

The Flats at Knowles Station

Kensington, Maryland

December 11, 2020

Traffic Impact Analysis

Prepared for:

Woodside Builders

Mr. Tom Brault

10509 Summit Avenue

Kensington, Maryland 20895



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INTRODUCTION AND SUMMARY OF FINDINGS

Study Purpose

The Traffic Group, Inc. has conducted a Traffic Impact Analysis for the proposed redevelopment of the office building located at 10509 Summit Avenue at Knowles Avenue (MD 547) in the Town of Kensington, Maryland. The primary purpose of this analysis is to determine what impact the proposed redevelopment of the subject property will have on the adjacent roadway network.

Study Criteria/Methodology

This Traffic Impact Analysis has been prepared in accordance with the current requirements of the Local Area Transportation Review (LATR) Guidelines by the Maryland-National Capital Park and Planning Commission (M-NCPPC). This property is located in the Kensington Policy Area.

The trip generation determination made as part of this report are based on the Institute of Transportation Engineers (ITE) Trip General Manual (10th Edition) and the requirements of the LATR Guidelines.

Upon review, it was determined that the project would generate more than 50 new peak hour person trips and, therefore, requires a motor vehicle adequacy analysis. However, the project would not require pedestrian, bicycle, or transit system adequacy analyses since it would generate less than 50 new peak hour trips for each of the respective transportation modes.

The Kensington Policy Area is orange and, therefore, the Highway Capacity Manual (HCM) Methodology will be utilized to determine intersection adequacy. The congestion standard for this area is 80 seconds per vehicle.

Scope of Services

The principal scope of services undertaken as part of this report was as follows:

- Field investigation to collect physical information concerning the nearby road network.
- Conduct intersection turning movements from 6:30–9:30 AM and 4–7 PM on a weekday at the study area intersections.
- Adjust the morning peak hour counts by 7 percent to reflect the impact on traffic resulting from the pandemic as required by the County.
- Obtain information relative to other developments approved in the vicinity.

- Conduct trip generation and trip distribution analyses for the other nearby developments.
- Conduct trip generation and trip distribution analyses for the proposed development of the subject property.
- Conduct intersection capacity analyses using the HCM Methodology, as appropriate.
- Evaluation of each of the study area intersections to determine if acceptable levels of service will be maintained with the development.

Summary of Findings and Recommendations

The results of our analysis indicate that the three (3) intersections analyzed as part of this report are projected to operate within the congestion standards established by M-NCPPC for the Policy Area. Therefore, no physical off-site improvements would be necessary with the development of this site.

The methodology used and the results of our analysis are contained in the sections that follow.

EXISTING TRAFFIC CONDITIONS

Site Information

The property is located in the northeast quadrant of the MD 547 (Knowles Avenue) and Summit Avenue intersection as shown on Figure 1. Figure 2 is an illustration of the current Concept Plan for the property. Access to the property is planned at one (1) location along Summit Avenue with a pass-through to Detrick Avenue through the adjoining retail shopping center.

Figure 1. Site Location Map

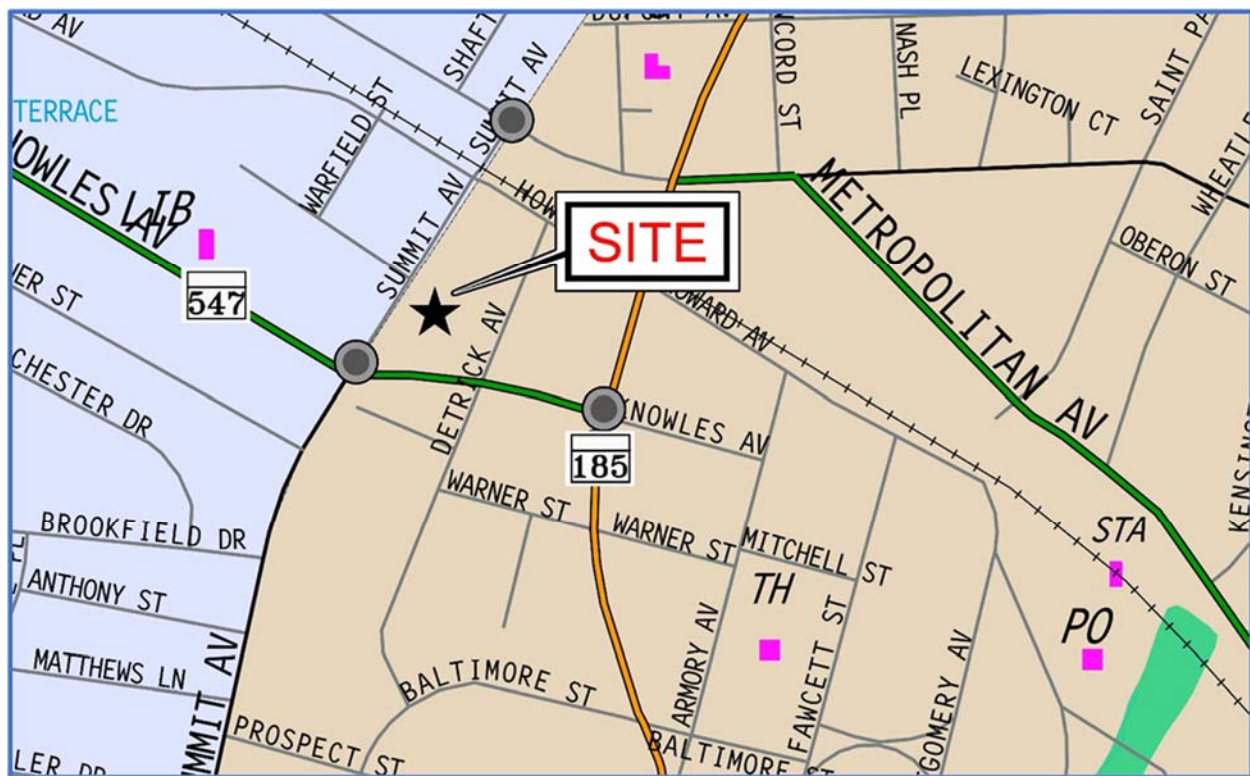
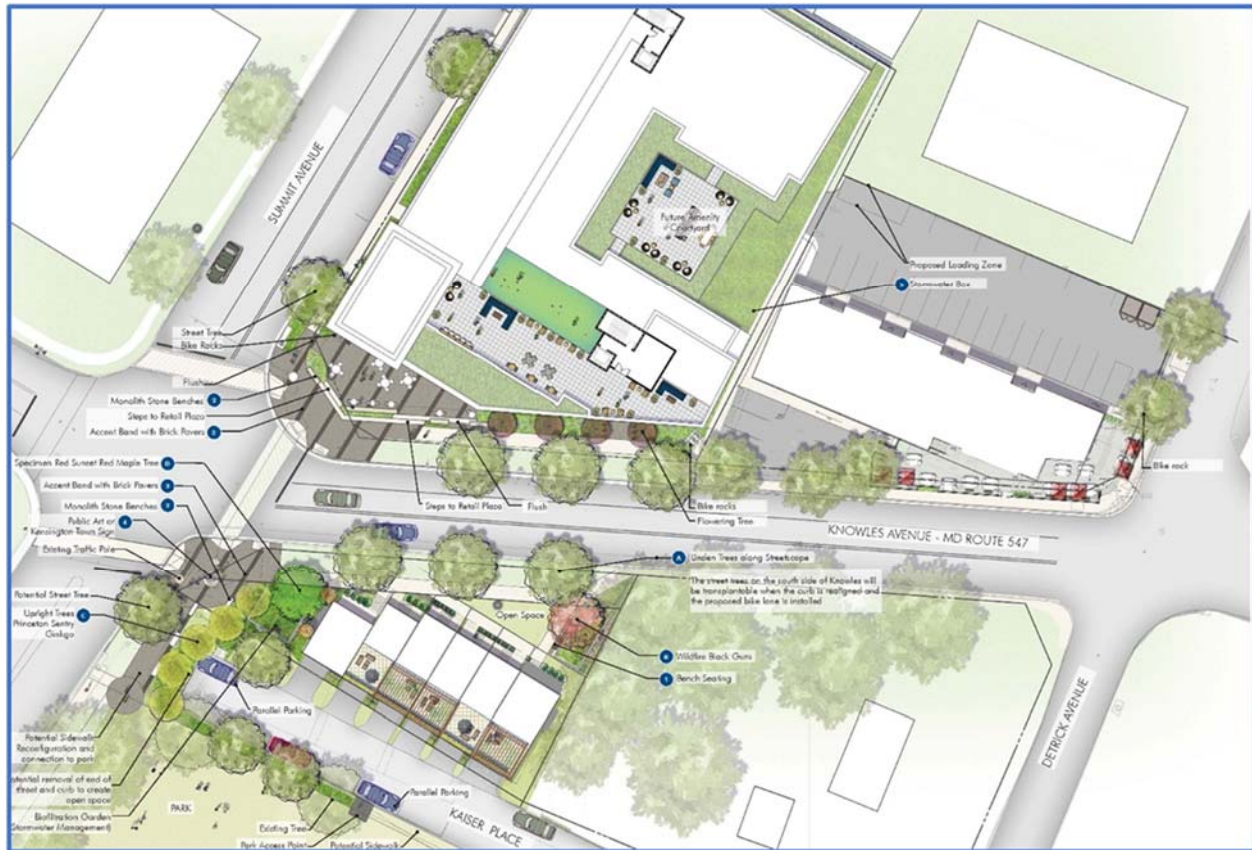


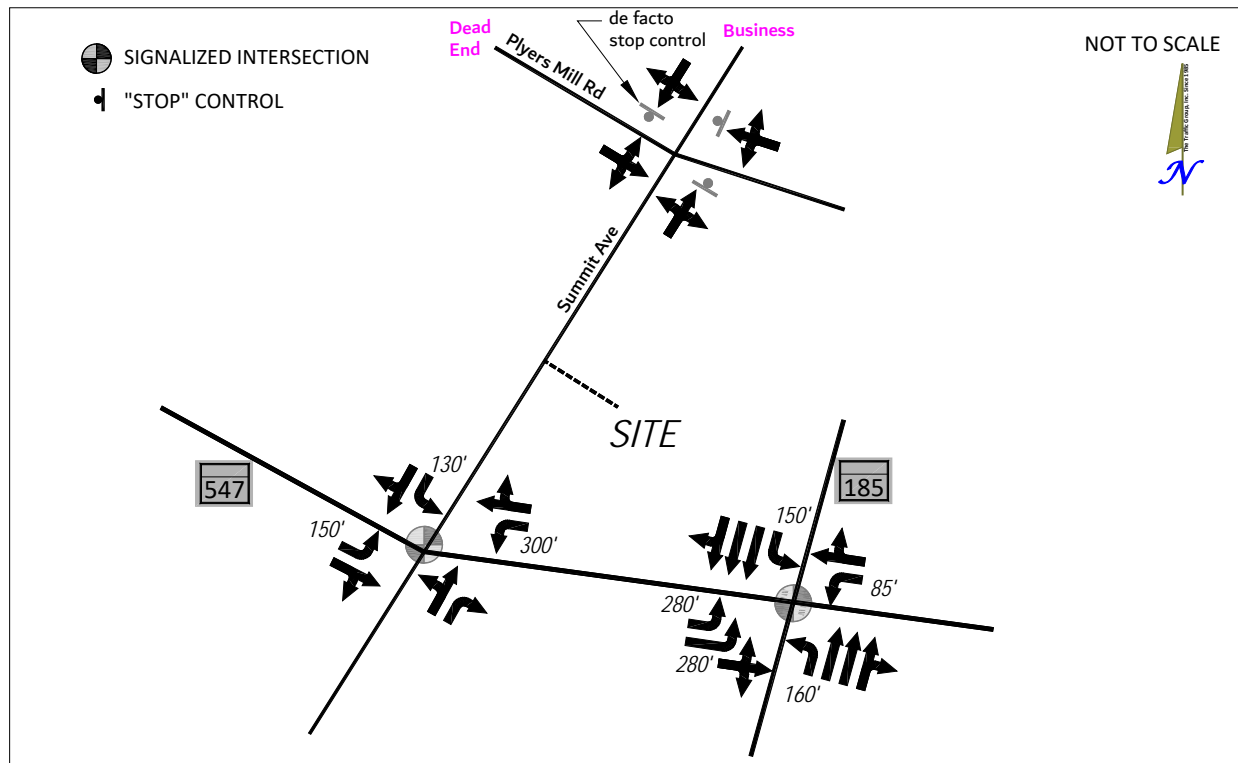
Figure 2. Site Plan



Existing Road Network

MD 185 (Connecticut Avenue) is a multi-lane divided north/south roadway in the vicinity of the property. The intersections of MD 185 and MD 547, MD 547 and Summit Avenue, and the intersection of Pylers Mill Road (MD 192) and Summit Avenue are all signalized. MD 185 is the only multi-lane divided roadway that is part of the study area. Figure 3 shows the existing lane use and traffic control at the study area intersections.

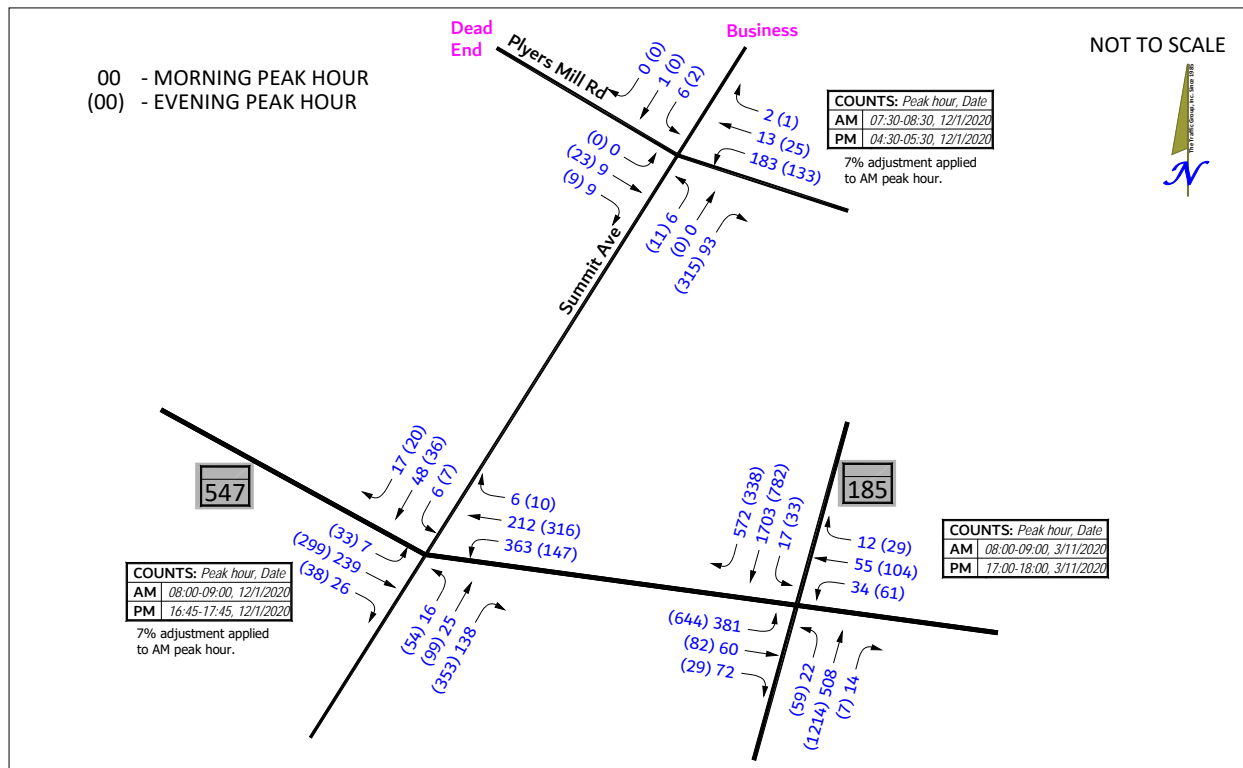
Figure 3. Existing Lane Use



Traffic Volumes

The Traffic Group, Inc. conducted traffic counts for the study area intersections from 6:30–9:30 AM and 4–7 PM on a weekday, and the total volumes observed are shown on the summary sheets contained in Appendix A. Due to the current pandemic, it is required in Montgomery County to increase the morning peak hour trips by a factor of 1.07. The evening peak hour volumes do not need to be adjusted. Accordingly, Figure 4 was prepared to reflect the existing peak hour volumes with the appropriate adjustments.

Figure 4. Existing Peak Hour Traffic Volumes

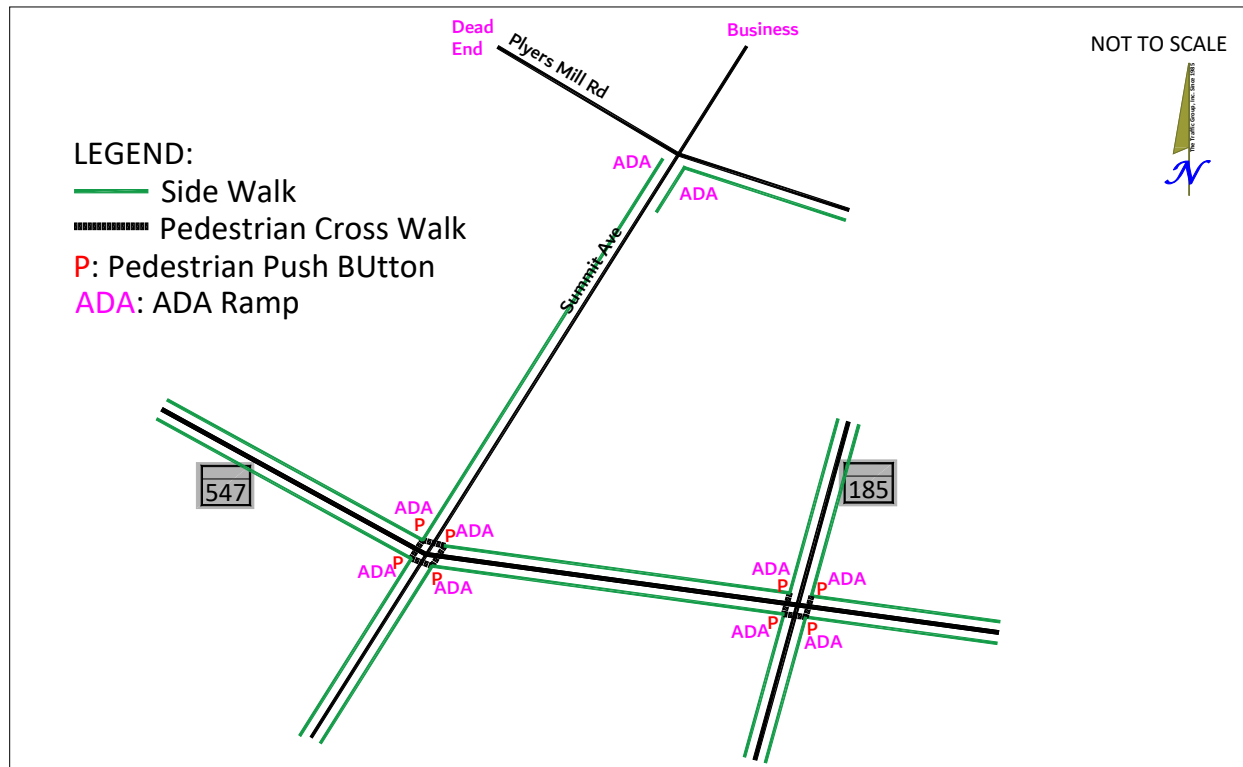


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Pedestrian Facilities

In addition to vehicular counts, pedestrian activity was observed and recorded and is shown on the summary sheets contained in Appendix A. Based on our field investigation, we prepared Figure 4A that shows the location of existing sidewalks in the vicinity of the site along with the location of crosswalks and pedestrian signals. The location of ADA ramps in accordance with the ADA Requirements are also shown on the Figure 4B.

Figure 4A. Existing Pedestrian Features



Sidewalks do not exist along all street sections in the study area.

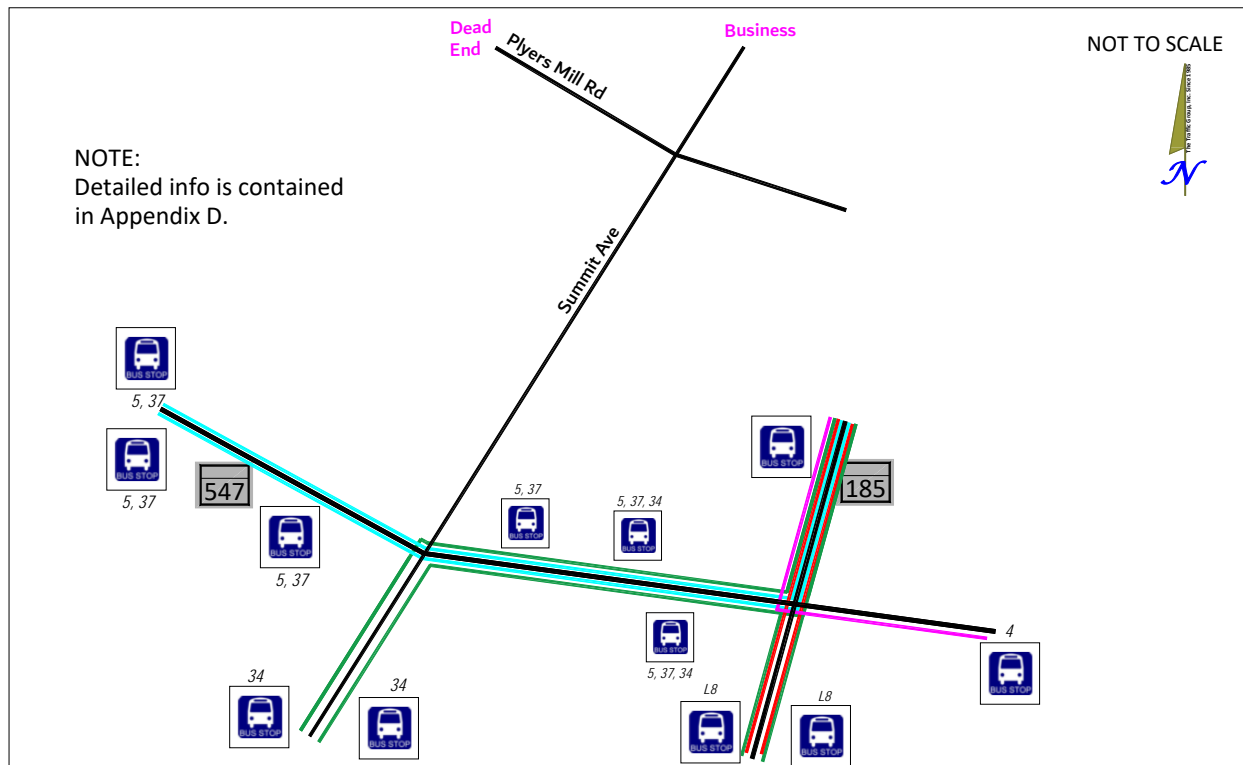
Bicycle Facilities

There are no designated bike facilities existing within the study area. Information pertaining to the Bicycle Master Plan is contained in Appendix D.

Transit Facilities

Figure 4B was prepared to show the transit facilities that exist in the study area. Copies of the maps and time schedules for the routes that serve this area are contained in Appendix D.

Figure 4B. Existing Transit Facilities



Analysis of Existing Traffic Conditions

Intersection capacity analyses were conducted for the existing peak hour volumes and the results are shown on Table 1. Copies of the capacity worksheets are contained in Appendix B. A review of Table 1 indicates that the study area intersections are currently operating within the congestion standard for the Kensington Policy Area.

