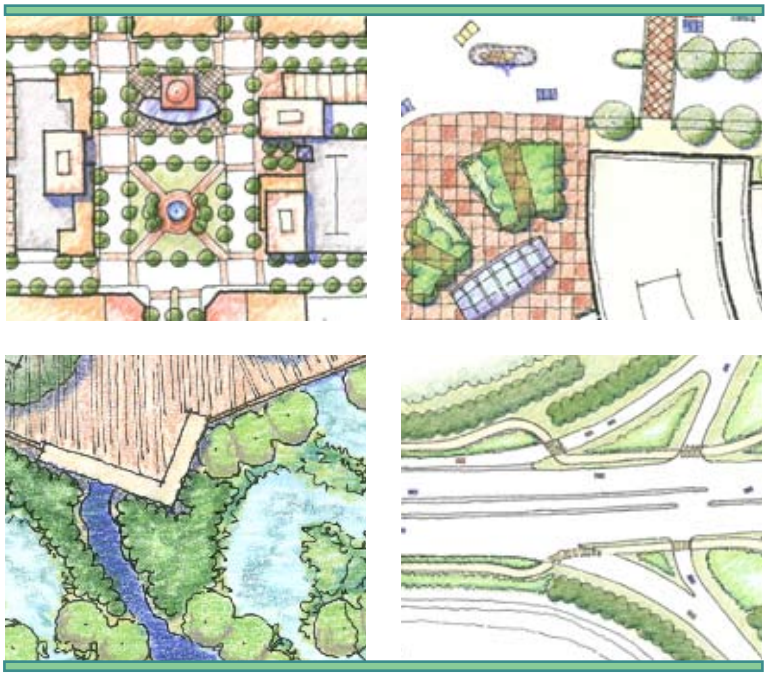


CENTRAL AVENUE TRANSIT-ORIENTED DEVELOPMENT CORRIDOR DEVELOPMENT STRATEGY

Prince George's County, Maryland
June 15, 2006

F I N A L

Project For:
Washington Metropolitan Area Transit Authority (WMATA)
In Cooperation with:
The Maryland-National Capital Park and Planning Commission (M-NCPPC)
Prince George's County Planning Department
Maryland Department of Transportation (MDOT)
Maryland State Highway Administration (SHA)

Prepared By:
PB PlaceMaking
Parsons Brinckerhoff
Bay Area Economics
Stull+Lee Architects

This page intentionally left blank.

TABLE OF CONTENTS

INTRODUCTION

Project Purpose

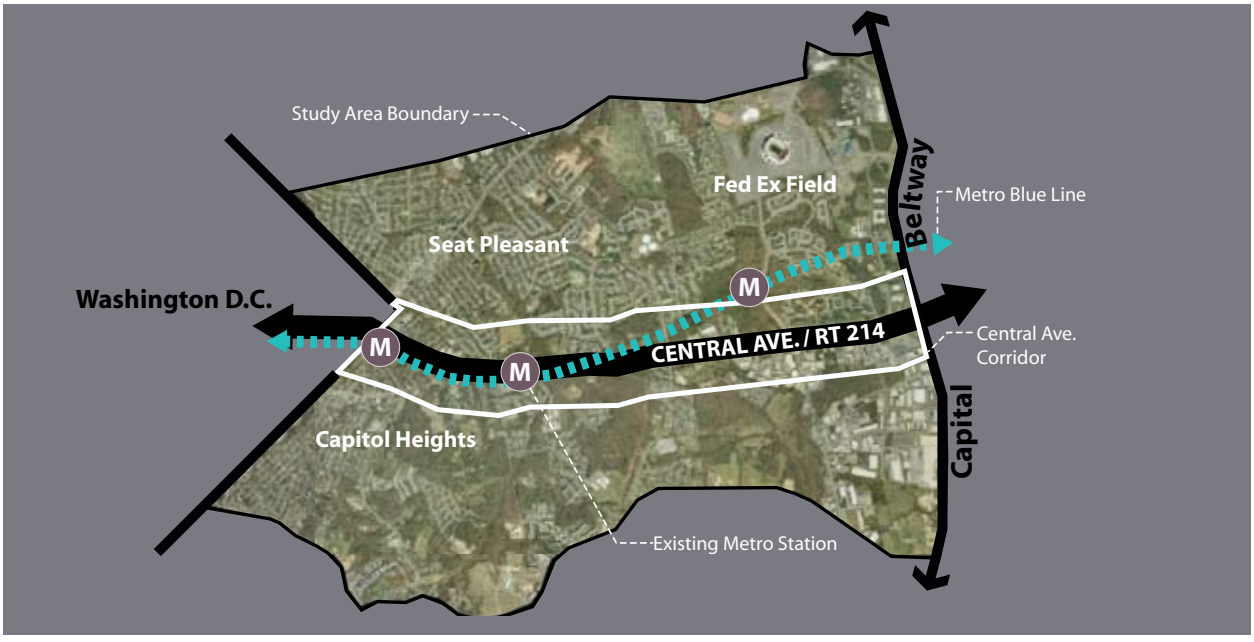
The purpose of the Central Avenue TOD Corridor Development Strategy is to create a comprehensive development approach for the corridor that:

1. Takes advantage of its location and transportation resources;
2. Provides opportunities to unify and strengthen the corridor's identity;
3. Creates attractive pedestrian- and transit-oriented places; and
4. Facilitates public facilities financing and timely construction.

The strategy establishes a consistent, comprehensive design approach for the entire corridor to promote efficiency and functionality, and better define a unique and distinctive sense of place. It is based on a combination of the community's vision, the county's goals, and best management practices in transit-oriented development (TOD).

Project Partners

The Central Avenue TOD Corridor Development Strategy is a joint effort between the Prince George's County Planning Department of The Maryland-National Capital Park and Planning Commission (M-NCPPC), Prince George's County Department of Public Works and Transportation (DPW&T), the Washington Metropolitan Area Transit Authority (WMATA), the Maryland Department of Transportation (MDOT), State Highway Administration (SHA), the District of Columbia Department of Transportation (DDOT), the City of Seat Pleasant, and the Town of Capitol Heights.



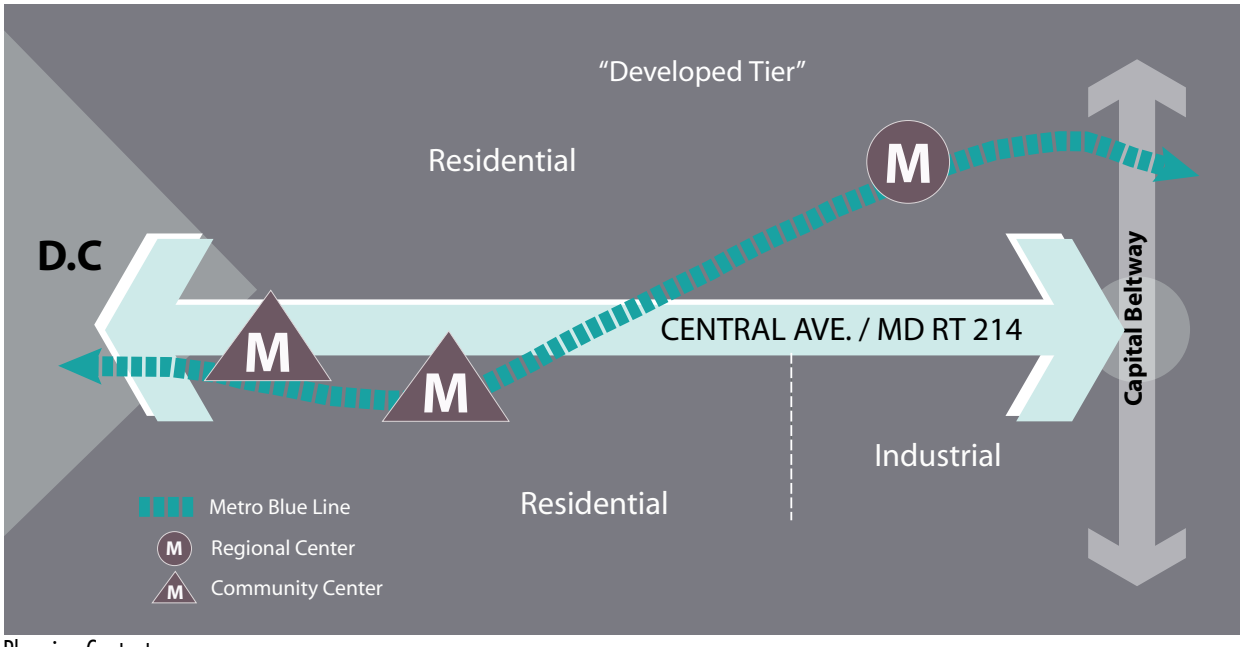
Study Area Context

Study Area

The Central Avenue Corridor—located in Prince George's County, Maryland—is one of Maryland's suburban communities adjacent to the District of Columbia. The corridor is approximately 3.5 miles long and extends approximately 1,500 feet north and south of the centerline of MD 214. The study area is located between the District of Columbia border and the Capital Beltway (I-495).

There are three Metrorail stations within the corridor, and all of the stations are on the Blue Line. From west to east, the stations are Capitol Heights, Addison Road-Seat Pleasant, and Morgan Boulevard. Largo Town Center, the final stop on the Blue Line, is the station east of Morgan Boulevard outside of the Capital Beltway and this study area. FedEx Field, home of the Washington Redskins National Football League team, is approximately one mile north of the Morgan Boulevard Metro Station.

The land within the corridor is governed by several different jurisdictions, including Prince George's County, the City of Seat Pleasant, and the Town of Capitol Heights. Central Avenue/East Capitol Street Extended (MD 214) itself is a state road, maintained by the Maryland State Highway Administration.



Planning Context

CONTEXT

Planning Context

The 2002 *Prince George's County Approved General Plan* designates Central Avenue as a corridor in the Developed Tier. The General Plan's vision for the Developed Tier is a network of sustainable, transit-supporting, mixed-use, pedestrian-oriented, medium- to high-density neighborhoods. The General Plan envisions corridors as key transportation routes where more intensive development can take advantage of existing or future investments in high-capacity mass transit services.

The General Plan also designates three centers along the corridor. They are Capitol Heights Metro Community Center, Addison Road Metro Community Center, and the Morgan Boulevard Metro Regional Center. This report will refer to the Addison Road Metro Community Center as the Addison Road-Seat Pleasant Metro Community Center in recognition of the recently renamed Metro station. The General Plan envisions centers as focal points for increased efforts to concentrate development that can take advantage of existing or future investments in high-capacity mass transit services.

Although there are several plans for the area that include the Central Avenue Corridor, none have considered the corridor in its entirety. The plans include the *Suitland-District Heights and Vicinity Approved Master Plan and Adopted Sectional Map Amendment* (1985/1986), the 1993 *Approved Master Plan and Sectional Map Amendment for Landover and Vicinity (Planning Area 72)*, the 2000 *Approved Sector Plan and Sectional Map Amendment for the Addison Road Metro Town Center and Vicinity*, and the 2004 *Approved Sector Plan and Sectional Map Amendment for Morgan Boulevard and Largo Town Center Metro Areas.*

The Landover and Suitland-District Heights master plans referred to Central Avenue primarily as a boundary for adjacent designated community areas. The Addison Road Metro and Morgan Boulevard-Largo Town Center sector plans, however, made specific land use and urban design recommendations for portions of Central Avenue adjacent to their respective Metro stations. The Addison Road Metro sector plan recommended the creation of a new town center in the southwest quadrant of the intersection of Central Avenue (MD 214) and Addison Road. The plan also recommended the transformation of Central Avenue within the sector plan into an urban boulevard with landscaped sidewalks and median; and enhanced pedestrian safety features. The Morgan Boulevard-Largo Town Center sector plan designated a new development node on Central Avenue south of the Morgan Boulevard Metro Station. The plan also recommended the development of a monumental entrance to the Morgan Boulevard Metro Regional Center from Central Avenue.

In addition to this study, the Prince George's County Planning Department of The Maryland-National Capital Park and Planning Commission has undertaken two other projects for the Central Avenue area: 1) a transit district development plan (TDDP) and transit district overlay zone (TDOZ) for the Capitol Heights Metrorail Station area, and 2) a public facilities development plan and implementation strategy for the six square-mile greater Central Avenue study area based on this strategy document.

Why Now?

There are several reasons why now is an opportune time to create and implement a development strategy for this section of the Central Avenue Corridor.

- Growth is already occurring along the Central Avenue Corridor and the surrounding area. Notable examples include the Glenwood Hills mixed use development, the Brighton Place residential subdivision, the Addison Road South residential development, and the Commons at Addison Road condominium project. As a result, the corridor has experienced increased traffic and congestion, causing residents to have heightened concerns about traffic congestion and safety; and potential impacts of new development on sewage systems and storm drainage, schools, youth services, and policing in the corridor.

- Scheduled Metrorail service to the Morgan Boulevard and Largo Town Center stations began in December 2004. The extension of the Blue Line from Addison Road-Seat Pleasant to Morgan Boulevard and Largo has changed the travel and traffic dynamics in the area, and this alone warrants a look at the changes taking place. The three stations present a unique opportunity to shift the development pattern in the corridor from auto-oriented to transit-oriented in nature.

- Existing sector plans have addressed portions of the Central Avenue Corridor without a unified vision for the future development of the corridor as a whole. Without a unified development vision for Central Avenue, the county and its residents cannot be sure of getting the type of development they want or maximizing the corridor's potential for community revitalization. Only a holistic corridor-wide plan will ensure that streetscape improvements are coordinated so one improvement does not shift traffic problems downstream. Also, development can be coordinated so one commercial area does not cannibalize other commercial areas.

This development strategy will allow the county to leverage future private development in a manner that maximizes the corridor's potential, creates community amenities, and minimizes negative impacts on its current residents and businesses.

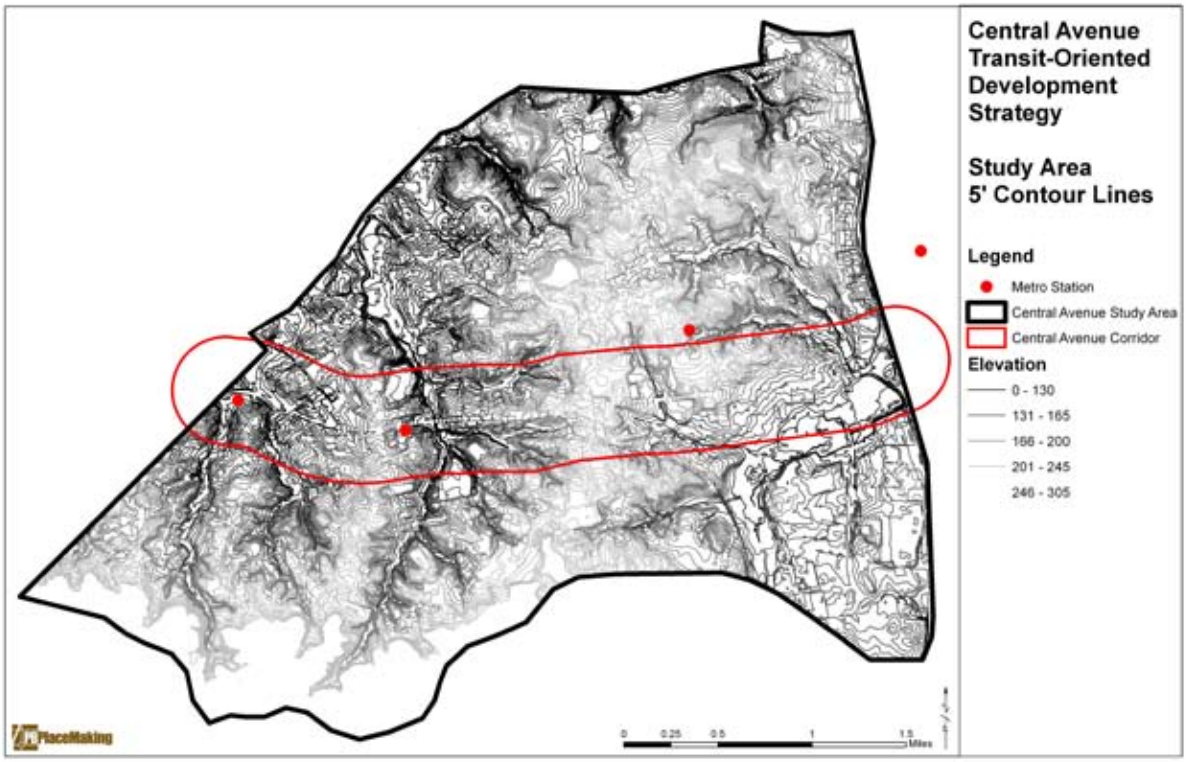
EXISTING CONDITIONS, OPPORTUNITIES AND CHALLENGES

Physical Profile

Topography

The study area is "gently rolling" to "rolling" terrain. Traveling east along Central Avenue from the Capitol Heights Metro Station towards the Beltway, the grade falls slightly to the Watts Branch Stream Valley. From there it gradually rises approximately one hundred feet in elevation at Addison Road. Addison Road runs north and south along a ridge, which is one of the area's high points. Continuing east from Addison Road, the terrain drops more steeply—approximately one hundred feet over the next quarter of a mile toward Cabin Branch. From Cabin Branch, elevation increases approximately two hundred feet over the next mile to Hill Road/Shady Glen Drive, another road which runs north/south along a ridge and is one of the area's high points. From Hill Road/Shady Glen Drive, elevation drops approximately one hundred feet over the next quarter of a mile to the intersection of Central Avenue (MD 214) and Jonquil Avenue. From there, it rises one hundred feet to the Morgan Boulevard area and then descends gradually to the Capital Beltway.

This topography influences development in the corridor in several ways. Low points along the corridor, which are typically streambeds, may have development limitations associated with them. Developing property with rolling terrain can be more costly than developing flat land. In addition, hilly terrain can limit the size and type of facility that can be constructed. Finally, terrain shapes one's perspective of a place. Distances may appear further away or closer together based on how landform is coordinated with development.



Data Source: The Maryland-National Capital Park and Planning Commission

EXISTING CONDITIONS, OPPORTUNITIES AND CHALLENGES

Existing Land Use

The existing land use in the area is predominately established low- to medium-density residential neighborhoods. There are pockets of higher-density residential scattered throughout, with most occurring closer to or within Washington, D.C. Commercial activities are scattered along Central Avenue. An area of industrial development exists on the east end of the corridor, close to the Capital Beltway, along the south side of Central Avenue. Throughout, there are large tracts of vegetated land.

Existing land uses vary across the length of the Central Avenue Corridor, but are predominantly single use and lower intensity.

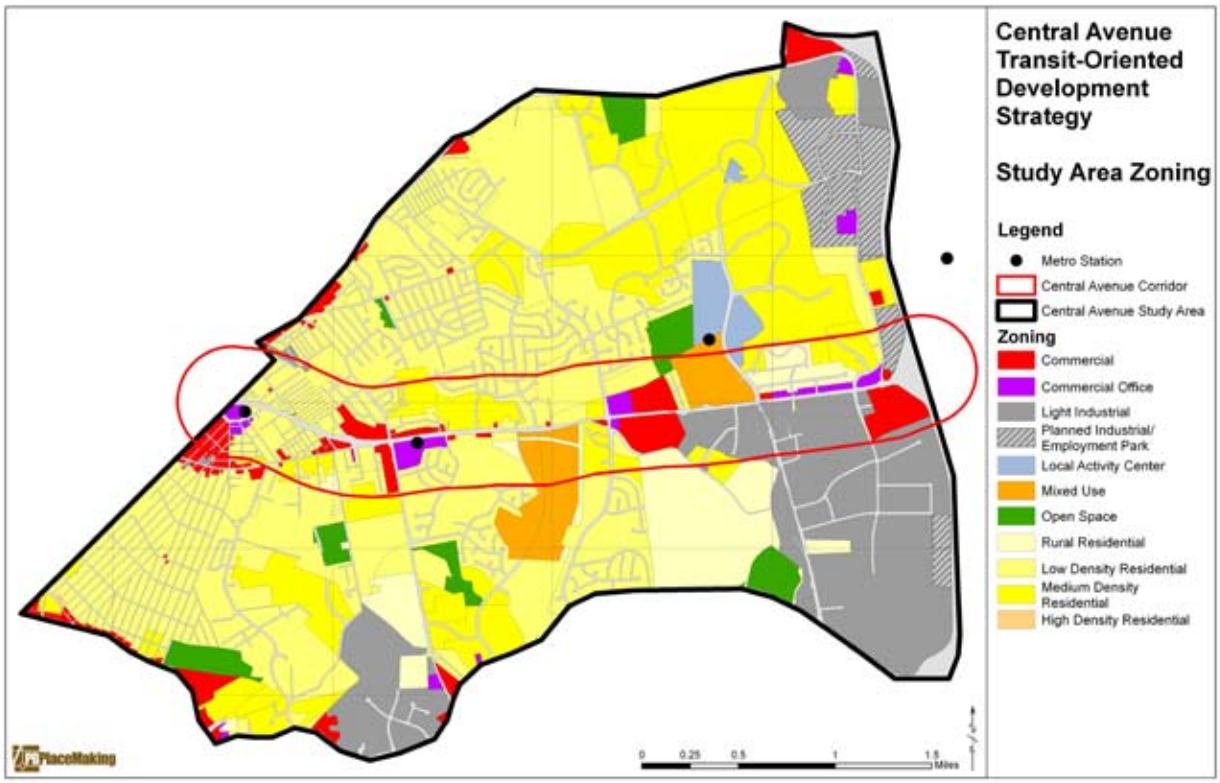
Source: Maryland State Planning Commission

EXISTING CONDITIONS, OPPORTUNITIES AND CHALLENGES

Existing zoning allows residential, commercial, and industrial development.

Existing Zoning

The zoning map indicates the development types that are currently allowed by the county. Many of the existing forested and open areas, shown in the previous figure, are zoned for residential, commercial, industrial and mixed use. The area will continue to be primarily residential in nature. However, the industrial area south of Central Avenue, between Ritchie Road and the Capital Beltway, will be preserved. Commercial activities will continue along some sections of Central Avenue, and there will be an increase in activity near the Capitol Heights Metro Station.



Data Source: The Maryland-National Capital Park and Planning Commission

EXISTING CONDITIONS, OPPORTUNITIES AND CHALLENGES

Development Pattern

The "figure ground" graphic (which only shows roads and structures) provides a representation of the pattern of development along Central Avenue. Close to the Capital Beltway, the buildings are larger and widely spaced. Closer to Washington, D.C., the buildings are much smaller, closer together, and organized in a grid pattern. Scattered throughout the area are clusters of small structures on larger parcels and organized on a modified grid. The drawing demonstrates the different types of development occurring in the corridor—larger scale industrial uses toward the Capital Beltway, denser residential closer to Washington, D.C., and clusters of suburban development in between the two. The graphic also gives a sense of how much undeveloped land is currently in the area.

Corridor Development Pattern

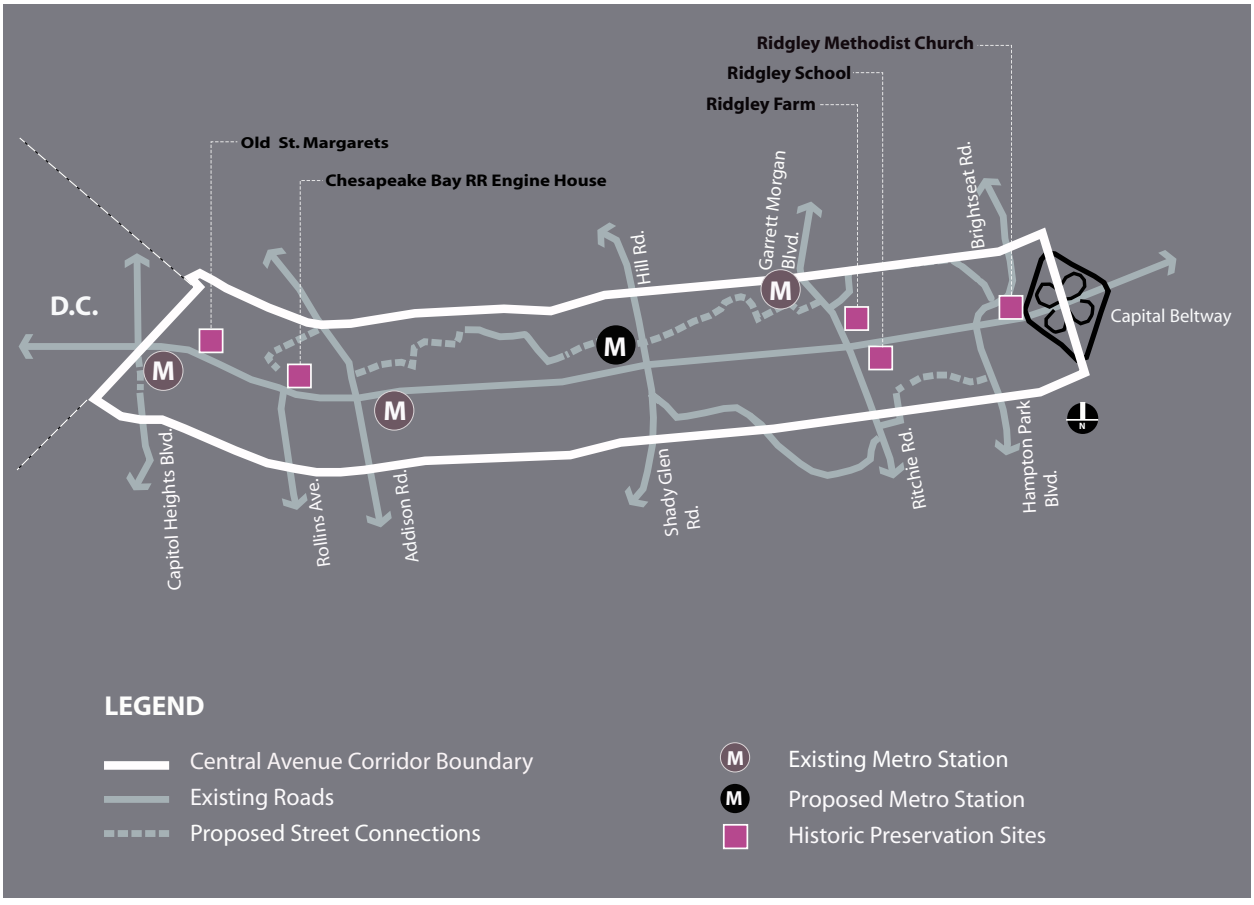
Examples of developed areas along the corridor.

Historic and Cultural Resources

The following sections give a brief overview of the historic development of Prince George's County and the Central Avenue Corridor, and they provide details on local historic resources and historic preservation planning considerations.

Prince George's County History

Prince George's County possesses a wide range of archeological sites and historic properties that attest to its long and diverse history. The prehistoric ancestors of the local Piscataway tribes were drawn to the rich and productive woodlands surrounding the lower Potomac and Patuxent River. Although prehistoric archeological sites associated with the earliest Paleo-Indian inhabitants (10,500–8,000 B.C.) are rare, a number of significant sites from the later Archaic (8,000–1,000 B.C.) and Woodland Periods (1,000 B.C.–1500s A.D.) have been found throughout the county. Few of these sites have been identified in the vicinity of the Central Avenue TOD Corridor study area.



Source: Cultural Resources Database, Maryland Historic Preservation Office

EXISTING CONDITIONS, OPPORTUNITIES AND CHALLENGES

The area that is now Prince George's County was officially established in 1696 from lands formerly included in neighboring Calvert and Charles Counties. The county experienced very early colonial exploration. It was first visited in 1608 during Captain John Smith's voyage up the Chesapeake. In 1634, Governor Leonard Calvert visited Piscataway villages within the current bounds of the county (M–NCPPC 1992: 10). The subsequent establishment of Maryland's first capitol in Saint Mary's City helped to spur early historic development of a rich tobacco-farming region. This stable agrarian economy fostered the steady development of a network of large plantations, port towns, and local trading centers, from the late seventeenth century into the early nineteenth century (M-NCPPC 1993: 8-9). Unless noted, historic property descriptions are excerpted from The Maryland-National Capital Park and Planning Commission's *Prince George's County Historic Sites and Districts Plan* (1992) and *Illustrated Inventory of Historic Sites Prince George's County, Maryland* (1993).

History of the Central Avenue Corridor

Although the 19th century saw increasing development of small-scale industrial development associated with local textile mills and iron works, particularly in the northern part of the county, most of Prince George's County remained essentially agrarian until after the Civil War. The postbellum period saw a shift from the slave-based economy of large-scale tobacco plantations to smaller and more diversified agricultural enterprises. Significant numbers of formerly enslaved African Americans stayed in the area, eventually purchasing farms and small businesses, and building the foundations for the area's strong African-American communities (Fischler and Ziegler 1997: 9). The development of local transportation and trade networks between the District of Columbia and its surrounding suburbs continued to play an important role in the development of Prince George's County. The construction of Central Avenue in 1878 opened up a major transportation and development corridor between Washington, D.C., and Landover (Fischler and Ziegler 1997: 10). Continued expansion of the transportation network, including the expansion of metropolitan and suburban train and streetcar lines, accelerated the development of the suburban residential and commercial development that characterizes the study area today.

Historic Architectural Resources

The historic resources that have been formally identified within the project study area are described below.

- *Site of Chesapeake Bay Railroad Engine House* (PG: 72-12), 21 Yost Place, Capitol Heights: Prior to its demolition in the early 1980s, to make way for a shopping center, this 1870 railroad engine house was one of the last remaining facilities associated with the Chesapeake Beach Railroad. The engine house was established to carry passengers from Washington's suburbs to a resort on the bay's western shore. The original building was a one-story C-shaped brick structure with three large double swing doors and tracks embedded in the floor to allow locomotive engines to be moved into the structure for maintenance and repair (1996 National Register Eligibility Review Form).

EXISTING CONDITIONS, OPPORTUNITIES AND CHALLENGES

- *Old Saint Margaret's Catholic Church* (PG: 72-7-1), 6020 Addison Road, Seat Pleasant: Built in 1908, St. Margaret's (now Mount Victory Baptist Church) is a front-gable frame church with a pyramidal-roof and corner tower added in 1911 located on the north side of Central Avenue in the Maryland Park neighborhood. The church is a Historic Site and is notable for its Gothic Revival architecture and association with early Seat Pleasant developer Francis Carmody.

- *Arthur Jr. & Louise Ridgley Farmstead* (PG: 72-43), 8302-8304 Central Avenue: The Ridgley Farm represents an early twentieth-century tobacco and truck farm associated with the Ridgley's, a locally prominent African-American family who helped to found the nearby Ridgley Methodist Church. Located at the northwest corner of the intersection of Central Avenue and Summerfield Avenue, the farm complex includes two main houses, a tenant house, tobacco barn, privy, corncrib and a later concrete block structure. The property is listed on the Maryland Inventory of Historic Properties, but it has been determined not eligible for the National Register of Historic Places (1996 National Register Eligibility Review Form).

