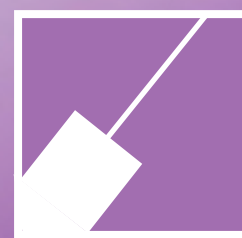


# CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT



PREPARED FOR:  
**PRINCE GEORGE'S COUNTY PLANNING  
 DEPARTMENT,  
 THE MARYLAND NATIONAL CAPITAL  
 PARK AND PLANNING COMMISSION**



*JUNE 2011*



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

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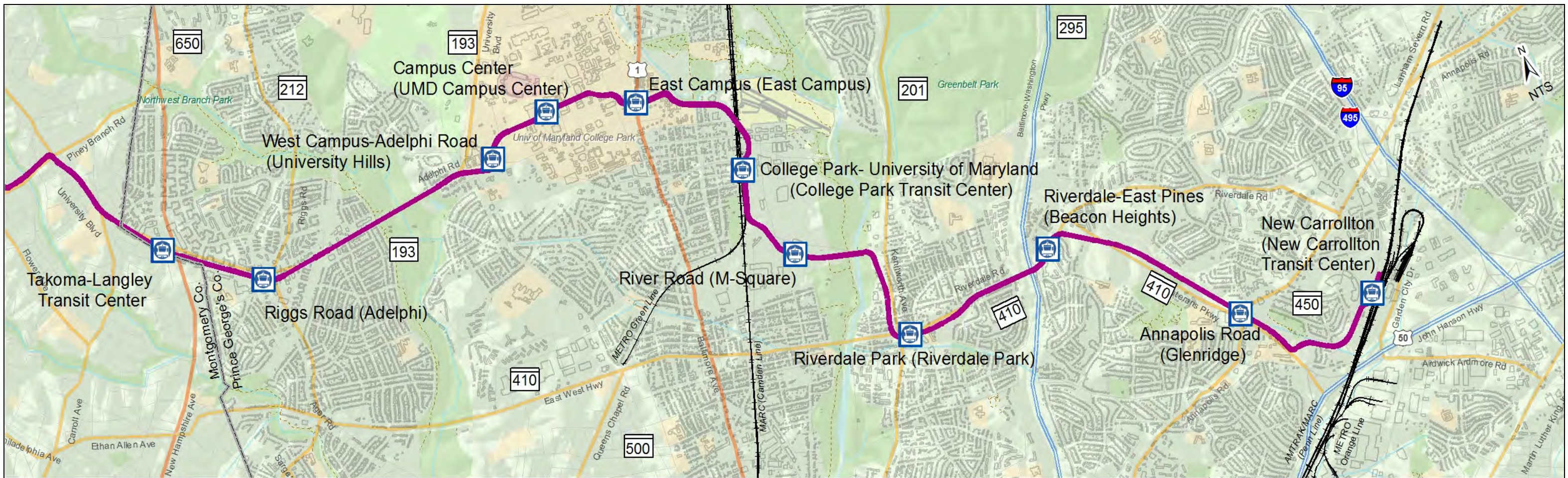
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# SECTION I – EXECUTIVE SUMMARY



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*





## SECTION I – EXECUTIVE SUMMARY

### Purpose

The overall goal of the CAST study is to evaluate multi-modal access to the eleven (11) proposed Purple Line Locally Preferred Alternative (LPA) Stations within Prince George’s County. This report provides an additional piece of the overall plan for the development of the stations by providing further analysis and recommendations for pedestrian and bicycle access that was initiated by the *Purple Line Bicycle Access and Bicycle Hub Location Study* (Toole Study) completed in June 2010. Providing effective multi-modal access to the stations will be essential to the success of the Purple Line Light Rail system. A number of development projects and sector planning efforts are currently underway providing opportunities to implement new bicycle and pedestrian facilities around the stations. This report will provide additional information to help policy makers, planners and engineers make better decisions as design of the Purple Line LPA moves forward.

Each Purple Line LPA Station in this report is designated with the LPA names with the updated names as suggested by M-NCPPC in parenthesis.

CAST focused on an approximate one-half mile walk-shed distance from each station. The stations included in the study are as follows:

1. Takoma-Langley Transit Center (Takoma-Langley Transit Center)
2. Riggs Road (Adelphi)
3. West Campus-Adelphi Road (University Hills)
4. Campus Center (UMD Campus Center)
5. East Campus (East Campus)
6. College Park-University of Maryland (College Park Transit Center)
7. River Road (M-Square)
8. Riverdale Park (Riverdale Park)
9. Riverdale-East Pines (Beacon Heights)
10. Annapolis Road (Glenridge)
11. New Carrollton (New Carrollton Transit Center)

CAST evaluates the opportunities and challenges at each station and the existing conditions of the multi-modal network including existing streets, trails, sidewalks, land-use, and transit bus stops to develop the access needs. Site specific recommendations are then developed based on the findings from a field audit of each station, research from various sector plans, master plans and studies and meetings with M-NCPPC staff.

### Resources Used to Develop Recommendations

- M-NCPPC staff
- Consultant Team
- Takoma/Langley Crossroads Sector Plan, November 2009
- Central US 1 Corridor Sector Plan
- University of Maryland, 2007-2020 Facilities Master Plan Update
- Central Annapolis Road Corridor Sector Plan
- New Carrollton Transit District Development Plan
- Countywide Master Plan of Transportation (MPOT)
- Takoma/Langley Crossroads Pedestrian Access and Mobility Study, July 2007
- Purple Line Bicycle Access and Bicycle Hub Location Study (Toole Study), June 2010
- New Carrollton Interim Pedestrian Safety Improvements Study, June 2010

- Central Kenilworth Avenue Revitalization Report, Spring 2008
- *A Technical Assistance Panel Report – College Park Metrorail Station Area*, ULI Washington, 2008
- MTA – Purple Line New Starts Definition Plan and Profile Sheets, October 2010
- MTA – Takoma-Langley Park Transit Center, Revised 30% Plans, August 2010
- Metrorail Bicycle & Pedestrian Access Improvements Study, October 2010

### Methodology

This study involved determining the location of each proposed Purple Line LPA Station and adding a ½ mile radius circle around each station on an aerial photo to determine the access shed. Initial background information was gathered from M-NCPPC staff and a review of various sector plans, master plans and studies pertaining to specific areas. Logical routes within the half-mile access sheds were initially determined and reviewed through a Google Earth street view. A field audit followed to capture field photos and verify existing conditions. Existing bus stops were located using a GIS reader and compared to the bus locations supplied by Prince George’s County DPW&T and M-NCPPC GIS data. Improvements referenced in the various sector plans, master plans and studies were evaluated and recommendation were then made to address pedestrian, bicycle and bus transit access problems based on sector plans, master plans, other studies and review of existing conditions and needs.

### Study Results

The results from the CAST confirmed what the Toole Study presented as the functionality of the “Pedestrian and Bicycle Sheds”. The CAST expands further into recommendations for pedestrian and bicycle access. From a pedestrian access standpoint, all the “Pedestrian Sheds” within a half mile of the proposed stations need improvements whether sidewalk is missing entirely to missing connections to major pedestrian routes or destinations. The study also identifies where existing sidewalks and intersection are not ADA compliant. Unless roadway improvements have recently occurred, the majority of the existing sidewalks and intersection are non-compliant and will require reconstruction and intersection improvements. Most of the existing signalized intersections will require modifications to implement pedestrian signals, push-buttons and crosswalks. At crossings where high pedestrian traffic is expected, new technology, such as HAWK signals, may improve the safety of the crossings.

The stations with the most non-functioning “Pedestrian Sheds” included Riggs Road, Riverdale Park and Beacon Heights. These “Pedestrian Sheds” contain large amounts of missing sidewalks within the communities with Riggs Road having substantial barriers creating separation between communities.

### Recommendations

The CAST identifies recommendations for a broad range of improvements to increase the percentage of people walking and bicycling to and from the proposed Purple Line LPA Stations. The recommendations are intended to improve safety, access, and mobility for all users. The recommendations provided will vary in costs and effort. The costs and priority of each recommendation is not addressed in the CAST, but may be addressed in future studies. Implementation of the recommended improvements will involve a wide variety of stakeholders including MTA, WMATA, SHA, M-NCPPC, Prince George’s County DPW&T, City of College Park, local jurisdictions, and members of the walking and bicycling community. Implementation strategies will be discussed further in Section XV. Some of the infrastructure improvements can be implemented in the short term, but many of the recommendations can only be implemented as Transit Oriented Development (TOD) occurs around the stations.

The recommendations in this study are organized into three sections: pedestrian and bicycle access; intersection, lighting and traffic calming improvements; station improvements; and bus and shuttle access improvements. The recommendations consist of a combination of existing Sector Plan and Master Plan (MPOT and University of Maryland) recommendations, new recommendations as a result of a detailed site analysis within the CAST based on



opportunities and constraints analysis, and recommendations from the previous Toole Study. The pedestrian and bicycle access recommendation tables are broken down by on-road bicycle facilities (bike lanes/cycle tracks), shared-use roadways, sidewalk needs, shared-use paths, and new roadways. All of these recommendations are called out on the maps with individual map key numbers. The intersection and traffic calming improvements are summarized in a separate table with the intersections indicated on the map. Additional station access improvements are summarized providing guidance for additional crossing and sidewalk capacity needs and bicycle accommodations. Finally, bus and shuttle access recommendations are summarized in a table and shown on the maps documenting the existing bus stops within the half-mile radius of the proposed Purple Line LPA Stations and indicating bus stops to be relocated or needing bus shelters.

All of the Purple Line LPA Station recommendations include safety improvements such as crossing upgrades at intersections, traffic calming, and new pedestrian lighting; ADA improvements at intersections; additional bike racks; and way-finding signage. The following is a summary of the new facility recommendations for each station:

### **Takoma-Langley Transit Center**

The Takoma-Langley Transit Center Purple Line LPA Station is located within the *Takoma/Langley Crossroads Sector Plan* area. The recommendations include those from the Sector Plan, MPOT, and new recommendations based on the field audit. New facility improvements include cycle tracks along University Boulevard (MD 193) and New Hampshire Avenue (MD 650); bike lanes along 14<sup>th</sup> Avenue; designated shared-use roadways along various community streets connecting to University Boulevard, New Hampshire Avenue, shopping centers and existing trail heads; new sidewalks (where missing); and a new Rambalas roadway linking University Boulevard to local schools and recreational centers. Other recommendations include stations improvements for the proposed Transit Center such as a bike station, wide sidewalk throughout the facility, and enhanced crossings at University Boulevard. No additional bus stop recommendations were provided due to the proposed Transit Center.

### **Riggs Road (Adelphi)**

The Riggs Road Purple Line LPA Station is also located within the *Takoma/Langley Crossroads Sector Plan* area. The recommendations include those from the Sector Plan, MPOT, and new recommendations based on the field audit. New facility improvements include cycle tracks along University Boulevard (MD 193); bike lanes along a portion of Riggs Road (MD 212) and Jasmine Terrace; designated shared-use roadways along a portion of Riggs Road and various community streets connecting to University Boulevard, Riggs Road, shopping centers and existing trail heads; new sidewalks (where missing); new shared-use paths providing connection across the PEPCO right-of-way and linking the Carol Highlands community to University Boulevard and Riggs Road; and new roadway extensions for Holton Lane and Hannon Street. Other recommendations include stations improvements such as wide sidewalk around the station platform and enhanced crossings at University Boulevard. No bus stop relocations are recommended, but three (3) bus shelters are recommended at existing bus stops.

### **West Campus-Adelphi Road (University Hills)**

The West Campus-Adelphi Road Purple Line LPA Station is partially located within the *University of Maryland Master Plan* area. The recommendations include those from the Master Plan, MPOT, and new recommendations based on the field audit. New facility improvements include cycle tracks along University Boulevard (MD 193) and Campus Drive; bike lanes along a portion of Adelphi Road and Mowatt Lane; designated shared-use roadways along some local and campus roads connecting to Adelphi Road, destination on campus, local parks/trails; new sidewalks (where missing or non-compliant); and new sidepath along Adelphi Road to connect to University Boulevard. Other recommendations include stations improvements such as wide sidewalk around the station platform and enhanced crossings at UMUC. Two (2) bus stops are recommended for relocation to within 500 feet of the platform, and four (4) bus shelters are recommended at existing bus stops.

### **Campus Center (UMD Campus Center)**

The Campus Center Purple Line LPA Station is located within the *University of Maryland Master Plan* area. The recommendations include those from the Master Plan and new recommendations based on the field audit. New facility improvements include designated shared-use roadways along some campus roads connecting destinations on campus and new sidewalks (where missing). Other recommendations include stations improvements such as wide sidewalk around the station platform and enhanced crossings at Campus Drive. No bus stop relocations are recommended, but one (1) bus shelter is recommended at an existing bus stop.

### **East Campus**

The East Campus Purple Line LPA Station is partially located within the *University of Maryland Master Plan and Central US 1 Corridor Sector Plan* areas. The recommendations include those from the Master and Sector Plans, MPOT, and new recommendations based on the field audit. New facility improvements include cycle tracks along Baltimore Avenue (US 1) and Rossborough Lane; designated shared-use roadways along various local and campus roads connecting to Baltimore Avenue, the College Park Metro Station, and existing trails; new sidewalks (where missing or non-compliant); and new shared-use paths along Knox Road and Rhode Island Avenue (currently under design). Other recommendations include stations improvements such as a bike station, wide sidewalk around the station platform and enhanced crossings at Baltimore Avenue. No bus stop relocations are recommended, but four (4) bus shelters are recommended at existing bus stops.

### **College Park-University of Maryland (College Park Transit Center)**

The College Park-University of Maryland Purple Line LPA Station is not located within the any specific Master or Sector Plan area. The recommendations include those from the MPOT and new recommendations based on the field audit. New facility improvements include designated shared-use roadways along various local roads connecting to the College Park Metro Station and existing trails; new sidewalks (where missing or non-compliant); and new shared-use path along Rhode Island Avenue (currently under design). Other recommendations include stations improvements such as a bike parking and wide sidewalk around the station. No additional bus stop recommendations were provided due to the existing Metro Station.

### **River Road (M<sup>2</sup>)**

The River Road Purple Line LPA Station is not located within the any specific Master or Sector Plan area. The recommendations include those from the MPOT and new recommendations based on the field audit. New facility improvements include designated shared-use roadways along various local roads connecting to East-West Highway (MD 410), the M-Square development and existing parks/trails; new sidewalks (where missing); new sidepaths along River Road; and shared-use paths within the new M<sup>2</sup> development. Other recommendations include stations improvements such as a bike parking and wide sidewalk around the station. No bus stop relocations are recommended, but two (2) bus shelters are recommended at existing bus stops.

### **Riverdale Park**

The Riverdale Park Purple Line LPA Station is not located within the any specific Master or Sector Plan area. The recommendations include those from the MPOT, Purple Line LPA preliminary plans, and new recommendations based on the field audit. New facility improvements include bike lanes along Kenilworth Avenue (MD 201), East-West Highway (MD 410), and Riverdale Road (MD 410); designated shared-use roadways along various local roads connecting to Kenilworth Avenue, East-West Highway, Riverdale Road, existing parks/trails; new sidewalks (where missing); new sidepaths along East-West Highway; new shared-use paths connecting to Northeast Branch Trail and a local school; and new roadways realigned to create safer intersections and to connect existing roads. Other recommendations include stations improvements such as a bike parking, wide sidewalk around the station platform, and enhanced crossings at Kenilworth Avenue and East-West Highway. One (1) bus stop is



recommended for relocation to within 500 feet of the platform, and three (3) bus shelters are recommended at existing bus stops.

### **Riverdale-East Pines (Beacon Heights)**

The Riverdale-East Pines Purple Line LPA Station is not located within the any specific Master or Sector Plan area. The recommendations include those from the MPOT, Purple Line LPA preliminary plans, and new recommendations based on the field audit. New facility improvements include bike lanes along Riverdale Road (MD 410) and Veterans Parkway (MD 410); designated shared-use roadways along various local roads connecting to Riverdale Road and local parks/trails; new sidewalks (where missing); and new sidepaths along Riverdale Road; Other recommendations include stations improvements such as wide sidewalks around the station platform and enhanced crossings at Riverdale Road and Veterans Parkway. No bus stop relocations are recommended, but three (3) bus shelters are recommended at existing bus stops.

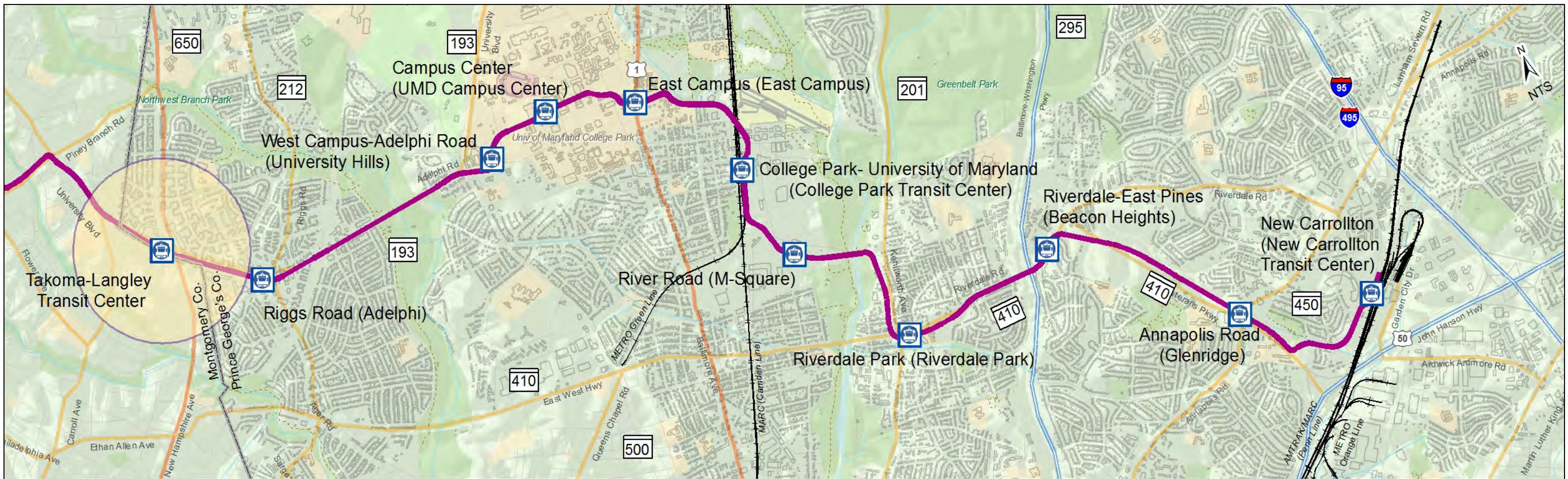
### **Annapolis Road (Glenridge)**

The Annapolis Road Purple Line LPA Station is located within the *Central Annapolis Road Corridor Sector Plan* area. The recommendations include those from the Sector Plan, MPOT, Purple Line LPA preliminary plans, and new recommendations based on the field audit. New facility improvements include cycle tracks along portions of Annapolis Road (MD 650); bike lanes along Veterans Parkway (MD 410); designated shared-use roadways along various local roads connecting to Annapolis Road and local schools and parks/trails; new sidewalks (where missing and non-compliant); and new sidepaths along Annapolis Road, Veterans Parkway, and 73<sup>rd</sup> Avenue; new shared-use paths connecting to local parks/trails; and new roadways realigned to create safer intersections and to connect existing roads. Other recommendations include stations improvements such as wide travel-ways around the station platform, ADA access to the underground station, enhanced crossings at Annapolis Road and Veterans Highway, and implementing the Glenridge Transit Village. No bus stop relocations are recommended, but four (4) bus shelters are recommended at existing bus stops.

### **New Carrollton Transit Center**

The New Carrollton Transit Center Purple Line LPA Station is located within the *Central Annapolis Road Corridor Sector Plan* and the *New Carrollton Transit District Development Plan* areas. The recommendations include those from the Sector and Development Plans, MPOT, Purple Line LPA preliminary plans, and new recommendations based on the field audit. New facility improvements include bike lanes along Ellin Road, 85<sup>th</sup> Avenue, Ardwick Ardmore Road, Garden City Drive, Corporate Drive, Professional Place, and Cobb Road; designated shared-use roadways along Riverdale Road, Harkins Road, and various local roads connecting to Annapolis Road, Ellin Road and local parks/trails; new sidewalks (where missing and non-compliant); and new sidepaths along Annapolis Road, Ellin Road, 85<sup>th</sup> Avenue, Harkings Road, Garden City Drive, Pennsy Drive, and Corporate Drive; new shared-use paths connecting to local parks/trails; and new grade separated crossings at the Capital Beltway (I-95/I-495) and John Hanson Highway (US 50). Other recommendations include stations improvements such as a bike station, and enhanced crossings at Ellin Road. No additional bus stop recommendations were provided due to the existing Transit Center.





# SECTION II – TAKOMA – LANGLEY TRANSIT CENTER



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*





## SECTION II – TAKOMA-LANGLEY TRANSIT CENTER

### Existing Conditions

The proposed Takoma-Langley Transit Center station is located near the intersection of University Boulevard (MD 193) and New Hampshire Avenue (MD 650). The station is located within the Takoma/Langley Crossroads Sector Plan Study area which is a diverse district with many large-block commercial properties adjacent to a mix of multi-family and single family housing.

The following is a brief description of the roadways within the approximate one-half mile radius of the proposed station:

**University Boulevard (MD 193)** is a six-lane arterial with a median and no shoulders that runs in an east-west direction from the Montgomery County Line to Annapolis Road. Left turn lanes are provided at all the intersections and right turn channelization is provided at the intersection with New Hampshire Avenue. A parallel access road exists along the westbound roadway from New Hampshire Avenue to 15<sup>th</sup> Avenue. Sidewalks (some with grassed buffers) and crosswalks are provided at the intersections where crossing is allowed along with pedestrian signals and buttons. A recent SHA streetscape project upgraded the sidewalks and intersections with New Hampshire Avenue (MD 650) in the station area.

**New Hampshire Avenue (MD 650)** is a six-lane arterial with a median and no shoulders that run in a north-south direction within the study area. Left turn lanes are provided at various intersections and right turn channelization is provided at the intersection with University Boulevard. A parallel access road exists along southbound the southbound roadway north of Lebanon Street. Sidewalks (with no or narrow buffers) are provided on both sides of the roadway and crosswalks are provided at the intersections where crossing is allowed along with pedestrian signals and buttons. A recent SHA streetscape project upgraded the sidewalks and intersection with University Boulevard (MD 193) in the station area.

**Lebanon Street** is a two-lane residential/commercial access road that runs in an east-west direction from University Boulevard to New Hampshire Avenue behind the Hampshire Langley Shopping Center. Sidewalks with grass buffers are present on both sides, on-street parking is present on both sides and crosswalks are provided at some of the intersections.

**Merrimac Drive** is a two-lane primary residential road that runs in an east-west direction from Carroll Avenue to east of Riggs Road. A grassed median is present on portions of the roadway, sidewalks with grass buffers are present on both sides on the majority of the roadway (missing along the north side between University Boulevard and 12<sup>th</sup> Avenue), on-street parking is present on both sides for portions of the roadway, and crosswalks are provided at some of the intersections.

**14<sup>th</sup> Avenue** is a two-lane residential road that runs in an east-west direction from Quebec Street to University Boulevard. A wide, grassed median is present on portions of the roadway from Kanawha Street to University Boulevard, sidewalks with grass buffers are present on both sides of the roadway, on-street parking is present on both sides of the roadway, and crosswalks are provided at some of the intersections. There are numerous entrances into multi-family residential housing.



New Hampshire Avenue (MD 650) facing north



University Boulevard (MD 193) at midblock crossing facing west



Lebanon Street at Tahona Drive intersection facing northeast



Merrimac Drive at 14th Avenue intersection facing south



14th Avenue facing north



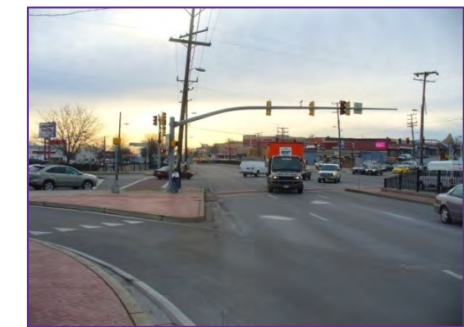
Langley Way at Edwards Place intersection facing west



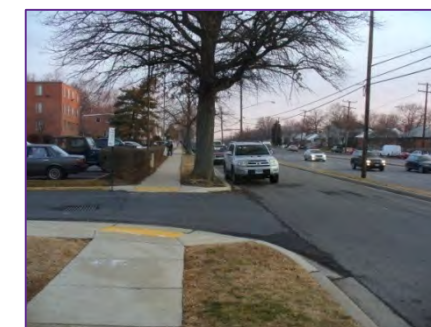
Edwards Place facing south



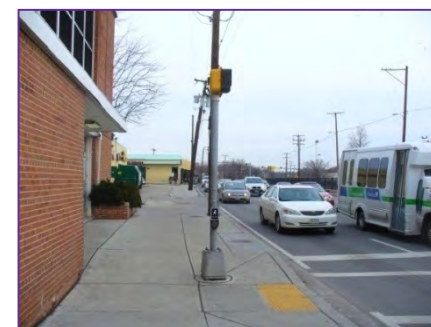
Driveway with steep cross-slope along University Boulevard (MD 193)



University Boulevard (MD 193) at New Hampshire Avenue (MD 650) intersection facing east – Location of future transit hub



ADA sidewalk ramps provided in area of Merrimac Drive and New Hampshire Avenue (MD 650) intersection



Pedestrian signal at shopping center intersection along New Hampshire Avenue (MD 650)



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## Access Design and Planning Opportunities and Challenges

The following sections describes the design and planning opportunities and challenges for providing safe, all-weather multi-modal access for pedestrians and bicycles within a half-mile of the Purple Line station based on the Approved *Takoma/Langley Crossroads Sector Plan* and the field audit.

### Opportunities

- The Takoma-Langley Transit Center Purple Line station is located within the Takoma/Langley Crossroads Sector Plan Study Area. This area is one of the most densely populated areas in Maryland. Langley Park is designated a Community Center and is located in the Developed Tier. The area is an ideal potential TOD development zone which emphasizes a pedestrian-friendly mixed-use environment and a multi-modal transition network in the Purple Line LPA Station area.
- The Purple Line and the Takoma-Langley Transit Center together create a major pedestrian destination.
- There are opportunities to connect to existing greenway resources such as the Sligo Creek Trail and Long Branch Trail located to the west of the study area in Montgomery County and the Northwest Branch Trail located to the east of the study area.
- There are opportunities to provide better connections to and between local schools, parks, and community centers.
- The SHA improvements along New Hampshire Avenue (MD 650) and University Boulevard (MD 193) have addressed many safety and connectivity concerns to and around this intersection as well as the intersection of New Hampshire Avenue and Lebanon Street.

### Challenges

- Heavy traffic volumes and high speeds on New Hampshire Avenue (MD 650) and University Boulevard (MD 193).
- Safety
  - High frequency of pedestrian and bicycle related accidents, particularly at the intersection of New Hampshire Avenue (MD 650) and University Boulevard (MD 193).
  - The presence of the Transit Center and new mid-block crossing west of New Hampshire Avenue will increase pedestrian volumes and create more conflicts.
- Based on recent meetings with SHA, SHA has not accepted the use of cycle-tracks into practice on State roadways at this time. A substantial outreach effort to the cycling community will need to be made to educate the benefits of cycle tracks versus on-road bike lanes.
- Existing land use presents barriers to pedestrian access and mobility in the study area. (*Takoma/Langley Crossroads Pedestrian Access and Mobility Study*)
  - The area directly adjacent to the proposed station is dominated by large block commercial development with large parking lots and buildings set back well away from the roadway. Many properties are fenced in and have no passageways in the back, which creates longer travel distances around the properties for pedestrians.
  - Few connections to institutional and open space users.
  - The roadway grid gets less dense at the core of the study area.
- Connectivity. (*Takoma/Langley Crossroads Pedestrian Access and Mobility Study and Approved Takoma/Langley Crossroads Sector Plan*)
  - The quality of sidewalk networks varies within study area. The neighborhoods to the east of New Hampshire Avenue are well served with sidewalks, while the neighborhoods to the west have very few sidewalks.
  - Disconnected neighborhoods due to cul-de-sac street layouts.
  - No direct connection due to topographical challenges for the Carole Highlands community to University Boulevard (MD 193).

## Recommended Improvements

### Pedestrian and Bicycle Access

A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the proposed Purple Line station near the intersection of University Boulevard and New Hampshire Avenue. Potential pedestrian and bicycle improvements are summarized in the table below and on the **Map 1**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table II-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description
+Cycle Tracks	1	*University Blvd. (MD 193)	<ul style="list-style-type: none"> <li>• Short/Mid-Term: Implement the SHA approved interim typical section for University Blvd. which includes 5' striped/directional on-road bike lane and 6' wide sidewalk.</li> <li>• Long Term: Implement a modified version of the Sector Plan typical section for University Blvd. to convert the 6' sidewalk to an 8' cycle track (2' buffer and 6' cycle track), landscaped buffer, and a new wide sidewalk (8' minimum).</li> </ul>
	2	*New Hampshire Ave. (MD 650)	Implement the Sector Plan typical section for New Hampshire Ave. which includes 8' cycle tracks (2' buffer and 6' cycle track), landscaped buffer, and a new wide sidewalk (8' minimum).
Bike Lanes	3	*14 <sup>th</sup> Ave. from Kanawha St. to Quebec St.	Reconstruct the outside curb lane in each direction to provide 5' striped/directional on-road bike lanes.
Shared Use Roadway	4	14 <sup>th</sup> Ave. from University Blvd. to Kanawha St.	Designate bicycle routes as shared-use roadways by providing bilingual "Share the Road" signage and thermoplastic pavement "sharrow" decals.
	5	Lebanon St.	
	6	Edwards Pl.	
	7	Langley Way	
	8	Merrimac Dr.	
+Sidewalk	9	Tahona Dr.	Construct 5' concrete sidewalk with vegetated buffer.
	10	Merrimac Dr. from County Line to 12 <sup>th</sup> Ave. (North Side)	
	11	Tahona Dr. from Merrimac Dr. to County Line (Both Sides)	
+New Roadway	12	Edwards Pl. along parking area south of Langley Way (East Side)	Extend 14 <sup>th</sup> Ave. in the northeast direction and implement the proposed Rambalas section to include a 2-lane roadway with wide, green medians, pedestrian walkways, exclusive bikeways and on-street parking.
	13	14 <sup>th</sup> Ave. from University Blvd. to the CASA de Maryland historic site	
Way-finding Signage			Install bilingual way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station, Takoma-Langley Transit Center, Langley Park-McCormick Elementary School, and various community centers.
Bike Racks			Provide inverted-U bike racks on sidewalks as needed on key sites including retail, commercial, and restaurant blocks.
Lighting			Enhance street lighting along University Blvd., New Hampshire Ave., 14 <sup>th</sup> Ave., Merrimac Dr., Lebanon St. and Edwards Pl.

\*Portions of the improvement to be completed by Purple Line Project.

†Improvement may require additional right-of-way or a public access easement beyond that required for the Purple Line construction.



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## Bus and Shuttle Access

The Takoma-Langley Transit Center platform is to be built within the University Boulevard median, at ground level just west of New Hampshire Avenue. A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below.

**Table II-2 Bus and Shuttle Access**

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
Westbound	University Blvd.	420	2	81,82,83,86,C2-C4,J4,F8,UM
Eastbound	University Blvd.	390	2	81,82,83,86,C2-C4,J4,F8,UM
Westbound	University Blvd.	920	1	81,82,83,86,C2-C4,J4,UM
Eastbound	University Blvd.	740	0	81,82,83,86,C2-C4,J4,UM
Northbound	New Hampshire Ave.	990	1	K6,F8
Southbound	New Hampshire Ave.	630	1	K6,F8

(\*R) = Recommend Relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.

**Recommendations for the relocation of bus stops:** It is our understanding that the Transit Center will provide a transfer area for all buses to and from the Purple Line platform. All bus stop locations shown above will be relocated into the new transit center (Based on the latest MTA Takoma-Langley Transit Center Project information.)

**Recommendations for proposed bus shelter locations:** No new bus shelters are recommended at this time due to the proximity of the new transit center.

**Sector plan documents:** The new transit center at University Blvd and New Hampshire Avenue will bring together all transit buses (Ride-On and Metro bus) and allow passengers to transfer easily and safely from one bus to another. The plans for The Bus transit center include new shelters. (There is a proposed pull off / stop EB on MD 193)

**Layover area requirements:** The new platform installation requires widening along both sides of University Boulevard. The installation of pull off areas / layover area will require additional widening and potentially additional right-of-way dedication. The new transit center will provide space for bus layover and additional pull off / layover areas will be provided along University Boulevard (Based on the latest MTA Takoma-Langley Transit Center Project information).