Table 1. Intersection Capacity Analysis for Existing Condition (Seconds/Vehicle)

		EXISTING
AM PEAK HOUR TRAFFIC		
1. MD 185 & MD 547		28.3
2. MD 547 & Summit Ave		19.8
3. Summit Ave & Plyers Mill Rd		8.4
PM PEAK HOUR TRAFFIC		
1. MD 185 & MD 547		37.1
2. MD 547 & Summit Ave		29.2
3. Summit Ave & Plyers Mill Rd		9.3

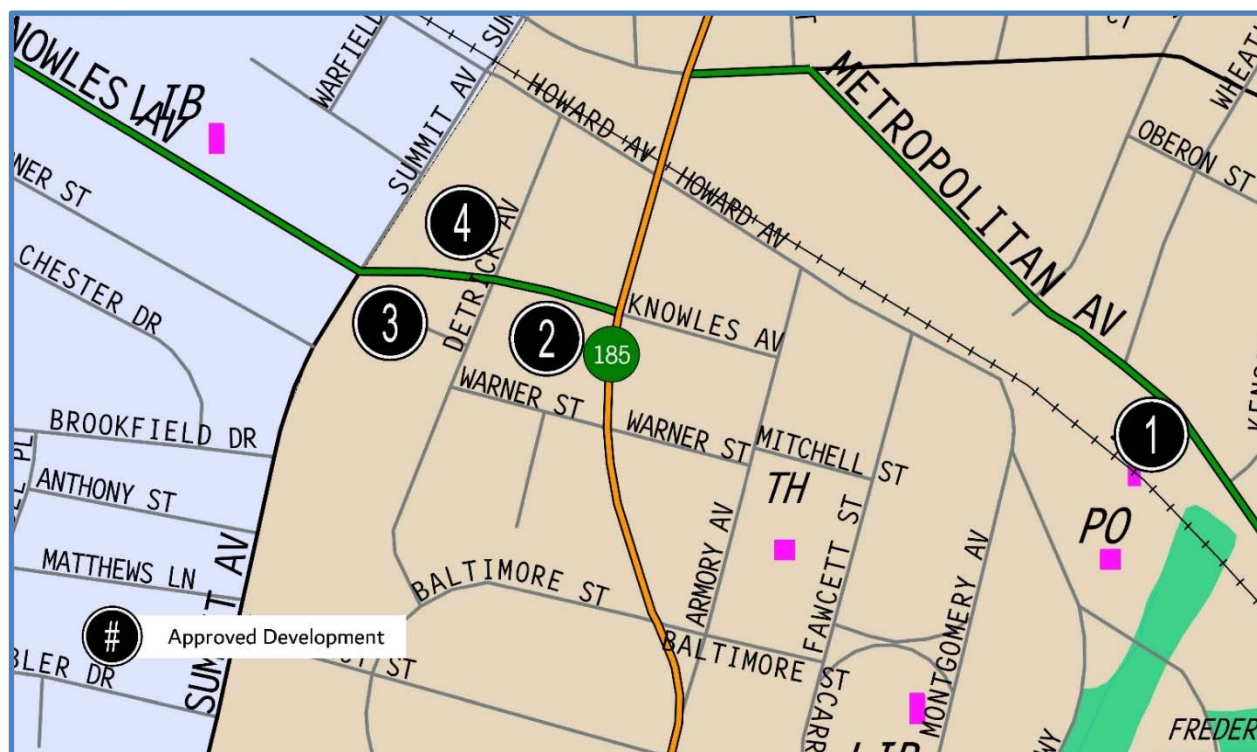
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BACKGROUND TRAFFIC CONDITIONS

Nearby Developments

In order to establish the background traffic conditions for this analysis, information was obtained from the M-NCPPC and The Traffic Group, Inc. files to develop a list of other projects which have received approval in the vicinity of the subject site. Table 2 was prepared to show a list of these developments and the trip generation rates and peak hour trips projected to be generated by each of these developments. The location of these developments is identified on Figure 5.

Figure 5. Location Map for Approved Developments



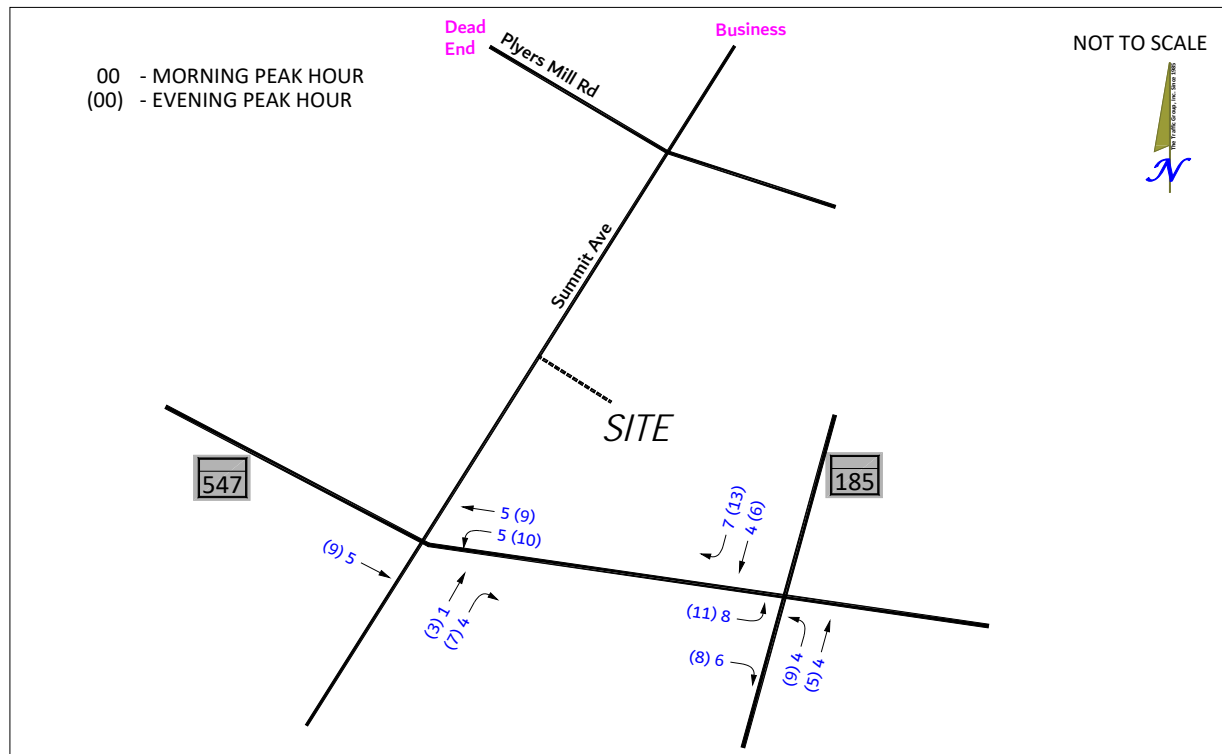
Trip Generation for Nearby Developments

The trips projected to be generated by each of the four developments approved in the vicinity of the subject site were then distributed and assigned to the road network as shown on the Figures contained in Appendix C. Combining the trips shown on the Figures contained in Appendix C result in the combined trips projected to be generated by all of the nearby developments as shown on Figure 6. Combining these trips with the existing peak hour volumes results in the background peak hour traffic volumes for this analysis as shown on Figure 7.

Table 2. Trip Generation for Background Development

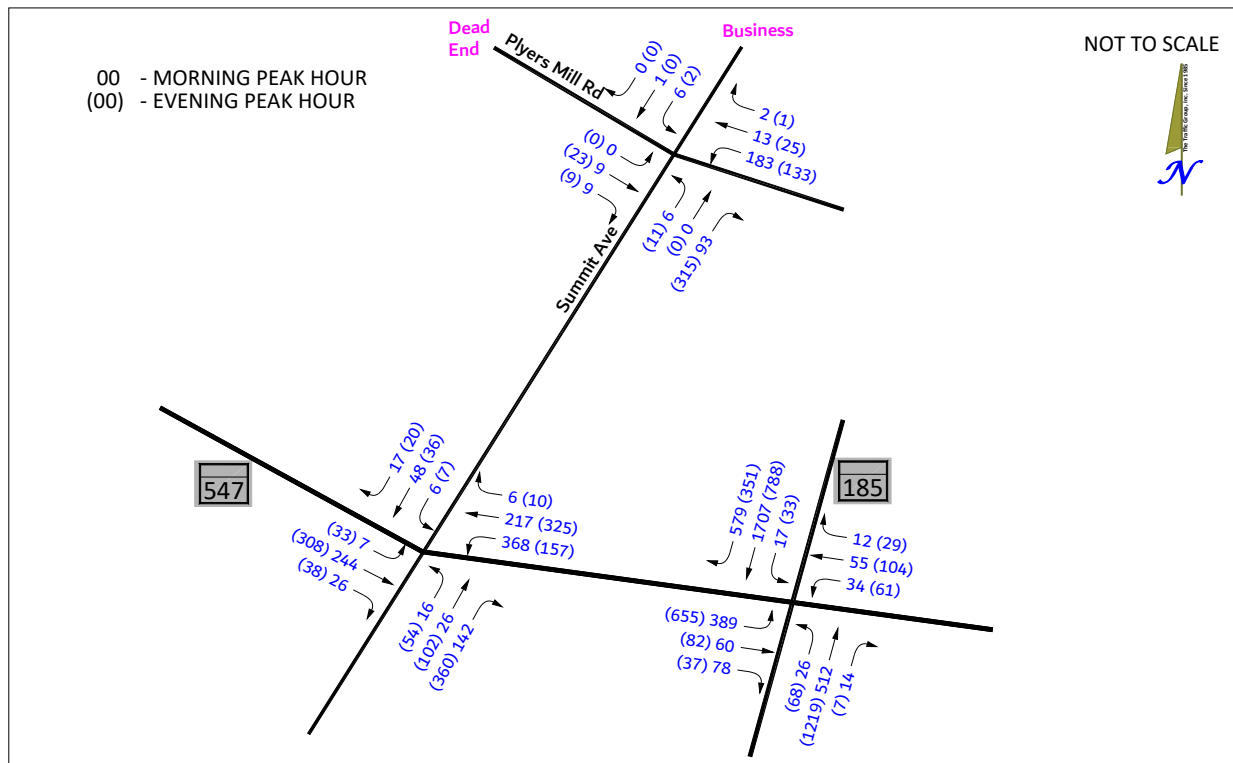
Trip Rates / Formulae				In/Out %					
Multifamily Housing, Low-Rise (ITE-220, Units)									
AM Peak Hour Trips = 0.46 x Units				23/77					
PM Peak Hour Trips = 0.56 x Units				63/37					
Senior Adult Housing - Attached (ITE-252, Units)									
AM Peak Hour Trips = 0.20 x Units - 0.18				35/65					
PM Peak Hour Trips = 0.24 x Units + 2.26				55/45					
Assisted Living (ITE-254, Beds)									
AM Peak Hour Trips = 0.19 x Beds				63/37					
PM Peak Hour Trips = 0.26 x Beds				38/62					
Shopping Center (ksf, ITE-820)									
AM Peak Hour Trips = 0.94 x ksf				62/38					
PM Peak Hour Trips = 3.81 x ksf				48/52					
TRIP TOTALS				AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
1. Solera Reserve Kensington (#120180220)									
<i>Senior Adult Housing - Attached (ITE-252, Units)</i>									
63 units				4	8	12	9	8	17
Adjusted Vehicle Trips by Policy Area (91%)				4	7	11	8	7	15
<i>Assisted Living (ITE-254, Beds)</i>									
72 beds				9	5	14	7	12	19
Adjusted Vehicle Trips by Policy Area (91%)				8	5	13	6	11	17
2. Knowles Manor (#120190140)									
<i>Senior Adult Housing - Attached (ITE-252, Units)</i>									
94 units				7	12	19	14	11	25
Adjusted Vehicle Trips by Policy Area (91%)				6	11	17	13	10	23
3. The Knowles Station Town Houses									
<i>Multifamily Housing, Low-Rise (ITE-220, Units)</i>									
6 units				1	2	3	2	1	3
Adjusted Vehicle Trips by Policy Area (91%)				1	2	3	2	1	3
4. The Knowles Station Retail									
<i>Shopping Center (ksf, ITE-820)</i>									
10,000 sq.ft.				6	3	9	18	20	38
Adjusted Vehicle Trips by Policy Area (96%)				6	3	9	17	19	36
<u>Pass-by Trips</u>				<u>0</u>	<u>0</u>	<u>0</u>	<u>-6</u>	<u>-7</u>	<u>-13</u>
New Trips				6	3	9	12	13	25
NOTE: ITE Trip Generation 10 th Edition									

Figure 6. Combined Trips Generated by Approved Developments



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Figure 7. Background Peak Hour Traffic Volumes



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Analysis of Background Traffic Conditions

Intersection capacity analyses were once again conducted using the HCM Methodology and the results are shown on Table 3. Copies of the capacity worksheets are contained in Appendix B. A review of Table 3 indicates that all of the study area intersections are projected to operate within the congestion standard established for the Kensington Policy Area.

Table 3. Intersection Capacity Analysis for Background Condition (Seconds/Vehicle)

	Existing	Background
AM PEAK HOUR TRAFFIC		
1. MD 185 & MD 547	28.3	28.9
2. MD 547 & Summit Ave	19.8	20
3. Summit Ave & Plyers Mill Rd	8.4	8.4
PM PEAK HOUR TRAFFIC		
1. MD 185 & MD 547	37.1	37.4
2. MD 547 & Summit Ave	29.2	29.5
3. Summit Ave & Plyers Mill Rd	9.3	9.3
NOTE: Background = Existing + Approved Devs		

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TOTAL TRAFFIC CONDITIONS

Subject Site

As previously discussed, the subject property is located in the northeast quadrant of the MD 547 and Summit Avenue intersection in Kensington, Maryland. Access to this site is planned along Summit Avenue. This project is planned to be developed with 100 apartment units, 7,000 sq ft of office space, and 6,000 sq ft of retail space.

Trip Generation/Distribution

In order to determine the number of peak hour trips projected to be generated by the subject site, we consulted ITE's Trip Generation Manual (10th Edition) and the M-NCPPC Guidelines to prepare Table 4 which shows the total trips projected to be generated by the subject project.

The LATR Traffic Impact Study Guidelines do not indicate that there are separate trip rates for moderately priced dwelling units or live/work units. All units are combined into one category under apartments.

In our study, we have assumed 100 dwelling units regardless of the type. Moderately priced dwelling units may generate less traffic and live/work units may not generate off-site traffic. That results in a worst-case assumption for our study.

Additionally, the office space and retail space were assumed to be generating traffic from off-site not from the live/work units. Therefore, again, the traffic for the office and retail trips were worst-case and higher than they actually occur.

In fact, in order to result in a failing or close to failing condition at the worst intersection which is Connecticut Avenue and Knowles Avenue, traffic from the subject property that we studied would need to more than double in number of units and square footage of commercial space, which would be over 15,000 sq ft.

The peak hour trips projected to be generated by the subject site, as shown on Table 4, were then distributed and assigned to the nearby road system as shown on Figures 8 and 9. Combining the trips shown on Figures 8 and 9 with the background peak hour volumes results in the total peak hour traffic volumes shown on Figure 10.

Table 4. Trip Generation for Flats at Knowles Station

Trip Rates / Formulae				In/Out %			
Multifamily Housing, Mid-Rise General Urban/Suburban (ITE-221, Units)							
Ln(AM Peak Hour Trips) = 0.98 x Ln(Units) - 0.98				26/74			
Ln(PM Peak Hour Trips) = 0.96 x Ln(Units) - 0.63				61/39			
General Office Building (ksf, ITE-710)							
AM Peak Hour Trips = 1.16 x ksf				86/14			
PM Peak Hour Trips = 1.15 x ksf				16/84			
Shopping Center (ksf, ITE-820)							
AM Peak Hour Trips = 0.94 x ksf				62/38			
PM Peak Hour Trips = 3.81 x ksf				48/52			
TRIP TOTALS		AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Multifamily Housing, Mid-Rise General Urban/Suburban (ITE-221, Units)							
100 units		9	25	34	27	17	44
Adjusted Vehicle Trips by Policy Area (91%)		8	23	31	25	15	40
Total Person Trips (Vehicle Trips / 59.1%)				52			68
Auto Passenger Trips (Person Trips x 25.4%)				13			17
Transit Trips (Person Trips x 8.1%)				4			6
Non-Motorized Trips (Person Trips x 7.4%)				4			5
Pedestrian Trips (Transit + Non-Motorized Trips)				8			11
General Office Building (ksf, ITE-710)							
7,000 sq.ft.		7	1	8	1	7	8
Adjusted Vehicle Trips by Policy Area (92%)		6	1	7	1	6	7
Total Person Trips (Vehicle Trips / 69.6%)				10			10
Auto Passenger Trips (Person Trips x 18.6%)				2			2
Transit Trips (Person Trips x 6.1%)				1			1
Non-Motorized Trips (Person Trips x 5.7%)				1			1
Pedestrian Trips (Transit + Non-Motorized Trips)				2			2
Shopping Center (ksf, ITE-820)							
6,000 sq.ft.		4	2	6	11	12	23
Adjusted Vehicle Trips by Policy Area (96%)		4	2	6	11	12	23
Total Person Trips (Vehicle Trips / 69.8%)				9			33
Auto Passenger Trips (Person Trips x 23.8%)				2			8
Transit Trips (Person Trips x 2.1%)				0			1
Non-Motorized Trips (Person Trips x 4.3%)				0			1
Pedestrian Trips (Transit + Non-Motorized Trips)				0			2
Pass-by Trips (am 0%, pm Line 19 X 34%)		0	0	0	-4	-4	-8
New Trips (19-25)		4	2	6	7	8	15
Total new Trips (3+11+19)		18	26	44	37	33	70

NOTE: ITE Trip Generation 10th Edition

Figure 8. Trip Assignment for Site New Trips

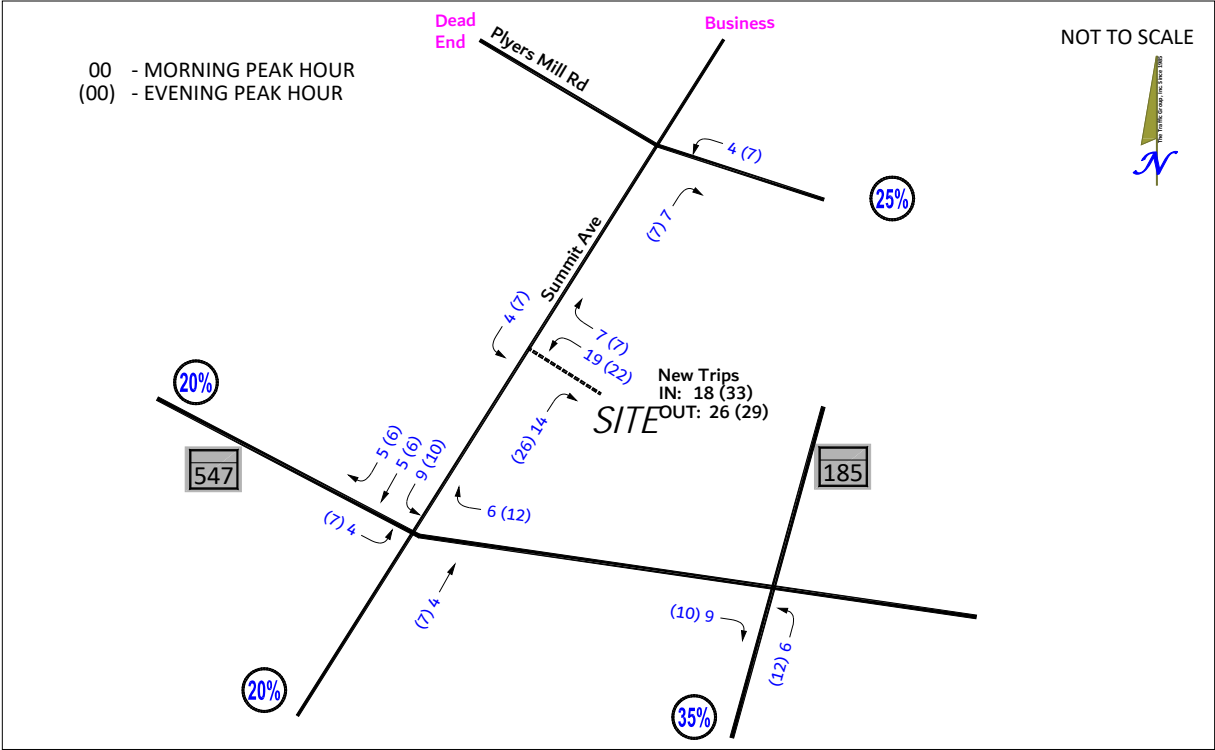


Figure 9. Trip Assignment for Site Pass-by Trips

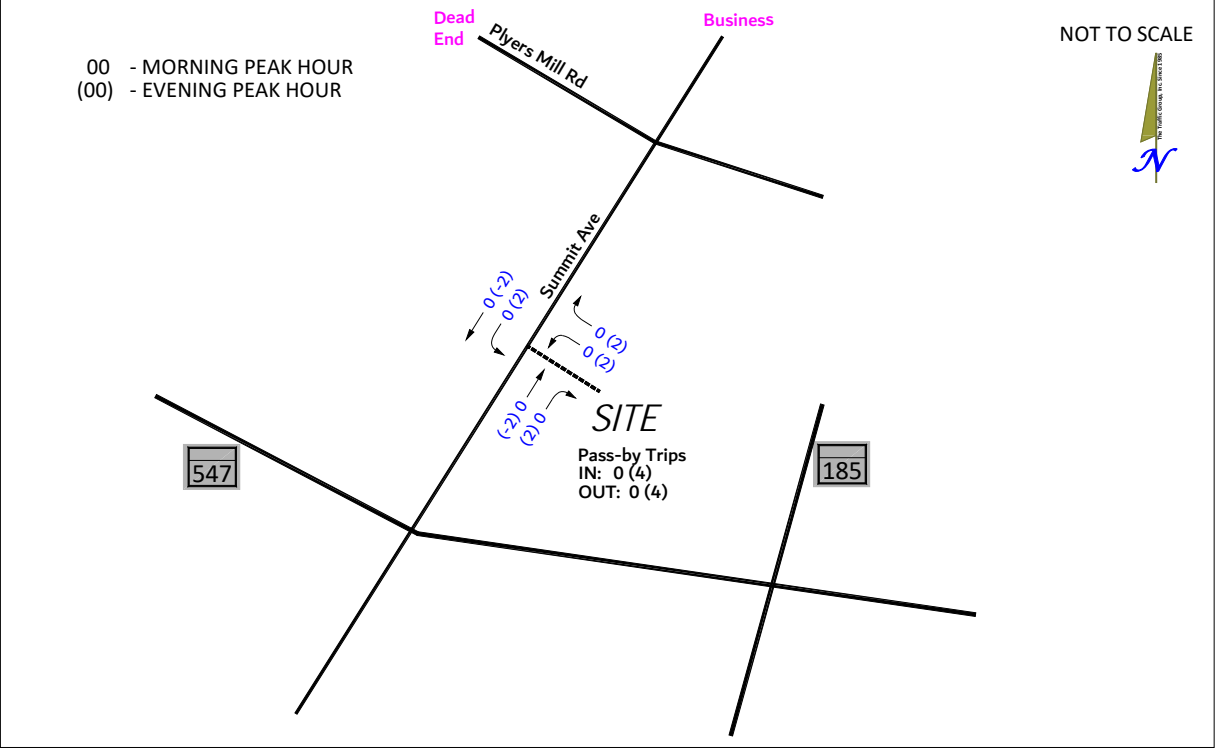
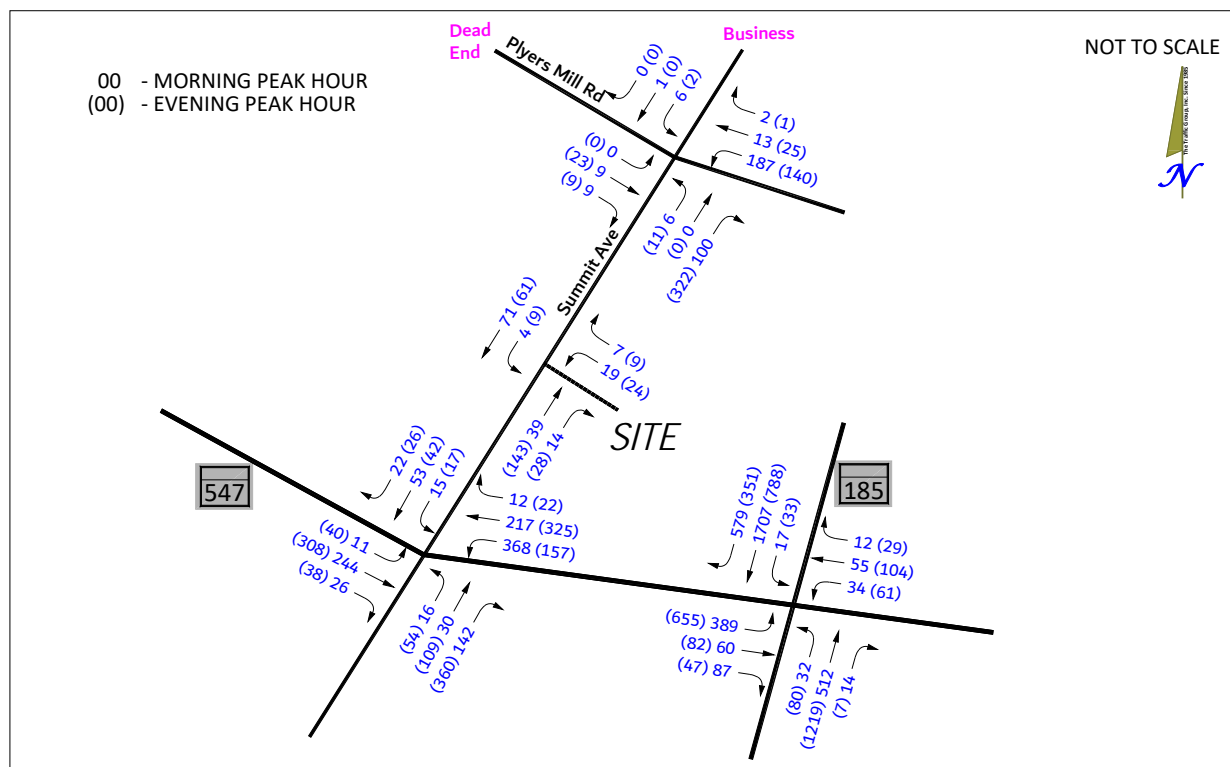


Figure 10. Total Peak Hour Traffic Volumes



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Analysis of Total Traffic Conditions

Intersection capacity analyses were conducted for the total peak hour traffic volumes using the HCM Methodology and the results are shown on Table 5. Copies of the capacity worksheets are contained in Appendix B to this report. A review of Table 5 indicates that, with the development of the Flats at Knowles Station project, all of the study area intersections are projected to operate within the congestion standards established for the Kensington Policy Area.