- *Ridgley Methodist Church* (PG: 72-5), 8900 Central Avenue, Landover: The Ridgley Methodist Church represents an important part of Prince George's County's African-American history. The current one-story front gabled frame church is a 1921 replacement of the original 1871 church. The church was founded by Lewis Ridgley to serve the local African-American Methodist community. A designated Historic Site, the structure is listed in the NRHP. Located directly north of Central Avenue, the church was recently moved back from the highway and restored. It is bordered by a small graveyard with handsome historic stones.

Ridgley Methodist Episcopal Church
Source: Prince George's County Historic Preservation Program

- *Ridgley School* (75A-28), 8600 block of Central Avenue, Landover: The Ridgley School is another important local African-American historic resource, associated with the Ridgley Family. The one-story hip-roofed frame school was built in the 1920s. Prior to the construction of the school, elementary classes for local African-American students where held in a structure associated with the nearby Ridgley Methodist Church (M-NCPPC 1996: 121). The school held two classrooms separated by a central hallway, and although the structure has been altered by later additions, it still exhibits many of the standard features of schools built as part of Julius Rosenwald's program to enhance educational opportunities for African-American students throughout the South. Although currently located in the Prince George's County school bus lot, the Ridgley School remains one of the best preserved of the area's Rosenwald schoolhouses.

Transportation and Safety Data

Traffic Operations

Existing traffic volumes along Central Avenue during the peak PM hour range from 3,400 vehicles in both directions on the west end to 5,100 vehicles per hour in both directions on the east end. Daily traffic volume counts are not available, but they are estimated to be between 30,000 to 50,000 vehicles per day. The traffic volumes are larger near the Capital Beltway and decrease near the Washington, D.C. line. The level of service (LOS) along Central Avenue ranges from LOS B to LOS E during the peak hour traffic conditions based on previous studies. The worst LOS reported during the existing peak hour is LOS E.

Level of Service (LOS) is similar to a report card. Grades range from LOS A (free flowing conditions) to LOS F (gridlock). A level of service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience and safety.

Excessive Speeding

Speeding in the corridor occurs frequently. The posted speed along Central Avenue ranges from 30 miles per hour in the Capitol Heights area to 40 miles per hour in the Morgan Boulevard area. Although a formal study has not been conducted, the public and the consulting team observed speeds along Central Avenue that frequently exceed the posted speed limits. Excessive speeding results in safety issues and indicates a need to slow traffic on Central Avenue. In addition, there is a need for traffic calming on neighborhood streets in the area.

Crash History

Historic traffic data along Central Avenue (from the Washington D.C. line to the Capital Beltway) indicate 555 total crashes over the past three years, which is average for the region. Rear-end type collisions are the most predominant type of crash along the corridor, and typical causes include excessive speeding, lack of adequate gaps in traffic stream, poor visibility of traffic control devices, inadequate sight distance, and inadequate pedestrian crosswalks. However, a higher-than-average number of truck-related crashes have been recorded over the past three years.

Accessibility and Mobility

Currently, the design of Central Avenue favors the movement of vehicles at relatively high speeds. Other modes of transportation (bicycling, pedestrians and transit) are given limited consideration. There appear to be opportunities to consolidate access to abutting uses along the east end of Central Avenue. On the west end near the Washington, D.C. line, some additional movement restrictions may improve the flow of traffic.

Pedestrian and Bicycle Issues

Community members expressed concerns about inadequate pedestrian crossings, and direct observation indicates a need to improve crosswalks, pedestrian signals, and other pedestrian-related facilities. Bicycle facilities are absent in the corridor.

EXISTING CONDITIONS, OPPORTUNITIES AND CHALLENGES

Metrorail Stations

The three Metro stations—Capitol Heights, Addison Road-Seat Pleasant, and Morgan Boulevard—all have parking facilities. Capitol Heights and Addison Road-Seat Pleasant stations have Metrobus and Prince George's County TheBus bus service. Morgan Boulevard is currently only served by TheBus. Based on park-and-ride data received from the Transit Division of the Prince George's County Department of Public Works and Transportation, many of the transit users parking at the Capitol Heights, Morgan Boulevard, and Addison Road stations are from zip code areas located outside of the study area. However, the proportions vary widely from station to station as shown in the following table.

Station	From Outside the Corridor	From Within the Corridor
Capitol Heights	40%	60%
Morgan Boulevard	70%	30%
Addison Road	80%	20%

Capitol Heights Station

Addison Road Station

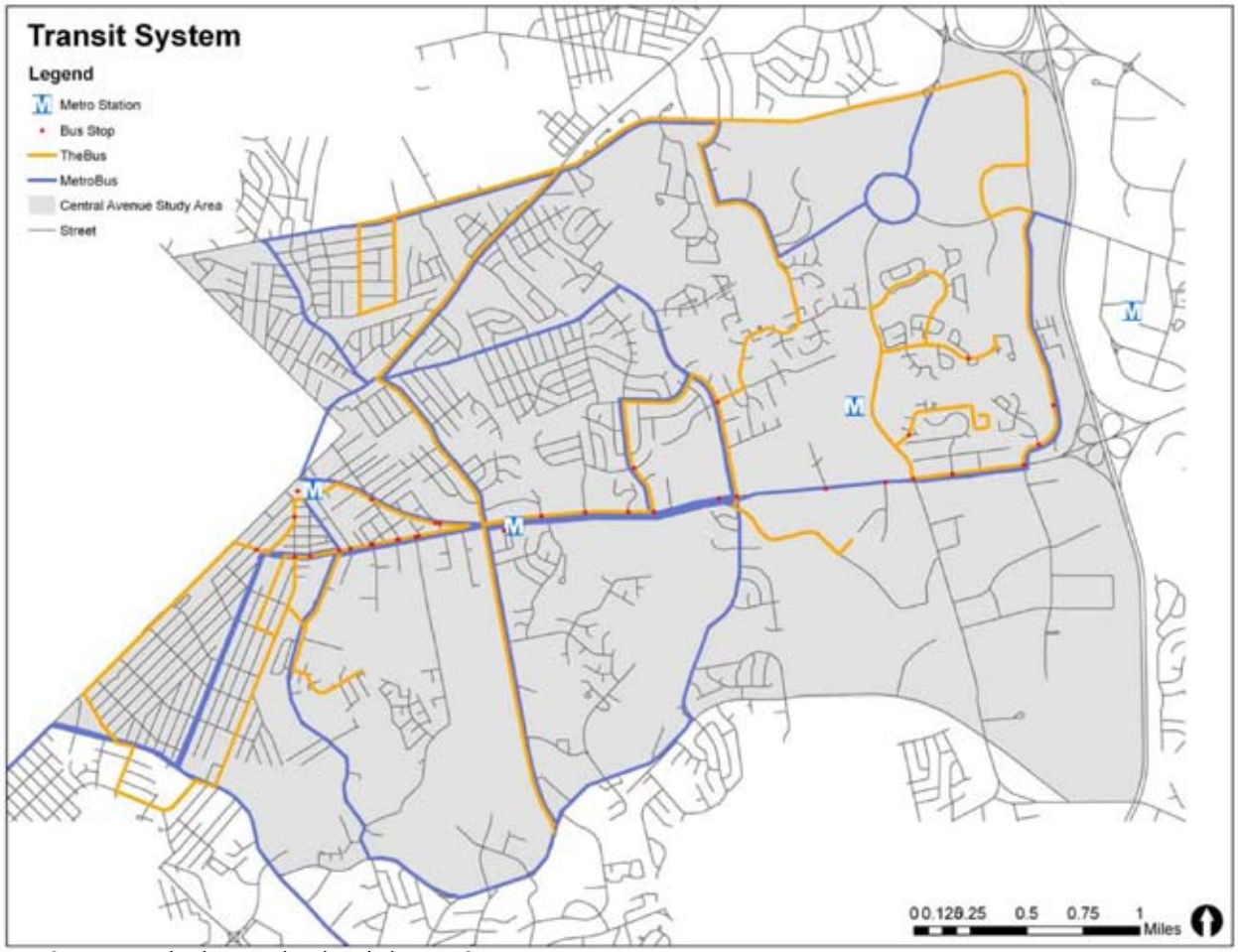
Morgan Boulevard Station

EXISTING CONDITIONS, OPPORTUNITIES AND CHALLENGES

Bus Service

In addition to having Metrorail service, the Central Avenue Corridor also has Metrobus and Prince George's County TheBus service. The frequency of service along Central Avenue is fairly high during the peak, but is much less frequent in off-peak hours. In addition, the service takes a circuitous route though the neighborhoods rather than running straight down Central Avenue. There are very few amenities, such as bus shelters and comfortable sidewalk areas, for bus riders along the corridor.

Existing Bus Stop in Corridor



Data Source: Maryland National Park and Planning Commission

COMMUNITY CONCERNS, COMMENTS, AND VISION

Community involvement was important to the creation of the Strategy. To learn stakeholders' concerns, three "Walk (and Talk) About Central Avenue" sessions were held. A Morgan Boulevard walkabout was held on October 24, 2005; an Addison Road-Seat Pleasant walkabout was held on October 25, 2005; and a Capitol Heights walkabout was held on October 26, 2005. Participants were invited by the Prince George's County Planning Department, including area elected officials, residents, local church leaders, business and property owners, and public agency representatives. Each walkabout group spent approximately two hours (8am-10am) walking along Central Avenue, where participants talked about what they liked and disliked about the corridor, what their concerns were, where the key access points and bottlenecks are, and what they would like Central Avenue to look like in the future.

On October 26, 2005, a presentation of summary findings was held at the Millwood Recreation Center in Capitol Heights. In addition to presenting an overview of the project, the participants validated what was heard, and then broke into small groups to discuss what they liked about the corridor, what other places they liked and why, and to describe their vision for Central Avenue in 2015.

Three walkabouts in three days.

COMMUNITY CONCERNS, COMMENTS, AND VISION

CORRIDOR STRENGTHS

During the walkabouts it was difficult for people to focus on the things they liked about Central Avenue. However, during the summary meeting stakeholders shared some of the positive features of Central Avenue:

- The neighborhoods around Central Avenue were frequently described in positive terms. The neighborhoods are stable and offer a sense of community. In addition, there is a sense of pride associated with being a "gateway community" (between the District of Columbia and the rest of Prince George's County).
- The accessibility that Central Avenue and the Metrorail system provide are also seen as benefits of the area - it is quick and easy to get into the District or onto the Beltway.
- Stakeholders view the new development that is occurring in the corridor as positive. New residents are moving into the area, which may provide opportunities to create public facilities to serve existing residents. The proposed Giant Food store project is seen as a plus.
- The existing shopping available at Addison Plaza is good, although there is a need to better manage vehicular ingress and egress.
- Green spaces in the form of undeveloped land, landscaping around some businesses (e.g., Family Furniture), and neighborhood parks and plazas were also viewed as benefits.
- The groups felt that the schools, especially Capitol Heights Elementary School, were good.
- Venues like the Sports and Learning Complex and the proximity to FedEx Field were also viewed as benefits of the area.

CORRIDOR WEAKNESSES

Below is a summary list of concerns that were heard across the corridor:

- Speed, noise, and volume of traffic are a problem.
- Concern about crime and personal safety is very strong, and there is a belief that crime needs to be reduced prior to anything else happening in the corridor.
- Stakeholders agreed that neighborhood transit is limited, ends too early, and does not serve Kingdom Square (formerly Hampton Mall) or other retail/service sites within the corridor.
- There is a desire to see increased amenities for bus riders and to improve the corridor's sidewalks.
- Stakeholders raised concerns about the impact of new development on existing neighborhoods, especially regarding infrastructure such as sewage systems and storm drainage, youth services, schools, and policing.
- Reducing/managing the impact of FedEx Field events is of particular interest to stakeholders in the Morgan Boulevard area.
- There is concern over the mix and quality of the existing land uses. Residents have to leave the area to shop. Family restaurants are not in the corridor, only fast food options, and there is a perceived lack of office space/employment base.
- The nature of previous planning studies has led to the corridor being an edge with different and disparate uses on each side of Central Avenue.
- With new residential developments planned for the area, stakeholders raised the need to build new schools because the current ones are overcrowded, and there is concern about the condition of facilities, especially Central High School.
- There is a desire to protect open space in light of the development that is occurring in the area.

COMMUNITY CONCERNS, COMMENTS, AND VISION

Examples of Places People Like

In order to learn more about the qualities the stakeholders would like to see in the Central Avenue Corridor, they were asked to identify other places they like, and to describe what it is about the place that they like. While a number of different locations in the region were identified, the reasons behind their appeal were similar. The places that people identified offer a mix of uses. The locations are "destinations" and offer a variety of quality restaurants, retail, and other activities. They provide a "town center feel" with a mix of local and national businesses. The places that people like are attractive and safe. There traffic slows, pedestrians have priority, landscaping and vegetation are pleasant, utility lines are buried, and lighting is adequate. The pedestrian overpasses at Prince George's Plaza and Bowie Town Center were cited as benefits.

Below is a list of places stakeholders identified during the summary session. If a specific quality about the place was identified, it is indicated in parentheses.

- Bethesda
- Alexandria
- FairLakes in Fairfax County
- Pentagon City
- The Boulevard at Capital Center
- Prince George's Plaza
- Marlow Heights (in the past)
- Rockville Pike
- Largo Town Center
- Largo and Mitchellville (residential areas)
- Democracy and Executive Boulevards in Bethesda
- Bowie Town Center
- Enterprise Road in Prince George's County
- Reston (town center environment)
- US 1/College Park (higher density)
- Silver Spring
- Bladensburg (has a nice trail/park)
- Greenbelt Town Center
- Bowie Town Center
- Wilson Boulevard in Arlington, VA (decorations, but not the traffic)

COMMUNITY CONCERNS, COMMENTS, AND VISION

Central Avenue in 10 Years

Stakeholders were asked to describe what Central Avenue should look like in ten years. Not surprisingly, stakeholders' visions of the future echoed the qualities they said they liked about other places. Some of the comments included:

- A safe, well-lit, tree-lined, landscaped boulevard with large, buffered sidewalks.
- Connections to destination spots along the corridor as well as to residential areas.
- High-density residential (perhaps even as much as 15-20 story apartment and condo buildings) would be clustered around the Metro stations and along the corridor.
- The existing single-family residences off Central Avenue will be untouched.
- The existing community spirit that exists along the corridor will not disappear. Instead, the community will grow stronger and witness many positive changes along the corridor.
- At key activity centers, there will be an inviting, attractive, and varied mix of restaurants (fast food, family, fine dining), retail, and entertainment.
- Central Avenue will be a destination, not just some place to pass through.
- The Central Avenue Corridor will have more community, municipal and civic facilities such as medical resources, schools, library, recreation centers, and churches.
- At least one of the Metro stations will have a sales office (like Metro Center) where you can buy system and bus route maps, passes, and farecards at special rates.
- The traffic along Central Avenue will be quieter and slower.
- A person will feel safe walking down the street or waiting for a bus, and bicyclists will be comfortable riding along the road in a dedicated bike lane.
- Along the creeks there will be hiker/biker lanes, and bike paths and walking trails will run throughout the area.

In summary, the vision for Central Avenue is a place that looks good and functions well for everyone—pedestrians, bicyclists, motorists, residents, visitors, and those passing through.

TOD CORRIDOR DEVELOPMENT CONCEPT

Foundational Elements

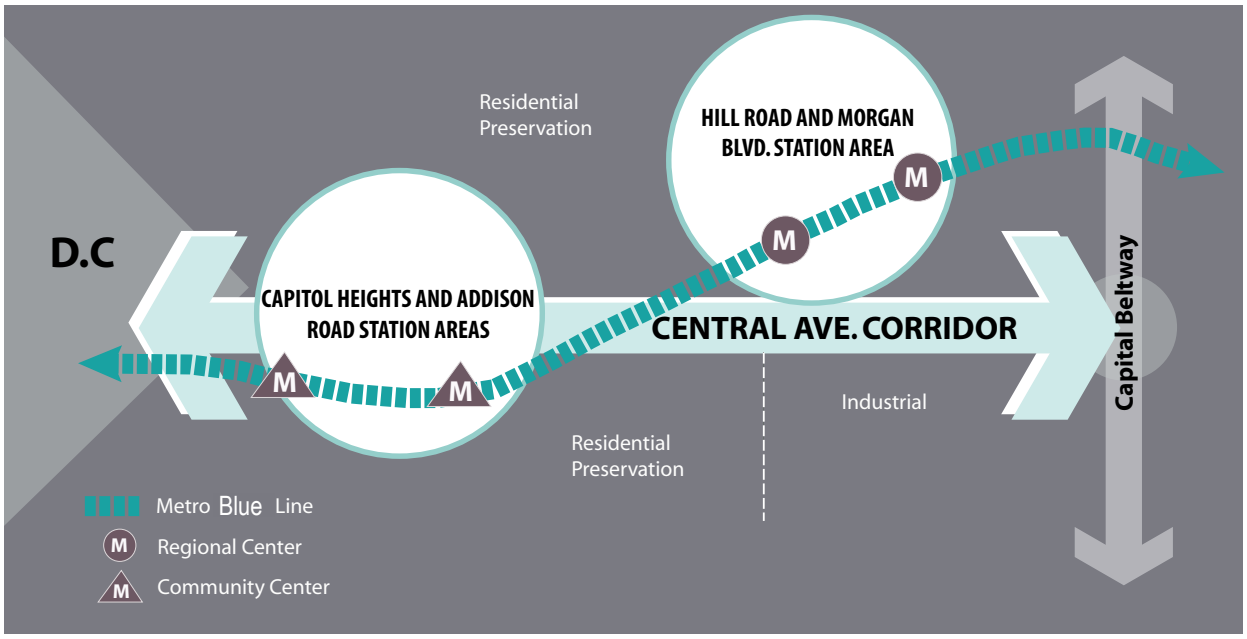
The Central Avenue TOD Corridor Development Strategy is based on a combination of the community's vision, the county's goals, and best management practices in transit-oriented development (TOD). In particular, it is intended to support the goals of the centers and corridors in the 2002 *Prince George's County Approved General Plan*, which are to:

- Capitalize on public investment in the existing transportation system.
- Promote compact, mixed-use development at moderate to high densities.
- Ensure transit-supportive and transit-serviceable development.
- Require pedestrian-oriented and transit-oriented development.
- Ensure compatibility with surrounding neighborhoods.

The Central Avenue TOD Corridor Development Strategy is based on two foundational elements derived from the *Prince George's County Approved General Plan*:

1. **Central Avenue as a Developed Tier Corridor**: The General Plan defines these as "generally containing a higher intensity of residential and nonresidential land uses, and a greater mix of uses that are regional in scope… This development should occur at selected corridor nodes and be planned as transit-oriented development."

2. **Four Central Avenue Centers**: These include the existing Capitol Heights Metro Community Center; the Addison Road Metro Community Center; the Morgan Boulevard Metro Regional Center; and a proposed new Hill Road Metro Regional Center.



Central Ave. TOD Corridor Development Concept Diagram

TOD CORRIDOR DEVELOPMENT CONCEPT

GOALS

Based upon the 2002 *Prince George's County Approved General Plan*, project research, design workshops, and discussions held with agency staff and local stakeholders, the supporting goals of this strategy are to:

- **Provide travel mode choices.** Having a variety of transportation modes gives travel independence to people of all ages and income levels.
- **Provide safe and comfortable environments.** Safe facility design for all modes of travel, along with comfortable public places, such as civic and commercial areas, plazas, and parks, enhances all aspects of living, working, and traveling within the corridor.
- **Support economic vitality of the corridor.** The current blend of residential, civic, commercial, and industrial land uses represents an important corridor asset, which should be strengthened.
- **Provide a unique identity for the corridor.** To foster a stronger sense of community, the defining identity elements of the corridor should be enhanced, including its historic resources, development patterns, and open spaces.
- **Maintain and enhance the natural environment.** The stream corridors and open spaces make important contributions to the area's identity and environmental quality. Maintaining and enhancing these areas will not only improve the area's environmental health, it will strengthen its identity.

TOD CORRIDOR DEVELOPMENT CONCEPT

Development Concept

The Central Avenue TOD Corridor serves as a gateway to Prince George's County, MD as well as a series of distinct places located between Washington, D.C. and the Capital Beltway. Endowed with a rich cultural history and natural resources, the corridor is envisioned to continue developing as an orderly, urbanized environment that presents a positive, updated image to visitors and residents alike. It will grow to become a local and regional destination and offer residents increased access to transportation options, as well as an increased diversity of goods and services. Transit users, pedestrians, bicyclists, and motorists will enjoy enhanced facilities and amenities focused on improving their transportation experience.

The development concept has three components:

1. **Corridor elements** that apply to the entire corridor. They focus primarily on transportation, land use, sense of identity and environmental considerations.
2. **Center elements** are areas of special redevelopment interest around the existing and proposed Metro stations. These stations have the potential to become livable and vibrant new communities with an orientation to the transportation services provided by Metro.
3. **Implementation strategy** to identify a systematic method for making the Central Avenue TOD Corridor Development Strategy a success.

The following corridor elements support the goals and development concept by concentrating on three areas.

1. **Circulation and safety.** Currently, the corridor depends on a relatively small number of major streets to accommodate all travel modes. The current system is particularly problematic for pedestrians and cyclists because it offers little safe and comfortable space to travel. This problem is compounded by a limited number of convenient routes between destinations.
2. **Land use.** The integrity of existing neighborhoods, and commercial and industrial areas is viewed as a valuable asset in the corridor and should be maintained.
3. **Environmental quality.** Like many developed areas in the country, the corridor has experienced some environmental degradation, and the environmentally sensitive areas in the corridor should be maintained or improved.
4. **Image and Identity.** The corridor should foster a stronger sense of community by enhancing the cultural and natural assets of the area. There is a need to highlight the landmarks.

CORRIDOR ELEMENTS

Circulation and Safety

Central Avenue (MD 214) functions as a state highway as well as an important regional boulevard and throughway. Transportation improvements in the corridor have historically focused on moving traffic through the area. The focus is now proposed to shift by providing more equitable facilities. Transportation system improvements are proposed that promote the balancing of land-use and quality-of-life considerations with the traffic-serving functions of Central Avenue (MD 214). There are five basic elements for improving circulation and safety in the corridor:

- Parallel Routes
- Neighborhood Traffic Calming
- New Traffic Signals
- Bicycle, Pedestrian, and Bus Transit Routes
- Access Management

Maryland Department of Transportation (MDOT) State Highway Administration (SHA) has just completed a road safety review for this section of Central Avenue (MD 214) between the Capital Beltway and the D.C. border. The findings from this review, located in Appendix III (pages 97-102), should be incorporated into the following recommendations on traffic safety and streetscape improvements.

Benefits

The primary benefits of the corridor elements:

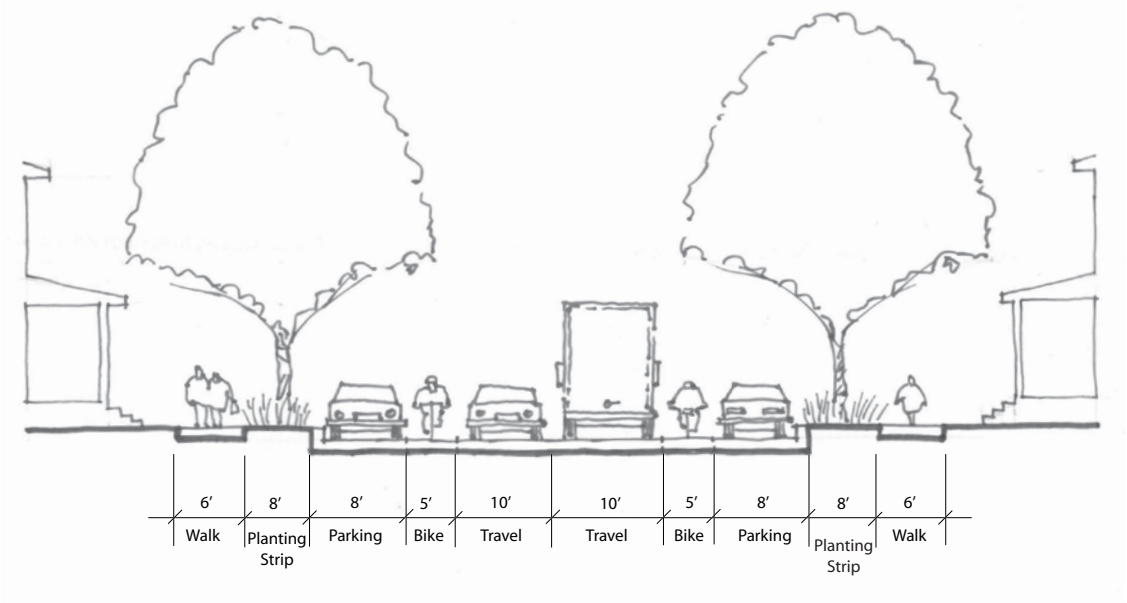
- Enhance the transportation network in the corridor to allow more convenient and comfortable access for all modes, with particular improvement for pedestrian travel.
- Support the economic vitality of the area by providing an improved transportation system and supporting existing residential, commercial, and industrial districts in the corridor.
- Create a streetscape design and gateway concept to create a stronger and more positive identity for the corridor.
- Identify green corridors for enhancement.

Parallel Routes

An important circulation component is to create parallel routes to Central Avenue to provide improved local access for vehicle, pedestrian, bicycle, and transit trips occurring within the corridor. The county should look for opportunities to create such routes for one or more modes as development occurs. Two parallel routes are proposed: one to the north of Central Avenue and one to the south. These two routes will allow residents of these areas to circulate between local destinations without having to negotiate the heavy traffic on Central Avenue, providing the dual benefit of an optional route (promoting local street connectivity) and relieving pressure on Central Avenue.

CORRIDOR ELEMENTS

Both of these routes are envisioned as local streets (not collectors or arterials) whose meandering alignments and built-in traffic calming measures will discourage through traffic. A proposed street cross-section for the new parallel routes is shown below.



Section: Example of New Parallel Route

Access management and traffic safety improvements along Central Avenue should be implemented concurrently with the addition of new routes north and south of the corridor. These improvements should include the elimination of curb cuts and the consolidation of driveways where possible. Access to new development should be limited to existing ingress/egress points along Central Avenue. Many of these improvements can be made as conditions for approval for new development or major redevelopment applications.

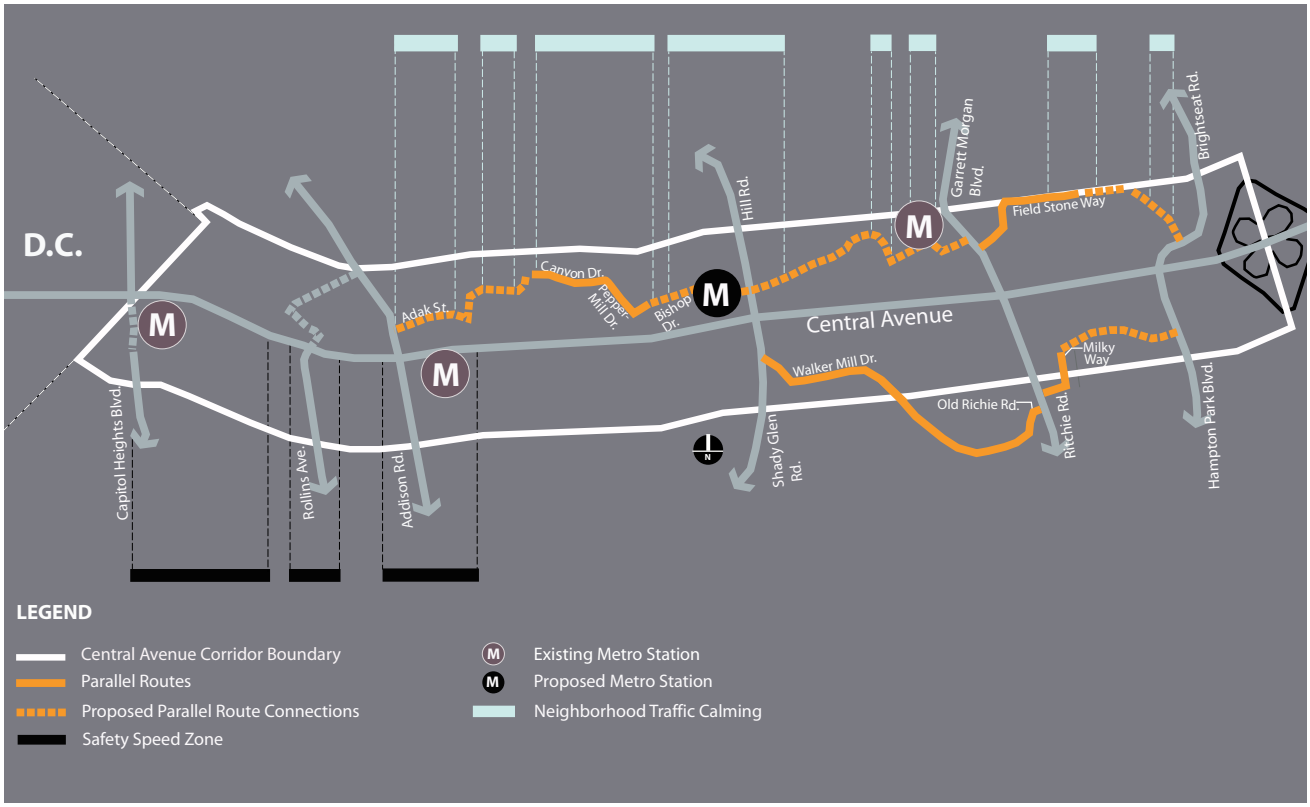
The following figure shows the location of the parallel routes and potential locations for traffic calming applications. A northern parallel route is envisioned to begin at Addison Road on the west end, follow Adak Street to a new connection on the east; follow the new connection from Adak Street to Canyon Drive; follow Canyon Drive, Pepper Mill Drive, and Bishop Drive to a new connection on the east; follow the new connection from Bishop Drive to Garrett Morgan Boulevard; follow Garrett A. Morgan Boulevard and Field Stone Way to a new connection on the east; follow the new connection from Field Stone Way to Glen Valley Drive; and follow Glen Valley Drive to Brightseat Road on the east end. A southern parallel route is envisioned to follow Walker Mill Drive east from Shady Glen Drive to Ritchie Road; follow Ritchie Road to Milky Way; and follow Milky Way to Hampton Park Boulevard.

