



BICYCLE MASTER PLAN
PRELIMINARY BIKEWAY RECOMMENDATIONS
MEETING PACKET | JUNE 22, 2017



ACCEPTING COMMENTS AT MCATLAS.ORG/BIKEREACT
THROUGH JULY 17, 2017.

BICYCLE FACILITY CLASSIFICATION

MOST

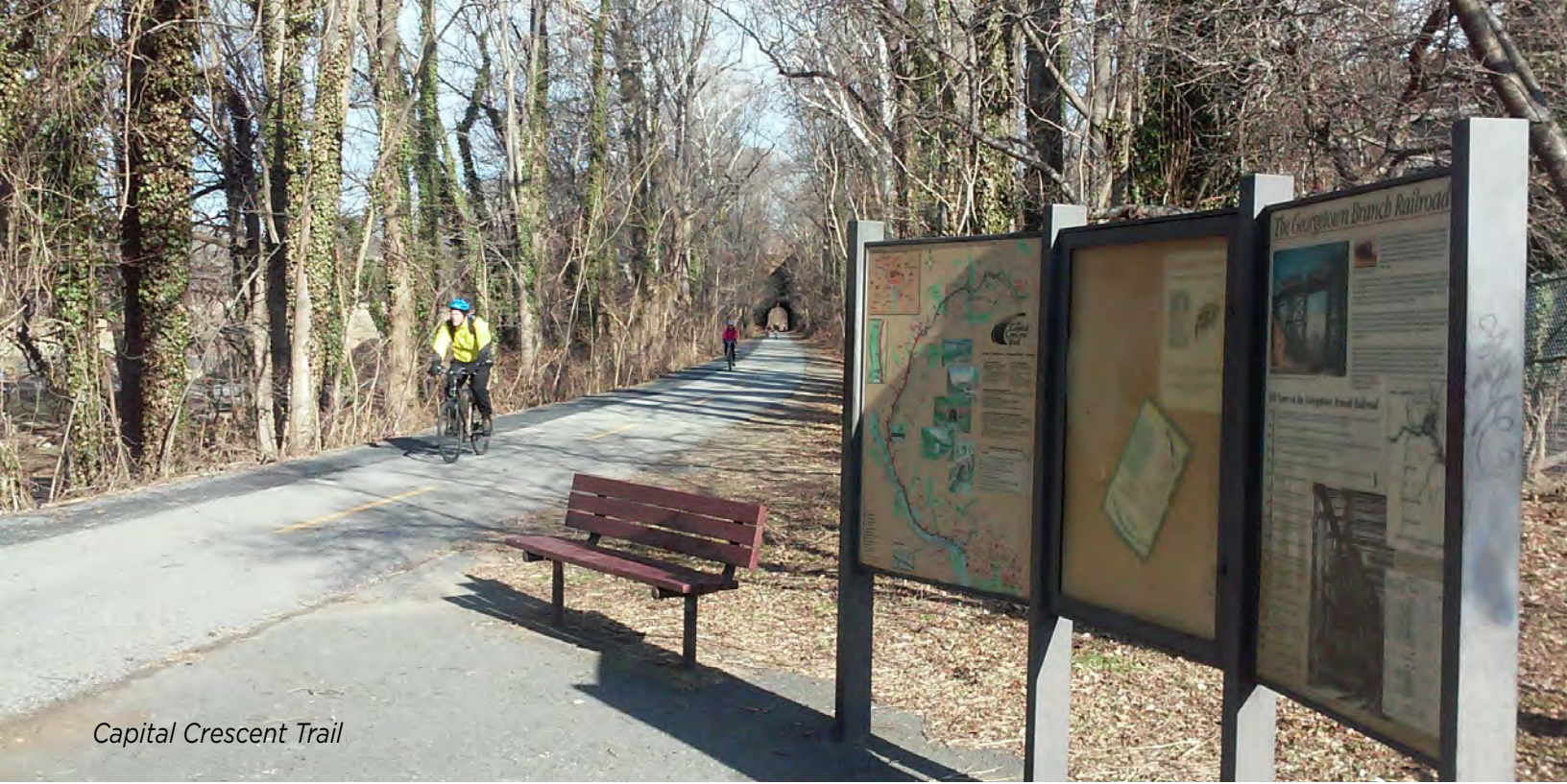


SEPARATION FROM TRAFFIC



LEAST





Capital Crescent Trail

TRAILS



Trails are paths that are located outside of the road right-of-way. They provide two-way travel designated for walking, bicycling, jogging and skating.

Trails are typically 10 feet wide, but can vary between 8 feet (in constrained locations) and 14 feet wide (where usage is likely to be higher). On trails with very high levels of walking and bicycling, spaces for pedestrians and bicyclists are often separated to reduce conflicts and improve comfort. In these situations, trail can be widened to between 15 and 24 feet wide.

Trails include **off-street trails** and **stream valley park trails**.



Bethesda Trolley Trail

OFF-STREET TRAILS



Off-street trails are shared use paths located outside of the road right-of-way that provide two-way travel for people walking, bicycling, and other non-motorized users.

Benefits

- Provide a bicycling environment suitable for all ages and abilities.
- Tend to have fewer at-grade crossings than other bikeways.

Typical Application

- Often located within existing or unused railroad rights-of-way or utility rights-of-way, land dedicated for planned but unbuilt “paper” streets and through public land.

Examples in Montgomery County

- Bethesda Trolley Trail
- Capital Crescent Trail



Rock Creek Trail

STREAM VALLEY PARK TRAILS



Stream valley park trails are shared use paths located within a M-NCPPC stream valley park that provide two-way travel for people walking, bicycling, and other non-motorized users.

Benefits

- Provide a bicycling environment suitable for all ages and abilities.
- Tend to have fewer at-grade crossings than other bikeways.

Typical Application

- Located along stream valley parks.

Examples in Montgomery County

- Rock Creek Trail
- Sligo Creek Trail
- Matthew Henson Trail



Separated Bike Lanes on Woodglen Drive, North Bethesda

SEPARATED BIKEWAYS



Separated bikeways provide physical separation from traffic and include **sidepaths** and **separated bike lanes**.

Once the decision is made to provide a separated bikeway, planners must determine whether the bikeway should also be separated from pedestrians.

Pedestrian demand will be the primary consideration for determining whether a separated bikeway should be implemented as a sidepath or a separated bike lane.

All other things being equal, **sidepaths** will be recommended where observed or anticipated pedestrian demand is lower, since conflicts between people walking and bicycling will be infrequent.

Separated bike lanes will be recommended where pedestrian volumes are observed or anticipated to be higher.

Another closely related factor is the land use type and density of the surrounding environment. Sidepaths tend to be more appropriate in suburban areas where pedestrian travel is less and where pedestrian movements tend to be more predictable. In urban areas,

TYPICAL APPLICATION

TRAFFIC LANES
3+ LANES

POSTED SPEED LIMIT
50
30 MPH OR FASTER

TRAFFIC
6,000+ VEHICLES PER DAY

ON-STREET PARKING
TURNOVER
FREQUENT

BIKE LANE OBSTRUCTION
LIKELY TO BE FREQUENT

DESIGNATED AS TRUCK OR BUS ROUTE

pedestrian travel is characterized by meandering and stop-and-go movements as people socialize, enter and exit stores, dine outdoors, access transit or walk to and from on-street parking. Pedestrians movements are less predictable in urban locations, so providing **separated bike lanes** and sidewalks is recommended in the vicinity of commercial and higher-density mixed-use areas and major transit facilities.



Sidepath on MacArthur Boulevard, Bethesda

SIDEPATHS



Sidepaths are shared use paths located parallel to and within the road right-of-way. They provide two-way travel designated for walking, bicycling, jogging and skating. Sidepaths are typically 10 feet wide, but can vary between 8 feet (in constrained locations) and 14 feet wide (where usage is likely to be higher). Sidepaths are separated from motorized traffic by a curb, barrier or landscaped panel.

Benefits

- More attractive to a wider range of bicyclists than striped bikeways on higher volume and higher speed roads.

Typical Application

- See section overview.
- Adjacent to the roadway.
- Recommended on higher volume and higher speed roads where pedestrian volumes are low, including suburban streets.