Table 5. Results of Intersection Capacity Analysis (Seconds/Vehicle)

	Existing	Background	Total
AM PEAK HOUR TRAFFIC			
1. MD 185 & MD 547	28.3	28.9	29.4
2. MD 547 & Summit Ave	19.8	20.0	20.6
3. Summit Ave & Plyers Mill Rd	8.4	8.4	8.4
4. Summit Ave & Site Access	----	----	1.7
PM PEAK HOUR TRAFFIC			
1. MD 185 & MD 547	37.1	37.4	37.7
2. MD 547 & Summit Ave	29.2	29.5	29.6
3. Summit Ave & Plyers Mill Rd	9.3	9.3	9.3
4. Summit Ave & Site Access	----	----	1.5
NOTE: Background = Existing + Approved Devs; Total = Background + Flats at Knowles Station.			

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RESULTS, RECOMMENDATIONS, AND CONCLUSIONS

Study Purpose

The Traffic Group, Inc. has conducted a Traffic Impact Analysis for the proposed redevelopment of the office building located at 10509 Summit Avenue at Knowles Avenue (MD 547) in the Town of Kensington, Maryland. The primary purpose of this analysis is to determine what impact the proposed redevelopment of the subject property will have on the adjacent roadway network.

Study Criteria/Methodology

This Traffic Impact Analysis has been prepared in accordance with the current requirements of the LATR Guidelines by the M-NCPPC. This property is located in the Kensington Policy Area.

The trip generation determination made as part of this report are based on ITE's Trip General Manual (10th Edition) and the requirements of the LATR Guidelines.

Upon review, it was determined that the project would generate more than 50 new peak hour person trips and, therefore, requires a motor vehicle adequacy analysis. However, the project would not require pedestrian, bicycle, or transit system adequacy analyses since it would generate less than 50 new peak hour trips for each of the respective transportation modes.

The Kensington Policy Area is orange and, therefore, the HCM Methodology will be utilized to determine intersection adequacy. The congestion standard for this area is 80 seconds per vehicle.

Summary of Findings and Recommendations

The results of our analysis indicate that the three (3) intersections analyzed as part of this report are projected to operate within the congestion standards established by M-NCPPC for the Policy Area. Therefore, no physical off-site improvements would be necessary with the development of this site.

Summit Avenue Extension

The Montgomery County Department of Transportation undertook a Facility Planning Phase 1 Study and undertook a public workshop on September 14, 2017. The purpose of the project was to improve mobility along Connecticut Avenue and University Boulevard and to provide an alternative route for southwest to northeast travel.

The project is contained in the 2012 Kensington Sector Plan.

The Phase 2 Planning Study is 35% designed and it is funded. The final design, right-of-way acquisition and construction is not yet funded.

The project is to extend to Summit Avenue, from Plyers Mill Road to Connecticut Avenue at University Boulevard. The other major improvements are to add a 125 ft long westbound left turn lane along Plyers Mill Road at Summit Avenue and to extend Knowles Avenue, eastbound left turn lane at Summit Avenue to 250 ft.

The conceptual design of Summit Avenue Extension will be a two-lane roadway with 11 ft wide travel lanes, landscape area, sidewalk, and an 8 ft parking lane. Various alternatives for the intersection of MD 185 and MD 193 have been developed. It has been determined that approximately 10% of the peak direction Connecticut Avenue traffic will divert to Summit Avenue Extended. There was an analysis undertaken of the Summit Avenue bridge widening between Howard Avenue and Plyers Mill Road and it was determined that the additional widening would provide minimal traffic benefit at a cost of about \$600,000 for adding one lane of traffic.

Overall, the estimated cost of right-of-way and construction ranges from \$18.7 million to \$22.2 million depending on which alternative is ultimately selected.

APPENDIX A

Scoping Form, Turning Movement Counts, and Intersection Aerials





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

Local Area Transportation Review

TRANSPORTATION IMPACT STUDY SCOPE OF WORK AGREEMENT

Contact Information				
Transportation Consultant (company, contact name, email, and phone number)	Katie Wagner, PE, PTOE Gorove/Slade Associates, Inc. klw@goroveslade.com 202-540-1927			
Name of Applicant / Developer	Tom Brault President, Woodside Builders tbrault@woodsideventures.net 703-868-2832			
Project Information <i>Include Tables/Graphics, As Needed</i>				
Project Name (include plan no. if known)	10509 Summit Avenue			
Project Location (include address if known)	10509 Summit Avenue, Kensington, MD 20895			
Policy Area(s) (subdivision staging policy map)	Kensington/Wheaton subdivision	Master Plan(s) / Sector Plan Area(s)	Kensington-Wheaton (1989) Kensington Sector Plan (2012) Kensington Bike/Pedestrian Priority Area	
Application Type(s)	<input checked="" type="checkbox"/> Preliminary Plan	<input type="checkbox"/> Site Plan	<input type="checkbox"/> Sketch/Concept/Pre-Preliminary (Optional)	<input type="checkbox"/> Amendment
	<input type="checkbox"/> Conditional Use (formerly special exception)	<input type="checkbox"/> Local Map Amendment	<input type="checkbox"/> Other: _____	
Project Description & Previous Approvals (proposed land uses, zoning, no. of units, square footage, construction phasing, prior approvals and proposals, existing uses, site operations, year built, status of Adequate Public Facilities [APF], other relevant info)	<p>The Applicant proposes to convert existing office and storage uses on the property of 10509 Summit Avenue into a mixed-use building with up to 72 residential units and 10,000 sf of retail.</p> <p>The existing uses on the property include a 2,158 sf office building and an adjoining surface parking lot. The property is zoned CRT 1.5.</p> <p>A previous Preliminary Plan application was submitted to Montgomery county (Plan #120190080) in 2019 which sought to replace the existing uses with 12 residential townhouse lots, two (2) outlots, and one (1) Common Open Space (COS) parcel.</p> <p>Under the current development program for this site, the existing land uses will be redeveloped into approximately 72 residential units, 10,000 sf of retail, and 125 vehicle parking spaces. The redevelopment is planned to be constructed and occupied by 2022.</p> <p>The redeveloped site will have access from Summit Avenue and Detrick Avenue.</p>			

1.Site Access (proposed access location(s), existing/adjacent/opposite curb cuts, interparcel connections, access configurations and restrictions, internal circulation, private roads, parking/loading areas, other relevant info)	The redeveloped site will have access via an expanded curb cut off of Summit Avenue that provides two-way operations with a right-in/right-out configuration. This driveway runs across the property and connects with an existing driveway to the east off of Detrick Avenue. On-site parking will be provided in a garage containing approximately 89 spaces for residential and 36 spaces for retail will be provided on the first and second floor of the building.		
2.Transportation Analysis Requirement	<input checked="" type="checkbox"/> Transportation Impact Study Generates <u>50 or more</u> total weekday peak hour person trips (vehicular, transit, bicycle, and/or pedestrian) with no reductions other than a credit for existing developments over 12 years old, <u>AND</u> is outside of the White Flint and White Oak Policy Areas. Fill out remainder of this form and include in transportation impact study appendix.		<input type="checkbox"/> Transportation Study Exemption Statement Generates <u>49 or fewer</u> total weekday peak hour person trips (vehicular, transit, bicycle, and/or pedestrian) with no reductions other than a credit for existing developments over 12 years old, <u>OR</u> within White Flint and White Oak Policy Areas. Fill out PAR and trip generation sections below, and include with exemption statement.
3.Policy Area Review (PAR) Only for projects filed before 1/1/17	<input type="checkbox"/> TPAR (1/1/13 – 12/31/16) 0, 25, 50%: _____ (TPAR = Transportation Policy Area Review)	<input type="checkbox"/> PAMR (11/15/07 - 12/31/12) 0-50%: _____ (PAMR = Policy Area Mobility Review)	<input checked="" type="checkbox"/> Exempt (no square footage increase or fewer than 3 new trips) or 1/1/17 or later) <input type="checkbox"/> No PAR (7/1/03 – 11/14/07) <input type="checkbox"/> PATR (before 6/30/03) (PATR = Policy Area Transportation Review)
4.Transportation Mitigation Agreement (TMAg) Required?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes (25+ Employees and in Transportation Management District [TMD]) <input type="checkbox"/> Amend Existing TMAg	
5.Established Transportation Management District (TMD)?	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes TMD Name: _____	
Transportation Impact Study Assumptions <i>Include Tables/Graphics, As Needed</i>			
6.Study Years / Phases	Existing Year: 2020		Phases / Build-out Year(s): 2022
7.Study Periods	<input checked="" type="checkbox"/> AM <input checked="" type="checkbox"/> PM <input type="checkbox"/> Mid-day <input type="checkbox"/> Saturday <input type="checkbox"/> Sunday <input type="checkbox"/> Other: _____		
8.Study Intersections (For projects generating 50 or more person trips, list all signalized & significant unsignalized intersections, and site driveways traffic counts must be collected within 12-months of completed and accepted application)	# of tiers of intersections to study (refer current LATR Guidelines): one in either direction (250-749 weekday peak hour site vehicle trips) _____ <i>For the purpose of determining the number of tiers of study intersections, trip calculation for the subject site should also include nearby unbuilt properties in common ownership. No trip reductions should be taken in this calculation other than a credit for existing developments over 12 years old.</i>		
	1) Summit Avenue/Knowles Avenue		7)
	2) Knowles Avenue/Connecticut Avenue		8)
	3) Summit Avenue/Plyers Mill Road		9)
	4) Summit Avenue/Site Entrance (Future)		10)
	5) Detrick Avenue/Site Entrance (Future)		11)

	6)	12)							
9.Trip Generation (clearly cite sources and methodology including use of average rates vs. equation; include trip generation for existing site, current approvals, proposed uses, and net changes)	Project Trip Generation								
	Land Use	Size	AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
	Proposed								
	Residential	72 Residential Units	LATR Rate	6	17	23	18	11	29
	Retail	10 ksf	LATR Rate	6	3	9	17	19	36
		34% Pass By Reduction	--	--	--	-6	-6	-12	
		Total Trips, Without Reduction	12	20	32	35	30	65	
		Total Pass By Trips	0	0	0	-6	-6	-12	
		Vehicle Trips with Reductions	12	20	32	29	24	53	
	Vehicle Trips without Reductions	12	20	32	35	30	65		
	Person Trips	19	33	52	54	47	101		
	Total Person Trips	Vehicle Trips* (Auto Driver)	Transit Trips*	Walking Trips* (non-motorized + transit)	Bicycling Trips* (non-motorized)				
	52 AM/101 PM	32 AM/53 PM	3 AM/5 PM	7 AM/12 PM	4 AM/7 PM				
	The proposed 10509 Summit Avenue mixed-use development trip generation utilized ITE 10 th Generation rates with adjustments using LATR guidelines for the site policy area. A 34% Pass-by reduction has been applied to the retail portion utilizing ITE Trip Generation Avenue Handbook, 3 rd Edition. See attachments for a detailed breakdown.								
10.Trip Reductions (include justification and supporting documentation for internal capture, pass-by, diverted, Transportation Demand Management)	Proposed 10509 Summit Avenue mixed-use development trip reductions followed LATR guidelines and are as follows: ITE Vehicle Trip Generation Rate Adjustment Factors (Appendix 1a) Kensington/Wheaton Residential: 91% Kensington/Wheaton Retail: 96% Mode Splits from LATR for Residential in Kensington/Wheaton policy area (Appendix 1b) Auto Driver: 59.1% Auto Passenger: 25.4% Transit (Includes bus and metro): 8.1% Non-Motorized (includes bicycle and walking): 7.4% Mode Splits from LATR for Residential in Kensington/Wheaton policy area (Appendix 1b) Auto Driver: 69.8% Auto Passenger: 23.8% Transit (Includes bus and metro): 2.1% Non-Motorized (includes bicycle and walking): 4.3%								
	Breakdowns of the trip generation and reductions are detailed for the morning and afternoon peak time periods are attached to this scoping form.								

<p>11.Trip Distribution %</p> <p>(include a map of the proposed project in addition to a list or table)</p>	<p>Distributions for the development were developed based on Appendix Table 2-7 of the M-NCPPC LATR Guidelines, existing travel patterns and turning restrictions in the study area. These distributions are as follows and per the attached distribution figure:</p> <p>Connecticut Avenue to/from the south – 35% Cedar Lane/Summit Avenue to/from the south – 20% Knowles Avenue to/from the west – 20% Connecticut Avenue to/from the north – 11% Plyers Mill Road to/from the east – 8% University Boulevard to/from the east – 6%</p>
<p>12.Pipeline Developments to be considered as background traffic</p> <p>(include name, plan #, land uses, and sizes for approved but unbuilt developments or concurrently pending applications; info can be obtained from the M-NCPPC Pipeline website)</p>	<ol style="list-style-type: none"> 1. Knowles Manor (#120190140) — 84 multi-family dwelling units (approved 7/11/2019) 2. Solera Reserve Kensington (#120180220) — 137,855 sf assisted living, 1,000 sf retail (approved 12/20/2019) <p>Per agreement with M-NCPPC, background growth rates will not be applied to study area intersections.</p>
<p>13.Pipeline Transportation Projects to be considered as background condition</p> <p>(fully funded County Capital Improvement Program, State Consolidated Transportation Program, developer projects, etc. within the next 6 years)</p>	<p>MD 185 (Connecticut Ave) Salt Barn Replacement – Facility Update</p>

Preliminary Mitigation Analysis		<i>*Refer to the LATR Guidelines for details on how to mitigate</i>	
14.Vehicular Analysis	<input checked="" type="checkbox"/> Vehicular Analysis Anticipated (Vehicular mitigation to be determined after study)	<ul style="list-style-type: none"> TEST: HCM Analysis is required to be provided for all intersections analyzed in studies for: 1) "Red & Orange" policy areas, and 2) intersections with a CLV of more than 1,350 in "Yellow & Green" policy areas. 3) CLV analysis required for all intersections regardless of policy area. CLV assessment and signal timing worksheets are to be included in the study appendix. MITIGATION: Required if HCM delay analyses exceed policy area standard 	
15.Pedestrian Analysis	<input type="checkbox"/> Pedestrian Mitigation Anticipated	<ul style="list-style-type: none"> TEST: If the plan generates 50 or more pedestrian peak hour trips, mitigation of surrounding pedestrian conditions is required MITIGATION: Required if ADA non-compliance issues within 500 foot radius of site boundary and if pedestrian crosswalk delay at LATR intersections within 500 feet of site boundary is lower than Level of Service (LOS) D 	
16.Bicycle Analysis	<input type="checkbox"/> Bicycle Mitigation Anticipated	<ul style="list-style-type: none"> TEST: If the plan generates 50 or more bicycle peak hour trips and is within 0.25 miles of an existing educational institution or existing/planned bikeshare station, mitigation of surrounding bicycle conditions is required MITIGATION: Required to make improvements to provide a low Level of Traffic Stress to any existing similar facility within 750 feet of the site boundary; Alternatively, project may provide a master planned improvement that provides an equivalent improvement in the level of traffic stress for cyclists 	
17.Transit Analysis	<input type="checkbox"/> Transit Mitigation Anticipated	<ul style="list-style-type: none"> TEST: If the plan generates 50 or more transit peak hour trips and the peak load of bus routes at bus stops within 1,000 feet of site boundary exceeds (or is worse than) peak load of LOS D (1.25 transit riders per seat during the peak period in the peak direction), mitigation of transit conditions is required MITIGATION: Required to provide or fund improvements that would mitigate the trips exceeding the standard that are attributable to the development 	
Additional Analysis or Software Required	<input type="checkbox"/> Queuing Analysis <input type="checkbox"/> Signal Warrant Analysis <input type="checkbox"/> Weaving/Merge Analysis	<input type="checkbox"/> Accident Analysis <input checked="" type="checkbox"/> Synchro <input type="checkbox"/> SIDRA	<input type="checkbox"/> VISSIM <input type="checkbox"/> CORSIM <input type="checkbox"/> Other _____

M-NCPPC Clarifications

- Transportation impact study will comply with all other requirements of the LATR Guidelines not listed on this form.
- If physical improvements are proposed as mitigation, the transportation impact study will demonstrate feasibility with regards to right-of-way and utility relocation (at a minimum).
- In the event that the development proposal significantly changes after this transportation impact study scope has been agreed to, the Applicant will work with M-NCPPC staff to amend the scope to accurately reflect the new proposal.
- A receipt from MCDOT showing that the transportation impact study review fee has been paid will be provided to M-NCPPC DARC at the time the development application is submitted.
- Minimum of seven paper copies (more if near the County line or an incorporated City) and two PDF copies of the transportation impact study and appendices will be provided.

Additional Assumptions / Special Circumstances for Discussion

The Consultant will work with M-NCPPC staff to agree on a substitute method for collecting traffic counts. Due to the Covid-19 pandemic, vehicle traffic has substantially decreased, underrepresenting traffic on a "typical" day. Historical counts exist at the intersections of Knowles Avenue/Summit Avenue (from June 2015 and February 2019) and Knowles Avenue/Connecticut Avenue (from April 2015). No such historical counts exist at Knowles Avenue/Plyers Mill Road.

Site Trip Generation Estimate Worksheet				
Step 1: Vehicle Trips				
ITE Land use Code	221			
Development Size	72 du			
ITE trip generation estimate formula/rate* AM	$e^{(0.98 \cdot \ln(72) - 0.98)}$	Total AM Vehicle Trips	25	
ITE Trip generation estimate formula/rate* PM	$e^{(0.96 \cdot \ln(72) - 0.63)}$	Total PM Vehicle Trips	32	
Step 2: Policy Area Conversion				
Policy Area # & Name	Kensington /Wheaton (19)	Trip Adjustment Factor	__91__%	
Applied Policy Area Adjusted Value AM	23			
Applied Policy Area Adjusted Value PM	29			
Step 3: Mode Split				
			AM	PM
Auto Driver	59.1%	Results	23	29
Auto Passenger	25.4%	Results	10	12
Transit	8.1%	Results	3	4
Walking (transit + non-motorized)	15.5%	Results	6	8
Bicycling (non-motorized)	7.4%	Results	3	4

Complete one of these tables for EACH use included in the application. Enter results into "Transportation Impacts Analysis" section of the form.

Site Trip Generation Estimate Worksheet				
Step 1: Vehicle Trips				
ITE Land use Code	820			
Development Size	10 ksf			
ITE trip generation estimate formula/rate* AM	0.94*10	Total AM Vehicle Trips	9	
ITE Trip generation estimate formula/rate* PM	3.81*10	Total PM Vehicle Trips	38	
Step 2: Policy Area Conversion				
Policy Area # & Name	Kensington /Wheaton (19)	Trip Adjustment Factor	__96__%	
Applied Policy Area Adjusted Value AM	9			
Applied Policy Area Adjusted Value PM	36			
Step 3: Mode Split				
			AM	PM
Auto Driver	69.8%	Results	9	36
Auto Passenger	23.8%	Results	3	12
Transit	2.1%	Results	0	1
Walking (transit + non-motorized)	6.4%	Results	1	4
Bicycling (non-motorized)	4.3%	Results	1	3

Complete one of these tables for EACH use included in the application. Enter results into "Transportation Impacts Analysis" section of the form.