Neighborhood Traffic Calming

Neighborhood traffic calming is envisioned for neighborhoods north of Central Avenue. Traffic calming describes traffic control devices typically used in residential neighborhoods to slow and calm traffic. The following are examples of neighborhood traffic management/traffic calming measures:

- Speed humps
- Chokers (points where the curb bumps out on both sides to narrow the roadway)
- Pavement texturing
- Chicanes (roadway centerline is shifted left and right by alternating curb bumpouts)
- Curb Extensions (also called curb bumpouts; curb extends into the roadway)
- Traffic circles
- Medians

Neighborhood traffic calming should be considered on streets north of Central Avenue such as Canyon Road. Traffic calming measures are effective in reducing vehicle speeds and discouraging through traffic.



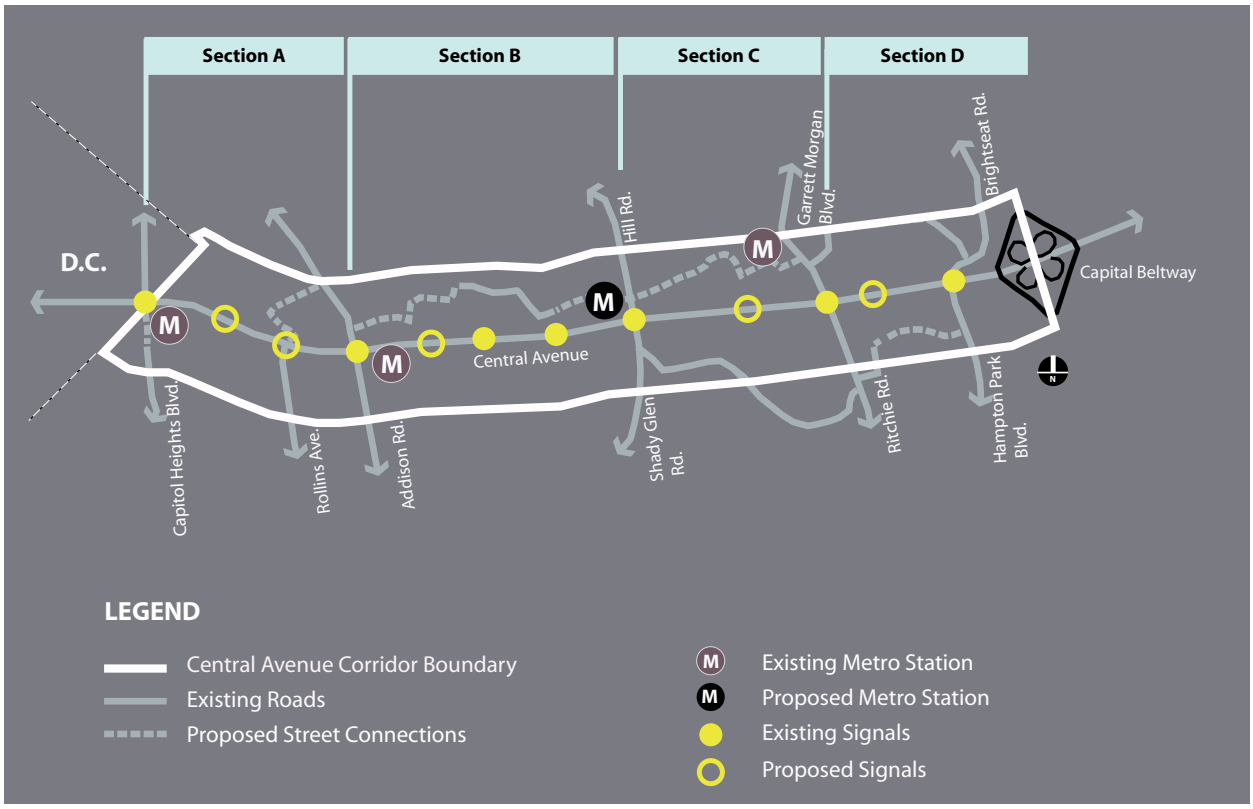
Parallel Routes and Traffic Calming

New Traffic Signals

New traffic signals are proposed along Central Avenue to provide safe crossing locations for all modes of transportation at key locations where new connections are proposed, to slow traffic along Central Avenue, and to facilitate safe and efficient flow of traffic.

New traffic signals are proposed along Central Avenue at the following locations:

- Maryland Park Drive
- New north/south connection to Rollins Avenue
- Soper Lane
- Jonquil Avenue
- New north/south connection
- Norair Avenue



Traffic Signals and Street Sections

Bicycle, Pedestrian, and Bus Transit Improvements

Pedestrian and bicycle improvements are envisioned to run the entire length of the Central Avenue Corridor to help reshape the route as a balanced, multi-modal corridor. When considering a truly multi-modal corridor, integrated bicycle and pedestrian mobility requirements need to be prioritized to a level comparable to requirements for cars and transit. The bike and pedestrian concept for the Central Avenue Corridor elevates bikes and pedestrians to a level of priority that, in certain areas of the corridor, will offer a significantly improved non-motorized environment.

Bicycle and pedestrian improvements will be integrated into the overall circulation concept for the corridor and extend into the surrounding neighborhoods. Improved conditions for walking include adding sidewalks and pathways and improving the quality of pedestrian crossings at intersections. Bike improvements include adding designated bike lanes and off-road bike paths. The pedestrian and bike improvements are networked to link key destinations such as schools, natural areas, parks, and transit stations to Central Avenue. The proposed network aims to create an interconnected system of opportunities for non-motorized travel within the corridor.

The following pedestrian and bike mobility improvements are proposed for the corridor:

1. *Beltway to Brightseat Road*: Eastbound and westbound paved off-road (beyond the curb line) multi-purpose bike/pedestrian paths with landscaping.
2. *Brightseat Road to Addison Road*: Eastbound and westbound six-foot-wide bike lanes adjacent to the curb with sidewalks separated from moving traffic by street trees.
3. *Shady Glen Drive to Addison Road*: An off-street ten-foot-wide multi-purpose bike/pedestrian path will be integrated into the proposed greenway on the south side of Central Avenue.
4. *Addison Road to Capitol Heights Boulevard*: Eastbound and westbound paved off-road (beyond the curb line) multi-purpose bike/pedestrian paths with landscaping.

To improve the bike/pedestrian connections between Central Avenue and adjacent neighborhood schools, transit stations, parks and recreation centers, designated bike lanes and sidewalk improvements are proposed for the following intersections of Central Avenue:

- Addison Road to Greendale School and Greendale Recreation Center.
- Lyndon Hill Elementary School and Rollins Avenue Park.
- Addison Road to St. Margaret's School and Suitland District Heights Park.
- Cabin Branch Road to Central High School.

CORRIDOR ELEMENTS

- Shady Glen Drive to Millwood Park.
- Hill Road to Peppermill Village Park.
- Jonquil Avenue to Hill Road Park.
- Ritchie Road to Ridgley School.
- Brightseat Road to Thomas Pullen Elementary School.

Additional bike lanes and sidewalks are proposed to connect destinations within the adjacent neighborhoods of the Central Avenue Corridor as well as along the north and south parallel routes.

Bicycle/Pedestrian Improvements Diagram

Bus service is currently provided in the Central Avenue Corridor by TheBus and Metrobus. Bus stop improvements are recommended and examples are illustrated in the following photographs. These bus stop improvements include shelters and stop platforms. As the parallel route system to Central Avenue is developed, a potential small bus feeder route from the Metro stations to adjacent neighborhoods using the parallel route system could be considered. As new signals are installed on Central Avenue, consideration should be given to optimizing the relationship between pedestrian crossings at the signals and the location of the bus stops near the new traffic signals.

Access Management

Access management is important, particularly on a high volume roadway such as Central Avenue, for maintaining traffic flows, mobility, and safety. Whereas local and neighborhood streets primarily function to provide local access, collector and arterial streets typically serve greater traffic volumes. Numerous driveways, curb cuts, or street intersections increase the number of conflicts and potential for accidents, and decrease mobility and traffic flow.

For Central Avenue, opportunities for corridor-wide access management exist. These include medians to limit left-turn access, right in/right out driveways, consolidation of driveways, and pedestrian refuge islands where appropriate. Consolidation of driveways and elimination of curb cuts along Central Avenue will increase usable sidewalk area for pedestrians. Medians currently limit access throughout the corridor, improving safety, mobility, and traffic flow. This will ultimately require additional detail design (not part of this study effort).

As shown in the proposed Central Avenue cross-sections, landscaped medians are proposed from Capitol Heights Boulevard to Garrett Morgan Boulevard with left turn lanes at signalized and key intersections. Concrete medians are proposed from Garrett Morgan Boulevard to the Beltway with left turn lanes at signalized intersections and key locations.

Bus Stop Improvement Examples

Streetscape Improvements

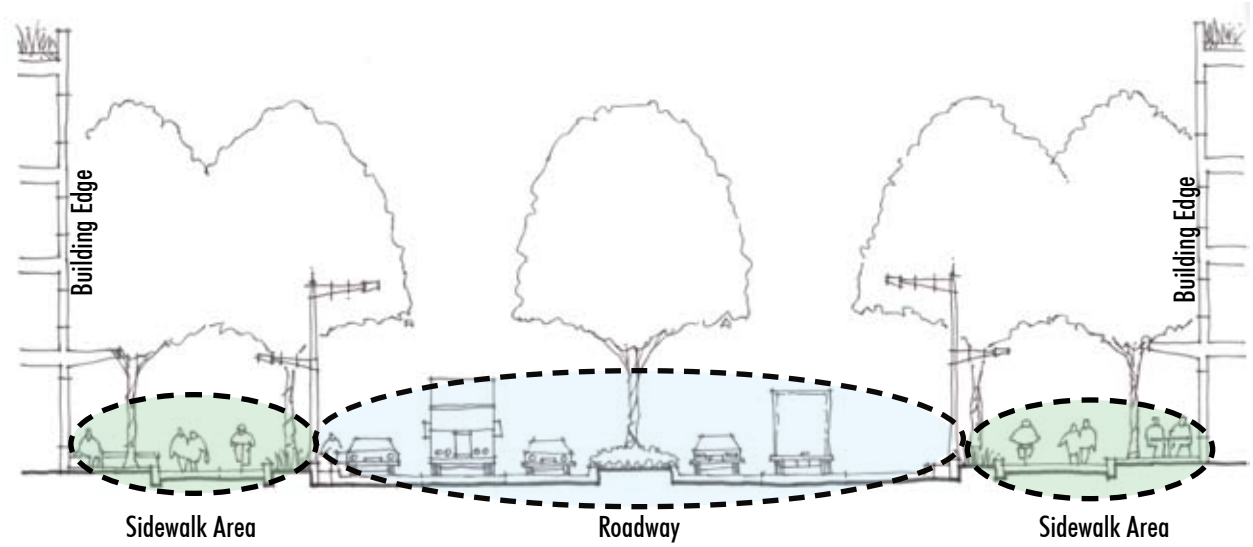
Although the function and design of streets in the corridor will vary widely (e.g., Central Avenue versus a local street), to be properly designed for all travel modes they must include three main component zones: 1) the roadway itself, 2) the sidewalk area, and 3) the adjacent buildings or development zone. These three features work together to create the overall setting in which people experience the character and use of a street. It helps to understand these areas when considering street improvements.

1. *Roadway:* This is the paved area, typically between the curbs, that is primarily used by vehicles and bicycles. This is the zone of vehicular movement and possibly the biggest safety challenge for pedestrians who wish to cross. The roadway abuts the sidewalk area and contrasts with the height of the adjacent development (or lack thereof) to define the perceived scale of the street.

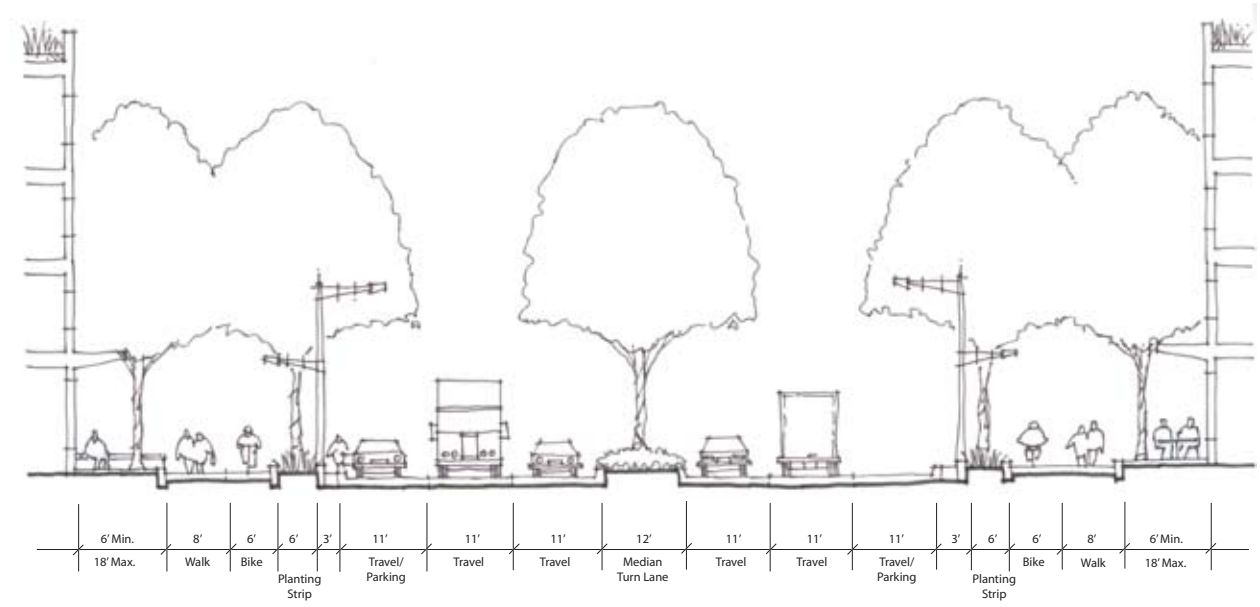
2. *Sidewalk Area:* This is the area typically between the curb and the edge of adjacent buildings or development, such as parking lots or landscaping. This area is typically devoted to pedestrians. In addition to being a place to walk, this zone may contain landscaping, lighting, utilities, site furnishings, or other amenities. The width and attention to detail of this zone is a good indication of how much priority is being given to pedestrians.

3. *Building Edge:* This is where public right-of-way and adjacent property meet. Adjacent buildings and/or development form the edge of the streetscape and their design directly affects the character and function of the street. This area may include building fronts, walls, doors, windows, and/or outdoor areas such as patios, courtyards, arcades, landscaping, and parking lots.

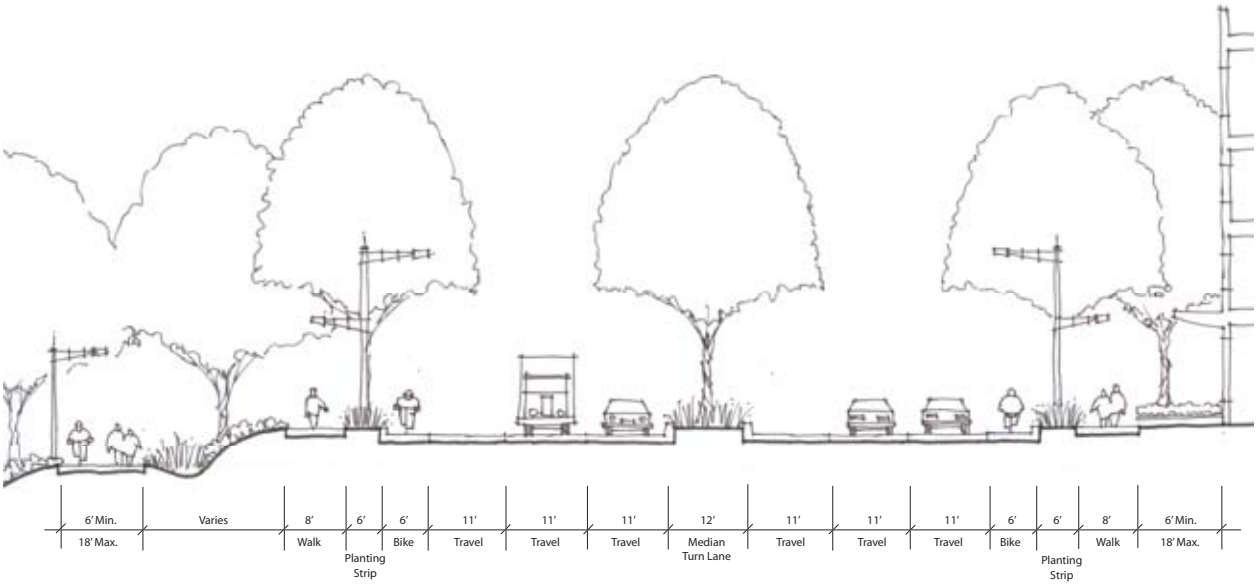
Consideration should be given to the design of all three areas to create an integrated whole, considering the needs of vehicles, bicyclists, pedestrians and adjoining land uses. Corridor-wide streetscape improvements are envisioned including decorative light fixtures, sidewalk and crosswalk enhancements, bus-shelter upgrades, placement of underground utilities, and additional signing.



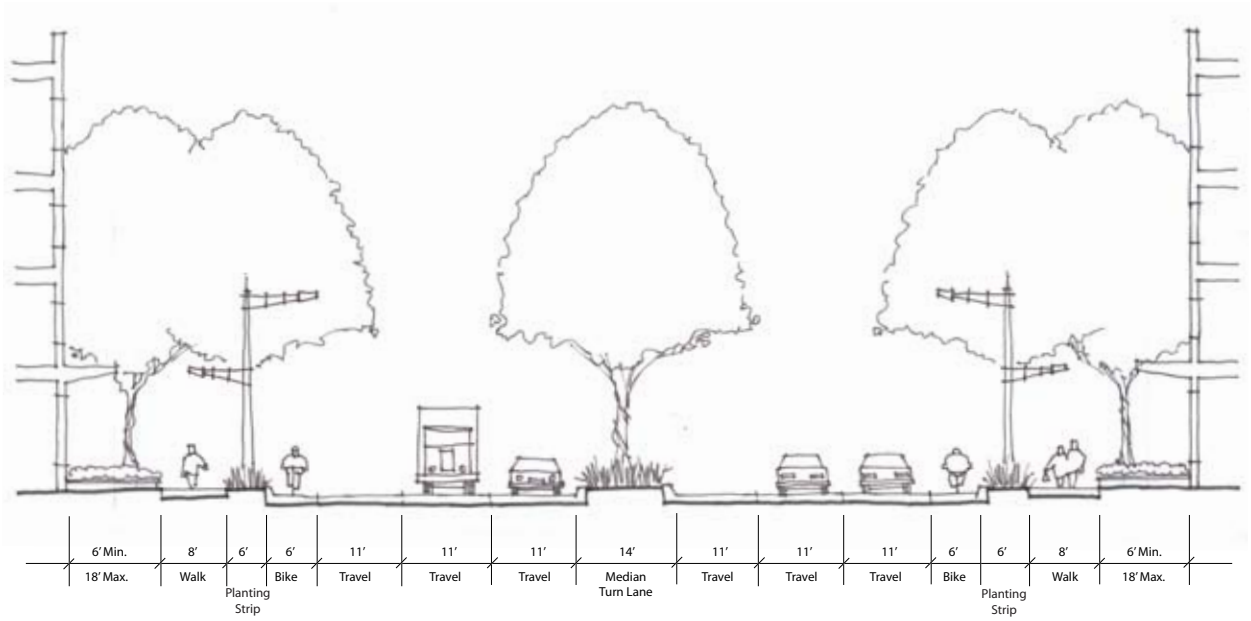
Streetscape Component Zones Diagram



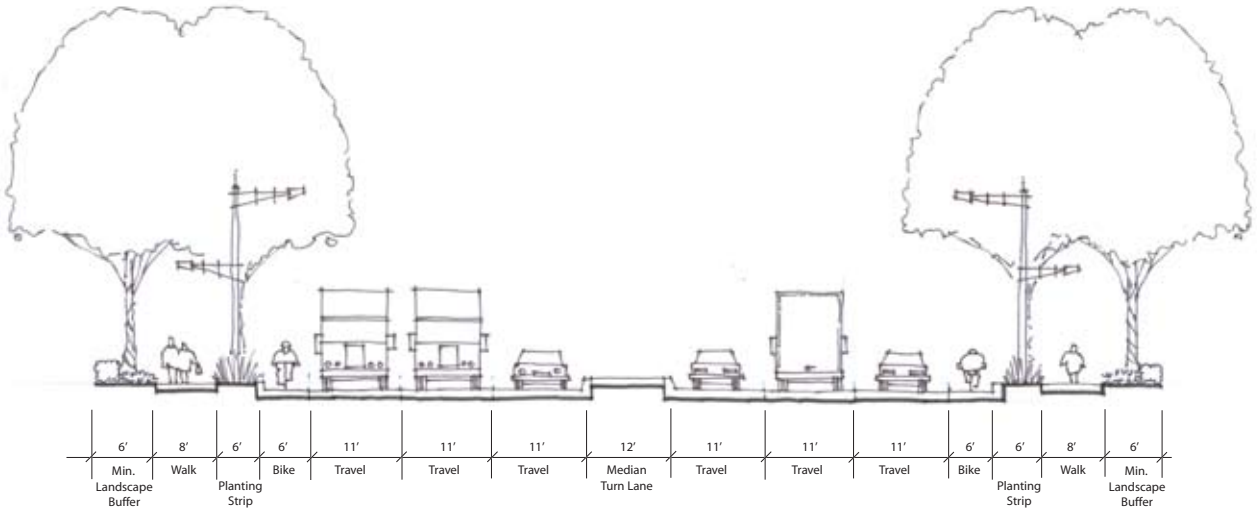
Section A: Capitol Heights to Addison Road



Section B: Addison Road to Hill Road/Shady Glen Drive



Section C: Hill Road/Shady Glen Drive to Morgan Blvd.



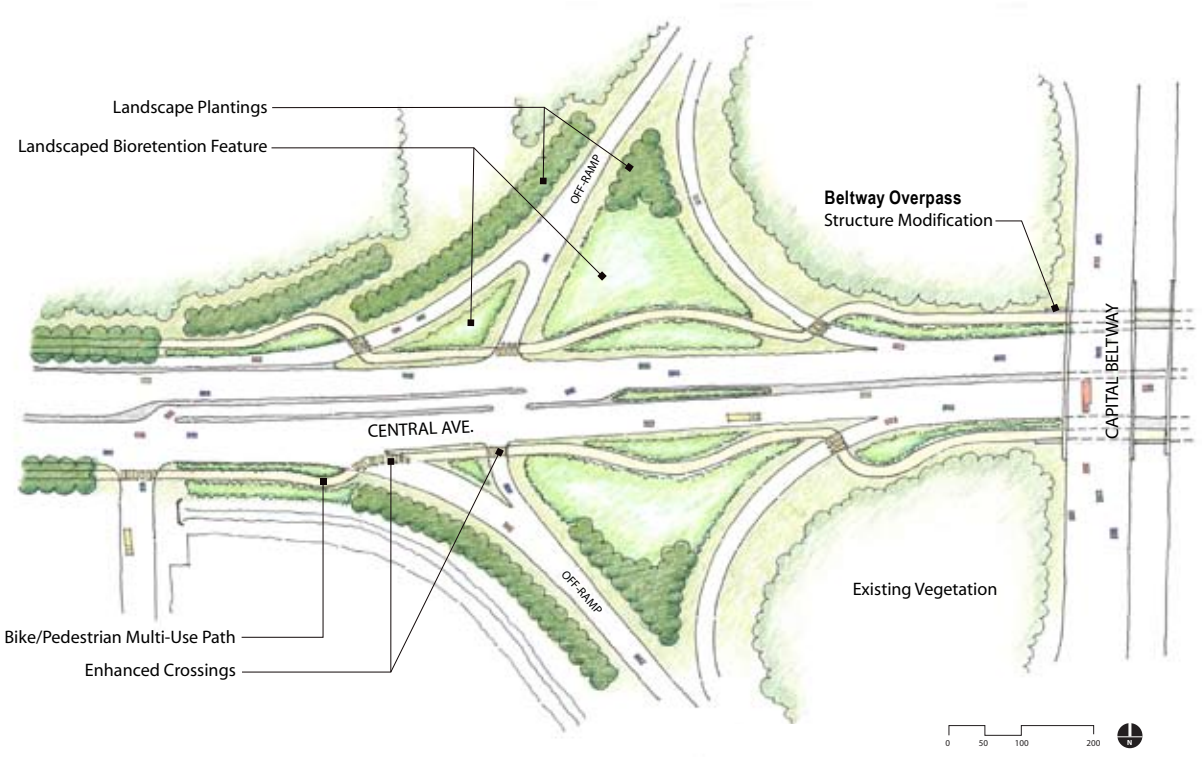
Section D: Morgan Blvd. to Brightseat Road.

Gateways

Central Avenue serves as a regionally significant connection between Washington, D.C. and the Capital Beltway and is to be redefined using a boulevard design treatment, which could incorporate green infrastructure elements. From the east, it is an important connection and conduit to our nation's capital, and from the west, it serves as the entrance to Prince George's County, MD. These gateways differ in development character; with the west gateway, closest to Washington, D.C., being urban and the east gateway, adjacent to the Beltway, being suburban.

The east gateway will be characterized by bold massing of landscape plantings to soften and frame the large scale of the Capital Beltway interchange and overpasses, while at the same time, transitioning it to the more urban character of Central Avenue. Double rows of trees will parallel sections of the on and off ramps and create arced hedgerows that form a visual "funnel" framing the wide entrance to Central Avenue. Other planted areas, in the form of bioswales and stormwater wetland areas, will outline the interchange geometry and feature low-growing grasses, wildflowers, and wetland plants.

Woven through the gateway landscape will be parallel pedestrian/bicycle paths on each side of Central Avenue that connect the east and west sides of the Capital Beltway. The paths allow for safe ramp crossings while integrating with the gateway landscape. The Beltway overpass headwalls will be reconfigured to allow for generous pedestrian passages beneath.



East Central Ave. Corridor Gateway Concept Plan

CORRIDOR ELEMENTS

Future redevelopment on Central Avenue at the Capitol Heights Metro Station will create an opportunity for an urban, architectural gateway on the west end of the corridor. The gateway will comprise three major elements:

1. *Architecture:* Future buildings on both the north and south sides of Central Avenue should be complementary and incorporate landmark features as part of their façade treatments. The scale and massing of these buildings should work together to form the threshold of Central Avenue.

2. *Corner Plazas:* Plazas on the northeastern and southeastern corners of Central Avenue should be balanced and complementary. Ideally, they should be designed and conceived together or required to adhere to design guidelines that reflect this intent. The plazas should incorporate a balance of landscape and hardscape and include active uses such as outdoor cafes and building entrances. The geometric design of the plaza landscape can serve an additional function with stormwater planters and native plantings incorporated into the plaza in a more formal and structured manner.

3. *Streetscape Elements:* These elements, including street trees, lights, banners, median and sidewalk design, will work together to extend the urban character of East Capitol Street to the east. The treatment will unify both sides of the line between Washington, D.C. and Prince George's County.

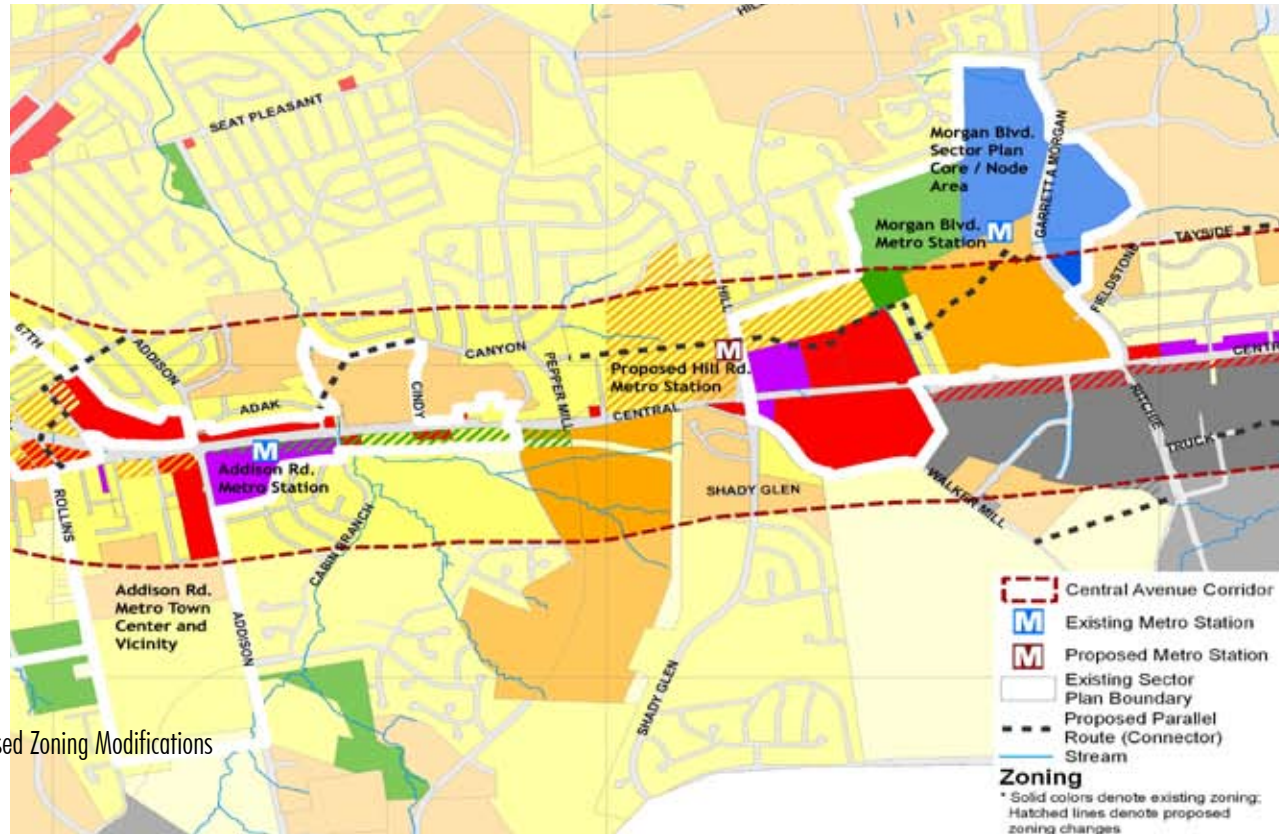
West Central Ave. Corridor Gateway Concept Plan

Land Use

Improved Commercial Frontage

The commercial developments that line Central Avenue are proposed to be improved in terms of their aesthetics and access. Site design guidelines (such as setbacks, landscape requirements, building orientation, signage, curb cuts, etc.) should be adopted to promote a pleasing and orderly pattern of redevelopment. Replication of the existing office building (on the north side of Central Avenue near Brightseat Road) has been suggested as an example of how this might look and function.