**Table II-3 Intersection and Traffic Calming**

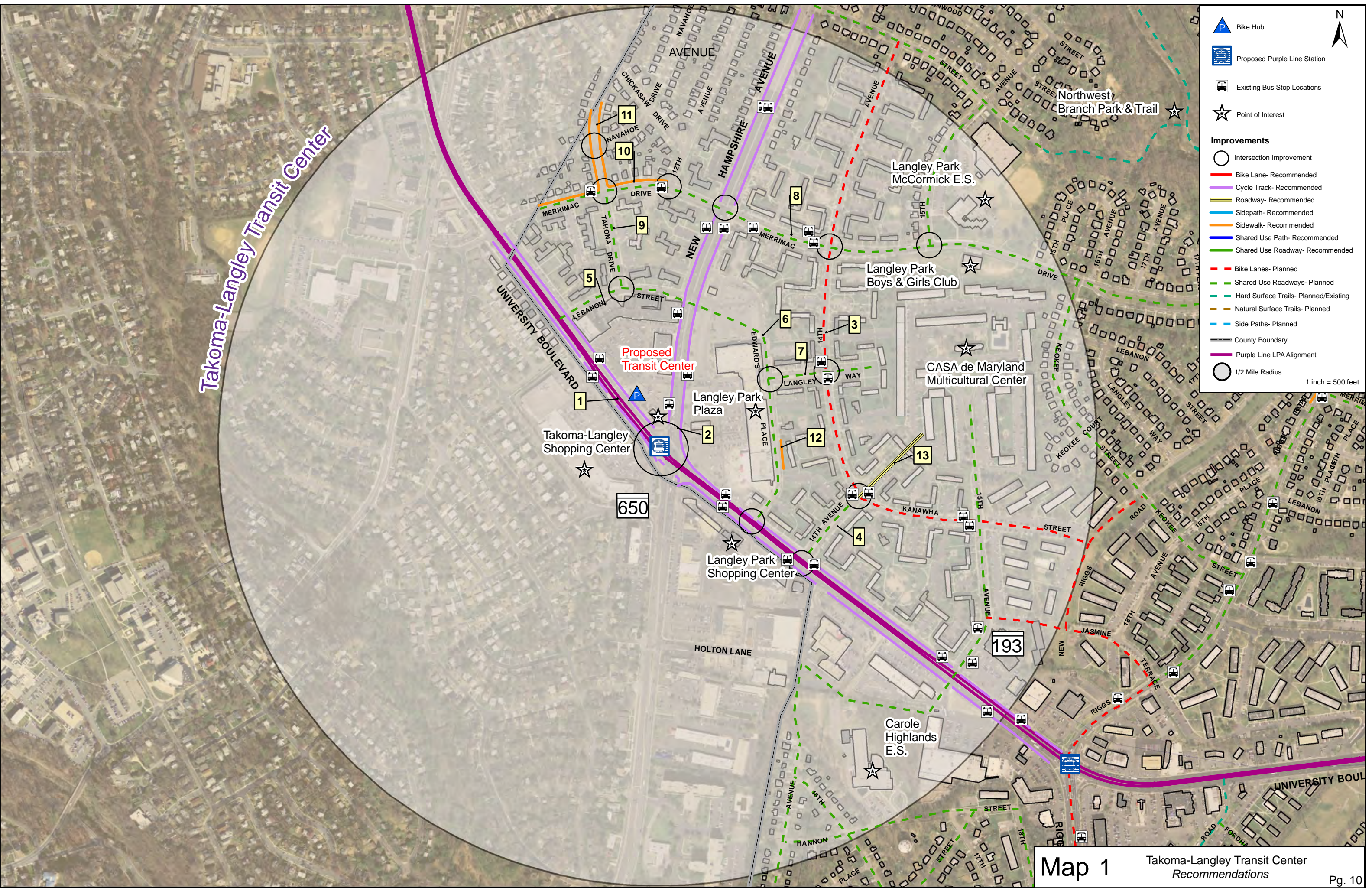
Improvements	Location	Description
Intersection/ Entrance Improvements	All Signalized Intersections	<ul style="list-style-type: none"> <li>Provide a leading pedestrian interval for right turning vehicles.</li> <li>Provide pedestrian countdown signals.</li> <li>Verify all signals are properly timed and meet the current pedestrian crossing standards.</li> <li>Verify ADA access to all pedestrian push buttons.</li> </ul>

Improvements	Location	Description
	*University Blvd./ New Hampshire Ave.	<ul style="list-style-type: none"> <li>Widen and extend the median noses further into the intersection to create pedestrian refuge area.</li> <li>Provide yield lines for right turning vehicles.</li> <li>Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
Intersection/ Entrance Improvements (Cont.)	New Hampshire Ave./Lebanon St. & Merrimac Dr.	<ul style="list-style-type: none"> <li>Widen and extend the median noses further into the intersection to create pedestrian refuge areas.</li> <li>Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	14 <sup>th</sup> Ave. from Kanawha St. to Quebec St. (4 Intersections, 15 Entrances)	<ul style="list-style-type: none"> <li>Upgrade the intersections with new ADA sidewalk ramps.</li> <li>Upgrade entrances with ADA standard aprons.</li> <li>Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	Tahona Dr. from Lebanon St. to Navahoe Dr. (3 Intersections, 4 Entrances)	
	Merrimac Dr. from 12 <sup>th</sup> Ave. to Keokee St. (3 Intersections, 6 Entrances)	
	Lebanon St. from University Blvd. to New Hampshire Ave. (2 Entrances)	
Edwards Pl. from New Hampshire Ave. to University Blvd. (2 Intersection, 7 Entrances)		
Traffic Calming	New Hampshire Ave. Merrimac Drive Lebanon Street 14 <sup>th</sup> Avenue	Provide curb extensions at intersections where on-street parking is provided.

## Takoma-Langley Transit Center Station Recommendations

- Provide minimum 10' bicycle/pedestrian travel ways throughout the Transit Center site to handle the high bicycle/pedestrian volumes.
- Designate the transit center as a bicycle hub. Amenities can include, an attendant, day and long term covered lockers, numerous covered inverted-U bike racks, a bike station for bicycle rentals and shared bicycles, bicycle accessories and repair, rest rooms, showers, food (vending or café), and accommodations for police bicycle patrol.
- At the mid-block crossing at the station platform to the transit center on University Blvd., provide an oversized crosswalk. Install a pedestrian-activated, high-intensity activated crosswalk (HAWK)
- Study the feasibility of a grade separated bicycle/pedestrian travel way or tunnel at this crossing as part of future TOD studies.





**Legend**

- Bike Hub
- Proposed Purple Line Station
- Existing Bus Stop Locations
- Point of Interest

**Improvements**

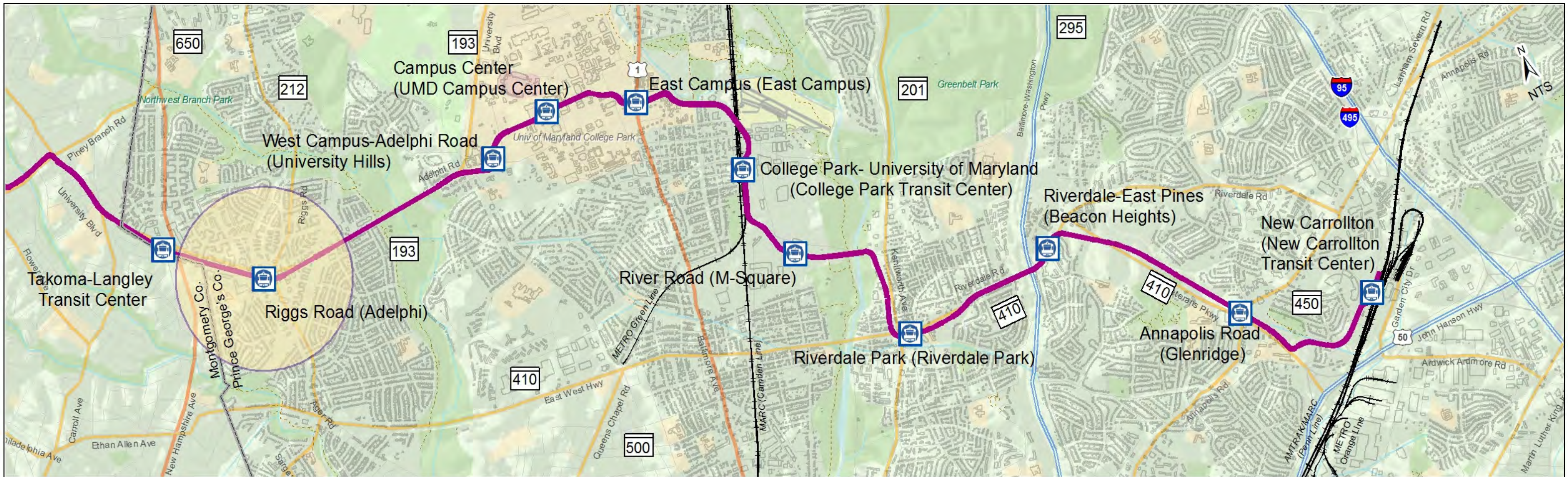
- Intersection Improvement
- Bike Lane- Recommended
- Cycle Track- Recommended
- Roadway- Recommended
- Sidepath- Recommended
- Sidewalk- Recommended
- Shared Use Path- Recommended
- Shared Use Roadway- Recommended
- Bike Lanes- Planned
- Shared Use Roadways- Planned
- Hard Surface Trails- Planned/Existing
- Natural Surface Trails- Planned
- Side Paths- Planned
- County Boundary
- Purple Line LPA Alignment
- 1/2 Mile Radius

1 inch = 500 feet

Takoma-Langley Transit Center

Map 1





## SECTION III – RIGGS ROAD (ADELPHI)



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*





## SECTION III – RIGGS ROAD (ADELPHI)

### Existing Conditions

The proposed Riggs Road (Adelphi) station is located at the intersection of University Boulevard (MD 193) and Riggs Road (MD 212). The station is located within the Takoma/Langley Crossroads Sector Plan area study which is a diverse, mixed-use district with many large-block commercial properties adjacent to a mix of multi-residential and single family dwellings.

The following is a brief description of the roadways within the approximate one-half mile radius of the proposed station:

**University Boulevard (MD 193)** is a six-lane arterial with a median and no shoulders that runs in an east-west direction from the Montgomery County Line to Annapolis Road. Left turn lanes are provided at all the intersections and right turn channelization is provided on the south side of the intersection with Riggs Road. A parallel access road exists along the westbound roadway from New Hampshire Avenue to 15<sup>th</sup> Avenue. Sidewalks (some with grassed buffers) and crosswalks are provided at the intersections where crossing is allowed, along with pedestrian signals and buttons.

**Riggs Road (MD 212)** is a six-lane arterial from University Boulevard to the DC Line, with a median and no shoulders and a 2-lane collector from Powder Mill Road to University Boulevard with shoulders that runs in a north-south direction. Left turn lanes are provided at some intersections and right turn channelization is provided on the east side intersection with University Boulevard. Sidewalks (some with grassed buffers) and crosswalks are provided at the intersections where crossing is allowed, along with pedestrian signals and buttons.

**Guilford Road** is a two-lane residential/commercial access road that runs in a north-south direction from Drexel Street to University Boulevard behind a shopping center/commercial site. Sidewalks with grass buffers are present on the west side, on-street parking is present on both sides for a portion of the roadway, and crosswalks are provided at some of the intersections.

**15<sup>th</sup> Avenue** (north of University Boulevard) is a two-lane residential road that runs in a north-south direction from the McCormick-Goodhart Mansion/Langley Park historic site (north of Kanawha Street) to University Boulevard. A wide, grassed median is present on portions of the roadway, sidewalks most with grass buffers are present on both sides of the roadway, on-street parking is present on both sides for a portion of the roadway, and crosswalks are not provided at the intersections. Sidewalks are not provided on the entrance road on the Mansion site. There are numerous entrances into multi-family housing and commercial sites.

**23<sup>rd</sup> Avenue** is a two-lane primary residential road that runs in a north-south direction from University Boulevard to Ager Road. Sidewalks with grass buffers are present on the both sides for the some of the roadway (missing along the west side from Hannon Street to Calvert Street), on-street parking is present on both sides of the roadway, and crosswalks are provided at some of intersections.

**Other residential streets** such as Kanawha Street, Keokee Street, Jasmine Terrace, Merrimac Drive (east of Riggs Road), Fordham Street, Drexel Street, 15<sup>th</sup> Avenue (south of University Boulevard), Hannon Street, Elson Street, Erskine Street, 16<sup>th</sup> Avenue, and 18<sup>th</sup> Avenue are two-lane roadways, some of which have sidewalks with grass buffers. The exceptions are the roads with-in Carole Highlands community where there are missing sidewalks, on-street parking, and no crosswalks at the intersections.



Riggs Road facing north



University Boulevard (MD 193) facing west



Sidewalk ramp not provided along Guilford Road facing west



Path behind thrift store along University Boulevard (MD 193)



15th Avenue facing north



Keokee Street at Keokee Court facing north



Kanawha Street at 15th Avenue intersection facing east



Narrow sidewalk along Riggs Road facing east



University Boulevard (MD 193) at Riggs Road intersection facing west



Sidewalk not provided along portions of 15th Avenue



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## Access Design and Planning Opportunities and Challenges

The following section describes the design and planning opportunities and challenges for providing optimum access for pedestrians and bicycles within the half-mile radius of the proposed Purple Line station based on the Approved *Takoma/Langley Crossroads Sector Plan* and the field audit.

### Opportunities

- The Riggs Road (Adelphi) Purple Line station is located within the Takoma/Langley Crossroads Sector Plan Study Area. This area is one of the most densely populated areas in Maryland. Langley Park is designated a Community Center and is located in the Developed Tier. The area is ideal for TOD which puts great emphasis on pedestrian-friendly mixed-use environments and to create new pedestrian and vehicular connections within the Purple Line Station area.
- The Riggs Road (Adelphi) Purple Line station creates a major pedestrian destination.
- Opportunity to connect to existing greenway resources such as the Northwest Branch Trail located to the east of the study area which is within one-mile of the proposed station.
- There are opportunities to provide better connections to and between local schools, parks, and community centers.

### Challenges

- Heavy traffic volumes and high speeds on University Boulevard and Riggs Road.
- Safety
  - High frequency of pedestrian and bicycle related accidents, particularly at the intersection of New Hampshire Avenue (MD 650) and University Boulevard (MD 193). (*Takoma/Langley Crossroads Pedestrian Access and Mobility Study*)
  - Presence of the Transit Center will increase pedestrian volumes at the intersection.
- Based on recent meetings with SHA, SHA has not accepted the use of cycle-tracks into practice on State roadways at this time. A substantial outreach effort to the cycling community will need to be made to educate the benefits of cycle tracks versus on-road bike lanes.
- Existing land use presents barriers to pedestrian access and mobility in the study area. (*Takoma/Langley Crossroads Pedestrian Access and Mobility Study*)
  - The area directly adjacent to the proposed station is dominated by large block commercial development with large parking lots and buildings set back away from the roadway. Many properties are fenced in and have no passageway in the back. This scenario creates longer travel distances around the properties for pedestrians.
  - Few connections to institutional and open space users.
  - The roadway grid gets less dense at the core of the study area.
- Connectivity. (*Takoma-Langley Crossroads Pedestrian Access and Mobility Study and Approved Takoma/Langley /Crossroads Sector Plan*)
  - Disconnected neighborhoods due to cul-de-sac street layouts and physical barriers such as the PEPCO right-of-way corridor.
  - No direct connection due to topographical challenges for the Carole Highlands community to University Boulevard.

## Recommended Improvements

### Pedestrian and Bicycle Access

The Riggs Road Station Platform is proposed within the University Boulevard median, ground level just west of Riggs Road. A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the

proposed station. Potential pedestrian and bicycle improvements are summarized in the table below and on **Map 2**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table III-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description
+Cycle Tracks	1	University Blvd. (MD 193)	<ul style="list-style-type: none"> <li>• Short/Mid-Term: Implement the SHA approved interim typical section for University Blvd. which includes 5' striped/directional on-road bike lane and 6' wide sidewalk.</li> <li>• Long Term: Convert the 6' sidewalk to an 8' cycle track (2' buffer and 6' cycle track), landscaped buffer, and a new wide sidewalk (8' minimum).</li> </ul>
Bike Lanes	2	Riggs Rd. (MD 212)	Implement the Sector Plan Major Urban Boulevard typical section for Riggs Rd. from Jasmine Terr. to Erskine St. which includes a 5' striped/directional on-road bike lane, landscaped buffer, and a new wide sidewalk (8' minimum).
	3	Jasmine Terr. from Riggs Rd. to 15 <sup>th</sup> Ave.	Reconstruct the outside curb lane in each direction to provide 5' striped/directional on-road bike lanes.
	4	Kanawha St. from 14 <sup>th</sup> Ave. to New Riggs Rd.	
Shared Use Roadway	5	Riggs Rd. (North of Jasmine Terr.)	Designate bicycle routes as shared-use roadways by providing bilingual "Share the Road" signage and thermoplastic pavement "sharrow" decals.
	6	15 <sup>th</sup> Ave. (North of University Blvd.)	
	7	15 <sup>th</sup> Ave. (South of University Blvd.)	
	8	Keokee St.	
	9	Merrimac Dr.	
	10	Hannon St.	
	11	16 <sup>th</sup> Ave.	
	12	18 <sup>th</sup> Ave.	
	13	Erskine St.	
	14	Elson St.	
	15	Drexel St. (East of Riggs Rd.)	
	16	Drexel St. (West of Riggs Rd.)	
	17	Sligo Creek Pkwy.	
+Sidewalk	18	Guilford Rd.	Reconstruct existing narrow sidewalk (less than 4' wide) or construct missing sidewalk links with 5' sidewalk and vegetated buffer.
	19	23 <sup>rd</sup> Ave.	
	20	Fordham St.	
	21	**Riggs Rd. from Jasmine Terr. to Lebanon St. (East Side)	
	22	Keokee St. from Riggs Rd. to Merrimac Dr. (West Side)	
	23	23 <sup>rd</sup> Ave. from Hannon St. to Drexel St. (West Side)	
	24	From 18 <sup>th</sup> Ave. to Riggs Rd. adjacent to apartment housing.	
	25	18 <sup>th</sup> Ave. south of Hannon St. (East Side)	



Improvements	Map Key	Location	Description
+Sidewalk (Cont.)	26	15 <sup>th</sup> Ave. from Sligo Creek Pkwy. to north of 16 <sup>th</sup> Ave. (Both Sides)	Reconstruct existing narrow sidewalk (less than 4' wide) or construct missing sidewalk links with 5' sidewalk and vegetated buffer.
	27	Drexel St. from Sligo Creek Pkwy. to Erskine St. (Both Sides)	
	28	16 <sup>th</sup> Ave from 15 <sup>th</sup> Ave. to Drexel St. (Both Sides)	
	29	Elson St. from 15 <sup>th</sup> Ave. to Hannon St. (North and South)	
	30	Erskine St. from the County Line to Riggs Rd. (North and South)	
	31	Sligo Creek Pkwy. from Drexel St. to Sligo Creek Trail entrance. (Both Sides)	
+Shared Use Path	32	Fordham St. through the PEPCO Right-of-Way	Construct a shared-use trail with pedestrian lighting through the right-of-way to connect to Guilford Rd.
	33	Drexel St. through the PEPCO Right-of-Way	Construct a shared-use trail with pedestrian lighting through the right-of-way to connect to Riggs Rd.
	34	Guilford Rd. from Drexel St. to University Blvd (East Side)	Construct a Shared Path with vegetated buffer and street trees.
	35	18 <sup>th</sup> Ave./Hannon St. to Hechinger Plaza	Construct a fenced Shared Path with steps to University Blvd. or Riggs Rd.
	36	Merrimac Dr./20 <sup>th</sup> Ave. through the PEPCO Right-of-Way	Construct a shared use path with pedestrian lighting to connect to the Northwest Branch Trail.
	37	15 <sup>th</sup> Ave. north of 16 <sup>th</sup> Ave to Holton Ave.	Construct a shared use path with pedestrian lighting to connect to Holton Ln. extended.
+New Roadway	38	Holton Ave. from County Line to University Blvd.	Extend Holton Ave. and include pedestrian and bicycle amenities (Sector Plan improvement)
	39	Hannon St. from Carole Highlands ES to 17 <sup>th</sup> Ave.	Extend as a new roadway or shared path
Way-finding Signage	Install bilingual way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station, the CASA de Maryland historic site, Carole Highlands Elementary School, and the Northwest Branch and Sligo Creek Trails.		
Bike Racks	Provide inverted-U bike racks on sidewalks as needed on key sites including retail, commercial, and restaurant blocks.		
Lighting	Enhance street lighting along University Blvd., Riggs Rd, 15 <sup>th</sup> Ave., Kanawha St., Jasmine Terr., Keokee St., Guilford Rd., Erskine St., Drexel St., Fordham St. and proposed shared use paths through the PEPCO ROW.		

\*Portions of the improvement to be completed by Purple Line Project.

\*\* A sidewalk project is currently in design by SHA along Riggs Road from Jasmine Terrace to Muskogee Street as part of their Fund 78 program to provide ADA upgrades to all bus transit stops. The scope will include constructing any missing sidewalk along the corridor that pertains to the bus transit stops. This project may address some or most of the sidewalk needs listed above for Riggs Road.

+Improvement may require additional right-of-way or a public access easement beyond that required for the Purple Line construction.

**Bus and Shuttle Access**

A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below.

**Table III-2 Bus and Shuttle Access**

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
Westbound	University Blvd.	170	0(*1)	81,82,83,86,UM,F8
Eastbound	University Blvd.	350	1	81,82,83,86,UM,F8
Westbound	University Blvd.	435	0(*1)	81,82,83,86,UM,F8
Eastbound	University Blvd.	720	0(*1)	81,82,83,86,UM,F8
Northbound	Riggs Road	-	-	R1,R2,R5
Southbound	Riggs Road	590	1	R1,R2,R5
Northbound	Riggs Road	-	-	R1,R2,R5,C2-C4,81,82,83,86
Southbound	Riggs Road	450	1	R1,R2,R5,C2-C4,81,82,83,86

(\*R) = Recommend relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.

**Recommendations for the relocation of bus stops:** Consideration should be given to relocating existing bus stops to new locations within 500 feet of the new Purple Line platform. (\*R)

**Recommendations for proposed bus shelter locations:** Recommend the installation of one new bus stop shelter at the location marked above by (\*1)

**Layover area requirements:** The new platform installation requires widening along both sides of University Boulevard. The installation of pull off areas / layover area will require additional widening and potential additional right-of-way dedication. There are three lanes planned for each direction of University Boulevard. In the event transit vehicles layover along the curb lane at the transit stop awaiting Purple Line patrons, vehicles will bypass the stopped transit vehicle by yielding into the center lane.

**Table III-3 Intersection and Traffic Calming**

Improvements	Location	Description
Intersection/ Entrance Improvements	All Signalized Intersections	<ul style="list-style-type: none"> <li>Provide a leading pedestrian interval for right turning vehicles.</li> <li>Provide pedestrian countdown signals.</li> <li>Verify all signals are properly timed and meet the current pedestrian crossing standards.</li> <li>Verify ADA access to all pedestrian push buttons.</li> </ul>
	***University Blvd./Riggs Rd.	<ul style="list-style-type: none"> <li>Widen and extend the median noses further into the intersection to create pedestrian refuge area.</li> <li>Provide yield lines for right turning vehicles.</li> <li>Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	University Blvd. /15 <sup>th</sup> Ave. & 23 <sup>rd</sup> Ave.	
	University Blvd. from 15 <sup>th</sup> Ave. to 24 <sup>th</sup> Ave. (2 Intersections, 41	<ul style="list-style-type: none"> <li>Upgrade the intersections with new ADA sidewalk ramps.</li> <li>Upgrade entrances with ADA standard aprons.</li> </ul>



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

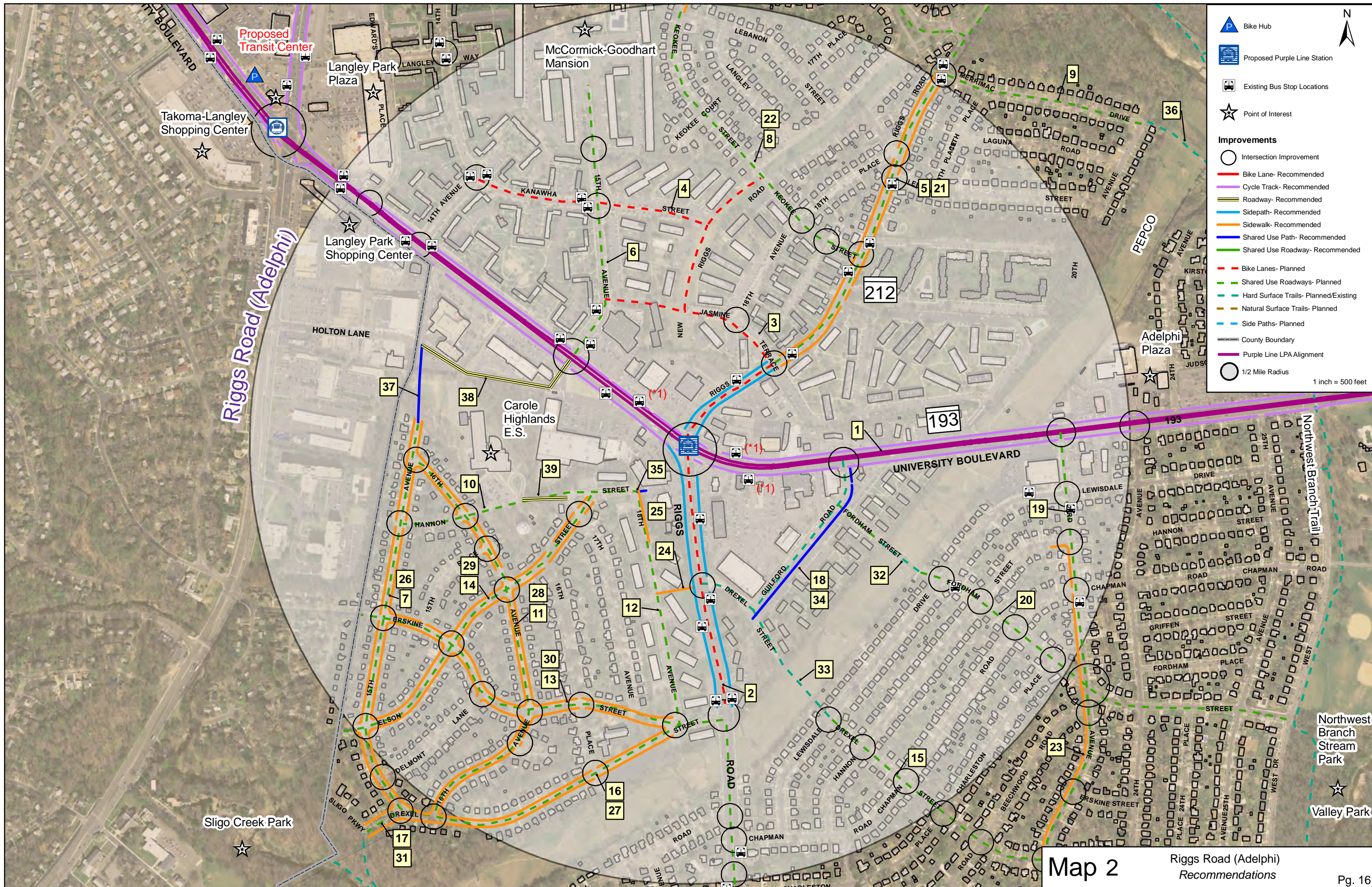
Improvements	Location	Description
	15 <sup>th</sup> Ave from University Blvd. to the M-G Mansion site (2 Intersections, 8	<ul style="list-style-type: none"> <li>• Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	Riggs Rd. from Merrimac Dr. to Charleston Pl. (12 Intersections, 11	
	Keokee St. from Merrimac Dr. to Riggs Rd. (5 Intersections, 3	
Intersection/ Entrance Improvements (Cont.)	23 <sup>rd</sup> Ave. from University Blvd. to Fordham St. (4 Intersections)	<ul style="list-style-type: none"> <li>• Upgrade the intersections with new ADA sidewalk ramps.</li> <li>• Upgrade entrances with ADA standard aprons.</li> <li>• Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	Fordham St. from 23 <sup>rd</sup> Ave. to Guilford Rd. (5 Intersections, 2 Entrances)	
	Drexel St. from 23 <sup>rd</sup> Ave. to Riggs Rd. (8 Intersections, 1 Entrance)	
	15 <sup>th</sup> Ave./Drexel St. from 16 <sup>th</sup> Ave. to Erskine St. (9 Intersections, 3 Entrances)	
	16 <sup>th</sup> Ave. from 15 <sup>th</sup> Ave. to Drexel St. (5 Intersections)	
	Hannon St. from 15 <sup>th</sup> Ave. to 18 <sup>th</sup> Ave. (2 Intersections)	
	Elson St. from 15 <sup>th</sup> Ave. to Hannon St. (3 Intersections)	
	Erskine St. from 15 <sup>th</sup> Ave. to Riggs Rd. (2 Intersections)	
Traffic Calming	Riggs Rd./ Merrimac Dr.	<ul style="list-style-type: none"> <li>• Sight distance issue at intersection due to trees and presence of bus stops. Suggest moving bus stop away from intersection.</li> <li>• Provide pedestrian-activated, high-intensity activated crosswalk (HAWK)</li> </ul>
	Riggs Rd.	
	Keokee St.	Provide curb extensions at intersections where on-street parking is provided.
	23 <sup>rd</sup> Ave. (South of Lewisdale Dr.)	
	15 <sup>th</sup> Ave.	
	Kanawha St.	
	Erkine St.	

\*\*\* An intersection improvement project is currently in design by SHA for the University Boulevard (MD 193) and Riggs Road (MD 212) intersection to add a westbound left turn lane and a third eastbound through lane. The project is currently funded for preliminary engineering only. The project will include upgrades to ADA sidewalk ramps, cross walks, signage and updated pedestrian signals.

## Riggs Road (Adelphi) Station Recommendations

- Provide minimum 10' sidewalks along University Boulevard at the platform location.
- Provide oversized wide crosswalks on University Boulevard on the west leg of the intersection with Riggs Road to the platform.
- Provide covered bicycle parking and lockers.

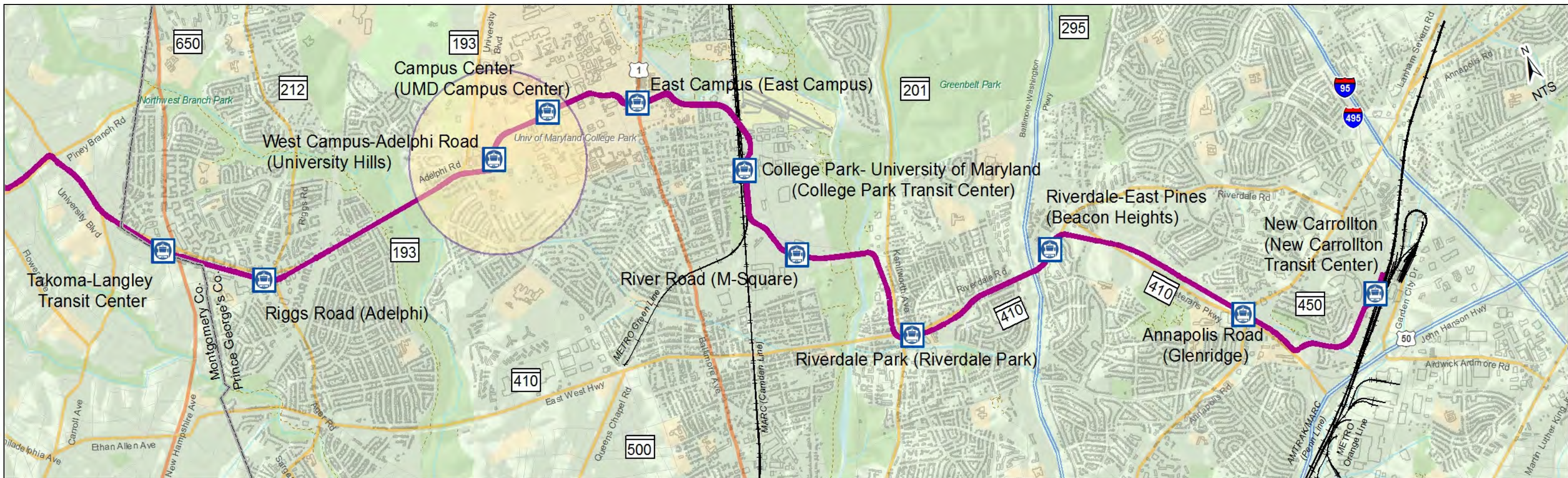




Map 2

Riggs Road (Adelphi) Recommendations





# SECTION IV – WEST CAMPUS – ADELPHI ROAD (UNIVERSITY HILLS)



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*





# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## SECTION IV – WEST CAMPUS-ADELPHI ROAD (UNIVERSITY HILLS)

### Existing Conditions

The proposed West Campus-Adelphi Road Purple Line station is located on Presidential Drive across from University of Maryland, University College (UMUC). The station is in close proximity to University Boulevard (MD 193) and Adelphi Road along with the surrounding residential neighborhoods and the University of Maryland campus. The station and campus roads are within the University of Maryland, *2007-2020 Facilities Master Plan Update*.

The following is a brief description of the roadways within an approximate one-half mile radius of the proposed station:

**Adelphi Road** is a four-lane arterial that runs in a north-south direction from New Hampshire Avenue to East-West Highway. Adelphi Road contains a grassed median and shoulders north of University Boulevard and no median south of University Boulevard. Sidewalk with no buffer is provided on the east side north of Campus Drive and sidewalk with a grassed buffer is provided on both sides south of Campus Drive. Left turn lanes are provided at most intersections; right turn channelization is provided at University Boulevard and Campus Drive; crosswalks are provided at some intersections; pedestrian signals and buttons are provided at University Boulevard and Campus Drive; and on-street parking is provided along sections south of Campus Drive.

**University Boulevard (MD 193)** is a four-lane arterial with a grassed median and shoulders that runs in an east-west direction from the Montgomery County Line to Annapolis Road. Sidewalks with no buffer are provided on both sides west of Tulane Drive and no sidewalks are provided east of Tulane Drive. Left turn lanes are provided at all the intersections; right turn channelization is provided at Adelphi Road and Stadium Drive; crosswalks are provided at some intersections; and pedestrian signals and buttons are provided at Adelphi Road and Stadium Drive.