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1998150149 County: Montgomery Comments:
Date: 3/11/2020 12:00:00 AM Town: none
Location: MD 185 at MD 547/KNOWLES AVE Weather: Clear
Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	08:00	09:00	3450	C	0.77	12:00PM-19:00PM	15:00	16:00	3555	B	0.63

MD 185						MD 185						Knowles Ave					MD 547				
From North						From South						From East					From West				

Begin Hour	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	GrandTotal
00:00	2	0	57	14	73	0	1	147	1	149	0	2	1	1	4	0	36	3	6	45	271
01:00	1	0	38	12	51	0	2	66	0	68	0	0	1	1	2	0	14	1	4	19	140
02:00	0	1	35	6	42	0	5	33	3	41	0	0	2	0	2	0	10	3	3	16	101
03:00	0	0	92	10	102	0	5	32	2	39	0	1	1	0	2	0	11	0	11	22	165
04:00	0	1	283	55	339	3	7	43	4	57	0	5	3	0	8	0	12	0	47	59	463
05:00	2	3	796	218	1019	0	13	81	5	99	0	8	5	0	13	0	36	4	44	84	1215
06:00	2	3	1733	525	2263	2	25	204	5	236	0	7	16	2	25	0	90	21	53	164	2688
07:00	0	14	1988	611	2613	1	10	393	7	411	0	21	52	2	75	0	213	25	78	316	3415
08:00	4	13	1703	572	2292	1	21	508	14	544	0	34	55	12	101	0	381	60	72	513	3450
09:00	5	18	1375	415	1813	8	67	589	9	673	0	29	47	12	88	0	322	55	56	433	3007
10:00	12	11	1035	325	1383	13	67	762	21	863	0	29	56	8	93	0	337	60	60	457	2796
11:00	9	26	925	343	1303	9	100	769	24	902	0	52	73	18	143	0	348	74	60	482	2830
12:00	16	35	974	327	1352	11	104	875	30	1020	0	61	93	22	176	0	384	80	67	531	3079
13:00	18	25	897	320	1260	7	99	913	28	1047	0	45	86	20	151	0	423	75	57	555	3013
14:00	12	22	1028	358	1420	4	98	1082	27	1211	0	57	82	23	162	0	496	82	55	633	3426
15:00	12	34	808	318	1172	6	81	1332	15	1434	0	73	92	45	210	0	604	101	34	739	3555
16:00	10	15	775	360	1160	2	56	1259	7	1324	0	63	88	44	195	0	647	73	35	755	3434
17:00	12	21	782	338	1153	1	58	1214	7	1280	0	61	104	29	194	0	644	85	29	758	3385
18:00	6	27	677	297	1007	3	95	1168	14	1280	0	46	80	37	163	0	537	101	40	678	3128
19:00	11	19	586	259	875	2	81	956	31	1070	0	30	83	24	137	0	445	81	49	575	2657
20:00	15	11	423	176	625	0	61	714	22	797	0	39	67	17	123	0	292	60	40	392	1937
21:00	10	5	403	125	543	0	42	572	17	631	0	19	36	5	60	0	190	32	20	242	1476
22:00	4	1	227	58	290	0	22	473	10	505	0	8	21	3	32	1	122	16	23	162	989
23:00	2	1	108	30	141	0	14	331	7	352	0	15	10	3	28	0	67	10	10	87	608
TOTAL	165	306	17748	6072	24291	73	1134	14516	310	16033	0	705	1154	328	2187	1	6661	1102	953	8717	51228
AMPEAK	4	13	1703	572	2292	1	21	508	14	544	0	34	55	12	101	0	381	60	72	513	3450
PMPEAK	12	34	808	318	1172	6	81	1332	15	1434	0	73	92	45	210	0	604	101	34	739	3555



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S1998150149

County: Montgomery

Comments:

Date: 3/11/2020 12:00:00 AM

Town: none

Location: MD 185 at MD 547/KNOWLES AVE

Weather: Clear

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	08:00	09:00	3450	C	0.77	12:00PM-19:00PM	15:00	16:00	3555	B	0.63

MD 185	MD 185	Knowles Ave	MD 547
From North	From South	From East	From West

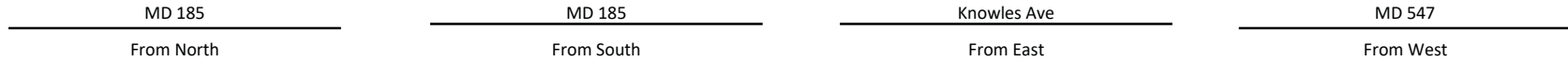
Begin Hour	School Children	Pedestrians	Bicycles	School Childer	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
00:00	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	1	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	3	0	0	3	0	0	2	0
06:00	0	0	0	0	3	0	0	3	0	0	0	0
07:00	0	0	0	0	7	0	0	2	0	0	6	1
08:00	0	0	0	0	9	0	0	2	0	0	10	2
09:00	0	0	0	0	5	0	0	3	0	0	9	0
10:00	0	0	0	0	3	0	0	3	0	0	13	0
11:00	0	0	0	0	14	4	0	4	0	0	14	2
12:00	0	0	0	0	26	0	0	4	0	0	34	1
13:00	0	0	0	0	12	1	0	7	0	0	18	1
14:00	0	1	0	0	18	0	0	12	0	0	25	0
15:00	0	0	0	0	22	0	0	7	0	0	28	0
16:00	0	0	0	0	20	0	0	9	2	0	20	1
17:00	0	0	0	0	28	0	0	6	1	0	40	0
18:00	0	0	0	0	18	0	0	5	0	0	13	0
19:00	0	0	0	0	18	1	0	8	1	0	20	1
20:00	0	0	0	0	2	0	0	1	0	0	5	0
21:00	0	0	0	0	1	1	0	1	1	0	2	0
22:00	0	0	0	0	1	0	0	0	0	0	1	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	1	0	0	210	7	0	81	5	0	260	9
AMPEAK	0	0	0	0	9	0	0	2	0	0	10	2
PMPEAK	0	0	0	0	22	0	0	7	0	0	28	0



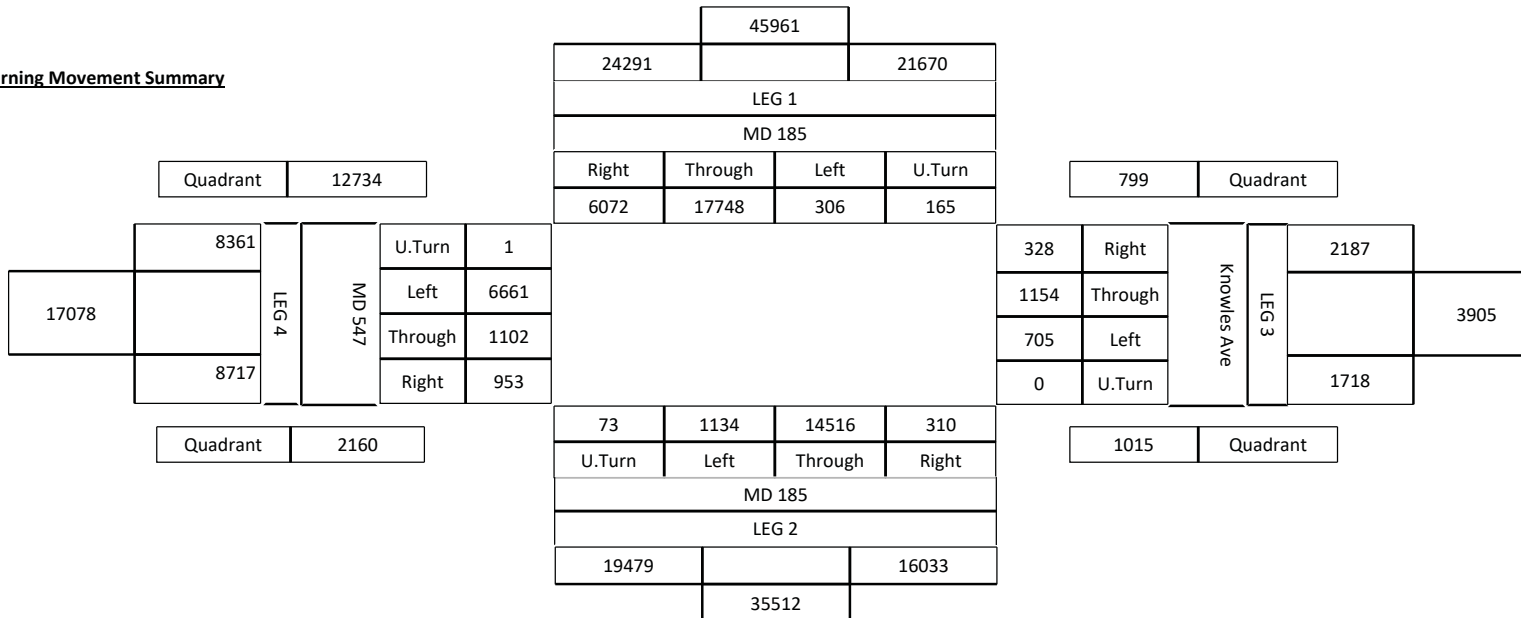
**Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report**

Station ID:	S1998150149	County:	Montgomery	Comments:	
Date:	3/11/2020 12:00:00 AM	Town:	none		
Location:	MD 185 at MD 547/KNOWLES AVE	Weather:	Clear		
Interval:	60 Min				

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	08:00	09:00	3450	C	0.77	12:00PM-19:00PM	15:00	16:00	3555	B	0.63



Turning Movement Summary





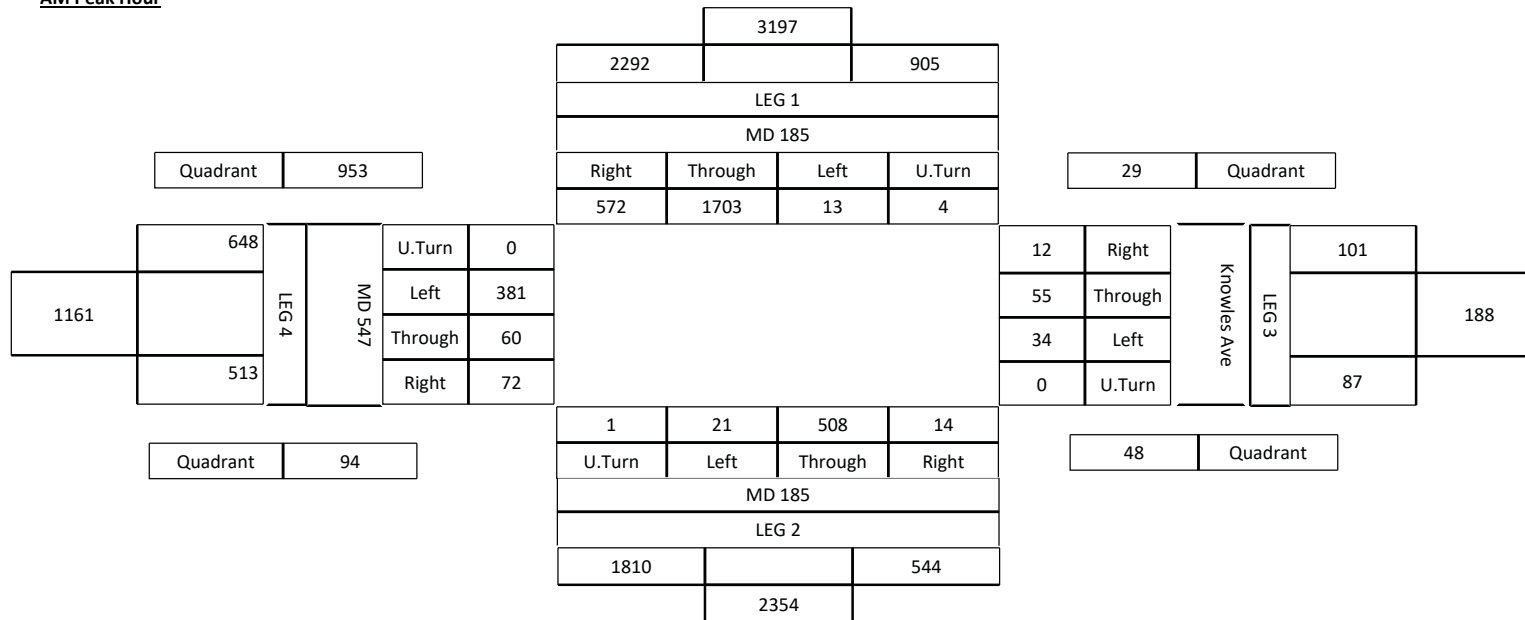
**Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report**

Station ID:	S1998150149	County:	Montgomery	Comments:	
Date:	3/11/2020 12:00:00 AM	Town:	none		
Location:	MD 185 at MD 547/KNOWLES AVE	Weather:	Clear		
Interval:	60 Min				

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	08:00	09:00	3450	C	0.77	12:00PM-19:00PM	15:00	16:00	3555	B	0.63



AM Peak Hour





**Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report**

Station ID: S1998150149

County: Montgomery

Comments:

Date: 3/11/2020 12:00:00 AM

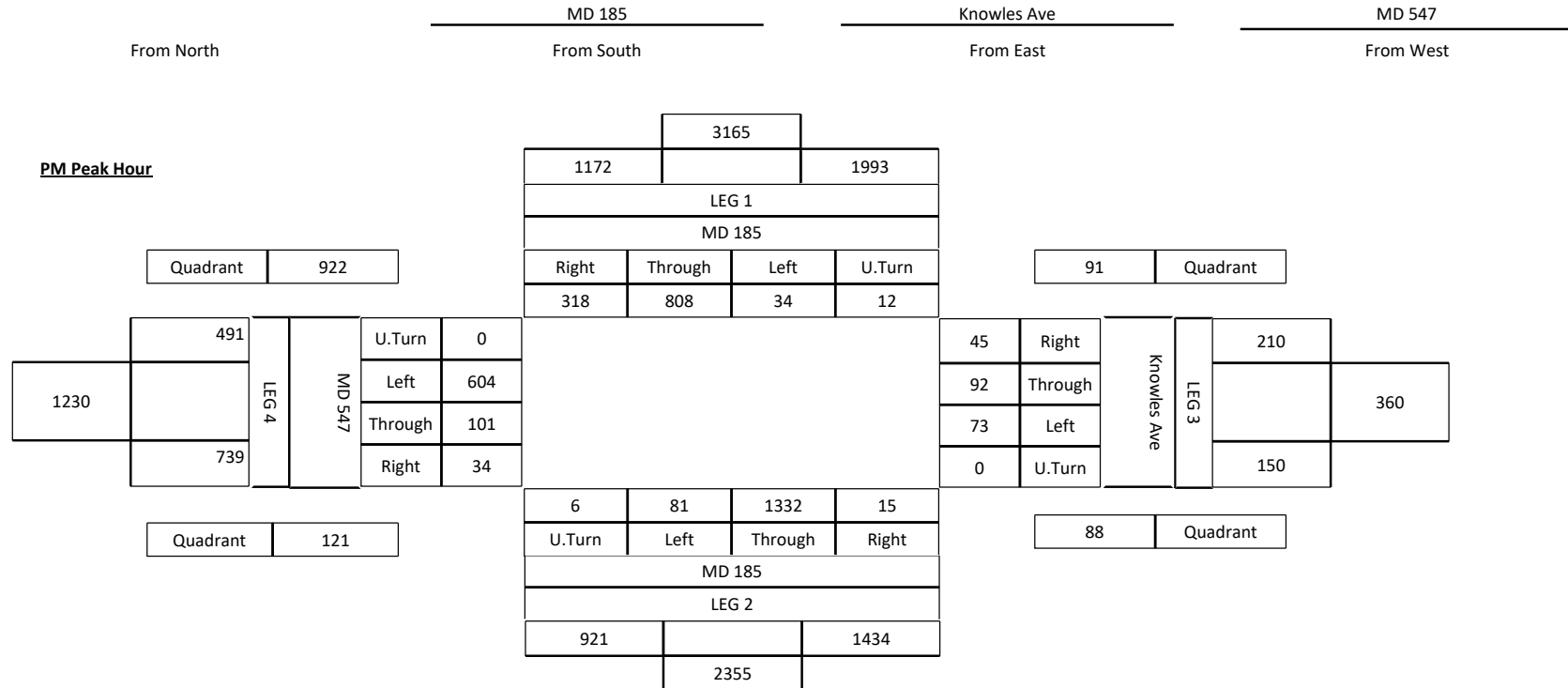
Town: none

Location: MD 185 at MD 547/KNOWLES AVE

Weather: Clear

Interval: 60 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	08:00	09:00	3450	C	0.77	12:00PM-19:00PM	15:00	16:00	3555	B	0.63





BICYCLES TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Summit Avenue
and: Knowles Avenue
Location: Montgomery County, Maryland

Counted by: VCU
Date: December 01, 2020
Weather: Rain/Cool
Entered by: SN

Tuesday

Star Rating: 4

TIME	TRAFFIC FROM NORTH					TRAFFIC FROM SOUTH					TRAFFIC FROM EAST					TRAFFIC FROM WEST					TOTAL
	on: Summit Avenue					on: Summit Avenue					on: Knowles Avenue					on: Knowles Avenue					N + S
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	+ E + W
AM																					
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Hr Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 Hr Totals																					
6:30 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HOUR																					
8:00 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM																					
4:00 - 4:15	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
4:15 - 4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 - 4:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 - 5:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 - 5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 - 5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 - 5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 - 6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Hr Totals	2	1	0	0	3	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	4
1 Hr Totals																					
4:00 - 5:00	2	1	0	0	3	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	4
4:15 - 5:15	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 - 5:30	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 - 5:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 - 6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HOUR																					
4:45 - 5:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

PEDESTRIAN AND BICYCLE OBSERVATIONS - SUMMARY

Intersection of: Summit Avenue
and: Knowles Avenue
Location: Montgomery County, Maryland

Counted by: VCU
Date: December 01, 2020
Weather: Rain/Cool
Entered by: SN

Tuesday
Star Rating: 4



TIME	NORTH LEG Summit Avenue		SOUTH LEG Summit Avenue	
	Pedestrians	Bicycles	Pedestrians	Bicycles
AM				
6:30 - 6:45	1	0	0	0
6:45 - 7:00	0	0	1	0
7:00 - 7:15	0	0	1	0
7:15 - 7:30	0	0	0	0
7:30 - 7:45	0	0	0	0
7:45 - 8:00	1	0	1	0
8:00 - 8:15	0	0	1	0
8:15 - 8:30	0	0	2	0
8:30 - 8:45	0	0	0	0
8:45 - 9:00	2	0	1	0
9:00 - 9:15	1	0	1	0
9:15 - 9:30	1	0	2	0
TOTALS	6	0	10	0
PM				
4:00 - 4:15	4	0	0	0
4:15 - 4:30	0	2	1	0
4:30 - 4:45	0	0	0	0
4:45 - 5:00	0	0	0	0
5:00 - 5:15	0	0	1	0
5:15 - 5:30	0	0	0	0
5:30 - 5:45	0	0	2	0
5:45 - 6:00	0	0	0	0
6:00 - 6:15	1	0	0	0
6:15 - 6:30	0	0	2	0
6:30 - 6:45	1	0	0	0
6:45 - 7:00	0	0	0	0
TOTALS	6	2	6	0

	EAST LEG Knowles Avenue		WEST LEG Knowles Avenue	
	Pedestrians	Bicycles	Pedestrians	Bicycles
AM				
6:30 - 6:45	0	0	1	0
6:45 - 7:00	0	0	0	0
7:00 - 7:15	0	0	0	0
7:15 - 7:30	0	0	0	0
7:30 - 7:45	0	0	0	0
7:45 - 8:00	0	0	1	0
8:00 - 8:15	0	0	0	0
8:15 - 8:30	0	0	0	0
8:30 - 8:45	0	0	2	0
8:45 - 9:00	0	0	0	0
9:00 - 9:15	0	0	1	0
9:15 - 9:30	0	0	0	0
TOTALS	0	0	5	0
PM				
4:00 - 4:15	0	0	6	1
4:15 - 4:30	1	0	1	1
4:30 - 4:45	1	0	0	0
4:45 - 5:00	2	0	2	0
5:00 - 5:15	1	0	0	0
5:15 - 5:30	5	0	0	0
5:30 - 5:45	1	0	0	0
5:45 - 6:00	0	0	0	0
6:00 - 6:15	0	1	0	0
6:15 - 6:30	0	0	3	0
6:30 - 6:45	0	0	1	0
6:45 - 7:00	0	0	1	0
TOTALS	11	1	14	2

TOTALS TURNING MOVEMENT COUNT - SUMMARY

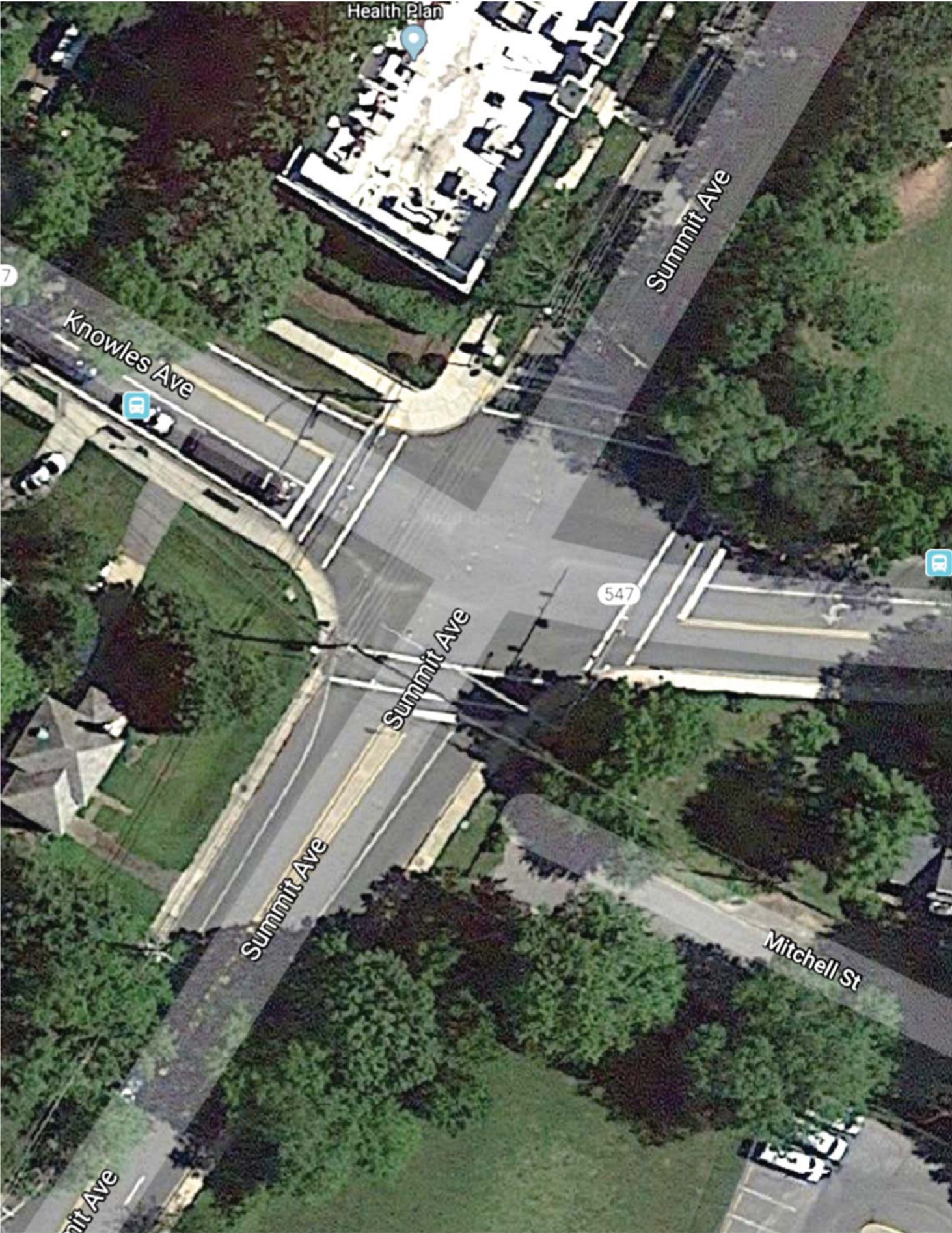
Intersection of: Summit Avenue
and: Knowles Avenue
Location: Montgomery County, Maryland