In many cases, the existing commercial development pattern is in transition. Though centers are desirable locations for retail activity—because of location and transportation access—the Central Avenue Corridor may offer larger parcels at a lower unit price than what can be found closer to the Metro stations.



Proposed Zoning Modifications

CORRIDOR ELEMENTS

It is envisioned that a strong commercial edge along Central Avenue, south of the Morgan Boulevard Station, be created by providing opportunities for office and retail and additional entry-points to the Morgan Boulevard Metro Station. The commercial development that lines Central Avenue on its eastern end serves a supportive function in relationship to the adjacent Industrial Area and also acts as a buffer between industry and residences. It is envisioned that the frontage along Central Avenue between the Beltway and Hill Road will continue to serve a primarily commercial and retail function.

Residential Preservation and Protection

In general, the many existing residential neighborhoods in the study area are to be retained and supported. However, in some areas, the addition of transportation and open space improvements may be required to achieve the overall corridor development concept. Some infill and/or redevelopment may occur in certain instances, but this could be designed to serve as a transition between more intensively-used areas and the quieter single-family neighborhoods. In addition, more intense development along Central Avenue may serve to buffer existing residential areas from likely increases in traffic volumes over time.

Baber Village/Cindy Lane

This area presents a possible development opportunity for the creation of additional residential development connected to Central Avenue. This area would accommodate a portion of the alternative "parallel route" for residents wishing to avoid Central Avenue. A widened Cindy Lane with a planted median could form a transition between the existing multifamily developments immediately to the east. Central Gardens could remain, be remodeled, or be redeveloped.

A desirable layout for this area would take advantage of visibility from Central Avenue and views to the Addison Linear Park. This could be primarily residential with six-story apartment blocks lining Central Avenue and a combination of town houses and single-family residences to the north. A generous linear open space is possible as a transition from the new development to the existing single-family houses to the north.

Baber Village Concept Plan

Baber Village Sketch

Sense of Community

- Existing Community Centers
- Churches (some Historic)
- Opportunity for School, Museum, and Community Center

Commercial Building Example

Industrial-scale Building
with a Sustainable Landscape Buffer

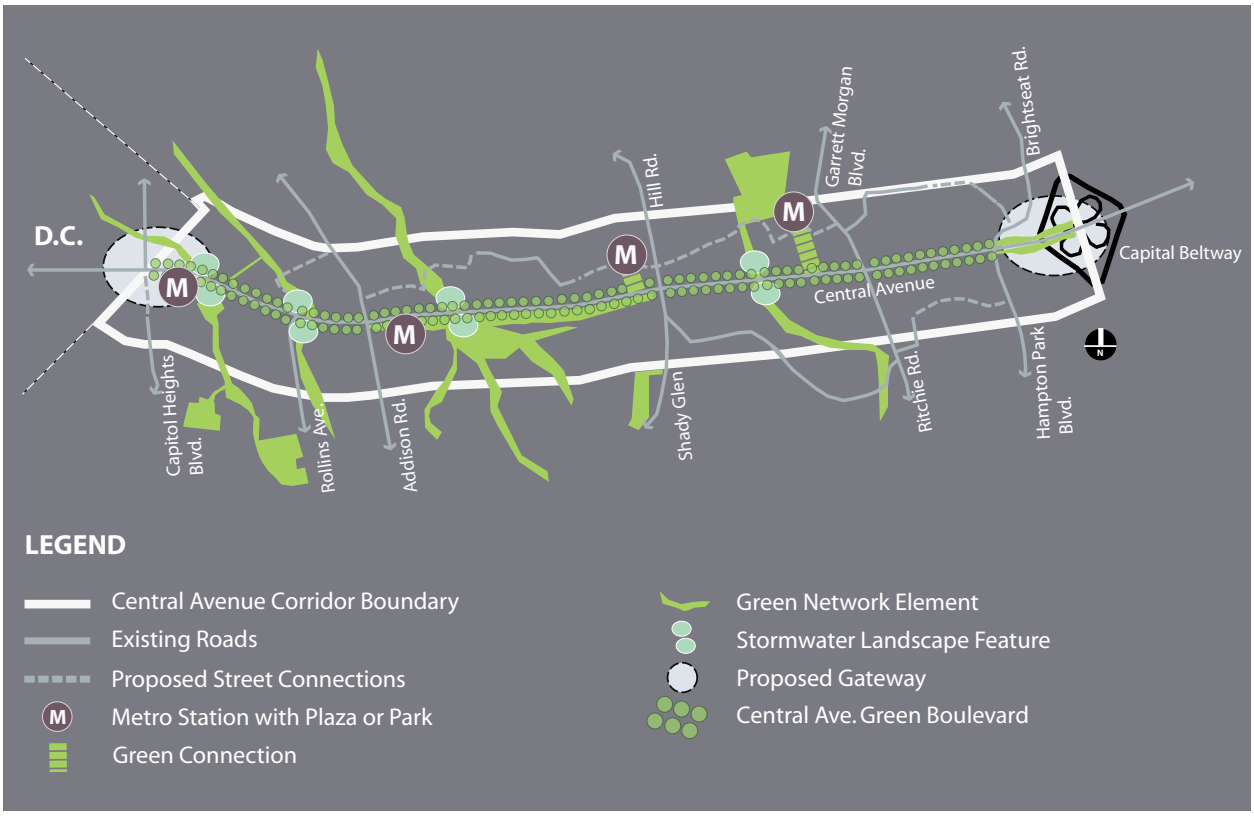
Industrial Area Support and Recognition

This subarea serves as the entrance to the corridor from the east. It includes the areas on either side of the exit ramp off the Beltway as well as the zones just north and south of Central Avenue between the Beltway and Morgan Boulevard. It is currently characterized by high volumes of automobile and truck use, many truck/car conflicts, a number of parcels that appear to be abandoned or have absentee owners, too few pedestrian crossings, broken sidewalks, pedestrian obstacles, and multiple curb cuts. The area on the southeast end of Central Avenue is an important employment zone with unique commercial vehicle access requirements.

This development strategy recognizes and reinforces this reality and suggests that supportive measures be taken that will promote an aesthetically pleasing and orderly pattern of development (such as setbacks, landscape requirements, building orientation, signage, curb cuts, etc.). It is envisioned that the function of this area will continue to reflect that it is Beltway- as well as Central Avenue-focused, and that it serves as a regional employment center. Improvements will include improved streetscaping, landscaping, and access management, and although auto-oriented, it will accommodate bicyclists and pedestrians in a more safe and comfortable manner.

Green Network

The environmental infrastructure goal in the 2002 *Prince George's County Approved General Plan* is: "To preserve, enhance, and restore the natural environment and its ecological functions as the basic component of a sustainable development pattern." Opportunities exist throughout the corridor to take advantage of open space resources, such as the stream valleys and wooded areas. This could provide functional benefits, such as stormwater treatment, sound buffering, and wildlife habitat protection and conservation, as well as aesthetic and recreational benefits. The addition of new parks and/or the formalization of existing community open spaces could provide balance and relief to the increased intensity of station area and corridor-wide development. Open spaces could act as gathering places and focal features within station neighborhoods.



Green Network Diagram

Green Boulevard Treatment

Changes to Central Avenue present the opportunity to redefine Central Avenue as a boulevard that incorporates "green street" and low-impact development (LID) techniques. Since development in the corridor is envisioned to continue, and impervious surface coverage typically increases when new development occurs, these techniques could be used to help minimize the negative effects of increased stormwater runoff by filtering it of pollutants, slowing water flow, and promoting infiltration within the right-of-way. Green streets are typically characterized by serving as one component in a larger watershed approach to improving the region's water quality by incorporating a system of stormwater treatment within its right of way, minimizing the quantity of water that is directly piped to streams and rivers, making visible a system of green infrastructure as part of the aesthetics of the community, and maximizing the use of street tree coverage for stormwater interception, temperature mitigation, and air quality improvement.

Street Trees: Part of the development strategy for the Central Avenue TOD Corridor will be the establishment of street trees in the corridor. Tree-lined streets help provide a transitional element between architecture and roadway; enclose and soften the hardness of the street pavement; slow traffic speeds; help minimize and manage the amount of untreated groundwater entering streams and rivers by providing pervious land cover; intercept precipitation to capture, absorb, and transpire it; clean the air; and improve aesthetics. Trees also reduce ambient air temperatures and reduce heating and cooling costs for buildings.

The species of selected street trees should be long-lived and attractive at old age. They should be reasonably free of insects and diseases, and have a deep root system that does not buckle sidewalks or enter sewer lines. They must withstand the elements and require minimal maintenance. Consideration should be given to the appropriate use of native tree species.

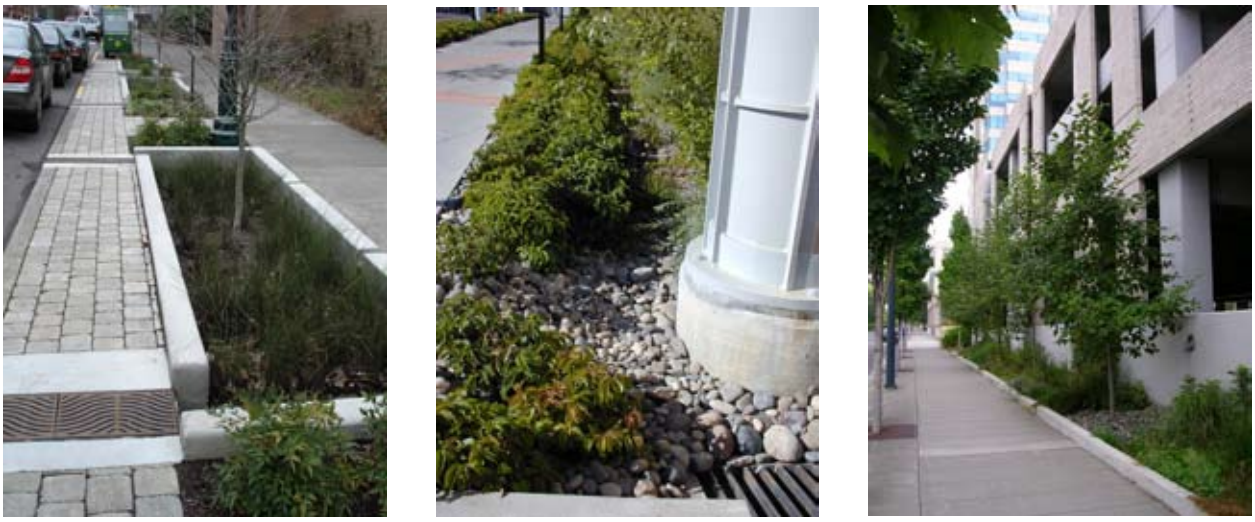
Street trees should be planted with consideration for their long-term health. Expanded, continuous planting strips between the curb and sidewalk create large areas for root growth and help eliminate the incidence of root damage to curbs, gutters and sidewalks regardless of the tree species. Continuous planting strips can contain grass, groundcover, low shrubs, or permeable pavers depending on the specific location. It is important to plant street trees between the curb and the sidewalk to provide a sense of protection for pedestrians.

Sustainable Stormwater Devices: Devices that can be integrated into the design of the streetscape include bioswales, filtration strips, and other linear detention facilities. Biofiltration is the process through which stormwater receives filtration through physical, chemical or biological interaction with vegetation and the soil surface. Biofiltration swales are typically shallow and wide, designed to accumulate stormwater from nearby impermeable surfaces where it can then be absorbed slowly by the vegetation in the swale. Stormwater collected in these swales is then filtered of pollutants.

CORRIDOR ELEMENTS

Biofiltration strips are similar to swales with regards to stormwater. Filtration strips also incorporate vegetation to slow stormwater from entering nearby streams and rivers. The strips offer some of the filtration that is found in swales, however, they are usually used to slow the progress of stormwater to a detention basin or other retention structure where the stormwater is then relieved of pollutants.

Many areas in the corridor are already fitted with existing stormwater treatment facilities. These areas could be retrofitted using LID techniques to help create a more comprehensive, effective, and integrated stormwater treatment approach. Some possible techniques would include bioswales, rain gardens, sand filters, infiltration trenches and/or on site facilities such as eco-roofs, rain barrels, or cisterns. Where possible, buffers around creeks and rivers could be returned to a more natural state, benefiting from the restoration of trees and shrubs along stream banks. Where stream corridor assessments have not been completed one will have to be conducted according to the Maryland Department of Natural Resources and in coordination with the Prince George's County Department of Environmental Resources. This assessment will list mitigation sites if mitigation is not possible along the Central Avenue TOD Corridor.



Examples of stormwater devices integrated with street design.

Linear Park Examples

Addison Linear Park

A new, major open space element is proposed—the Addison Linear Park. This park will be located along the southern edge of Central Avenue, between Addison Road and Walker Mill Drive, and will entail redevelopment of the existing vacant/underutilized land into a significant new open space feature. This feature will provide a gracious connection between the Addison Road Metro Station to the west and new office development to the east (proposed as part of the new Glenwood Hills development). This area is currently characterized by high volumes of automobile use, too many sidewalk curb cuts and access problems at residential developments along Central Avenue, too few/poorly defined pedestrian crossings, lack of perceived safety at Central Gardens, significant vacant lands, and the presence of the above-ground and below-grade Metrorail easement. The specific area of the proposed park has limited development potential on the south side of Central Avenue, due to the presence of the WMATA and PEPCO rights-of-way, shallow parcels, and steep slopes.

Although this park will be a major character-defining element for this segment of the corridor, it will also provide the functional benefits of visual relief, much-needed recreational opportunities, and open space benefits. It will be unique in terms of its emphasis on green space. It is envisioned as a primarily passive park; however, the park's main feature is envisioned as a wide (12 foot) multi-use path that will run its length. This lighted path will provide a separated trail for bicycle and pedestrian traffic, slightly removed from the roadway zone (vehicular areas) of Central Avenue. The path will make logical connections at all street crossings to the north, as well as internal connections to Central High School and developing areas to the south. Other areas within the park could provide for passive recreation such as open play fields, seating, and picnicking. Consideration should be given to the creation of a parking area on the park's east end.

CORRIDOR ELEMENTS

Station Area Plazas/Parks

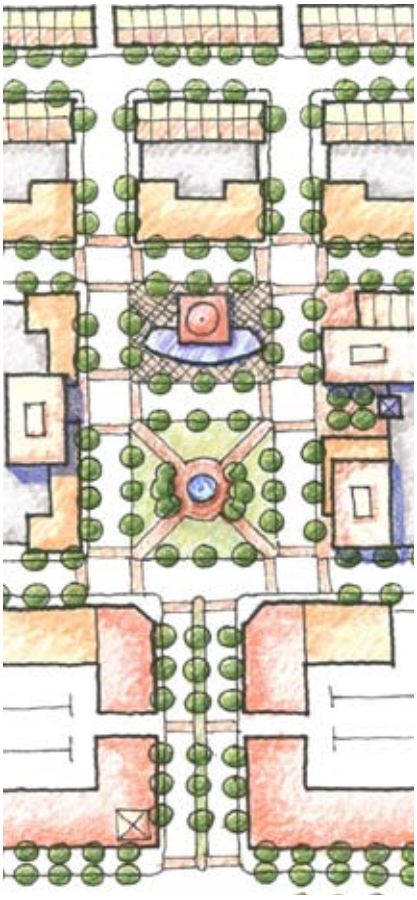
Each Metrorail station is envisioned as preserving, rehabilitating, or creating a focal open space element. This could be a small urban park or plaza. These parks or plazas will provide gathering places for transit patrons and other users of the station areas. They will help focus and define the station areas and provide the functional benefits of visual relief, passive recreational opportunities, and open space benefits. Since there are three existing and one proposed new Metro station, there will be a total of four station area plazas and/or parks:

- *Capitol Heights Station Plaza*: The existing station plaza will one day be rehabilitated as part of the envisioned redevelopment of the Capitol Heights station as an urban mixed-use neighborhood. The existing station portal will serve as a focal element within this primarily urban plaza.

- *Addison Road-Seat Pleasant Station Plaza:* The existing station plaza is envisioned as being preserved and maintained. Renovation of existing paved pedestrian areas and landscaping would provide for improved aesthetics.

- *New Hill Road Station Plaza:* The proposed new Hill Road Station should incorporate a focal open space element near the entrance portal. This small park or plaza should also have direct pedestrian linkages to the Central Avenue Corridor (either through enhanced streetscape pedestrian zones, or an exclusive pedestrian greenway).

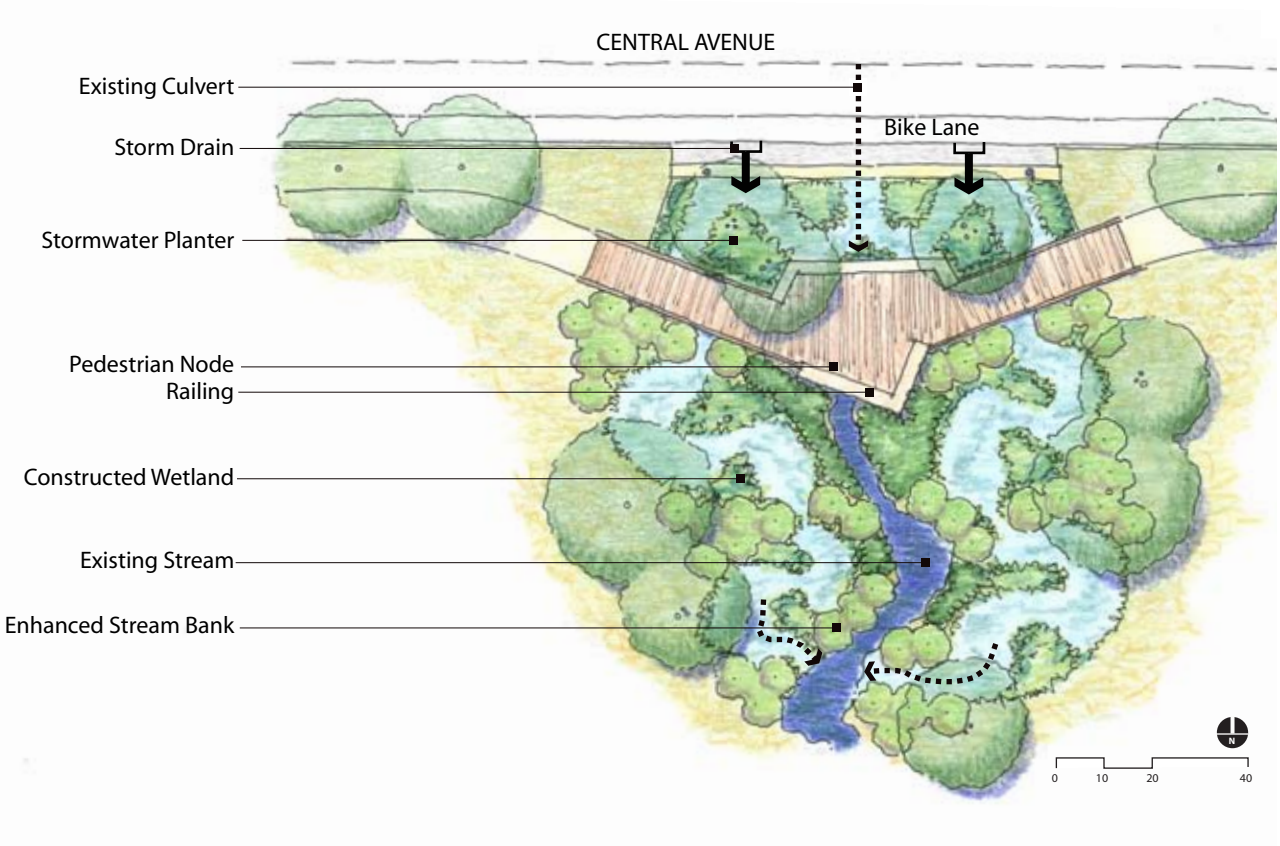
- *Morgan Boulevard Station Plaza and Park Blocks:* The existing park-and-ride portion of the Morgan Boulevard Station is envisioned as being redeveloped into a complete mixed-use neighborhood. As part of this redevelopment, the existing station plaza space should be connected to the Central Avenue Corridor either through enhanced streetscape pedestrian zones, an exclusive pedestrian greenway, or a series of "park blocks."



Hill Road Station Plaza/Park Concept

Connections to Stream Corridors

The existing four stream corridors in the study area present opportunities for connections to a larger, more integrated open space network. These stream corridors generally run north and south and could be enhanced by the development of trails and stream restoration projects. These efforts would provide recreational and wildlife benefits. The points at which these corridors touch Central Avenue could become stopping points for bicyclists and pedestrians, serve as trailheads, and provide visual interest by varying the design treatment of the crossing points.



Stormwater Landscape Feature Example.

Historic Preservation Considerations

There have been a number of local historic preservation initiatives, including the relocation and restoration of the Ridgley Methodist Church (with the assistance of the Historic Ridgley Rosenwald School Working Group). It is also possible that the implementation of the Central Avenue Corridor TOD Plan may provide the opportunity for additional historic preservation planning opportunities

Working with the Maryland Historical Trust, M-NCPPC, local historic preservation groups and members of the interested public, the project planning and design teams would try to assure that the TOD project not only avoids negative impacts to local historic resources, but also includes historic rehabilitation or community enhancement projects that would help to preserve, protect and celebrate the Central Avenue Corridor's valuable historic and cultural resources. In particular, the corridor contains a number of resources (including the Ridgley Farm, Ridgley Methodist Church and Ridgley School) that help tell the story of an important chapter of Prince George's County's African-American cultural and community history. The Ridgley family and the religious, educational and social institutions that they helped to support played a central role in local history, and the existing historic properties present opportunities to incorporate these historic resources into ongoing community heritage programs. Local groups are involved in ongoing plans to rehabilitate the Ridgley School, possibly as an African-American school and museum/community center.

Noise Pollution Management

Development along the Central Avenue TOD Corridor may help to minimize noise pollution. Noise may be reduced in some areas due to envisioned reductions in speed. Additionally, development of taller structures, such as mixed-use and residential buildings, could act as noise barriers to existing residential areas. Since the development strategy includes street trees along the corridor, this will also help minimize noise from the roadway. Mass transit usage in the corridor will help minimize the amount of traffic. Nevertheless, increasing development in the region will likely cause an increase in traffic which may contribute to increases in ambient noise levels in some places. As development and traffic volumes increase, it may be determined that other mitigation measures, such as sound walls and insulated windows on some structures, be used. Maximum exterior noise level for residential use is 65 decibels (dBA) and the maximum interior noise level is 45 dBA.

Since traffic and noise levels are likely to increase over time, mitigation measures should be considered.

CENTER ELEMENTS

Transit-Oriented Development (TOD)

Each of the centers in the corridor have a Metro station as a focal point, creating ideal areas for applying TOD techniques. TOD is a strategy available to help manage growth and improve quality of life. TOD provides communities with an alternative to sprawling, low-density suburban and automobile-dependent land use patterns.

TOD is defined in the 2002 *Prince George's County Approved General Plan* as: "Land uses that are sited, designed and combined to maximize transit, particularly rail, ridership." Other definitions of TOD include references to reducing automobile dependence; encouraging more pedestrian and bicycle trips; and carefully mixing uses to create lively and safe areas.

TOD is a transit-supportive approach to development, which enables efficient use of available transit services. It is important to recognize that this style of development works successfully without transit and functions even better with transit.

Santa Row, San Jose, California
This mixed-used project illustrates all the basic elements of good TOD design: moderate to higher density, a mix of uses, development at a pedestrian scale, and the creation of a defined center.

TOD Creates Choice for a Diverse Demographic

In general, people living and working in TODs walk more, use transit more, and own fewer cars. TOD households are twice as likely to not own cars; otherwise, they own roughly half as many cars as "average" households. People who live in a TOD are five times more likely to commute by transit than other residents. Locations next to transit can enjoy increases in land values over 50 percent in comparison to locations away from transit stops. TOD seeks to align transit investments with a community's vision for how it wants to grow. Successful TOD reinforces both the community and the transit system.

Benefits of TOD

By implementing TOD and coordinating investment in transportation and land-use projects, communities can make significant progress toward improving their quality of life. The extent to which this progress is made depends largely on the type and quality of transit service available as well as the primary characteristics of the TOD. Ten major benefits from TOD include:

1. *Providing mobility choices.* By creating "activity nodes" linked by transit, TOD provides much needed mobility options, including options for young people, the elderly and people who do not own cars or prefer not to drive.
2. *Increasing public safety.* By creating active places that are busy through the day and evening and by providing "eyes on the street," TOD helps increase safety for pedestrians, transit users, and many others.
3. *Increasing transit ridership.* At an individual station, TOD can increase ridership by 20 to 40 percent and up to five percent overall at the regional level.
4. *Reducing vehicle miles traveled (VMT).* Vehicle travel has been increasing faster than population growth. TOD can lower annual household rates of driving by 20 to 40 percent

Orenco Station, Hillsboro, OR. Focusing growth near transit stations helps protect existing neighborhoods.

for those living, working, and/or shopping within transit station areas. Recent research shows that automobile ownership in TOD is approximately one half the national average.

5. *Increasing disposable household income.* Housing and transportation are the first and second largest household expenses, respectively. TOD can effectively increase disposable income by reducing the need for more than one car and reducing driving costs, saving households $3,000 to $4,000 per year.

6. *Reducing air pollution and energy consumption rates.* By providing safe and easy pedestrian access to transit, TOD can lower rates of air pollution and energy consumption. TOD can also reduce rates of greenhouse gas emissions by 2.5 to 3.7 tons per year per household.

7. *Helping protect existing single-family neighborhoods.* TOD directs higher density development to appropriate areas near transit, thereby reducing pressure to build higher density development adjacent to, or within, existing single-family neighborhoods.

8. *Playing a role in economic development.* TOD is increasingly used as a tool to help revitalize aging downtowns and declining urban neighborhoods, and to enhance tax revenues for local jurisdictions.

9. *Contributing to more affordable housing.* TOD can add to the supply of affordable housing by providing lower-cost and accessible housing, and by reducing household transportation expenditures.

10. *Decreasing local infrastructure costs.* Depending on local circumstances, TOD can help reduce infrastructure costs (such as those for water, sewage, and roads) to local governments and property owners by up to 25 percent through more compact and infill development.

TOD Land Use and Design Principles

Successful transit-oriented development has four basic characteristics:

- Greater density than community average.
- A mix of uses.
- Quality pedestrian environment.
- A defined center.

These four principles are consistent with the purpose of the centers and corridors identified in the 2002 *Prince George's County Approved General Plan* in the way they directly influence the land use, circulation, and design concepts of the corridor along with the future plan and code elements necessary to support it.

TOD Principles ➡	TOD Design ➡	TOD Code
Greater Density than Community Average	Density by Design	Allows Greater Density
A Mix of Uses	Building & Mix of Uses	Height, Bulk, Allowed Uses
Quality Pedestrian Environment	Pedestrian Environment	Public Realm Stds / Connections
A Defined Center	Building Placement	Site Location & Setbacks
	Building Orientation & Frontage	Street Presence & Design
	Parking	Location & Quantity

CENTER ELEMENTS

Greater Density than the Community Average

A key ingredient for walkable communities and support for transit is having sufficient residential densities to reduce walking distances between residences and other destinations, including commercial services, schools, parks, and transit. The appropriate density levels depend largely upon community character and desires, but in general, a minimum of eight to nine units per acre is necessary to support any type of transit. The following elements contribute to appropriate density for transit supportive land uses:

- Densities that are higher than the community norm are located within ¼ to ½ mile of transit.
- Structured and shared parking lots are used in higher density areas.
- Site design for major projects allows for the intensification of densities over time.

Ballston, VA.

Portland, OR

Melbourne, AUS

Dallas, TX

Density Matters in TOD Performance. Increasing the density in areas around a transit station can lead to a corresponding increase in transit ridership. Increasing density has also been found to reduce the use of cars.

A Mix of Uses

A transit-supportive environment includes a mixture of residential, commercial, service, employment, and public uses making many trips between destinations shorter and more walkable.

- First floor uses are "active" and oriented to serve pedestrians.
- Multiple compatible uses are permitted within buildings near transit.
- A mix of uses generating pedestrian traffic is concentrated within walking distance (¼ to ½ mile) of transit.
- Auto-oriented uses, such as service stations and drive through facilities, are limited or prohibited near transit.

Henderson, NV

Miami, FL

San Jose, CA

Beaverton, OR

Plan for a mix of uses. Promoting compact development and reducing automobile use can best be achieved through a mix of land uses. Mixed use can be horizontal, vertical or balanced between stations. Transit-supportive environments can offer places to shop, work, live and recreate.

CENTER ELEMENTS

Quality Pedestrian Environment

Vibrant communities, with or without transit, are convenient and comfortable places for pedestrians. There are a number of components that contribute to a quality pedestrian environment:

- Buildings and primary entrances are sited and oriented to be easily accessible from the street.
- Buildings incorporate architectural features that convey a sense of place and relate to the street and the pedestrian environment.
- Amenities, such as storefront windows, awnings, architectural features, lighting, and landscaping, are provided to help create a comfortable pedestrian environment along and between buildings.
- The site layout and building design allow direct pedestrian movements between transit, mixed land uses, and surrounding areas.
- Most of the parking is located to the side or to the rear of the buildings.
- Sidewalks connect all site frontages along both sides of streets in the area.
- Street patterns form an interconnected grid that simplifies access for all modes.
- Pedestrian routes are buffered from fast-moving traffic and expanses of parking.
- Trees sheltering streets and sidewalks are provided along with pedestrian-scale lighting.
- Buildings and parks are used to provide a focal point or anchor for key areas or intersections.
- Secure and convenient bicycle parking is available.

Design for the Pedestrian.
Well-designed pedestrian routes are percieved as safe, attractive, and convenient by those who use them.

Bethesda, MD

Clarendon, VA

Charlotte, NC

Defining a Center. Creating centers is an important principle of successful TOD implementation. The transit can be an important anchor for a center.

A Defined Center

Transit is particularly successful in communities and neighborhoods that have defined centers, offering multiple attractions and reasons for pedestrians to frequent the area. These areas project a sense of place by including at least several of the following attributes:

- The density and buildings are highest adjacent to the transit station, decreasing somewhat in the core within ¼ mile of the transit station, and ultimately transitioning in the edge to match the character of surrounding development approximately ½ mile from the station.
- Parking is less predominant, being located to the rear and in parking structures.
- Buildings are oriented close to the street with window displays and main entrances.
- Buildings are typically taller than those in the surrounding area.
- Parking requirements are reduced in close proximity to transit, compared to the norm.
- Sidewalks are wider than in lower density areas, and offer pedestrian amenities, such are street trees, benches, kiosks, and plazas.