Examples in Montgomery County

- MacArthur Boulevard
- Key West Avenue
- Olney-Laytonsville Road
- Briggs Chaney Road



Separated Bike Lanes on Nebel Street, North Bethesda

SEPARATED BIKE LANES



Separated bike lanes are exclusive bikeways that combine the user experience of a sidepath with the on-street infrastructure of a conventional bike lane. They are physically separated from motor vehicle traffic and distinct from the sidewalk. They operate one-way or two-way.

Separated bike lanes can provide different levels of separation:

- Separated bike lanes with flexible delineator posts (“flex posts”) alone offer the least separation from traffic and are appropriate as an interim solution.
- Separated bike lanes that are raised with a wider buffer from traffic provide the greatest level of separation from traffic, but will often require road reconstruction.
- Separated bike lanes that are protected from traffic by a row of on-street parking, such as shown in the image of Woodglen Avenue, offer a high-degree of separation, but would benefit from additional design features.

Benefits

- More attractive to a wider range of bicyclists than **striped bikeways** on higher volume and higher speed roads.
- Eliminate the risk of a bicyclist being hit by an opening car door.
- Prevent motor vehicles from driving, stopping or waiting in the bikeway.
- Provide greater comfort to pedestrians.

Typical Application

- See section overview.
- Adjacent to the roadway.
- Recommended on higher volume and higher speed roads where pedestrian volumes are high, including higher density areas, commercial and mixed-use development, and near major transit stations.

Examples in Montgomery County

- Woodglen Drive
- Nebel Street
- Spring Street (forthcoming)



Bike Lanes on Battery Lane, Bethesda






STRIPED BIKEWAYS



Striped bikeways are designated spaces for bicycling that are distinguished from traffic lanes and shoulders by striping and pavement markings. Until a few years ago, **conventional bike lanes** were the gold standard of North American bicycle planning in urban areas. But over the past few years, a variety of new bike lane types have arisen, including **buffered bike lanes** and **advisory bike lanes**. Collectively, this reports refers to the variety of bike lanes as striped bikeways.

While striped bikeways remain a useful tool to reduce traffic stress, they are insufficient to attract “interested but concerned” bicyclists in many environments because they do not provide sufficient separation from traffic and are often obstructed by motorized vehicles.

TYPICAL APPLICATION

 <p style="margin: 0;">TRAFFIC LANES 3 LANES OR FEWER</p>	 <p style="margin: 0;">POSTED SPEED LIMIT 30 MPH OR SLOWER</p>
 <p style="margin: 0;">TRAFFIC 9,000 VEHICLES PER DAY OR FEWER</p>	 <p style="margin: 0;">ON-STREET PARKING TURNOVER INFREQUENT</p>
 <p style="margin: 0;">BIKE LANE OBSTRUCTION LIKELY TO BE INFREQUENT</p>	<p style="margin: 0;">WHERE A SEPARATED BIKEWAY IS INFEASIBLE OR NOT DESIRABLE</p>



Buffered Bike Lanes on East Capitol Street SE, Washington, DC

BUFFERED BIKE LANES



Buffered Bike Lanes are conventional bike lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane to increase the comfort of bicyclists.

Benefits

- Provides greater separation between motor vehicles and bicyclists.
- Provides space for one bicyclist to pass another without encroaching into the adjacent motor vehicle travel lane.
- Encourages bicyclists to ride outside of the door zone when the buffer is between parked cars and the bike lane.
- Provides a greater space for bicycling without making the bike lane appear so wide that it might be mistaken for a travel lane or a parking lane.
- Appeals to a wider cross-section of bicycle users.

Typical Application

- See section overview.

Examples in Montgomery County

- None



Buffered Bike Lanes on East Capitol Street SE, Washington, DC

CONVENTIONAL BIKE LANES



BUFFERED
BIKE LANES

BIKE
LANES

ADVISORY
BIKE LANES

CONTRA
FLOW
BIKE LANES

Conventional bike lanes (or simply bike lanes) are portions of the street that have been designated by striping, signage and pavement markings for the preferential or exclusive use of bicyclists. They are typically 5 to 6 feet wide in Montgomery County.

Climbing lanes include a conventional bike lane in the uphill direction and a shared lane in the downhill direction. These lanes are used to improve safety on hills where there is a higher speed differential between bicyclists and motor vehicles.

Benefits

- Increases bicyclist comfort and confidence on busy streets.
- Creates separation between bicyclists and automobiles.
- Increases predictability of bicyclist and motorist positioning and interaction.
- Increases total capacities of streets carrying mixed bicycle and motor vehicle traffic.
- Visually reminds motorists of bicyclists' right to bicycle in the street.

Typical Application

- See section overview.

Examples in Montgomery County

- Dufief Mill Road
- Battery Lane
- Bonifant Road
- Fairland Road
- Marinelli Road



Advisory Bike Lanes on Potomac Green Drive, Alexandria, Virginia

ADVISORY BIKE LANES



BUFFERED
BIKE LANES

BIKE
LANES

ADVISORY
BIKE LANES

CONTRA
FLOW
BIKE LANES

Advisory Bike Lanes are dashed bike lanes that allow motorists to temporarily enter the bike lane to provide oncoming traffic sufficient space to safely pass on narrow, unlaned roads in residential areas.

Benefits

- Require less space to implement than conventional bike lanes.
- Encourage motorists to safely pass bicyclists.
- Visually reminds motorists of bicyclists' right bicycle in the street.
- Removing the center line reduces the speed of motor vehicles.
- Are likely to reduce traffic speeds.

Typical Application

- Where there is insufficient space for conventional bike lanes and two lanes of traffic.
- Residential land uses.
- Number of travel lanes: un-laned, bi-directional streets.
- Street width: The un-laned two-way travel space should be 12 to 18 feet wide.
- Posted speed: 30 mph or less.
- Traffic: 2,000 to 4,000 vehicles per day.
- Parking: May be used on streets with or without on-street parking.

Examples in Montgomery County

- None



Contra-Flow Bike Lane on Cedar Avenue

CONTRA-FLOW BIKE LANES



BUFFERED
BIKE LANES

BIKE
LANES

ADVISORY
BIKE LANES

CONTRA
FLOW
BIKE LANES

Contra-Flow bike lanes are bike lanes designed to allow bicyclists to ride in the opposite direction of motor vehicle traffic. They convert a one-way traffic street into a two-way street: one direction for motor vehicles and bikes, and the other for bikes only.

Benefits

- Enable bicyclists to travel against traffic on one-way streets.

Typical Application

- See section overview.
- One-way streets.

Examples in Montgomery County

- Cedar Street



Bikeable Shoulders On Clarksburg Road in Boyds.

BIKEABLE SHOULDERS



Bikeable shoulders are portions of the roadway that accommodate stopped or parked vehicles, emergency use, bicycles and motor scooters and pedestrians where sidewalks do not exist. Bikeable shoulders of at least four feet in width can improve comfort on some roadways for some bicyclists. They are most appropriate in rural locations in the county, often where posted speed limits are 40 mph and higher.

Bikeable shoulders do not create low-stress environment on roads where the posted speed limit exceeds 30 mph.

Benefits

- Provide separation from traffic.
- Intended primarily for recreational bicyclists.

Typical Application

- Primarily found in rural locations.
- Posted Speed Limit: ≥ 40 mph

Examples in Montgomery County

- River Road
- New Hampshire Avenue from MD 198 to MD 108
- Norwood Road from MD 182 to MD 650



SHARED ROADS



Shared Roads are bikeways that share space with automobiles. They include **neighborhood greenways** in suburban areas, **shared streets** in urban areas and **priority shared lane markings** where there is insufficient space for a dedicated bikeway. Of course, all streets where bicycles share space with automobiles are de facto shared roads, but only some are master-planned.



Bell Street, Seattle (Source: NACTO)

SHARED STREETS



Shared streets constitute an urban design approach where pedestrians, bicycles and motor vehicles can comfortably coexist. They prioritize pedestrian and bicycle movement by slowing vehicular speeds and communicating clearly through design features that motorists must yield to all other users. Motorists are considered “guests” in this environment.

Benefits

- Create conditions where pedestrians and bicyclists can walk or ride on the street and cross at any location, as opposed to at designated locations.

Typical Application

- Low traffic volume, low traffic speed and high pedestrian volume streets.

Examples in Montgomery County

- None.



A neighborhood greenway on SE Lincoln Street in Portland, Oregon. Source: Toole Design Group

NEIGHBORHOOD GREENWAY



Neighborhood greenways (also called bicycle boulevards) are streets with low motorized traffic volumes and speeds, designed and designated to give walking and bicycling priority. They use signs, pavement markings and speed and volume management measures to discourage through trips by motor vehicles and create safe, convenient crossings of busy arterial streets.

