorter headways on major arterials, and bus lanes, queue jumping for express service).
- Find a location in the middle of the County to house part of the bus fleet now located at Crabbs Branch Way.
- Purchase of more buses.
- Improve signal coordination.
- 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 several centers and spaces through which it passes.
- Transform roadways that divide communities to ones that help focus and unify communities.
- 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 consider 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 and master plans to create higher density mixed-use transit-oriented centers.



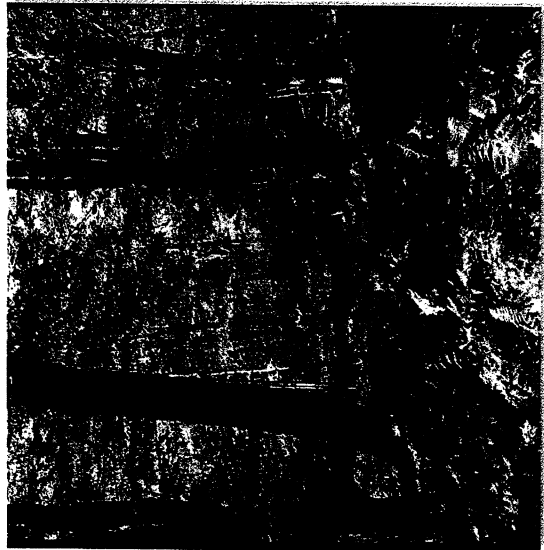
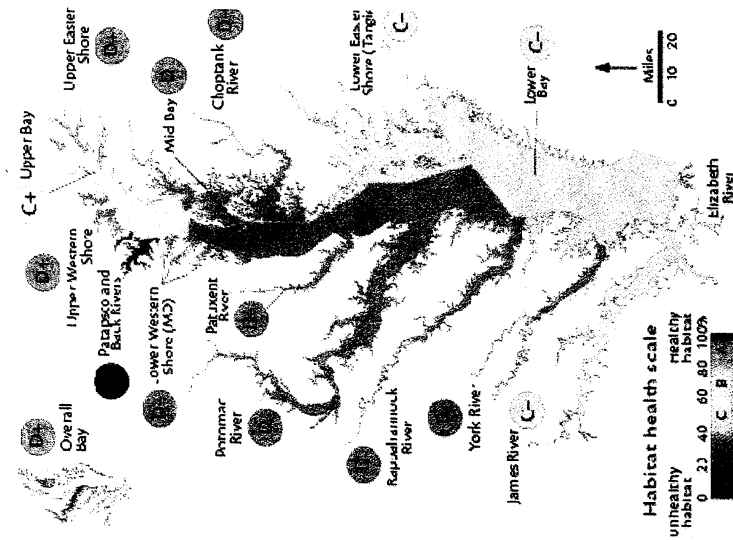


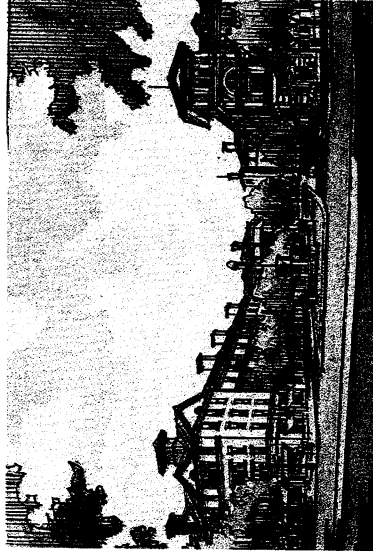
# HEALTH

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 growth 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 one or more farm markets in Corridor centers 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 hierarchy 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, and local urban parks and 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.





## 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.

## GENERAL DESIGN PRINCIPLES

General Design principles for the 355/270 Corridor include establishing a system of communities and urban centers based on the functions they perform and concentrating new growth in these centers. While the southern Corridor between Friendship Heights and Bethesda is defined by the "Green Mile," the Corridor's commercial strip through North Bethesda lacks attention to high quality design. Significant attention to community design in the centers and along the roads with attention to livability, visual impression, varied open spaces, and place making features can help define distinct communities and provide an overall positive impression of the Corridor. MD 355 provides for local traffic, from communities, shopping, and businesses. The character of MD 355, especially in North Bethesda and Rockville, does not enhance the first impression of Montgomery County and the adjacent neighborhoods. Pedestrian crosswalks, significant streetscaping, and on-street parking are limited along major portions of MD 355. General Design Principles follow:

- 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.
- Avoid canyon effects by varying heights.
- Demand exceptional design for major buildings and public facilities.
- Require parking structures to be below grade or faced with active business uses.
- Create street grids to distribute local traffic.
- Calm through traffic and make communities walkable.
- Preserve and enhance the setting of major historic landmarks and iconic structures that help "make places" and provide identity to communities.
- Focus special attention to the portals of centers along MD 355 to signal that one is entering or leaving a particular district or center.
- Design each segment of MD 355 to signify and reflect the character of the areas through which it passes, ranging from urban boulevard, to parkway, to business district "main street."