Counted by: VCU
Date: December 01, 2020
Weather: Rain/Cool
Entered by: SN

Tuesday

Star Rating: 4

TIME	TRAFFIC FROM NORTH					TRAFFIC FROM SOUTH					TRAFFIC FROM EAST					TRAFFIC FROM WEST					TOTAL N + S + E + W
	on: Summit Avenue					on: Summit Avenue					on: Knowles Avenue					on: Knowles Avenue					
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	1	0	0	0	1	4	4	0	0	8	0	13	103	0	116	1	18	1	0	20	145
6:45 - 7:00	1	12	2	0	15	19	6	2	0	27	3	26	73	0	102	6	23	1	0	30	174
7:00 - 7:15	1	11	6	0	18	15	5	2	0	22	3	22	74	0	99	5	25	1	0	31	170
7:15 - 7:30	4	6	2	0	12	25	3	2	0	30	1	28	70	0	99	3	31	3	0	37	178
7:30 - 7:45	2	11	2	0	15	33	5	2	0	40	2	38	77	0	117	3	41	3	0	47	219
7:45 - 8:00	2	14	3	0	19	26	0	2	0	28	2	52	91	0	145	9	52	1	0	62	254
8:00 - 8:15	4	10	0	0	14	34	8	3	0	45	1	45	90	0	136	10	54	1	0	65	260
8:15 - 8:30	5	13	1	0	19	25	5	4	0	34	1	51	75	0	127	3	57	0	0	60	240
8:30 - 8:45	5	13	3	0	21	38	3	6	0	47	3	49	92	0	144	6	47	2	0	55	267
8:45 - 9:00	2	9	2	0	13	32	7	2	0	41	1	53	82	0	136	5	65	4	0	74	264
9:00 - 9:15	5	7	2	0	14	34	7	5	0	46	1	31	42	0	74	6	40	4	0	50	184
9:15 - 9:30	5	11	3	0	19	32	8	7	0	47	1	48	49	0	98	6	52	1	0	59	223
3 Hr Totals	37	117	26	0	180	317	61	37	0	415	19	456	918	0	1393	63	505	22	0	590	2578
1 Hr Totals																					
6:30 - 7:30	7	29	10	0	46	63	18	6	0	87	7	89	320	0	416	15	97	6	0	118	667
6:45 - 7:45	8	40	12	0	60	92	19	8	0	119	9	114	294	0	417	17	120	8	0	145	741
7:00 - 8:00	9	42	13	0	64	99	13	8	0	120	8	140	312	0	460	20	149	8	0	177	821
7:15 - 8:15	12	41	7	0	60	118	16	9	0	143	6	163	328	0	497	25	178	8	0	211	911
7:30 - 8:30	13	48	6	0	67	118	18	11	0	147	6	186	333	0	525	25	204	5	0	234	973
7:45 - 8:45	16	50	7	0	73	123	16	15	0	154	7	197	348	0	552	28	210	4	0	242	1021
8:00 - 9:00	16	45	6	0	67	129	23	15	0	167	6	198	339	0	543	24	223	7	0	254	1031
8:15 - 9:15	17	42	8	0	67	129	22	17	0	168	6	184	291	0	481	20	209	10	0	239	955
8:30 - 9:30	17	40	10	0	67	136	25	20	0	181	6	181	265	0	452	23	204	11	0	238	938
PEAK HOUR																					
8:00 - 9:00	16	45	6	0	67	129	23	15	0	167	6	198	339	0	543	24	223	7	0	254	1031
PM																					
4:00 - 4:15	1	11	4	0	16	81	16	16	0	113	5	78	42	0	125	8	66	0	0	74	328
4:15 - 4:30	4	5	2	0	11	98	14	11	0	123	6	70	50	0	126	7	76	4	0	87	347
4:30 - 4:45	8	13	1	0	22	67	26	12	0	105	2	66	49	0	117	5	69	6	0	80	324
4:45 - 5:00	7	12	0	0	19	104	24	10	0	138	4	80	51	0	135	9	57	8	0	74	366
5:00 - 5:15	7	8	2	0	17	85	17	12	0	114	0	89	35	0	124	12	77	8	0	97	352
5:15 - 5:30	1	9	3	0	13	82	29	18	0	129	3	79	25	0	107	9	88	10	0	107	356
5:30 - 5:45	5	7	2	0	14	82	29	14	0	125	3	68	36	0	107	8	77	7	0	92	338
5:45 - 6:00	4	7	0	0	11	83	23	11	0	117	3	69	33	0	105	5	64	5	0	74	307
6:00 - 6:15	5	3	2	0	10	72	9	7	0	88	2	67	31	0	100	9	68	3	0	80	278
6:15 - 6:30	2	7	2	0	11	60	8	7	0	75	3	58	52	0	113	8	60	3	0	71	270
6:30 - 6:45	4	1	1	0	6	49	15	7	0	71	3	61	41	0	105	7	49	6	0	62	244
6:45 - 7:00	1	1	1	0	3	40	7	7	0	54	0	45	29	0	74	14	60	3	0	77	208
3 Hr Totals	49	84	20	0	153	903	217	132	0	1252	34	830	474	0	1338	101	811	63	0	975	3718
1 Hr Totals																					
4:00 - 5:00	20	41	7	0	68	350	80	49	0	479	17	294	192	0	503	29	268	18	0	315	1365
4:15 - 5:15	26	38	5	0	69	354	81	45	0	480	12	305	185	0	502	33	279	26	0	338	1389
4:30 - 5:30	23	42	6	0	71	338	96	52	0	486	9	314	160	0	483	35	291	32	0	358	1398
4:45 - 5:45	20	36	7	0	63	353	99	54	0	506	10	316	147	0	473	38	299	33	0	370	1412
5:00 - 6:00	17	31	7	0	55	332	98	55	0	485	9	305	129	0	443	34	306	30	0	370	1353
5:15 - 6:15	15	26	7	0	48	319	90	50	0	459	11	283	125	0	419	31	297	25	0	353	1279
5:30 - 6:30	16	24	6	0	46	297	69	39	0	405	11	262	152	0	425	30	269	18	0	317	1193
5:45 - 6:45	15	18	5	0	38	264	55	32	0	351	11	255	157	0	423	29	241	17	0	287	1099
6:00 - 7:00	12	12	6	0	30	221	39	28	0	288	8	231	153	0	392	38	237	15	0	290	1000
PEAK HOUR																					
4:45 - 5:45	20	36	7	0	63	353	99	54	0	506	10	316	147	0	473	38	299	33	0	370	1412



BICYCLES TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Summit Avenue
and: Plyers Mill Road
Location: Montgomery County, Maryland

Counted by: VCU
Date: December 01, 2020
Weather: Rain/Cool
Entered by: SN

Tuesday
The Traffic Group
Star Rating: 5

TIME	TRAFFIC FROM NORTH on: Business Access					TRAFFIC FROM SOUTH on: Summit Avenue					TRAFFIC FROM EAST on: Plyers Mill Road					TRAFFIC FROM WEST on: Plyers Mill Road					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Hr Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
1 Hr Totals																					
6:30 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:15 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:30 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:45 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:00 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HOUR																					
7:30 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
PM																					
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 4:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 - 4:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
4:45 - 5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:00 - 5:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
5:15 - 5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 - 5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 - 6:30	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Hr Totals	0	0	0	0	0	1	1	1	0	3	0	0	1	0	1	1	1	0	0	2	6
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	1	0	0	0	1	3
4:15 - 5:15	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	1	1	0	0	2	5
4:30 - 5:30	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	1	1	0	0	2	4
4:45 - 5:45	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0	2	3
5:00 - 6:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
5:15 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 - 6:30	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 - 6:45	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6:00 - 7:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HOUR																					
4:30 - 5:30	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	1	1	0	0	2	4

PEDESTRIAN AND BICYCLE OBSERVATIONS - SUMMARY

Intersection of: Summit Avenue
and: Plyers Mill Road
Location: Montgomery County, Maryland

Counted by: VCU
Date: December 01, 2020
Weather: Rain/Cool
Entered by: SN

Tuesday
Star Rating: 5



TIME	NORTH LEG Business Access		SOUTH LEG Summit Avenue	
	Pedestrians	Bicycles	Pedestrians	Bicycles
AM				
6:30 - 6:45	0	0	0	0
6:45 - 7:00	3	0	1	0
7:00 - 7:15	0	0	0	0
7:15 - 7:30	0	0	0	0
7:30 - 7:45	1	0	1	0
7:45 - 8:00	2	0	0	0
8:00 - 8:15	2	0	0	0
8:15 - 8:30	1	0	1	0
8:30 - 8:45	0	0	1	0
8:45 - 9:00	1	0	0	0
9:00 - 9:15	0	0	1	0
9:15 - 9:30	0	0	1	0
TOTALS	10	0	6	0
PM				
4:00 - 4:15	2	0	2	0
4:15 - 4:30	0	0	1	0
4:30 - 4:45	1	0	0	0
4:45 - 5:00	1	0	0	0
5:00 - 5:15	1	0	0	0
5:15 - 5:30	0	0	0	0
5:30 - 5:45	1	0	1	0
5:45 - 6:00	0	0	0	0
6:00 - 6:15	1	0	1	0
6:15 - 6:30	0	0	0	0
6:30 - 6:45	0	0	0	0
6:45 - 7:00	1	0	0	0
TOTALS	8	0	5	0
	EAST LEG Plyers Mill Road		WEST LEG Plyers Mill Road	
	Pedestrians	Bicycles	Pedestrians	Bicycles
AM				
6:30 - 6:45	0	0	0	0
6:45 - 7:00	0	0	1	0
7:00 - 7:15	0	0	0	0
7:15 - 7:30	0	0	0	0
7:30 - 7:45	1	0	1	0
7:45 - 8:00	0	0	0	0
8:00 - 8:15	0	0	0	0
8:15 - 8:30	0	0	0	0
8:30 - 8:45	0	0	1	0
8:45 - 9:00	0	0	0	0
9:00 - 9:15	0	0	1	0
9:15 - 9:30	0	0	1	0
TOTALS	1	0	5	0
PM				
4:00 - 4:15	0	0	2	0
4:15 - 4:30	0	0	1	0
4:30 - 4:45	0	0	0	0
4:45 - 5:00	0	0	3	0
5:00 - 5:15	0	0	3	0
5:15 - 5:30	0	0	0	0
5:30 - 5:45	0	0	2	0
5:45 - 6:00	0	0	0	0
6:00 - 6:15	0	0	0	0
6:15 - 6:30	0	0	0	0
6:30 - 6:45	0	0	0	0
6:45 - 7:00	0	0	0	0
TOTALS	0	0	11	0

TOTALS TURNING MOVEMENT COUNT - SUMMARY

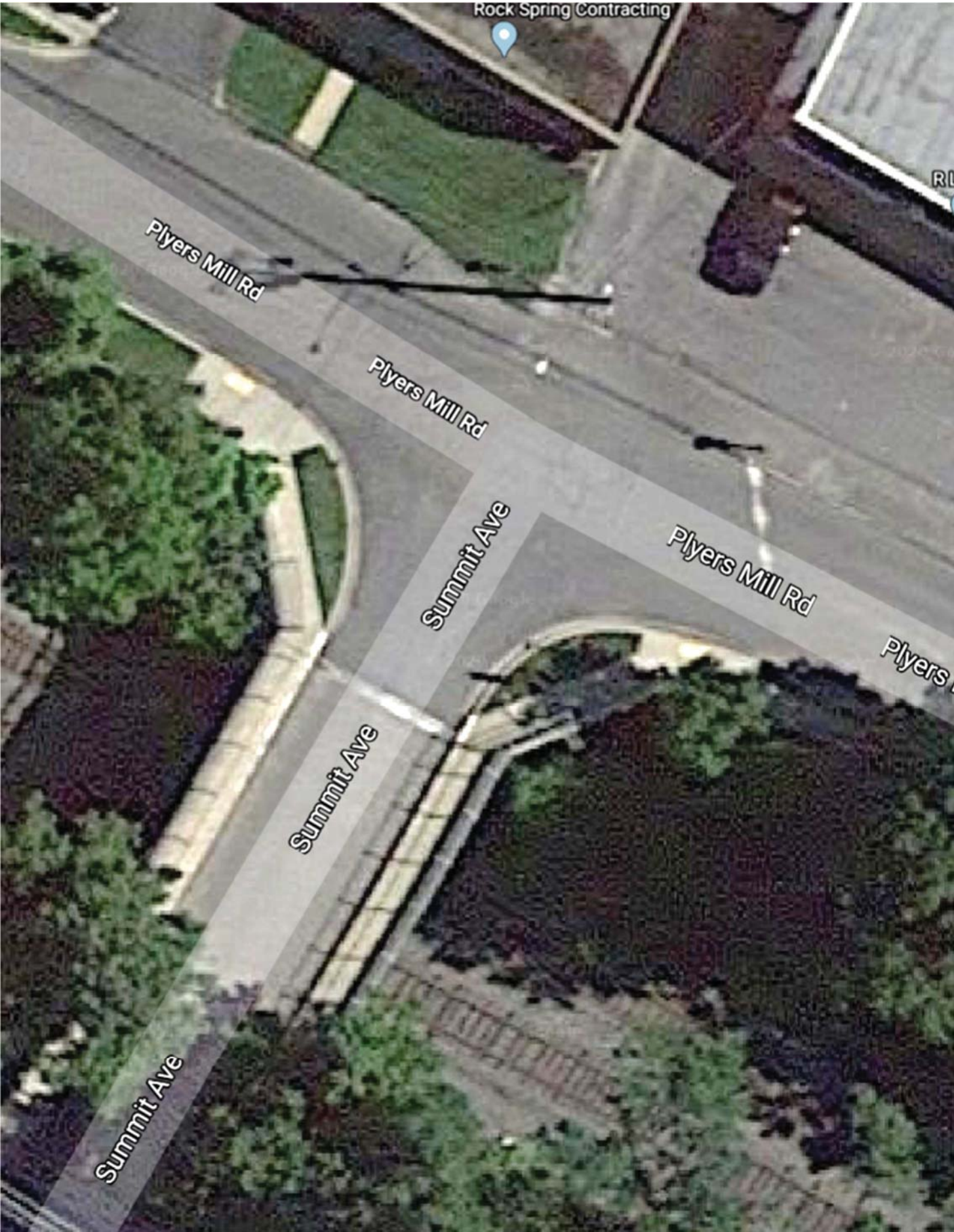
Intersection of: Summit Avenue
and: Pliers Mill Road
Location: Montgomery County, Maryland

Counted by: VCU
Date: December 01, 2020
Weather: Rain/Cool
Entered by: SN

Tuesday
The Traffic Group
Star Rating: 5

TIME	TRAFFIC FROM NORTH					TRAFFIC FROM SOUTH					TRAFFIC FROM EAST					TRAFFIC FROM WEST					TOTAL N + S + E + W
	on: Business Access					on: Summit Avenue					on: Plyers Mill Road					on: Plyers Mill Road					
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	0	0	0	0	0	8	0	1	0	9	1	1	30	0	32	1	4	0	0	5	46
6:45 - 7:00	0	0	1	0	1	12	0	0	0	12	0	3	20	0	23	1	2	0	0	3	39
7:00 - 7:15	0	0	0	0	0	8	0	0	0	8	1	0	20	0	21	0	4	0	0	4	33
7:15 - 7:30	0	0	1	0	1	16	0	1	0	17	0	0	25	0	25	6	4	0	0	10	53
7:30 - 7:45	0	0	1	0	1	20	0	1	0	21	0	0	41	0	41	0	0	0	0	0	63
7:45 - 8:00	0	1	2	0	3	22	0	2	0	24	1	5	63	1	70	1	2	0	0	3	100
8:00 - 8:15	0	0	2	0	2	23	0	0	0	23	0	5	31	0	36	3	4	0	0	7	68
8:15 - 8:30	0	0	1	0	1	22	0	3	0	25	1	2	35	0	38	4	2	0	0	6	70
8:30 - 8:45	0	0	0	0	0	15	0	0	0	15	0	1	34	0	35	2	6	0	0	8	58
8:45 - 9:00	0	0	0	0	0	26	0	3	0	29	0	2	28	0	30	2	3	0	0	5	64
9:00 - 9:15	0	0	0	0	0	27	0	1	0	28	0	2	33	0	35	1	1	0	0	2	65
9:15 - 9:30	0	0	0	0	0	20	0	2	0	22	0	3	31	0	34	1	2	0	0	3	59
3 Hr Totals	0	1	8	0	9	219	0	14	0	233	4	24	391	1	420	22	34	0	0	56	718
1 Hr Totals																					
6:30 - 7:30	0	0	2	0	2	44	0	2	0	46	2	4	95	0	101	8	14	0	0	22	171
6:45 - 7:45	0	0	3	0	3	56	0	2	0	58	1	3	106	0	110	7	10	0	0	17	188
7:00 - 8:00	0	1	4	0	5	66	0	4	0	70	2	5	149	1	157	7	10	0	0	17	249
7:15 - 8:15	0	1	6	0	7	81	0	4	0	85	1	10	160	1	172	10	10	0	0	20	284
7:30 - 8:30	0	1	6	0	7	87	0	6	0	93	2	12	170	1	185	8	8	0	0	16	301
7:45 - 8:45	0	1	5	0	6	82	0	5	0	87	2	13	163	1	179	10	14	0	0	24	296
8:00 - 9:00	0	0	3	0	3	86	0	6	0	92	1	10	128	0	139	11	15	0	0	26	260
8:15 - 9:15	0	0	1	0	1	90	0	7	0	97	1	7	130	0	138	9	12	0	0	21	257
8:30 - 9:30	0	0	0	0	0	88	0	6	0	94	0	8	126	0	134	6	12	0	0	18	246
PEAK HOUR																					
7:30 - 8:30	0	1	6	0	7	87	0	6	0	93	2	12	170	1	185	8	8	0	0	16	301
PM																					
4:00 - 4:15	0	0	0	0	0	63	0	2	0	65	0	4	21	0	25	1	3	0	0	4	94
4:15 - 4:30	0	0	0	0	0	69	0	2	0	71	0	4	35	0	39	6	7	0	0	13	123
4:30 - 4:45	0	0	1	0	1	88	0	3	0	91	1	3	28	1	33	5	6	0	0	11	136
4:45 - 5:00	0	0	1	0	1	69	0	3	0	72	0	6	37	0	43	0	1	0	0	1	117
5:00 - 5:15	0	0	0	0	0	80	0	0	0	80	0	6	34	0	40	0	10	0	0	10	130
5:15 - 5:30	0	0	0	0	0	78	0	5	0	83	0	10	33	0	43	4	6	0	0	10	136
5:30 - 5:45	0	0	0	0	0	75	0	2	0	77	0	10	24	0	34	7	3	0	0	10	121
5:45 - 6:00	0	0	0	0	0	78	0	4	0	82	0	4	22	0	26	2	5	0	0	7	115
6:00 - 6:15	0	1	0	0	1	62	0	5	0	67	0	4	14	0	18	3	4	0	0	7	93
6:15 - 6:30	0	0	0	0	0	53	0	4	0	57	0	5	16	0	21	1	2	0	0	3	81
6:30 - 6:45	0	0	0	0	0	59	0	4	0	63	0	4	15	0	19	2	5	0	0	7	89
6:45 - 7:00	0	0	0	0	0	36	0	3	0	39	0	3	11	0	14	0	0	0	0	0	53
3 Hr Totals	0	1	2	0	3	810	0	37	0	847	1	63	290	1	355	31	52	0	0	83	1288
1 Hr Totals																					
4:00 - 5:00	0	0	2	0	2	289	0	10	0	299	1	17	121	1	140	12	17	0	0	29	470
4:15 - 5:15	0	0	2	0	2	306	0	8	0	314	1	19	134	1	155	11	24	0	0	35	506
4:30 - 5:30	0	0	2	0	2	315	0	11	0	326	1	25	132	1	159	9	23	0	0	32	519
4:45 - 5:45	0	0	1	0	1	302	0	10	0	312	0	32	128	0	160	11	20	0	0	31	504
5:00 - 6:00	0	0	0	0	0	311	0	11	0	322	0	30	113	0	143	13	24	0	0	37	502
5:15 - 6:15	0	1	0	0	1	293	0	16	0	309	0	28	93	0	121	16	18	0	0	34	465
5:30 - 6:30	0	1	0	0	1	268	0	15	0	283	0	23	76	0	99	13	14	0	0	27	410
5:45 - 6:45	0	1	0	0	1	252	0	17	0	269	0	17	67	0	84	8	16	0	0	24	378
6:00 - 7:00	0	1	0	0	1	210	0	16	0	226	0	16	56	0	72	6	11	0	0	17	316
PEAK HOUR																					
4:30 - 5:30	0	0	2	0	2	315	0	11	0	326	1	25	132	1	159	9	23	0	0	32	519

Plyers Mill Rd & Summit Ave



Developers for Solera Reserve at Kensington, a project spanning properties at 10500 St. Paul St. and 10540 Metropolitan Ave., received approval to tear down existing structures on the property to make way for a five-story senior living facility.



The project includes 63 independent-living units, 43 assisted-living units for residents who need help with basic functions like dressing and bathing and 29 memory-care units that will cater to residents with conditions such as dementia.

A fitness center and ground-level kitchen, dining room, wine bar and game room are also in the plans.

The new building will form a U-shape surrounding an outdoor courtyard that will have seating areas, walking paths and a water feature. The project will provide about 103 parking spaces, according to development plans.

The developers, McCaffery Interests and Solera Senior Living, will also remodel two historic buildings on the property that formerly housed a lumber company. One building will be a coffee shop the other a spa and salon. The senior living center will be connected to the coffee shop and spa with an enclosed walkway.

The county Historic Preservation Committee wrote a letter in support of the rehabilitation projects of the two buildings, constructed in the 1930s.

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Knowles Manor, Preliminary Plan No. 120190140 & Site Plan No. 820190080



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Patrick Butler, Supervisor, Area 2 Division, Patrick.Butler@montgomeryplanning.org, 301.495.4561



Carrie Sanders, Chief, Area 2 Division, Carrie.Sanders@montgomeryplanning.org, 301.495.4653

Completed:7/1/2019

Description

Preliminary Plan: Request to consolidate Lots 3, 4, and 5, into one (1) lot, approximately 28,357 square feet in size; for a maximum of 100,000 square feet for an Independent Living Facility for Seniors, for up to 94 units, with a minimum 30% Moderately Priced Dwelling Units (MPDUs).

Site Plan: Request to construct a five-story Independent Living Facility for Seniors with up to 100,000 square feet of total development, with up to 94 units, including up to 30,805 square feet of bonus density for providing 30% MPDUs or DHCA approved alternative.

Location: 3906 and 3910 Knowles Avenue.

Sector Plan: 2012 *Kensington Sector Plan*.

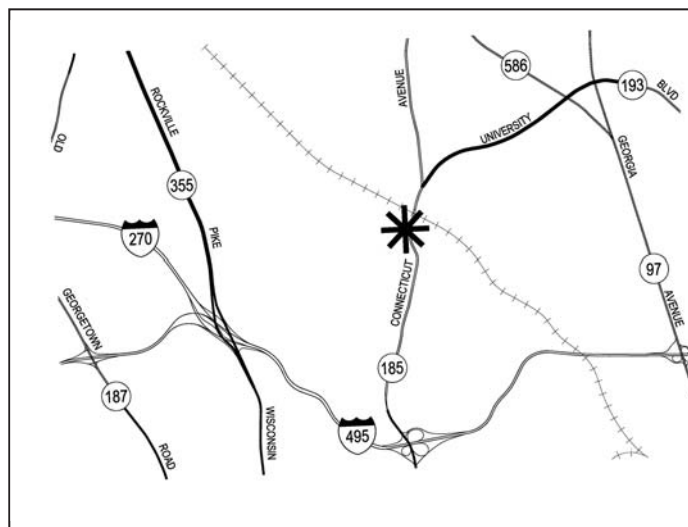
Zone: CRT-2.5, C-2.0, R-2.0, H-75.

Size: 34,597-square foot tract.

Applicant: Kensington Manor Senior Housing, LLC.

Acceptance Date: February 11, 2019.

Review Basis: Chapter 50, Subdivision Regulations and Chapter 59, Zoning Ordinance.



Summary

- Staff recommends approval with conditions.
- The Applicant will provide a minimum of 30 percent MPDUs or DHCA approved alternative.
- The development has received approval from the Town of Kensington.
- The community has concerns regarding parking and the potential blocking of traffic from service vehicles along Knowles Avenue.
- As allowed under Section 7.3.3.I, this Site Plan amends Condition No. 1 of Sketch Plan No. 320180210 to be consistent with the calculation of MPDU bonus density per ZTA No. 18-06 (see Site Plan Finding 2a. of this report).
- This report was postponed from Thursday, June 27, 2019 to Thursday, July 11, 2019 to allow for 10-days of public noticing.

SECTION 1: RECOMMENDATION AND CONDITIONS

Preliminary Plan No. 120190140

Staff recommends approval of Preliminary Plan No. 120190140. All site development elements shown on the latest electronic version of Preliminary Plan No. 120190140 submitted via ePlans as of the date of this Staff Report are binding:

Density and Use

1. This Preliminary Plan is limited to one (1) lot, approximately 28,357 square feet in size, for a based density of 69,195 square feet and 30,805 square feet of MPDU Bonus Density, for a maximum of 100,000 square feet for an Independent Living Facility for Seniors, per Section 3.3.2.C, including up to 94 residential units, with a minimum of 30% MPDUs or DHCA approved equivalent on the Subject Property.

Adequate Public Facilities and Outside Agencies

1. The Adequate Public Facility (APF) review for the Preliminary Plan will remain valid for sixty (60) months from the date of mailing of this Planning Board Resolution.

Outside Agencies

2. The Planning Board accepts the recommendations of the Montgomery County Department of Transportation (MCDOT) in its letters dated March 8, 2019 and April 16, 2019 and incorporates them as conditions of the Preliminary Plan approval. The Applicant must comply with each of the recommendations as set forth in the letters, which may be amended by MCDOT if the amendment does not conflict with any other conditions of the Preliminary Plan approval.
3. Before recording a plat for the Subject Property, the Applicant must satisfy MCDOT's requirements for access and improvements.
4. The Planning Board accepts the recommendations of the Maryland State Highway Administration (SHA) in its letter dated April 17, 2019, and amended by email dated June 6, 2019, and incorporates them as conditions of the Preliminary Plan approval. The Applicant must comply with each of the recommendations as set forth in the letter as amended by the email, which may be amended by MDSHA if the amendment does not conflict with any other conditions of the Preliminary Plan approval.
5. Before the issuance of access permits, the Applicant must satisfy the Maryland State Highway Administration's requirements for access and improvements.
6. The Planning Board accepts the recommendations of the Montgomery County Department of Permitting Services (MCDPS) – Water Resources Section in its stormwater management concept letter dated April 18, 2019 and incorporates them as conditions of the Preliminary Plan approval. The Applicant must comply with each of the recommendations as set forth in the letter, which may be amended by MCDPS – Water Resources Section if the amendment does not conflict with any other conditions of the Preliminary Plan approval.