Neighborhood greenways incorporate several design elements:

- Traffic diverters at key intersections to reduce through motor vehicle traffic while permitting passage for through bicyclists.
- At two-way, stop-controlled intersections, priority assignment that favors the neighborhood greenway, so bicyclists can ride with few interruptions.
- Neighborhood traffic circles and mini-roundabouts at minor intersections to slow traffic but allow bicyclists to maintain momentum.
- Traffic-calming to lower motor traffic speeds.

Benefits

- Attractive to a wide range of bicyclists.
- Reduce the speed and volume of traffic.
- Prioritize walking and bicycling at minor street crossings.
- Improve safety and reduce delay for walking and bicycling at major street crossings.

Typical Application

- Posted Speed Limit: ≤ 25 mph.
- Context: areas where through traffic can be diverted to parallel streets.
- Street pattern: where a continuous route for bicycling is possible.

Examples in Montgomery County

- None.
- Wayfinding signs to guide bicyclists along the route and to key destinations.
- Shared-lane markings (sharrows) where appropriate to alert drivers to the path bicyclists need to take on a shared roadway.
- Crossing improvements where the boulevard crosses major streets (including traffic signals, median refuges and curb extensions).



Market Street, San Francisco (Source: Toole Design Group)

PRIORITY SHARED LANE MARKINGS



Priority shared lane markings communicate bicyclist priority within a shared lane and guide bicyclists to ride outside of the door zone. Colored backing and more frequent spacing make priority shared lane markings more conspicuous than standard shared lane markings (also known as sharrows). This treatment does not improve most bicyclists' comfort in shared lanes with traffic.

They can be installed in limited instances on roadways where it is not feasible to install bicycle lanes, separated bike lanes, or shared use paths, but it is desirable to communicate bicyclists priority within a shared lane.

Benefits

- Make bicyclists more conspicuous in locations where it is not possible to provide a low-stress bikeway.

Typical Application

- Narrow streets with high on-street parking turnover, typically those with ground floor retail and dining or on low-speed, low-volume frontage roads.
- Separated bike lane mixing zones where a protected intersection is not provided.

Examples in Montgomery County

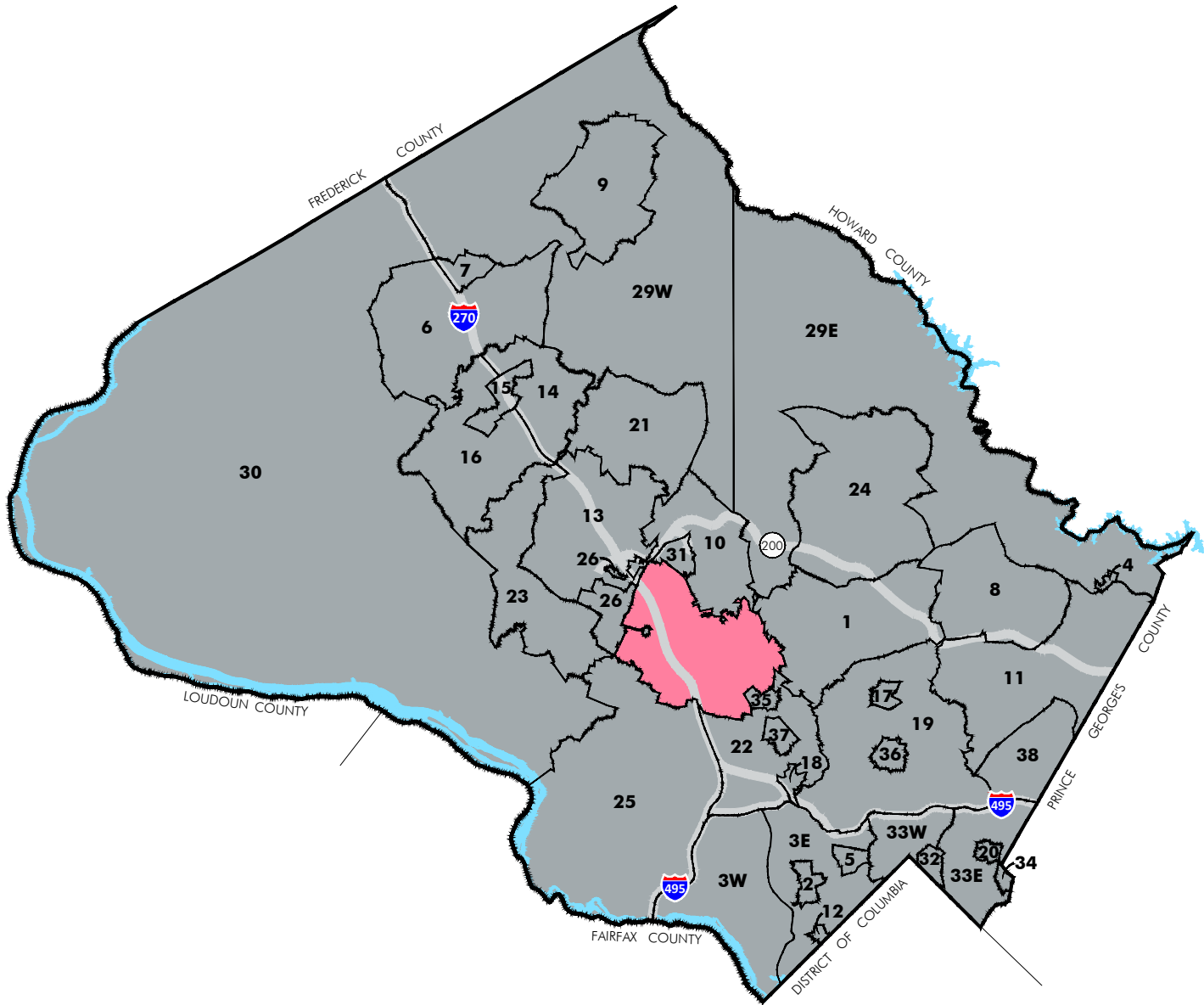
- None.

GENERAL BIKEWAY APPLICATION

ROADWAY CLASSIFICATIONS	NUMBER OF LANES	HIGHER ACTIVITY AREAS	LOWER ACTIVITY AREAS
Controlled Major Highway	4+	Two-Way Separated Bike Lanes (Both Sides of Street)	Sidepath (Both Sides of Street)
		Great Seneca Hwy (South of Sam Eig Hwy)	Great Seneca Hwy (North of Longdraft Rd)
Major Highway*	4+	Two-Way Separated Bike Lanes (Both Sides of Street)	Separated Bikeway Sidepath (Both Sides of Street)
		Rockville Pike (White Flint)	Veirs Mill Rd (north of Wheaton CBD)
Arterial*	5	Two-Way Separated Bike Lanes (Both Sides of Street)	Sidepath (Both Sides of Street)
		Darnestown Rd (East of Shady Grove Rd)	Bel Pre Rd (East of Connecticut Ave)
	2-4	One-Way Separated Bike Lanes (Both Sides of Street)	Sidepath (One Side of Street)
		Spring St (Silver Spring)	Wilson Ln (Bethesda)
Minor Arterial*	2-3	One-Way Separated Bike Lanes (Both Sides of Street)	Sidepath (One Side of Street)
		Few examples at this time	Few examples at this time
Country Arterials	Any	N/A	Bikeable Shoulders
			Dickerson Rd
Business District Street	2-3	One-Way Separated Bike Lanes (Both Sides of Street)	One-Way Separated Bike Lanes (Both Sides of Street)
		Norfolk Ave (Bethesda)	Westbard Ave (Westbard)
Primary Residential	2	N/A	Sidepath, Conventional Bike Lanes, Advisory Bike Lanes
			Artic Ave
Secondary Residential	Un-Laned	N/A	On-Road Bikeway
			Gelding Ln (Olney)
Tertiary Residential	Un-Laned	N/A	On-Road Bikeway
			Gelding Ln (Olney)

*Where space is available and does not substantially detract from the default bikeway, bike lanes or bikeable shoulders can be added.