**Campus Drive** a four-lane collector with no median or shoulders that runs in an east-west direction from Adelphi Road through the University of Maryland campus to Baltimore Avenue (US 1). Sidewalk with no buffer is provided on both sides of the roadway; turn lanes are provided at Adelphi Road; crosswalks are provided at all the intersections; pedestrian signals and buttons are provided at Adelphi Road; and a roundabout exists at the intersection with Mowatt Lane.

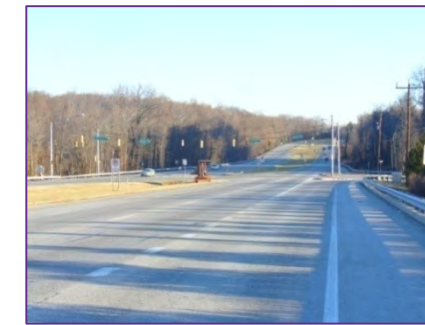
**Mowatt Lane** a four-lane collector with an open-section median and no shoulders that runs in a north-south direction from Campus Drive to Knox Road/Guilford Drive. Sidewalks (some with a grass buffer) are provided on the east side of the roadway turn lanes are provided at some of the intersections; crosswalks are provided at most of the intersections/entrances; and on-street parking is provided on a small portion of the roadway.

**Presidential Drive** is a two-lane campus road with a striped median and no shoulders that runs in a north-south direction from Campus Drive to the UMUC parking lots and provides a connection linking Campus Drive to existing parking lots. Sidewalks are not provided except at the crossing from the parking lot to the main entrance to UMUC. Presidential Drive is the planned location for the West Campus-Adelphi Road Purple Line Station and platform.

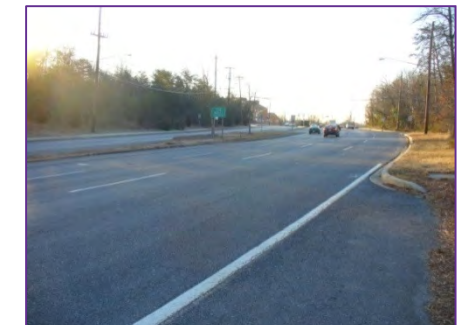
**Stanford Street** is a two-lane residential road that runs in a north-south direction from Adelphi Road to south of Gumwood Drive. Sidewalks are generally not provided along the roadway up to Wells Parkway. A small stretch of sidewalk exists along the north side from Adelphi Road to Lot 14. On-street parking is provided on both sides of the roadway and crosswalks are provided into the University Hills Recreation Center.



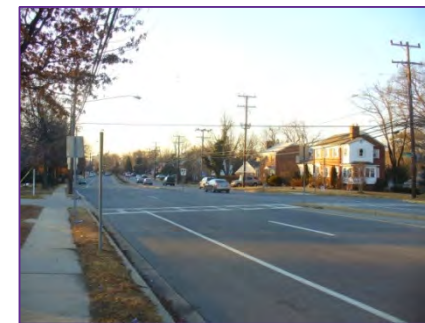
University Boulevard (MD 193) at Adelphi Road intersection facing west



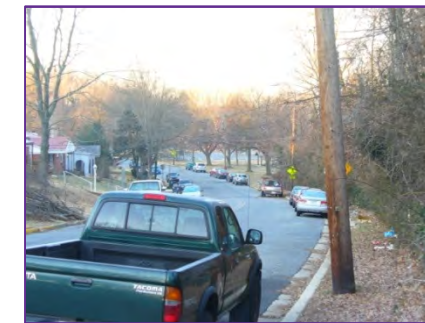
University Boulevard (MD 193) at Stadium Drive intersection facing northeast



Adelphi Road south of Cool Spring Road facing south



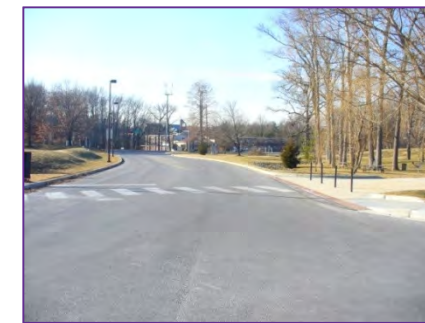
Adelphi Road at Purdue Street intersection facing south



Stanford Street west of Adelphi Road facing west



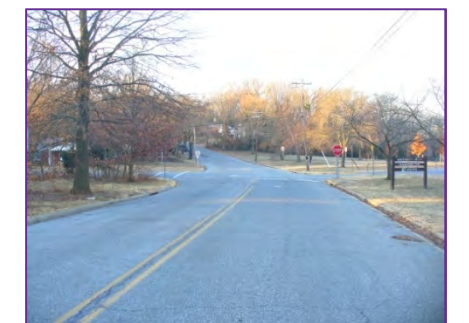
Campus Drive east of Presidential Drive facing east



Campus Drive at Presidential Drive intersection facing north



Mowatt Lane south of Campus Drive facing south



Sidewalk not provided on portions of Stanford Street



Narrow sidewalks along Campus Drive



## Access Design and Planning Opportunities and Challenges

The following sections describe the design and planning opportunities and challenges for providing sufficient access for pedestrians and bicycles within the half-mile radius of the proposed Purple Line station.

### Opportunities

- The proposed Domain Mixed-Use Development Project along the south side of Campus Drive has potential to increase the street grid south of Campus Drive. This development provides opportunities to upgrade pedestrian and bicycle facilities along Campus Drive and Mowatt Lane.
- Campus Drive is a major gateway onto campus, making it a high priority to UMD to upgrade the roadway with a streetscape.
- MTA is coordinating with the University concerning sidewalk and landscaping improvements in conjunction with the Purple Line LPA.
- Proximity to campus venues, local parks and the Northwest Branch Trail.

### Challenges

- The intersections of Adelphi Road and University Boulevard and Adelphi Road and Campus Drive are located in close proximity to one another and are currently locations of congestion and major safety problems for pedestrians, bicyclists, and motorists. The proposed Purple Line alignment will further complicate the current conditions. The area will present design challenges and will require specific attention to ensure safety for all modes of transportation.
- Few connections to institutional and open space users.
- The roadway grid gets less dense at the core of the study area directly south of Campus Drive.
- Mowatt Lane is planned to be upgraded to include bike lanes per the UMD Master Plan and Domain conceptual plans. Topography and right-of-way will be a design challenge.

## Recommended Improvements

### Pedestrian and Bicycle Access

The West Campus Station Platform is proposed within the Presidential Drive median at ground level just north of Campus Drive in front of the UMUC main entrance. A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the proposed station. Potential pedestrian and bicycle improvements are summarized in the table below and on **Map 3**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table IV-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description
+Cycle Tracks	1	University Blvd. (MD 193) West of Adelphi Rd.)	<ul style="list-style-type: none"> <li>• Short/Mid-Term: Implement the SHA approved interim typical section for University Blvd. which includes 5' striped/directional on-road bike lane and 6' wide sidewalk.</li> <li>• Long Term: Convert the 6' sidewalk to an 8' cycle track (2' buffer and 6' cycle track), vegetated buffer, and a new 5' sidewalk.</li> <li>• East of Adelphi Rd., utilize the existing outside shoulder as on-road bike lane.</li> </ul>
Bike Lanes	2	Campus Dr.	Reconstruct the outside curb lane in each direction to provide minimum 5' striped/directional on-road bike lanes and landscaped median.
	3	Mowatt Ln. from Campus Dr. to Knox Rd. (UMD Master Plan)	

Improvements	Map Key	Location	Description
Bike Lanes (Cont.)	4	University Blvd. (MD 193) from Adelphi Rd. to Stadium Dr.	Utilize the existing outside shoulder to provide minimum 5' min. striped directional on-road bike lanes.
	5	Adelphi Rd. north of University Blvd.	
Shared Use Roadway	6	Cool Spring Rd.	Designate as shared-use roadways by providing "Share the Road" signage and thermoplastic pavement "sharrow" decals.
	7	Adelphi Rd. south of University Blvd.	
	8	Stanford St. from Wells Pkwy. to Adelphi Rd.	
	9	Presidential Dr. and on-campus roads through parking lots	
+Sidepath	10	Adelphi Rd. north of University Blvd.	<ul style="list-style-type: none"> <li>• Construct a new 8' sidepath on west side from north of Cool Spring Rd to University Blvd.</li> <li>• Provide shared-use signage for existing sidepath on east side.</li> </ul>
+Sidewalk	11	*Presidential Dr. from Campus Dr. to Lot UMUC (Both Sides)	<ul style="list-style-type: none"> <li>• Construct minimum 5' concrete sidewalk with vegetated buffer.</li> <li>• Adelphi Rd: Provide 8' sidewalk north of Stanford St.</li> <li>• Presidential Dr.: Install sidewalk ramps at pedestrian bridge connecting to UMUC campus.</li> </ul>
	12	Adelphi Rd. from Campus Dr. to Wells Pkwy. (Both Sides)	
	13	Stanford St. from Wells Pkwy. to Adelphi Rd. (Both Sides)	
Way-finding Signage		Install way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station, University Hill Recreational Center, Northwest Branch Trail, and other campus destinations.	
Bike Racks		Provide inverted-U bike racks on sidewalks as needed on key sites including institutional buildings.	
Lighting		Enhance street lighting along University Blvd., Adelphi Rd, Campus Dr., Stanford St., and Presidential Dr.	

\*Portions of the improvement to be completed by Purple Line Project.

+Improvement may require additional right-of-way or a public access easement beyond that required for the Purple Line construction.

### Bus and Shuttle Access

A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below. Existing bus stop locations closest to the proposed platform:

**Table IV-2 Bus and Shuttle Access**

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
Westbound	Campus Drive	315	0(*1)	81,82,83,86,C2-C4, C8,J4,F4,F6,UM
Eastbound	Campus Drive	345	0(*1)	81,82,83,86,C2-C4, C8,J4,F4,F6,UM
Westbound	Campus Drive	-	-	81,82,83,86,C2-C4, C8,J4,F4,F6,UM
Eastbound	Campus Drive	-	-	81,82,83,86,C2-C4, C8,J4,F4,F6,UM
Northbound	Presidential Drive	- (*R)	- (*1)	J4
Southbound	Presidential Drive	- (*R)	- (*1)	J4

(\*R) = Recommend Relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

**Recommendations for the relocation of bus stops:** Consideration should be given to relocating existing bus stops to new locations within 500 feet of the new Purple Line platform. (\*R)

**Recommendations for proposed bus shelter locations:** Recommend the installation of 1 new bus stop shelter at each location above marked by (\*1)

**Layover area requirements:** The new platform installation requires widening along both sides of Presidential Drive. The installation of pull off areas / layover area will require additional widening and potentially additional right-of-way dedication. There is only one lane planned for each direction of Presidential Drive in the vicinity of the new platform. In the event transit vehicles layover along the curb lane at the transit stop, vehicles will not be able to bypass the stopped transit vehicle. Recommend one (1) pull off / layover area to be provided along each direction of Presidential Drive adjacent to the new platform.

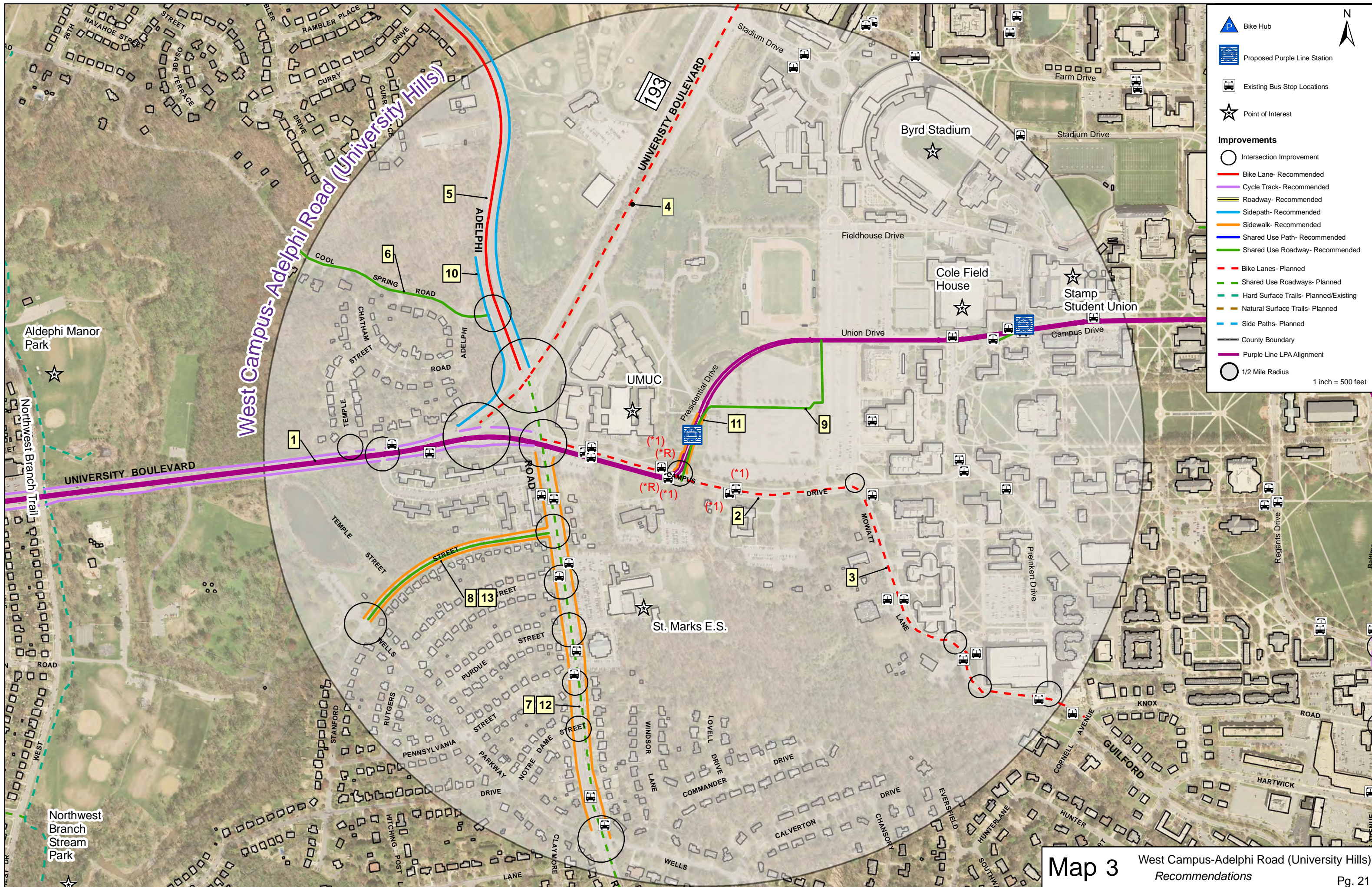
**Table IV-3 Intersection and Traffic Calming**

Improvements	Location	Description
Intersection / Entrance Improvements	All Signalized Intersections	<ul style="list-style-type: none"> <li>• Provide a leading pedestrian interval for right turning vehicles.</li> <li>• Provide pedestrian countdown signals-</li> <li>• Verify all signals are properly timed and meet the current pedestrian crossing standards.</li> <li>• Verify ADA access to all pedestrian push buttons.</li> </ul>
	Adelphi Rd. at Purdue St.	Extend the median noses further into the intersection to create pedestrian refuge area.
	University Blvd. from West Park Dr. to Stadium Dr. (5 Intersections)	<ul style="list-style-type: none"> <li>• Upgrade the intersections with new ADA sidewalk ramps.</li> <li>• Upgrade entrances with ADA standard aprons.</li> <li>• Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	*Adelphi Rd. from Cool Spring Rd. to Wells Pkwy. (10 Intersections, 4 Entrances)	
	Stanford St. from Adelphi Rd. to Wells Pkwy. (1 Intersection, 2 Entrances)	
	*Campus Dr. from Adelphi Rd. to Mowatt Ln. (3 Intersections, 7 Entrances)	
Mowatt Ln. from Campus Dr. to Knox Rd. (2 Intersections, 6 Entrances)		
Traffic Calming	Adelphi Rd. at Purdue St.	<ul style="list-style-type: none"> <li>• To address sight distance issue, provide pedestrian-activated, high-intensity activated crosswalk (HAWK).</li> <li>• Provide curb extensions.</li> </ul>

### West Campus – Adelphi Road (University Hills) Station Recommendations

- Provide minimum 10' sidewalks along Presidential Dr. at the station platform.
- Provide an oversized wide crosswalk from the UMUC lot to the station platform to the UMUC entrance walkway.
- Provide covered bicycle parking and lockers.





**Legend**

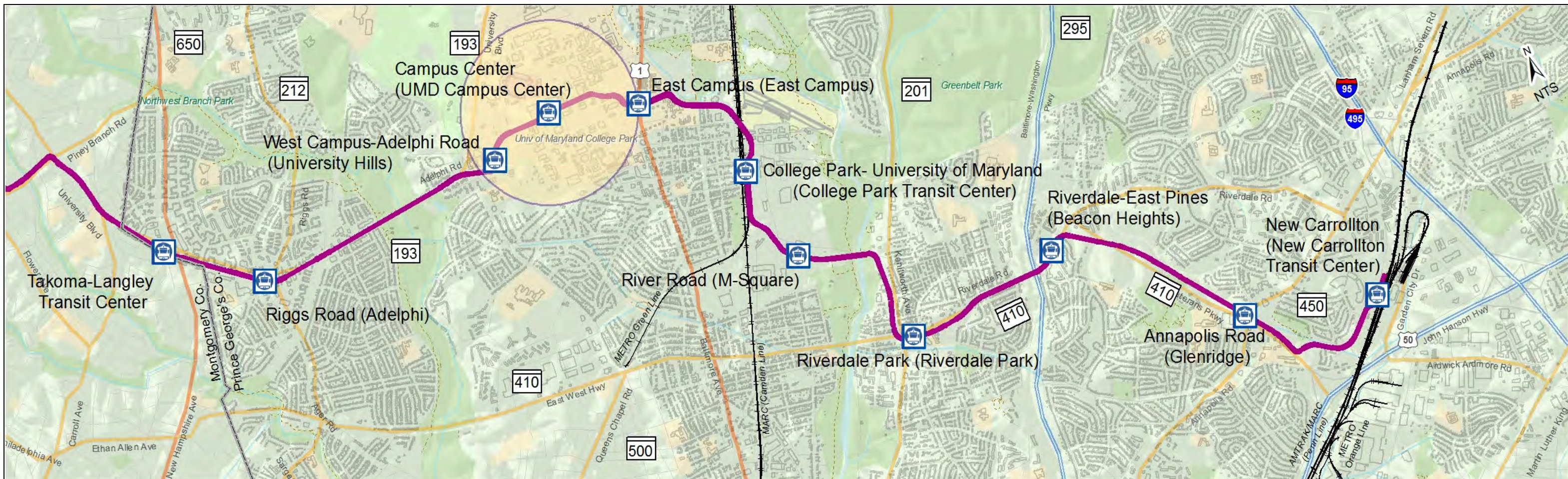
- Bike Hub
- Proposed Purple Line Station
- Existing Bus Stop Locations
- Point of Interest

**Improvements**

- Intersection Improvement
- Bike Lane- Recommended
- Cycle Track- Recommended
- Roadway- Recommended
- Sidepath- Recommended
- Sidewalk- Recommended
- Shared Use Path- Recommended
- Shared Use Roadway- Recommended
- Bike Lanes- Planned
- Shared Use Roadways- Planned
- Hard Surface Trails- Planned/Existing
- Natural Surface Trails- Planned
- Side Paths- Planned
- County Boundary
- Purple Line LPA Alignment
- 1/2 Mile Radius

1 inch = 500 feet





# SECTION V – CAMPUS CENTER (UMD CAMPUS CENTER)



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*





# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

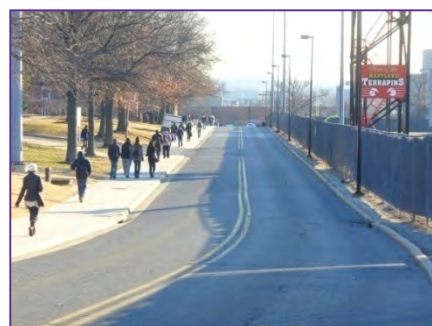
## SECTION V – CAMPUS CENTER (UMD CAMPUS CENTER)

### Existing Conditions

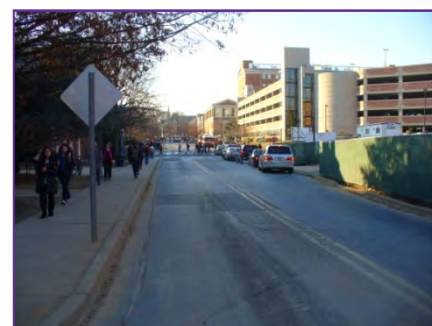
The proposed Campus Center Purple Line station is located on Campus Drive across from the Stamp Student Union. The station is located at the center of the University of Maryland campus correlating with dense pedestrian traffic and vehicle congestion from students, faculty, staff, and visitors of the university.

The following is a brief description of the roadways within an approximate one-half mile radius of the proposed station:

**University of Maryland campus roads** considered in this study include Preinkert Drive, Campus Drive, Fieldhouse Drive, Stadium Drive, Farm Drive, and Regents Drive. The campus roads are 2-lane with no median or shoulders, with the exception of Stadium Drive, which has 4 lanes from University Boulevard to the traffic circle. Sidewalks are usually provided on both sides with the exception of a few locations on portions of Farm Drive, Field House Drive, Regents Drive, and Stadium Drive. On-street parking is provided at various locations and pull-off areas are provided to serve as drop-off locations, delivery stops, and bus route stations. Wide sidewalks are generally provided along congested sections of Campus Drive with crosswalks and sidewalk ramps.



Stadium Drive along Football Practice Complex facing east



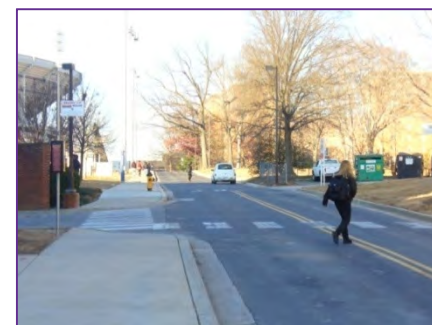
Regents Drive north of Stadium Drive facing south



Campus Drive adjacent to Stamp Student Union facing east



Fieldhouse Drive facing east



Farm Drive facing west



Union Drive south of Fieldhouse Drive facing north

### Access Design and Planning Opportunities and Challenges

The following sections describe the design and planning opportunities and challenges for providing sufficient access for pedestrians and bicycles within a half-mile radius of the proposed Purple Line station.

#### Opportunities

- High expected bicycle/pedestrian volumes within the university.
- Proximity to campus venues.
- The Purple Line station creates a major bicycle/pedestrian destination.

- Complex existing sidewalk network within the campus.
- MTA is coordinating with the University concerning sidewalk and landscaping improvements in conjunction with the Purple Line LPA.

#### Challenges

- Safety concerns due to high volumes of bicycle/pedestrian traffic and bicycle/pedestrian/bus transit interaction.

### Recommended Improvements

#### Pedestrian and Bicycle Access

The UM Campus Center Station Platform is proposed within the Campus Drive median at ground level, just east of Union Lane / Library Lane and in front of the Stamp Student Union. A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the proposed station. Potential pedestrian and bicycle improvements are summarized in the table below and on **Map 4**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table V-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description
Bike Lanes	1	University Blvd. (MD 193) north of Stadium Dr.	Utilize the existing outside shoulder in each direction to provide minimum 5' striped/directional on-road bike lanes and signage.
Shared Use Roadway	2	Campus Dr.	Designate as shared-use roadways by providing "Share the Road" signage and thermoplastic pavement "sharrow" decals.
	3	Fieldhouse Dr.	
	4	Stadium Dr.	
	5	Farm Dr.	
	6	Union Dr.	
	7	Regents Dr.	
	8	Preinkert Dr.	
	Sidewalk	9	
10		Regents Dr. from Farm Dr. to Parking Lot PP (West Side)	
11		Stadium Dr. from University Blvd. to 100' east of University Blvd. (North Side)	
12		Stadium Dr. along the Football Practice Complex (South Side)	
13		Stadium Dr. from Paint Branch Dr. to Parking Lot T (South Side)	
Way-finding Signage		Install way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station and various campus destinations.	

#### Bus and Shuttle Access

A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below. Existing bus stop locations closest to the proposed platform:



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

Table V-2 Bus and Shuttle Access

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
Westbound	Campus Drive	265	2	81,82,83,86,C2-C4,C8,J4,F4,F6,UM
Eastbound	Campus Drive	200	0(*1)	81,82,83,86,C2-C4,C8,J4,F4,F6,UM

(\*R) = Recommend Relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.

**Recommendations for the relocation of bus stops:** Consideration should be given to relocating existing bus stops to new locations within 500 feet of the new Purple Line LPA Station platform. (\*R)

**Recommendations for proposed bus shelter locations:** Recommend the installation of 1 new bus stop shelter at each location above marked by (\*1)

**Layover area requirements:** The new platform installation requires widening along both sides of Campus Drive. The installation of pull off areas / layover area will require additional widening and potentially additional right-of-way dedication. There is an existing pull off area in the westbound direction east of the proposed platform and a dedicated bus lane in the eastbound direction. Recommend maintaining the existing pull off area.

Table V-3 Intersection and Traffic Calming

Improvements	Location	Description
Intersection / Crossing Improvements	Campus Dr. (5 Intersections)	<ul style="list-style-type: none"> <li>Upgrade the intersections with new ADA sidewalk ramps.</li> <li>Provide raised crosswalks with cross-hatching and high intensity paint.</li> <li>Provide proper crossing signage and display appropriate speed limit signs.</li> </ul>
	Fieldhouse Dr. (4 Intersections)	
	Stadium Dr. (3 Intersections)	
	Preinkert Dr. (1 Intersection)	
	Regents Dr. (3 Intersections)	

### Campus Center (UMD Campus Center) Station Recommendations

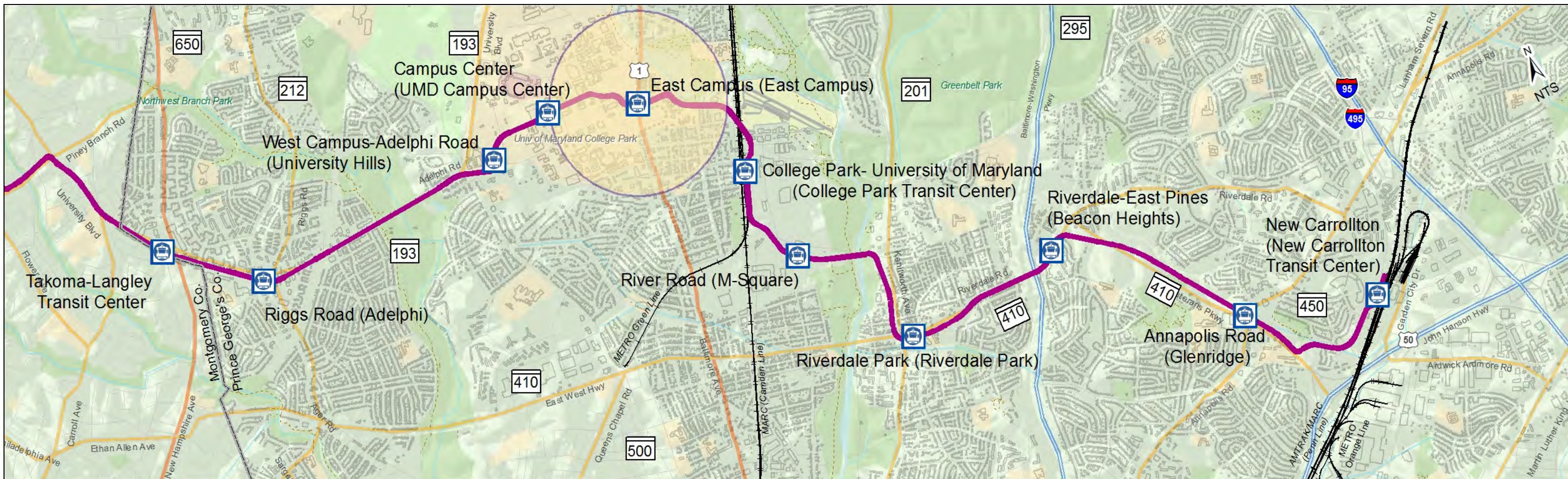
- Provide minimum 15' sidewalks at the station platform for pedestrian layover.
- Provide an oversized wide crosswalk across Campus Drive to the station platform.
- Provide covered inverted-U bike racks and lockers.
- Consider designating station as a “bike hub” once demand is available.





- Bike Hub
  - Proposed Purple Line Station
  - Existing Bus Stop Locations
  - Point of Interest
  - Improvements**
  - Intersection Improvement
  - Bike Lane- Recommended
  - Cycle Track- Recommended
  - Roadway- Recommended
  - Sidepath- Recommended
  - Sidewalk- Recommended
  - Shared Use Path- Recommended
  - Shared Use Roadway- Recommended
  - Bike Lanes- Planned
  - Shared Use Roadways- Planned
  - Hard Surface Trails- Planned/Existing
  - Natural Surface Trails- Planned
  - Side Paths- Planned
  - County Boundary
  - Purple Line LPA Alignment
  - 1/2 Mile Radius
- 1 inch = 500 feet





## SECTION VI – EAST CAMPUS



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*



## SECTION VI – EAST CAMPUS

### Existing Conditions

The proposed East Campus Purple Line station is located on Rossborough Lane directly across from the University of Maryland. The station is located in College Park which is a diverse mixed-use district and home to the state’s flagship University.

The following is a brief description of the roadways within an approximate one-half mile radius of the proposed station:

**Baltimore Avenue (US 1)** is a four-lane major collector with a median and no shoulders that runs in a north-south direction from the Capital Beltway (I-95/I-495) to Guilford Road. US 1 has a painted center turn lane from Cherry Hill Road to Lakeland Road and a curbed median from Lakeland Road to Guilford Road. Sidewalk is provided on both sides of the roadway and on-street parking is prohibited. No buffer is provided from north of Paint Branch Parkway, a variable grassed buffer is provided in front of the University of Maryland, and wide sidewalks are provided south of College Avenue. Separate left turn lanes are provided at intersections along with crosswalks and pedestrian signals and push buttons.

**Paint Branch Parkway** is a four-lane collector with no median or shoulders that runs in an east-west direction from Baltimore Avenue to Kenilworth Avenue. Sidewalk is provided along the south side; separate left turn lanes are provided at intersections along with crosswalks and pedestrian signals and push buttons at signalized intersections.

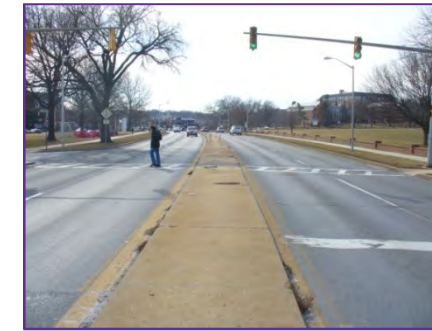
**Rossborough Lane** is a two-lane commercial access road with no median or shoulder that runs in an east-west direction from Baltimore Avenue to Rhode Island Avenue. Sidewalks are provided along both sides for most of the roadway (portions of missing sidewalk on north side) and on-street parking is prohibited. Rossborough Lane is the planned location for the East Campus Purple Line Station and platform and is adjacent to a site zoned for future commercial development.

**Other residential streets** considered for the study area include Berwyn House Road, Lakeland Road, Knox Road, Guilford Drive, Yale Avenue, Princeton Avenue, and Rhode Island Avenue. The residential streets are mainly two-lane roads with no median (with the exception of portions of Guilford Drive and Rhode Island Avenue) and some shoulders used for on-street parking. Several streets, including Berwyn House Road, Knox Road, Princeton Avenue, and Rhode Island Avenue, provide limited on-street permit parking. Knox Road and Rhode Island Avenue both contain stretches of one-way travel. Sidewalks are generally provided on both sides of the roadway. Rhode Island Avenue has a shared-use trail within the median south of Calvert Road.

**University of Maryland campus roads** considered for the study area include Campus Drive, Regents Drive, and Paint Branch Drive. The campus roads are two-lane with no median or shoulders. Sidewalks are provided on both sides of the roadway. Wide sidewalks are provided along congested sections of Campus Drive with crosswalks and sidewalk ramps. On-street parking is generally prohibited with the exception of the front end parking at the Memorial Chapel. Pull-off areas are provided to serve as drop-off locations, delivery stops, and bus route stations.



Baltimore Avenue (US 1) at College Avenue intersection facing south



Baltimore Avenue (US 1) at Fraternity Drive facing south



Baltimore Avenue (US 1) at Rossborough Lane facing south



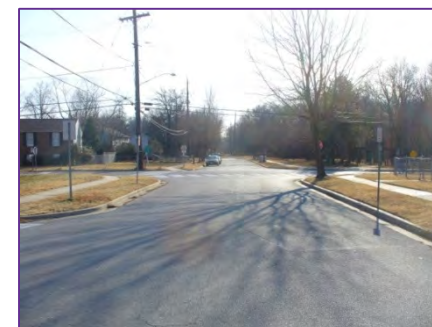
Paint Branch Parkway facing south



Rossborough Lane facing west – Future location of Purple Line Station platform



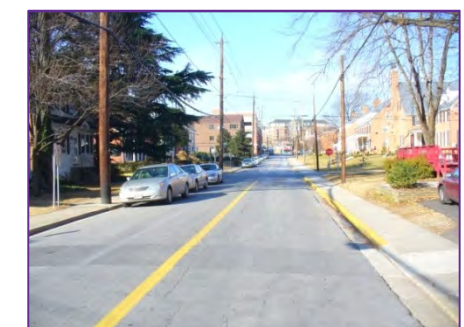
Berwyn House Road at Baltimore Avenue (US 1) intersection facing west



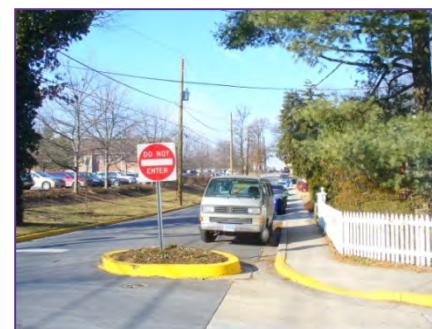
Lakeland Road at 48<sup>th</sup> Avenue intersection facing east



College Avenue east of Baltimore Avenue (US 1) facing west



Knox Road at Princeton Avenue intersection facing west



Hartwick Road at Princeton Avenue intersection facing west



Guilford Road at Knox Road intersection facing west



Campus Drive at Baltimore Avenue (US 1) facing east



## Access Design and Planning Opportunities and Challenges

The following sections describe the design and planning opportunities and challenges for providing sufficient access for pedestrians and bicycles within a half-mile radius of the proposed Purple Line station based on the Central US1 Sector Plan.