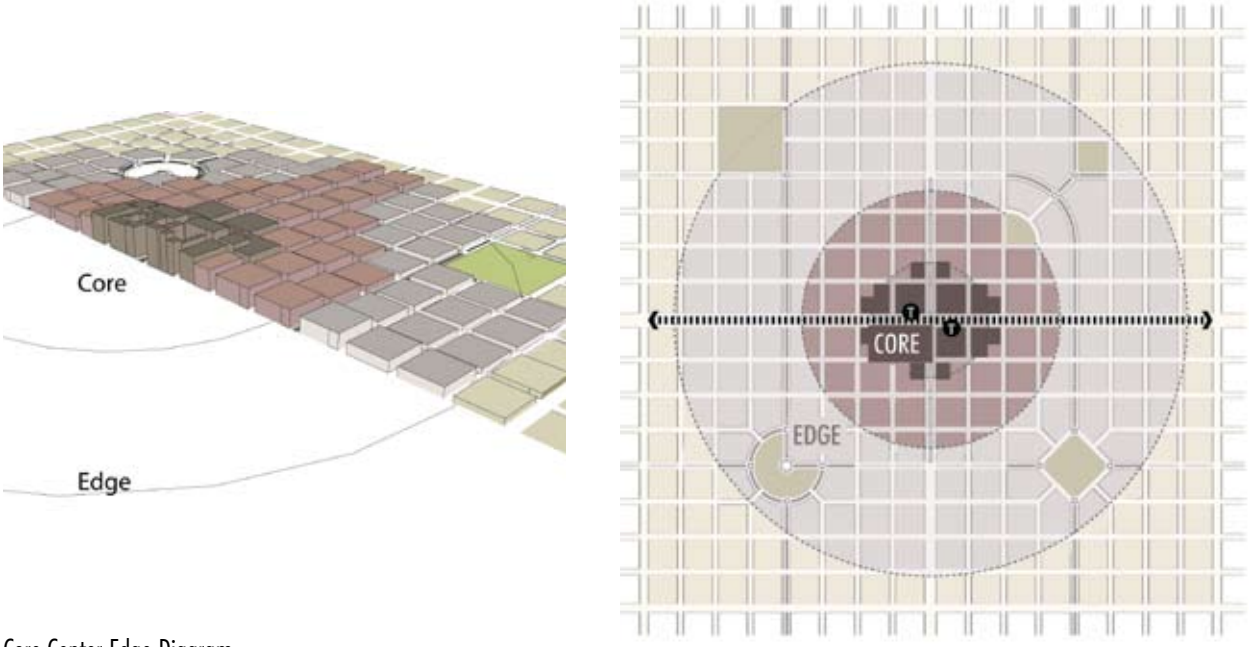
CENTER ELEMENTS

Core-Edge Concept

The specific application of the four TOD principles varies depending on the location of development in relation to the transit facility. Transit stations are surrounded by a core and an edge, which influence the proper location of higher densities, mixed uses, and the design of the circulation system.

The center extends from the transit station approximately ¼ mile. The density and mix of uses continues to remain higher than the surrounding area, but generally less so compared to the center. High priority continues to be given to pedestrian convenience, comfort, and safety. The ¼-mile distance is approximately a five-minute walk. It corresponds with the walking distance and time to get to transit that makes people more instinctively likely to choose transit. Within approximately 600 feet of a transit station, it is particularly important to have the highest density and degree of mixed use compared to the remainder of the core. In addition, it should be the most walkable with wide sidewalks, smaller block sizes, building frontages located along the sidewalk, and pedestrian amenities.

The edge represents the outer limit of a transit station area, covering a distance between ¼ mile and ½ mile from the transit station. This area is a transition zone between the higher density and mixed use pattern in the core and center and the lower density residential uses beyond. The ½-mile distance, or a 10-minute walk, is based upon the maximum distance and time people typically are willing to walk to transit.

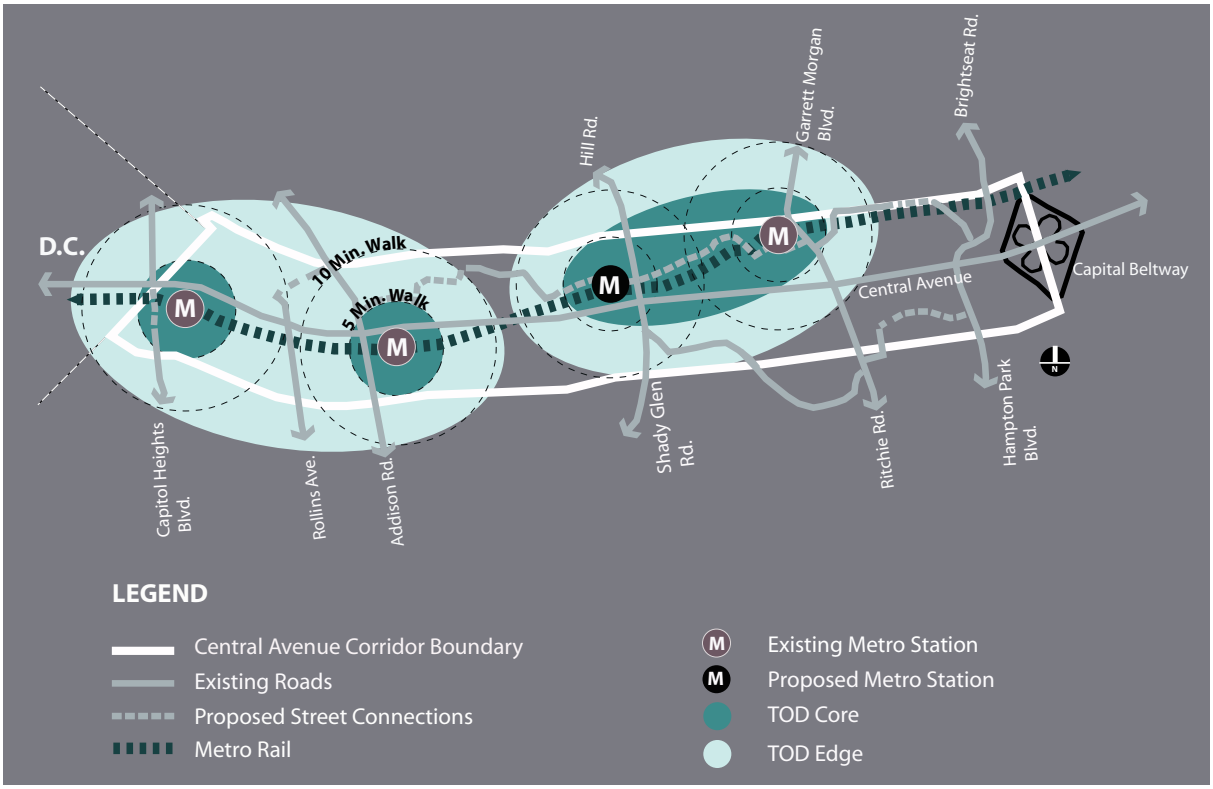


Core Center Edge Diagram

Capitol Heights Metro Community Center and Addison Road Metro Community Center

It is envisioned that this area will: connect the Addison Road-Seat Pleasant and Capitol Heights Stations, be pedestrian-oriented but accommodate bicyclists and autos as well, and be recognized as a gateway to Prince George's County. Similar in scale and function to many historic neighborhoods inside of the District of Columbia, this area will become the most pedestrian-friendly, urban, and active zone in the plan area. Since the two existing stations have a direct relationship with the street (MD 214, also called East Capitol Street Extended in this section), they will serve as anchors, or bookends, to this section and will contribute greatly to higher levels of pedestrian activity.

This subarea will serve as the most intensely developed section along the corridor and will have a direct relationship between the station areas and the street. Redefinition of East Capitol Street Extended (MD 214) into an urban boulevard will be the primary objective. This area is currently characterized by high volumes of automobile use; high traffic speeds; "uninhibited behavior" (cars and pedestrians); problematic access to and from residential areas; too few or poorly defined pedestrian crossings, especially at the station sites; vacant/underutilized properties; the presence of the below-grade Metrorail easement; inadequate parking at Metro stations; safety along the Watts Branch stream valley; the poorly designed and pedestrian-unfriendly East Capitol Street/Southern Avenue intersection; several existing triangular intersections along East Capitol Street Extended; and a number of developments that turn their back on the street.



Transit-Oriented Development Centers Concept

CENTER ELEMENTS

Capitol Heights TDDP/TDOZ Plan

This strategy recognizes and supports the current planning efforts to develop a Transit District Development Plan (TDDP) and Transit District Overlay Zone (TDOZ) for Capitol Heights. Some of the major reinvestment and redevelopment concepts for this area have interpreted the "Community Center" General Plan designation as a TOD Urban Village Concept (Old Central Avenue as a Main Street, Capitol Heights Boulevard reconnection, new civic facilities area, grid street pattern recognition).

Addison Plaza

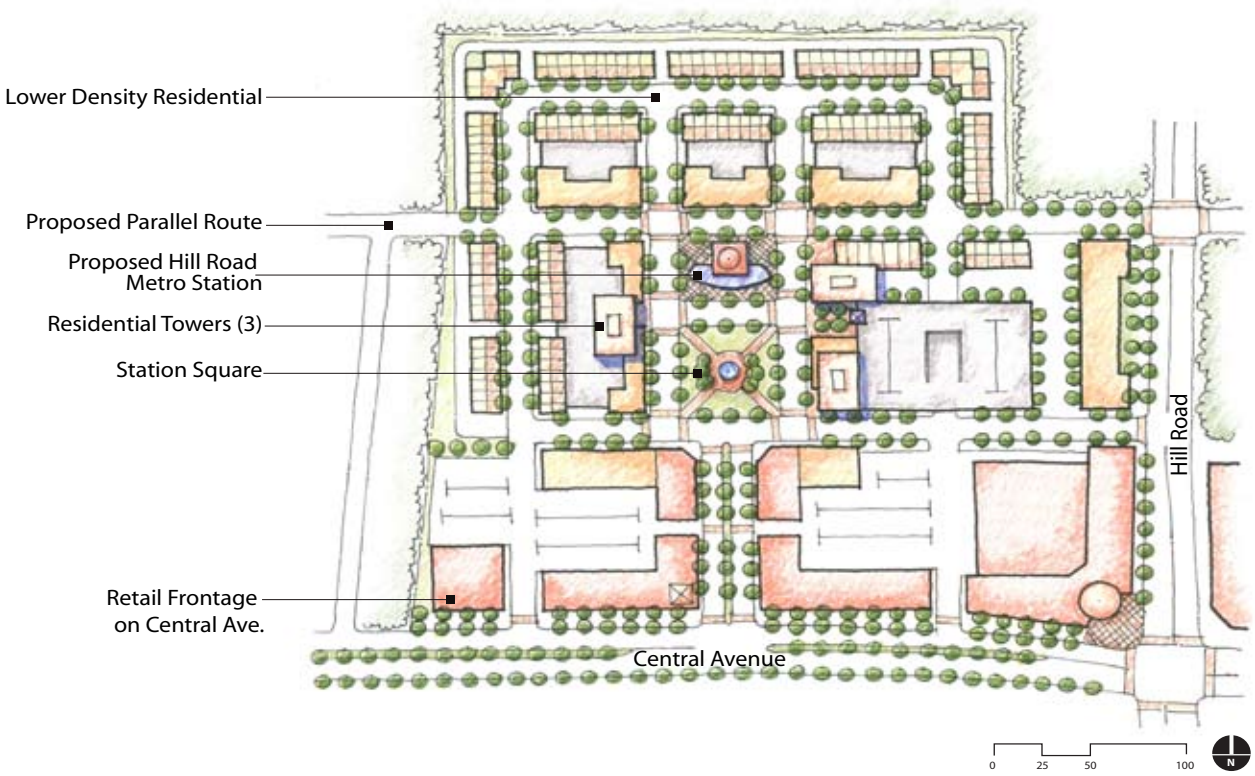
With an existing shopping center and a new mixed use (residential/commercial) building already planned here, this area is becoming an important entry node to a potentially more pedestrian-friendly section of the Central Avenue Corridor. The sketch illustrates the possibility of reconfiguring and enhancing the shopping center and intensifying the residential character of the neighborhood through a combination of mid-rise housing blocks and limited additional retail square footage. The sketch also suggests narrowing Central Avenue from this point to Washington, D.C. and introducing a boulevard aesthetic character to the streetscape.

Addison Plaza and Vicinity—Proposed New Development

Hill Road Metro Regional Center (Proposed) and Morgan Boulevard Regional Center

This subarea will serve as an edge between the more automobile- and truck-dominated area to the east, and a more pedestrian and mixed-use environment to the north and west. It is currently characterized by high volumes of automobile use, too few or poorly designed pedestrian crossings, issues regarding signs and access to Metro, and a unique element—a historic school and house.

This subarea will have two distinct characters—one will be the auto-oriented commercial activity along both sides of Central Avenue, the other will be the pedestrian oriented station areas north of Central Avenue. This area is the beginning of a transition from the more automobile- and truck-dominated area to the east, and a more pedestrian and mixed-use environment.



Proposed Hill Road Regional Center

CENTER ELEMENTS

It is envisioned that the function of this area will:

- Have a strong Metro station focus but recognize the importance of linkages to Central Avenue;
- Include both the existing Morgan Boulevard Station and a proposed Hill Road Station;
- Contain two distinct types/character of development: 1) Mixed-use, pedestrian-friendly development at the stations, and 2) Auto-oriented retail focused along Central Avenue.
- Be adjacent to regional recreation facilities including FedEx Field, Prince George's Sports and Learning Center, and Walker Mill Regional Park.

Proposed Hill Road Regional Center

A new Metrorail station is proposed near the northwest corner of Central Avenue and Hill Road. This new station presents the opportunity for the creation of a new Regional Center, as described by the General Plan. This new station would fill in the gap between the existing Addison Road and Morgan Boulevard Stations, allowing users to walk from one to the other. It also presents an opportunity to capitalize on the fact that the land in this area has not yet been valued or configured with a station in mind, and as such, is something of a blank slate. This new station is envisioned as a node of primarily residential development with a variety of building types ranging from townhouses to modest towers in the 16-story range. A limited amount of commercial development is suggested fronting Central Avenue and some limited commercial space is proposed at the new station for transit-serving retail. It is recommended that direct pedestrian linkages between the station and the various enterprises located along of Central Avenue be provided to strengthen the relationship between the two areas. The character of this station offers the possibility to create a distinctive, more contemporary character reflecting an energized and emerging image. Given its location at the top of the hill, the proposed development configuration, featuring several highrise residential towers with great views, will become an important visual marker in the corridor.

The most recent experience of adding a station to an existing Metro station at New York Avenue was both expensive and technically challenging. This will also be the case for the proposed Hill Road Station. The total cost of the New York Avenue Station was $103 million (approximately $120 million in 2006 dollars). This amount does not include the land that was donated and would have cost an additional $10 million. Furthermore, the Hill Road Station would be underground which adds an additional 20-30 percent to the cost compared to the New York Avenue Station which is at-grade.

Constructing a new station at Hill Road will likely require some form of value capture to fund construction by collecting a portion of the increase in property values that will be generated by the new station. This could be accomplished through a tax increment financing district or some form of benefit assessment district. Value capture or direct contributions from private property owners will need to provide the bulk of the construction financing.

Morgan Boulevard Metro Regional Center

A strengthening of this station area as a TOD is proposed with a focus on the creation of strong internal and external relationships to Central Avenue. This would likely require incorporation of all properties into one, cohesive plan concept. The following illustrations represent one potential development scenario that is consistent with the corridor and center design elements. The WMATA Joint Development team is currently working on a similar plan for the site. The final site plan should be consistent with the following design elements.

- A series of focal "park blocks" linking the station to Central Avenue.
- A diversity of residential product types (at least four to five distinct types are recommended). These could include condominiums, apartments, traditional townhouses, stacked townhouses over flats, and/or narrow lot single-family units. Accessory units should be encouraged, especially along alleys.
- The creation of a gateway and pedestrian crossing at the intersection of Central Avenue and West Hampton Avenue.
- Tallest buildings at the station, to be situated along the central "park blocks" and at the West Hampton/Central Avenue gateway. Transition to smaller scaled residential buildings along the eastern and western property boundaries.
- A retail anchor at the corner of Central Avenue and Morgan Boulevard.
- Accommodation of Metro parking a block or two from the station to activate any intervening storefront retail and open spaces.
- Accommodation of additional parking needs in structures, on-street, and in surface lots to the rear or side of development.

Proposed Morgan Blvd. Metro Regional Center Sketch

Morgan Blvd. Regional Center Concept Plan

Crime Prevention through Environmental Design (CPTED)

Crime was stated as a concern by residents and crime prevention is a common request from communities across the nation. A design methodology, called Crime Prevention Through Environmental Design (CPTED), focuses on reducing opportunities for crime, mitigating fear of crime, and improving quality of life. Through the design and management of the physical environment (building uses, residential and commercial areas, etc.) and an increase in public safety and education, CPTED programs have been shown to increase community security. Four basic principles of CPTED should be considered during site planning and design:

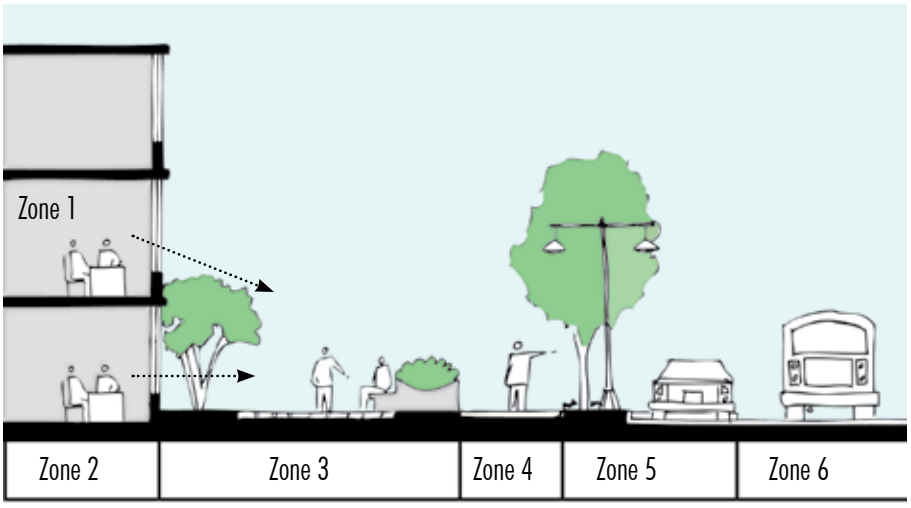
1. Territoriality: involves designing physical attributes that express ownership, such as fencing, signage, landscaping, and pavement treatments. Physical elements can extend an area of territorial influence and cause potential offenders to perceive that area as undesirable. A well maintained home, building or community creates a sense of ownership, which helps to deter criminals.

- *Provide clear border definition of controlled space.* There are several ways this can be achieved including fences, plantings, lawn, tactile surfaces etc. These types of boundaries allow people to recognize that they are transitioning from public to private space. Creating a sense of ownership or defensible space is encouraged to deter undesired behavior.
- *Provide clearly marked transitional zones.* Identify public, semi-public, semi-private and private spaces. Controlled space must be demarcated in order to move users through the environment.
- *Design building and site to encourage interaction.* This will provide opportunities for the community to become more familiar with their environment and help build a sense of ownership.
- *Clearly identify buildings, open space, and major circulation paths* (bike path, crosswalks, etc.) using signage and markers that are easily observed from the street. This will identify areas and their programmed uses.

2. Natural Surveillance: is the placement of physical features, activities and people in such a way as to maximize visibility. A potential criminal is less likely to attempt a crime if he or she is at risk of being observed. At the same time, we are likely to feel safer when we can see others and be seen.

- *Use physical features, activities, and people in ways that maximize the ability to see*. This will help discourage undesirable behavior. The use of vegetation heights, street furniture, and building layout can help increase eyes on the activities.
- *Design security zones that respond to the building and site relationships.* The focus is on creating natural surveillance solutions from the street to the building façade. These zones can be distinguished as:

CENTER ELEMENTS



Zone 1–Building Interior. Layout of the floor plan should encourage active uses towards windows to encourage more eyes on the street.

Zone 2–Building Perimeter. Access points and windows should be oriented toward the street and major pedestrian circulation.

Zone 3–Building Yard. Raised planters, plinth wall, or fences provide a security barrier in the building yard.

Zone 4–Sidewalk. Trees, planters, and other streetscape elements are used to promoted active pedestrian zones.

Zone 5–Curb Lane. This zone can be designed for on-street parking or drop-offs/pick-up area to encourage active street zones.

Zone 6–Street. Design appropriate lane widths to accommodate appropriate vehicle speed. This can be determined by the uses that are located at the edges of the street.

- *Improve sightlines.* There should be clear views of surrounding areas. Design permeable barriers that do not restrict vision. Avoid features (tall vegetation, fences, etc.) that block sightlines and major access points.
- *Lighting design must be incorporated into developments to ensure safety and security.* Placement of lighting is critical to pedestrian pathways, roads, and potential entrapment spaces.
- *Locate open spaces and recreational areas so they are visible.* Formally designate gathering or congregating areas. These areas should be in locations that are well lit and encourage gathering opportunities that are within sightline of residential and commercial activity.
- *Land use and activity mix*. A variety of uses should be developed to encourage informal surveillance during the day and evening.

3. Access Control: reduces the opportunity and accessibility for crime. The physical guidance of people coming and going from a space—by the appropriate placement of entrances, exits, fencing, landscaping and lighting—denies a criminal's access to potential victims. Access control methods should be designed to create the perception of risk to potential offenders.

- *Overcome distance and isolation*. Entrance and exit points to buildings and public uses (telephone, restroom, etc.) should be designed with increased convenience to major circulation patterns.
- *Place safe activities in unsafe locations.* Safe activities serve as magnets for normal users and discourage undesirable activities.
- *Improve scheduling of space*. Productive uses of spaces reduce the risk of attracting undesirable activities. Designed spaces and uses can improve productivity while increasing the control of behavior.
- *Discourage cut-through paths and high-speed traffic*. Design streets and pedestrian paths to control circulation patterns and reduce vehicular speed. Vegetation, paving elements and signs can help increase community safety.
- *Security screening devices and surveillance.* Organizing community watch programs and increased policing can reduce potential crime. Proactive involvement will reinforce the perception of safety.

4. Place-making: This approach to design and revitalization carefully looks at the communities' needs and interests to develop strategies to increase productivity, improve transportation circulation, and promote a vibrant community and quality of life. In addition to direct community involvement, the following is essential to creating a great place: uses and activities, comfort and image, access and linkage, sociability and maintenance. (Urban Design Collaborative, 2002)

- *Physically compact in design*. Development of place-making concepts lends itself to natural surveillance. Eyes on the street and connectivity can be achieved with special attention to building layout and circulation patterns.
- *Create centers of mixed-use developments near a variety of residential densities.* This encourages more pedestrian travel and active areas near a neighborhood. Design uses that create activity during day and night hours. Mixing commercial, retail, education, and recreation with housing allows for people to satisfy daily needs without having to travel great distances. These centers become more lively and safe environments.
- *A network for a variety of modes of transportation*. Walkways, bicycle paths, and street connectivity encourages non-auto travel by offering alternative routes that connect to housing, employment, commercial services, schools, parks, and public transportation.
- *Design pedestrian scaled environments.* Development should be designed to the comfort and scale of people. Vegetation, street furniture, lighting and other elements can be used to enhance a pedestrian environment. These design features can also reinforce a community's identity and history.
- *Maintenance program must be designed into a project and visited on a routine basis.* A successful component of PlaceMaking is to insure that a program is implemented and is successfully managed beyond the design phase for future generations to enjoy.
- *Education and community involvement is critical in the success of a great place*. Outreach meetings should be integrated into the design process to develop analysis of users and potential solutions. Residents should form neighborhood committees to ensure continued interest once the implementation strategies have been established.

  Resources: National CPTED Association, Atlas Safety and Security Design, and Urban Design Collaborative

IMPLEMENTATION

Implementation Recommendations

The Central Avenue TOD Corridor Development Strategy builds on the 2002 update of the *Prince George's County Approved General Plan* by creating a unifying vision that ties Central Avenue, a designated corridor, to two community centers (Capitol Heights and Addison Road Metro Stations) and one regional center (Morgan Boulevard Metro Station). While the brush strokes of the development strategy are broad, they provide a clear direction for the corridor's future. Subsequent steps must be taken to make the vision described in this development strategy a reality.

Central Avenue Implementation Committee

Successful implementation of the development strategy will require a strong partnership between several jurisdictions, public agencies, and the private sector. No one entity has the authority or resources to fully implement the development strategy on its own.

Therefore, a collaborative approach that includes the state, the transit agency, county government, local governments, and the private sector is necessary. The partners should form a policy-level Central Avenue implementation committee that includes representatives from all of these entities. The committee's primary focus will be to span jurisdictional and agency boundaries to facilitate collaboration and guide the implementation of the development strategy. If possible, the members of the committee should have the authority to speak on behalf of their respective organizations and make decisions.

The implementation committee should meet regularly. Additionally, it should be supported by a technical committee made up of jurisdiction and agency staff responsible for the day-to-day project management of the development strategy. Project partners should also consider the formation of a citizen advisory committee that includes residents, property owners, and businesses along the corridor. Both the technical and the citizen advisory committees would report directly to the policy level implementation committee.

Implementation Responsibilities

Since several entities have a role to play in implementing the Central Avenue TOD Corridor Development Strategy, the following action steps should be considered by each participating agency or jurisdiction. However, many of these tasks will require collaboration with other partners in order to be successful.

IMPLEMENTATION

STATE: Maryland DOT - State Highway Administration (SHA)

- The acknowledgement by the State of Maryland of the Central Avenue Corridor as an important place would publicly establish the corridor's value and would greatly facilitate the adoption of coordinated, corridor-strengthening plans, policies, programs, and projects at both the state and local levels.
- Central Avenue is a prime example of A Main Street as a State Highway. In recognition of this, it is recommended that SHA's most up-to-date context-sensitive design (CSD) tools and techniques be applied in this corridor, and that related American Association of State Highway Transportation Officials (AASHTO) and other highway design standards be reviewed to assure that context-sensitive tools and techniques are being used to support use of the corridor by pedestrians, bicyclists, and transit users as well as motorists.
- It is recommended that MDOT/SHA conduct a multi-modal corridor study that explores whether redevelopment of the Central Avenue Corridor as envisioned in this report would improve the corridor according to a range of traffic, transit use, transportation capital funding efficiency, safety, and local economic development performance metrics. It is also recommended that this study assess the comparative performance of Arlington County's Rosslyn-Ballston corridor using the same metrics.
- Consider lowering the speed limit and increasing traffic enforcement in designated centers and on sections of the corridor that pass through pedestrian districts. Currently, the posted speed limit ranges from 30 to 40 miles per hour. This may be appropriate for some sections of the corridor, but the speeds are too fast in areas where the development strategy emphasizes pedestrian improvements.
- Develop state-local agreement on streetscape improvements related to sidewalks, lighting, street trees, signage, and amenities like benches and shelters.
- Evaluate access management improvements along the corridor with the goal of consolidating curb cuts and driveways that can impede the flow of traffic and degrade pedestrian safety.
- Complete additional design work on landscaped medians in key sections of the corridor to improve traffic flow and aesthetics.
- Consider additional signalized crossings at Central Avenue and Maryland Park Drive, Rollins Avenue, Soper Lane, Jonquil Avenue, and North Air Avenue.
- Develop a financing and phasing strategy for traffic and streetscape improvements using a mix of federal, state, and local funds as well as contributions from property owners. The State Highway Administration will play a critical role in financing implementation of the development strategy.
- It is recommended that the State Highway Administration should redesignate Central Avenue from a Rural Highway to an Urban Arterial.

TRANSIT: Washington Metropolitan Area Transit Authority (WMATA)

- Evaluate the need and impact of adding a new station at New Hill Road and Central Avenue. This new station will fill in the "gap" between the Addison Road and Morgan Boulevard stations and could become the hub of a regional center that is more residential in character, with densities that range from townhouses to mid-rise residential towers. Within a half-mile of this proposed station, there is considerable amount of vacant land that can be developed over time with transit supportive design and densities.

- Update station area plans to incorporate new elements proposed in the development strategy.

- Pursue joint development on WMATA properties in ways that are consistent with the development strategy. WMATA should use joint development opportunities as a catalyst to generate land use changes and more intense development on adjacent privately-owned land.

- Improve signage and shelters at bus stops along Central Avenue and work with Maryland SHA and local governments to improve pedestrian access to transit and pedestrian crossings of the corridor.

Implementation Responsibilities (Lead or Supportive Role)				
	State: Maryland DOT, State Highway Administration	Transit: WMATA	Local: Prince George's County, M-NCPPC, cities	Private: Employers, property owners, developers
Streetscape Improvements	L	S	S	S
Access Management	L		S	
Corridor Zoning, Setbacks	S	S	L	S
Parallel Street Connections	S		L	
Station Area Planning	S	L	L	S
New Hill Road Station	S	L	S	
Addison Linear Park			L	
Gateways	L		L	
Corridor Financing	S		L	S
Center Financing	S	S	L	S
Form Business District			S	L

IMPLEMENTATION

LOCAL: Prince George's County Planning Department of The Maryland-National Capital Park and Planning Commission (M-NCPPC), the Department of Public Works and Transportation (DPW&T) and local governments (City of Seat Pleasant and the Town of Capitol Heights).

- The Prince George's County Council, M-NCPPC, and the city councils in Seat Pleasant and Capitol Heights should approve the Central Avenue TOD Corridor Development Strategy and related policies, programs and projects.

- Review zoning codes, design guidelines, and development standards to implement the development strategy and related streetscape improvements. In particular, codes should be amended to reduce building setbacks along Central Avenue to improve the pedestrian environment. DPW&T should take the lead in developing a streetscape improvement plan.

- Establish visual "gateways" at both ends of the corridor so people know that they are entering a special place when they come upon Central Avenue from the east or west. These gateways should stand out and connect to the history and culture of the community.

- Acquire land and develop the design for the proposed Addison Linear Park.

- Evaluate the need and impact of new parallel street connections north and south of Central Avenue. These routes will allow local serving traffic to circulate without having to use Central Avenue. These streets will be designed to prevent through-traffic.

- Provide incentives to encourage redevelopment in the form of zoning bonuses, reduced fees and other incentives.

- Develop a detailed finance strategy to facilitate streetscape improvements, implementation of the linear park, and redevelopment. Finance tools may include direct financial contributions, the formation of a tax-increment finance district, other assessment districts, federal and state grants, and property owner contributions.

- Historic resources along the corridor such as Ridgley School and the Methodist Church should be inventoried, and steps should be taken to protect and enhance these assets during implementation of the plan.

- Adopt requirements or incentives for innovative stormwater treatment facilities with new development and redevelopment. These improvements should be consistent with an overall stormwater treatment strategy that includes the introduction of bioswales, rain gardens, sand filters, and other techniques.