Overall Policy Areas



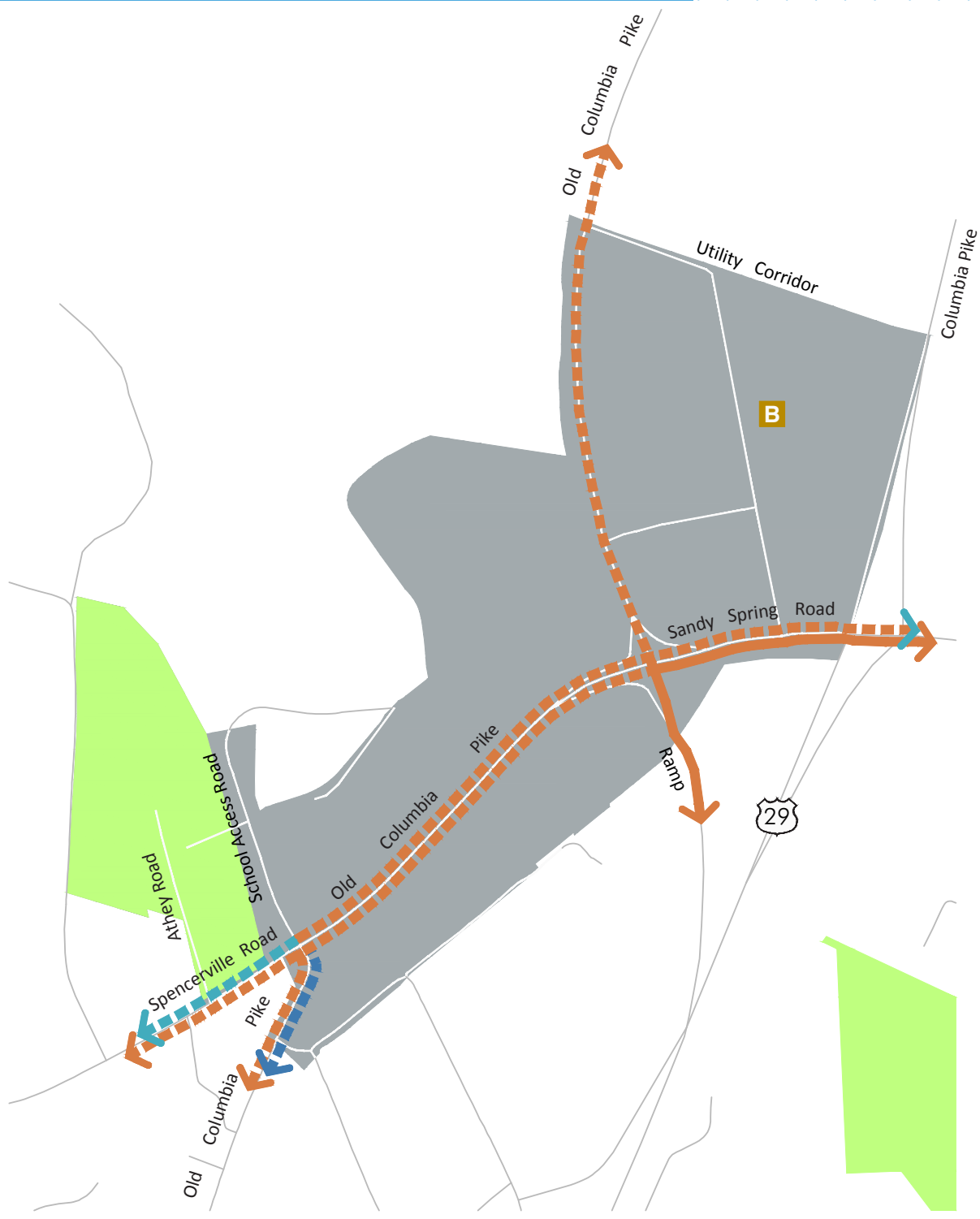
— Montgomery County Boundary

■ City of Rockville

- | | | |
|---------------------------------------|--------------------------------------|---------------------------------------------|
| 1 Aspen Hill | 13 Gaithersburg City | 26 R&D Village |
| 2 Bethesda CBD | 14 Germantown East | 29E Rural East (East) |
| 3E Bethesda/Chevy Chase (East) | 15 Germantown Town Center | 29W Rural East (West) |
| 3W Bethesda/Chevy Chase (West) | 16 Germantown West | 30 Rural West |
| 4 Burtonsville Town Center | 17 Glenmont | 31 Shady Grove Metro Station |
| 5 Chevy Chase Lake | 18 Grosvenor | 32 Silver Spring CBD |
| 6 Clarksburg | 19 Kensington/Wheaton | 33E Silver Spring/Takoma Park (East) |
| 7 Clarksburg Town Center | 20 Long Branch | 33W Silver Spring/Takoma Park (West) |
| 8 Cloverly | 21 Montgomery Village/Airpark | 34 Takoma/Langley |
| 9 Damascus | 22 North Bethesda | 35 Twinbrook |
| 10 Derwood | 23 North Potomac | 36 Wheaton CBD |
| 11 Fairland/Colesville | 24 Olney | 37 White Flint |
| 12 Friendship Heights | 25 Potomac | 38 White Oak |



BURTONSVILLE TOWN CENTER



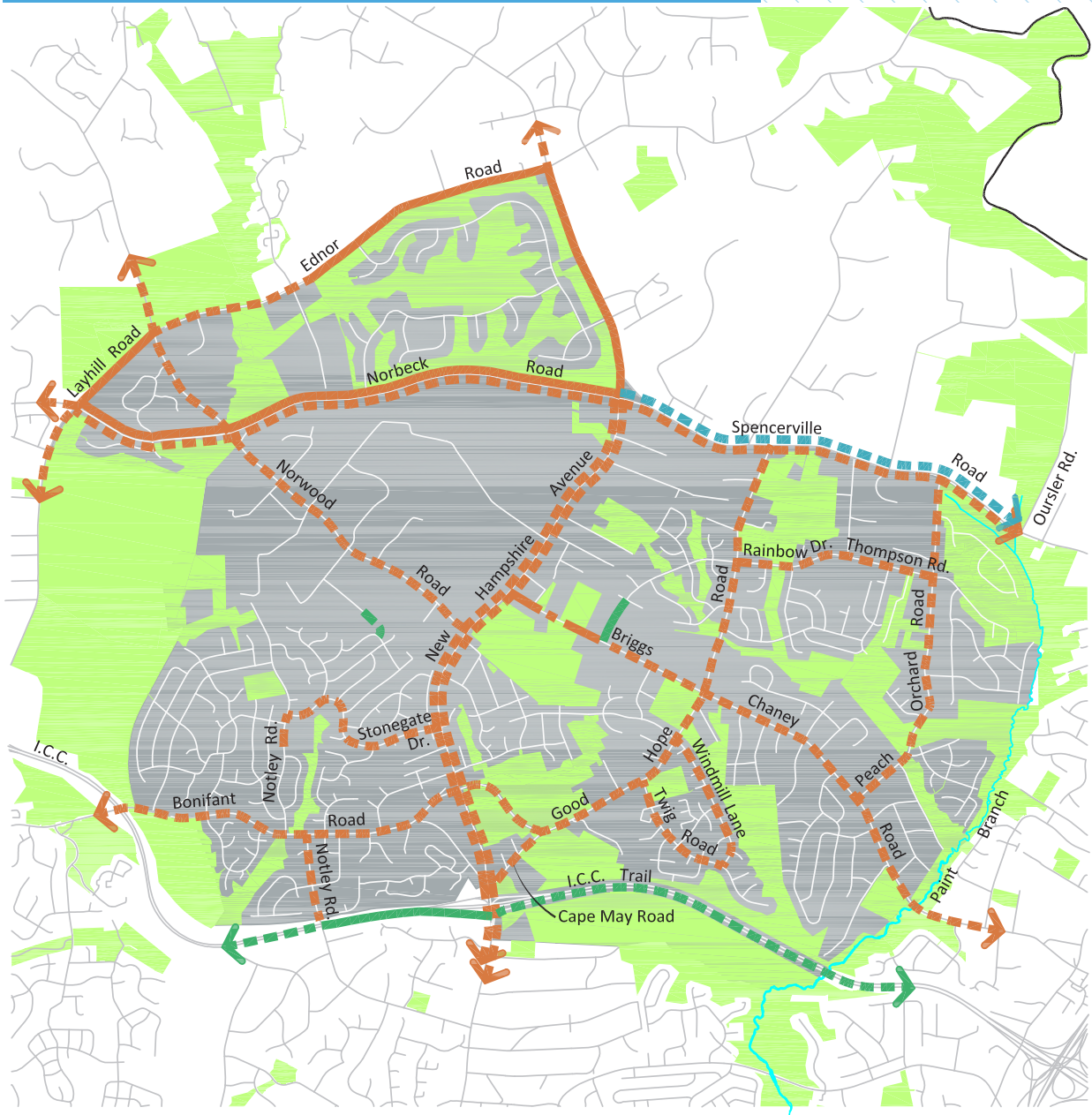
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|  | Policy Area |  | Existing |  | Proposed | Separated Bikeways |
|  | Parkland |  | |  | | Striped Bikeways |
|  | Bus Rapid Transit Station | | | | | Bikeable Shoulders |