### Opportunities

- The University of Maryland is within close proximity to numerous parks, trails, and green open spaces including Acredale Park, Lakeland Community Park, Lake Artemesia, the Rhode Island Avenue Trolley Trail, the Anacostia Tributary Trail System, and the Paint Branch Stream Valley Park Trail. As it currently exists, there are limited connections from US 1 to these various park and trail systems along the corridor. There exists a potential opportunity to interconnect these green facilities with the University of Maryland providing a more vibrant and mobile community.
- The three walkable nodes in the immediate vicinity provide potential opportunities for TOD which places an emphasis on pedestrian-friendly and mixed-use environments. The locations of the nodes provide opportunities to implement pedestrian-friendly streetscapes with on-street parking and wider shared path facilities.
  1. Lower Midtown Walkable Node
  2. University of Maryland Walkable Node
  3. Downtown College Park Walkable Node
- The proposed Purple Line LPA Station on Rossborough Lane will create a major pedestrian destination and will create opportunities for development in the surrounding area.
- High expected bicycle volumes and proximity to the University makes the East Campus station ideal for a bicycle hub.
- MTA is coordinating with the University concerning sidewalk and landscaping improvements in conjunction with the Purple Line LPA.

### Challenges

- A high level of traffic along US 1 remains a major constraint that not only affects accessibility and mobility throughout the corridor but also presents a major safety issue.
- The undergrounding of existing utilities is necessary to implement many of the proposed recommendations to convert US 1 into a multimodal transportation corridor, serving pedestrians, transit-users, bicyclists, and automobiles. The costs, however, associated with the operation would be high and acquisition of funding would present a challenge.
- Street connectivity presents a challenge, especially in the neighborhoods east of US 1. Local trips are forced onto US 1 and portions of Rhode Island Avenue due to a local street network that does not provide adequate circulation. Additional street connections are necessary to reduce congestion on US 1.
- The University of Maryland controls much of the development in the surrounding area which may limit the implementation of certain aspects of the proposed plan.

## Recommended Improvements

### Pedestrian and Bicycle Access

The East Campus Station Platform is proposed within the Rossborough Lane median, ground level just east of Baltimore Avenue (US 1). A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the proposed station. Potential pedestrian and bicycle improvements are summarized in the table below and on **Map 5**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table VI-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description		
+Cycle Tracks	1	Baltimore Ave. (US 1) from Capital Beltway (I-95/I-495) to College Ave.	Implement the Central US 1 Corridor Sector Plan typical section which includes a median, 5' to 6' cycle tracks, 2' to 5' buffer, and 5' to 10' sidewalk. Provide two-way cycle track along the east side from Paint Branch Pkwy. to Rossborough Ln.		
	2	Rossborough Ln. from US 1 to Paint Branch Pkwy. (Both Sides)	Provide 5' cycle tracks with 2' buffer, and separate 5' minimum sidewalk.		
Shared Use Roadway	3	Baltimore Ave. (US 1) from College Ave. to Guilford Dr.	Implement the Central US 1 Corridor Sector Plan typical section which includes the removing of the center median, narrowing 2 center travel lanes to 10', providing 8' parking lanes on both sides, and use remaining width to widen sidewalks for shared use purposes.		
	4	Berwyn House Rd.	Designate as shared use roadway by providing "Share the Road" signage and thermoplastic pavement "sharrow" decals.		
	5	Lakeland Rd.			
	6	College Ave.			
	7	Paint Branch Dr.			
	8	Fraternity Row			
	9	Knox Rd.			
	10	Yale Ave.			
	11	Princeton Ave.			
	12	Regents Dr.			
	13	Campus Dr.			
	+Sidewalk	14		Berwyn House Rd. at Rhode Island Trolley Trail / Rhode Island Ave.	Construct 5' sidewalk in location where dirt path was created.
		15		Lakeland Rd. from US 1 to Rhode Island Ave. (South Side)	Reconstruct existing narrow sidewalk (less than 4' wide) or construct missing sidewalk links with 5' sidewalk and vegetated buffer.
16		Knox Rd. from Guilford Dr. to Baltimore Ave. (South Side)			
17		Princeton Ave. from Yale Ave. to Calvert Rd. (Both Sides)			
18	Cornell Ave. from Knox Rd. to 100' south of Knox Rd. (West Side)				
+Side Path	19	Knox Rd. from Guilford Dr. to Rossburg Dr. (North Side)	Construct 8' sidepath with vegetated buffer.		
Shared Use Path	20	End of Princeton Ave. to Yale Ave.	Construct an 8' shared use path.		
Bike Racks	Provide inverted-U bike racks on sidewalks as needed on key sites including retail, commercial, and restaurant blocks.				
Way-finding Signage	Install way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station, College Park Metrorail Station, Acredale Park, Lakeland Community Park, Lake Artemesia, Rhode Island Trolley Trail, Anacostia Tributary Trail System, Paint Branch Stream Valley Park Trail, North Gate Park, and other campus destinations.				
Lighting	Enhance street lighting along Baltimore Ave., Berwyn House Rd., Lakeland Rd., Paint Branch Pkwy., Rossborough Ln., College Ave., Knox Rd., Calvert Rd., Guilford Dr., Princeton Ave.				

+Improvement may require additional right-of-way or a public access easement beyond that required for the Purple Line construction.



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## Bus and Shuttle Access

A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below. Existing bus stop locations closest to the proposed platform:

**Table VI-2 Bus and Shuttle Access**

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
Westbound	Rosborough Lane	40	0(*1)	UM
Eastbound	Rosborough Lane	0	0(*1)	UM
Northbound	Baltimore Ave.	190	1	UM,81,83,86,TB17
Southbound	Baltimore Ave.	220	1	UM,81,83,86,TB17
Northbound	Baltimore Ave.	620	0(*1)	UM,81,83,86,TB17
Southbound	Baltimore Ave.	740	1	UM, 81,83,86,TB17

(\*R) = Recommend Relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.

**Recommendations for the relocation of bus stops:** Consideration should be given to relocating existing bus stops to new locations within 500 feet of the new Purple Line LPA Station platform. (\*R)

**Recommendations for proposed bus shelter locations:** Recommend the installation of 1 new bus stop shelter at each location above marked by (\*1)

**Layover area requirements:** The new platform installation requires widening along both sides of Rosborough Lane. The installation of pull off areas / layover area will require additional widening and potentially additional right-of-way dedication. There is only one lane planned for each direction of Rosborough Lane in the vicinity of the new platform. Only University of Maryland Shuttle buses circulate along Rosborough Lane with a majority of the Purple Line patrons walking to Baltimore Avenue to connect with transit in a north / south direction. Recommend no pull off / layover areas be provided along Rosborough Lane or Baltimore Avenue.

**Table VI-3 Intersection and Traffic Calming**

Improvements	Location	Description
Intersection/ Entrance Improvements	All Signalized Intersections	<ul style="list-style-type: none"> <li>Provide a leading pedestrian interval for right turning vehicles.</li> <li>Provide pedestrian countdown signals.</li> <li>Verify all signals are properly timed and meet the current pedestrian crossing standards.</li> <li>Verify ADA access to all pedestrian push buttons.</li> </ul>
	*Baltimore Ave. from Berwyn House Rd. to Guilford Dr. (9 Intersections)	<ul style="list-style-type: none"> <li>Upgrade the intersections with new ADA sidewalk ramps.</li> <li>Upgrade entrances with ADA standard aprons.</li> </ul>
	Guilford Dr. from Mowatt Ln. to Baltimore Ave. (2 Intersections, 9 Entrances)	<ul style="list-style-type: none"> <li>Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	Hartwick Rd. from Guilford Dr. to Princeton Ave. (3 Intersections, 4 Entrances)	

Improvements	Location	Description
Intersection/ Entrance Improvements (Cont.)	Knox Rd. from Mowatt Ln. to Princeton Ave. (3 Intersections, 13 Entrances)	<ul style="list-style-type: none"> <li>Upgrade the intersections with new ADA sidewalk ramps.</li> <li>Upgrade entrances with ADA standard aprons.</li> <li>Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	College Ave. from US 1 to Princeton Ave. (2 Intersections, 1 Entrance)	
	Rosborough Ln. from US 1 to Rhode Island Ave. (9 Entrances)	
	Lakeland Rd. from US 1 to Rhode Island Ave. (2 Intersections, 4 Entrances)	
	**Rhode Island Ave. from Rosborough Ln. To Calvert Rd.	
Traffic Calming	Berwyn House Rd. from US 1 to Rhode Island Ave. (12 Entrances)	Provide curb extensions at intersections where on-street parking is provided.
	College Ave.	
	Knox Rd.	
	Princeton Ave.	

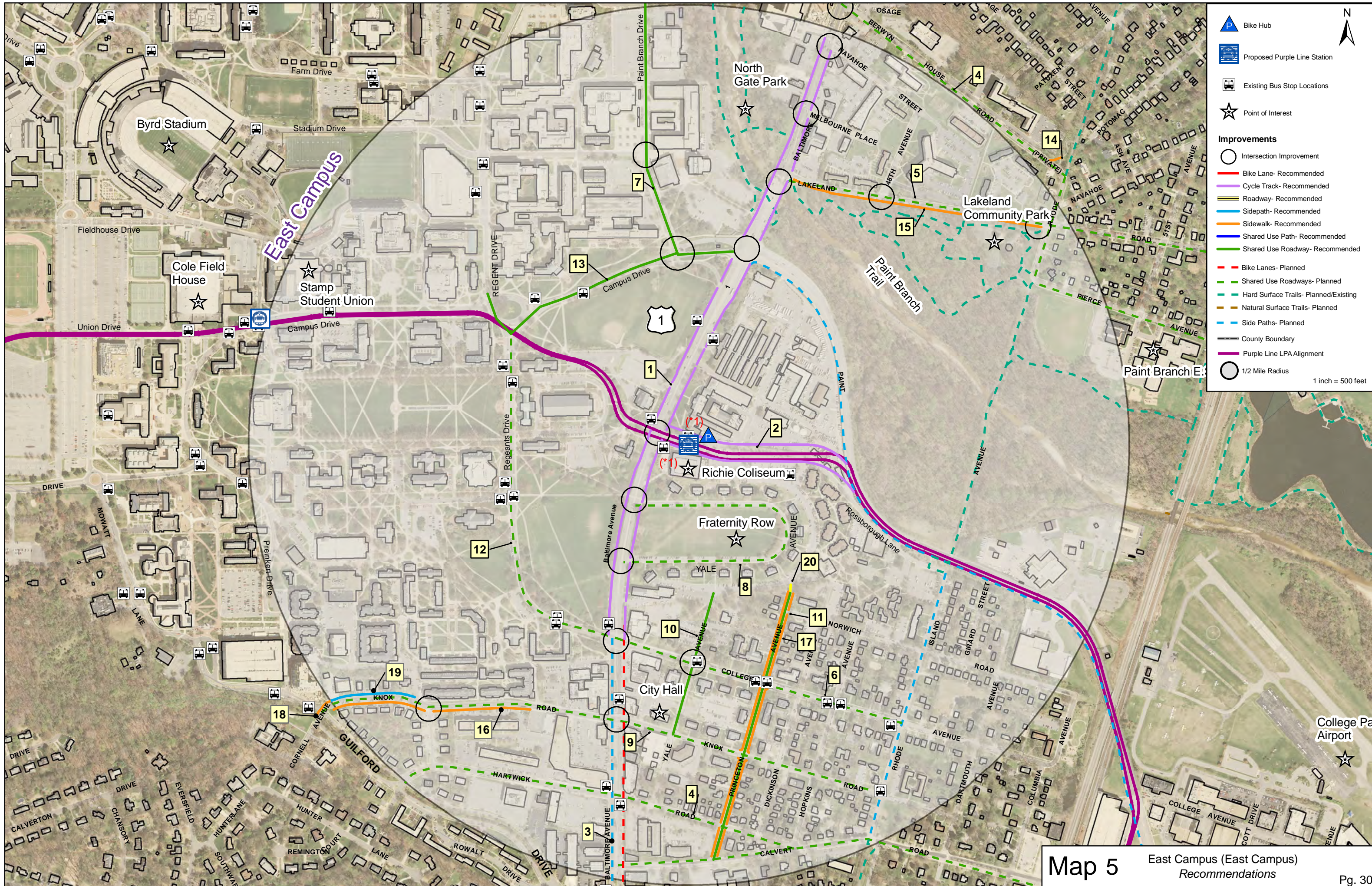
\*Recent improvements at the US 1 / Berwyn House Rd. intersection include pedestrian signals, crosswalks, and sidewalk ramps.

\*\* Included as part of the Rhode Island Avenue Trolley Trail Phase IV project, this also includes a 5' sidewalk on the west side and intersection improvements.

## East Campus Station Recommendations

- Provide plaza style open area at corner of US 1 and Rosborough Lane.
- Provide minimum 15' bicycle/pedestrian travel ways adjacent to the platform to handle the high bicycle/pedestrian volumes. Transition to cycle tracks beyond the platform area.
- Construct a bicycle hub as part of the proposed station site. Amenities can include, an attendant, day and long term covered lockers, numerous inverted-U bike racks, a bike station for bicycle rentals and shared bicycles, bicycle accessories and repair, rest rooms, showers, food (vending or café), and accommodations for police bicycle patrol.
- Update intersection at US 1 with oversized crosswalks and decorative treatment such as stamped brick or stamped concrete raised crosswalks.

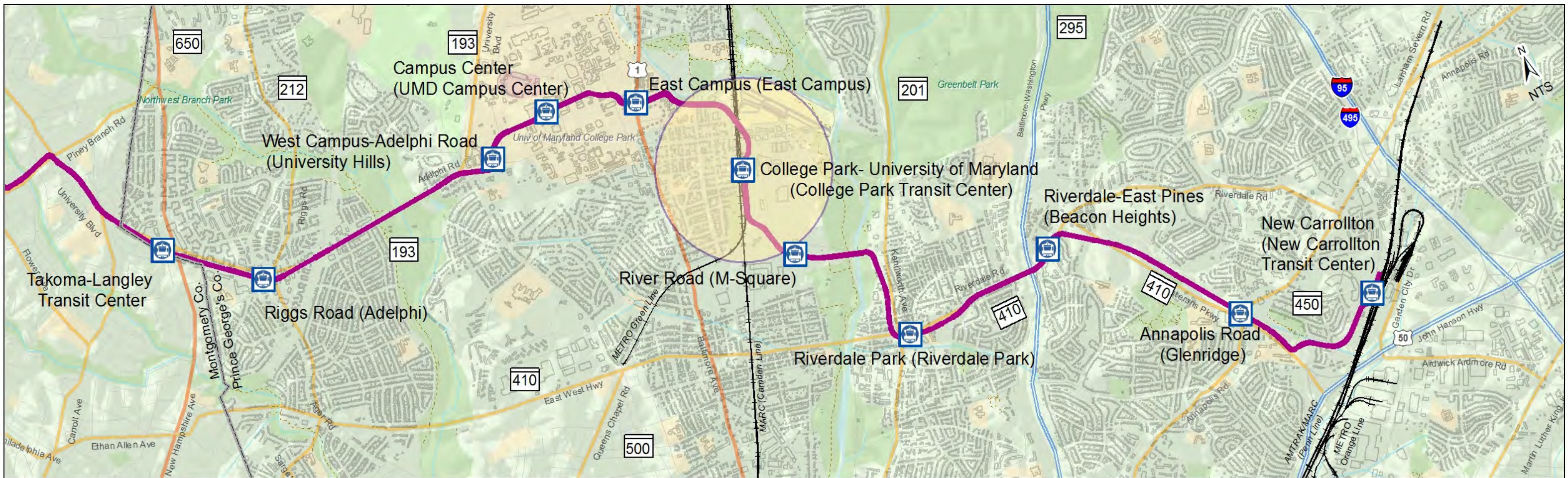




Map 5

East Campus (East Campus)  
Recommendations





# SECTION VII – COLLEGE PARK – UMD (COLLEGE PARK TRANSIT CENTER)



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*





# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## SECTION VII – COLLEGE PARK – UMD (COLLEGE PARK TRANSIT CENTER)

### Existing Conditions

The proposed College Park-University of Maryland Purple Line station is located at the existing College Park-University of Maryland Metrorail station. The station is a multimodal transit center providing Metrorail, metro bus, and UM shuttle transfers.

The following is a brief description of the roadways within an approximate one-half mile radius of the proposed station:

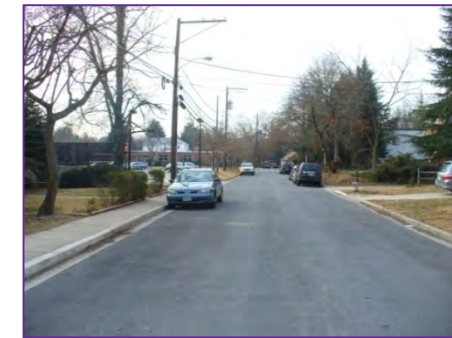
**Paint Branch Parkway** is a four-lane collector, partially median separated with no shoulders that runs in an east-west direction from Baltimore Avenue to Kenilworth Avenue. A curbed median is provided from River Road to 52<sup>nd</sup> Avenue and a painted median is provided from 52<sup>nd</sup> Avenue to Riverside Avenue. An existing sidepath (with no buffer) is provided along the south side, west of the Metro parking garage intersection and along both sides east of the garage; separate left turn lanes are provided at all the intersections and right turn lanes are provided at some of the intersections; crosswalks are provided at most the intersections; and pedestrian signals with push buttons are provided at signalized intersections.

**River Road** is a four-lane collector with a curbed median and no shoulders that runs in a north-south direction from Paint Branch Parkway Kenilworth Avenue. A sidepath is provided on both sides of the roadway with no buffer on the west side and a landscaped buffer on the east side. Separate left turn lanes are provided at intersections along with crosswalks and a pedestrian warning beacon at the Metro Station.

**Other residential streets** considered for the study area include Guilford Road, Calvert Road, Knox Road, College Avenue, Columbia Avenue, and Rhode Island Avenue. The residential streets are mainly two-lane roads with no median (with the exception of portions of Calvert Road and Rhode Island Avenue) and some shoulders used for on-street parking. All streets, (excluding Calvert Road which contains striped shoulders), provide sections with on-street permit parking. Rhode Island Avenue has segments of one-way travel. Sidewalks are generally provided on both sides of the roadway. Rhode Island Avenue has a shared-use trail within the median south of Calvert Road.



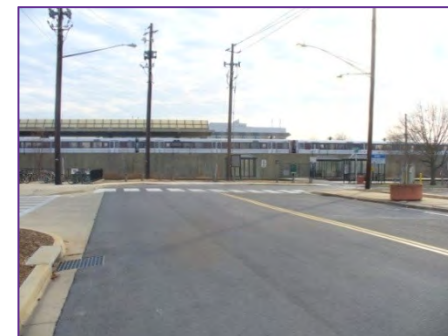
Calvert Road at Hartwick Road intersection facing east



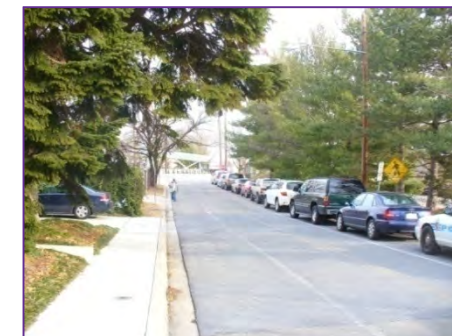
Columbia Avenue north of the Kiss-and-Ride parking lot facing south



Guilford Road west of Rhode Island Avenue facing east



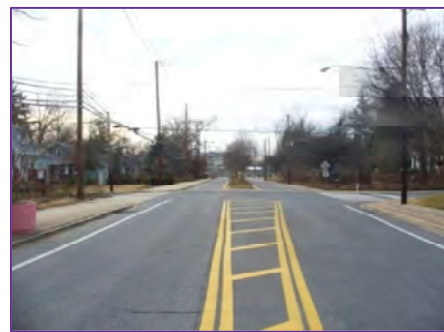
Calvert Road at Bowdoin Avenue intersection facing east towards Metrorail platform



Bowdoin Avenue facing north towards Metrorail Station



Rhode Island Avenue/College Park Trolley Trail south of Guilford Road intersection facing north



Calvert Road at Dartmouth Avenue intersection facing east



College Avenue west of Dartmouth Avenue intersection facing west



Knox Road at Princeton Avenue intersection facing east



Paint Branch parkway at Metro Parking intersection facing south



River Road south of Paint Branch Parkway facing north



Paint Branch Parkway over the Paint Branch facing east



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## Access Design and Planning Opportunities and Challenges

The following section describes the design and planning opportunities and challenges for providing sufficient access for pedestrians and bicycles within the half-mile radius of the proposed Purple Line station.

### Opportunities

- The station is located in close proximity to campus housing, the M<sup>2</sup> professional centers, and park trails including the Rhode Island Avenue Trolley Trail, the Paint Branch Trail System, and the Northeast Branch Trail.
- The WMATA joint development site located along Paint Branch Parkway will provide opportunities for facility upgrades.
- High expected bicycle volumes.
- The station provides service to many different modes of public transportation.

### Challenges

- Vehicle and bicycle conflicts have been documented on River Road (Metrorail Station Access & Capacity Study).
- Pedestrians attempting to access the station via Paint Branch Parkway must utilize the sidewalks on the southbound side of the roadway and cross the existing entrance/exit of the Metro parking garage. At the crossing there exists limited visibility for both pedestrians and drivers presenting a safety issue.
- The existing rail line provides limited east-west mobility for pedestrians and bicyclists.
- The existing bridge carrying the rail lines over Paint Branch Parkway does not allow for the widening of the existing sidewalk or the adding of an additional pedestrian/bicycle facility.

## Recommended Improvements

### Pedestrian and Bicycle Access

The College Park Transit Center Platform is proposed just south of the University of Maryland Metro Station Garage. The proposed platform will be located at ground level between the existing northbound MARC rail line and the existing parking lot. A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the existing College Park-University of Maryland Metrorail Station. Potential pedestrian and bicycle improvements are summarized in the table below and on **Map 6**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table VII-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description
Shared Use Roadway	1	Calvert Rd.	Designate as shared-use roadways by providing “Share the Road” signage and thermoplastic pavement “sharrow” decals.
	2	College Ave.	
	3	Guilford Rd.	
	4	Hartwick Rd.	
	5	Knox Rd.	
	6	Columbia Ave.	
*Sidewalk	7	*College Ave. from Rhode Island Ave. to Columbia Ave. (Both Sides)	Reconstruct existing narrow sidewalk (less than 4’ wide) or construct missing sidewalk links with 5’ sidewalk and vegetated buffer.
	8	*Knox Rd. from Princeton Ave. to Dartmouth Ave. (Both Sides)	
	9	Bowdoin Ave. from Guilford Rd. to Calvert Rd.	

Improvements	Map Key	Location	Description
*Sidewalk (Cont.)	10	Guilford Rd. from Baltimore Ave. to Bowdoin Rd. (Both Sides)	Reconstruct existing narrow sidewalk (less than 4’ wide) or construct missing sidewalk links with 5’ sidewalk and vegetated buffer.
	11	Columbia Ave. from College Ave. to Calvert Rd. (Both Sides)	
*Sidepath	12	Paint Branch Pkwy. from Metro Parking Garage Entrance to Riverside Ave. (Both Sides)	<ul style="list-style-type: none"> <li>• Maintain sidewalk on south side under rail crossing bridge.</li> <li>• Construct an 8’ minimum sidepath south of the Metro Parking Garage.</li> </ul>
	13	*Rhode Island Ave. from Paint Branch Pkwy to Calvert Rd. (East Side)	Construct an 8’ sidepath with vegetated buffer.
Lighting		Enhance street lighting along River Rd., Paint Branch Pkwy., College Ave., Knox Rd., Calvert Rd., Guilford Dr., Bowdoin Ave., and Columbia Ave.	
Way-finding Signage		Install way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station, the College Park Metrorail station, the College Park MARC station, the College Park Trolley Trail, the Paint Branch Trail, and the Kiss-and-Ride facility.	

\*Improvement may require additional right-of-way or a public access easement beyond that required for the Purple Line construction.

### Bus and Shuttle Access

A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below. Existing bus stop locations closest to the proposed platform:

**Table VII-2 Bus and Shuttle Access**

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
ALL	River Road (Transit Center)	300 - 600	6	UM,R12,C8,J4,F4,F6,Metro Rail

(\*R) = Recommend Relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.

**Recommendations for the relocation of bus stops:** Existing Transit Stops are located within the Transit Center. No relocations required.

**Recommendations for proposed bus shelter locations:** Existing bus stop shelters are located within the Transit Center. No relocations required.

**Layover area requirements:** The existing transit center will provide space for bus layover. Recommend no pull off / layover areas be provided along River Road or Calvert Road.



**Table VII-3 Intersection and Traffic Calming**

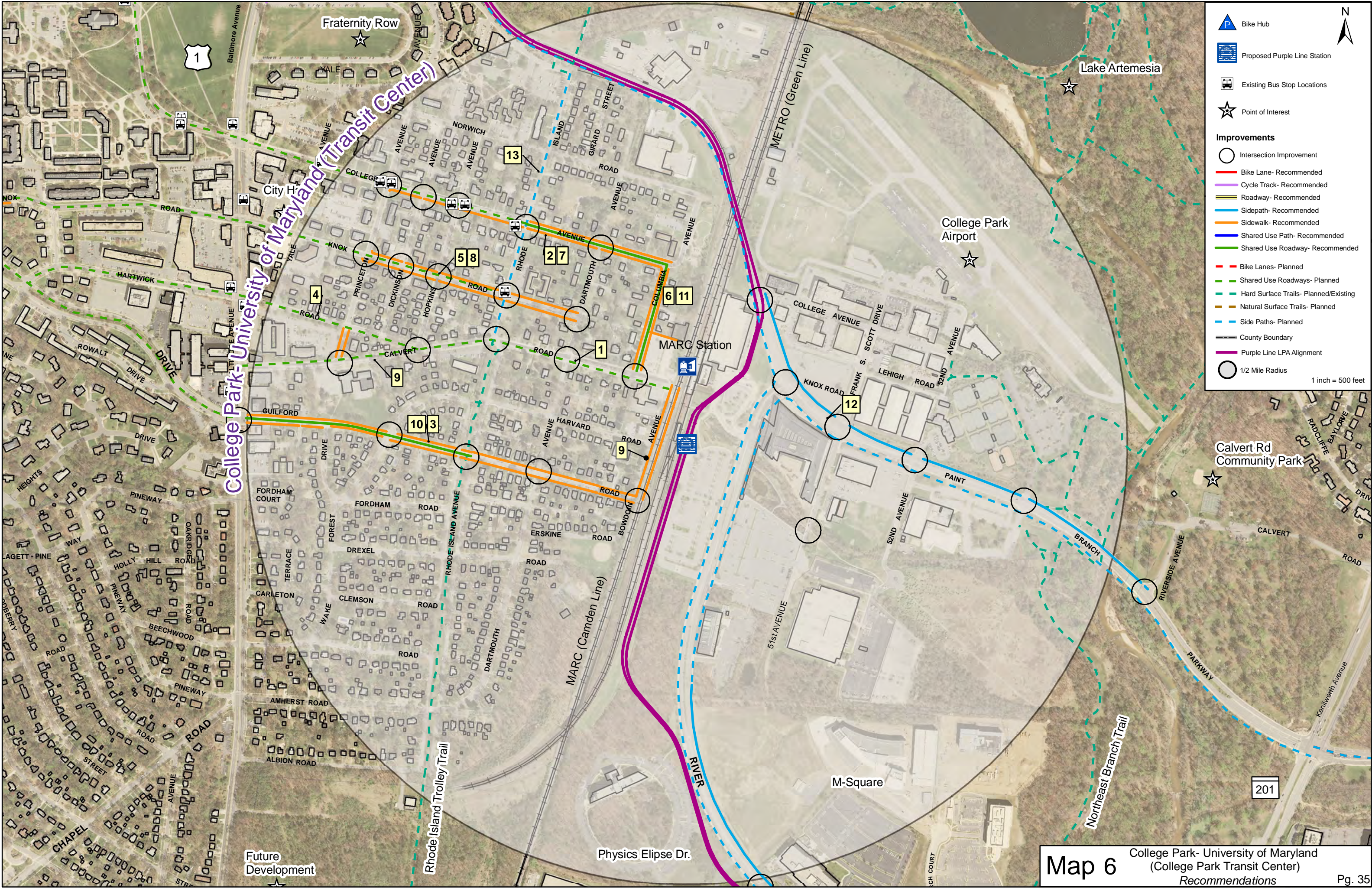
Improvements	Location	Description
Intersection / Crossing Improvements	All Signalized Intersections	<ul style="list-style-type: none"> <li>• Provide a leading pedestrian interval for right turning vehicles.</li> <li>• Provide pedestrian countdown signals.</li> <li>• Verify all signals are properly timed and meet the current pedestrian crossing standards.</li> <li>• Verify ADA access to all pedestrian push buttons.</li> </ul>
	Guilford Rd. from Baltimore Ave. to Rhode Island Ave. (6 Intersections)	<ul style="list-style-type: none"> <li>• Upgrade the intersections with new ADA sidewalk ramps.</li> <li>• Upgrade entrances with ADA standard aprons.</li> <li>• Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	*Calvert Rd. from Hartwick Rd. to Bowdoin Ave. (5 Intersections)	
	*Knox Rd. from Princeton Ave. to Dartmouth Ave. (4 Intersections)	
	*College Ave. from Princeton Ave. to Columbia Ave. (5 Intersections)	
	Paint Branch Pkwy. from the Metro Parking Garage Entrance to Riverside Ave. (3 51 <sup>st</sup> Ave. trail crossing)	
Traffic Calming	College Ave.	Provide curb extensions at intersections where on-street parking is provided.
	Knox Rd.	
	Calvert Rd.	
	Guilford Dr.	
	Columbia Ave.	

\* Included as part of the Rhode Island Avenue Trolley Trail Phase IV project, this also includes a 5’ sidewalk on the west side and intersection improvements.

**College Park – UMD (College Park Transit Center) Station Recommendations**

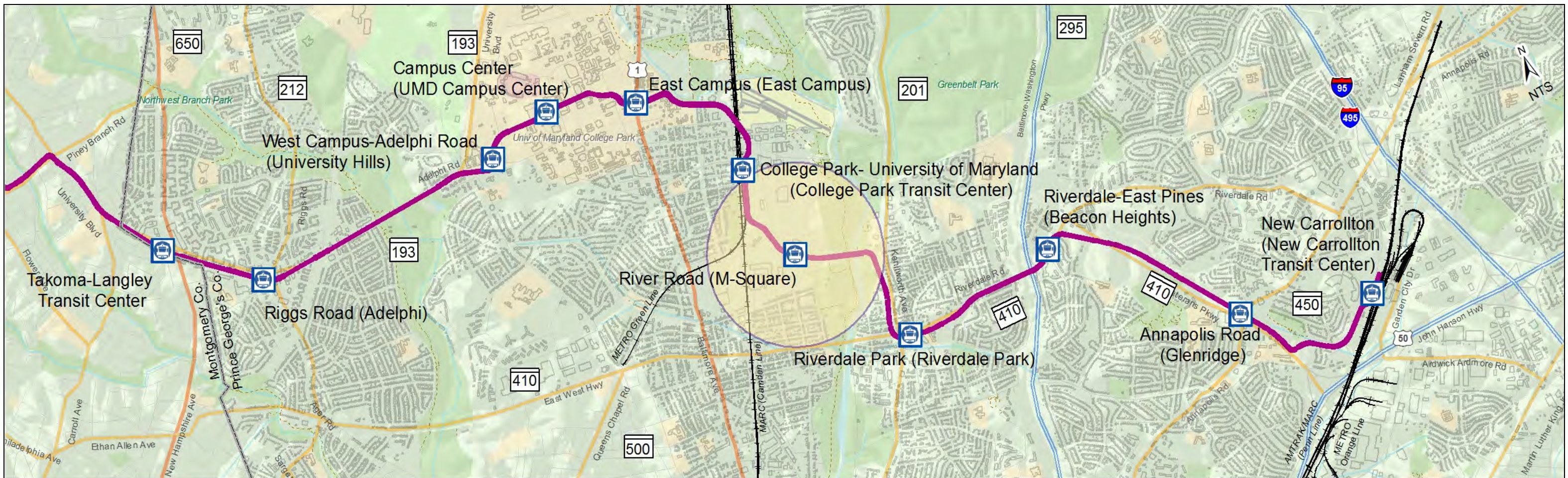
- Move portions of bicycle parking to lower level of station to provide temporary covered bike parking.
- Secured bicycle storage is planned for the Metro parking garage.
- Increase the number of bike racks with covering on west side of station adjacent to Kiss and Ride Lot.
- Replace old bike racks with U-racks and provide instructional bike parking signage.
- Install ramps adjacent to stairs inside station providing bicyclists an alternative method of transporting bicycles and alleviating existing elevator system.
- Construct wider (6’ minimum) sidewalk along the northern side of Columbia Avenue entrance to the west Kiss and Ride lot.