PRIVATE SECTOR: Major employers, land owners and developers

- Participate in the approval process of the Central Avenue TOD Corridor Development Strategy. It is important for the private sector to endorse the development strategy and advocate its approval at every level of government listed above. This effort will not succeed without the cooperation of the private sector, so government leaders must promote the support of businesses, landowners, and developers.

- Advocate implementation of financing tools such as the creation of a tax-increment financing (TIF) district and other public/private partnerships. Since the financing of the development strategy is likely to require contributions from property owners, either through sequestering their existing property tax payments (i.e., TIF district) or through additional revenue (special assessment district), it is very important for the private sector to step up and help develop a finance strategy.

- Assemble land. Developers will need to invest their own resources to buy and assemble land for redevelopment, especially in centers and adjacent to WMATA properties.

- Develop properties consistent with development strategy. This may require deviating from conventional development standards to reduce building setbacks from Central Avenue, including a mix of uses in new buildings, and building at a higher intensity in certain areas.

- If one does not exist already, the private sector should form a business improvement district (BID) or business association to be the organized voice for businesses along the corridor. A BID or association will market the area, organize events that bring in new customers, and work with local governments and Maryland SHA to balance streetscape and pedestrian improvements with access and mobility improvements for motorists.

Other Considerations

In addition to the specific tasks listed above, there are two additional steps that need to occur before implementing the development strategy. First, the various agencies should vet the urban design proposals contained within this report with a select group of local developers to test assumptions and revise, where necessary. The urban design elements should be innovative and challenge sprawling development patterns, but they also should be grounded in the reality of what can be built and financed with a mix of innovative and conventional tools.

As a means of testing developer interest in the corridor, M-NCPPC and Prince George's County could release to developers a request for expressions of interest (RFEI) for specific sites along Central Avenue. Appended to the RFEI would be the pertinent documents of the current study (market analysis, a

summary of the community walkabouts, preliminary corridor design concepts, traffic and infrastructure analysis/data, topography, etc.) to further inform the development community of the prospective opportunity. This exercise will help discern those issues deemed most important to prospective developers (i.e., assistance with land assemblage, infrastructure improvements, required tax and financial incentives, timing, etc.).

Second, the agencies should conduct a comprehensive noise study to measure existing levels and evaluate future noise conditions in the corridor once public and private improvements have been implemented. One of the significant concerns the public voiced about the corridor is noise pollution. The development strategy may be able to reduce noise volumes by lowering speeds in some areas, adding vegetated buffers with street trees and landscaped medians, and the constructing of taller buildings that act as noise barriers between the corridor and residential neighborhoods. However, these assumptions need to be tested to determine if they are true and it will indeed improve the noise levels along the corridor and/or in existing residential areas.

Financing the Strategy

The design proposals contained within the Central Avenue TOD Corridor Development Strategy are ambitious, particularly the proposed New Hill Road Metro Station, the Addison Linear Park, the parallel local street connections to the north and south of Central Avenue, the various streetscape improvements, and the additional traffic signals at five intersections. Taken together, these public improvements could cost as much as $275 million (see conceptual cost estimates in the appendix).

This level of public improvement in the corridor will necessitate new public/private partnerships and financing tools. Prince George's County should investigate the establishment of a tax-increment financing district from the western edge of the Beltway along Central Avenue to the District of Columbia boundary line. The county will need to clarify the legal procedures necessary to establish a TIF district, the incremental revenue distribution process ("pay as you go" or up front bonding), the term of the TIF district, etc. Also, the county will need to include in the discussion officials from those local taxing jurisdictions potentially impacted by the establishment of a TIF district.

As mentioned above, a TIF district and subsequent public improvements will form a particularly important tool for leveraging new private development. Other steps that various partners can take to encourage redevelopment include:

- Pre-development funding (including land assemblage funding) to make the redevelopment project more attractive and expedite activity. The county will need to collaborate with the State of Maryland in identifying and securing appropriate pre-development resources.

- A business improvement district (BID) modified for the Central Avenue Corridor will also be important later in the redevelopment process. The county should solicit the services of a national BID consultant to begin strategizing about the particular BID structure that would work best, administratively and fiscally, as well as the appropriate implementation options available. Prince George's County will also need to know whether they have sufficient enabling legislation (state level) in place to institute a BID or whether they will need to request the enactment of appropriate legislation.

- Long-term ground lease potential (controlled by WMATA or Prince George's County) is recommended as a means of generating revenue to offset ongoing maintenance and capital costs associated with the corridor's public improvements.

Adding value to the redevelopment of the Central Avenue Corridor, from an economic development perspective, would involve, but not be limited to, the following items:

- Securing as many entitlements up front as possible (mixed-use zoning approvals, anticipated bulk variance permits, subdivision approvals (where appropriate), etc.).
- Estimating land assemblage costs and working with the state through either an existing program or a newly created program to fund, in part, assemblage as part of a developer agreement.
- Estimate prospective residential and business relocation activity and costs.
- Begin the process of designating a TIF district for the corridor. To the degree that a prospective TIF district would include incremental sales tax revenues, in addition to incremental real property tax revenues, this would further enhance the marketability of the development opportunity.

Phasing the Strategy

Immediate (0 to 1 year)

- Vet urban design analyses with area developers.
- Secure engineer's opinion on capital costs associated with recommended public improvements.
- School facilities impact analyses based on a projected 900 to 2,400 new units of housing along Central Avenue over the next 15 years.
- Investigate the opportunity for establishing a TIF district from the western edge of the Beltway along Central Avenue to the boundary between D.C and Prince George's County. There is a need to clarify the legal procedures necessary to establish a TIF, the incremental revenue distribution process ("pay as you go" or up front bonding by Prince George's County), term of the TIF, etc.
- Draft a request for expression of interest (RFEI) with respect to the Central Avenue corridor.

Mid-term (1 to 3 years)

- Secure as many entitlements up front as possible (mixed-use zoning approvals, anticipated bulk variance permits, subdivision approvals, etc.).
- Estimate land assemblage costs.
- Work with the state through either an existing program or a newly created program to fund assemblage as part of a developer agreement.
- Begin the process of designating a TIF district for the corridor.
- Create a formal redevelopment area and plan.
- Estimate prospective residential and business relocation activity and costs.

Long-term (3 to 5 years)

- Develop and issue a request for proposal pursuant to redevelopment along the corridor.
- Formally create a TIF district.
- Initiate predevelopment activity (land assemblage, site remediation, infrastructure improvements (where necessary).
- Negotiate development agreements (either with a master developer or separate development team).
- Review proposed development plan and conduct fiscal and economic impact study.
- Assist developer with securing any outstanding planning or zoning entitlements.
- Secure public financing per developer agreement (i.e., bonding, grants, loans, etc.).
- Commence development activity.

APPENDIX I

Overview of Cost Estimate Methodology

Conceptual cost estimates were developed for improvements along Central Avenue and for the construction of new roadways parallel to Central Avenue. Because of the conceptual nature of the Central Avenue TOD Corridor Strategy, order-of-magnitude cost methodology was used. These estimates were developed using the Maryland State Highway Administration's (MDSHA) 2005 *Highway Construction Cost Estimating Manual*, which provides suggested contingency factors and all-inclusive cost per mile values for standard items. The Maryland-National Capital Park and Planning Commission, and Prince George's County also provided unit cost data for items such as sidewalks, parkways, and schools.

The total estimated cost for each roadway segment includes items such as roadway infrastructure; landscaping, pavement treatments, and traffic calming; gateway treatments; streetlights; stormwater landscape treatments; utilities; and a construction contingency percentage. Together, these items make up the construction cost.

The costs shown are total project costs, however, and include additional items such as planning, engineering, and construction management costs; and an owner's contract contingency. This number represents how much the entire project would cost to implement from beginning to end.

Central Avenue TOD Corridor Strategy
Conceptual Estimated Cost, Millions ($)

	Roadway Infrastructure	Landscaping, Hardscaping, Traffic Calming	Gateway Treatments	Streetlights	Stormwater Landscape Feature–Ped. Bridge	Utility Allowance	Construction Contingency	**TOTAL CONSTRUCTION COST**	Planning, Engineering, Construction Management, and Owner's Contract Contingency	**TOTAL PROJECT COST**
Central Avenue: Capital Heights to Addison Road										
Street Improvements	2.20	0.10	0.04	0.38	1.24	0.59	1.58	**6.13**	2.30	**8.43**
Central Avenue: Addison Road to Hill Road										
Street Improvements	6.92	0.31	-	0.50	0.62	1.19	3.18	**12.34**	4.63	**16.97**
Addison Linear Park	-	0.38	-	-	-	0.06	0.16	**0.59**	0.22	**0.81**
*New Metrorail Station**	-	-	-	-	-	-	-	**150.00***	56.25*	**206.25***
Central Avenue: Hill Road to Morgan Boulevard										
Street Improvements	4.64	0.10	-	0.34	0.62	0.86	2.28	**8.84**	3.31	**12.15**
Central Avenue: Morgan Boulevard to Brightseat Road										
Street Improvements	2.89	0.06	-	0.22	-	0.48	1.27	**4.91**	1.84	**6.75**
Central Avenue: Brightseat Road to Beltway										
Street Improvements	1.03	0.06	0.75	0.22	-	0.31	0.83	**3.20**	1.20	**4.40**
Bridge Abutment Modifications	0.78	-	-	-	-	0.12	0.31	**1.22**	0.45	**1.67**
Corridor wide										
Utility Undergrounding	-	-	-	-	-	-	-	**17.50**	TBD	**TBD**
TOTAL IMPROVEMENTS ALONG CENTRAL AVENUE	**18.46**	**1.01**	**0.79**	**1.66**	**2.48**	**3.61**	**9.61**	**204.73**	**TBD**	**TBD**
North Parallel Route										
Street Improvements	5.50	0.42		0.82		1.04	2.78	**10.79**	4.05	**14.84**
South Parallel Route										
Street Improvements	2.54	0.16		0.38		0.47	1.24	**4.81**	1.80	**6.62**
TOTAL CENTRAL AVENUE TOD STRATEGY	26.50	1.59	0.79	2.86	2.48	5.12	13.63	**220.33**	TBD	**TBD**

*Note: Funding for the proposed Metrorail station at Hill Road is expected to be provided by local and/or private sources.

APPENDIX I

Basis of Costs

The cost estimates were developed at a level commensurate with available documentation and design detail. As previously noted, cost-per-mile factors were used to develop many of the estimates. Additionally, the following were factored into the estimate:

- Traditional Design–Bid–Build contract delivery method was assumed.
- Certain contingencies, factors and escalations have been applied to develop a final budget. The following critical factors were considered in a review of these contingencies, factors, and escalations:
  - **15 Percent Utility Allowance:** Because information about the existing and proposed utilities is not yet available, a standard percentage was applied. Per MDSHA guidance, estimating utilities as 15 percent of the construction cost subtotal is within the range of acceptable values for urban sections.
  - **40 Percent Design Contingency:** The design contingency directly correlates with the percentage of complete design documents, ranging from as high as 40 percent for conceptual estimates and zero percent for final construction documents. Per MDSHA guidance, because the project is currently at a conceptual phase and substantial changes could occur, the maximum industry standard of 40 percent was utilized for the design contingency.
  - **10 Percent Construction Contingency:** The construction contingency is that amount used during the construction phase for unforeseen conditions and potential changes that may arise. Standard industry practice is to use 5 to 10 percent of the construction value depending on the complexity of the project. This project is considered potentially complex due to its urban location.
  - **5 Percent Planning:** A five percent planning contingency for work required to prepare environmental documentation such as an environmental assessment (EA) or environmental impact statement (EIS) was included.
  - **10 Percent Engineering:** A 10 percent engineering contingency for all field and project engineering services is considered acceptable for the complexity of the project.
  - **10 Percent Construction Management:** The industry norm for construction management and support by a design consultant ranges from 5 to 10 percent depending on the type and breadth of services desired by the owner. Ten percent was considered to be sufficient to provide adequate services to the owner given the complexity of the project.
- Consideration was given to the geographic vicinity, limited site access and available staging areas.
- Because of insufficient information available, the following items were not included in the cost estimates:
  - **Right-of-way costs.** Property values are highly variable and would need a detailed investigation before their cost could be estimated.

APPENDIX I

» **Environmental remediation.** It is assumed that no environmental clean up would be required to construct these improvements.

» **Wetland or stream mitigation.** Though wetland and stream bank enhancements are included in this project, no impacts to these features that would require mitigation are anticipated.

» **Stormwater management areas,** other than stormwater management landscaping

» **Reconstruction of the I-495 bridge over Central Avenue.** The existing abutments are assumed to consist of piles on rock and therefore could be structurally modified. A cost estimate was developed for the removal of the soil behind the abutments and construction of retaining walls.

» **Project escalation.** Because the construction date for this project is not yet know, the costs are given in 2006 dollars.

Cost Estimate Details

The primary source for the cost estimating effort was the MDSHA 2005 *Highway Construction Cost Estimating Manual*. MDSHA provides region-specific unit costs for various levels of design detail. For projects without detailed engineering, the manual recommends preparing a cost per mile (CPM) estimate. This type of estimate is suitable for average circumstances when detailed item quantities cannot be computed. A CPM estimate was developed for most of the street improvement items discussed below. In some cases, additional items were added to the cost per mile estimates to ensure that the urban design elements were captured.

Below is a summary of the improvement items included for each roadway segment.

Central Avenue between Capitol Heights at Addison Road is the western gateway to the project area. The cost estimates for this section of roadway include:

- Resurfacing the existing six-lane roadway. Items included with resurfacing include mobilization, maintenance of traffic, pavement milling, drainage, erosion and sediment control, paving, and minimal landscaping.
- Replacing the existing sidewalk with a 12-foot-wide concrete sidewalk.
- Guide signs, pavement striping, two new traffic signals, and modifying existing traffic signals.
- Full-width landscaped median at the present left-turn lane locations at Coolidge Street and Yacht Place.

- Enhanced median and roadside plantings.
- Gateway features such as gateway and monumental signs and textured pavement and crosswalks.
- Ornamental streetlights.
- Stormwater landscape features in the form of four pedestrian boardwalks.

The cost estimates for *Central Avenue between Addison Road and Hill Road include:*

- Resurfacing the existing six-lane roadway. Items included with resurfacing include mobilization, maintenance of traffic, pavement milling, drainage, erosion and sediment control, paving, and minimal landscaping.
- Widening the roadway by two feet on each side to account for the modified street section, which includes 11-foot lanes and bike lanes.
- Replacing the existing sidewalk with a 12-foot-wide concrete sidewalk.
- Guide signs, pavement striping, one new traffic signal, and modifying existing traffic signals.
- Enhanced median and roadside plantings.
- Textured crosswalks and pavement.
- Ornamental streetlights.
- Addison Linear Park: a new park including a multi-use trail, a multi-age tot lot, a play area, a picnic area, benches, and landscaping.
- Bioswale along Addison Linear Park.
- Stormwater management facility plantings within Addison Linear Park.
- Stormwater landscape features in the form of two pedestrian boardwalks.
- A new Metrorail station at Hill Road. The estimated cost for this facility was obtained from the Washington Metropolitan Area Transit Authority (WMATA) based on the construction cost for the recent infill station, New York Avenue. We have assumed that WMATA's estimated cost, $150 million, is the construction cost only; therefore, standard allowances for planning, engineering, construction management, and the owner's contract contingency were added.

The cost estimates for *Central Avenue between Hill Road and Morgan Boulevard include:*

- Resurfacing the existing six-lane roadway. Items included with resurfacing include mobilization, maintenance of traffic, pavement milling, drainage, erosion and sediment control, paving, and minimal landscaping.

APPENDIX I

- Widening the roadway by five feet on each side to account for the modified street section, which includes 12-foot lanes and bike lanes.
- Replacing the existing sidewalk with a 12-foot-wide concrete sidewalk.
- Full-width landscaped median at the present left-turn lane locations at two locations.
- Guide signs, pavement striping, two new traffic signals, and modifying existing traffic signals.
- Enhanced median and roadside plantings.
- Textured crosswalks and pavement.
- Ornamental streetlights.
- Stormwater landscape features in the form of two pedestrian boardwalks.

The cost estimates for *Central Avenue between Morgan Boulevard and Brightseat Road include:*

- Resurfacing the existing six-lane roadway. Items included with resurfacing include mobilization, maintenance of traffic, pavement milling, drainage, erosion and sediment control, paving, and minimal landscaping.
- Replacing the existing sidewalk with a 12-foot-wide concrete sidewalk.
- Guide signs, pavement striping, one new traffic signal, and modifying existing traffic signals.
- Enhanced median and roadside plantings.
- Textured crosswalks and pavement.
- Ornamental streetlights.

Central Avenue between Brightseat Road and the Capital Beltway serves as the eastern gateway to the corridor. The cost estimates for this roadway segment include:

- Resurfacing the existing six-lane roadway. Items included with resurfacing include mobilization, maintenance of traffic, pavement milling, drainage, erosion and sediment control, paving, and minimal landscaping.
- Replacing the existing sidewalk with a 12-foot-wide concrete sidewalk.
- Guide signs, pavement striping, and modifying existing traffic signals.
- Enhanced median and roadside plantings.
- Textured crosswalks and pavement.
- Ornamental streetlights.
- Gateway features such as a gateway sign and landscaping.

- Replacing the existing abutments on Capital Beltway bridge over Central Avenue with retaining walls.

Corridor-wide modifications along Central Avenue include undergrounding the existing overhead utilities. The cost for such work can vary greatly based on the existing overhead facilities and other street constraints. Average cost-per-mile data was obtained from a variety of sources including Arlington County, Virginia and Potomac Electric Power Company. For the purposes of this project, the unit prices were averaged to create an order-of-magnitude estimate.

The new *North Parallel Route* provides connections between existing roadway segments north of Central Avenue. The cost estimates for these roadway segments include:

- A new two-lane undivided roadway including mobilization, maintenance of traffic, pavement milling, drainage, erosion and sediment control, paving, and minimal landscaping.
- A 12-foot-wide concrete sidewalk.
- Guide signs, pavement striping, and one new traffic signal.
- Enhanced roadside planting.
- Textured crosswalks and pavement.
- Neckdowns at three intersections to calm traffic.
- Ornamental streetlights.

The new South Parallel Route provides connections between existing roadway segments south of Central Avenue. The cost estimates for these roadway segments include:

- A new two-lane undivided roadway including mobilization, maintenance of traffic, pavement milling, drainage, erosion and sediment control, paving, and minimal landscaping.
- A 12-foot-wide concrete sidewalk.
- Guide signs and pavement striping.
- Enhanced roadside planting.
- Textured crosswalks and pavement.
- Neckdowns at one intersection to calm traffic.
- Ornamental streetlights.

APPENDIX II

Market Analysis for Central Avenue Corridor Metro Stations, December 15, 2005

For this Market Analysis Memorandum, Bay Area Economics collected and analyzed a series of demographic and economic trend and descriptive data from the U.S. Census, various state and local agencies, and private data sources such as CB Richard Ellis and Claritas, Inc. All data sources are referenced on tables included with this memorandum. BAE also conducted several telephone interviews with area real estate agents and leasing brokers, and conducted site visits for commercial and residential properties.

This market analysis covers the Central Avenue Corridor with a particular focus on market areas within a half-mile radius of the Capitol Heights, Addison Road and Morgan Boulevard Metro Stations. Morgan Boulevard and Capitol Heights Metro Stations represent the eastern and western boundaries within the Central Avenue Corridor, respectively. The Central Avenue Corridor, for purposes of this market analysis, is bordered to the east by the Capital Beltway (I-495) and to the west by the Washington, D.C. city boundary. The Addison Road Metro Station is approximately three-quarters of a mile east of the Capitol Heights Metro Station and, consequently, features a good deal of overlap with respect to demographic, housing and retail market conditions. The Morgan Boulevard half-mile market area comprised of two U.S. Census Tracts (8028.04 and 8035.19); the Addison Road half-mile market area consists of three U.S. Census Tracts (8028.03, 8028.04 and 8029.01); and the Capitol Heights market area consists of two U.S. Census Tracts (8027 and 8029.01). The above census tracts reflect the likely primary trade areas for the Metro station focal points.

For purposes of comparison, this market analysis utilizes data and information for Prince George's County. The demand and competition within the county area has a material influence over the subject market areas. Additionally, while the market areas offer potential sources of market demand for housing and commercial activity, these areas are only a few of the many competing locations available to capture that demand. Consequently, to evaluate competitive real estate supply affecting these market areas, BAE analyzed new real estate developments and existing communities within ZIP-code delineated areas encompassing the market areas.

The Morgan Boulevard Metro Station is the newest of the three Metro stations identified in this analysis and is immediately accessible off the Capital Beltway (less than an eighth of a mile west of the Beltway). The station (located on the Blue Line) provides relatively quick access to metro stops within Washington, D.C. and transit connections (New Carrollton) to Baltimore and points north. The station stop is also within a half-mile of several relatively new market rate residential developments, regional shopping and entertainment centers and FedEx Field, home of the Washington Redskins.

The Capitol Heights Metro Station is just outside the district line, at the intersection of Southern Avenue and Central Avenue (MD 214), facilitates quick access (along the Blue Line) to interior D.C. station stops, as well as stops east (New Carrollton), providing connections north to Baltimore and beyond. The immediately surrounding area features a combination of older residential neighborhoods, convenience

retail and personal service stores, and a patchwork of undeveloped/underdeveloped land parcels. The Capitol Heights Station is approximately two miles west of the Capital Beltway.

The Addison Road Metro Station is approximately three-quarters of a mile west of the district line and a half-mile east of the Capital Beltway and sits at the southeastern corner of Central Avenue and Addison Road. Located on the northwest corner of the intersection is the Addison Road Shopping Plaza, a community-scale shopping center anchored by a grocery store. While there are several older housing developments in the immediate vicinity, the area west of the station exhibits large tracts of undeveloped land, portions of which are slated for residential development.

Demographic and Economic Current and Projected Conditions

The market analysis begins with a review of a broad set of existing demographic and economic conditions, given their influence over the area's commercial and residential markets. This conditions analysis provides an overview of 2000 U.S. Census data for the market areas and Prince George's County. Utilizing Council of Government (COG) projections, household and employment data are also presented.

Population and Households – Present Conditions and Projections

Table A-1 exhibits the number of market area households, in 2000, for Morgan Boulevard (3,621), Addison Road (5,253) and Capitol Heights (2,329). The number of households in Prince George's County for the same period was 286,610. Household growth and decline in a given geography is strongly correlated with employment opportunities and local quality of life amenities. Table A-5 presents COG Round 6.4A Cooperative Forecasts, projecting an increase of 42,216 households (13.9 percent) in Prince George's County from 2005 to 2020. During this same period, COG projects household growth of 8.1 percent (837 households) for the Morgan Boulevard market area and 9.2 percent (672) for Capitol Heights/ Addison Road market area.

In 2000, each of the subject market areas exhibited average household sizes larger than that for Prince George's County (Morgan Boulevard – 3.04 persons per household, Capitol Heights – 2.96, Addison Road – 2.89, and Prince George's County – 2.74), reflecting the fact that families comprised a larger share of the households in the subject market areas, than in Prince George's County. Conversely, the county's household makeup in 2000 featured a slightly larger percentage of non-family cohabitation (30.4 percent) than the three market areas.

As delineated in Table A-1, the racial makeup of the market areas in 2000 was in sharp contrast to that of the county. Specifically, the market areas reflected a predominantly African-American populace (Addison Road – 95.5 percent, Capitol Heights – 93.9 percent and Morgan Boulevard – 86.5 percent) as against Prince George's County's (62.2 percent African-American) composition. Non-Hispanic whites represented the next largest racial segment for the subject geographies. Only the county featured a racial segment (white), and other than African-American, that represented more than 10 percent of the total population for the geography.

APPENDIX II

Employment

Employment patterns within the subject market areas and Prince George's County, generally, reflect the region's cluster of government, education and healthcare institutions. For all geographies examined, less than 10 percent of the respective labor force is engaged in traditional "blue collar" employment industries, such as manufacturing and construction. The percentage of local residents working in management and other professional occupations, as exhibited in Table A-2, increases along the Central Avenue Corridor moving west to east. In 2000, the percentages of residents living in the Capitol Heights, Addison Road and Morgan Boulevard Station market areas, who were employed in management and other professional occupations, were 23, 31 and 34 percent, respectively. The county's percentage of residents employed in management and other professional occupations in 2000 came in at a robust 39 percent. These preceding figures are indicative of educational attainment levels and available skill sets within the subject geographies. Reflective of the varying range of skill sets found in the area as well as available employment opportunities, 16 percent of Capitol Heights market area residents, in 2000, were employed in the production and transportation occupations as against 11, 10, and 9 percent for the Addison Road, Morgan Boulevard, and Prince George's County market area geographies, respectively.

Projected employment growth, according to COG analysis exhibited in Table A-5, is uneven across geographies. The Morgan Boulevard market area is expected to realize employment growth of 43 percent between 2005 and 2020, as against Prince George's County's 36 percent employment growth. During this same period, the Capitol Heights/Addison Road market area employment is projected to grow a relatively flat 9.2 percent. However, the projections for the Capitol Heights/Addison Road area do not reflect the prospective commercial and residential activity that is targeted around the Metro station stops. It is anticipated that this prospective development activity will generate employment growth in excess of the current projections.

Age Distribution

Table A-1 shows the age distribution for each of the geographies previously defined. In 2000, the Morgan Boulevard market area exhibited a median age of 28.5—considerably younger than the median ages for the market areas of Addison Road (31.6), Capitol Heights (35.2), and all of Prince George's County (33.3). The younger median age of Morgan Boulevard is a function of the relatively large segment of children and young adults (18 or younger) present. In 2000, 33.7 percent of the Morgan Boulevard area population were children or young adults, as against 32.1, 29.7, and 26.8 percent for the Addison Road, Capitol Heights and Prince George's County areas, respectively. These findings are also indicative of the fact that the Morgan Boulevard market area exhibited a higher incidence of rental occupancy versus homeownership than did the Capitol Heights/Addison Road market area or Prince George's County (age and housing tenure strongly correlate).

Conversely, and exhibited in Table A-1, the percentage of residents 55 and older was greatest in the Capitol Heights and Addison Road market areas (10.8 and 9.4 percent, respectively). This would suggest

that the Morgan Boulevard market area, currently, is more transient (the U.S. Census has documented that younger persons and families have a higher incidence of moving) and presents, currently, a higher number of residential rental opportunities than the more established and settled Capitol Heights and Addison Road market areas.

Household Income Distribution

Table A-3 provides household income distribution data for the various geographies profiled. In 1999, the Capitol Heights and Addison Road market areas exhibited the lowest median-household incomes among the geographies analyzed ($40,458 and $47,344, respectively), followed by the Morgan Boulevard market area ($51,308) and Prince George's County ($55,256). The Capitol Heights and Addison Road market area's lower median-income earnings is reflective of the reported residential occupations and educational attainment (higher percentages of blue collar workers and lower percentages of college degreed persons).

In 1999, fewer than 23 percent of the Capitol Heights and Addison Road market area households earned $75,000 or more per annum, as against 25.3 percent for the Morgan Boulevard market area and 32.3 percent for Prince George's County. Conversely, approximately 19 and 14 percent of the Capitol Heights and Addison Road market area households, respectively, earned less than $15,000 per annum in 1999, as compared with eight percent for the Morgan Boulevard market area and Prince George's County.

Educational Attainment

Table A-4 exhibits 2000 U.S. Census educational attainment data for the four geographies examined and reveals rising educational attainment levels, for all categories, when moving west to east along the Central Avenue Corridor (Capitol Heights to Morgan Boulevard). The Capitol Heights market area features the lowest reported 2000 educational attainment levels with less than ten percent of residents, 25 years of age or older, possessing an associates or bachelors degree. Conversely, 14.2 and 15.1 percent of adults 25 years or older within the Addison Road and Morgan Boulevard market areas, respectively, possess associates or bachelors degrees. By comparison, in 2000, 22.4 percent of adults 25 years of age or older within Prince George's County possess an associates or bachelors degree—similar to the U.S. percentage of associate and bachelors degree holders (21.8 percent).

The educational attainment levels for all market areas studied are anticipated to increase markedly (there is a strong correlation between owner occupied housing and higher educational attainment levels) as newer, for-sale residential development occurs along the Central Avenue Corridor.

APPENDIX II

Residential Market Overview

BAE utilized ZIP code data and information to construct a residential activity profile for the Central Avenue Corridor market area and a competitive residential market area (Hyattsville/Lanham market area). The Central Avenue Corridor demonstrated greater volume at lower price points to the Hyattsville/Lanham market area, as featured in Tables A-6 through A-9. While the Central Avenue housing market area exhibited a larger volume of transactions for townhouses and single-family units (557 transactions for the 12 months ended May 2005) than the competitive market area, its median sales prices (townhouses and single-family units) were approximately 25 and 50 percent, respectively, below similar product types for the Hyattsville/Lanham market area – reflective of the differences in close-in amenities and neighborhood quality.

Rental Housing

Table A-10 provides detailed information on existing apartment complexes by ZIP code, encompassing the subject and competitive market areas. The 26 complexes profiled a total of 7,486 units. Among the nine complexes reporting vacancy rates, five report rates of four percent or less while the other four vacancy rates range from a low of 11 percent to a high of 60 percent (Maple Ridge Apartments). Demand appears to be highest among those complexes featuring newer amenities (laundry, pool, community rooms, etc.) and local conveniences. Rents range from $0.58 per square foot for larger units in older buildings to $2.16 per square foot for smaller units in newly-built projects. Many of the complexes offer free on-site parking.

Most of the physically surveyed apartment complexes within the subject market areas can be classified as garden apartments with limited visual aesthetics. Neighborhoods surrounding the complexes range from lower-income and visually unappealing (Capitol Heights/Addison Road end of the Central Avenue Corridor) to upper and middle-income with newer retail and service amenities (West Hyattsville area).

For Sale Housing

Utilizing First American Real Estate Solutions (FARES) data, a subscription database containing current tax assessor data, BAE constructed Tables A-6 through A-9, which feature recent single-family and townhouse sales for the Central Avenue Corridor and Hyattsville/Lanham competitive market areas. These data represent the sales within the last year (May 2004 to May 2005).

The Central Avenue Corridor market area was represented by ZIP code 20743 within the FARES database (Tables A-6 and A-7). In the 12 months preceding May 2005, 461 single-family units were sold. The median sale price of $148,500 was 55 percent of the Hyattsville/Lanham competitive market area median. Not surprisingly, the per-square-foot quotient of $142 was also substantially lower than the Hyattsville/Lanham market area ($188/s.f.). A relatively low two percent of total sales involved units with 1,600 square feet or more of space. Reflecting the preponderance of older and modestly-sized housing found in the market area, 78 percent of all units transacted contained between 800 and 1,599 square feet

of space. Ninety-six townhouse units were sold during the 12 months ended May 2005, exhibiting a median sales price of $170,000 (21 percent less than the Hyattsville/Lanham townhouse market median price) and an average size of 1,236 square feet (approximately 15 percent less than the Hyattsville/Lanham market size). There were no recorded townhouse unit sales of greater than $235,000.