Note: White lines represent non-master planned bikeways



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Columbia Pike Ramp	Sandy Spring Rd	Columbia Pike	Separated Bikeway	Sidepath (West Side)
Old Columbia Pike	Utility Corridor	Sandy Spring Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
	Sandy Spring Rd	School Access Rd	Separated Bikeway	Sidepath (South Side) and Separated Bike Lanes (North Side)
	Spencerville Rd	Tolson Pl	Separated Bikeway and Striped Bikeway	Sidepath (West Side) and Conventional Bike Lanes
Sandy Spring Rd	Old Columbia Pike	Columbia Pike	Separated Bikeway	Sidepath (South Side) and Separated Bike Lanes (North Side)

CLOVERLY



- | | | | |
|-------------|----------|----------|--------------------|
| Policy Area | Existing | Proposed | Trails |
| Parkland | Existing | Proposed | Separated Bikeways |
| County Line | Existing | Proposed | Bikeable Shoulders |

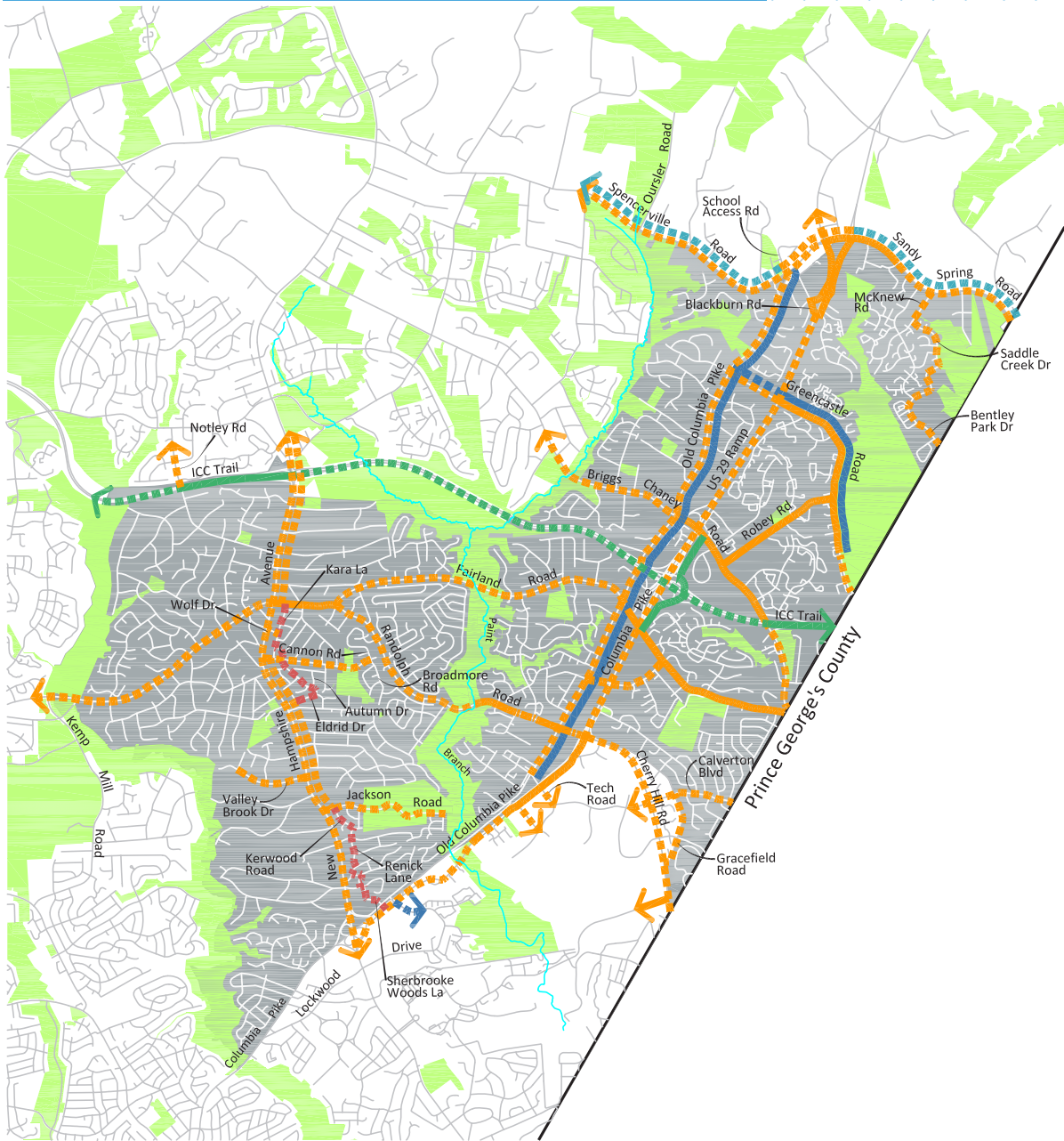
Note: White lines represent non-master planned bikeways














BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Bonifant Rd	ICC Trail	New Hampshire Ave	Separated Bikeway	Sidepath (South Side)
Briggs Chaney Rd	New Hampshire Ave	Paint Branch	Separated Bikeway	Sidepath (North Side)
Cape May Rd	Good Hope Rd	New Hampshire Ave	Separated Bikeway	Sidepath (South Side)
Ednor Rd	New Hampshire Ave	Norwood Rd	Separated Bikeway	Sidepath (East Side)
Good Hope Rd	New Hampshire Ave	Spencerville Rd	Separated Bikeway	Sidepath (East Side)
ICC Trail	New Hampshire Ave	Paint Branch	Trail	Off-Street Trail
Layhill Rd	Norwood Rd	Norbeck Rd	Separated Bikeway	Sidepath (East Side)
New Hampshire Ave	Ednor Rd	Norbeck Rd	Separated Bikeway	Sidepath (West Side)
	Norbeck Rd	ICC Ramp	Separated Bikeway	Sidepath (Both Sides)
Norbeck Rd	Layhill Rd	New Hampshire Ave	Separated Bikeway	Sidepath (Both Sides)
Norwood Rd	Ednor Rd	New Hampshire Ave	Separated Bikeway	Sidepath (East Side)
Notley Rd	Stonegate Dr	Stonegate Elementary School	Separated Bikeway	Sidepath (East Side)
Notley Rd	Bonifant Rd	ICC Trail	Separated Bikeway	Sidepath (East Side)
Peach Orchard Rd	Spencerville Rd	Briggs Chaney Rd	Separated Bikeway	Sidepath (side TBD)
Rainbow Dr	Good Hope Rd	Thompson Rd	Separated Bikeway	Sidepath (South Side)
Spencerville Rd	New Hampshire Ave	Oursler Rd	Separated Bikeway and Bikeable Shoulder	Sidepath (South Side) and Bikeable Shoulder
Stonegate Dr	Notley Rd	New Hampshire Ave	Separated Bikeway	Sidepath (side TBD)
Thompson Rd	Rainbow Dr	Peachtree Rd	Separated Bikeway	Sidepath (South Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Twig Rd	Good Hope Rd	Windmill La	Separated Bikeway	Sidepath (side TBD)
Windmill La	Good Hope Rd	Twig Rd	Separated Bikeway	Sidepath (side TBD)

FAIRLAND/COLESVILLE



 Policy Area	 Existing	 Proposed	Trails
 Parkland	 Existing	 Proposed	Separated Bikeways
 County Line	 Existing	 Proposed	Striped Bikeways
		 Proposed	Bikeable Shoulders
		 Proposed	Shared Roads