- Bike Hub
  - Proposed Purple Line Station
  - Existing Bus Stop Locations
  - Point of Interest
  - Improvements**
  - Intersection Improvement
  - Bike Lane- Recommended
  - Cycle Track- Recommended
  - Roadway- Recommended
  - Sidepath- Recommended
  - Sidewalk- Recommended
  - Shared Use Path- Recommended
  - Shared Use Roadway- Recommended
  - Bike Lanes- Planned
  - Shared Use Roadways- Planned
  - Hard Surface Trails- Planned/Existing
  - Natural Surface Trails- Planned
  - Side Paths- Planned
  - County Boundary
  - Purple Line LPA Alignment
  - 1/2 Mile Radius
- 1 inch = 500 feet





## SECTION VIII – RIVER ROAD (M-SQUARE)



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## SECTION VIII – RIVER ROAD (M-SQUARE)

### Existing Conditions

The proposed River Road Purple Line station is located on River Road near the intersection with Rivertech Court. The station is located at the center of the University of Maryland campus correlating with dense pedestrian traffic and vehicle congestion from students, faculty, staff, and visitors of the university.

The following is a brief description of the local roadways within the approximate one-half mile radius of the proposed station:

**River Road** is a four-lane collector with a curbed median and no shoulders that runs in an east-west direction (at the location of the proposed station) from Paint Branch Parkway Kenilworth Avenue. A wide 8' sidepath is provided on both sides of the roadway with no buffer on the west side and a landscaped buffer on the east side. The sidepath on the north side narrows to a 5' sidewalk north of Rivertech Court. No sidewalk is provided between University Research Court and Kenilworth Avenue. Separate left turn lanes are provided at intersections along with various pedestrian accommodations.

**Rivertech Court** is a two-lane commercial access road with a sidewalk (with a grassed buffer) on the west side and an 8' sidepath on the east side. The roadway runs from River Road and terminates at a cul-de-sac.

**University Research Court** is a two-lane commercial access road with sidewalks (with grassed buffers) on both sides. The roadway runs from River Road and terminates at a cul-de-sac.

**Haig Drive** is a two-lane access road to Anacostia River Park and access to the Northeast Branch Trail. A sidewalk is provided on the east side for a short portion of the roadway and an 8' sidepath is provided on the west side connecting to the Northeast Branch Trail.

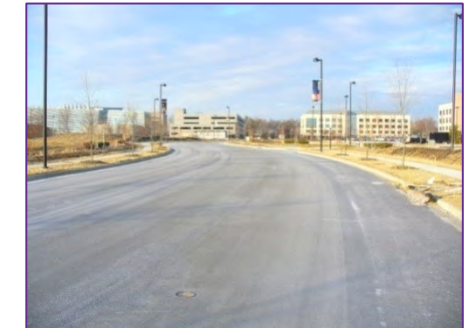
**Other residential streets** considered for the study area include Lafayette Avenue, Taylor Road, 51<sup>st</sup> Avenue, Tuckerman Street, and Somerset Road. The residential streets are mainly two-lane roads with no median or shoulder, sidewalk on at least one side, and on-street parking.



Tuckerman Street at 48<sup>th</sup> Avenue facing east



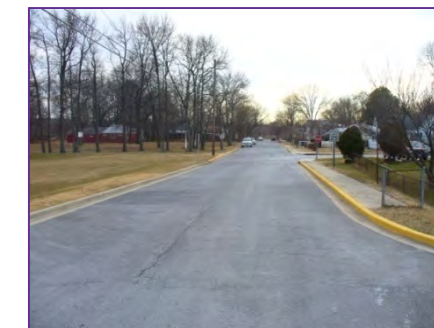
River Road at Kenilworth Avenue (MD 201) facing east – Sidewalk not provided



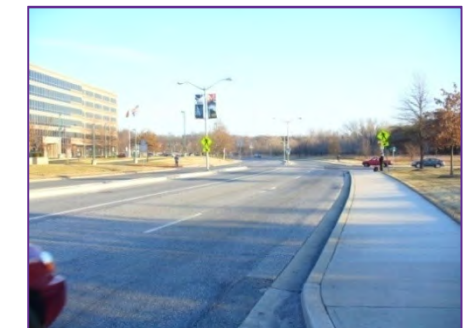
University Research Court at River Road intersection facing north



Rivertech Court facing south towards existing path to Taylor Road



Sidewalk on 51<sup>st</sup> Avenue terminated north of Somerset Road (west side)



River Road at Physics Ellipse Drive intersection facing south

### Access Design and Planning Opportunities and Challenges

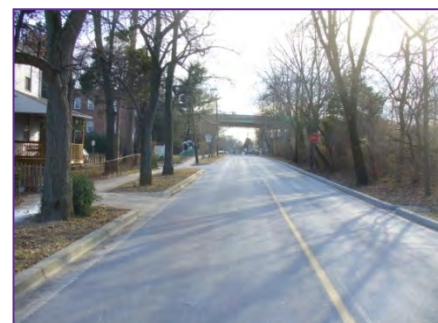
The following sections describes the design and planning opportunities and challenges for providing sufficient access for pedestrians and bicycles within the half-mile radius of the proposed Purple Line station.

#### Opportunities

- The station is located in close proximity to M-Square professional centers, park trails including the Northeast Branch Trail, other parks and historic Riverdale Park.
- New development along Baltimore Avenue west of the train tracks presents an opportunity to make a connection to the Rhode Island Avenue Trolley Trail.
- Riverdale MARC train station is nearby.

#### Challenges

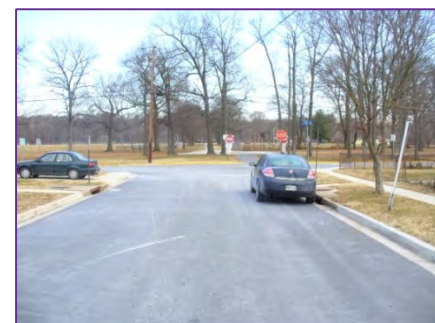
- High speeds on River Road present safety issues.
- Large parcel development with large parking lots placing buildings a far distance from the street.
- Existing MARC/CSX and Metrorail tracks present a physical barrier to connect neighborhoods.
- No direct vehicular connection from Riverdale Park community to River Rd. Cars cut through the abandoned lot to the north even though signs posted not to.



Lafayette Avenue at Ravenswood Road intersection facing south



Taylor Road at Tuckerman Street facing north towards path to Rivertech Court



Somerset Road facing east towards Riverdale Recreation Center



**Recommended Improvements**

**Pedestrian and Bicycle Access**

A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the proposed Purple Line station on River Road. Potential pedestrian and bicycle improvements are summarized in the table below and on **Map 7**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table VIII-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description
Shared Use Roadway	1	Lafayette Ave.	Designate as shared-use roadway by providing “Share the Road” signage and thermoplastic pavement “sharrow” decals.
	2	Taylor Rd.	
	3	Somerset Rd.	
	4	Tuckerman St.	
+Sidewalk	5	Somerset Rd. from Taylor Rd. to 51 <sup>st</sup> Ave. (North Side)	Reconstruct existing narrow sidewalk or construct missing sidewalk links with 5’ sidewalk and vegetated buffer.
	6	Taylor Rd. from East-West Hwy to north of Tuckerman St. (West Side)	
	7	51 <sup>st</sup> Ave. from Tuckerman St. to Ravenswood Rd. (West Side)	
	8	Tuckerman St. from Lafayette Ave. to 48 <sup>th</sup> Ave. (North Side)	
	9	Lafayette Ave. from Tuckerman St. to MARC Station (East Side)	
+Sidepath	10	River Rd. from end of existing sidepath to University Research Ct. (North Side)	Construct a 10’ sidepath with vegetated buffer
	11	River Rd. from Haig Dr. to Kenilworth Ave. (South Side)	Extend 8’ sidepath.
+Shared Use Path	12	From Rhode Island Trolley Trail to Rivertech Ct.	Construct a shared use path from the future Casey Foundation development across the CSX/MARC tracks with a bridge or tunnel.
	13	From park parking lot to Quesada Rd	Construct a shared use path connection from Northeast Branch Trail to Quesada Rd
	14	From River Rd to Quesada Rd	
Lighting		Enhance street lighting along River Rd., Haig Dr., Lafayette Ave., Taylor Rd., 51 <sup>st</sup> Ave., Tuckerman St., Somerset Rd. and trail from Taylor Rd. to Rivertech Ct.	
Way-finding Signage		Install way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station, the Northeast Branch Trail, MARC Station, Riverdale Park and other local parks.	

\*Improvement may require additional right-of-way or a public access easement beyond that required for the Purple Line construction.

**Bus and Shuttle Access**

The River Road Station Platform is proposed in the south-west quadrant of the intersection of River Road at River Tech Court, ground level. A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below. Existing bus stop locations closest to the proposed platform:

**Table VIII-2 Bus and Shuttle Access**

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
Westbound	River Road	270	0(*1)	R12,F4,F6,UM
Eastbound	River Road	200	0(*1)	R12,F4,F6,UM
Westbound	River Road	-	-	R12,F4,F6,UM
Eastbound	River Road	-	-	R12,F4,F6,UM
Northbound	Rivertech Court	-	-	UM
Southbound	Rivertech Court	-	-	UM

(\*R) = Recommend Relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.

**Recommendations for the relocation of bus stops:** Consideration should be given to relocating existing bus stops to new locations within 500 Feet of the new Purple Line LPA Station platform. (\*R)

**Recommendations for proposed bus shelter locations:** Recommend the installation of 1 new bus stop shelter at each location above marked by (\*1)

**Layover area requirements:** The new platform installation requires no widening along Eastbound River Road east of Rivertech Court. The installation of pull off areas / layover area will require widening and potentially additional right-of-way dedication. In the event transit vehicles layover along the curb lane at the transit stop awaiting Purple Line patrons, vehicles will bypass the stopped transit vehicle by yielding into the left lane. Recommend no pull off / layover areas be provided along River Road.

**Table VIII-3 Intersection and Traffic Calming**

Improvements	Location	Description
Intersection / Entrance Improvements	**Lafayette Ave. from MARC Parking Lot to Tuckerman St. (3 Intersections)	<ul style="list-style-type: none"> <li>Upgrade the intersections with new ADA sidewalk ramps.</li> <li>Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	**Taylor Rd. from Ravenswood Rd. to Tuckerman St. (4 Intersections)	
	**Somerset Rd. from Lafayette Ave. to 51 <sup>st</sup> Ave. (1 Intersection)	
	**Tuckerman St. from Lafayette Ave. to Taylor Rd. (1 Intersection)	
	*River Rd. from Rivertech Ct. to Kenilworth Ave. (2 Intersections)	Implement proposed signal and intersection improvements per Purple Line New Starts Definition Plans for Rivertech Ct. and University Research Ct. Construct ADA sidewalk ramps, crosswalks, pedestrian signals, and push buttons for Kenilworth Ave.
Traffic Calming	Tuckerman St.	Provide curb extensions at intersections where on-street parking is provided.
	51 <sup>st</sup> Ave.	
	Somerset Rd.	

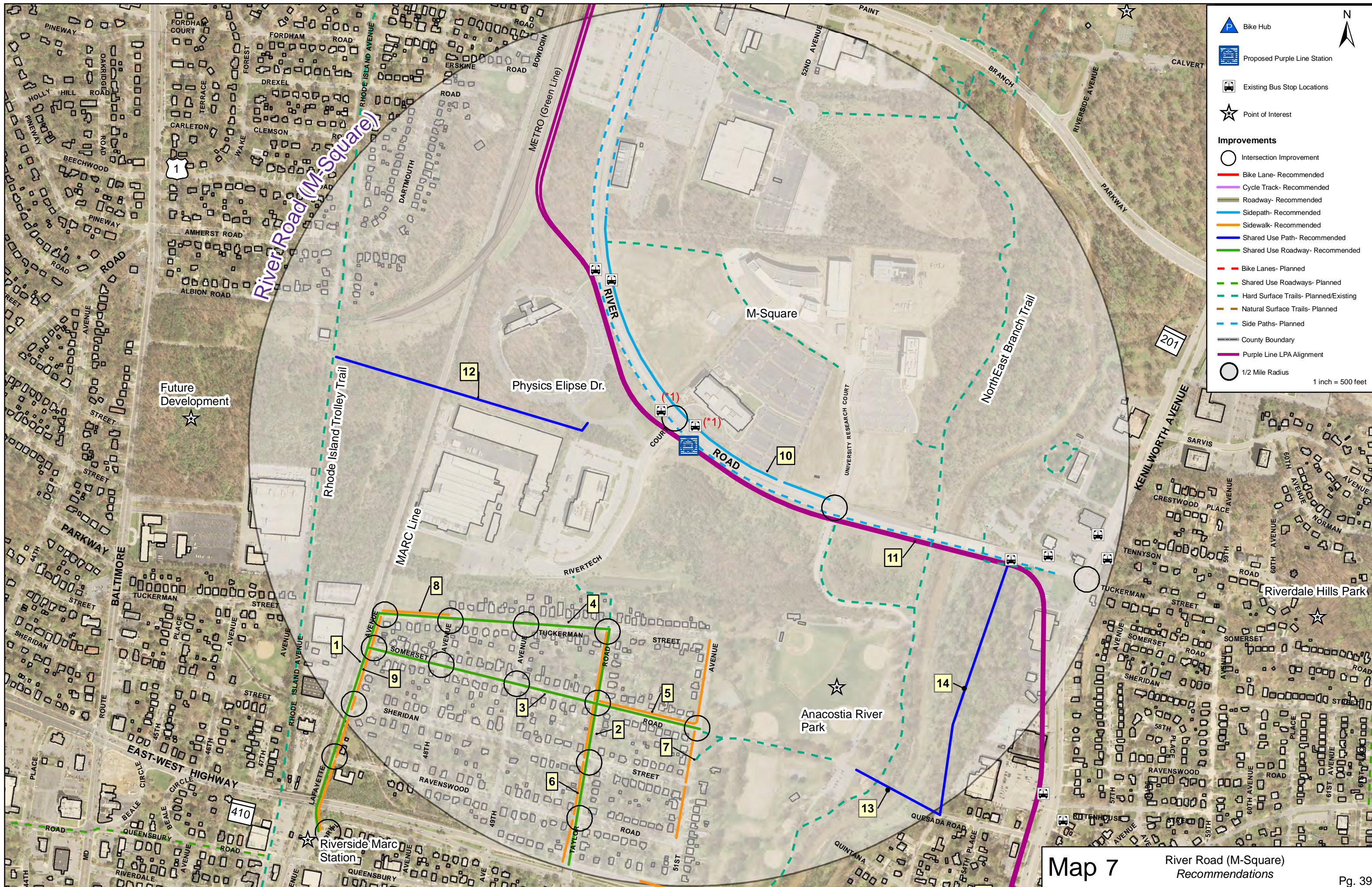
\*Portions of the improvement to be completed by Purple Line Project.

\*\*Recent updates to numerous intersections located in the neighborhoods to the south of the station have been completed including sidewalk ramps and crosswalk construction.

**River Road (M-Square) Station Recommendations**

- Provide oversized wide crosswalks on River Road at the intersection with Rivertech Court to the platform.
- Provide covered bicycle parking and lockers.





**Legend**

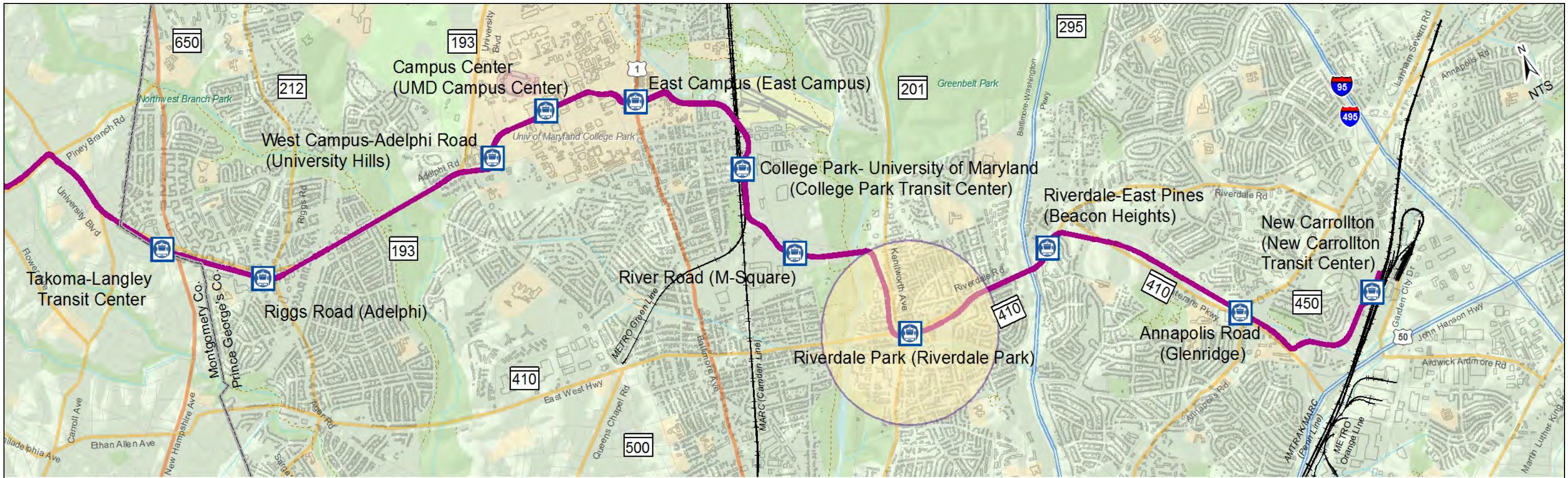
- Bike Hub
- Proposed Purple Line Station
- Existing Bus Stop Locations
- Point of Interest

**Improvements**

- Intersection Improvement
- Bike Lane- Recommended
- Cycle Track- Recommended
- Roadway- Recommended
- Sidepath- Recommended
- Sidewalk- Recommended
- Shared Use Path- Recommended
- Shared Use Roadway- Recommended
- Bike Lanes- Planned
- Shared Use Roadways- Planned
- Hard Surface Trails- Planned/Existing
- Natural Surface Trails- Planned
- Side Paths- Planned
- County Boundary
- Purple Line LPA Alignment
- 1/2 Mile Radius

1 inch = 500 feet





# SECTION IX – RIVERDALE PARK



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*





# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## SECTION IX – RIVERDALE PARK

### Existing Conditions

The proposed elevated Riverdale Park station is located on the south side of East-West Highway (MD 410 between Kenilworth Avenue and Riverdale Road. The station is located within a diverse, mixed-use district with some large-block commercial properties adjacent to several communities mostly comprising of single family dwellings.

The following is a brief description of the local roadways within the approximate one-half mile radius of the proposed station:

**Kenilworth Avenue (MD 201)** is a four-lane arterial with a median and partial shoulders that runs in a north-south direction from Sunnyside Avenue to the Capital Beltway. Left turn lanes are provided at all the intersections and right turn channelization is provided at the intersection with East-West Highway and Riverdale Road. Sidewalks are generally missing north of East-West Highway and sidewalks (some with narrow grassed buffers) present south of East-West Highway, on-street parking is present where shoulders exist, and crosswalks are provided at the intersections where crossing is allowed along with pedestrian signals and buttons.

**East-West Highway (MD 410)** is a four-lane arterial with a median and narrow shoulders that runs in an east-west direction from New Hampshire Avenue to Riverdale Road. Left turn lanes are provided at all the intersections and right turn channelization is provided at the intersection with Kenilworth Avenue. Sidewalks are missing west of Kenilworth Avenue, narrow sidewalks (with no grassed buffer) are present east of Kenilworth Avenue, and crosswalks are provided at the intersections where crossing is allowed along with pedestrian signals and buttons.

**Riverdale Road (MD 410)** is a two-lane primary road (County) with no median no shoulder west of Kenilworth Avenue, a 2-lane industrial road with a partial median and no shoulder from Kenilworth Avenue to East-West Highway, and a 6-lane arterial (State) east of East-West Highway with a median and no shoulders that runs in an east-west direction from Baltimore Avenue to Veterans Parkway. Sidewalks with narrow buffers are present on the both sides west of Kenilworth Avenue, sidewalk with no buffer is provided on both sides of the majority of the roadway between Kenilworth Avenue and East-West Highway (missing along a small portion on the south side near East-West Highway), narrow sidewalk with no buffer is provided on the north side between East-West Highway and the B-W Parkway, sidewalk is missing along the south side from East-West Highway to west of Mustang Drive where sidewalk with no buffer is provided to the B-W Parkway, and crosswalks are provided at some intersections where crossing is allowed along with some pedestrian signals and buttons.

**58<sup>th</sup> Avenue/ Roanoke Avenue** is a two-lane residential road that runs in a mostly east-west direction from East-West Highway to 63<sup>rd</sup> Place. Narrow sidewalks with no buffers are present on both sides from East-West Highway to the 58<sup>th</sup> Avenue/Roanoke Avenue intersection with portions of the sidewalk recently reconstructed. To the east of 58<sup>th</sup> Avenue sidewalk is provided continuously along the north side; some narrow and some reconstructed with a grassed buffer. On-street parking is provided on both sides and crosswalks are missing at most the intersections.

**Carters Lane** is a two-lane primary road that runs in an east-west direction from Kenilworth Avenue to Greenvale Parkway. Sidewalks with grass buffers are present on the both sides for the majority of the roadway (missing along the north side from 56<sup>th</sup> Avenue, to 58<sup>th</sup> Avenue and from east of 59<sup>th</sup> Avenue to west of 62<sup>nd</sup> Avenue), on-street parking is present on both sides of the roadway, and crosswalks are provided at most of the intersections.

**54<sup>th</sup> Avenue** is a two-lane commercial road that runs in a north-south direction from north of Powhatan Street to Spring Lane. Sidewalks with narrow grass buffers are present on the both sides for the some of the roadway (missing between Jefferson Street and Spring Lane), on-street parking is present on both sides of the roadway, and crosswalks are provided at one intersection.

**Other residential streets** such as Rittenhouse Road, 59<sup>th</sup> Avenue, Sheridan Street, 61<sup>st</sup> Place, Nicholson Street, Kennedy Street, Longfellow Street, Mustang Drive, Greenvale Parkway, 56<sup>th</sup> Avenue, 59th Avenue, and Jefferson Street are two-lane roadways some with sidewalks with grass buffers (with the exception to the roads in the Riverdale Heights community where sidewalks are largely missing), on-street parking, and crosswalks generally missing at the intersections.



Kenilworth Avenue (MD 201) north of East-West Highway (MD 410) facing south



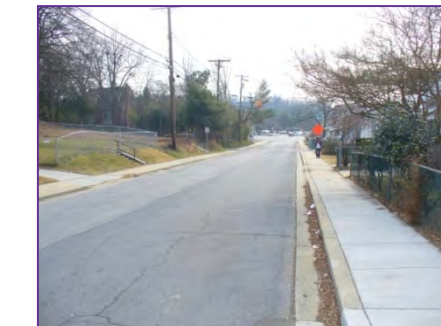
East-West Highway (MD 410) east of Kenilworth Avenue (MD 201) facing east



Riverdale Road east of Kenilworth Avenue (MD 201) facing west



Rittenhouse Street east of Kenilworth Avenue (MD 201) facing west



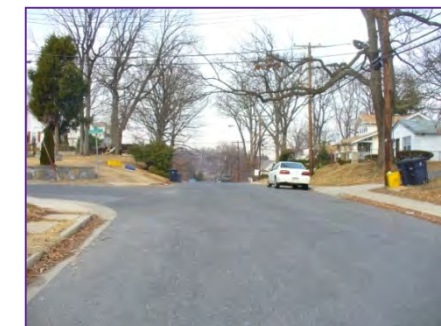
Roanoke Avenue south of 58<sup>th</sup> Avenue facing north



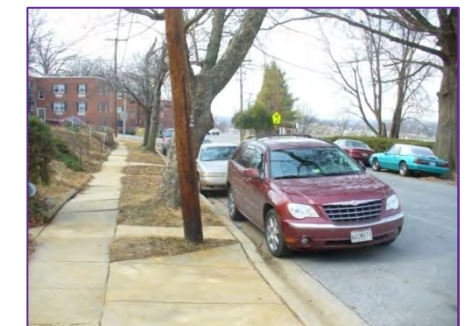
59<sup>th</sup> Avenue north of Ravenswood Road facing south



Sheridan Street east of 59<sup>th</sup> Avenue facing west



61<sup>st</sup> Place at Quintana Street intersection facing north



Nicholson Street east of 57<sup>th</sup> Avenue facing west



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT



Carters Lane west of 56<sup>th</sup> Avenue facing east



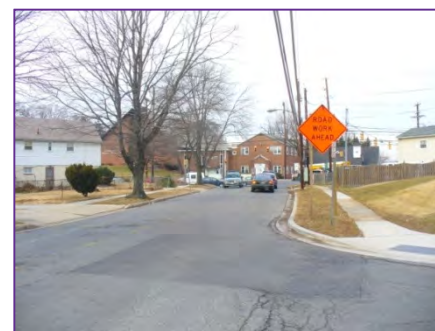
Kennedy Street west of 56<sup>th</sup> Avenue facing east



Greenvale Parkway west of 61<sup>st</sup> Avenue facing east



Longfellow Street west of 62<sup>nd</sup> Avenue facing east



Mustang Drive south of East-West Highway (MD 410) facing north



56<sup>th</sup> Avenue south of Madison Street facing north

## Access Design and Planning Opportunities and Challenges

The following sections describes the design and planning opportunities and challenges for providing sufficient access for pedestrians and bicycles within the half-mile radius of the proposed Purple Line station based on the field audit.

### Opportunities

- The area of Riverdale Park around the intersection of Kenilworth Avenue (MD 201) and East-West Highway/Riverdale Road (MD 410) is very densely populated with lots of pedestrian activity due to nearby commercial areas, which allows for the opportunity to improve the conditions of the existing pedestrian network.
- Underutilized Riverdale Plaza presents an opportunity for redevelopment near the proposed Purple Line station.
- High number of public transportation users.
- The newly acquired right-of-way for the Purple Line LPA along the west side of Kenilworth Avenue north of East-West Highway, along the south side of East-West Highway/Riverdale Road, and the relocation of Quesada Road and Mustang Drive will allow for opportunities to construct a new pedestrian/bicycle facilities.
- The Riverdale Park Purple Line station creates a major pedestrian and bicycle destination.
- Opportunity to connect to existing greenway resources such as the Northeast Branch Trail located within the west end of the study area.
- Opportunity to provide better connections to local schools, parks, community centers and other places of interest.

### Challenges

- Heavy traffic volumes and high speeds on Kenilworth Avenue and East-West Highway/Riverdale Road.
- The presence of the Purple Line station will increase pedestrian and bicycle volumes at nearby intersections and create additional safety challenges.

- Topography challenges and space to construct a pedestrian or shared-use path along the east side of Kenilworth Avenue north of East-West Highway.
- The commercial area to the south east of the Kenilworth Avenue/East-West Highway intersection (including Riverdale Plaza) contains some large block commercial development with large parking lots and buildings set back away from the roadway. Some of these properties have no designated passageways in the back or through the parking lots, which creates longer travel distances around the properties for pedestrians.
- Connectivity.
  - The quality of sidewalk networks vary within the study area. Many of the neighborhoods have very few sidewalks.
  - Few connections to institutional and open space users (Northeast Branch Trail) and between adjacent neighborhoods.
  - Disconnected neighborhoods due to cul-de-sac street layouts, such as the Riverdale Woods and Eastpines communities.
  - Physical barriers such as the concrete channeled tributary (drainage conduit) along the southern border of the Riverdale Woods and Eastpines communities.

## Recommended Improvements

### Pedestrian and Bicycle Access

A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the proposed Purple Line station near the intersection of East-West Highway (MD 410) and Kenilworth Avenue (MD 201). Potential pedestrian and bicycle improvements are summarized in the table below and on **Map 8**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table IX-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description
+Bike Lanes	1	Kenilworth Ave (MD 201)	Implement a new typical section for Kenilworth Ave from River Rd. to Carters Ln. to include a wide landscaped median, 5' striped/directional on-road bike lane, 8'sidewalk with vegetated buffer.
	2	East-West Hwy/Riverdale Rd. (MD 410)	Provide 5' striped directional on-road bike lanes and 5' sidewalk with buffer west of Kenilworth Ave. Provide a 5' striped directional on-road bike lanes and 5' sidewalk with vegetated buffer on eastbound MD 410, from Kenilworth Ave. to Mustang Dr.
	3	Riverdale Rd. (West of East-West Hwy)	Implement a "Bicycle Boulevard" from Riverdale Park to give right-of-way to bicycles. Include 5' striped/directional on-road bike lane, traffic calming measures to discourage non-local traffic, special signage and specially timed signal at Kenilworth Ave.
Shared Use Roadway	4	Rittenhouse St.	Designate as bicycle routes as shared-use roadways by providing "Share the Road" signage and thermoplastic pavement "sharrow" decals
	5	58 <sup>th</sup> Ave./Roanoke Ave.	
	6	59 <sup>th</sup> Ave. from Roanoke Ave. to Sheridan St.	
	7	Sheridan St.	
	8	61 <sup>st</sup> Pl.	
	9	54 <sup>th</sup> Ave.	





Improvements	Map Key	Location	Description
Shared Use Roadway (Cont.)	10	Riverdale Rd. from Kenilworth Ave. to East-West Hwy.	Designate as bicycle routes as shared-use roadways by providing “Share the Road” signage and thermoplastic pavement “sharrow” decals
	11	Nicholson Rd.	
	12	Carters Ln.	
	13	56 <sup>th</sup> Ave.	
	14	Greenvale Pkwy.	
+Sidewalk	15	Mustang Ave.	Reconstruct existing narrow sidewalk or construct missing sidewalk links with 5’ sidewalk and vegetated buffer.
	16	Rittenhouse St. from Kenilworth Ave. to 59 <sup>th</sup> Ave. (both sides)	
	17	59 <sup>th</sup> Ave. from 58 <sup>th</sup> Ave. to Sheridan St. (both sides)	
	18	Sheridan St. from 59 <sup>th</sup> Ave. to 61 <sup>st</sup> Pl. (both sides)	
	19	61 <sup>st</sup> Pl. from Riverdale Rd. to Riverdale Hills Park (both sides)	
	20	58 <sup>th</sup> Ave./Roanoke Ave. from East-West Hwy. to 62 <sup>nd</sup> Ave. (Both Sides)	
	21	Nicholson St. from 57 <sup>th</sup> Ave. to Brownings Grove Park (both sides)	
	22	57 <sup>th</sup> Ave. from Kennedy St.. to Nicholson St. (both sides)	
+Sidepath	23	Carter Ln. – 56 <sup>th</sup> Ave. to 58 <sup>th</sup> Ave. (north side)	Construct an 8’ sidepath with a vegetated buffer.
	24	Kennedy St. – Kenilworth Ave. to 55 <sup>th</sup> Pl. (south side)	
	25	East-West Hwy./Riverdale Rd. from Kenilworth Ave. to 62 <sup>nd</sup> Pl./Mustang Dr. (North Side)	
+Shared Use Path	26	East-West Hwy. from Kenilworth Ave. to east of Riverdale Rd. (South Side)	Construct a shared use path from River Rd. along the east side of the Northeast Branch to Quesada Rd. Construct a shared use path from the end of Quesada Rd. to the Anacostia River Park with a new bridge over the Northeast Branch. Construct a shared use path from the western end of Greenvale Ave. through the wooded area to the St. Bernard’s Catholic School. As an alternative, construct a shared-use trail from the pedestrian bridge at the western end of Greenvale Ave. through the grassed area of the St. Bernard’s Catholic Church property to the vehicle bridge over the drainage channel to the St. Bernard’s Catholic School. Construct a shared use path from the end of Oglethorpe St. to the Northeast Branch Trail.
	27	Riverdale Rd. from Kenilworth Ave. to East-West Hwy. (Both Sides)	
	28	Construct a shared use path from River Rd. along the east side of the Northeast Branch to Quesada Rd.	
	29	Construct a shared use path from the end of Quesada Rd. to the Anacostia River Park with a new bridge over the Northeast Branch.	
+New Roadway	30	Construct a shared use path from the western end of Greenvale Ave. through the wooded area to the St. Bernard’s Catholic School. As an alternative, construct a shared-use trail from the pedestrian bridge at the western end of Greenvale Ave. through the grassed area of the St. Bernard’s Catholic Church property to the vehicle bridge over the drainage channel to the St. Bernard’s Catholic School.	Realign Quesada Rd. at Kenilworth Ave. across from Rittenhouse St. to create a safer intersection crossing. Realign the west leg Quintana St. at Kenilworth Ave. to create a safer intersection crossing. Realign Mustang Dr. at Riverdale Rd. across from 62 <sup>nd</sup> Pl. to create a safer intersection crossing. Extend Greenvale Ave. eastward to Eastpine Dr.
	31	Construct a shared use path from the end of Oglethorpe St. to the Northeast Branch Trail.	
	32	*Quesada Rd.	
	33	Quintana St.	
	34	*Mustang Dr.	
	35	Greenvale Ave.	