For the Hyattsville/Lanham competitive market area, BAE utilized ZIP code 20706 within the FARES database and identified 259 single-family unit sales during the 12 months ended May 2005 (Tables A-8 and A-9). The median sales price of all units sold was $270,000 and the per-square-foot quotient was $188. Markedly different from the Central Avenue Corridor market area, 33.6 percent of units sold contained 1,600 square feet or more of space. Sixty-three percent (substantially less than the Central Avenue Corridor market area) of all units sold contained between 800 and 1,599 square feet of space. There were a total of 119 townhouse sales during the 12 months ended May 2005, with a median sales price of $215,000 and average size of 1,448 square feet. Forty-six of the townhouse units, or 39 percent, sold for more than $315,000.

Planned Residential Projects

There are a number of residential projects within Prince George's County that are either under construction, approved but not yet started or pending approval. Many of these projects will influence the competitive residential supply for the subject market areas. The following is a summary of notable residential "pipeline projects," as identified by The Maryland-National Capital Park and Planning Commission (Table A-11), which are underway or forthcoming:

Capitol Heights/Addison Road

Brighton Place—Residential subdivision for 60 townhouses and 63 single-family detached units
Campfire Property—42 units of single family detached housing
Glenwood Hills—Mixed use development inclusive of 595 units (single-family attached and detached, and multi-family)
Lincolnshire Residential Townhouses—63 single-family attached townhouses
Lincolnshire Residential Townhouses II—24 single-family attached townhouses
Quincy Commons—Undisclosed number of townhouses and condominiums

APPENDIX II

Morgan Boulevard
Summerfield at Morgan Station (Phase I) – 478 multifamily residential units
Summerfield at Morgan Station (Phase II) – 413 single-family attached townhouses
Metropolitan of Largo – 250 condominium units

Central Avenue Periphery Market
Claggett Farms Property – 700 townhouses and 300 single-family detached units
Village of Claggett Farms – 64 single-family detached units

Residential Outlook

Based on projected household and employment figures, as well as existing supply and real estate transactions for the subject market areas, residential development opportunities appear to favor the Morgan Boulevard market area most. The Capitol Heights/Addison Road market area has a fair amount of inventory in the pipeline and, thus, any prospective development should allow for this activity to prove itself before proceeding. However, the Capitol Heights/Addison Road market area must receive greater attention in terms of land assemblage and streetscape/traffic calming improvements along the Central Avenue Corridor if its true potential is to be realized. The Capitol Heights/Addison Road market area, in addition to its planned residential developments, will, undoubtedly, benefit from its proximity to the Morgan Boulevard market area and should seek to leverage this position.

Central Avenue Corridor Housing Unit Projections Over Next 15 Years

Housing Units Supported:	4,000 – 5,500
Units In "Pipeline":	3,100
Net New Units:	900 – 2,400

Commercial Market Overview

The Prince George's County office market is well served by major arterials (I-495, MD 295 and US 50), as well as WMATA Metro stations – New Carrolton and Largo Town Center, in particular). As delineated in Table A-12, the Prince George's County office market, as of the first quarter of 2005, comprises 20.8 million square feet of inventory, representing 26.3 percent of the suburban Maryland office supply. According to CB Richard Ellis' forecasting and research unit, first quarter 2005 vacancy within the county was 11.2 percent, representing 2.3 million square feet of space. By comparison, the suburban Maryland office market, which includes Montgomery County, had a 10.5 percent vacancy rate during the same period. The countywide average asking rent during first quarter 2005 was $19.58 per square foot (78 percent of Montgomery County's average asking rental rate). Net absorption in Prince George's County was 128,821 square feet as against a negative 120,132 square feet for Montgomery County. According to CB Richard Ellis, over the next two years, the suburban Maryland office market will see four projects completed, representing 451,697 square feet of which 67 percent is pre-leased.

First quarter 2005 Morgan/Capitol Heights office market details include the following:

- 944,239 square feet of inventory (4.5 percent of county's inventory)
- 11.3 percent vacancy rate (a tenth of a percentage point higher than the county's rate)
- $19.71 per square foot average asking rent (less than one percent greater than the county's average)
- Experienced 15,027 square feet of positive net absorption

Central Avenue Corridor Office Square Footage Projections Over Next 15 Years

Square Feet Supported:	1,500,000 – 2,000,000
Existing Square Feet:	945,000
Net New Square Feet:	555,000 – 1,055,000

Industrial Market

As of the first quarter 2005, the suburban Maryland industrial market comprises 1,577 warehouse and flex buildings, totaling 72.6 million square feet (Table A-13). As one of two counties constituting the suburban Maryland market (Montgomery County being the other), Prince George's County features 48.5 million square feet of inventory, representing 67 percent of the suburban Maryland industrial supply. The county's 9.6 percent vacancy rate (4.7 million square feet) placed it slightly above the suburban Maryland 9.3 percent vacancy rate. A $6.92 average asking rate per square foot (less than 50 percent of the Montgomery County average asking rate) places Prince George's County in a competitive position for price-sensitive warehouse/distribution space users. The county had net absorption of 174,995 square feet or 39 percent of all suburban Maryland net absorption. CB Richard Ellis reports that the suburban Maryland warehouse sector will continue to be the main economic driver throughout 2005. Eight projects are currently under construction and expected to deliver during the second quarter of 2005. The majority of these projects are located in Prince George's County.

First quarter 2005 Capitol Heights/Addison Road industrial market details include the following:

- 3.9 million square feet of inventory (8.2 percent of the county's inventory)
- 10.6 percent vacancy rate (110 percent of the county's vacancy rate)
- $5.90 average asking rent per square foot (85.3 percent of county's average rate)
- Experienced 145,271 square feet of positive net absorption (represents 83 percent of the county's net absorption)

Additional industrial opportunities and considerations:

- Redevelopment of the Hampton Mall into a light industrial-distribution center.

Central Avenue Corridor Industrial Square Footage Projections Over Next 15 Years

N/A

APPENDIX II

Retail Market

As exhibited in Table A-14, Prince George's County features just under five million square feet of shopping center space, much of which is within the primary or secondary market areas for Morgan Boulevard and Capitol Heights/Addison Road.

The Capitol Heights/Addison Road primary shopping market area features approximately 620,000 square feet of primarily neighborhood shopping, as illustrated in Table A-14. Observations of the Capitol Heights/Addison Road retail market reveal older, smaller retail centers that do not lend themselves to attracting well-known national and regional retailers.

The Morgan Boulevard shopping market area features a sizable amount of retail square footage; however, its proximity from the Beltway and current and future residential development activity creates tremendous opportunity for additional retail. The 254,000 square foot Hampton Mall, a community shopping center anchored by a Home Depot and Staples, is the market area's largest community retail center. Within the last 18 months, the Boulevard at Capital Centre opened with 500,000 square feet of regional retail space, nine restaurants and a 14-screen movie theatre. The Boulevard at Capital Centre is located next to the recently opened Largo Metro Station (Blue Line) and just outside of the Beltway. The Boulevard at Capital Centre is expected to create greater demand for office and residential product in the surrounding area. Additionally, Michael Cos., a local area developer, has announced its intention to develop a 100-acre site located off Ritchie-Marlboro Road, just west of the Beltway, as a big-box regional retail center. The project, named Ritchie Station Marketplace, envisions a Wal-Mart, Sam's Club, Sears, and Kohl's as anchors, according to a stormwater management plan filed with The Maryland-National Capital Park and Planning Commission. Upon completion (approvals for development have been issued by the county), the center would feature more than 550,000 square feet of regional retail space.

Additional retail opportunities and considerations:

- A modern, full-service grocery store within the Capitol Heights/Addison Road market area;
- Specialty retail close to the Morgan Boulevard Metro Station, given its regional draw related to the I-495 and FedEx Field and higher resident income levels;
- Consideration of redeveloping the Hampton Mall retail site to better reflect its "gateway" presence along the Central Avenue Corridor;
- Identification of restaurant/food establishment opportunities at Metro station sites.

Central Avenue Corridor Retail Square Footage Projections Over Next 15 Years

200,000 – 300,000 square feet of new convenience/neighborhood serving retail.

Table A-1: Population and Household Profile

	Capitol Heights Market Area	Addison Road Market Area	Morgan Blvd Market Area	Prince George's County
Population	6,919	15,228	11,021	801,515
Households	2,329	5,253	3,621	286,610
Avg. Household Size	2.96	2.89	3.04	2.74
Median Household Income	$40,458	$47,344	$51,308	$55,256
Age Distribution				
Under 18	29.7%	32.1%	33.7%	26.8%
18 - 24	7.9%	8.5%	8.9%	10.4%
25 - 34	12.1%	13.9%	17.7%	15.7%
35 - 44	16.1%	16.3%	15.1%	17.3%
45 - 54	12.1%	12.2%	11.2%	13.7%
55 - 64	10.8%	9.4%	8.3%	8.4%
65 and Over	11.3%	7.5%	5.2%	7.7%
Total	100.0%	100.0%	100.0%	100.0%
Median Age	35.2	31.6	28.5	33.3
Household Type				
Family	70.0%	75.2%	82.7%	69.6%
Non-Family	30.0%	24.8%	17.3%	30.4%
Household Tenure				
Renter	33.1%	39.3%	44.8%	0.0%
Owner	66.9%	60.7%	55.2%	0.0%
Ethnicity				
African-American	93.9%	95.5%	86.5%	62.2%
White	3.7%	2.0%	8.5%	24.3%
Hispanic	0.8%	0.7%	1.9%	7.1%
Asian	0.4%	0.2%	0.9%	3.8%
Other	0.4%	0.3%	0.5%	0.5%
Two or More Races	1.0%	1.3%	1.8%	2.0%
Total	100.0%	100.0%	100.0%	100.0%

Notes:

Market areas include the following tracts for the 2000 Census:

Capitol Heights: 8027.00, 8029.01*

Addison Road: 8028.03, 8028.04*, 8029.01*

Morgan Boulevard: 8028.04*, 8035.19.

* Tracts 8028.04 and 8029.01 are incorporated into multiple trade areas

Source: U.S. Census, 2000; Bay Area Economics, 2005.

APPENDIX II

Table A-3: Household Income Distribution

	Capitol Heights Market Area		Addison Road Market Area		Morgan Boulevard Market Area		Prince George's County	
	Number of Households	Percent of Total	Number of Households	Percent of Total	Number of Households	Percent of Total	Number of Households	Percent of Total
Household Income in 1999								
Less than $10,000	291	12.5%	511	9.7%	216	5.9%	14,683	5.1%
$10,000 to $14,999	160	6.9%	230	4.4%	70	1.9%	8,246	2.9%
$15,000 to $24,999	382	16.5%	589	11.2%	371	10.2%	23,156	8.1%
$25,000 to $34,999	235	10.1%	561	10.7%	448	12.3%	32,178	11.2%
$35,000 to $49,999	314	13.5%	855	16.3%	662	18.2%	48,531	16.9%
$50,000 to $74,999	424	18.3%	1,307	24.9%	952	26.2%	67,370	23.5%
$75,000 to $99,999	252	10.9%	757	14.4%	500	13.8%	43,778	15.3%
$100,000 to $149,999	219	9.4%	367	7.0%	344	9.5%	36,479	12.7%
$150,000 to $199,999	28	1.2%	42	0.8%	55	1.5%	8,525	3.0%
$200,000 or more	14	0.6%	23	0.4%	17	0.5%	3,704	1.3%
Total	2,319	100.0%	5,242	100.0%	3,635	100.0%	286,650	100.0%
Median household income	$40,458		$47,344		$51,308		$55,256	

Notes:
Market areas include the following tracts for the 2000 Census:
Capitol Heights: 8027.00, 8029.01*
Addison Road: 8028.03, 8028.04*, 8029.01*
Morgan Boulevard: 8028.04*, 8035.19.

* Tracts 8028.04 and 8029.01 are incorporated into multiple trade areas

Source: U.S. Census, 2000; Bay Area Economics, 2005.

Table A-3: Household Income Distribution

	Capitol Heights Market Area		Addison Road Market Area		Morgan Boulevard Market Area		Prince George's County	
	Number of Households	Percent of Total	Number of Households	Percent of Total	Number of Households	Percent of Total	Number of Households	Percent of Total
Household Income in 1999								
Less than $10,000	291	12.5%	511	9.7%	216	5.9%	14,683	5.1%
$10,000 to $14,999	160	6.9%	230	4.4%	70	1.9%	8,246	2.9%
$15,000 to $24,999	382	16.5%	589	11.2%	371	10.2%	23,156	8.1%
$25,000 to $34,999	235	10.1%	561	10.7%	448	12.3%	32,178	11.2%
$35,000 to $49,999	314	13.5%	855	16.3%	662	18.2%	48,531	16.9%
$50,000 to $74,999	424	18.3%	1,307	24.9%	952	26.2%	67,370	23.5%
$75,000 to $99,999	252	10.9%	757	14.4%	500	13.8%	43,778	15.3%
$100,000 to $149,999	219	9.4%	367	7.0%	344	9.5%	36,479	12.7%
$150,000 to $199,999	28	1.2%	42	0.8%	55	1.5%	8,525	3.0%
$200,000 or more	14	0.6%	23	0.4%	17	0.5%	3,704	1.3%
Total	2,319	100.0%	5,242	100.0%	3,635	100.0%	286,650	100.0%
Median household income	$40,458		$47,344		$51,308		$55,256	

Notes:
Market areas include the following tracts for the 2000 Census:
Capitol Heights: 8027.00, 8029.01*
Addison Road: 8028.03, 8028.04*, 8029.01*
Morgan Boulevard: 8028.04*, 8035.19.

* Tracts 8028.04 and 8029.01 are incorporated into multiple trade areas

Source: U.S. Census, 2000; Bay Area Economics, 2005.

Table A-4: Educational Attainment

	Capitol Heights Market Area		Addison Road Market Area		Morgan Boulevard Market Area		Prince George's County	
	Number of Residents	Percentage of Total	Number of Residents	Percentage of Total	Number of Residents	Percentage of Total	Number of Residents	Percentage of Total
Highest Educational Level Reached								
Less than 9th grade	297	6.9%	361	4.0%	121	1.9%	23,553	4.7%
9th to 12th grade, no diploma	958	22.3%	1,483	16.4%	767	12.0%	52,588	10.4%
High school graduate (includes equivalency)	1,645	38.3%	3,168	35.0%	2,222	34.9%	137,265	27.3%
Some college, no degree	882	20.5%	2,400	26.5%	2,023	31.8%	126,033	25.0%
Associate degree	139	3.2%	394	4.4%	333	5.2%	27,471	5.5%
Bachelor's degree	265	6.2%	890	9.8%	633	9.9%	85,325	16.9%
Graduate or professional degree	114	2.7%	354	3.9%	269	4.2%	51,463	10.2%
Total	4,300	100.0%	9,050	100.0%	6,368	100.0%	503,698	100.0%
High school graduate or higher	3,045	70.8%	7,206	79.6%	5,480	86.1%	427,557	84.9%
Bachelor's degree or higher	518	12.0%	1,638	18.1%	1,235	19.4%	164,259	32.6%

Notes:
Data refers to the population age 25 and older.

Market areas include the following tracts for the 2000 Census:
Capitol Heights: 8027.00, 8029.01*
Addison Road: 8028.03, 8028.04*, 8029.01*
Morgan Boulevard: 8028.04*, 8035.19.

* Tracts 8028.04 and 8029.01 are incorporated into multiple trade areas

Source: U.S. Census, 2000; Bay Area Economics, 2005.

Table A-5: Household and Employment Growth Projections

Capitol Heights/Addison Road Market Area

	TAZ	2000	2005	Pct. Chg.	2015	Pct. Chg.	2020	Pct. Chg.
Households	716	968	1,020	5.37%	1,233	17.27%	1,233	0.00%
	717	781	787	0.77%	787	0.00%	787	0.00%
	718	1,114	1,114	0.00%	1,114	0.00%	1,114	0.00%
	719	528	531	0.57%	769	30.95%	790	2.73%
	721	825	876	6.18%	883	0.79%	883	0.00%
	722	1,044	1,181	13.12%	1,181	0.00%	1,181	0.00%
	735	1,180	1,256	6.44%	1,296	3.09%	1,322	2.01%
	739	496	553	11.49%	621	10.95%	680	9.50%
Total		6,936	7,318	5.51%	7,884	7.18%	7,990	1.34%
Employment	716	559	572	2.33%	618	7.44%	660	6.80%
	717	365	371	1.64%	394	5.84%	427	8.38%
	718	292	296	1.37%	301	1.66%	318	5.65%
	719	377	398	5.57%	472	15.68%	522	10.59%
	721	112	114	1.79%	119	4.20%	124	4.20%
	722	137	147	7.30%	163	9.82%	176	7.98%
	735	265	280	5.66%	354	20.90%	386	9.04%
	739	132	165	25.00%	200	17.50%	236	18.00%
Total		2,239	2,343	4.64%	2,621	10.61%	2,849	8.70%

Morgan Blvd. Market Area

	TAZ	2000	2005	Pct. Chg.	2015	Pct. Chg.	2020	Pct. Chg.
Households	740	1,559	1,632	4.68%	2,194	25.62%	2,194	0.00%
	741	127	127	0.00%	127	0.00%	127	0.00%
	747	595	640	7.56%	648	1.23%	683	5.40%
	748	282	289	2.48%	290	0.34%	316	8.97%
	749	290	293	1.03%	293	0.00%	322	9.90%
	750	4,425	4,540	2.60%	4,660	2.58%	4,696	0.77%
	813	497	507	2.01%	507	0.00%	507	0.00%
	814	2,249	2,346	4.31%	2,366	0.85%	2,366	0.00%
Total		10,024	10,374	3.49%	11,085	6.41%	11,211	1.14%
Employment	740	190	361	90.00%	390	7.44%	417	6.92%
	741	68	69	1.47%	73	5.48%	79	8.22%
	747	231	262	13.42%	330	20.61%	376	13.94%
	748	4,617	5,021	8.75%	5,212	3.66%	5,378	3.18%
	749	6,066	6,619	9.12%	6,862	3.54%	7,075	3.10%
	750	614	681	10.91%	814	16.34%	907	11.43%
	813	3,632	3,981	9.61%	9,394	57.62%	10,263	9.25%
	814	614	729	18.73%	750	2.80%	785	4.67%
Total	6,102	16,032	17,723	10.55%	23,825	25.61%	25,280	6.11%

Prince George's County

	2000	2005	Pct. Chg.	2015	Pct. Chg.	2020	Pct. Chg.
Households							

APPENDIX II

Table A-6: Single Family Residence Sales for Capitol Heights Zip Code: 20743

	ALL UNITS	ALL UNITS	Less than 800 sq.ft.	800 to 1199 sq.ft.	1200 to 1599 sq.ft.	1600+ sq.ft.
	Number of Units	% of Total	Number of Units	Number of Units	Number of Units	Number of Units
Less Than $80,000	21	4.6%	8	12	1	0
$80,000 to $159,999	274	59.4%	69	130	73	2
$160,000 to $234,999	153	33.2%	17	93	39	4
$235,000 to $314,999	12	2.6%	0	5	5	2
$315,000 to $394,999	1	0.2%	0	0	0	1
$395,000 to $474,999	0	0.0%	0	0	0	0
$475,000 and above	0	0.0%	0	0	0	0
Total (a)	**461**	**100.0%**	**94**	**240**	**118**	**9**
Median Sale Price	$148,500		$130,000	$151,000	$148,500	$194,000
Average Sale Price	$148,397		$129,117	$149,090	$158,256	$195,545
Avg. Square Feet	1,044		680	997	1,342	1,992
Avg. Price per SF	$142		$190	$150	$118	$98

Notes: (a) Bedroom data was not available.
(b) This data includes sales from June 6, 2004 to June 6, 2005

Source: First American Real Estate Solutions; BAE, 2005.

Table A-7: Townhouse Sales for Capitol Heights Zip Code: 20743

	ALL UNITS	ALL UNITS	Less than 800 sq.ft.	800 to 1199 sq.ft.	1200 to 1599 sq.ft.	1600+ sq.ft.
	Number of Units	% of Total	Number of Units	Number of Units	Number of Units	Number of Units
Less Than $80,000	0	0.0%	0	0	0	0
$80,000 to $159,999	20	20.8%	0	6	14	0
$160,000 to $234,999	76	79.2%	0	20	56	0
$235,000 to $314,999	0	0.0%	0	0	0	0
$315,000 to $394,999	0	0.0%	0	0	0	0
$395,000 to $474,999	0	0.0%	0	0	0	0
$475,000 and above	0	0.0%	0	0	0	0
Total (a)	**96**	**100.0%**	**0**	**26**	**70**	**0**
Median Sale Price	$170,000		$0	$158,750	$175,000	$0
Average Sale Price	$172,566		$0	$159,999	$177,233	$0
Avg. Square Feet	1,236		0	1,134	1,273	0
Avg. Price per SF	$140		$0	$141	$139	$0

Notes: (a) Bedroom data was not available.
(b) This data includes sales from June 6, 2004 to June 6, 2005

Source: First American Real Estate Solutions; BAE, 2005.

Table A-8: Single Family Residence Sales for Lanham Zip Code: 20706

	ALL UNITS	ALL UNITS	Less than 800 sq.ft.	800 to 1199 sq.ft.	1200 to 1599 sq.ft.	1600+ sq.ft.
	Number of Units	% of Total	Number of Units	Number of Units	Number of Units	Number of Units
Less Than $80,000	4	1.5%	1	0	1	2
$80,000 to $159,999	13	5.0%	3	8	1	1
$160,000 to $234,999	59	22.8%	4	42	7	6
$235,000 to $314,999	125	48.3%	1	60	32	32
$315,000 to $394,999	41	15.8%	0	2	10	29
$395,000 to $474,999	9	3.5%	0	0	0	9
$475,000 and above	8	3.1%	0	0	0	8
Total (a)	**259**	**100.0%**	**9**	**112**	**51**	**87**
Median Sale Price	$270,000		$173,500	$241,250	$285,000	$318,000
Average Sale Price	$270,707		$160,878	$234,502	$268,477	$329,985
Avg. Square Feet	1,437		673	1,013	1,339	2,127
Avg. Price per SF	$188		$239	$231	$201	$155

Notes: (a) Bedroom data was not available.
(b) This data includes sales from June 6, 2004 to June 6, 2005.

Source: First American Real Estate Solutions; BAE, 2005.

Table A-9: Townhouse Sales for Lanham Zip Code: 20706

	ALL UNITS	ALL UNITS	Less than 800 sq.ft.	800 to 1199 sq.ft.	1200 to 1599 sq.ft.	1600+ sq.ft.
	Number of Units	% of Total	Number of Units	Number of Units	Number of Units	Number of Units
Less Than $80,000	2	1.7%	0	0	0	2
$80,000 to $159,999	4	3.4%	0	1	2	1
$160,000 to $234,999	31	26.1%	0	0	25	6
$235,000 to $314,999	36	30.3%	0	0	4	32
$315,000 to $394,999	29	24.4%	0	0	0	29
$395,000 to $474,999	9	7.6%	0	0	0	9
$475,000 and above	8	6.7%	0	0	0	8
Total (a)	**119**	**100.0%**	**0**	**1**	**31**	**87**
Median Sale Price	$215,000		$0	$130,000	$206,000	$230,000
Average Sale Price	$209,574		$0	$130,000	$203,566	$239,111
Avg. Square Feet	1,448		0	1,160	1,328	1,893
Avg. Price per SF	$145		$0	$112	$153	$126

Notes: (a) Bedroom data was not available.
(b) This data includes sales from June 6, 2004 to June 6, 2005.

Source: First American Real Estate Solutions; BAE, 2005.

Table A-10: Rental Survey for Central Avenue and Competitive Market Areas

Project/Address	Number of Units	Floor Plans	Rent Rates	Utilities Included	Square Feet	Rent Per Square Foot	Percent Occupied	Parking
Top of the Park								
4009 Gallatin Street		1BR/1BA	$ 875 - $ 875		708 - 708	$1.24 - $1.24		
Hyattsville, MD 20781		2BR/1BA	$ 1,075 - $ 1,075		814 - 814	$1.32 - $1.32		
866.210.2006		2BR/1.5BA	$ 1,120 - $ 1,120		850 - 850	$1.32 $1.32		
		3BR/1.5BA	$ 1,310 - $ 1,310		990 - 990	$1.32 $1.32		
	107							
Fountain Park								
5122 Kenilworth Avenue		1BR/1BA	$ 799 - $ 899		600 - 600	$1.33 - $1.50		
Hyattsville, MD 20781		2BR/1BA	$ 965 - $ 1,075		1100 - 1100	$0.88 - $0.98		
888.656.3498	**156**							
Garfield Court								
5705 43rd Avenue		1BR/1BA	$ 675 - $ 675			#DIV/0! - #DIV/0!		
Hyattsville, MD 20781		2BR/1BA	$ 775 - $ 775			#DIV/0! - #DIV/0!		
866.233.5414								
	63							
Castle Manor								
5307 38th Avenue		1BR/1BA	$ 720 - $ 720		625 - 645	$1.15 - $1.12		
Hyattsville, MD 20781		2BR/1BA	$ 795 - $ 795		750 - 750	$1.06 - $1.06		
866.473.5361	**63**							
Cambridge Crossings								
5345 85th Ave		1BR/1BA	$ 903 - $ 960		720 - 820	$1.25 - $1.17		
Hyattsville, MD 20784		2BR/1BA	$ 1,066 - $ 1,082		950 - 1085	$1.12 - $1.00		
866.872.4837		3BR/2BA	$ 1,260 - $ 1,360		1320 - 1320	$0.95 - $1.03		
	196							
Sutton Walk Apartments		Studio	$ 825 - $ 890		684 - 700	$1.21 - $1.27		
5306 85th Ave		1BR/1BA	$ 995 - $ 999	None	522 - 720	$1.91 - $1.39	98%	free
Hyattsville, MD 20784		2BR/1BA	$ 1,010 - $ 1,095		738 - 965	$1.37 - $1.13		onsite
866.885.3646		3BR/2BA	$ 1,260 - $ 1,260		1143 - 1143	$1.10 - $1.10		
	273							
Carrollon Manor Apartments		1BR/1BA	$ 816 - $ 816		701 - 701	$1.16 - $1.16		free
8621 Annapolis Road		2BR/1BA	$ 916 - $ 916	None	894 - 894	$1.02 - $1.02	96%	onsite
New Carrollton, MD 20784		3BR/2BA	$ 1,086 - $ 1,086		1031 - 1031	$1.05 - $1.05		
888.326.1457	**187**							
Coopers Crossing		1BR/1BA	$ 725 - $ 890	Water	681 - 700	$1.06 - $1.27		free
4023 Cooper Lane		2BR/1BA	$ 885 - $ 995	Gas	899 - 899	$0.98 - $1.11	70%	onsite
Hyattsville, MD 20784		3BR/2BA	$ 1,080 - $ 1,185		1077 - 1077	$1.00 - $1.10		
888.609.2356	**727**							
Fountain Club Apartments		Studio	$ 750 - $ 750		520 - 520	$1.44 - $1.44		
7604 Fontainebleau Drive		1BR/1BA	$ 830 - $ 930	Water	650 - 750	$1.28 - $1.24	98%	parking by
New Carrollton, MD 20784		2BR/1BA	$ 925 - $ 1,040	Gas	816 - 1075	$1.13 - $0.97		permit only
888.801.4383		3BR/2BA	$ 1,050 - $ 1,125		957 - 957	$1.10 - $1.18		

APPENDIX II

Table A-10a: Rental Survey for Central Avenue and Competitive Market Areas

Outside of Immediate Market Area

Lansdowne Village		Studio	$ 693 - $ 693		-	#DIV/0! - #DIV/0!			
1720 Brightseat Lane		1BR/1BA	$ 764 - $ 764		-	#DIV/0! - #DIV/0!			
West Hyattsville, MD 20785		2BR/1BA	$ 838 - $ 838		-	#DIV/0! - #DIV/0!			
888.241.8089		3BR1.5BA	$ 1,039 - $ 1,039		-				
	346								
Maple Ridge		1BR/1BA	$ 770 - $ 780	All but	n/a - n/a	n/a - n/a			
2252 Brightseat Road		2BR/1BA	$ 880 - $ 890	electric	n/a - n/a	n/a - n/a	40%	free	
Landover, MD 20785		3BR1.5BA	$ 1,050 - $ 1,200		n/a - n/a	n/a - n/a		onsite	
888.676.9401									
	402								
Kent Village Apartments Homes									
6707 Hawthorne Street		1BR/1BA	$ 715 - $ 715		597 - 597	$1.20 - $1.20			
Landover, MD 20785		2BR/1BA	$ 820 - $ 1,005		747 - 784	$1.10 - $1.28			
888.297.6515									
	810								
Penn Southern & South Hill Apts		Studio	$ 635 - $ 695		480 - 480	$1.32 - $1.45			
4113 Southern Ave		1BR/1BA	$ 695 - $ 825		512 - 920	$1.36 - $0.90			
Capitol Heights, MD 20743		2BR/1BA	$ 825 - $ 1,020	None	756 - 756	$1.09 - $1.35	89%	free onstreet	
888.744.2962		2BR/2BA	$ 825 - $ 1,020		1431 - 1431	$0.58 - $0.71			
		3BR/2BA	$ 950 - $ 950		1152 - 1152	$0.82 $0.82			
	307								
Hillside Heights Apartments									
5237 Marlboro Pike		Studio	$ 560 - $ 560		315 - 315	$2.16 - $2.16			
Capitol Heights, MD 20743		1BR/1BA	$ 680 - $ 680	Water	642 - 642	$1.20 - $1.20	98%	free	
888.813.7066		2BR/1BA	$ 770 - $ 770	Gas	804 - 804	$1.11 - $1.11		onsite	
		3BR1.5BA	$ 895 - $ 895		996 - 996	$0.00 - $0.00			
	231								

Source: Apartments.com; Phone Interviews; Bay Area Economics, 2005

Table A-11: Pipeline Development Projects

	Applicant		Name	Type	Units	Acreage	Delivery Date	ZIP Code
Residential								
		DSP-05022	Adison Road South					
		4-04202	Brook Summit	Single-Family Detached	27	6.21		
		DSP-04082	Brighton Place	SFD and Townhouses	60 & 63	29		
		4-02123	Campfire Property	Single-Family Detached	42	21.42		
		4-04133	Gateway	Single-Family Detached	43	18.83		
		CSP-88020/02	Glenwood Hills	SFD, SFA & MF	202, 117 & 278	121		
		DSP-03029	Lincolnshire	Single-Family Attached	63	10.56		
		DSP-04012	Lincolnshire II	Single-Family Attached	24	4.11		
		4-04173	Quincy Commons	Townhouses & Condos		10.56		
		DSP-03092	St. Paul Overlook	Multi-family Rehab	122	5.6		
		SDP-0403	Summerfield at Morgan Station	Multi-family	478	12.25		
		SDP-0418	Summerfield at Morgan Station	Single-Family Attached	413	44.74		
	KSI Services	DSP-04062	The Metropolitan at Largo	Condominiums	250			
	Toll Brothers	4-04080	Clagget Farms Property	Townhouses & SFD	700 & 300	588		
	Toll Brothers	DSP-04088	Clagget Farms Property	Townhouses & SFD	64 SFD	32.9		
Office								
		CSP-88020/02	Glenwood Hills	Class A	Square Feet?	NA		
	Taylor Dev.	CSP-02001	Belcrest Center	Class A	300,000 s.f.	NA		
	Taylor Dev.	DSP-04004	Belcrest Center		CONSTRUCTION OF 263 MULTIFAMILY DWELLINGS;AND 2164 S			
	Taylor Dev.	DSP-04004/01	Belcrest Center		153,915 SQUARE FEET OF RETAIL, RESTAURANT AND OFFICE SPACE			
					CONSTRUCTION OF 2 WAREHOUSE/ DISTRIBUTION BUILDINGS WITH ANCILLARY OFFICE SPACE			
	Gingery Dev. Towers Co.	SDP-0312	Collington Center	Class B	200,000 s.f.	(174,000 SF)		
Industrial								
Retail								
	Michaels Cos	DSP-04014	Ritchie Station Marketplace	Big Box - Regional	557,000 s.f.	100		
	Taylor Dev.	see above	Belcrest Center	Big Box - Regional	140,000 s.f.			