Note: White lines represent non-master planned bikeways


















BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Bentley Park Dr	Saddle Creek Dr	Prince George's County	Separated Bikeway	Sidepath (East Side)
Blackburn Rd	Columbia Pike SB Ramp	Columbia Pike	Separated Bikeway	Sidepath (North Side)
Briggs Chaney Rd	Paint Branch	Old Columbia Pike	Separated Bikeway	Sidepath (North Side)
	Old Columbia Pike	Prince George's County	Separated Bikeway	Sidepath (South Side)
Calverton Blvd	Gracefield Rd	Prince George's County	Separated Bikeway	Sidepath (South Side)
Cannon Rd	New Hampshire Ave	Broadmore Rd	Separated Bikeway	Sidepath (South Side)
Cherry Hill Rd	Columbia Pike	Gracefield Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Cherry Hill Rd	Gracefield Rd	Prince George's County	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Columbia Pike	Sandy Spring Rd	Blackburn Rd	Separated Bikeway	Sidepath (Both Sides)
	Blackburn Rd	Tech Rd	Separated Bikeway	Sidepath (East Side)
Fairland Rd	Randolph Rd	Briggs Chaney Rd	Separated Bikeway	Sidepath (South Side)
Gracefield Rd	Calverton Blvd	Cherry Hill Rd	Separated Bikeway	Sidepath (West Side)
Greencastle Rd	Old Columbia Pike	Greencastle Ridge Ter	Separated Bikeway and Striped Bikeway	Sidepath (West Side) and Conventional
	Greencastle Ridge Ter	Prince George's County	Separated Bikeway	Sidepath (West Side)
ICC Trail	Notley Rd	New Hampshire Ave	Trail	Off-Street Trail
ICC Trail	Paint Branch	Prince George's County	Trail	Off-Street Trail
Jackson Rd	New Hampshire Ave	Paint Branch Trail	Separated Bikeway	Sidepath (North Side)
McKnew Rd	Sandy Spring Rd	Saddle Creek Dr	Separated Bikeway	Sidepath (East Side)
Musgrove Rd	Old Columbia Pike	Fairland Rd	Separated Bikeway	Sidepath (South Side)

BIKEWAY		FROM	TO	FACILITY TYPE	BIKEWAY TYPE
New Hampshire Ave (Both Sides)		ICC Trail	Wolf Dr	Separated Bikeway	Sidepath on Both Sides of Street
New Hampshire Ave (West Side)		Wolf Dr	Eldrid Dr	Separated Bikeway	Sidepath (West Side)
		Eldrid Dr	Jackson Rd	Separated Bikeway	Sidepath (West Side)
		Jackson Rd	Columbia Pike	Separated Bikeway	Sidepath (West Side)
New Hampshire Ave (East Side)	Kara La	Randolph Rd	Autumn Dr	Shared Road	Neighborhood Greenway
	Autumn Dr	Kara La	Eldrid Dr	Shared Road	Neighborhood Greenway
	Eldrid Dr	Autumn Dr Trail	New Hampshire Ave	Shared Road	Neighborhood Greenway
	New Hampshire Ave	Eldrid Dr	Jackson Rd	Separated Bikeway	Sidepath (East Side)
New Hampshire Ave (East Side)	Kerwood Rd	Jackson Rd	Renick La	Shared Road	Neighborhood Greenway
	Renick La	Kerwood Rd	Tracy Dr	Shared Road	Neighborhood Greenway
	Tracy Dr	Renick La	Kathryn Rd	Shared Road	Neighborhood Greenway
	Katryn Rd	Tracy Dr	Neighborhood Connector	Shared Road	Neighborhood Greenway
	Neighborhood Connector	Katryn Rd	Heartfields Dr	Trail	Neighborhood Connector
	Heartfields Dr	Neighborhood Connector	Sherbrooke Woods La	Shared Road	Neighborhood Greenway
	Sherbrooke Woods La	Heartfields Dr	Milestone Dr	Shared Road	Neighborhood Greenway
	Milestone Dr	Sherbrooke Woods La	Stewart La	Separated Bikeway	Sidepath (West Side)
	Stewart La	Milestone Dr	Old Columbia Pike	Separated Bikeway	Sidepath (side TBD)
Old Columbia Pike	Tolson Pl	Tech Rd	Separated Bikeway and Striped Bikeway	Sidepath (West Side) and Conventional Bike Lanes	

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Old Columbia Pike	Tech Rd	Stewart La	Separated Bikeway	Sidepath (East Side)
Randolph Rd	Kemp Mill Rd	Fairland Rd	Separated Bikeway	Sidepath (North Side)
	Fairland Rd	Columbia Pike	Separated Bikeway	Sidepath (South Side)
Robey Rd	Greencastle Rd	Briggs Chaney Rd	Separated Bikeway	Sidepath (West Side)
Saddle Creek Dr	McKnew Rd	Bentley Park Dr	Separated Bikeway	Sidepath (East Side)
Sandy Spring Rd	Old Columbia Pike	Columbia Pike	Separated Bikeway	Sidepath (South Side) and Separated Bike Lanes (North Side)
	Columbia Pike	Columbia Pike Ramp	Separated Bikeway	Sidepath (South Side) and Separated Bike Lanes (North Side)
	Columbia Pike Ramp	Prince George's County	Separated Bikeway and Bikeable Shoulders	Sidepath (South Side) and Bikeable Shoulder
Spencerville Rd	Oursler Rd	School Access Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (South Side) and Bikeable Shoulder
Tech Rd	Old Columbia Pike	Columbia Pike	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
US 29 Ramp	Cherry Hill Rd	Parking Lot	Separated Bikeway	Sidepath (East Side)
Valley Brook Dr	Spring Brook High School	New Hampshire Ave	Separated Bikeway	Sidepath (South Side)
Wolf Dr	New Hampshire Ave	Kara La	Separated Bikeway	Sidepath (North Side)

OLNEY

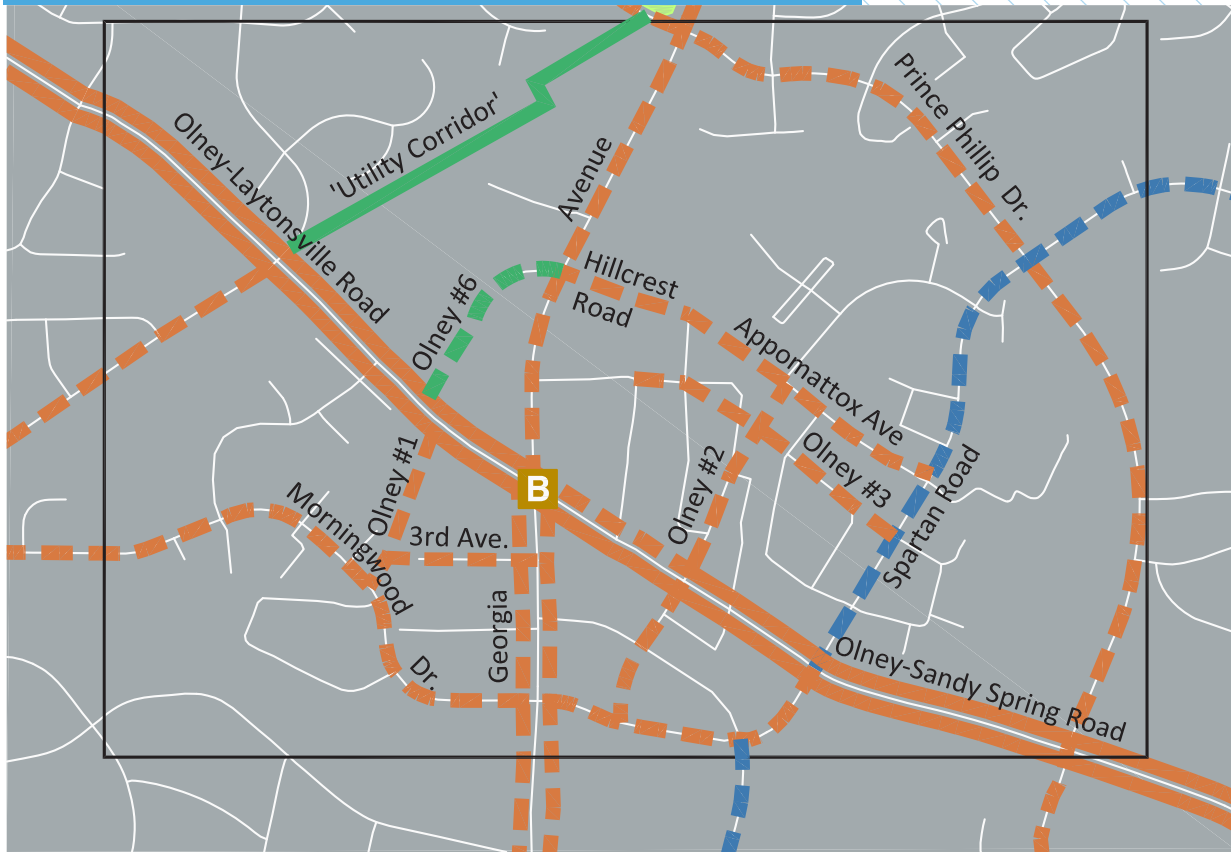


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|  | Policy Area |  | Existing |  | Proposed |  | Trails |
|  | Parkland |  | |  | |  | Separated Bikeways |
|  | Bus Rapid Transit Station (Proposed) |  | |  | |  | Striped Bikeways |
| | |  | |  | |  | Bikeable Shoulders |