7. The Planning Board accepts the recommendations of the Montgomery County Department of Permitting Services (MCDPS), Fire Department Access and Water Supply Section in its letter dated March 18, 2019, and incorporates them as conditions of approval. The Applicant must comply with each of the recommendations as set forth in the letter, which MCDPS may amend if the amendment does not conflict with other conditions of Preliminary Plan approval.
8. The Planning Board accepts the recommendations of the Montgomery County Department of Housing and Community Affairs (DHCA), in its letter dated May 10, 2019 and incorporates them as conditions of approval. The Applicant must comply with each of the recommendations as set forth in the letter, which DHCA may amend if the amendment does not conflict with other conditions of Preliminary Plan approval.

Concurrent Site Plan Approval

9. Before submitting a record plat application or clearing or grading the Subject Property, the Applicant must receive Staff certification of Site Plan No. 820190080. The number and location of site elements including but not limited to buildings, dwelling units, on-site parking, site circulation, sidewalks and bikepaths are determined through site plan review and approval.
10. If an approved site plan amendment for the Subject Property substantially modifies the lot or right-of-way configuration or quantities shown on this Preliminary Plan, the Applicant must obtain approval of a Preliminary Plan amendment before certification of the site plan amendment.

Transportation

Existing Frontage Improvements

11. The Applicant must dedicate all land necessary to accommodate forty (40) feet from the centerline along the Subject Property frontage for Knowles Avenue and show on the record plat(s).
12. Prior to the recordation of plat(s), the Applicant must satisfy all necessary requirements of MDSHA to construct an eight (8)-foot-wide sidewalk along the property frontage on Knowles Avenue unless construction is waived by MDSHA.

Record Plats

13. Except for demolition of existing structures, no clearing or grading of the site is permitted prior to recordation of the plat.

Easements

14. The record plat must show necessary easements.

Notes and Labels

15. The record plat must reflect all areas under common ownership.
16. The final number of MPDUs required will be determined by the site plan approval.

Certified Preliminary Plan

17. The Applicant must include the stormwater management concept approval letter and Preliminary Plan Resolution on the approval or cover sheet(s).
18. The certified Preliminary Plan must contain the following note:

Unless specifically noted on this plan drawing or in the Planning Board conditions of approval, the building footprints, building heights, on-site parking, site circulation, and sidewalks shown on the Preliminary Plan are illustrative. The final locations of buildings, structures and hardscape will be determined at the time of issuance of building permit(s) [or] site plan approval. Please refer to the zoning data table for development standards such as setbacks, building restriction lines, building height, and lot coverage for each lot.

Site Plan No. 820190080

Staff recommends approval of Site Plan 820190080. The development must comply with the binding elements and conditions of approval for Sketch Plan 320180210 and Preliminary Plan No. 120190140.

All site development elements shown on the latest electronic version as of the date of this Staff Report submitted via ePlans to the M-NCPPC are required except as modified by the following conditions.¹

Density, Height & Housing

1. Density
The Site Plan is limited to a based density of 69,195 square feet and 30,805 square feet of MPDU Bonus Density, for a maximum of 100,000 square feet for an Independent Living Facility for Seniors Independent, per Section 3.3.2.C, including up to 94 residential units with a minimum of 29 units of MPDUs or Department of Housing and Community Affairs (DHCA) approved equivalent on the Subject Property.
2. Height
The development is limited to a maximum height of 60 feet, as measured from the building height measuring point, as illustrated on the Certified Site Plan.
3. Moderately Priced Dwelling Units (MPDUs)
The Planning Board accepts the recommendations of the DHCA in its letter dated May 10, 2019, and incorporates them as conditions of the Site Plan approval. The Applicant must comply with each of the recommendations as set forth in the letter, which DHCA may amend provided that the amendments do not conflict with other conditions of the Site Plan approval.

¹ For the purposes of these conditions, the term "Applicant" shall also mean the developer, the owner or any successor (s) in interest to the terms of this approval.

- a) The development must provide a minimum of 30 percent MPDUs or DHCA -approved equivalent on-site consistent with the requirements of Chapter 25A and the applicable Master Plan. The Applicant is receiving a 30 percent density bonus for providing 30 percent MPDUs or DHCA-approved equivalent on-site.
 - b) Before issuance of any building permit for any residential unit(s), the MPDU agreement to build between the Applicant and the MCDHCA must be executed.
4. Prior to Certification of any Site Plan that includes age-restricted units:
- a) The Applicant must enter into a covenant with the Planning Board reflecting the age restriction in a form approved by the M-NCPPC Office of General Counsel.
 - b) The covenant must be recorded in and among the Montgomery County Land Records.
 - c) The Book and Page reference must be included on the Certified Site Plan.

Open Space, Facilities and Amenities

5. Public Benefits

The Applicant must provide the following public benefits and meet the applicable criteria and requirements of the Zoning Ordinance and the CR Zone Incentive Density Implementation Guidelines for each one. Total points must equal at least 50. The requirements of Division 59.4.7.1 and the CR Zone Incentive Density Implementation Guidelines must be fulfilled for each public benefit.

- a) Connectivity between Uses, Activities, and Mobility Options
 - i. Minimum Parking
The Applicant must provide a minimum of 47 parking vehicular spaces.
- b) Diversity of Uses and Activities
 - i. Affordable Housing/MPDUs
 - a) The development must provide a minimum of 25 percent MPDUs on-site.
 - b) Before issuance of any building permit for any residential unit, the MPDU agreement to build between the Applicant and the DHCA must be executed.
 - c) The Planning Board accepts the recommendations of DHCA in its letter dated May 10, 2019 and incorporates them as conditions of the Site Plan approval. The Applicant must comply with each of the recommendations as set forth in the letter, which may be amended by DHCA provided that the amendments do not conflict with other conditions of the Site Plan approval.
 - ii. Enhanced Accessibility for the Disabled
The Applicant must construct five (5) dwelling units that satisfy American National Standards Institute A117.1 Residential Type A standards or an equivalent County standard.
- c) Quality Building and Site Design
 - iii. Structured Parking
The Applicant must provide a minimum of 47 parking spaces within a below grade structure.

Site Plan

6. Site Design

- a) The exterior architectural character, proportion, materials, and articulation must be substantially similar to the schematic elevations shown on Sheet A201- A203 of the submitted architectural drawings, as determined by M-NCPPC Staff.

7. Lighting

- a) Prior to certified Site Plan, the Applicant must provide certification to Staff from a qualified professional that the exterior lighting in this Site Plan conforms to the latest Illuminating Engineering Society of North America (IESNA) recommendations (Model Lighting Ordinance-MLO: June 15, 2011, or as superseded) for a development of this type. All onsite exterior area lighting must be in accordance with the latest IESNA outdoor lighting recommendations (Model Lighting Ordinance-MLO: June 15, 2011, or as superseded).
- b) All onsite down-lights must have full cut-off or BUG-equivalent fixtures.
- c) Deflectors will be installed on all fixtures to prevent excess illumination and glare.
- d) Illumination levels generated from on-site lighting must not exceed 0.5 footcandles (fc) at any property line abutting public roads and residentially developed properties.
- e) Streetlights and other pole-mounted lights must not exceed the height illustrated on the Certified Site Plan.

Transportation

- 8. Any vehicle serving the property must not block traffic during peak hours. Peak hours are determined from 6:30 to 9:30 a.m. and 4:00 to 7:00 p.m.
- 9. The Applicant must coordinate with SHA for installation of “No Left Turn” and “Right Turn Only” signs along Knowles Avenue during peak hours (6:30 to 9:30 a.m. and 4:00 to 7:00 p.m.).
- 10. Pedestrian & Bicycle Circulation
 - a) The 24 long-term bicycle parking spaces must be in a secured, well-lit bicycle room adjacent to the parking garage.
 - b) The Applicant must provide 2 short-term bicycle parking spaces (inverted-u racks or approved by staff) installed at a location convenient to the main entrance on a stable concrete surface. The specific placement and location of the short-term bicycle parking spaces must be identified on the Certified Site Plan and are subject to SHA approval.
 - c) The Applicant must provide eight (8)-foot-wide sidewalks along Knowles Avenue.
 - d) The Applicant must provide the area to accommodate the bus shelter.

11. Site Plan Surety and Maintenance Agreement

Prior to issuance of any building permit, sediment control permit, or Use and Occupancy Certificate, the Applicant must enter into a Site Plan Surety and Maintenance Agreement with the Planning Board in a form approved by the M-NCPPC Office of General Counsel that outlines the responsibilities of the Applicant. The Agreement must include a performance bond(s) or other form of surety in accordance with Section 59.7.3.4.K.4 of the Montgomery County Zoning Ordinance, with the following provisions:

- a) A cost estimate of the materials and facilities, which, upon Staff approval, will establish the surety amount.

- b) The cost estimate must include applicable Site Plan elements, including, but not limited to plant material, on-site lighting, street lights, indoor and outdoor recreational facilities, short and long-term bicycle parking features, installation of the art mural, site furniture, fences, railings, art mural, sidewalks, private utilities, storm drainage facilities, and street trees. The surety must be posted before issuance of any building permit of development and will be tied to the development program.
- c) The bond or surety must be tied to the development program, and completion of all improvements covered by the surety for each phase of development will be followed by a site plan completion inspection. The surety may be reduced based upon inspector recommendation and provided that the remaining surety is sufficient to cover completion of the remaining work.

12. Art Mural

Prior to issuance of the final Use and Occupancy Permit, Planning Staff and the Town of Kensington must approval the art/mural, and the Applicant must install the art/mural on the front building façade.

13. Development Program

The Applicant must construct the development in accordance with the development program. The development program and table must be reviewed and approved by Planning Staff prior to the approval of the Certified Site Plan.

14. Certified Site Plan

Before approval of the Certified Site Plan the following revisions must be made and/or information provided subject to Staff review and approval:

- a) Include the stormwater management concept approval letter, development program, and Site Plan resolution (and other applicable resolutions) on the approval or cover sheet(s).
- b) Add a note to the Site Plan stating that “M-NCPPC Staff must inspect all tree-save areas and protection devices before clearing and grading.”
- c) Add a note stating that “Minor modifications to the limits of disturbance shown on the site plan within the public right-of-way for utility connections may be done during the review of the right-of-way permit drawings by the Department of Permitting Services.”
- d) The layby must be centered along the frontage of the site on Knowles Avenue, as approved by Planning Staff and SHA.
- e) Provide the location of five (5) units in the Project that will incorporate interiors that satisfy the American National Standards Institute A117.1 Residential Type A standards or an equivalent County standard.

SECTION 2: SITE DESCRIPTION

Vicinity

The Subject Property ("Subject Property" or "Property" outlined in red in Figure 1 below) is described as Lots 3, 4 and 5 on a plat entitled "R.B. Detrick's Subdivision" recorded in the Land Records of Montgomery County at Plat Book B, Plat 30, on November 2, 1891. The Property is located at 3906 and 3910 Knowles Avenue in the Town of Kensington, outside the historic district, midblock between the southwest intersection of Connecticut Avenue and Knowles Avenue, and east of the intersection of Knowles and Detrick Avenues. The Subject Property is located within the 2012 *Kensington Sector Plan* area, and approximately a half-mile west of the Kensington MARC Rail Station.

Directly to the north of the Property is Kensington Shopping Center which includes several restaurants, an urgent care clinic and a hardware store. To the east is the Kensington Safeway, Kensington Antique Row and the Town Hall. To the west is Kensington Park Public Library located at 4201 Knowles Avenue. To the south is the Kensington Skatepark, Montgomery County Housing Opportunities Commission and a residential neighborhood.

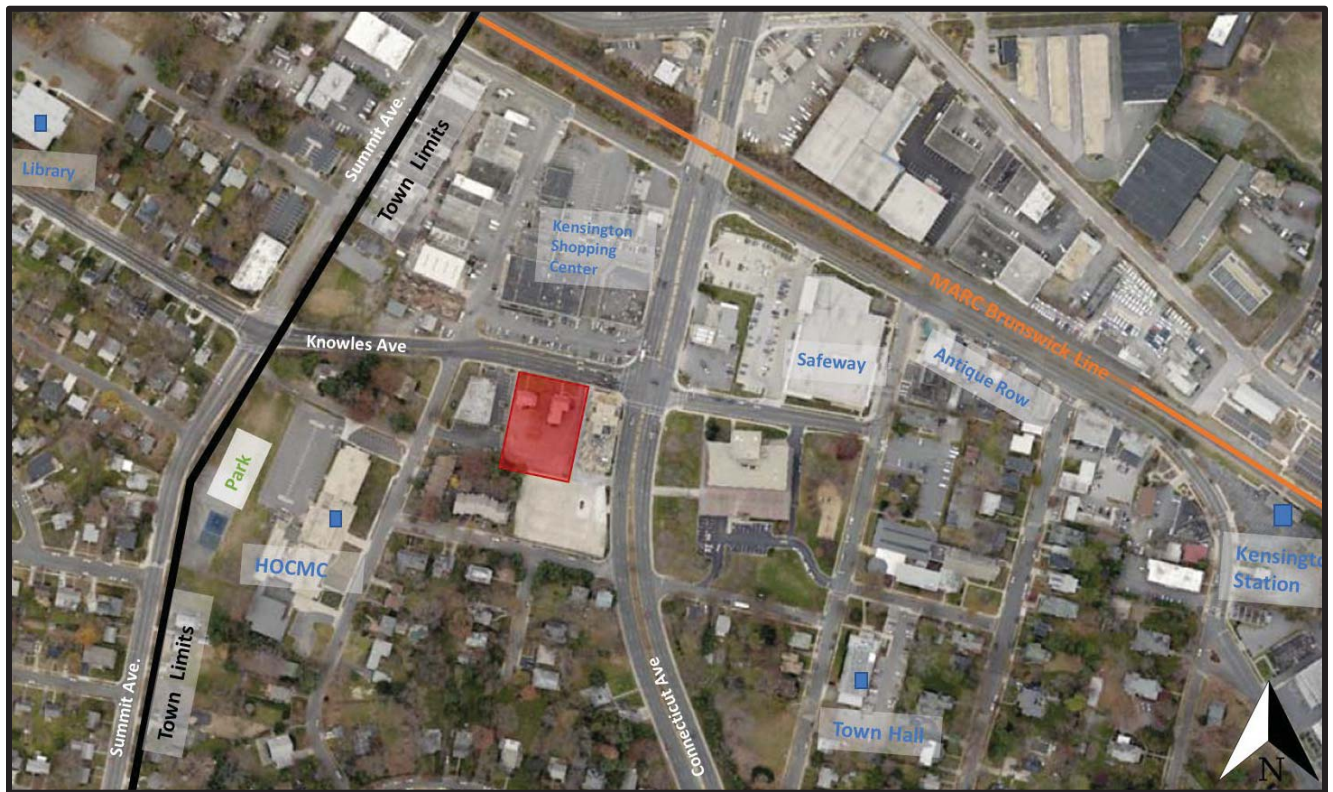


Figure 1: Vicinity Map -Property outlined in red

Site Analysis

The approximately 34,597-square-foot Property is zoned CRT-2.5, C-2.0, R-2.0, H-75. The Property is currently improved with two single-family detached houses used as professional offices that are 1,806 square feet and 3,075 square feet in size, and an undefined gravel surface parking lot. There are currently two access driveways on the site at the west and east edge of the Property boundary on Knowles Avenue.



Figure 2: Subject Property outlined in red



Photos: Existing front and rear of Site

SECTION 3: PROJECT DESCRIPTION

Proposal

The Applicant is proposing to redevelop the Property into an Independent Living Facility for Seniors with up to 94 residential units, including a minimum of 30% MPDUs, which will be a combination of one and two-bedroom units. The Project will consolidate Lots 3, 4 and 5 into one (1) lot. The facility will contain one level of private underground parking with 47 parking spaces, as well as private amenities and recreation, including a fitness center, wellness center, common room and community garden. The proposed maximum height is 60 feet at five stories and will provide the required step-back in height to meet the compatibility requirements of the Zoning Ordinance, due to the adjacent residential townhouse zone. The building is designed in a U-shape surrounding a courtyard with a community garden and a plaza area. The Project will include a dedication of 18 feet (2,808 square feet) of right-of-way to allow for the Sector Planned 80-foot-wide right-of-way for Knowles Avenue. The dedicated area along Knowles Avenue will be improved to include new sidewalks, a planting buffer and streetscape improvements. The Applicant's ultimate cross-section for Knowles Avenue will accommodate two-way separated bike lanes. The Applicant has provided architectural elevations which Staff supports. The building will feature green screening walls and a large art/mural space on the front façade. The art/mural is expected to be installed/created by a local artist and relate to the Town of Kensington. The proposed building will have bay windows that project into the dedicated right-of-way for Knowles Avenue, provided that the projections occur only at the second floor and above 12-feet above grade. The Applicant has obtained approval of the façade encroaching into the right-of-way from SHA.



Figure 3: Front North Elevation

APPENDIX B






















Capacity Analysis Worksheets



HCM 6th Signalized Intersection Summary

1: MD 185 & Knowles






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	381	60	72	34	55	12	22	508	14	17	1703	572
Future Volume (veh/h)	381	60	72	34	55	12	22	508	14	17	1703	572
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	393	95	78	37	60	13	24	552	15	18	1851	622
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	463	123	101	93	78	17	127	3585	97	631	2677	854
Arrive On Green	0.13	0.13	0.13	0.05	0.05	0.05	0.02	0.70	0.70	0.02	0.70	0.70
Sat Flow, veh/h	3563	950	780	1781	1490	323	1781	5111	138	1781	3832	1223
Grp Volume(v), veh/h	393	0	173	37	0	73	24	367	200	18	1633	840
Grp Sat Flow(s),veh/h/ln	1781	0	1730	1781	0	1812	1781	1702	1845	1781	1702	1650
Q Serve(g_s), s	19.4	0.0	17.4	3.6	0.0	7.2	0.7	6.5	6.5	0.5	50.1	56.2
Cycle Q Clear(g_c), s	19.4	0.0	17.4	3.6	0.0	7.2	0.7	6.5	6.5	0.5	50.1	56.2
Prop In Lane	1.00		0.45	1.00		0.18	1.00		0.08	1.00		0.74
Lane Grp Cap(c), veh/h	463	0	225	93	0	94	127	2388	1295	631	2378	1153
V/C Ratio(X)	0.85	0.00	0.77	0.40	0.00	0.77	0.19	0.15	0.15	0.03	0.69	0.73
Avail Cap(c_a), veh/h	651	0	316	181	0	184	150	2388	1295	652	2378	1153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.97	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	76.6	0.0	75.7	82.6	0.0	84.3	17.9	9.0	9.0	7.5	15.7	16.6
Incr Delay (d2), s/veh	7.2	0.0	7.0	2.8	0.0	12.6	0.7	0.1	0.3	0.0	0.8	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.4	0.0	12.9	3.2	0.0	6.7	0.7	4.5	5.0	0.4	26.6	29.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.8	0.0	82.7	85.4	0.0	96.8	18.6	9.1	9.2	7.5	16.6	19.0
LnGrp LOS	F	A	F	F	A	F	B	A	A	A	B	B
Approach Vol, veh/h	566			110			591			2491		
Approach Delay, s/veh	83.5			93.0			9.6			17.3		
Approach LOS	F			F			A			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	130.8		27.9	8.0	130.2		13.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	105.7		32.9	5.9	104.9		18.3				
Max Q Clear Time (g_c+I1), s	2.5	8.5		21.4	2.7	58.2		9.2				
Green Ext Time (p_c), s	0.0	4.2		2.0	0.0	33.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	28.3											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary

2: Summit & Knowles

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	239	26	363	212	6	16	25	138	6	48	17
Future Volume (veh/h)	7	239	26	363	212	6	16	25	138	6	48	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	260	28	395	230	7	17	27	150	7	52	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	749	1018	110	817	1342	41	136	202	312	246	261	90
Arrive On Green	0.61	0.61	0.61	0.10	0.74	0.74	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1143	1659	179	1781	1806	55	521	1028	1585	1207	1328	460
Grp Volume(v), veh/h	8	0	288	395	0	237	44	0	150	7	0	70
Grp Sat Flow(s),veh/h/ln	1143	0	1838	1781	0	1860	1549	0	1585	1207	0	1788
Q Serve(g_s), s	0.4	0.0	10.8	11.7	0.0	5.6	0.0	0.0	12.6	0.7	0.0	4.9
Cycle Q Clear(g_c), s	0.4	0.0	10.8	11.7	0.0	5.6	5.0	0.0	12.6	5.7	0.0	4.9
Prop In Lane	1.00		0.10	1.00		0.03	0.39		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	749	0	1128	817	0	1383	338	0	312	246	0	352
V/C Ratio(X)	0.01	0.00	0.26	0.48	0.00	0.17	0.13	0.00	0.48	0.03	0.00	0.20
Avail Cap(c_a), veh/h	749	0	1128	1263	0	1383	338	0	312	246	0	352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.86	0.00	0.86	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.3	0.0	13.3	8.1	0.0	5.7	49.6	0.0	53.5	52.8	0.0	50.4
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.4	0.0	0.1	0.8	0.0	5.2	0.2	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	8.2	7.6	0.0	3.9	2.6	0.0	9.4	0.4	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	0.0	13.8	8.4	0.0	5.7	50.4	0.0	58.7	53.0	0.0	51.6
LnGrp LOS	B	A	B	A	A	A	D	A	E	D	A	D
Approach Vol, veh/h	296		632				194				77	
Approach Delay, s/veh	13.8		7.4				56.8				51.8	
Approach LOS	B		A				E				D	
Timer - Assigned Phs	2		3		4		6		8			
Phs Duration (G+Y+Rc), s	34.0		19.5		96.5		34.0		116.0			
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5			
Max Green Setting (Gmax), s	29.5		52.5		54.5		29.5		111.5			
Max Q Clear Time (g_c+I1), s	14.6		13.7		12.8		7.7		7.6			
Green Ext Time (p_c), s	0.6		1.3		1.9		0.3		1.5			
Intersection Summary												
HCM 6th Ctrl Delay	19.8											
HCM 6th LOS	B											

Intersection

Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	9	183	13	2	6	0	93	6	1	0
Future Vol, veh/h	0	9	9	183	13	2	6	0	93	6	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	10	199	14	2	7	0	101	7	1	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0






















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	8.9	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	92%	86%
Vol Thru, %	0%	50%	7%	14%
Vol Right, %	94%	50%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	18	198	7
LT Vol	6	0	183	6
Through Vol	0	9	13	1
RT Vol	93	9	2	0
Lane Flow Rate	108	20	215	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.118	0.022	0.259	0.01
Departure Headway (Hd)	3.936	4.103	4.33	4.762
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	916	876	824	755
Service Time	1.936	2.113	2.383	2.767
HCM Lane V/C Ratio	0.118	0.023	0.261	0.011
HCM Control Delay	7.5	7.2	8.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.1	1	0

HCM 6th Signalized Intersection Summary

1: MD 185 & Knowles






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	644	82	29	61	104	29	59	1214	7	33	782	338
Future Volume (veh/h)	644	82	29	61	104	29	59	1214	7	33	782	338
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	624	196	32	66	113	32	64	1320	8	36	850	367
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	718	316	52	168	132	37	290	3042	18	263	2020	869
Arrive On Green	0.20	0.20	0.20	0.09	0.09	0.09	0.03	0.58	0.58	0.02	0.58	0.58
Sat Flow, veh/h	3563	1568	256	1781	1402	397	1781	5237	32	1781	3499	1505
Grp Volume(v), veh/h	624	0	228	66	0	145	64	858	470	36	827	390
Grp Sat Flow(s),veh/h/ln	1781	0	1824	1781	0	1799	1781	1702	1865	1781	1702	1600
Q Serve(g_s), s	30.5	0.0	20.5	6.3	0.0	14.3	2.7	25.4	25.4	1.5	24.4	24.5
Cycle Q Clear(g_c), s	30.5	0.0	20.5	6.3	0.0	14.3	2.7	25.4	25.4	1.5	24.4	24.5
Prop In Lane	1.00		0.14	1.00		0.22	1.00		0.02	1.00		0.94
Lane Grp Cap(c), veh/h	718	0	368	168	0	170	290	1977	1083	263	1966	924
V/C Ratio(X)	0.87	0.00	0.62	0.39	0.00	0.85	0.22	0.43	0.43	0.14	0.42	0.42
Avail Cap(c_a), veh/h	1059	0	542	272	0	275	356	1977	1083	296	1966	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.00	0.90	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.6	0.0	65.6	76.7	0.0	80.3	16.6	21.1	21.1	16.5	21.2	21.3
Incr Delay (d2), s/veh	4.9	0.0	1.5	1.5	0.0	13.4	0.4	0.7	1.3	0.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	20.4	0.0	14.7	5.4	0.0	11.8	2.1	15.9	17.4	1.2	15.2	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.5	0.0	67.1	78.1	0.0	93.7	17.0	21.8	22.4	16.8	21.4	21.6
LnGrp LOS	E	A	E	E	A	F	B	C	C	B	C	C
Approach Vol, veh/h	852				211		1392				1253	
Approach Delay, s/veh	72.5				88.8		21.8				21.3	
Approach LOS	E				F		C				C	
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	8.7	109.1	40.8		9.3	108.4	21.5					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	7.5	73.5	53.5		11.5	69.5	27.5					
Max Q Clear Time (g_c+I1), s	3.5	27.4	32.5		4.7	26.5	16.3					
Green Ext Time (p_c), s	0.0	12.6	3.8		0.1	11.5	0.7					
Intersection Summary												
HCM 6th Ctrl Delay	37.1											
HCM 6th LOS	D											
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