Improvements	Map Key	Location	Description
Way-finding Signage			Install way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station, historic Riverdale Park, the Riverdale Mansion, local schools, the Northeast Branch Trail and local parks.
Bike Racks			Provide inverted-U bike racks on sidewalks as needed on key sites including retail, commercial, and restaurant blocks.
Lighting			Enhance street lighting along Kenilworth Ave., East-West Hwy., Riverdale Rd., 54 <sup>th</sup> Ave., 58 <sup>th</sup> /Roanoke Ave., 61 <sup>st</sup> Pl., Nicholson St., Carters Ln., 56 <sup>th</sup> Ave., Greenvale Pkwy., and Mustang Dr.

\*Improvement may require additional right-of-way or a public access easement beyond that required for the Purple Line construction.

**Bus and Shuttle Access**

The Riverdale Park Aerial Station Platform is proposed along the south side of East-West Highway, just east of Kenilworth Avenue. A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below. Existing bus stop locations closest to the proposed platform:

**Table IX-2 Bus and Shuttle Access**

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
Westbound	Riverdale Road	300	1	84,F4,F6
Eastbound	Riverdale Road	340	0(*1)	84,F4,F6
Westbound	East-West Highway	-	-	
Eastbound	East-West Highway	-	-	
Northbound	Kenilworth Ave.	490	0(*1)	R12
Southbound	Kenilworth Ave.	640 (*R)	0(*1)	R12
Northbound	Kenilworth Ave.	-	-	R12
Southbound	Kenilworth Ave.	-	-	R12

(\*R) = Recommend Relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.

**Recommendations for the relocation of bus stops:** Consideration should be given to relocating existing bus stops to new locations within 500 Feet of the new Purple Line LPA Station platform. (\*R)

**Recommendations for proposed bus shelter locations:** Recommend the installation of 1 new bus stop shelter at each location above marked by (\*1)

**Layover area requirements:** The new platform installation requires no widening along eastbound East-West Highway. The installation of pull off areas / layover areas will require widening and potentially additional right-of-way dedication. In the event transit vehicles layover along the curb lane at the transit stop awaiting Purple Line patrons, vehicles will bypass the stopped transit vehicle by yielding into the left lane. Recommend no pull off / layover areas be provided along Riverdale Road, East-West Highway and Kenilworth Avenue.



Table IX-3 Intersection and Traffic Calming

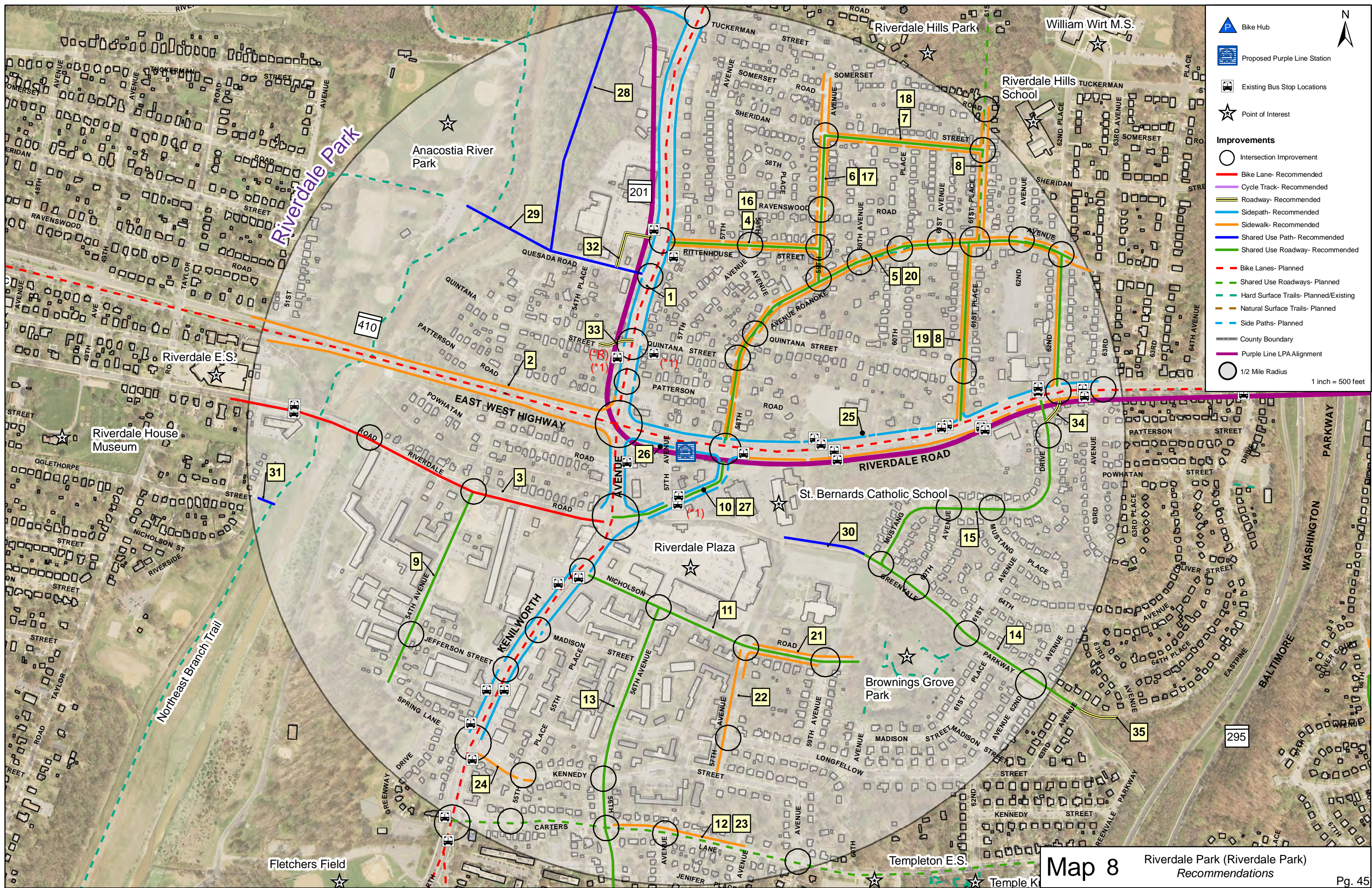
Improvements	Location	Description
Intersection/Entrance Improvements	All Signalized Intersections	<ul style="list-style-type: none"> <li>• Provide a leading pedestrian interval for right turning vehicles.</li> <li>• Provide pedestrian countdown signals.</li> <li>• Verify all signals are properly timed and meet the current pedestrian crossing standards.</li> <li>• Verify ADA access to all pedestrian push buttons.</li> </ul>
	Kenilworth Ave. from Rittenhouse St. to Carters Ln. (11 intersections)	<ul style="list-style-type: none"> <li>• Widen and extend the median noses further into the intersection to create pedestrian refuge areas.</li> <li>• Install new ADA sidewalk ramps, crosswalks and crossing signage.</li> <li>• Upgrade entrances with ADA standard sidewalk ramps or aprons.</li> </ul>
	East-West Hwy./Riverdale Road from 58 <sup>th</sup> Ave. to 62 <sup>nd</sup> Pl. (3 Intersections)*	<ul style="list-style-type: none"> <li>• Upgrade the intersections with new ADA sidewalk ramps.</li> <li>• Upgrade entrances with ADA standard aprons.</li> <li>• Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	Riverdale Rd. from Tanglewood Ave. to 54 <sup>th</sup> Ave. (2 Intersections)	
	54 <sup>th</sup> Ave./Jefferson St.	
	58 <sup>th</sup> Ave./Roanoke Ave. from East-West Hwy to 62 <sup>nd</sup> Ave. (9 intersections)	
	59 <sup>th</sup> Ave. from Rittenhouse St. to Sheridan St. (2 intersections)	
	61 <sup>st</sup> Pl. from Quintana St. to Somerset Road (3 Intersections)	
	Nicholson St. from 56 <sup>th</sup> Ave. to 59 <sup>th</sup> Ave. (3 intersections)	
	Kennedy St. from 55 <sup>th</sup> Pl. to 56 <sup>th</sup> Ave. (2 intersections)	
	Carters Ln. from 55 <sup>th</sup> Pl. to 59 <sup>th</sup> Ave. (5 intersections)	
	Longfellow St. from 57 <sup>th</sup> Ave. to 62 <sup>nd</sup> Ave. (4 intersections)	
	Mustang Drive from Greenvale Pkwy to Patterson St. (4 intersections)	
Greenvale Pkwy. From 60 <sup>th</sup> Ave. to 62 <sup>nd</sup> Ave. (4 intersections)		
Traffic Calming	Carters Ln.	Provide curb extensions at intersections where on-street parking is provided.
	Nicholson St.	
	54 <sup>th</sup> Ave.	
	56 <sup>th</sup> Ave.	
	61 <sup>st</sup> Pl.	
	Mustang Dr.	
	Riverdale Rd. (West of Kenilworth Ave.)	Designate as a bicycle boulevard with a 20 mph posted speed.

\*Portions of the improvement to be completed by Purple Line Project.

Riverdale Park Station Recommendations

- Provide a ADA compatible ramp/elevator for bicycle and pedestrian access to the elevated station structure from street level.
- Provide oversized crosswalks at the Kenilworth Avenue/ East-West Highway Intersection.
- Provide covered bicycle parking and lockers.





**Legend**

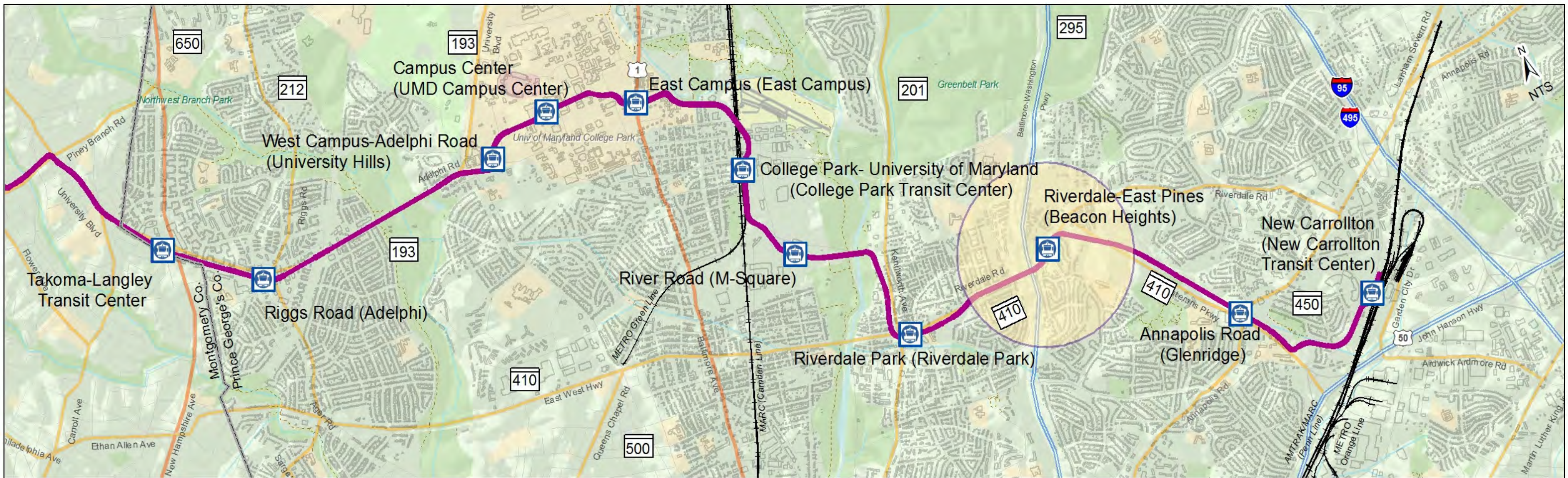
- Bike Hub
- Proposed Purple Line Station
- Existing Bus Stop Locations
- Point of Interest

**Improvements**

- Intersection Improvement
- Bike Lane- Recommended
- Cycle Track- Recommended
- Roadway- Recommended
- Sidepath- Recommended
- Sidewalk- Recommended
- Shared Use Path- Recommended
- Shared Use Roadway- Recommended
- Bike Lanes- Planned
- Shared Use Roadways- Planned
- Hard Surface Trails- Planned/Existing
- Natural Surface Trails- Planned
- Side Paths- Planned
- County Boundary
- Purple Line LPA Alignment
- 1/2 Mile Radius

1 inch = 500 feet





# SECTION X – RIVERDALE – EAST PINES (BEACON HEIGHTS)



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*





**SECTION X – RIVERDALE-EAST PINES (BEACON HEIGHTS)**

**Existing Conditions**

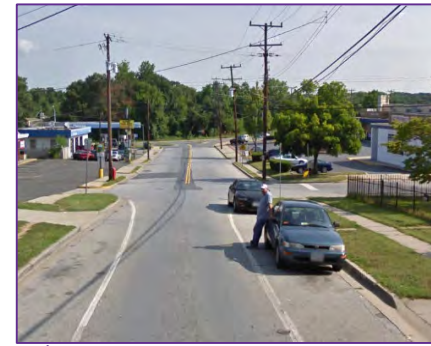
The proposed Riverdale-East Pines (Beacon Heights) station is located on the south side of Riverdale Road (MD 410) between 67<sup>th</sup> Avenue and 67<sup>th</sup> Place. The station is located within some smaller commercial businesses, but the majority of the surrounding area is mainly residential.

The following is a brief description of the roadways within the approximate one-half mile radius of the proposed station:

**Riverdale Road (MD 410)** is a two-lane primary road (County) with no median and no shoulder that runs in an east-west direction from Baltimore Avenue to Annapolis Road. Sidewalks (with not buffer) are present on the both sides except along the south side between 67<sup>th</sup> Avenue and 67<sup>th</sup> Place. Left turn lanes are provided at all the intersections and right turn channelization is provided at the intersection with Veterans Parkway and B-W Parkway. Crosswalks are provided at intersections where crossing is allowed and pedestrian signals and buttons are present at some of the signalized intersections.

**Veterans Parkway (MD 410)** is a four-lane divided arterial roadway with a grassed median and shoulders that runs in a north-south direction from Riverdale Road to Pennsy Drive. No sidewalks are present along the roadway, but crosswalks and pedestrian signals and pushbuttons are provided at the intersection with Riverdale Road.

**Other residential streets** such as 62<sup>nd</sup> Place, Roanoke Avenue, Eastpine Drive, Auburn Avenue and those in the Beacon Heights Community are two-lane roadways with the majority missing sidewalk, provide on-street parking, and crosswalks generally missing at the intersections. 66<sup>th</sup> Avenue and 67<sup>th</sup> Avenue are one-way streets.



66<sup>th</sup> Avenue at Patterson Street intersection facing north



Furman Parkway south of Ingraham Street facing south



Beacon Light Road at Furman Parkway intersection facing northwest



Auburn Avenue north of Riverdale Road intersection facing south



Patterson Street at 67<sup>th</sup> Avenue intersection facing east



Riverdale Road east of Auburn Avenue facing west



Riverdale Road west of Baltimore-Washington Parkway overpass facing east



Eastpine Drive south of Riverdale Road intersection facing north



Riverdale Road at Veterans Parkway intersection facing northeast



Veterans Parkway southeast of Riverdale Road intersection facing northwest



67<sup>th</sup> Avenue west of 66<sup>th</sup> Avenue facing east



Ingraham Street west of Beacon Place facing east

**Access Design and Planning Opportunities and Challenges**

The following sections describes the design and planning opportunities and challenges for providing sufficient access for pedestrians and bicycles within the half-mile radius of the proposed Purple Line station based on the field audit.

**Opportunities**

- The newly acquired right-of-way for the Purple Line alignment along the south side of Riverdale Road and west side of Veterans Parkway will allow for opportunities to construct new pedestrian/bicycle facilities.
- The new Purple Line station creates a pedestrian and bicycle destination.
- Opportunity to provide better connections to local schools, parks, community centers and other places of interest.
- Underutilized East Pines Shopping Center presents an opportunity for redevelopment near the proposed Purple Line LPA Station.

**Challenges**

- Heavy traffic volumes and high speeds on Riverdale Road/Veterans Highway (MD 410).
- The presence of the Purple Line station will increase pedestrian and bicycle volumes at nearby intersections and create additional safety challenges.
- The commercial areas along the south side of Riverdale Road west of Veterans Highway and along the north side of Riverdale Road east of Veterans Highway contain some large block commercial development with large parking lots and buildings set back away from the roadway. Some of these properties have no designated passageways in the back or through the parking lots, which creates longer travel distances around the properties for pedestrians.



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

- Connectivity.
  - The quality of sidewalk networks vary from street to street. Many of the neighborhoods have very few sidewalks.
  - Few connections for institutional users and between adjacent neighborhoods.
  - Disconnected neighborhoods due to cul-de-sac street layouts, such as the East Pines and Beacon Heights communities.
  - Physical barriers such as the high speed freeways (B-W Parkway and Veterans Highway).

## Recommended Improvements

### Pedestrian and Bicycle Access

The Riverdale Road Station Platform is proposed in the southeast quadrant of the intersection of Riverdale Road at 67<sup>th</sup> Avenue, ground level. A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the proposed station. Potential pedestrian and bicycle improvements are summarized in the table below and on **Map 9**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table X-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description
Bike Lanes	1	Riverdale Rd. from 67 <sup>th</sup> Ave. to Veterans Pkwy. (South Side)	Provide 5' minimum striped/directional on-road bike lanes.
	2	Veterans Pkwy. (MD 410)	
Shared Use Roadway	3	Eastpine Dr.	Designate as bicycle routes as shared-use roadways by providing "Share the Road" signage and thermoplastic pavement "sharrow" decals.
	4	Roanoke Ave.	
	5	62 <sup>nd</sup> Pl.	
	6	66 <sup>th</sup> Ave.	
	7	67 <sup>th</sup> Ave.	
	8	67 <sup>th</sup> Pl.	
	9	Patterson St. (67 <sup>th</sup> Pl. to 67 <sup>th</sup> Ave.)	
	10	Beacon Light Rd. (Patterson St. to Furman Pkwy.)	
	11	Furman Pkwy.	
	12	Ingraham St.	
	13	Auburn Ave.	
14	Riverdale Rd. (East of Veterans Pkwy.)		
+Sidewalk	15	Eastpine Dr. from Riverdale Rd. to 63 <sup>rd</sup> Ave. (East and West Sides)	Reconstruct existing narrow sidewalk (less than 4' wide) and construct missing sidewalk links with 5' sidewalk and vegetated buffer.
	16	62 <sup>nd</sup> Pl. from Riverdale Rd. to Tuckerman St. (East and West Sides where missing)	
	17	Roanoke Ave. from 61 <sup>st</sup> Pl. to 63 <sup>rd</sup> Pl. (South Side)	
	18	67 <sup>th</sup> Ct. from Riverdale Rd. to parking lot (East and West Sides)	
	19	Fernwood Terr. Riverdale Rd. to parking lot (East and West Sides)	

Improvements	Map Key	Location	Description
+Sidewalk (Cont.)	20	66 <sup>th</sup> Ave. from Patterson St. to 67 <sup>th</sup> Ave. (East and West Sides)	Reconstruct existing narrow sidewalk (less than 4' wide) or construct missing sidewalk links with 5' sidewalk and vegetated buffer.
	21	67 <sup>th</sup> Ave. from Patterson St. to Ingraham St. (East and West)	
	22	Patterson St. from 67 <sup>th</sup> Ave. to 67 <sup>th</sup> Pl. (North and South Sides)	
	23	67 <sup>th</sup> Pl. from Riverdale Rd. to Patterson St. (East and West Sides)	
	24	Riverdale Rd. from 67 <sup>th</sup> Ave. to Veterans Pkwy. (South Side)	
+Sidepath	25	Riverdale Rd. from 62 <sup>nd</sup> Pl./Mustang Dr. to Auburn Ave. (North Side)	Construct an 8' sidepath with a vegetated buffer.
	26	Riverdale Rd. from 62 <sup>nd</sup> Pl./Mustang Dr. to 67 <sup>th</sup> Ave. (South Side)	
Way-finding Signage			Install way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station, Riverdale Hills and Windercroft Schools, Beacon Heights Elementary School, William Wirt Middle School, Glenridge Recreation Center, and other local parks.
Bike Racks			Provide inverted-U bike racks on sidewalks as needed on key sites including retail, commercial, and restaurant blocks.
Lighting			Enhance street lighting along Riverdale Rd., 62 <sup>nd</sup> Pl., Eastpine Dr., 66 <sup>th</sup> Ave., 67 <sup>th</sup> Ave., 67th Pl., Patterson St., Beacon Light Rd., Furman Pkwy., and Auburn Ave.

+Improvement may require additional right-of-way or a public access easement beyond that required for the Purple Line construction.

### Bus and Shuttle Access

A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below. Existing bus stop locations closest to the proposed platform:

**Table X-2 Bus and Shuttle Access**

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
Westbound	Riverdale Road	120	1	F4,F6,84
Eastbound	Riverdale Road	450	0(*1)	F4,F6,84
Westbound	Riverdale Road	330	0(*1)	F4,F6,84
Eastbound	Riverdale Road	260	0(*1)	F4,F6,84

(\*R) = Recommend Relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

**Recommendations for the relocation of bus stops:** Consideration should be given to relocating existing bus stops to new locations within 500 Feet of the new Purple Line LPA Station platform. (\*R)

**Recommendations for proposed bus shelter locations:** Recommend the installation of 1 new bus stop shelter at each location above marked by (\*1)

**Layover area requirements:** The new platform installation requires no widening along Riverdale Road. The installation of pull off areas / layover area will require widening and potentially additional right-of-way dedication. In the event transit vehicles layover along the curb lane at the transit stop awaiting Purple Line patrons, vehicles will bypass the stopped transit vehicle by yielding into the left lane. Recommend no pull off / layover areas be provided along Riverdale Road.

**Table IX-3 Intersection and Traffic Calming**

Improvements	Location	Description
Intersection/Entrance Improvements	All Signalized Intersections	<ul style="list-style-type: none"> <li>Provide a leading pedestrian interval for right turning vehicles.</li> <li>Provide pedestrian countdown signals.</li> <li>Verify all signals are properly timed and meet the current pedestrian crossing standards.</li> <li>Verify ADA access to all pedestrian push buttons.</li> </ul>
	*Riverdale Rd. (MD 410) from 62 <sup>nd</sup> Pl. to Veterans Pkwy (11 Intersections, 7 Entrances)	<ul style="list-style-type: none"> <li>Upgrade the intersections with new ADA sidewalk ramps.</li> <li>Upgrade entrances with ADA standard aprons.</li> <li>Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	Riverdale Rd. from Veterans Pkwy to east of Auburn Ave. (1 Intersection, 10 Entrances)	
	Eastpine Dr. from 63 <sup>rd</sup> Ave. to Riverdale Rd. (4 Intersections)	
	62 <sup>nd</sup> Pl. from Riverdale Rd. to William Wirt MS (2 Intersections)	
	Auburn Ave. from Zook Pl. to Riverdale Rd. (2 Intersections, 5 Entrances)	
	66 <sup>th</sup> Ave. from Riverdale Rd. to 67 <sup>th</sup> Ave. (4 Intersections, 6 Entrances)	
	67 <sup>th</sup> Ave. from Riverdale Rd. to Ingraham St. (3 Intersections, 5 Entrances)	
	Ingraham St. from 67 <sup>th</sup> Ave. to Furman Pkwy (5 Intersections)	
	Furman Pkwy from Beacon Light Rd. to Greenland St. (5 Intersections)	
	67 <sup>th</sup> Pl. from Riverdale Rd. to Patterson St. (1 Intersection, 1 Entrance)	
	Patterson St. from 67 <sup>th</sup> Ave. to Beacon Light Rd. (1 Intersection)	
Traffic Calming	62 <sup>nd</sup> Pl.	
	Eastpine Dr.	
	66 <sup>th</sup> Ave.	
	67 <sup>th</sup> Ave.	
	67 <sup>th</sup> Pl.	
	Patterson St.	
	Beacon Light Rd.	

Improvements	Location	Description
Traffic Calming (Cont.)	Furman Pkwy.	Provide curb extensions at intersections where on-street parking is provided.
	Auburn Ave.	

\*Portions of the improvement to be completed by Purple Line Project.

## Riverdale –East Pines (Beacon Heights) Station Recommendations

- Provide a minimum 10' wide bicycle/pedestrian travel way adjacent to the station.
- Provide an oversized cross walk for Riverdale Road at the intersection with 67<sup>th</sup> Court/67<sup>th</sup> Avenue.
- Provide covered bicycle parking and lockers.

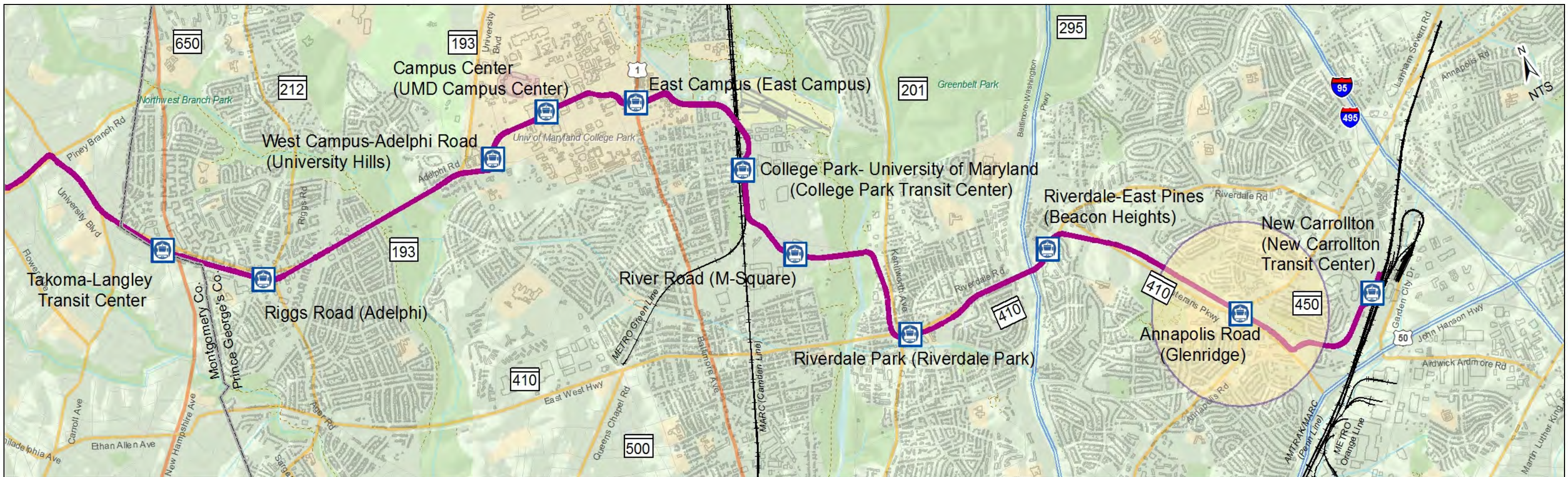




- Bike Hub
- Proposed Purple Line Station
- Existing Bus Stop Locations
- Point of Interest
- Improvements**
- Intersection Improvement
- Bike Lane- Recommended
- Cycle Track- Recommended
- Roadway- Recommended
- Sidepath- Recommended
- Sidewalk- Recommended
- Shared Use Path- Recommended
- Shared Use Roadway- Recommended
- Bike Lanes- Planned
- Shared Use Roadways- Planned
- Hard Surface Trails- Planned/Existing
- Natural Surface Trails- Planned
- Side Paths- Planned
- County Boundary
- Purple Line LPA Alignment
- 1/2 Mile Radius

1 inch = 500 feet





## SECTION XI – ANNAPOLIS ROAD (GLENRIDGE)



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*



## SECTION XI – ANNAPOLIS ROAD (GLENRIDGE)

### Existing Conditions

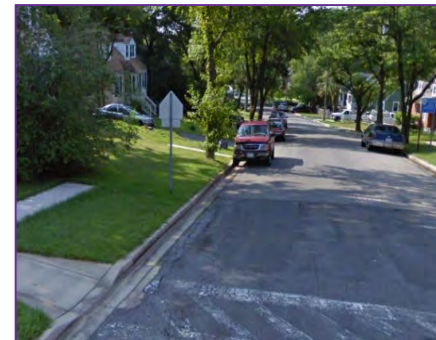
The proposed Annapolis Road Purple Line station is to be located on the west side of the intersection of Annapolis Road and Veterans Parkway. This station location falls within the boundary of the Central Annapolis Road Preliminary Sector Plan. Currently, immediate to the station location and along Annapolis Road are low density commercial parcels with low density residential properties on the side streets beyond Annapolis Road. There are several schools (Ascension Lutheran, Glenridge Elementary, St. Mary’s Catholic, and Woodridge Elementary) within walking distance of the proposed station.

The following is a brief description of the roadways within the approximate one-half mile radius of the proposed station:

**Annapolis Road (MD 450)** is a six-lane divided arterial roadway with a median and narrow shoulders that runs in an east-west direction from Landover Road to Martin Luther King Jr. Highway. Left turn lanes are provided at all the intersections and right turn channelization is provided at the intersection with Veterans Parkway. Sidewalks (with no buffer) is provided on both sides of the roadway, cross walks are provided at the signalized intersection, and parking is prohibited.

**Veterans Parkway (MD 410)** is a four-lane divided arterial roadway with a grassed median and shoulders that runs in a north/south direction from Riverdale Road to Pennsy Drive. No sidewalks are present along the roadway, but cross walks are provided at the intersection with Annapolis Road.

**Other streets** such as Chesapeake Road, Buchanan Street, Gallatin Street, Ardwick-Ardmore Road, and 75<sup>th</sup> Avenue are located within residential communities. These streets are generally two-lane roadways with some sidewalk. Most of these streets have on-street parking.



73<sup>rd</sup> Avenue south of Buchanan Street facing south



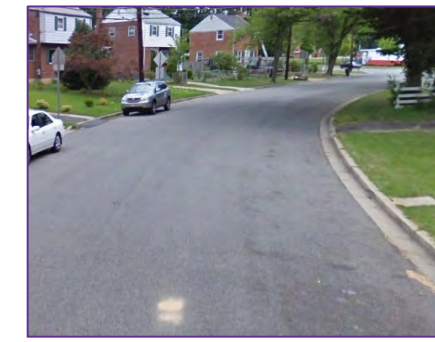
Gallatin Street at Glenridge Drive intersection facing southeast



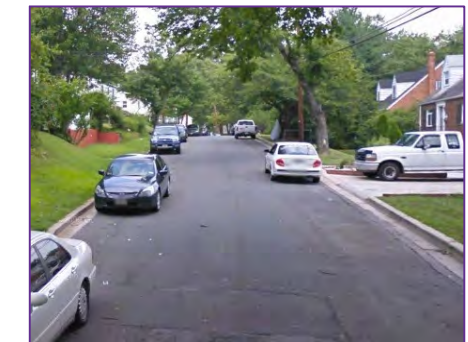
72<sup>nd</sup> Avenue north of Marywood Street facing north



Flintridge Drive at 70<sup>th</sup> Place intersection facing north



Greenvale Parkway northwest of Annapolis Road facing southeast



Varnum Street east of 74<sup>th</sup> Avenue facing east

### Access Design and Planning Opportunities and Challenges

The following sections describes the design and planning opportunities and challenges for providing sufficient access for pedestrians and bicycles within the half-mile radius of the proposed Purple Line station based on the Central Annapolis Road Preliminary Sector Plan and a field audit.

#### Opportunities

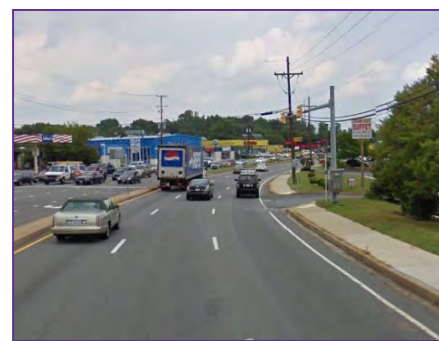
- There is excess capacity for vehicles on Annapolis Road to the west of Veterans Parkway. This allows the opportunity for reconfiguration of the Annapolis Road cross section for additional bicycle and pedestrian facilities without the need to acquire additional right of way.
- There is an existing network of parallel streets to Annapolis Road that can be utilized for bicycle routes to channel cyclists away from the high speed and volume vehicular traffic on Annapolis Road.
- There is an opportunity in conjunction with the Purple Line to create the Glenridge Transit Village. This would be a mixed-use development, less dense than the nearby New Carrollton Transit Center which be able to offer a neighborhood oriented and affordable mix of land uses including housing, offices, neighborhood serving retail and public spaces.

#### Challenges

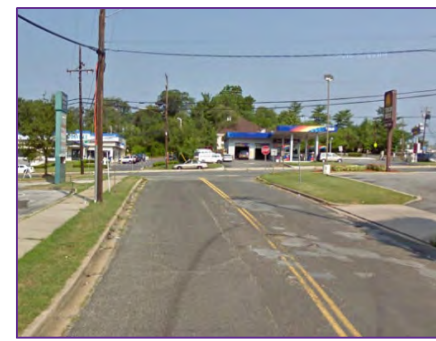
- Addressing the congestion at the intersection of Annapolis Road and Veterans Parkway to make the area around the station site safe and inviting for pedestrians and bicyclists accessing the station.
- Achieving community buy-in for the necessary improvements to make the community more walkable and bicycle oriented. Businesses will need to be sold on the benefits of reducing the curb cuts and placement of the parking behind the building. Residents will need to realize the benefits of the increase pedestrian and bicycle traffic through their community and the roadway realignments required in some areas near the station.