Note: White lines represent non-master planned bikeways



OLNEY INSERT

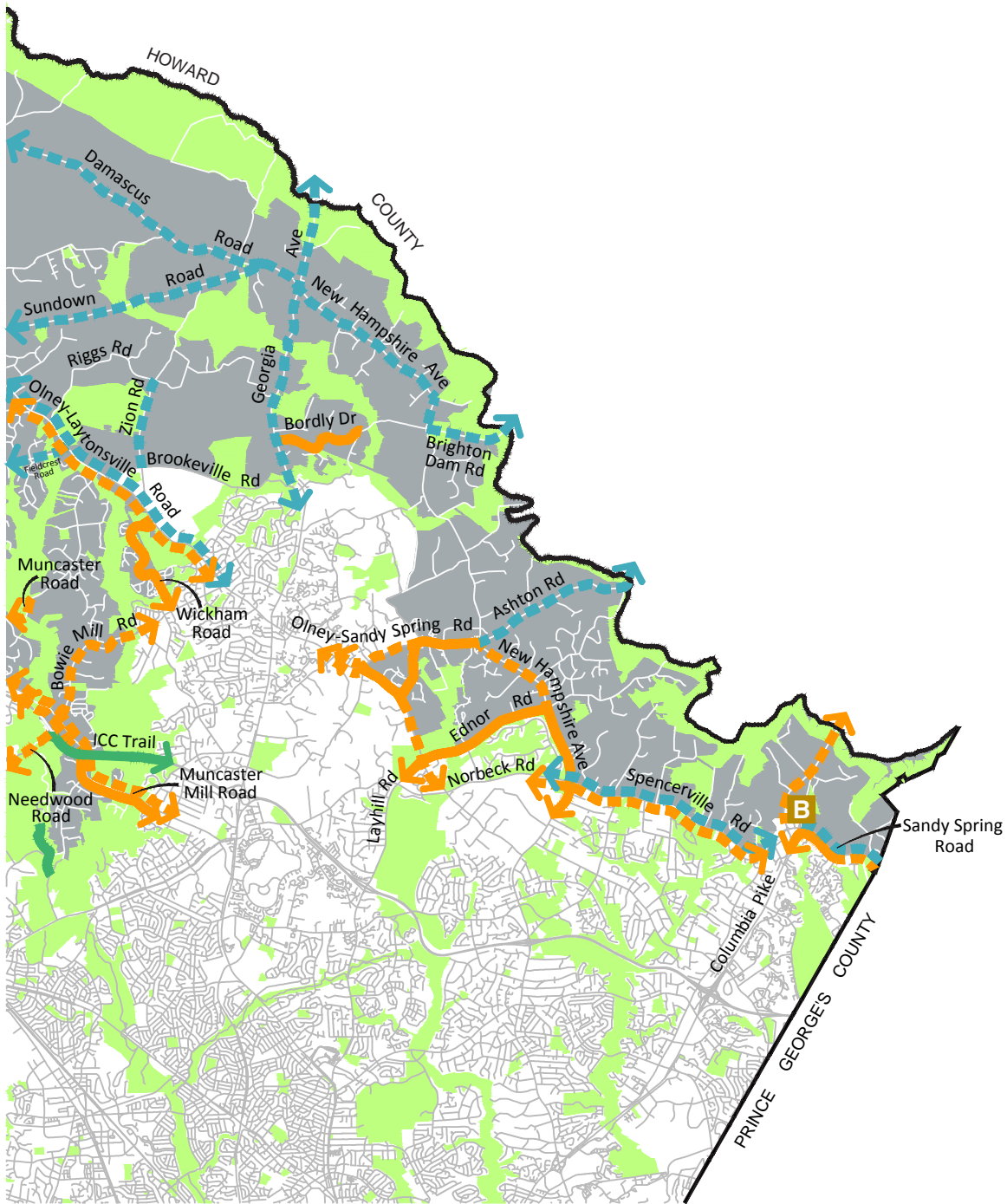


STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
3rd Ave	Olney #1	Georgia Ave	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
Appomattox Ave	Hillcrest Ave	Spartan Rd	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
Batchellors Forest Rd	Olney #5	Farquhar Middle School	Separated Bikeway	Sidepath (side TBD)
Bowie Mill Rd	North Branch Rock Creek	Olney-Laytonsville Rd	Separated Bikeway	Sidepath (South Side)
Brooke Rd	Meadowsweet Dr	Olney Sandy Spring Rd	Separated Bikeway	Sidepath (East Side)
Brookeville Bypass	Brookeville Rd	Gold Mine Rd	Bikeable Shoulders	Bikeable Shoulders
Buehler Rd	Spartan Rd	Trail	Striped Bikeway	Conventional Bike Lanes
Cashell Rd	Bowie Mill Rd	Emory La	Separated Bikeway	Sidepath (East Side)
Cherry Valley Dr	Wellfleet Dr	Cashell Rd	Separated Bikeway	Sidepath (North Side)
Dr. Bird Rd	Olney-Sandy Spring Rd	Norwood Rd	Separated Bikeway	Sidepath (East Side)
Emory Church Rd	Olney #4	Olney #5	Separated Bikeway	Sidepath (South Side)
Emory La	Georgia Ave	Muncaster Mill Rd	Separated Bikeway	Sidepath (East Side)
Georgia Ave	Brookeville Rd	Olney-Laytonsville Rd	Separated Bikeway	Sidepath (East Side)
	Olney-Laytonsville Rd	Queen Mary Dr	Separated Bikeway	Sidepath (West Side) and Separated Bike Lanes (East Side)
	Queen Mary Dr	Bel Pre Rd	Separated Bikeway	Sidepath on Both Sides of Street
	Silo Inn Dr	Parking Lot entrance	Separated Bikeway	Sidepath
Gold Mine Rd	Olney Mill Rd	Chandlee Mill Rd	Separated Bikeway	Sidepath (South Side)

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Headwaters Dr	Olney-Laytonsville Rd	Morningwood Dr	Separated Bikeway	Sidepath (South Side)
Hillcrest Rd	Georgia Ave	Appomattox Ave	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
Hines Rd	Cashell Rd	Georgia Ave	Separated Bikeway	Separated Bike Lanes (Side TBD)
ICC Trail	North Branch Rock Creek	Norbeck Rd	Trail	Off-Street Trail
Layhill Rd	Norwood Rd	Norbeck Rd	Separated Bikeway	Sidepath (East Side)
Morningwood Dr	Cashell Rd	Georgia Ave	Separated Bikeway	Sidepath (side TBD)
Muncaster Mill Rd	North Branch Rock Creek	Norbeck Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Norbeck Rd	Muncaster Mill Rd	Layhill Rd	Separated Bikeway	Sidepath (North Side)
Norwood Rd	Dr. Bird Rd	Ednor Rd	Separated Bikeway	Sidepath (East Side)
Old Baltimore Rd	Gold Mine Rd	Georgia Ave	Separated Bikeway	Sidepath (West Side)
Old Vic Blvd	Olney-Sandy Spring Rd	Batchellors Forest Rd	Separated Bikeway	Sidepath (West Side)
Olney #1	Olney-Laytonsville Rd	Morningwood Dr	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
Olney #2	Appomattox Ave	Spartan Rd	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
Olney #3	Hillcrest Ave	Spartan Rd	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
Olney #4	Park Road	Emory Church Rd	Trail	Off-Street Trail
Olney #5	Emory Church Rd	Batchellors Forest Rd	Trail	Off-Street Trail
Olney #6	Olney-Laytonsville Rd	Georgia Ave	Trail	Off-Street Trail