## DESIGN PRINCIPLES FOR EACH SEGMENT OF MD 355

The following recommendations were developed during a workshop with over 120 community members.

### Friendship Heights and the Green Mile

Wisconsin Avenue (MD 355) - District of Columbia Line to Bradley Boulevard



#### Role and Character

Friendship Heights is the southwestern “gateway” to the County. This regional center has a concentration of medical and professional offices, and high-rise residential apartments and condominiums. Its vibrant shopping district draws customers from the District of Columbia and Maryland to shop at the Maza Galleria, national retailers, and at department stores. Its multi-jurisdictional location and access to Metro make this transit-oriented community one of the most successful along the Red Line. The link 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 that exists. The street should have a wide median with trees and sidewalks with improved bike connections and public transit options.

#### Recommendations:

- Retain and preserve the green and residential character of MD 355
- Add trees and other plantings to the median
- Provide special signage compatible with a green boulevard
- Retain and enhance the existing green character by enhancing the perimeter landscaping
- Provide continuous sidewalks on both sides of the street
- Preserve the existing development, retain building setbacks and green front yards
- Provide opportunities for additional public transit such as a trolley or bus
- Relocate utilities
- Enforce the Zoning Ordinance concerning home occupations, and limit the use of Special Exceptions
- Reduce the speed to on MD 355 to 25-30 miles per hour and enforce the restriction
- Improve bike connections



## Bradley Boulevard to I-495

### Role and Character

This area includes the Bethesda CBD, the campus of the NIH and the Naval Medical Center, and stable residential areas.

### Recommendations:

- Add street trees, and ample sidewalks
- Enhance bus service along MD 355 including connections to the National Institutes of Health and the Bethesda Naval Medical Center
- Encourage rehabilitation instead of replacement of existing buildings
- Increase the amount of accessible green space
- Maintain the setbacks from MD 355 for the existing federal facilities



## North Bethesda including Grosvenor and White Flint

Interstate I-495 to Montrose Road

### Role and Character

This segment of MD 355 is envisioned as an area that transitions from the Beltway 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 areas and the White Flint Mall with significant surface parking areas and large setbacks of buildings..

### Recommendations

- Increase green space including pocket 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 alternatives for transportation including local buses and better Transportation Demand Management
- Provide civic uses
- Expand and improve the median
- Expand the grid system of streets
- Improve the easement area of the Metro property
- Establish a parking district in the White Flint area
- Increase ground floor activity
- 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, promotion, and encourages the retention of local retailers
- Provide affordable, mixed income housing

## Rockville to Montgomery College

Montrose Road to Gude Drive

### Role and Character

Auto-oriented retail uses continue north into the City of Rockville to the County Government Center and the newly revitalized downtown of Rockville. Beyond the downtown, low scale retail uses flank MD 355 until you arrive at the Rockville Campus of Montgomery College.

### Recommendations

- Create a grand avenue with a “green character” that accommodates new development at Montgomery College, more businesses, and residential uses
- Include trees, parks, recreational uses and gathering places integrated into the corridor
- Establish a new Metro station near Montgomery College
- Develop a mix of uses including housing
- Provide a local shuttle service or transit circulator
- Utilize existing parking areas for redevelopment
- Create more pedestrian connections and to establish a walkable environment
- Build closer to the street with spacious sidewalks
- Limit parking to improve access to transit
- 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
- Improve County and City coordination
- Require affordable housing

## Shady Grove and the King Farm

Gude Drive to Interstate-370

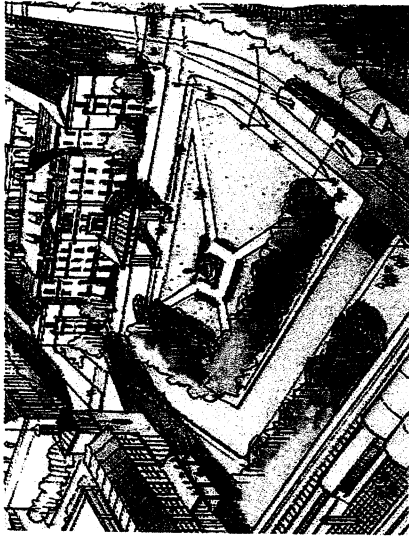
### Role and Character

Automobile oriented businesses line MD 355 between the Rockville Metro Station and Shady Grove. The transit-oriented community of King Farm lies to the west of MD 355 directly across from the Shady Grove Metro Station. This stretch of roadway is envisioned to have streetscape improvements and accommodations for pedestrians. An urban boulevard with a divided median is recommended between Indianola Drive and the entrance to the Solid Waste Transfer Station.