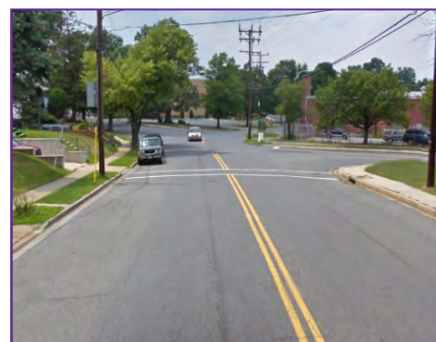
Veterans Parkway at Annapolis Road intersection facing south



Annapolis road east of Veterans Parkway facing east



Chesapeake Road at Annapolis Road intersection facing northwest



Ardwick-Ardmore Road at Buchanan Street intersection facing west



Buchanan Street south of Chesapeake Road facing south



75<sup>th</sup> Avenue at Allison Street intersection facing south



**Recommended Improvements**

**Pedestrian and Bicycle Access**

The Annapolis Road Station Platform is proposed under grade of the southwest leg of the intersection of Annapolis Road at Veterans Parkway. A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the proposed station. Potential pedestrian and bicycle improvements are summarized in the table below and on **Map 10**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table XI-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description
+Cycle Tracks	1	Annapolis Rd. from 65 <sup>th</sup> Ave. to Gallatin St.	Replace curb lane in each direction with 7' cycle tracks, vegetated buffer and 5' minimum sidewalk.
Bike Lanes	2	Veterans Pkwy.	Provide 5' minimum striped/directional on-road bike lanes.
Shared Use Roadway	3	Chesapeake Rd.	Designate as bicycle routes as shared-use roadways by providing "Share the Road" signage and thermoplastic pavement "sharrow" decals.
	4	Ardwick-Ardmore Rd.	
	5	Buchanan St.	
	6	75 <sup>th</sup> Ave.	
	7	72 <sup>nd</sup> Ave.	
	8	Gallatin St.	
	9	70 <sup>th</sup> Pl.	
	10	Flintridge Dr.	
	11	71 <sup>st</sup> Ave.	
	12	Greenvale Pkwy	
+Sidewalk	13	Finns Ln.	Reconstruct existing narrow sidewalk (less than 4' wide) or construct missing sidewalk links with 5' sidewalk and vegetated buffer.
	14	Chesapeake Rd. from Annapolis Rd. to Buchanan St. (East Side)	
	15	Ardwick-Ardmore Rd. from Buchanan St. to Veterans Pkwy. (Both Sides)	
	16	75 <sup>th</sup> Ave. from Ardwick-Ardmore Rd. to Parkwood St. (Both Sides)	
	17	72 <sup>nd</sup> Ave. from Annapolis Rd. to south of Varnum St. (Both Sides)	
	18	Gallatin St. from Annapolis Rd. to Glenridge Community Park (Both Sides)	
	19	70 <sup>th</sup> Pl. from Greenvale Pkwy. To Gallatin St. (Both Sides)	
	20	71 <sup>st</sup> Ave. from Greenvale Pkwy. To Flintridge Dr. (Both Sides)	
	21	Flintridge Dr. from 71 <sup>st</sup> Ave. to 70 <sup>th</sup> Pl. (Both Sides)	
	22	Greenvale Pkwy from Annapolis Rd. to 70 <sup>th</sup> Pl. (Both Sides)	
	23	Finns Ln. from Kidmore St. to north of Annapolis Rd. (West Side)	
	24	76 <sup>th</sup> Ave. from Jefferson St. to Ingraham St. (West Side)	

Improvements	Map Key	Location	Description
+Sidepath	25	Veterans Pkwy (East Side)	Construct 8' minimum sidepath with vegetated buffer.
	26	Annapolis Rd. from Gallatin St. to Garrison Rd.	
	27	73 <sup>rd</sup> Ave.	
+Shared Use Path	28	*From Parkwood Street along the sound barrier to Veterans Pkwy/Ellin Rd	Construct an 8' shared use path.
	29	Veterans Pkwy to Recreation Center	
	30	Veterans Pkwy at Ellin Rd.	Construct a bridge or tunnel to cross Veterans Pkwy.
+New Roadway	31	Chesapeake Rd	Reconfigure Chesapeake Rd to line up with Gallatin Street at Annapolis Road to provide a safer intersection and crossing.
	32	70 <sup>th</sup> Pl.	Extend 70 <sup>th</sup> Pl. to Gallatin St. as a new roadway or shared use path.
Way-finding Signage			Install way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station,
Bike Racks			Provide inverted-U bike racks on sidewalks as needed on key sites including retail, commercial, and restaurant blocks.
Lighting			Enhance street lighting along Annapolis Rd., Gallatin St., Greenvale Pkwy, 70 <sup>th</sup> Pl., 71 <sup>st</sup> Ave, 75 <sup>th</sup> Ave., and Buchanan St.

+Improvement may require additional right-of-way or a public access easement beyond that required for the Purple Line construction.

**Bus and Shuttle Access**

A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below. Existing bus stop locations closest to the proposed platform:

**Table XI-2 Bus and Shuttle Access**

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
Westbound	Veterans Pkwy.	-	-	
Eastbound	Veterans Pkwy.	-	-	
Westbound	Veterans Pkwy.	-	-	
Eastbound	Veterans Pkwy.	-	-	
Northbound	Annapolis Road	375	0(*1)	T18
Southbound	Annapolis Road	300	0(*1)	T18
Northbound	Annapolis Road	275	0(*1)	T18
Southbound	Annapolis Road	450	0(*1)	T18

(\*R) = Recommend Relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.

**Recommendations for the relocation of bus stops:** Consideration should be given to relocating existing bus stops to new locations within 500 Feet of the new Purple Line LPA Station platform. (\*R)



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

**Recommendations for proposed bus shelter locations:** Recommend the installation of 1 new bus stop shelter at each location above marked by (\*1)

**Layover area requirements:** The new platform installation requires a retaining wall along the southwest side of Veterans Parkway at Annapolis Road. The installation of pull off areas / layover area will require additional widening and potentially additional right-of-way dedication. Recommend no pull off / layover areas be provided along Veterans Parkway and Annapolis Road.

- At either end of this travel way, provide a 10’–12’ ADA compliant bicycle and pedestrian routes for direct access to the Annapolis Road./Veterans Parkway intersection. Non-stair access to the street can be provided as part of the property redevelopment.
- Provide covered bicycle parking and lockers.
- Study the feasibility of providing a future bicycle/pedestrian tunnel under Veterans Parkway.
- Consider establishing the Glenridge Transit Village as recommended in the Sector Plan as development progresses.
- Consider implementing one of the security strategies, such as the “lantern” glass enclosure, as recommended in the Sector Plan.

**Table XI-3 Intersection and Traffic Calming**

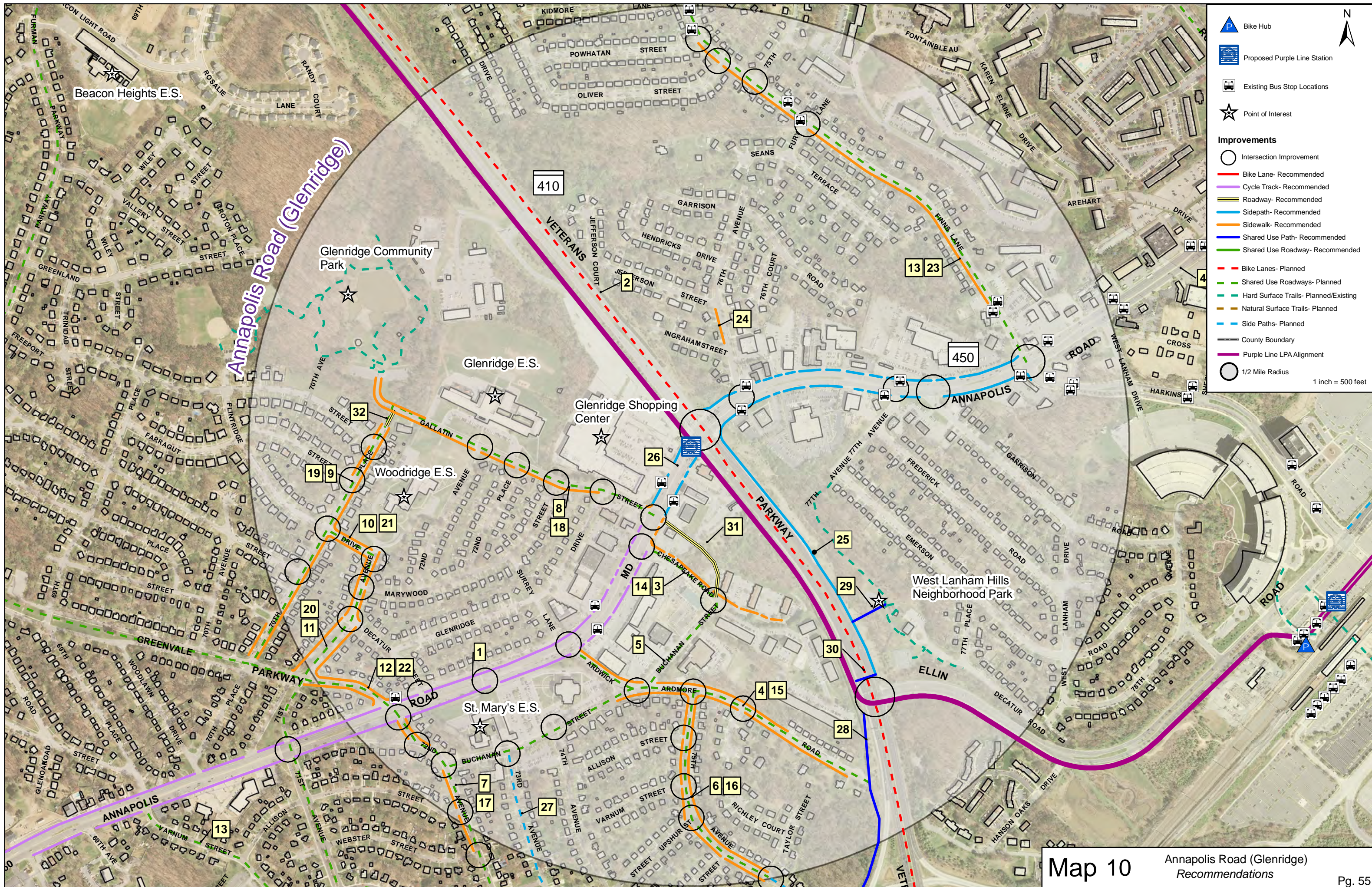
Improvements	Location	Description
Intersection/Entrance Improvements	All Signalized Intersections	<ul style="list-style-type: none"> <li>• Provide a leading pedestrian interval for right turning vehicles.</li> <li>• Provide pedestrian countdown signals.</li> <li>• Verify all signals are properly timed and meet the current pedestrian crossing standards.</li> <li>• Verify ADA access to all pedestrian push buttons.</li> </ul>
	*Annapolis Rd. from 71 <sup>st</sup> Ave. to Veterans Prwy. (10 Intersections, 30 Entrances)	<ul style="list-style-type: none"> <li>• Annapolis Rd. - Reduce the number of curb cuts for business entrances and reconfigure parking for access from the rear of the businesses.</li> <li>• Upgrade the intersections with new ADA sidewalk ramps.</li> <li>• Upgrade entrances with ADA standard aprons.</li> <li>• Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	Gallatin St. from Annapolis Rd. to 72 <sup>nd</sup> Ave. (4 Intersections, 3 Entrances)	
	Chesapeake Rd. from Annapolis Rd. to east of Buchanan St. (1 Intersection, 7 Entrances)	
	Ardwick-Ardmore Rd. from Annapolis Rd. to Richley Ct. (4 Intersections, 3 Entrances)	
	Buchanon St. from 72 <sup>nd</sup> Ave. to Chesapeake Rd. (3 Intersections, 3 Entrances)	
	75 <sup>th</sup> Ave. from Ardwick-Ardmore Rd. to Taylor St. (5 Intersections)	
	72 <sup>nd</sup> Ave. from Annapolis Rd. to Weber St. (3 Intersections)	
	70 <sup>th</sup> Pl. from Greenvale Pkwy. to Freeport St. (4 Intersections)	
71 <sup>st</sup> Ave. from Greenvale Pkwy. to Flintridge Dr. (4 Intersections)		
Traffic Calming	Annapolis Rd. at Varnum Rd. and St. Mary’s Catholic School	Install new pedestrian-activated crosswalk (high-intensity activated crosswalk, HAWK)
	Greenvale Pkwy.	Provide curb extensions at intersections where on-street parking is provided.
	70 <sup>th</sup> Pl.	
	71 <sup>st</sup> Ave.	
	75 <sup>th</sup> Ave.	
Buchanan St.		

\*Portions of the improvement to be completed by Purple Line Project.

## Annapolis Road (Glenridge) Station Recommendations

- Provide a minimum 10’ wide bicycle/pedestrian travel way adjacent to the station platforms to make a through movement under Annapolis Road.

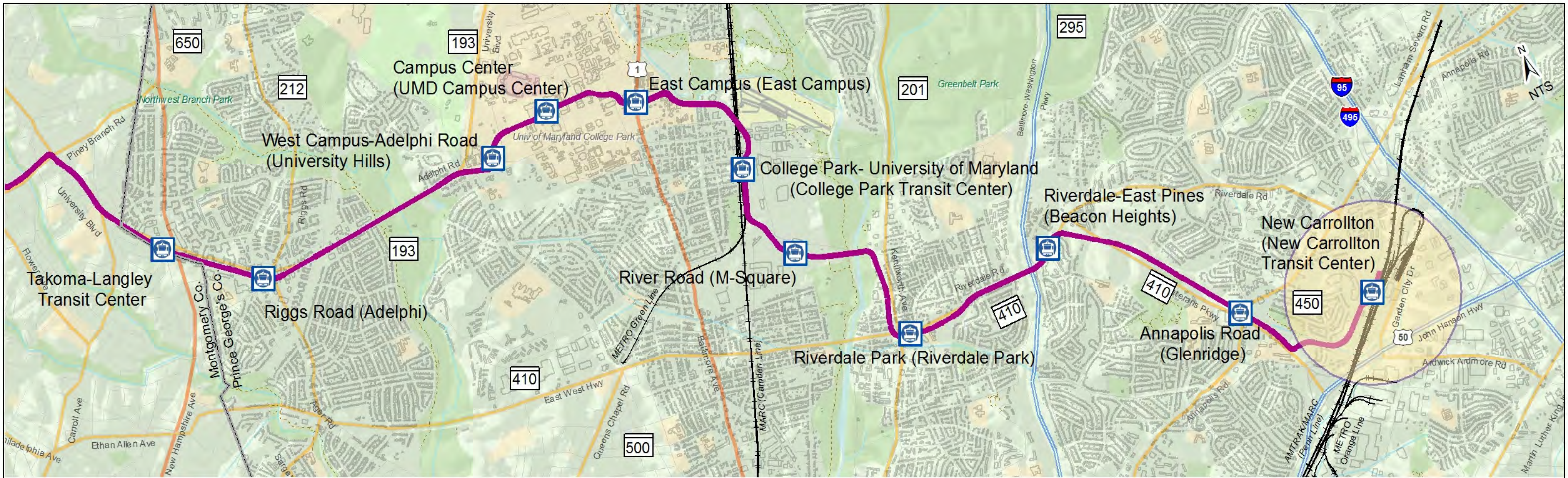




- Bike Hub
  - Proposed Purple Line Station
  - Existing Bus Stop Locations
  - Point of Interest
- Improvements**
- Intersection Improvement
  - Bike Lane- Recommended
  - Cycle Track- Recommended
  - Roadway- Recommended
  - Sidepath- Recommended
  - Sidewalk- Recommended
  - Shared Use Path- Recommended
  - Shared Use Roadway- Recommended
  - Bike Lanes- Planned
  - Shared Use Roadways- Planned
  - Hard Surface Trails- Planned/Existing
  - Natural Surface Trails- Planned
  - Side Paths- Planned
  - County Boundary
  - Purple Line LPA Alignment
  - 1/2 Mile Radius
- 1 inch = 500 feet

Map 10





# SECTION XII – NEW CARROLLTON TRANSIT CENTER



*CORRIDOR ACCESS STUDY (CAST)  
RECOMMENDATIONS REPORT*

*JUNE 2011*





## SECTION XII – NEW CARROLLTON TRANSIT CENTER

### Existing Conditions

The proposed New Carrollton Transit Center Purple Line LPA Station is to be located adjacent to the existing Metro/MARC/AMTRAK station in New Carrollton. This station is located within the New Carrollton Transit District which currently contains mid to high-density commercial development adjacent to the transit center transitioning out to low to mid-density commercial nearby. To the west there are some low density residential uses and to the south there are existing low density industrial parcels.

The New Carrollton Station location is served by a fairly extensive road network providing connections in all directions. The Capital Beltway is just to the east of the station site and can be accessed by local connecting roads. To the south vehicles are able to access the station from John Hanson Highway through a local road connection. From the east, Veterans Highway provides by using Ellin Road to connect to the station. And from the north on Annapolis Road users can approach the station from the north utilizing local connecting roads. The following is a brief description of the local roadways within the approximate one-half mile radius of the proposed station:

**Annapolis Road (MD 450)** is a six-lane divided arterial roadway with a median and narrow shoulders that runs in an east/west direction from Landover Road to Martin Luther King Jr. Highway. Left turn lanes are provided at all the intersections and right turn channelization is provided at the intersection with Veterans Parkway. Sidewalks (with no buffer is provided on both sides of the roadway, cross walks are provided at the signalized intersection, and parking is prohibited.

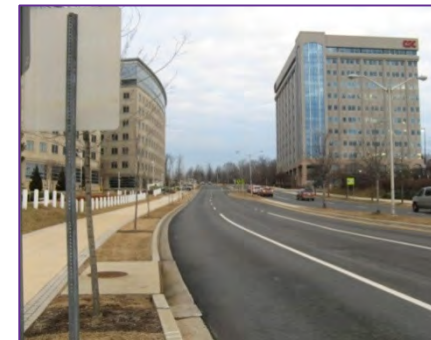
**Ellin Road** is a four-lane divided roadway with a wide grassed median and narrow shoulders running in an east/west direction from Veterans Parkway to 85<sup>th</sup> Avenue adjacent to the New Carrollton Station. Sidewalk is provided along the south side of the roadway and cross walks are provided at most of the intersection. A pedestrian bridge is provided linking the IRS building with the station.

**Harkins Road** is a four-lane divided roadway with a wide grassed median and no shoulders running in a north/south direction from Annapolis Road to Ellin Road. A sidepath or sidewalk is provided along both sides of the roadway and cross walks are provided at most of the intersection. A pedestrian bridge is provided linking the IRS building with the station.

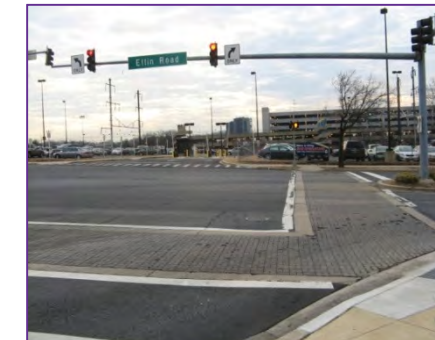
**Harkins Road** is a four-lane divided roadway with a wide grassed median and no shoulders running in a north/south direction from Annapolis Road to Ellin Road. A sidepath or sidewalk is provided along both sides of the roadway and cross walks are provided at most of the intersections. A pedestrian bridge is provided linking the IRS building with the station.

**Garden City Drive** is a three to four-lane undivided roadway with a wide grassed median and some shoulders running in a north/south direction linking the station to US 50. Sidewalk is provided along both sides of the roadway and cross walks are provided at most of the intersections.

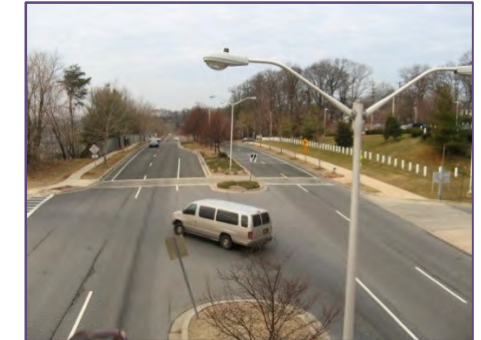
**Other streets** such as Pennsy Drive, Corporate Drive, Professional Place, Cobb Road, Ardwick-Ardmore Road are located within the business district near the station, while other streets such as 85<sup>th</sup> Avenue, Garrison Road and Emerson Place are located within residential communities. These streets are generally two-lane roadways with some sidewalk. Some of the residential streets have on-street parking.



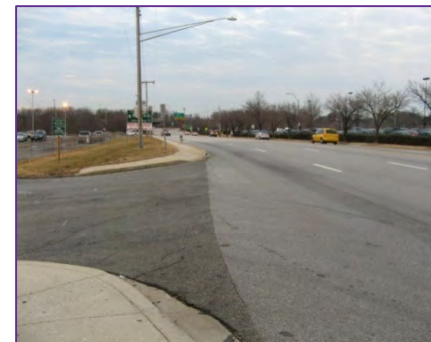
Hankins Road northwest of Ellin Road facing northwest



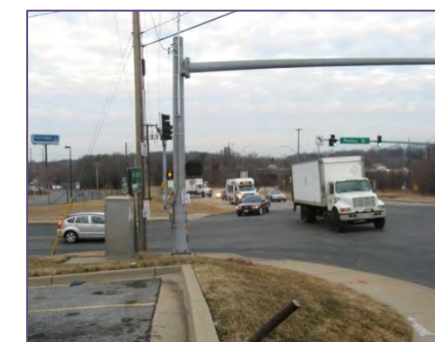
Hankins Road at Ellin Road intersection facing southeast



Facing southwest along Ellin Road from pedestrian bridge



Professional Place at Garden City Drive intersection facing southeast



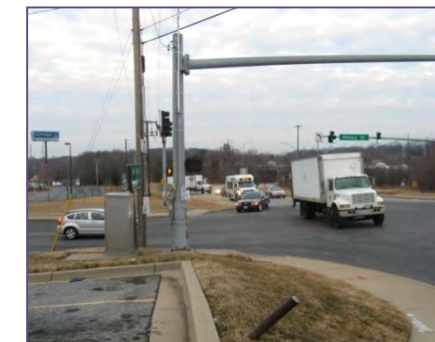
Garden City Drive northeast of Professional Place facing northeast



Pennsy Drive southwest of Corporate Drive facing southwest towards US 50



Professional Place at Garden City Drive intersection facing southeast



Ardwick-Ardmore Road at Pennsy Road intersection facing west



Existing pedestrian bridge linking IRS Building and New Carrollton Transit Station



Cobb Road north of Corporate Drive facing south



Emerson Road at 78<sup>th</sup> Avenue intersection facing east



Garrison Road west of 78<sup>th</sup> Avenue facing west



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## Access Design and Planning Opportunities and Challenges

The following sections describes the design and planning opportunities and challenges for providing sufficient access for pedestrians and bicycles within the half-mile radius of the proposed Purple Line station based on the New Carrollton Preliminary District Transit Development Plan, the New Carrollton interim Pedestrian Improvements Study and a field audit.

### Opportunities

- The New Carrollton Transit Center contains not only the Purple Line station but also serves the Metrorail Orange Line and at the station with AMTRAK service. Currently three different bus operators with a total of 25 different routes service this location. This will make this transit center ideal for local and long distant multimodal connections.
- The Purple Line will enhance the New Carrollton Transit Center as a pedestrian destination.
- With the variety of connections, the transit center would be an ideal location of commercial services catering to commuters and other users directly adjacent to the center.
- Plan access and new joint development with the planned extension of Metrorail Orange Line to Bowie Town Center. As the Orange Line is extended New Carrollton will no longer be the end of line station enabling possible new utilizations of the existing parking inventory.
- Development of a bicycle hub within the transit center similar to the facility at Union Station in Washington, DC. The bicycle hub will not only offer a secure parking location for bike commuters but could also provide changing rooms, bike rentals, repairs and retail sales. This would be an asset in drawing in bicycle commuters onto the Purple Line.

### Challenges

- The chief planning challenge for access is the existing multilane roadways within the walkable zone to the transit center. The Capital Beltway is a barrier to the east, US Route 50 a barrier to the south, and Veterans Parkway a barrier to the west.
- Another physical barrier is the AMTRAK and Metro train tracks that bisect the area around the transit center. Creating additional crossings to the north and south of the transit center will improve the overall accessibility within the core areas. Options should be explored to shift the existing Metro yard closer to the new terminal station and utilizing the existing yard at New Carrollton for dense transit oriented development.
- The incorporation of more transit oriented development near the transit center. There are opportunities to redevelop some of the low density residential and light industrial facilities to medium/high density uses. This redevelopment will need to fit within the framework of the Preliminary Transit District and Development Plan for New Carrollton.

## Recommended Improvements

### Pedestrian and Bicycle Access

A field audit was performed on selected pedestrian/bicycle access routes within a half-mile radius of the proposed Purple Line station near the New Carrollton Metro Station. Potential pedestrian and bicycle improvements are summarized in the table below and on **Map 11**. Additional feasibility, traffic, and other studies will be necessary to finalize any improvement plans.

**Table XII-1 Pedestrian and Bicycle Access**

Improvements	Map Key	Location	Description
Bike Lanes	1	Ellin Rd.	Reconstruct the outside curb lane in each direction to provide 5' striped/directional on-road bike lanes.
	2	85 <sup>th</sup> Ave.	
	3	Ardwick Ardmore Rd.	
	4	Garden City Dr.	
	5	Corporate Dr.	
	6	Professional Pl.	
	7	Cobb Rd.	
Shared Use Roadway	8	Harkins Rd.	Designate as bicycle routes as shared-use roadways by providing "Share the Road" signage and thermoplastic pavement "sharrow" decals.
	9	Riverdale Rd.	
	10	Garrison Rd.	
	11	Emerson Pl.	
+Sidewalk	12	Garrison Rd. from Annapolis Rd. to Emerson Pl. (Both Sides)	Reconstruct existing narrow sidewalk (less than 4' wide) and construct missing sidewalk links with 5' sidewalk and vegetated buffer.
	13	Emerson Pl. from 78 <sup>th</sup> Ave. to Ellin Rd. (West Side)	
	14	Ardwick-Ardmore Rd. from Lottsford Vista Rd. to Pennsy Dr. (Both sides)	
+Sidepath	15	Annapolis Rd. (Both sides)	Construct 8' minimum sidepath with vegetative buffer.
	16	Ellin Rd. from Veterans Pkwy. to Station (Both Sides)	
	17	85 <sup>th</sup> Ave. from Elin Rd. to Annapolis Rd. (Both Sides)	
	18	Harkins Rd. (East Side)	
	19	Garden City Dr.	
	20	Pennsy Dr.	
	21	Corporate Dr. from Garden City Dr. to Pennsy Dr.	
+Shared Use Path	22	Ellin Rd. to Recreation Center	Construct an 8' minimum shared use path.
	23	Capital Beltway	Construct a pedestrian bridge over the Capital Beltway from Garden City Drive to the Whitfield Chapel Park vicinity.
Lighting	Enhance street lighting along Annapolis Rd., Ellin Rd., 85 <sup>th</sup> Ave., Harkins Rd., Garrison Rd. and Emerson Pl.		
Way-finding Signage	Install way-finding signs along pedestrian and bicycle routes to various destinations such as the Purple Line station, MARC/Amtrak station, Greyhound bus station, IRS building, local schools and parks.		
Bike Racks	Provide inverted-U bike racks on sidewalks as needed on key sites including retail, commercial, and restaurant blocks.		

<sup>+</sup>Improvement may require additional right-of-way or a public access easement beyond that required for the Purple Line construction.



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## Bus and Shuttle Access

The New Carrollton Station Platform is proposed within the existing station at Harkins Road, ground level. A field audit was performed along current bus and shuttle routes within a half-mile radius of the proposed station. Potential bus stop relocations and improvements are summarized in the table below. Existing bus stop locations closest to the proposed platform:

**Table XII-2 Bus and Shuttle Access**

Direction	Road Name	Distance (Ft) From Platform	Bus Shelter	Transit
ALL	Ellin Road (Transit Center)	70-300	6	T15-T18,F4,F6,F13,R12,84,Marc,
ALL	Garden City Dr (Transit Center)	350-650	13	F14

(\*R) = Recommend Relocation of bus stop.

(\*#) = Bus shelter recommended to be installed.

# is the number of shelters recommended.

- = Existing bus stop location is more than 750 feet away from proposed platform.

**Recommendations for the relocation of bus stops:** Existing Transit Stops are located within the Transit Center. No relocations required.

**Recommendations for proposed bus shelter locations** Existing bus stop shelters are located within the Transit Center. No relocations required.

**Layover area requirements:** The existing transit center will provide space for bus layover. Recommend no pull off / layover areas be provided within study area.

**Table XII-3 Intersection and Traffic Calming**

Improvements	Location	Description
Intersection/Entrance Improvements	All Signalized Intersections	<ul style="list-style-type: none"> <li>Provide a leading pedestrian interval for right turning vehicles.</li> <li>Provide pedestrian countdown signals-</li> <li>Verify all signals are properly timed and meet the current pedestrian crossing standards.</li> <li>Verify ADA access to all pedestrian push buttons.</li> </ul>
	Annapolis Rd. from Garrison Rd. to Riverdale Rd. (3 Intersections, 30 Commercial Entrances)	<ul style="list-style-type: none"> <li>Annapolis Rd. - Reduce the number of curb cuts for business entrances and reconfigure parking for access from the rear of the businesses.</li> <li>If median is present, extend raised median to provide pedestrian refuge area.</li> <li>Upgrade the intersections with new ADA sidewalk ramps.</li> <li>Upgrade entrances with ADA standard aprons.</li> <li>Provide cross-hatching with high intensity paint for crosswalks. Use unique color paint for crosswalks to act as a way finder to the purple line station.</li> </ul>
	Harkins Rd. at W. Lanham Dr.	
	*Ellin Rd. from Veterans Pkwy. to Harkins Rd. (2 Intersections, 2 Metro Entrances)	
	Garrison Rd. from Annapolis Rd. to 78 <sup>th</sup> Ave. (2 Intersections)	
	78 <sup>th</sup> Ave. from Garrison Rd. to Emerson Pl. (2 Intersections)	
	Garden City Dr. from southwest entrance to Professional Pl. (2 Intersections, 3 Metro Entrances)	
	Ardwick-Ardmore Rd. from US 50 to east of Whitetire Rd.. (5 Intersections, 10 Entrances)	
Corporate Dr. at Pennsy Dr.		

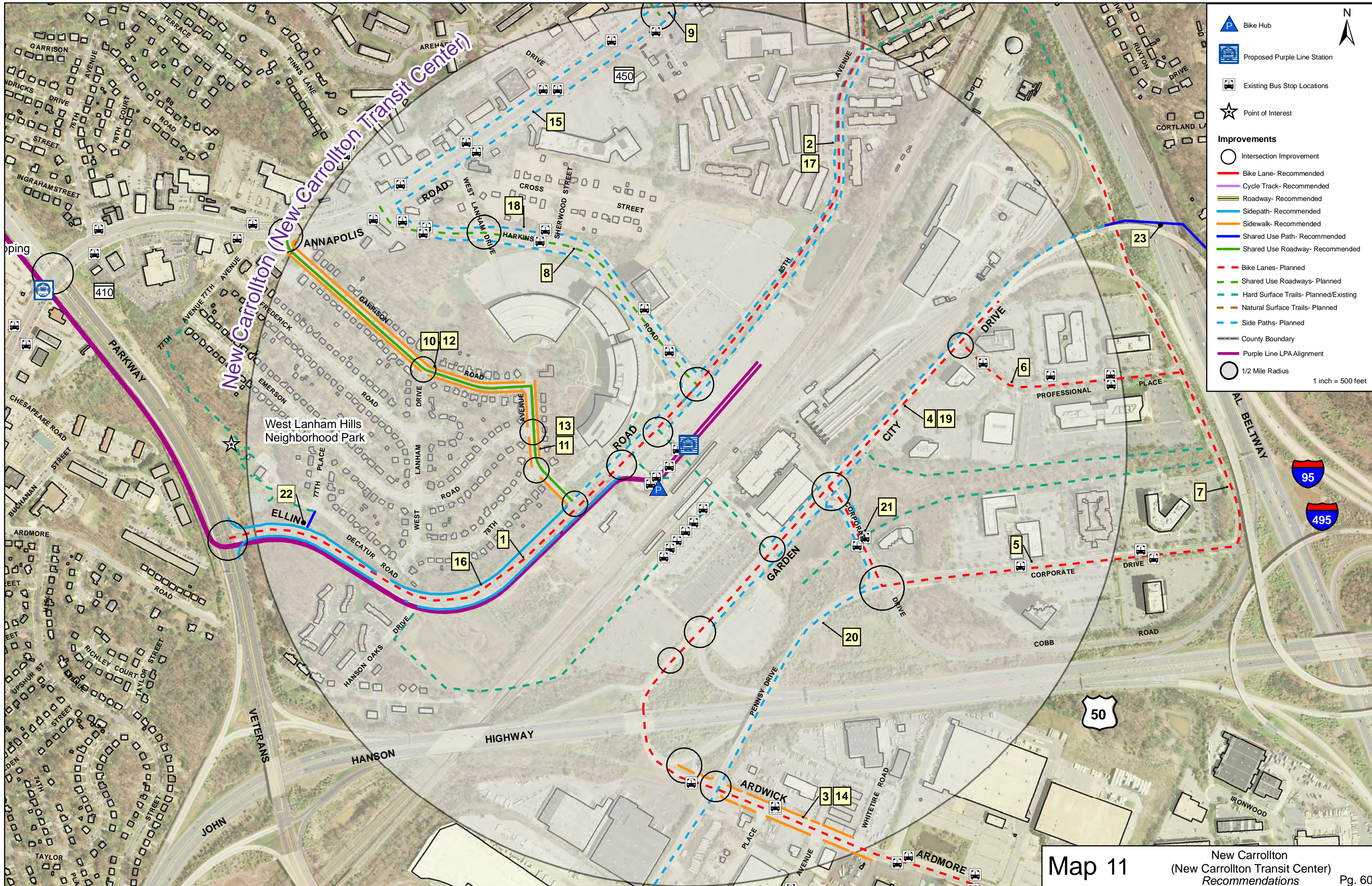
Improvements	Location	Description
Traffic Calming	Ellin Rd. at Metro Entrance and Harkins Rd.	Install a pedestrian-activated (high-intensity activated crosswalk, HAWK) crossing.
	Garden City Dr. at Southwest Metro Entrance	
	Garrison Rd.	Provide curb extensions at intersections where on-street parking is provided.
	Emerson Pl.	