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Olney Mill Rd	Olney-Laytonsville Rd	Gold Mine Rd	Separated Bikeway	Sidepath (West Side)
Olney-Laytonsville Rd (North Side)	Brookeville Rd	Olney Mill Rd	Separated Bikeway and Bikeable Shoulders	Sidepath and Bikeable Shoulders
	Olney Mill Rd	Queen Elizabeth Dr	Shared Road	Neighborhood Greenway
	Queen Elizabeth Dr	Georgia Ave	Separated Bikeway	Sidepath
Olney-Laytonsville Rd (South Side)	Olney Mill Rd	Georgia Ave	Separated Bikeway	Sidepath
Olney-Sandy Spring Rd	Georgia Ave	Dr. Bird Rd	Separated Bikeway	Sidepath on Both Sides of Street
	Dr. Bird Rd	Brooke Rd	Separated Bikeway	Sidepath (North Side)
Prince Phillip Dr	Georgia Ave	Olney-Sandy Spring Rd	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
	Olney-Sandy Spring Rd	Georgia Ave	Separated Bikeway	Sidepath (East Side)
Queen Elizabeth Dr	Olney-Laytonsville Rd	Georgia Ave	Separated Bikeway	Sidepath (North Side)
Queen Mary Dr	Olney Elementary School	Georgia Ave	Separated Bikeway	Sidepath (North Side)
Spartan Rd	Georgia Ave	Olney-Sandy Spring Rd	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
	Olney-Sandy Spring Rd	Old Baltimore Rd	Striped Bikeway	Buffered Bike Lanes
Utility Corridor	Bowie Mill Rd	Morningwood Dr	Trail	Off-Street Trail
Utility Corridor	Olney-Laytonsville Rd	Queen Elizabeth Dr	Trail	Off-Street Trail
Wellfleet Dr	Hines Rd	Cherry Valley Dr	Separated Bikeway	Sidepath (West Side)
Wickham Rd	Stream	Bowie Mill Rd	Separated Bikeway	Sidepath (West Side)

RURAL EAST (EAST)



- | | | | |
|--------------------------------------|----------|----------|--------------------|
| Policy Area | Existing | Proposed | Trails |
| Parkland | Existing | Proposed | Separated Bikeways |
| County Line | Existing | Proposed | Bikeable Shoulders |
| Bus Rapid Transit Station (Proposed) | | | |

Note: White lines represent non-master planned bikeways



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Ashton Rd	New Hampshire Ave	Howard County	Bikeable Shoulders	Bikeable Shoulders
Bordly Dr	Georgia Ave	Brighton Dam Rd	Separated Bikeway	Sidepath (South Side)
Bowie Mill Rd	Muncaster Mill Rd	North Branch Rock Creek	Separated Bikeway	Sidepath (South Side)
Brighton Dam Rd	New Hampshire Ave	Howard Co	Bikeable Shoulders	Bikeable Shoulders
Brooke Rd	Meadowsweet Dr	Station Dr	Separated Bikeway	Sidepath (East Side)
Brookeville Bypass	Georgia Ave	Brookeville Rd	Bikeable Shoulders	Bikeable Shoulders
Columbia Pike	Howard County	Old Columbia Pike	Separated Bikeway	Sidepath (West Side)
Damascus Rd	Laytonsville Rd	Georgia Ave	Bikeable Shoulders	Bikeable Shoulders
Dr. Bird Rd	Olney-Sandy Spring Rd	Norwood Rd	Separated Bikeway	Sidepath (East Side)
Ednor Rd	New Hampshire Ave	Norwood Rd	Separated Bikeway	Sidepath (East Side)
Fieldcrest Rd	Belle Chase Dr	Olney-Laytonsville Rd	Bikeable Shoulders	Bikeable Shoulders
Georgia Ave	Howard County	Brookeville Bypass	Bikeable Shoulders	Bikeable Shoulders
ICC Trail	Needwood Rd	Rock Creek	Trail	Off-Street Trail
Muncaster Mill Rd	Muncaster Rd	North Branch Rock Creek	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Muncaster Rd	Rock Creek Park Rd	Muncaster Mill Rd	Separated Bikeway	Sidepath (North Side)
Needwood Rd	Beach Dr	Muncaster Mill Rd	Separated Bikeway	Sidepath (South Side)
New Hampshire Ave	Georgia Ave	Brighton Dam Rd	Bikeable Shoulders	Bikeable Shoulders
New Hampshire Ave	Olney-Sandy Spring Rd	Ednor Rd	Separated Bikeway	Sidepath (West Side)
	Ednor Rd	Norbeck Rd	Separated Bikeway	Sidepath (West Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Norwood Rd	Olney-Sandy Spring Rd	Dr. Bird Rd	Separated Bikeway	Sidepath (West Side)
	Dr. Bird Rd	Ednor Rd	Separated Bikeway	Sidepath (East Side)
Old Columbia Pike	Columbia Pike	Dustin Rd	Separated Bikeway	Sidepath (West Side)
	Dustin Rd	Utility Corridor	Separated Bikeway	Sidepath (East Side)
Olney-Laytonsville Rd	Laytonsville	Olney Mill Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (North Side) and Bikeable Shoulders
Olney-Sandy Spring Rd	Dr. Bird Rd	New Hampshire Ave	Separated Bikeway	Sidepath (North Side)
Sandy Spring Rd	Columbia Pike	Prince George's County	Separated Bikeway and Bikeable Shoulders	Sidepath (South Side) and Bikeable Shoulder
Spencerville Rd	New Hampshire Ave	School Access Rd	Separated Bikeway and Bikeable Shoulder	Sidepath (South Side) and Bikeable Shoulder
Sundown Rd	Laytonsville	Damascus Rd	Bikeable Shoulders	Bikeable Shoulders
Wickham Rd	Olney-Laytonsville Rd	Stream	Separated Bikeway	Sidepath (West Side)
Zion Rd	Riggs Rd	Brookeville Rd	Bikeable Shoulders	Bikeable Shoulders

WHITE OAK



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Broadbirch Dr	Tech Rd	Cherry Hill Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Calverton Blvd	Cherry Hill Rd	Gracefield Rd	Separated Bikeway	Sidepath (South Side)
Cherry Hill Rd	Columbia Pike	Prince George's County	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Columbia Pike	Lockwood Dr	Northwest Branch	Separated Bikeway	Sidepath (East Side)
FDA Blvd	Cherry Hill Rd	FDA Gate	Separated Bikeway	Sidepath (North Side)
Gracefield Rd	Calverton Blvd	Cherry Hill Rd	Separated Bikeway	Sidepath (West Side)
Industrial Pkwy	Columbia Pike	FDA Blvd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Lockwood Dr	Stewart La	White Oak Park Drwy	Striped Bikeway	Conventional Bike Lanes
	White Oak Park Drwy	New Hampshire Ave	Separated Bikeway	Sidepath (East Side)
	New Hampshire Ave	Columbia Pike	Separated Bikeway	Sidepath (East Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
New Hampshire Ave	Columbia Pike	Lockwood Dr	Separated Bikeway	Sidepath (West Side)
	Lockwood Dr	Michelson Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
	Michelson Rd	Oaklawn Dr	Separated Bikeway	Sidepath (Both Sides)
	Oaklawn Dr	Overlook Dr	Separated Bikeway	Sidepath (Both Sides)
	Overlook Dr	Powder Mill Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
	Powder Mill Rd	Elton Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
	Elton Rd	I-495	Separated Bikeway	Sidepath (Both Sides)
Old Columbia Pike	Tech Rd	Stewart La	Separated Bikeway	Sidepath (East Side)
	Stewart La	White Oak Shopping Center	Separated Bikeway	Sidepath (East Side)
	White Oak Shopping Center	Lockwood Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Plum Orchard Dr	Broadbirch Dr	Cherry Hill Rd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Powder Mill Rd	New Hampshire Ave	Prince George's County	Separated Bikeway	Sidepath (North Side)
Stewart La	Milestone Dr	Old Columbia Pike	Separated Bikeway	Sidepath (side TBD)
	Old Columbia Pike	Lockwood Dr	Striped Bikeway	Conventional Bike Lanes
Street B-5	Plum Orchard Dr	FDA Blvd	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Tech Rd	Columbia Pike	Industrial Pkwy	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)



BICYCLE MASTER PLAN

PRELIMINARY BIKEWAY RECOMMENDATIONS

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