2: Summit & Knowles

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	299	38	147	316	10	54	99	353	7	36	20
Future Volume (veh/h)	33	299	38	147	316	10	54	99	353	7	36	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	325	41	160	343	11	59	108	384	8	39	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	538	794	100	519	1039	33	229	405	576	315	408	230
Arrive On Green	0.49	0.49	0.49	0.06	0.58	0.58	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1027	1628	205	1781	1802	58	541	1116	1585	905	1123	633
Grp Volume(v), veh/h	36	0	366	160	0	354	167	0	384	8	0	61
Grp Sat Flow(s),veh/h/ln	1027	0	1833	1781	0	1860	1657	0	1585	905	0	1756
Q Serve(g_s), s	2.8	0.0	19.2	6.5	0.0	14.9	6.6	0.0	30.5	0.9	0.0	3.4
Cycle Q Clear(g_c), s	4.5	0.0	19.2	6.5	0.0	14.9	10.2	0.0	30.5	11.2	0.0	3.4
Prop In Lane	1.00		0.11	1.00		0.03	0.35		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	538	0	895	519	0	1073	635	0	576	315	0	638
V/C Ratio(X)	0.07	0.00	0.41	0.31	0.00	0.33	0.26	0.00	0.67	0.03	0.00	0.10
Avail Cap(c_a), veh/h	538	0	895	646	0	1073	635	0	576	315	0	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.78	0.00	0.78	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	24.6	17.7	0.0	16.6	33.6	0.0	40.1	37.6	0.0	31.5
Incr Delay (d2), s/veh	0.2	0.0	1.4	0.3	0.0	0.1	1.0	0.0	6.0	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	0.0	13.6	4.9	0.0	10.2	8.0	0.0	18.8	0.4	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	0.0	26.0	18.0	0.0	16.7	34.6	0.0	46.1	37.8	0.0	31.8
LnGrp LOS	C	A	C	B	A	B	C	A	D	D	A	C
Approach Vol, veh/h	402			514			551			69		
Approach Delay, s/veh	25.6			17.1			42.6			32.5		
Approach LOS	C			B			D			C		
Timer - Assigned Phs	2		3	4		6		8				
Phs Duration (G+Y+Rc), s	59.0		13.3	77.7		59.0		91.0				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	54.5		19.5	62.5		54.5		86.5				
Max Q Clear Time (g_c+I1), s	32.5		8.5	21.2		13.2		16.9				
Green Ext Time (p_c), s	2.4		0.3	2.7		0.4		2.4				
Intersection Summary												
HCM 6th Ctrl Delay	29.2											
HCM 6th LOS	C											

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	23	9	133	25	1	11	0	315	2	0	0
Future Vol, veh/h	0	23	9	133	25	1	11	0	315	2	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	25	10	145	27	1	12	0	342	2	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0






















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	9.4	9.3	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	84%	100%
Vol Thru, %	0%	72%	16%	0%
Vol Right, %	97%	28%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	326	32	159	2
LT Vol	11	0	133	2
Through Vol	0	23	25	0
RT Vol	315	9	1	0
Lane Flow Rate	354	35	173	2
Geometry Grp	1	1	1	1
Degree of Util (X)	0.383	0.046	0.234	0.003
Departure Headway (Hd)	3.888	4.713	4.865	5.014
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	928	758	738	713
Service Time	1.903	2.754	2.901	3.047
HCM Lane V/C Ratio	0.381	0.046	0.234	0.003
HCM Control Delay	9.3	8	9.4	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.8	0.1	0.9	0

HCM 6th Signalized Intersection Summary

1: MD 185 & Knowles






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	389	60	78	34	55	12	26	512	14	17	1707	579
Future Volume (veh/h)	389	60	78	34	55	12	26	512	14	17	1707	579
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	402	94	85	37	60	13	28	557	15	18	1855	629
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	474	120	109	93	78	17	127	3571	96	625	2654	853
Arrive On Green	0.13	0.13	0.13	0.05	0.05	0.05	0.02	0.70	0.70	0.02	0.69	0.69
Sat Flow, veh/h	3563	905	818	1781	1490	323	1781	5112	137	1781	3824	1229
Grp Volume(v), veh/h	402	0	179	37	0	73	28	370	202	18	1640	844
Grp Sat Flow(s),veh/h/ln	1781	0	1723	1781	0	1812	1781	1702	1846	1781	1702	1649
Q Serve(g_s), s	19.9	0.0	18.1	3.6	0.0	7.2	0.8	6.6	6.7	0.5	51.2	57.7
Cycle Q Clear(g_c), s	19.9	0.0	18.1	3.6	0.0	7.2	0.8	6.6	6.7	0.5	51.2	57.7
Prop In Lane	1.00		0.47	1.00		0.18	1.00		0.07	1.00		0.75
Lane Grp Cap(c), veh/h	474	0	229	93	0	94	127	2378	1289	625	2363	1145
V/C Ratio(X)	0.85	0.00	0.78	0.40	0.00	0.77	0.22	0.16	0.16	0.03	0.69	0.74
Avail Cap(c_a), veh/h	669	0	324	181	0	184	151	2378	1289	646	2363	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.97	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	76.3	0.0	75.5	82.6	0.0	84.3	19.1	9.2	9.2	7.7	16.3	17.2
Incr Delay (d2), s/veh	7.0	0.0	7.6	2.8	0.0	12.6	0.9	0.1	0.3	0.0	0.9	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.6	0.0	13.3	3.2	0.0	6.7	0.9	4.6	5.1	0.4	27.3	30.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.3	0.0	83.1	85.4	0.0	96.8	20.0	9.3	9.4	7.7	17.1	19.8
LnGrp LOS	F	A	F	F	A	F	B	A	A	A	B	B
Approach Vol, veh/h		581			110			600			2502	
Approach Delay, s/veh		83.2			93.0			9.9			18.0	
Approach LOS		F			F			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	130.2		28.4	8.3	129.4		13.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	104.8		33.8	6.2	103.7		18.3				
Max Q Clear Time (g_c+I1), s	2.5	8.7		21.9	2.8	59.7		9.2				
Green Ext Time (p_c), s	0.0	4.2		2.1	0.0	32.7		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				28.9								
HCM 6th LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

2: Summit & Knowles

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	244	26	368	217	6	16	26	142	6	48	17
Future Volume (veh/h)	7	244	26	368	217	6	16	26	142	6	48	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	265	28	400	236	7	17	28	154	7	52	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	744	1018	108	813	1343	40	134	206	312	245	261	90
Arrive On Green	0.61	0.61	0.61	0.10	0.74	0.74	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1137	1663	176	1781	1807	54	511	1050	1585	1202	1328	460
Grp Volume(v), veh/h	8	0	293	400	0	243	45	0	154	7	0	70
Grp Sat Flow(s),veh/h/ln	1137	0	1839	1781	0	1861	1560	0	1585	1202	0	1788
Q Serve(g_s), s	0.4	0.0	11.0	11.9	0.0	5.8	0.0	0.0	13.0	0.7	0.0	4.9
Cycle Q Clear(g_c), s	0.4	0.0	11.0	11.9	0.0	5.8	5.0	0.0	13.0	5.7	0.0	4.9
Prop In Lane	1.00		0.10	1.00		0.03	0.38		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	744	0	1126	813	0	1383	340	0	312	245	0	352
V/C Ratio(X)	0.01	0.00	0.26	0.49	0.00	0.18	0.13	0.00	0.49	0.03	0.00	0.20
Avail Cap(c_a), veh/h	744	0	1126	1257	0	1383	340	0	312	245	0	352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.86	0.00	0.86	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.4	0.0	13.4	8.1	0.0	5.7	49.6	0.0	53.6	52.8	0.0	50.4
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.4	0.0	0.1	0.8	0.0	5.5	0.2	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	8.4	7.7	0.0	4.0	2.7	0.0	9.6	0.4	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	0.0	14.0	8.5	0.0	5.7	50.4	0.0	59.1	53.0	0.0	51.6
LnGrp LOS	B	A	B	A	A	A	D	A	E	D	A	D
Approach Vol, veh/h	301			643			199			77		
Approach Delay, s/veh	13.9			7.5			57.1			51.8		
Approach LOS	B			A			E			D		
Timer - Assigned Phs	2		3	4	6		8					
Phs Duration (G+Y+Rc), s	34.0		19.7	96.3	34.0		116.0					
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5					
Max Green Setting (Gmax), s	29.5		52.5	54.5	29.5		111.5					
Max Q Clear Time (g_c+I1), s	15.0		13.9	13.0	7.7		7.8					
Green Ext Time (p_c), s	0.6		1.3	2.0	0.3		1.6					
Intersection Summary												
HCM 6th Ctrl Delay	20.0											
HCM 6th LOS	B											

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	9	183	13	2	6	0	93	6	1	0
Future Vol, veh/h	0	9	9	183	13	2	6	0	93	6	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	10	199	14	2	7	0	101	7	1	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0






















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	8.9	7.5	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	92%	86%
Vol Thru, %	0%	50%	7%	14%
Vol Right, %	94%	50%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	18	198	7
LT Vol	6	0	183	6
Through Vol	0	9	13	1
RT Vol	93	9	2	0
Lane Flow Rate	108	20	215	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.118	0.022	0.259	0.01
Departure Headway (Hd)	3.936	4.103	4.33	4.762
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	916	876	824	755
Service Time	1.936	2.113	2.383	2.767
HCM Lane V/C Ratio	0.118	0.023	0.261	0.011
HCM Control Delay	7.5	7.2	8.9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.1	1	0

HCM 6th Signalized Intersection Summary

1: MD 185 & Knowles






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	655	82	37	61	104	29	68	1219	7	33	788	351
Future Volume (veh/h)	655	82	37	61	104	29	68	1219	7	33	788	351
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	636	195	40	66	113	32	74	1325	8	36	857	382
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	731	309	63	168	132	37	284	3023	18	260	1980	880
Arrive On Green	0.21	0.21	0.21	0.09	0.09	0.09	0.03	0.58	0.58	0.02	0.57	0.57
Sat Flow, veh/h	3563	1506	309	1781	1402	397	1781	5237	32	1781	3460	1537
Grp Volume(v), veh/h	636	0	235	66	0	145	74	861	472	36	843	396
Grp Sat Flow(s),veh/h/ln	1781	0	1815	1781	0	1799	1781	1702	1865	1781	1702	1594
Q Serve(g_s), s	31.1	0.0	21.3	6.3	0.0	14.3	3.1	25.8	25.8	1.5	25.3	25.5
Cycle Q Clear(g_c), s	31.1	0.0	21.3	6.3	0.0	14.3	3.1	25.8	25.8	1.5	25.3	25.5
Prop In Lane	1.00		0.17	1.00		0.22	1.00		0.02	1.00		0.96
Lane Grp Cap(c), veh/h	731	0	372	168	0	170	284	1965	1076	260	1948	912
V/C Ratio(X)	0.87	0.00	0.63	0.39	0.00	0.85	0.26	0.44	0.44	0.14	0.43	0.43
Avail Cap(c_a), veh/h	1059	0	539	272	0	275	367	1965	1076	293	1948	912
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.00	0.89	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.2	0.0	65.3	76.7	0.0	80.3	17.1	21.5	21.5	16.9	21.9	21.9
Incr Delay (d2), s/veh	5.0	0.0	1.6	1.5	0.0	13.4	0.5	0.7	1.3	0.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	20.7	0.0	15.0	5.4	0.0	11.8	2.4	16.1	17.6	1.2	15.7	15.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.3	0.0	66.9	78.1	0.0	93.7	17.6	22.2	22.8	17.2	22.0	22.2
LnGrp LOS	E	A	E	E	A	F	B	C	C	B	C	C
Approach Vol, veh/h	871				211		1407				1275	
Approach Delay, s/veh	72.3				88.8		22.2				22.0	
Approach LOS	E				F		C				C	
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	8.7	108.4	41.4		9.6	107.5	21.5					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	7.5	73.5	53.5		13.5	67.5	27.5					
Max Q Clear Time (g_c+I1), s	3.5	27.8	33.1		5.1	27.5	16.3					
Green Ext Time (p_c), s	0.0	12.7	3.8		0.1	11.6	0.7					
Intersection Summary												
HCM 6th Ctrl Delay	37.4											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

2: Summit & Knowles

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	308	38	157	325	10	54	102	360	7	36	20
Future Volume (veh/h)	33	308	38	157	325	10	54	102	360	7	36	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	335	41	171	353	11	59	111	391	8	39	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	539	804	98	521	1052	33	222	403	565	305	401	226
Arrive On Green	0.49	0.49	0.49	0.06	0.58	0.58	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1018	1634	200	1781	1804	56	531	1130	1585	896	1123	633
Grp Volume(v), veh/h	36	0	376	171	0	364	170	0	391	8	0	61
Grp Sat Flow(s),veh/h/ln	1018	0	1834	1781	0	1860	1661	0	1585	896	0	1756
Q Serve(g_s), s	2.8	0.0	19.7	6.9	0.0	15.2	6.8	0.0	31.6	1.0	0.0	3.5
Cycle Q Clear(g_c), s	4.3	0.0	19.7	6.9	0.0	15.2	10.5	0.0	31.6	11.5	0.0	3.5
Prop In Lane	1.00		0.11	1.00		0.03	0.35		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	539	0	902	521	0	1085	625	0	565	305	0	626
V/C Ratio(X)	0.07	0.00	0.42	0.33	0.00	0.34	0.27	0.00	0.69	0.03	0.00	0.10
Avail Cap(c_a), veh/h	539	0	902	655	0	1085	625	0	565	305	0	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.78	0.00	0.78	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	24.4	17.5	0.0	16.2	34.3	0.0	41.2	38.5	0.0	32.2
Incr Delay (d2), s/veh	0.2	0.0	1.4	0.3	0.0	0.1	1.1	0.0	6.8	0.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	0.0	13.9	5.2	0.0	10.3	8.2	0.0	19.5	0.4	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	0.0	25.8	17.7	0.0	16.3	35.4	0.0	48.0	38.7	0.0	32.5
LnGrp LOS	C	A	C	B	A	B	D	A	D	D	A	C
Approach Vol, veh/h	412			535			561			69		
Approach Delay, s/veh	25.4			16.8			44.2			33.2		
Approach LOS	C			B			D			C		
Timer - Assigned Phs	2		3	4		6		8				
Phs Duration (G+Y+Rc), s	58.0		13.7	78.3		58.0		92.0				
Change Period (Y+Rc), s	4.5		4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	53.5		20.5	62.5		53.5		87.5				
Max Q Clear Time (g_c+I1), s	33.6		8.9	21.7		13.5		17.2				
Green Ext Time (p_c), s	2.4		0.3	2.8		0.4		2.5				
Intersection Summary												
HCM 6th Ctrl Delay	29.5											
HCM 6th LOS	C											

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	23	9	133	25	1	11	0	315	2	0	0
Future Vol, veh/h	0	23	9	133	25	1	11	0	315	2	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	25	10	145	27	1	12	0	342	2	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0






















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	9.4	9.3	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	84%	100%
Vol Thru, %	0%	72%	16%	0%
Vol Right, %	97%	28%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	326	32	159	2
LT Vol	11	0	133	2
Through Vol	0	23	25	0
RT Vol	315	9	1	0
Lane Flow Rate	354	35	173	2
Geometry Grp	1	1	1	1
Degree of Util (X)	0.383	0.046	0.234	0.003
Departure Headway (Hd)	3.888	4.713	4.865	5.014
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	928	758	738	713
Service Time	1.903	2.754	2.901	3.047
HCM Lane V/C Ratio	0.381	0.046	0.234	0.003
HCM Control Delay	9.3	8	9.4	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.8	0.1	0.9	0

HCM 6th Signalized Intersection Summary

1: MD 185 & Knowles

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	389	60	87	34	55	12	32	512	14	17	1707	579
Future Volume (veh/h)	389	60	87	34	55	12	32	512	14	17	1707	579
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	406	89	95	37	60	13	35	557	15	18	1855	629
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	478	111	118	93	78	17	130	3566	96	624	2642	849
Arrive On Green	0.13	0.13	0.13	0.05	0.05	0.05	0.02	0.70	0.70	0.02	0.69	0.69
Sat Flow, veh/h	3563	828	884	1781	1490	323	1781	5112	137	1781	3824	1229
Grp Volume(v), veh/h	406	0	184	37	0	73	35	370	202	18	1640	844
Grp Sat Flow(s),veh/h/ln	1781	0	1711	1781	0	1812	1781	1702	1846	1781	1702	1649
Q Serve(g_s), s	20.0	0.0	18.8	3.6	0.0	7.2	1.0	6.6	6.7	0.5	51.7	58.3
Cycle Q Clear(g_c), s	20.0	0.0	18.8	3.6	0.0	7.2	1.0	6.6	6.7	0.5	51.7	58.3
Prop In Lane	1.00		0.52	1.00		0.18	1.00		0.07	1.00		0.75
Lane Grp Cap(c), veh/h	478	0	229	93	0	94	130	2374	1287	624	2352	1139
V/C Ratio(X)	0.85	0.00	0.80	0.40	0.00	0.77	0.27	0.16	0.16	0.03	0.70	0.74
Avail Cap(c_a), veh/h	663	0	318	181	0	184	143	2374	1287	645	2352	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.97	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	76.2	0.0	75.6	82.6	0.0	84.3	20.3	9.2	9.3	7.9	16.6	17.6
Incr Delay (d2), s/veh	7.3	0.0	9.4	2.8	0.0	12.6	1.1	0.1	0.3	0.0	0.9	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.8	0.0	13.8	3.2	0.0	6.7	1.2	4.7	5.2	0.4	27.6	30.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.5	0.0	85.0	85.4	0.0	96.8	21.4	9.4	9.5	7.9	17.5	20.2
LnGrp LOS	F	A	F	F	A	F	C	A	A	A	B	C
Approach Vol, veh/h	590			110			607			2502		
Approach Delay, s/veh	84.0			93.0			10.1			18.4		
Approach LOS	F			F			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	130.0		28.6	8.6	128.9		13.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	105.1		33.5	5.5	104.7		18.3				
Max Q Clear Time (g_c+l1), s	2.5	8.7		22.0	3.0	60.3		9.2				
Green Ext Time (p_c), s	0.0	4.2		2.1	0.0	32.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	29.4											
HCM 6th LOS	C											
Notes												

HCM 6th Signalized Intersection Summary

2: Summit & Knowles

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	11	244	26	368	217	12	16	30	142	15	53	22	
Future Volume (veh/h)	11	244	26	368	217	12	16	30	142	15	53	22	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	12	265	28	400	236	13	17	33	154	16	58	24	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	740	1018	108	813	1305	72	120	219	312	236	247	102	
Arrive On Green	0.61	0.61	0.61	0.10	0.74	0.74	0.20	0.20	0.20	0.20	0.20	0.20	
Sat Flow, veh/h	1131	1663	176	1781	1756	97	446	1112	1585	1196	1257	520	
Grp Volume(v), veh/h	12	0	293	400	0	249	50	0	154	16	0	82	
Grp Sat Flow(s),veh/h/ln	1131	0	1839	1781	0	1853	1558	0	1585	1196	0	1777	
Q Serve(g_s), s	0.6	0.0	11.0	11.9	0.0	6.0	0.1	0.0	13.0	1.7	0.0	5.8	
Cycle Q Clear(g_c), s	0.6	0.0	11.0	11.9	0.0	6.0	5.9	0.0	13.0	7.6	0.0	5.8	
Prop In Lane	1.00		0.10	1.00		0.05	0.34		1.00	1.00		0.29	
Lane Grp Cap(c), veh/h	740	0	1126	813	0	1377	339	0	312	236	0	349	
V/C Ratio(X)	0.02	0.00	0.26	0.49	0.00	0.18	0.15	0.00	0.49	0.07	0.00	0.23	
Avail Cap(c_a), veh/h	740	0	1126	1257	0	1377	339	0	312	236	0	349	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	0.00	1.00	0.86	0.00	0.86	1.00	0.00	1.00	1.00	0.00	1.00	
Uniform Delay (d), s/veh	11.4	0.0	13.4	8.1	0.0	5.7	49.7	0.0	53.6	54.0	0.0	50.7	
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.4	0.0	0.1	0.9	0.0	5.5	0.6	0.0	1.6	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	0.3	0.0	8.4	7.7	0.0	4.1	3.0	0.0	9.6	1.0	0.0	5.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	11.4	0.0	14.0	8.5	0.0	5.8	50.7	0.0	59.1	54.5	0.0	52.3	
LnGrp LOS	B	A	B	A	A	A	D	A	E	D	A	D	
Approach Vol, veh/h	305		649			204			98				
Approach Delay, s/veh	13.9		7.5			57.0			52.7				
Approach LOS	B		A			E			D				
Timer - Assigned Phs	2		3		4			6			8		
Phs Duration (G+Y+Rc), s	34.0		19.7		96.3			34.0			116.0		
Change Period (Y+Rc), s	4.5		4.5		4.5			4.5			4.5		
Max Green Setting (Gmax), s	29.5		52.5		54.5			29.5			111.5		
Max Q Clear Time (g_c+I1), s	15.0		13.9		13.0			9.6			8.0		
Green Ext Time (p_c), s	0.6		1.3		2.0			0.4			1.6		
Intersection Summary													
HCM 6th Ctrl Delay			20.6										
HCM 6th LOS			C										

Intersection




Intersection Delay, s/veh 8.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	9	187	13	2	6	0	100	6	1	0
Future Vol, veh/h	0	9	9	187	13	2	6	0	100	6	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	10	203	14	2	7	0	109	7	1	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	9	7.5	7.8
HCM LOS	A	A	A	A






















Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	93%	86%
Vol Thru, %	0%	50%	6%	14%
Vol Right, %	94%	50%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	18	202	7
LT Vol	6	0	187	6
Through Vol	0	9	13	1
RT Vol	100	9	2	0
Lane Flow Rate	115	20	220	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.126	0.022	0.265	0.01
Departure Headway (Hd)	3.945	4.127	4.342	4.783
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	915	871	821	752
Service Time	1.945	2.135	2.399	2.787
HCM Lane V/C Ratio	0.126	0.023	0.268	0.011
HCM Control Delay	7.5	7.2	9	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.1	1.1	0

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	7	39	14	4	71
Future Vol, veh/h	19	7	39	14	4	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	8	42	15	4	77
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	135	50	0	0	57	0
Stage 1	50	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	859	1018	-	-	1547	-
Stage 1	972	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	856	1018	-	-	1547	-
Mov Cap-2 Maneuver	856	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.2	0		0.4		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	894	1547	-	
HCM Lane V/C Ratio	-	-	0.032	0.003	-	
HCM Control Delay (s)	-	-	9.2	7.3	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