\*Portions of the improvement to be completed by Purple Line Project.

## New Carrollton Transit Center Station Recommendations

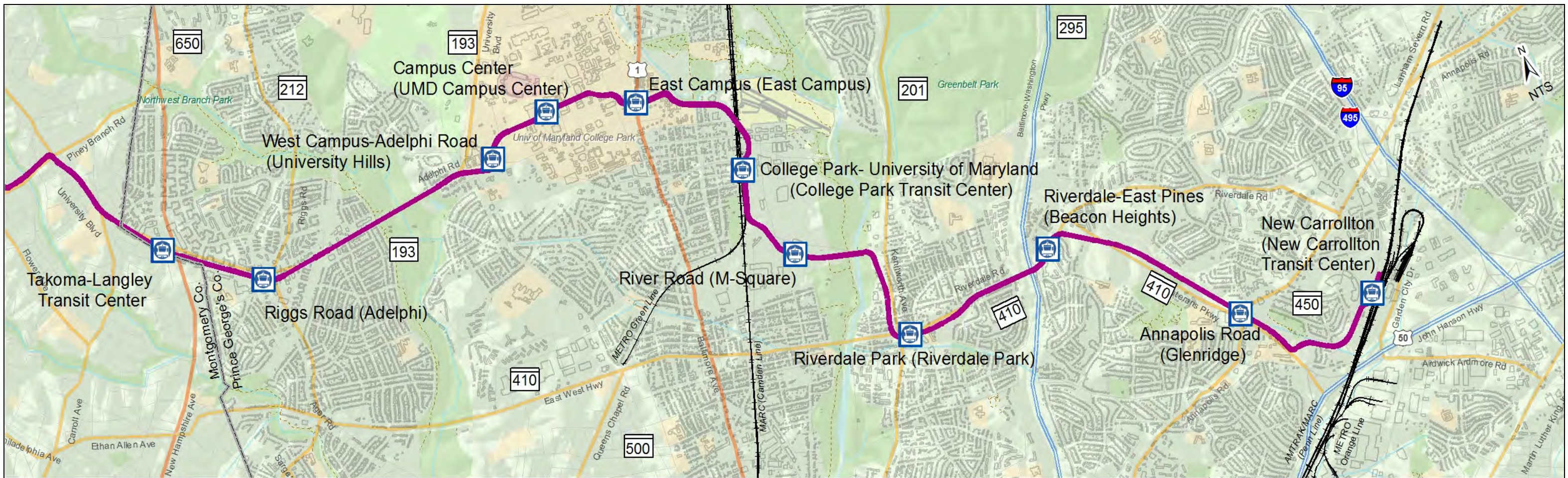
- Provide minimum 15' bicycle/pedestrian travel ways adjacent to the platform to handle the high bicycle/pedestrian volumes.
- Construct a bicycle hub as part of the proposed station site. Amenities can include, an attendant, day and long term covered lockers, numerous inverted-U bike racks, a bike station for bicycle rentals and shared bicycles, bicycle accessories and repair, rest rooms, showers, food (vending or café), and accommodations for police bicycle patrol.
- Stakeholders involved in the new Joint Development should pay close attention to the design of the plaza area between rail and other transit modes.





- Bike Hub
  - Proposed Purple Line Station
  - Existing Bus Stop Locations
  - Point of Interest
- Improvements**
- Intersection Improvement
  - Bike Lane- Recommended
  - Cycle Track- Recommended
  - Roadway- Recommended
  - Sidepath- Recommended
  - Sidewalk- Recommended
  - Shared Use Path- Recommended
  - Shared Use Roadway- Recommended
  - Bike Lanes- Planned
  - Shared Use Roadways- Planned
  - Hard Surface Trails- Planned/Existing
  - Natural Surface Trails- Planned
  - Side Paths- Planned
  - County Boundary
  - Purple Line LPA Alignment
  - 1/2 Mile Radius
- 1 inch = 500 feet





# SECTION XIII – PARALLEL TRAIL RECOMMENDATIONS



*CORRIDOR ACCESS STUDY (CAST)  
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## SECTION XIII – PARALLEL TRAIL RECOMMENDATIONS

The purpose of this section is to evaluate each recommendation for pedestrian and bicycle facilities (the “Pink Line”) as described in the *Bicycle Access and Bicycle Hub Location Study* (the Toole Study) completed in June 2010 by the Toole Design Group. The Toole Study recommendations were taken from Appendix E of the report. The CAST recommendations expand upon the Toole Study recommendations to define primary pedestrian, bicycle and vehicular travel routes between station areas.

### University Boulevard - Takoma-Langley Transit Center & Riggs Road Stations

#### Parallel Trail Alignment Recommendations:

- Cycle Tracks for Bicyclists, Sidewalks for Pedestrians; Vegetated Buffer:
- Reduce number of vehicle travel lanes by 1 in each direction.
  - Provide 8’ sidewalk, 7’ vegetated buffer, 6’ cycle track each side.

#### CAST Recommendation:

Disagree with the recommendation to reduce travel lanes by one due to the classification of University Boulevard. The sidewalk around the proposed Transit Center should be 10’ due to expected high volumes of pedestrian traffic.

### Adelphi Station Area - West Campus-Adelphi Road Station

#### Parallel Trail Alignment Recommendations:

- Cycle Tracks for Bicyclists, Sidewalks for Pedestrians; Vegetated Buffer:
- Intersection improvements at Adelphi Road and Campus Drive.
  - Provide 8’ sidewalk, 7’ vegetated buffer, 6’ cycle track each side.
  - 2-way tracks on south side of Campus Drive (reduce vegetated buffer from 7’ to 5’ and increase cycle track to 8’).

#### CAST Recommendation:

Agree with the Toole study recommendations. As Campus Drive is being redeveloped by UMD as a tree-lined entrance road and/or by the Domain Project, implement 2-way cycle tracks along the south side in order to reduce potential conflicts at the Adelphi Road intersection.

### University of MD to College Park Metro - Campus Center, East Campus, & College Park LRT/Metro Stations

#### Parallel Trail Alignment Recommendations:

- 4 cross campus bicycle routes (Red, Blue, Orange, & Green) as defined by UMD Campus Bicycle Study:
- Red route as campus access route not as through bicycle route.
  - Blue, Orange, and Green routes as through campus bicycle routes and Purple Line Station access routes
  - North campus cross campus movements via Blue (western portion), Yellow, Red (eastern portion) Routes and Regents Drive.
  - Other cross campus components should be developed separately from the Purple Line Project.

#### CAST Recommendation:

Recommend using Campus Drive (proposed cycle tracks), Mowatt Lane (planned shared-use roadway), Guilford Drive (planned shared-use roadway), Rhode Island Trolley Trail (existing hard surface trail) and Calvert Road (planned shared-use roadway) as a through bicycle route. Agree with the UMD Campus study recommendations for campus access routes.

### East Campus Station Area - East Campus Station

#### Parallel Trail Alignment Recommendations:

- Cycle Tracks for Bicyclists, Wide Sidewalks/Paths for Pedestrians:
- 7’ Cycle Tracks on both sides of Purple Line.
  - Separate wide sidewalks and paths.
  - Portions of cycle tracks east of station may need to be converted to 2-way cycle tracks or 12-14’ shared use paths.

#### CAST Recommendation:

Recommend providing 8’ shared-use sidepaths on both sides of the Purple Line from Regents Drive Circle to Baltimore Avenue, 14’ shared-use paths through the station platform area on Rossborough Lane with the East Campus Development, provide 8’ shared-use sidepaths on both sides of the Purple Line to Paint Branch Parkway to access the Rhode Island Trolley Trail, and maintain the existing 8’ sidepath along the south side of Paint Branch Parkway.

### College Park Station Area - College Park LRT/Metro Station

#### Parallel Trail Alignment Recommendations:

- Paint Branch Parkway and Metro Station enhancements:
- Retention of side path on south side of Paint Branch Parkway. Provide public art and lighting.
  - Modify railroad under passage way adjacent to the fare gate area to accommodate crossing the Metro and CSX/Marc lines.
  - Improve Paint Branch Parkway intersections at River Road and 51<sup>st</sup> Avenue.

#### CAST Recommendation:

Agree with the Toole study recommendations. No further recommendations.

### M<sup>2</sup>/River Road - River Road Station

#### Parallel Trail Alignment Recommendations:

- River Road enhancements:
- Provide 10’ shared use path on west/south side of River Road.
  - Cycle track and sidewalk on east/north side of River Road.
  - Provide bike lanes at the bridge over Paint Branch to Kenilworth Avenue along River Road. Retain the existing sidewalk on south side. Narrow travel way widths and use existing roadway shoulder to provide the needed width.
  - As an alternative, narrow River Road by one travel lane in each direction and install buffered bike lanes.
  - If proposed Casey Foundation development is built along Baltimore Avenue (US 1), a bridge or tunnel link should be considered across the CSX/Marc railroad line to the pink line route along River Road.

#### CAST Recommendation:

Agree with the Toole study recommendations. Extend a sidepath along the south side of River Road from east of the bridge to Kenilworth Avenue.



# PURPLE LINE - CORRIDOR ACCESS STUDY (CAST) – RECOMMENDATIONS REPORT

## Haig Drive to Riverdale – Between River Road & Riverdale Park Stations

### Parallel Trail Alignment Recommendations:

Select Option A, B or C from 4 developed options:

- Option A – Use existing path along Haig Drive and Northeash Branch Trail; construct new bridge over Northeast Branch to existing connector paths on east bank of stream; construct a sidepath or cycle tracks along Riverdale Road; and continue path along Greenvale Branch east of Kenilworth Ave.
- Option B - Use existing path along Haig Drive and Northeash Branch Trail; construct new bridge over Northeast Branch to existing connector paths on east bank of stream; use Powhatan Road to Kenilworth Avenue; and continue path along Greenvale Branch east of Kenilworth Ave.
- Option C - Use existing path along Haig Drive and Northeash Branch Trail; construct new bridge over Northeast Branch to Quintana Street; use Quintana, 54<sup>th</sup> Avenue and Patterson Road to Kenilworth Avenue crossing; and provide a sidepath along the north side of East-West Highway.

### CAST Recommendation:

Recommend Option A to utilize Riverdale Road as a proposed bicycle boulevard. Riverdale Road is low speed roadway, has a direct connection into Historic Riverdale Park, and has an existing connection to the Northeast Branch Trail. Construct a formal path east of Kenilworth Avenue through a potentially redeveloped Riverdale Plaza and the existing wooded area to Greenvale Parkway.

## Riverdale Park Station Area – Riverdale Park Station

### Parallel Trail Alignment Recommendations:

- Provide an 8’ sidepath with 5’ vegetated buffer on north side of Riverdale Road (MD 410) from Kenilworth Ave and the B-W Parkway.
- Select one or more options described in Section 7 and 9 for the south side of East-West Highway/Riverdale Road.
- Sector Plan considerations:
  - Relocating the station one block to the south to Riverdale Road.
  - Establish an urban grid upon which the LRT would run to provide circulation to a commercial center upon redevelopment.
  - Create a greenway trail along each bank of Greenvale Branch.

### CAST Recommendation:

Agree with the Toole Study for the treatment of the north side of Riverdale Road. Recommend the combination of Option A in Section 7 and Option C in Section 9 to continue the trail from Riverdale Road from the Kenilworth Avenue east along the Greenvale Branch to Mustang Drive at Greenvale Parkway.

## Riverdale Park to Beacon Heights – Between stations

### Parallel Trail Alignment Recommendations:

- Provide an 8’ side path with 5’ vegetated buffer on north side of Riverdale Road from Kenilworth Avenue to the Beacon Heights Station.
- Provide same cross-section on south side of Riverdale Road (MD 410) between East Pine Drive and Beacon Heights Station (under the B-W Parkway).
- Option A - Provide a 10’ shared use path between the LRT tracks and development on the south side of Riverdale Road (MD 410)

- Option B – Provide a dual pathway Greenvale Greenway Trail to the new development; provide a trail in the new development to Mustang Drive and Patterson Street; then a shared use roadway on Patterson Street to East Pine Drive and Riverdale Road.
- Option C - Provide a dual pathway Greenvale Greenway Trail to Mustang Drive; provide a shared use roadway along Mustang Drive, Patterson Street and East Pine Drive to Riverdale Road.
- Option D – Provide a 10’ shared use path along the southern edge of the LRT tracks from East Pine Drive to Mustang Drive; use Option A or B above to continue the route to the Riverdale Park Station.

### CAST Recommendation:

Recommend the western portion of Option C in combination with Option A if the properties are taken along the south side of Riverdale Road from Mustang Drive to the B-W Parkway. The route can utilize Mustang Drive as a shared-use roadway then construct a 10’ shared use path along the south side of the LRT tracks from Mustang Drive to the Beacon Heights Station.

## Beacon Heights Station Area – Beacon Heights Station

### Parallel Trail Alignment Recommendations:

- Provide an 8’ sidepath with 5’ vegetated buffer on both sides of Riverdale Road from the B-W Parkway to Veterans Parkway.
- Continue this cross-section along the north side of Riverdale Road east of Veterans Parkway to Auburn Avenue.
- Maintain planned 6’ sidewalk adjacent to the south side of the proposed platform for passage through this tight area. Trail users can cross the LRT tracks at the station to continue on the trail on the north side of the tracks.
- To the west of the station platform, provide an 8’ shared use path between the LRT tracks and the edge of Riverdale Road to connect to the crossing of Veterans Parkway, and continue south to Glenridge Park.

### CAST Recommendation:

Agree with recommendation to provide an 8’ sidepath with 5’ buffer on both sides of Riverdale Road, but revert to on-road bike lanes along the south side of Riverdale Road from 67<sup>th</sup> Avenue to Veterans Parkway to eliminate the need for trail users to cross Riverdale Road to utilize the sidepath on the north side. Recommend utilizing the existing shoulders on Veterans Parkway as on-road bike lanes instead of the 8’ shared use path parallel to Veterans Parkway.

## Beacon Heights to Annapolis Road – Between Stations

### Parallel Trail Alignment Recommendations:

- Provide a 10’ shared use path linking stations by way of Glenridge Park.
- Provide continuous 8-10’ shared bicycle and pedestrian shoulders on both sides of Veterans Parkway from Riverdale Road and Annapolis Road.

### CAST Recommendation:

Agree with recommendation to provide an 8-10’ shared bicycle and pedestrian shoulders on both sides of Veterans Parkway. Rather than providing a shared use path to Glenridge Park, provide way-finding signage from the Beacon Heights Station through the existing Beacon Heights neighborhood streets to Glenridge Park. The neighborhood streets can be designated as shared use roadways to the Glenridge Park access.



## Annapolis Road Station Area – Annapolis Station

### Parallel Trail Alignment Recommendations:

- Provide minimum 15' wide bicycle/pedestrian travel way adjacent to the underground station platforms to make a through movement under MD 450. The station located under the western Annapolis Road leg of the MD 410/MD 450 intersection. Provide ADA compliant bicycle and pedestrian routes to intersection (10-12' wide). Stairways should be at least 15' wide and provide bicycle rolling trays.
- Provide initial engineering and infrastructure for future bicycle/pedestrian tunnel under MD 410 if feasible.
- Improve crossing conditions at all 4 legs of the MD 410/MD 450 intersection.

### CAST Recommendation:

Agree with the Toole study recommendations.

## Annapolis Road to New Carrollton – Between Stations

### Parallel Trail Alignment Recommendations:

- Option A – Provide cycle tracks and sidewalks on both sides of Veterans Parkway from Annapolis Road to Ellin Road and continue them across US 50 to Pennsy Drive. Provide a shared use path on the north side of Ellin Road from MD 410 to the New Carrollton Station Entrance just north of Emerson Place; provide a mid-block trail crossing for Ellin Road.
- Option B – Provide a 10' shared use path from the MD 410/MD 450 intersection to the existing park trail in West Lanham Hills Neighborhood Park. This trail can continue along Decatur Road, and connected to the sidepath along Ellin Road described in Option A above.
- Improve the crossing of both legs of the MD 410/Ellin Road intersection.
- Provide a short, shared use trail from the MD 410/Ellin Road intersection to the end of Ardmore-Ardwick Road to improve LRT/Metro access for the Landover Hills neighborhood.

### CAST Recommendation:

Recommend continuing on-road bike lanes on MD 410 to Ellin Road. Additionally, construct a 10' shared use path along the east side of MD 410 from MD 450 to Ellin Road with trail connections to the existing trail in West Lanham Hills Neighborhood Park. Agree with recommendation to provide a shared use path on the north side of Ellen Road.

## New Carrollton Station and West – New Carrollton LRT/Metro Rail Station

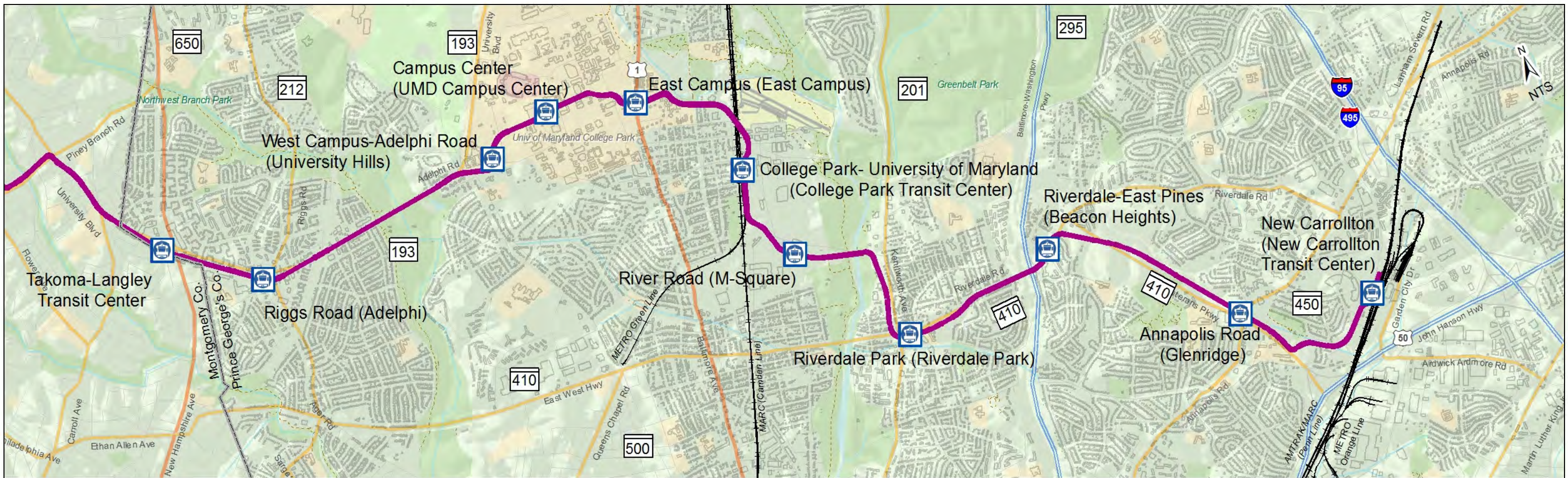
### Parallel Trail Alignment Recommendations:

Continue the Pink Trail on the proposed Garden City Drive sidepath and bridge over the Capital Beltway to Whitfield Chapel Park in Lanham Heights. This link will provide a connection to the WB&A Trail through Lanham Forest Park.

### CAST Recommendation:

Agree with the Toole Study recommendation.





# SECTION XIV – INTER-MODAL ACCESS REQUIREMENTS



*CORRIDOR ACCESS STUDY (CAST)  
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## SECTION XIV – INTER-MODAL ACCESS REQUIREMENTS

There are three transit centers proposed along the Purple Line alignment that serve multi-transportation modes including light rail, commuter rail and bus transit. Those transit centers include Takoma-Langley, College Park – UMD and New Carrollton. The inter-modal connections between these services with each other and the local road, bicycle, and pedestrian networks are vital in creating a successful transit center. The following is a summary of the inter-modal access requirements for each transit center.

### Takoma-Langley Transit Center

The Takoma-Langley Transit Center will be served by light rail (Purple Line) and local buses (Metrobus and Ride-On Buses). The new Purple Line platform is currently proposed to be located at street-level within the median of University Boulevard (MD 193) just west of New Hampshire Avenue (MD 650). The new Takoma-Langley Transit Center is currently proposed in the northwest quadrant of the University Boulevard/New Hampshire Avenue intersection. Access to the platform will be from the Transit Center site on the north side of University Boulevard and from the sidewalk in front of the Hampshire-Langley Shopping Center on the south side via mid-block crossing. The following is a list of access requirements for circulation between the different transportation modes:

- An over-sized crosswalk on University Boulevard at the platform location to provide a travel way to and from the Transit Center and bus stops on the south side of University Boulevard. Due to the proximity of the platform crossing to the existing traffic signal at New Hampshire Avenue and proposed traffic signal at the relocated Langley Shopping Center entrance (just east of Lebanon Street), operations and safety concerns make this a potentially hazardous location for an on-street crossing. Either a HAWK pedestrian signal in coordination with the other traffic signals needs to be provided for this crossing or a grade-separated (bridge or tunnel) crossing should be considered.
- Additional way-finding signs outside and within the transit center will be placed to direct people to their destination platform and location. Strategic sign placement will ensure that walk/ride-up customers as well as those arriving via bus will be able to quickly and efficiently find their way through and around the transit center.
- Maps to be placed at convenient locations along the main routes within the transit center to help people navigate to the different transportation modes within the transit center and away from the transit center to walkable destinations (emphasizing safe routes with sidewalks, crosswalks, or traffic signals).

### College Park-University of Maryland Metrorail Station

The College Park Transit Center will be served by light rail (Purple Line), commuter rail (Metro and MARC), and local buses (Metrobus, UM Shuttles, Connect-a-Ride and The Bus). The new Purple Line platform is currently proposed to be located at street-level on the east side of the Metro tracks between the existing Metro platform and the east “Kiss and Ride” lot off of River Road. Access to the platform will be from street-level off of River Road (east side of existing train tracks) and from the lower-level off of Calvert Road and Columbia Avenue (west side of existing train tracks), the same as to the existing Metro platform off of the main tunnel that runs under the tracks. The MARC platform is located at street-level on the west side of the existing train tracks at the intersection of Calvert Road and Bowdoin Avenue. Access to this platform is from the Metro lot, sidewalks and crosswalks. There are existing elevators on both sides of the station and escalators within the station. The following is a list of access requirements for circulation between the different transportation modes. Portions of the recommendations were provided by the *Metrorail Bicycle & Pedestrian Access Improvements Study*.

- Provide new ramps along the stairs or escalators with slide trays to accommodate bicycles to help reduce the burden on the existing elevators.
- Additional way-finding signs outside and within the transit center will be placed to direct people to their destination platform and location. Strategic sign placement will ensure those walk/ride-up customers as well

as those arriving via bus and train will be able to quickly and efficiently find their way through the transit center.

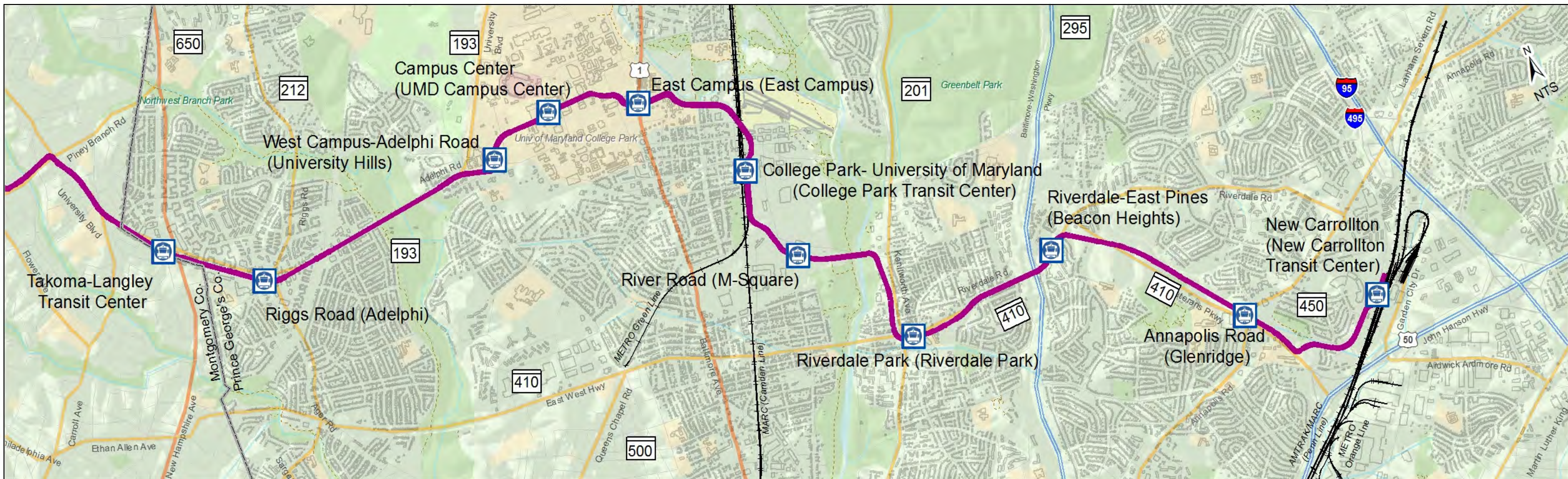
- Maps to be placed at convenient locations along the main routes within the transit center to help people navigate to the different transportation modes within the transit center and away from the transit center to walkable destinations (emphasizing safe routes with sidewalks, crosswalks, or traffic signals).
- Message boards updating the arrival/departure times of the next trains will be posted throughout the transit center as a resource to communicate information to patrons.

### New Carrollton Metrorail and MARC Stations

The New Carrollton Transit Center will be served by light rail (Purple Line), commuter rail (Metro and MARC), inter-city rail (AMTRAK), local buses (MTA, Metrobus and The Bus), and inter-city buses (Greyhound). The new Purple Line platform is currently proposed to be located at street-level at the west “Kiss and Ride”/bus bay off of Ellin Road to the northwest of the existing Metro platform. Access to the platform will be from street level off of Ellin Road (northwest side of existing train tracks) and from the lower level off of Garden City Drive (southeast side of existing train tracks), the same as to the existing MARC/AMTRAK and Metro platforms off of the main tunnel that runs under to the tracks. There are existing elevators on both sides of the station and escalators within the station. The following is a list of access requirements for circulation between the different transportation modes:

- New escalators and elevator for pedestrian and ADA access to the Purple Line platform. Slide trays can be provided with escalators to accommodate bicycles to help reduce the burden on the elevators. If the platform is changed to an elevated platform, non-stair access to the street-level can be provided as part of the property redevelopment.
- Additional way-finding signs outside and within the transit center will be placed to direct people to their destination platform and location. Strategic sign placement will ensure those walk/ride-up customers as well as those arriving via bus and train will be able to quickly and efficiently find their way through the transit center.
- Maps to be placed at convenient locations along the main routes within the transit center to help people navigate to the different transportation modes within the transit center and away from the transit center to walkable destinations (emphasizing safe routes with sidewalks, crosswalks, or traffic signals).
- Message boards updating the arrival/departure times of the next trains will be posted throughout the transit center as a resource to communicate information to patrons.





# SECTION XV – IMPLEMENTATION STRATEGIES / FURTHER EVALUATIONS



*CORRIDOR ACCESS STUDY (CAST)  
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## SECTION XV – IMPLEMENTATION STRATEGIES & ELEMENTS FOR FURTHER EVALUATION

### Implementation Strategies

#### Bicycle Parking at Proposed Bike Hubs

Bicycle parking is recommended for all the Purple Line LPA Stations. The type of bicycle parking facility depends of the projected demands as calculated by MTA. More detailed discussions of parking demand and types of parking facilities were covered adequately in the *Toole Study*. The *Toole Study* identified three (3) Purple Line LPA Station locations, the Takoma-Langley Transit Center, UMD - East Campus and the New Carrollton Transit Center (with consideration of an on-campus University of Maryland location), to be designated as bicycle “hubs”. These “hubs” are intended to provide secure storage and other bicycle-related services for bicyclist using rail systems (Purple Line, MARC, Metro or Amtrak) and local trails. The following are some general implementation recommendations for bicycle parking and the bicycle “hubs”. Many of these strategies are drawn from the *Metrorail Bicycle & Pedestrian Access Improvements Study*, October 2010 as they closely pertain to the needs for the Purple Line Stations.

- Implement a pilot location at either the Takoma-Langley Transit Center, UMD - East Campus or New Carrollton Transit Center stations for a standalone bicycle parking structure.
- Further inventory existing parking garages to identify appropriate bicycle parking locations.
- Establish a bike rack and locker inventory and usage tracking program for all the stations.
- Develop guidelines for design and placement of bicycle parking facilities.
- Provide secure and covered bicycle parking at all stations, including shelters for existing bike racks, based on demand established in Chapter 3 of the Toole Study.
- Provide online system for locker rental applications and to report problems and system requests.
- Provide clear wayfinding signage for transfers between different modes of transit and to bicycle parking.
- Provide lighting improvements to increase safety.

Provide bicycle-supporting services such as bicycle parking, station attendants, rest rooms, showers, short-term/long-term lockers, food (vending or café), bicycle rentals/sharing, bicycle accessories/repair, and accommodations for bicycle police patrol. Types of services will depend on how these facilities can be integrated within the current community or future development.

#### Public Strategies to Encourage Walking and Bicycling

The CAST study provides a variety of recommendations for upgrading facilities in order to encourage bicycling and walking to and from the proposed Purple Line LPA Station locations. This section describes potential public implementation strategies for station specific design, facility improvements, and system-wide policy. These recommendations will need to be implemented a number of different stakeholders including MTA, WMATA, SHA, Prince George’s County DPW&T, M-NCPPC, and other local jurisdictions. Again, many of these strategies are drawn from the *Metrorail Bicycle & Pedestrian Access Improvements Study*, October 2010 as they closely pertain to the needs for the Purple Line Stations.

- Establish a system-wide goal to increase the percentage of bicycle and walking trips around the Purple Line Station area.
- Address motor vehicle traffic safety issues relating to pedestrian and bicycling accidents.
- Evaluate traffic signals within the vicinity of the Purple Line Stations to improve pedestrian crossings.
- Provide consistent signage, pavement markings and pedestrian signals at pedestrian crossings.
- Develop a Station Access Planning Manual for the Purple Line Stations that addresses current and specific bicycle parking, way-finding, and facility requirements.

- Develop and implement a station specific bicycle and pedestrian access evaluation process.
- Develop and implement policies to increase security for stations, bicycle parking, and nearby facilities.
- Provide online system for locker rental applications and to report problems and system requests.
- Require pedestrian and bicycle facilities on MTA property and multimodal circulation and access studies (including bicycle parking) as part of adjacent TOD and future station enhancements.
- Require that pedestrian and bicycle access to be safety maintained during construction of nearby projects.
- Improve system-wide policies and procedures for implementing bicycle and pedestrian facility recommendations and marketing bicycle and pedestrian use.
- Increase the bicycle community’s awareness of new bicycle facilities during planning and design phases.
- Coordinate with local authorities to implement and maintain bicycle and pedestrian facilities to the stations from off-site locations.
- Encourage jurisdictions to require inter-parcel access for pedestrian and bicycle users.
- Educate and encourage jurisdictions and the general public to promote bicycle sharing programs.
- Communicate with station managers, bus operators, key maintenance staff and others of policy and procedures for accommodating pedestrian and bicycle users.
- Develop a matrix for MTA staff to identify responsibilities for specific pedestrian and bicycle access issues.
- Build partnerships with public stakeholders and community special interest groups to foster approaches for providing and maintaining pedestrian and bicycle access to stations.
- Review state and local jurisdiction Capital Improvement Programs (CIP) on a regular basis to coordinate facility improvements.
- Ensure that funding for maintenance needs are included in state and local jurisdiction funding programs. Participate in local Transportation Demand Management (TDM) initiatives that impact MTA to ensure solutions address pedestrian and bicycle travel.

### Elements for Further Evaluation

Due to the scope of CAST certain elements were not covered in the study. The following is a summary of elements suggested for further detailed evaluation to be undertaken in the third study, Purple Line Corridor Development Assessment, or other studies by state or local jurisdictions:

1. Recommendations for public and private parking management strategies and regulations in order to discourage parking within dense commercial areas.
2. Cost estimates for bike transit hub access addressed in CAST to ensure that bicycle access is addressed in the design of each Purple Line station.
3. Cost estimates for each recommended improvement addressed in CAST.
4. Identify needed adjustments of access criteria based on Purple Line LPA Station hierarchy.
5. Recommendations for phasing and prioritizing facility and intersection improvements.
6. Evaluate traffic signals at major intersections near the Purple Line stations for opportunities to improve crossing conditions such as Leading Pedestrian Intervals (LPIs) or High-Intensity Activated Crosswalk (HAWK).
7. Further study use of traffic calming measures presented in CAST.
8. On-site pedestrian and bicycle circulation and access study for potential development on or adjoining to the Purple Line station. Consider how the development will integrate pedestrian and bicycle facilities and the use of incentives to further encourage pedestrian and bicycle facilities.
9. Development of standards or methodology for station specific way-finding signage and maps.
10. Development of security standards for each station.
11. Types of shops or facilities at or near the Bike Hub locations to accommodate and encourage bicycling. Consider partnerships with local employer facilities or gyms.
12. Opportunities for a public/private joint development programs. Implement targeted improvements to future development.