### Recommendations

- Include more density near Metro, a mix of uses, housing for a range of incomes and emphasize walking as the new transit
- Provide additional connections to Metro
- Provide additional green areas
- Improve for pedestrian circulation, and add a bike lane along MD 355





- Require more trees and landscaping
- Incorporate a green landscaped median into future improvement to MD 355
- Improve access to adjacent communities
- 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
- Improve importance of the pedestrian movements over vehicular movements
- Allow buildings that are five to eight stories to be constructed. Pay special attention to the first 25-30 feet. Provide commercial retail uses on the first floor with residential above the retail uses.
- Reduce building setbacks
- Improve county standards by creating consistent streetscaping and road standards between the City of Rockville, the City of Gaithersburg, and Montgomery County

## **Gaithersburg**

Interstate-370 to Great Seneca Creek

### **Role and Character**

Low intensity employment, commercial and residential development line MD 355 (Frederick Avenue) in the City of Gaithersburg.

### **Recommendations**

The City's 1999 Frederick Avenue Corridor Plan envisions this major transportation 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.

## **Germantown**

Great Seneca Creek to Father Hurley Boulevard

### **Role and Character**

In Germantown, MD 355 is located in the eastern portion of the Master Plan area. Two villages: Middlebrook and Neelsville straddle MD 355. Each village is distinguished by its own identity and character. The village has a mix of housing types and identifiable activity areas. The circulation systems focus on circulation between villages. The Master Plan envisions MD 355 as more hospitable to pedestrians.

### **Recommendations**

Germantown including Milestone Shopping Center MD 355 will be a comprehensive, connected urban center extending from the MARC Station on the east side of I-270 through the Town Center transit and civic core to MD 355 and Montgomery College on the west side of I-270. Create tree-lined streets.

- Create tree-lined, pedestrian oriented streets
- Add an internal circulator transit routes with safe pedestrian access
- Make Montgomery College a centerpiece of academics, research and development
- Redevelop regional retail (e.g. Milestone Center) into a “main street” retail format with mixed use, connected storefronts, and structured parking located on internal parcels
- Provide flexible mixed-use zoning
- Improve Master Plan guidance to achieve design excellence
- Encourage new housing and building types to distinguish Germantown from other locations
- Realign and build the Corridor Cities Transitway
- Operate a circulator bus

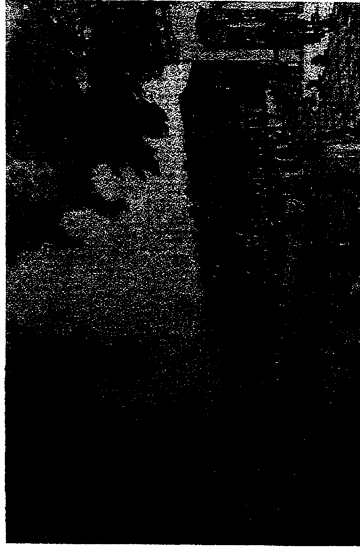
## MD 355 Clarksburg Transit Corridor to Hyattstown

### 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 and the Agricultural Reserve.

### Recommendations

- Unify the streetscape
- Provide transitional elements appropriate to each area including the Hyattstown Historic District, Little Bennett Regional Park, the Clarksburg Historic District, and Germantown
- Consider LEED certification for buildings along the MD 355, including the use of green roofs
- Ensure scale and compatibility with existing structures and development
- Require street facing buildings with parking in the rear
- Respect the period appearance in historic areas – parking, scale, and setback
- Consider native plantings along the streets
- Encourage infill that accommodates revitalization in historic areas
- Provide special attention to water quality
- Establish a trolley on MD 355 that connects the historic districts of Clarksburg and Hyattstown
- Provide a transit connection to Little Bennett Regional Park
- Respect and reinforce the existing master plan as adopted
- Balance jobs and housing
- Limit impervious surfaces
- Provide connecting bike paths and walkways
- Make industrial areas more attractive
- Establish a design review board and involve the Historic Preservation Commission



# 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 in November. Their recommendations reinforce each area's role in the Corridor and together will increase housing by 16,800 dwelling units. In Shady Grove and in the Woodmont Triangle, the job potential is decreased in favor of housing. Other recommendations foster a new high technology cluster in Twinbrook. The plans also improve the character of MD 355, establishing green community planning principles, and connecting these centers to the Metro system and the park system has also been incorporated into these plans.

### **TOMX Zone**

Create a new TOMX Zone 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 zone should emphasize the design of each center and transit and pedestrian orientation.

## **Mid-Term**

### **White Flint**

The White Flint Sector Plan is scheduled for completion in 2008 and 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, and this will be another opportunity to add housing and create a mixed-use center that provides an attractive living and working environment.

### **Gaithersburg**

The Master Plan for Gaithersburg West is an opportunity to establish a new life science 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 Facilities 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, the North Bethesda/Garrett Park Master Plan, and phase two of the White Flint Sector Plan is included in the long term master plan 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 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 multi-family will be focus of this effort.

### **Capital Improvement 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 agency 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. Environment and Energy Plan will examine how the County can meet ongoing environmental, economic and social needs, and will identify actions to improve sustainability through changing watershed protection, green infrastructure, forest conservation, green community and building standards, and impervious surface control.

# APPENDIX

1. Description of Centers
2. Summary of Research
3. PowerPoint Presentations