Source: The Maryland-National Capital Park and Planning Commission

Table A-12: Suburban Maryland Office Profile - First Quarter 2005

Market	Rentable Area	Vacancy Rate	YTD Net Absorption SF	Under Const. SF	Avg. Asking Lease Rate SF/Yr	Availability Rate
Gaithersburg	4,871,226	7.30%	130,492	-	$22.80	14.30%
Germantown	2,410,193	13.10%	34,074	-	$23.14	23.20%
North Bethesda	10,256,362	10.40%	(126,714)	-	$27.32	14.60%
North Rockville	10,876,416	11.60%	(28,865)	54,000	$24.23	19.20%
Rockville	7,033,383	10.70%	(33,047)	-	$26.57	12.00%
Subtotal I-270 Corridor	35,477,580	11.10%	(24,060)	54,000	$25.41	12.80%
Bethesda/Chevy Chase	11,206,534	12.00%	(61,280)	202,147	$28.49	15.00%
Kensington/Wheaton	1,811,576	6.50%	4,446	-	$24.19	8.10%
North Silver Spring/Rt. 29	2,972,536	2.90%	(6,505)	-	$22.13	4.80%
Silver Spring	6,814,253	9.20%	(32,733)	-	$23.60	11.40%
Montgomery County	**58,252,349**	**10.50%**	**(120,132)**	**256,147**	**$25.90**	**14.50%**
Beltsville/Calverton	1, 687,503	19.40%	(6,305)	-	$21.16	20.20%
Bowie	1,004,933	4.30%	(325)	130,650	$22.29	2.80%
Branch Avenue	1,700,691	7.10%	5,044	-	$13.69	8.40%
College Park	3,862,731	14.00%	5,427	-	$20.02	16.40%
Greenbelt	3,433,922	11.40%	111,414	-	$21.25	18.00%
Lanham/Landover	3,990,624	9.60%	(6,152)	-	$19.07	19.30%
Largo/Capital Heights	944,239	11.30%	15,027	-	$19.71	13.50%
Laurel	2,380,987	8.10%	(2,360)	64,900	$17.64	16.50%
Oxon Hill/Ft. Washington	898,757	16.20%	-	-	$18.18	16.10%
Penn Ave/Upper Marlboro	878,962	8.90%	7,051	-	$14.78	12.20%
Prince George's County	**20,783,349**	**11.20%**	**128,821**	**195,550**	**$19.58**	**15.70%**
Suburban Maryland Total	**79,035,698**	**10.70%**	**8,689**	**451,697**	**$24.05**	**14.60%**

Source: 2005 CB Richard Ellis, Inc.

Table A-13: Suburban Maryland Industrial Profile - First Quarter 2005

Market	Rentable Area	Vacancy Rate	QTR Net Absorption SF	Under Const. SF	Avg. Asking Lease Rate SF/Yr	Availability Rate
Bethesda/Chevy Chase	85,000	0.00%	-		N/A	0.00%
Gaithersburg	7,747,452	6.40%	117,638		$17.13	8.30%
Germantown	1,262,223	16.70%	83,708		$14.47	21.80%
I-270 Corridor North	619,420	23.40%	19,787		$9.50	24.50%
Kensington/Wheaton	233,773	4.70%	2,457		N/A	4.70%
North Bethesda	983,233	6.00%	24,466		$11.44	9.10%
North Rockville	6,681,028	7.00%	-453		$15.90	9.60%
Rockville	3,899,198	8.40%	10,300		$13.41	14.50%
Rt. 29 Corridor	1,699,442	20.40%	12,653		$11.07	22.50%
Silver Spring	970,250	2.40%	5,270	48,000	$9.00	3.50%
Montgomery County	**24,181,019**	**8.60%**	**275,826**	**48,000**	**$14.14**	**11.50%**
Beltsville/Calverton	8,905,564	10.40%	201		$7.59	12.10%
Bowie	3,003,709	11.30%	10,700	130,525	$6.23	12.90%
Branch Avenue	2,346,888	1.80%	-1,662		$9.88	1.80%
Brandywine/PG South	1,017,632	24.60%	-		$4.50	24.60%
Capitol Heights	3,991,393	10.60%	145,271	64,389	$5.90	11.60%
Cheverly/Hyattsville	5,089,088	7.40%	-100,916		$6.92	8.20%
Greenbelt	662,045	67.40%	-41,580		$10.11	63.50%
Landover/Largo	12,876,919	8.80%	53,808	186,075	$6.09	12.70%
Lanham	2,991,083	10.70%	-2,219		$8.97	11.50%
Laurel	2,531,024	8.10%	32,192		$7.51	10.00%
Oxon Hill/Ft. Washington	353,667	0.00%	-		$4.95	8.90%
Pennsylvania Ave	2,293,961	3.04%	-7,000	260,000	$6.49	6.30%
Takoma Park/College Park	1,052,873	1.60%	86,200		$18.26	4.90%
Upper Marlboro	1,333,959	6.60%	-		N/A	6.30%
Prince George's County	**48,449,805**	**9.60%**	**174,995**	**640,989**	**$6.92**	**11.60%**
Suburban Maryland Total	**72,630,824**	**9.30%**	**450,821**	**688,989**	**$9.11**	**11.60%**

Source: 2005 CB Richard Ellis, Inc.

APPENDIX II

Table A-13: Suburban Maryland Industrial Profile - First Quarter 2005

Market	Rentable Area	Vacancy Rate	QTR Net Absorption SF	Under Const. SF	Avg. Asking Lease Rate SF/Yr	Availability Rate
Bethesda/Chevy Chase	85,000	0.00%	-		N/A	0.00%
Gaithersburg	7,747,452	6.40%	117,638		$17.13	8.30%
Germantown	1,262,223	16.70%	83,708		$14.47	21.80%
I-270 Corridor North	619,420	23.40%	19,787		$9.50	24.50%
Kensington/Wheaton	233,773	4.70%	2,457		N/A	4.70%
North Bethesda	983,233	6.00%	24,466		$11.44	9.10%
North Rockville	6,681,028	7.00%	-453		$15.90	9.60%
Rockville	3,899,198	8.40%	10,300		$13.41	14.50%
Rt. 29 Corridor	1,699,442	20.40%	12,653		$11.07	22.50%
Silver Spring	970,250	2.40%	5,270	48,000	$9.00	3.50%
Montgomery County	**24,181,019**	**8.60%**	**275,826**	**48,000**	**$14.14**	**11.50%**
Beltsville/Calverton	8,905,564	10.40%	201		$7.59	12.10%
Bowie	3,003,709	11.30%	10,700	130,525	$6.23	12.90%
Branch Avenue	2,346,888	1.80%	-1,662		$9.88	1.80%
Brandywine/PG South	1,017,632	24.60%	-		$4.50	24.60%
Capitol Heights	3,991,393	10.60%	145,271	64,389	$5.90	11.60%
Cheverly/Hyattsville	5,089,088	7.40%	-100,916		$6.92	8.20%
Greenbelt	662,045	67.40%	-41,580		$10.11	63.50%
Landover/Largo	12,876,919	8.80%	53,808	186,075	$6.09	12.70%
Lanham	2,991,083	10.70%	-2,219		$8.97	11.50%
Laurel	2,531,024	8.10%	32,192		$7.51	10.00%
Oxon Hill/Ft. Washington	353,667	0.00%	-		$4.95	8.90%
Pennsylvania Ave	2,293,961	3.04%	-7,000	260,000	$6.49	6.30%
Takoma Park/College Park	1,052,873	1.60%	86,200		$18.26	4.90%
Upper Marlboro	1,333,959	6.60%	-		N/A	6.30%
Prince George's County	**48,449,805**	**9.60%**	**174,995**	**640,989**	**$6.92**	**11.60%**
Suburban Maryland Total	**72,630,824**	**9.30%**	**450,821**	**688,989**	**$9.11**	**11.60%**

Source: 2005 CB Richard Ellis, Inc.

Table A-14 Prince Geogre's County Competitive Shopping Centers

Name	Address	Community	Zip Code	Type[1]	GLA w/ anchors	Average Lease Rate	Space Available	Year Opened	Anchor
Beltway 30 Shopping Center	8401 Annapolis Rd	New Carrollton	20784	Community	169,000	$3-18	0	1966	Value City Furniture
Carrollton Shopping Center	8446 Annapolis Rd	New Carrollton	20784	Neighborhood	47,804	$3.50-17	0	1960	Safeway, CVS
The Shoppes at New Carrollton	7710 Riverdale Rd	New Carrollton	20784	Regional	319,392		1900	1974	K&G Menswear, Lowe's, Safeway, Shoppers Food Wearho
Beltway Plaza	6000 Greenbelt Rd	Greenbelt	20770	Super Regional	1,080,000	$15-20	25000	1961	AMC Theatres, CVS. Burlington Coat Factory, Giant Foods
Cipriano Square Plaza	8819 Greenbelt Rd	Greenbelt	20770	Community	139,358		1480	1982	Big Kmart
Greenway Center	7595 Greenbelt Rd	Greenbelt	20770	Community	265,000		n/a	1980	Bally's Total Fitness, Modell's Old Navy, Safeway, Ross
Beltsville Park & Shop	11112 Baltimore Ave	Beltsville	20705	Neighborhood			Yes		
Beltsville Plaza 1	10900 Baltimore Ave	Beltsville	20705	Neighborhood			Yes		
Calverton Shopping Center	11601 Beltsville Dr	Beltsville	20705	Neighborhood	73,000	$15-22	0	1967	CVS, Giant
Chestnut Hills Shopping Center	10452 Baltimore Ave	Beltsville	20705	Neighborhood	60,266		4760	1960	Petco, Rite Aid Pharmacy
Garrett Cove Center	11500 Baltimore Ave	Beltsville	20705	Neighborhood	27,992		3683		
Maryland Farms Shopping Center	11430 Cherry Hill Rd	Beltsville	20705	Neighborhood	43,400	$22	Yes	1983	
Powder Mill Station Shopping Center	Rte 1 & Powder Mill Rd	Beltsville	20705	Neighborhood	12,000		Yes	1990	
Sunrise Plaza	10800 Rhode Island Ave	Beltsville	20705	Neighborhood	43,999		Yes	1989	
Largo Towne Center	806 Largo Center Dr	Largo	20774	Community	260,525		Yes	1991	Furniture Galaxy, Marshalls, Shopper's Food Warehouse
Bladen Plaza	5456 Annapolis Rd	Bladensburg	20710	Neighborhood	46,000		Yes		Save-a-Lot Foods
Bladensburg Shopping Center	4813 Annapolis Rd	Bladensburg	20710	Neighborhood	33,656		20549	1948	
Addison Plaza	6200 Central Ave	Capitol Heights	20743	Neighborhood	91,703		Yes	1984	CVS, Safeway
Coral Hills Shopping Center	4800 Marlboro Pike	Capitol Heights	20743	Neighborhood	82,550	$12-15	11770	1988	Shopper's Food Warehouse
Family Furniture Center	7800 Central Ave	Capitol Heights	20743	Community	104,000		Yes	1988	Family Furniture
Hampton Mall	9001 Central Ave	Capitol Heights	20743	Community	253,648		14413	1971	Bally's Total Fitness, Staples, Everlasting Life Health Food
Park Central	7900 Central Ave	Capitol Heights	20743	Neighborhood	48,000	$10-22	9200	1992	
Walkermill Square	Walker Mill & Addison Rd	Capitol Heights	20743	Neighborhood	39,400		Yes	1991	
Dodge Plaza	7778 Landover Rd	Landover	20785	Community	101,613	$12	3000	1965	IGA, Maxway
Kent Village	7341 Landover Rd	Landover	20785	Neighborhood	53,875	$11	1395	1959	Family Dollar Store
King Shopping Center	7001 Martin Luther King Jr Highway	Landover	20785	Neighborhood	95,000		1900	1991	CVS, Shopper's Food Warehouse, Blockbuster Video
Landover Crossings	8500 Landover Rd	Landover	20785	Community	144,460		Yes	1974	Circuit City, Sam's Warehouse Club
Capital Plaza Mall	6200 Annapolis Rd	Landover Hill	20784	Regional	429,450	$15-18	Yes	1963	
Cherry Hill Shopping Center	6747 Annapolis Rd	Landover Hill	20784	Neighborhood	67,000		Yes	1971	
Defence Shopping Center	7933 Annapolis Rd	Lanham	20706	Neighborhood	66,699		Yes	1963	La Fontaine Bieu, Office Depot
Eastgate Shoppers World	10505 Greenbelt Rd	Lanham	20706	Neighborhood	90,298		Yes	1981	
Enterprise Plaza	9357 Annapolis Rd	Lanham	20706	Community	201,000		Yes	1975	Shopper's Food Warehouse, USA Discounters
Glenridge Shopping Center	7500 Annapolis Rd	Lanham	20706	Community	130,484		No	1961	CVS, Dress Barn, Giant Food
Lanham Crossing Shopping Center	8801 Annapolis Rd	Lanham	20706	Neighborhood	60,000		1600	1970	
Seabrook Station Shopping Center	9420 Lanham Sxevern Rd	Lanham	20706	Neighborhood	63,972		No	1966	AutoZone, CVS
Campus Village	8147 Baltimore Ave	College Park	20740	Neighborhood	25,529		No	1972	
College Park Shopping Center	7300 Baltimore Ave	College Park	20740	Neighborhood	90,528	$12	No	1949	CVS, Kinko's, Rugged Warehouse, WaWa Food Market
Hollywood Shopping Center	9801 Rhode Island Ave	College Park	20740	Neighborhood	46,700		26000	1968	REI
					4,907,301				

Source: Shopping Center Directory 2003, BAE, 2003

Notes: [1] Definitions are as follows for each type of center

Neighborhood centers contain convenience goods and personal services for day to day living, normally ranging from 30,000 to 100,000 square feet in size.

Community centers are normally anchored by junior department stores, super drug stores, or discount department stores with size ranging from 100,00 to 500,000 square feet.

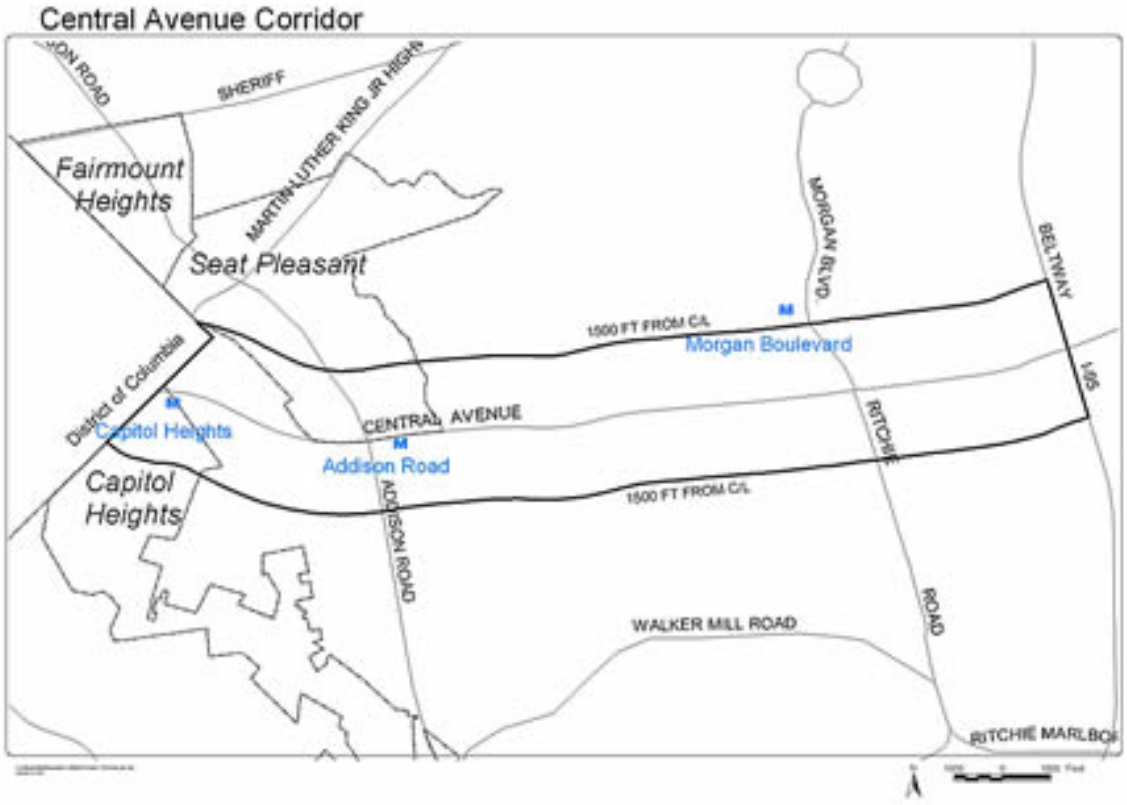
Regional centers include two full-line department stores in general and have from 250,000 to 900,000 square feet of leaseable area.

Super Regional centers normally include three or more full-line department stores; they can range for 500,000 to 1,500,000 square feet.

APPENDIX III

MD 214 (CENTRAL AVENUE) - ROAD SAFETY REVIEW

Description of Project:
MD 214 is a six-lane curbed Urban Other Principal Arterial that serves as a major commuter highway between Prince George's County, MD and the District of Columbia. The annual average daily traffic varies from 22,675 to 59,375 vehicles with the lowest AADT recorded near the District line and the highest near the Capital Beltway. The study section of MD 214 is 3.46 miles long and is bounded by the Capital Beltway to the east and the DC line to the west. The WMATA Metro Blue Line parallels MD 214 to the south and in this section there are three Metro stops that generate substantial pedestrian activity.



APPENDIX III

Crash History:

Three year (2002-2004) crash data as well as detailed one-year (2004) data were studied before the field visit. Complete crash data for 2005 were unavailable at the time of the field visit and were therefore not used for the purposes of this study. A cursory look at Table 1 shows a higher than average crash incidence along the subject section of MD 214. Further analysis confirmed that crash rates here were significantly and consistently higher than the statewide averages for similar locations. Though the total number of crashes seems to be declining, the number of pedestrian crashes has remained constant over the three-year period.

Year	Total	Fatal	Injury	Property Damage	Pedestrian
2002	217	2	90	125	5
2003	172	2	80	90	6
2004	166	0	78	88	5
2002-2004	555	4	248	303	16

Table 1: Crash Statistics by Year

Given the total number of crashes, the line diagram for 2004 alone was studied in detail. According to the line diagram the crashes were distributed more or less equally among the various intersections along MD 214. Rear-end crashes were most predominant followed by fixed-object collisions and sideswipes. Conditions at the time of crashes showed an equal distribution between nighttime and wet surface crashes (See Figure 1).

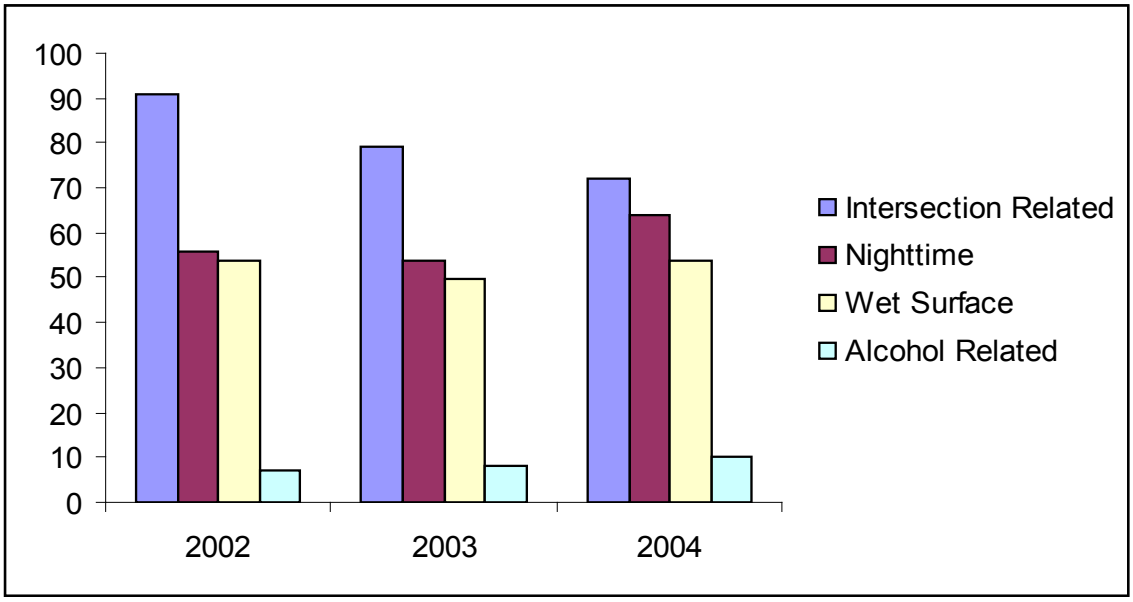


Figure 1: Crash Conditions by Year

APPENDIX III

Audit Team Members:
Anyesha Mookherjee – Traffic Engineer
Sophady Uong – Construction Engineer
Moreshwar Kulkarni – Highway Design Engineer
Debbie Jennings – CTSP
Dana Gigliotti – CTSP
Fred Lees – Montgomery County Traffic

Information Used in Audit:
Three-Year Crash Data
One-Year Crash Data with Line Diagram
Aerial Photographs
Turning Movement Counts
Visidata
Surface Friction Data from SHA Office of Materials and Technology
Transit Usage/Ridership data from Washington Metropolitan Area Transit Authority (WMATA)

Findings from Available Data:

- See Crash History on Page 98.
- The surface friction numbers for MD 214 in both directions were found to be in Category 2. Roads in this category have a friction number between 35-39 as per Federal Highway Administration Instructional Manual and are eligible for measures to improve skid resistance.

Year	Average Friction Number
2002	40.34
2003	37
2004	39.81

Table 2: Average Friction Number by Year

- Bus ridership data from WMATA showed high transit usage. The bus ridership information used for the study was collected in 2001. Though slightly dated, we believe the data is still useful in identifying important bus stop locations. The bus stops at Cindy Lane, Shady Glen Drive and Brightseat Road were among the most heavily utilized.

APPENDIX III

Findings from Site Visit:

General:

- Lack of ADA-compliant pedestrian facilities, far side bus stop locations and outdated pedestrian signage.
- Lack of access control creates excessive side street friction. Side streets meet MD 214 at skewed angles.
- Mid-block crossings were observed along the corridor.
- Speeding is a chronic issue throughout the corridor.
- Multiple resurfacing of the roadway has reduced the height of the curb causing non-mountable curbs to become mountable in certain sections.
- The presence of ice on the eastbound outer travel lane in certain spots is indicated by accumulation of water along the roadway.
- The manhole and handhole boxes are not flush with the pavement surface.
- Some of the drainage inlets on the roadway were found to be damaged by the traffic.

Specific:

Southern Avenue to Addison Road:

- Lack of street name sign on the signal mast arms or span wires.
- Restricted sight distance for eastbound MD 214 at the western entrance to Addison Plaza, west of Yost Place.
- No clear crash patterns discernible.
- The merge from MD 332 along eastbound MD 214 should be better designated.
- Restricted sight distance for eastbound MD 214 at Addison Road. Pedestrian counts from 2005 show significant pedestrian activity on east leg, but there is no marked crosswalk at this location.

Addison Road to Hill Road:

- The fence in the median along MD 214 to the east of Addison Road discourages mid-block crossing. But the fence is damaged and missing in places. Trees and shrubbery in the median could be trimmed to improve sight distance.
- Restricted sight distance for eastbound MD 214 at Cindy Lane.
- Posted speed limit changes from 40 mph to 30 mph along westbound MD 214 at milepoint 1.57. There is no advanced warning about this change. Further, the usefulness of having a lower posted

speed limit on a downhill grade, especially when motorists are at speeds averaging 45 mph, needs to be examined closely.

- Cabin Branch Road provides access to Central High School. Many school children were observed crossing at this intersection. Adding pedestrian amenities would help improve safety at this intersection.
- Anecdotal evidence suggests that speeding is an issue in the section which lies to the west of Cindy Lane with maximum recorded speeds of 80 mph.
- Restricted sight distance for eastbound MD 214 at Hill Road.

From Hill Road to I-495/95:

- Special signage was observed along MD 214 for the adjoining FedEx Field. The behavior of the peak-hour traffic combined with special event traffic should be observed for a better understanding of the travel patterns.
- Inadequate turning radii for left turn vehicles from eastbound MD 214 to Brightseat Road.

Recommendations:

During peak hours, MD 214 is mainly used by non-local commuter traffic to and from D.C. One of the key elements in improving overall safety along the corridor would be the implementation of traffic calming measures. Narrower lane widths, organized pedestrian facilities and better lighting would be some of the options. M-NCPPC's Central Avenue Corridor Development group is currently trying to prepare an overall plan to implement some of these strategies.

Redevelopment and rezoning of vacant plots is expected and in this context we believe the following engineering suggestions may be explored to improve the traveler and pedestrian experience along the corridor:

Short Term Recommendations:

- Installation of larger speed signs with fluorescent plaques to alert motorists to speed limits may be considered. Periodic enforcement of speed limits may also deter speeding. Edge lines along the outer lanes of MD 214 may be considered as a method of slowing traffic by narrowing lanes visually.
- Installation of street name signs may be looked into for cross streets lacking such signs.
- Improve maintenance of shrubbery in the median.
- Consider installation of shark's teeth (lane markings) across MD 332 where it merges with eastbound

MD 214. Larger yield signs should also be installed. The island may be better delineated by use of edge lines along the curb.

- Evaluate bus stop locations with WMATA coordination and try to relocate existing near side locations to far side locations, which are preferable.

Mid Term Recommendations:

- Consider conducting left turn phasing studies for the following intersections due to restricted sight distance along eastbound direction:
  - » MD 214 at western entrance to Addison Plaza
  - » MD 214 at Addison Road
  - » MD 214 at Cindy Lane
  - » MD 214 at Hill Road
- Consider conducting a traffic signal warrant analysis for MD 214 at Cabin Branch Road to see if it meets warrants for signalization.
- Installation of an ornamental fence throughout the median may prevent mid-block crossings.
- The double left-turn lanes from eastbound MD 214 to Brightseat Road should be evaluated for adequate turning radii for sport utility vehicles (SUVs) and passenger buses.
- Improve signage along eastbound MD 214 for trucks exiting from southbound I-495/95. Signage directing truck traffic to make a left turn at Ritchie Road will help unnecessary weaving.
- Consider installation of Countdown Pedestrian Signals and Audible Pedestrian Signals where applicable. Improve all pedestrian ramps to be ADA compliant. Improve pedestrian signage along the route.
- Pedestrian safety education for Central High School students should be considered along with Inattentive Driving education with the help of variable message signs (VMS). VMS may also be used to improve seat belt usage.
- Pedestrian safety education, by way of sting operations in cooperation with Prince George's County Police Department in the vicinity of the Metro stations and Central High School, may be explored.

Long Term Recommendations:

- Access control may be achieved by combining or reducing multiple access points for some neighborhoods and by creating a service lane along both directions.
- The MD 214 and I-95 interchange is of full-cloverleaf type. In the long run, as the traffic volumes increase, consideration should be given to eliminating the loop ramps, which cause extensive weaving at the interchange.
- Evaluate curb height and drainage issues during future full-depth resurfacing projects.

APPENDIX IV

Green Infrastructure Plan

APPENDIX V

References and Resources:

2005 Girling, Cynthia and Kellett, Ronald, *Skinny Streets & Green Neighborhoods: Design for Environment and Community*, Island Press, Washington D.C.

2004 Transit Cooperative Research Program Report 102, *Transit Oriented Development in the United States: Experience, Challenges, and Prospects,* Washington, D.C.

2003 Urban Land Institute, *Barriers and Incentives to Transit-Oriented Development: Prince George's County, Prince William County, and the District of Columbia,* Washington D.C.

2002 The Maryland-National Capital Park and Planning Commission, *Prince George's County Approved General Plan,* Upper Marlboro, MD.

2002 Congress for the New Urbanism, *Civilizing Downtown Highways: Putting New Urbanism to Work on California's Highways,* San Francisco, CA.

2002 METRO, *Creating Livable Streets: Street Design Guidelines for 2040,* Portland, OR.

2002 METRO, *Green Streets: Innovative Solutions for Stormwater and Stream Crossings,* Portland, OR.

2000 Prince George's County Department of Environmental Resources, *Low Impact Development Design Strategies: An Integrated Design Approach*, Largo, MD.

1999 Oregon Department of Transportation, *Main Street...When a Highway Runs Through It: A Handbook for Oregon Communities,* Salem, OR.

1997 Fischler, Benjamin, R and Danica Ziegler. *Phase I Archeological Survey of the Proposed Addison Road to Largo Town Center Extension of the Metrorail Blue Line,* for the Maryland Mass Transit Administration

1993 The Maryland-National Capital Park and Planning Commission, *Illustrated Inventory of Historic Sites: Prince George's County, MD.* Upper Marlboro, MD.

1992 The Maryland-National Capital Park and Planning Commission, *Maryland Historic Sites and District Plans: Prince George's County, Maryland,* Upper Marlboro, MD.

This page intentionally left blank.