HCM 6th Signalized Intersection Summary

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	655	82	47	61	104	29	80	1219	7	33	788	351
Future Volume (veh/h)	655	82	47	61	104	29	80	1219	7	33	788	351
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	640	190	51	66	113	32	87	1325	8	36	857	382
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	736	293	79	168	132	37	287	3016	18	259	1963	872
Arrive On Green	0.21	0.21	0.21	0.09	0.09	0.09	0.03	0.58	0.58	0.02	0.57	0.57
Sat Flow, veh/h	3563	1420	381	1781	1402	397	1781	5237	32	1781	3460	1537
Grp Volume(v), veh/h	640	0	241	66	0	145	87	861	472	36	843	396
Grp Sat Flow(s),veh/h/ln	1781	0	1802	1781	0	1799	1781	1702	1865	1781	1702	1594
Q Serve(g_s), s	31.3	0.0	22.1	6.3	0.0	14.3	3.7	25.9	25.9	1.5	25.6	25.8
Cycle Q Clear(g_c), s	31.3	0.0	22.1	6.3	0.0	14.3	3.7	25.9	25.9	1.5	25.6	25.8
Prop In Lane	1.00		0.21	1.00		0.22	1.00		0.02	1.00		0.96
Lane Grp Cap(c), veh/h	736	0	372	168	0	170	287	1961	1074	259	1931	904
V/C Ratio(X)	0.87	0.00	0.65	0.39	0.00	0.85	0.30	0.44	0.44	0.14	0.44	0.44
Avail Cap(c_a), veh/h	1059	0	536	272	0	275	384	1961	1074	292	1931	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.00	0.89	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.1	0.0	65.4	76.7	0.0	80.3	17.5	21.7	21.7	17.2	22.4	22.4
Incr Delay (d2), s/veh	5.1	0.0	1.7	1.5	0.0	13.4	0.6	0.7	1.3	0.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	20.8	0.0	15.4	5.4	0.0	11.8	2.9	16.1	17.6	1.2	15.9	15.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.2	0.0	67.1	78.1	0.0	93.7	18.1	22.4	23.0	17.4	22.6	22.8
LnGrp LOS	E	A	E	E	A	F	B	C	C	B	C	C
Approach Vol, veh/h	881		211			1420			1275			
Approach Delay, s/veh	72.2		88.8			22.3			22.5			
Approach LOS	E		F			C			C			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	108.2		41.7	10.2	106.6		21.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	73.5		53.5	15.5	65.5		27.5				
Max Q Clear Time (g_c+I1), s	3.5	27.9		33.3	5.7	27.8		16.3				
Green Ext Time (p_c), s	0.0	12.7		3.9	0.1	11.4		0.7				
Intersection Summary												
HCM 6th Ctrl Delay	37.7											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

2: Summit & Knowles

tp.syn
12/11/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	308	38	157	325	22	54	109	360	17	42	26
Future Volume (veh/h)	40	308	38	157	325	22	54	109	360	17	42	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	335	41	171	353	24	59	118	391	18	46	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	527	804	98	521	1010	69	212	410	565	299	388	236
Arrive On Green	0.49	0.49	0.49	0.06	0.58	0.58	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1006	1634	200	1781	1731	118	505	1149	1585	891	1089	663
Grp Volume(v), veh/h	43	0	376	171	0	377	177	0	391	18	0	74
Grp Sat Flow(s),veh/h/ln	1006	0	1834	1781	0	1849	1654	0	1585	891	0	1751
Q Serve(g_s), s	3.5	0.0	19.7	6.9	0.0	16.0	7.1	0.0	31.6	2.2	0.0	4.3
Cycle Q Clear(g_c), s	5.8	0.0	19.7	6.9	0.0	16.0	11.3	0.0	31.6	13.5	0.0	4.3
Prop In Lane	1.00		0.11	1.00		0.06	0.33		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	527	0	902	521	0	1079	622	0	565	299	0	625
V/C Ratio(X)	0.08	0.00	0.42	0.33	0.00	0.35	0.28	0.00	0.69	0.06	0.00	0.12
Avail Cap(c_a), veh/h	527	0	902	655	0	1079	622	0	565	299	0	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.77	0.00	0.77	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	24.4	17.5	0.0	16.4	34.6	0.0	41.2	39.5	0.0	32.4
Incr Delay (d2), s/veh	0.3	0.0	1.4	0.3	0.0	0.1	1.1	0.0	6.8	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.0	13.9	5.2	0.0	10.7	8.6	0.0	19.5	1.0	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	25.8	17.7	0.0	16.5	35.7	0.0	48.0	39.9	0.0	32.8
LnGrp LOS	C	A	C	B	A	B	D	A	D	D	A	C
Approach Vol, veh/h	419		548			568			92			
Approach Delay, s/veh	25.4		16.9			44.2			34.2			
Approach LOS	C		B			D			C			
Timer - Assigned Phs	2		3		4			6			8	
Phs Duration (G+Y+Rc), s	58.0		13.7		78.3			58.0			92.0	
Change Period (Y+Rc), s	4.5		4.5		4.5			4.5			4.5	
Max Green Setting (Gmax), s	53.5		20.5		62.5			53.5			87.5	
Max Q Clear Time (g_c+I1), s	33.6		8.9		21.7			15.5			18.0	
Green Ext Time (p_c), s	2.4		0.3		2.8			0.5			2.6	
Intersection Summary												
HCM 6th Ctrl Delay			29.6									
HCM 6th LOS			C									

Intersection




Intersection Delay, s/veh 9.3

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	23	9	140	25	1	11	0	322	2	0	0
Future Vol, veh/h	0	23	9	140	25	1	11	0	322	2	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	25	10	152	27	1	12	0	350	2	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	9.5	9.4	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	84%	100%
Vol Thru, %	0%	72%	15%	0%
Vol Right, %	97%	28%	1%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	333	32	166	2
LT Vol	11	0	140	2
Through Vol	0	23	25	0
RT Vol	322	9	1	0
Lane Flow Rate	362	35	180	2
Geometry Grp	1	1	1	1
Degree of Util (X)	0.393	0.046	0.245	0.003
Departure Headway (Hd)	3.908	4.743	4.884	5.046
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	923	753	734	709
Service Time	1.923	2.786	2.922	3.08
HCM Lane V/C Ratio	0.392	0.046	0.245	0.003
HCM Control Delay	9.4	8	9.5	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.9	0.1	1	0

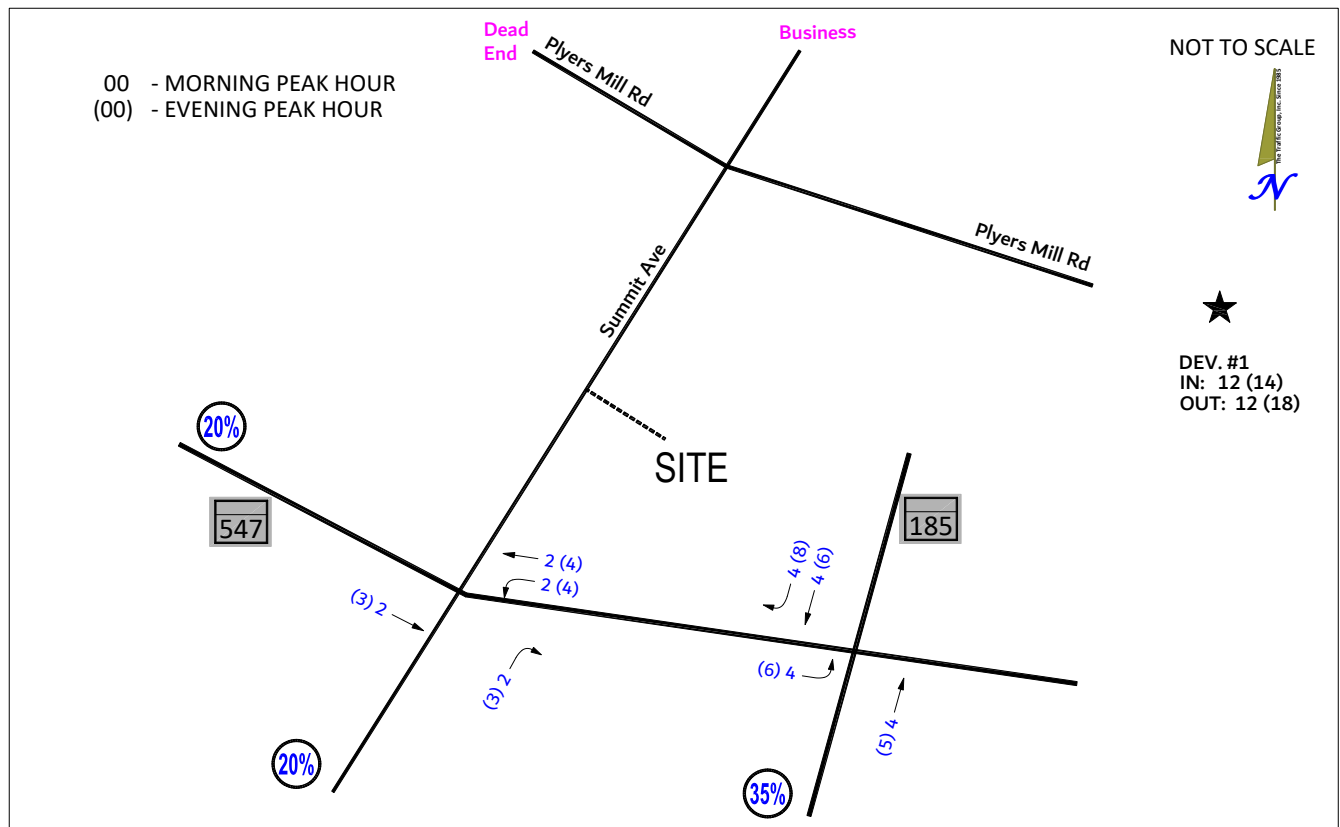
Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	9	143	28	9	61
Future Vol, veh/h	24	9	143	28	9	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	10	155	30	10	66
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	256	170	0	0	185	0
Stage 1	170	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	733	874	-	-	1390	-
Stage 1	860	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	728	874	-	-	1390	-
Mov Cap-2 Maneuver	728	-	-	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10	0		1		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	763	1390	-	
HCM Lane V/C Ratio	-	-	0.047	0.007	-	
HCM Control Delay (s)	-	-	10	7.6	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

APPENDIX C

Trip Assignment for Approved Developments

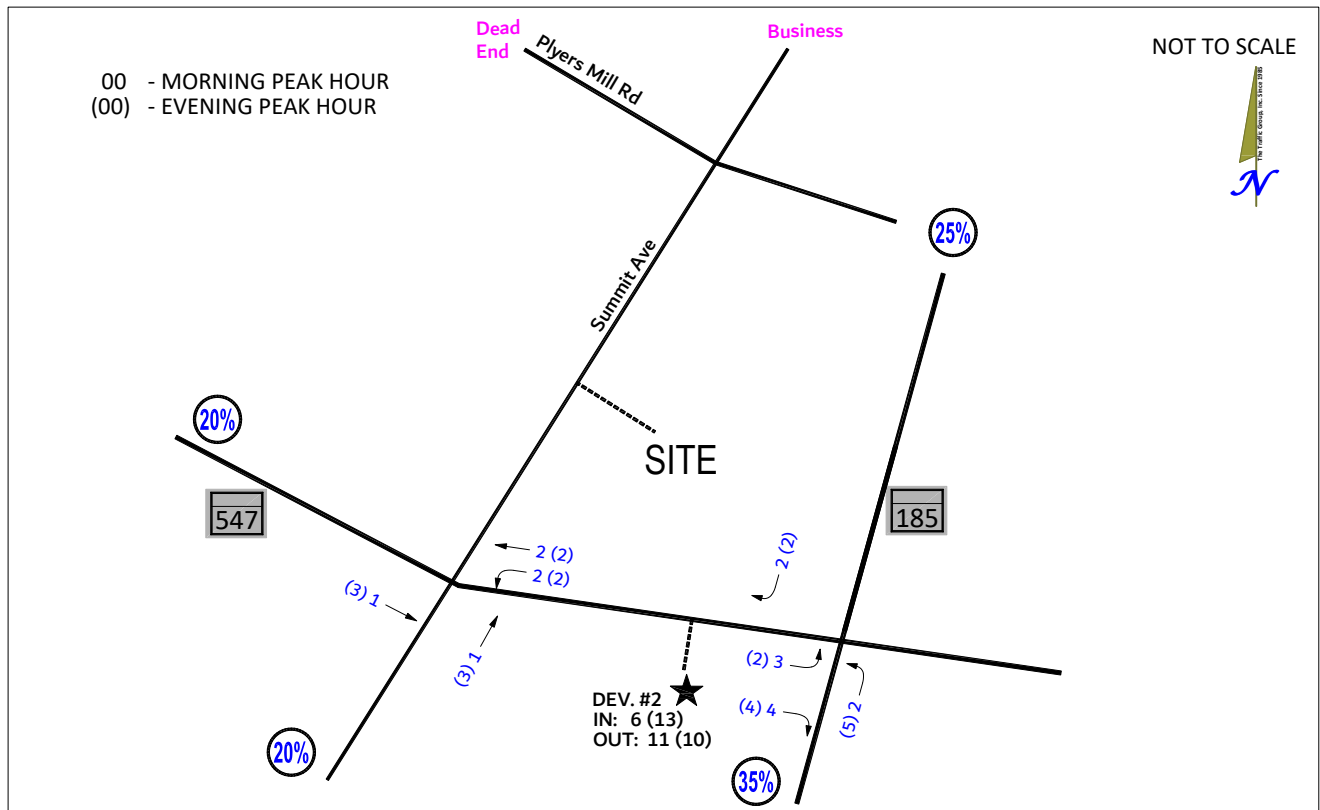


Figure C-1. Trip assignment for Solera Reserve Kensington



SLI, 200808\INITIAL\ex.dwg-1D, F8/13/2020

Figure C-2. Trip assignment for Knowles Manor



SLI, 200808\INITIAL\ex.dwg-2D, F8/13/2020

Figure C-3. Trip assignment for The Knowles Station Town Houses

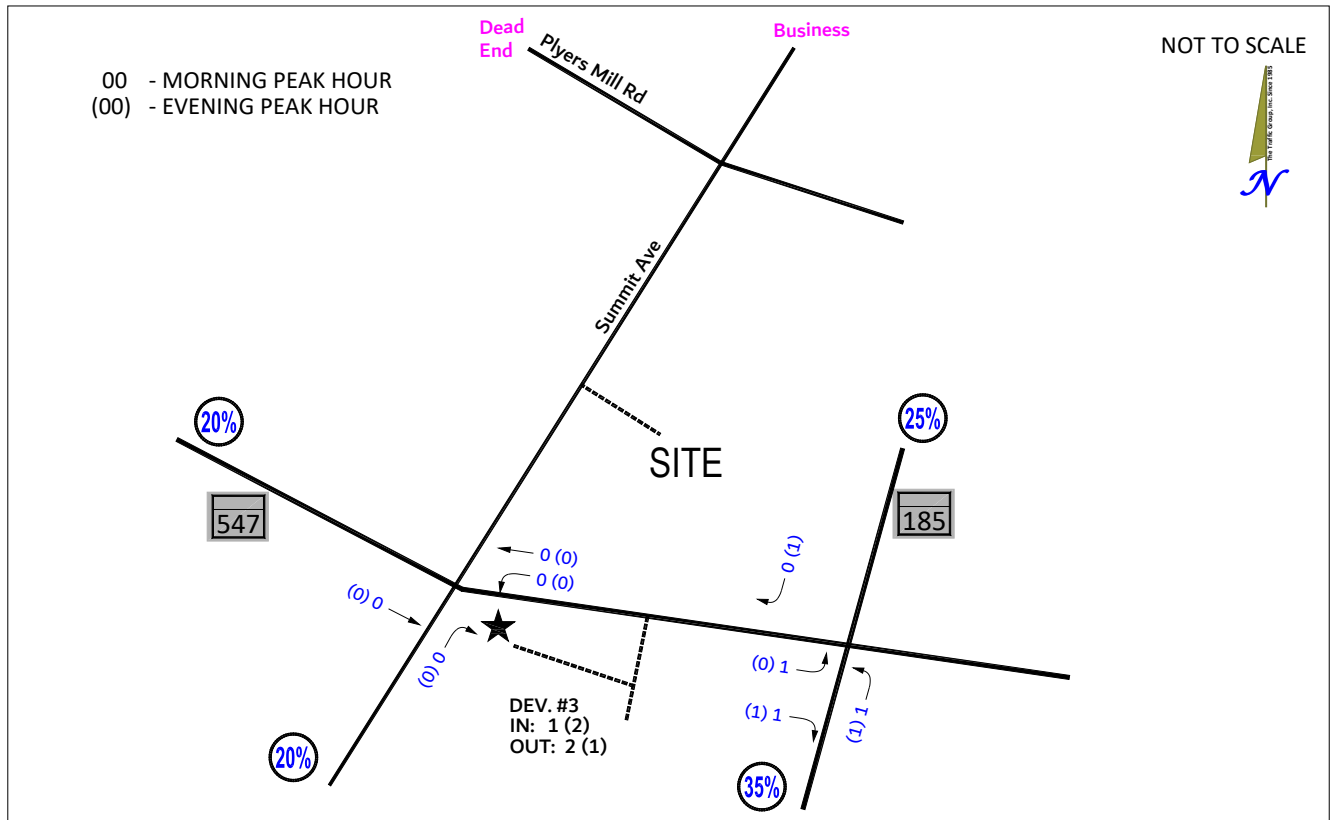
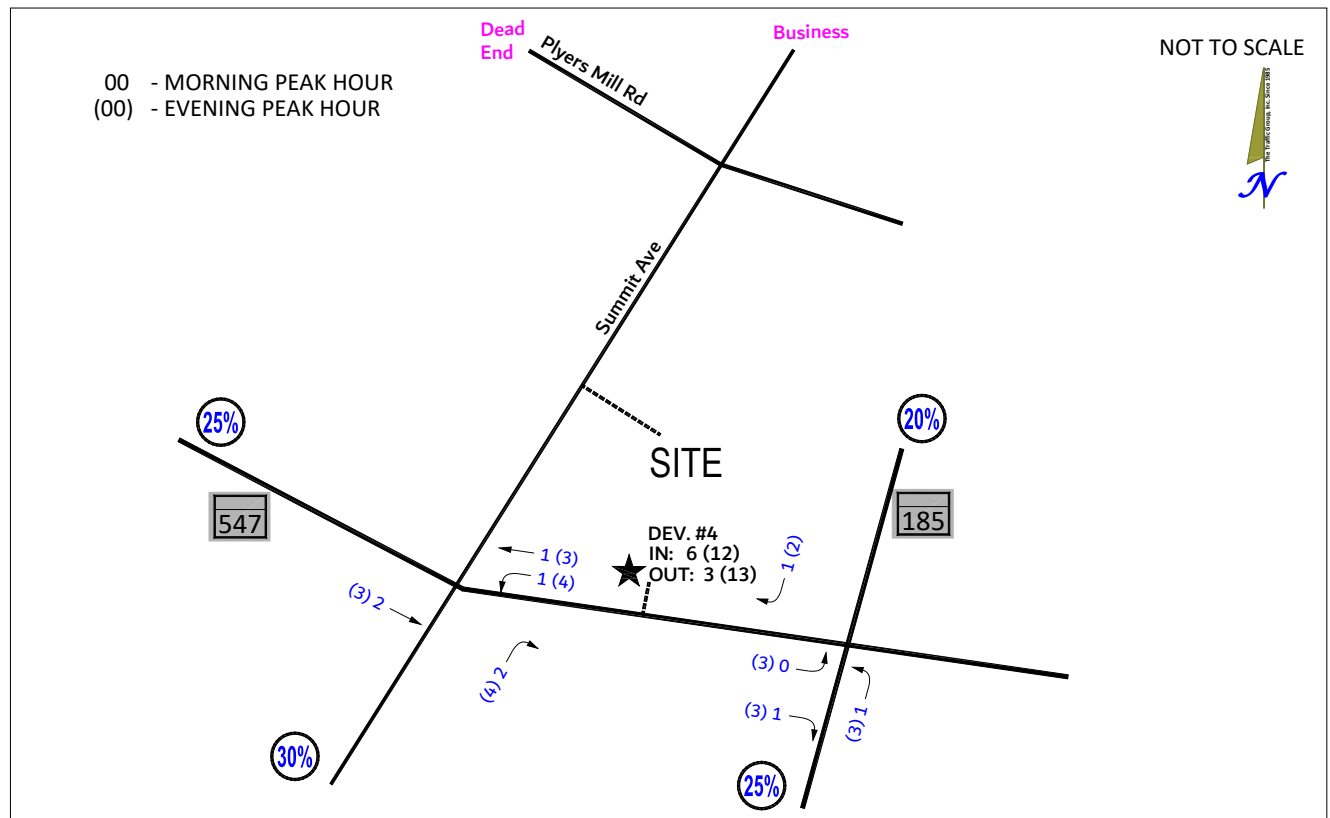


Figure C-4. New Trip assignment for The Knowles Station Retail



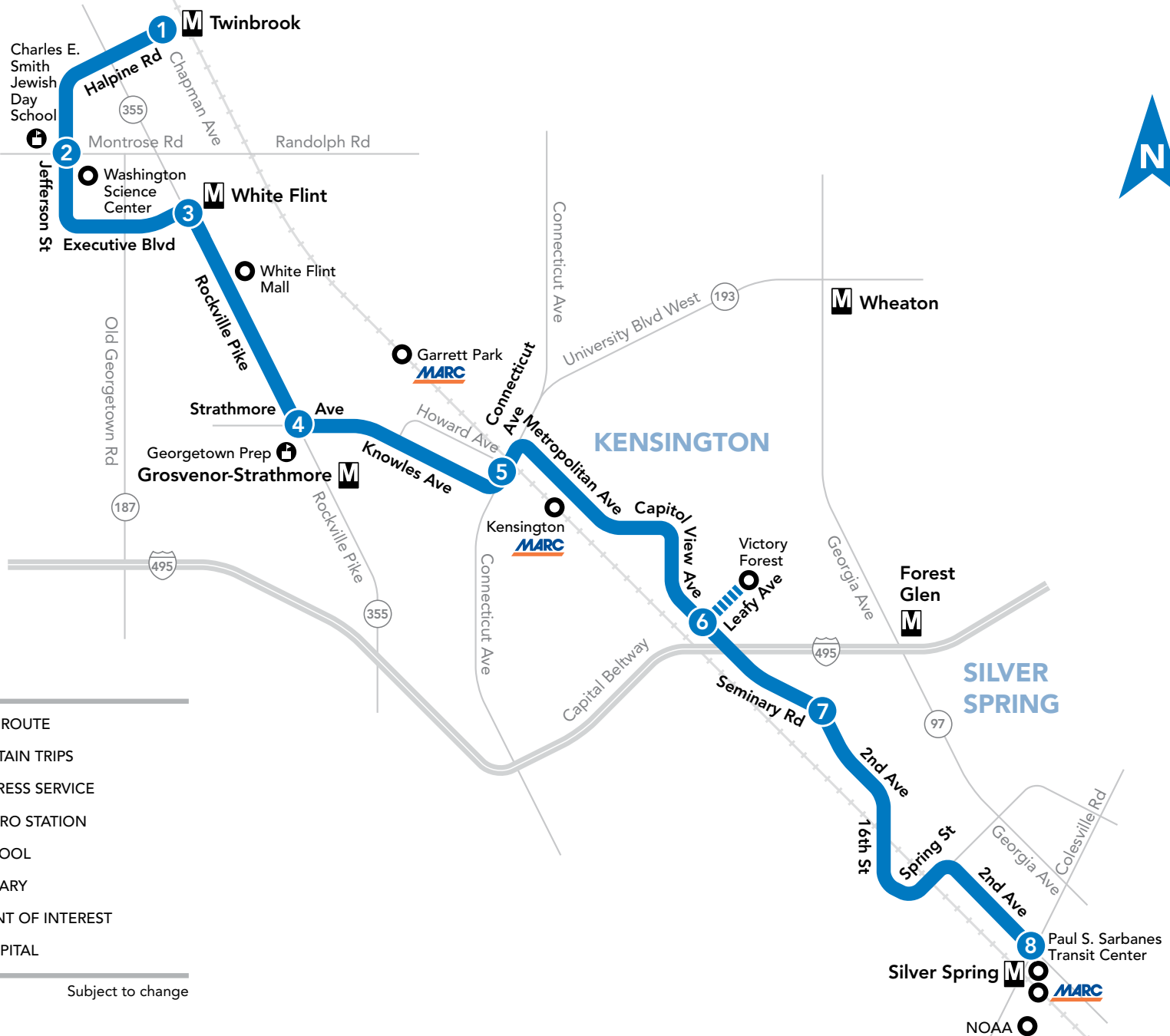
APPENDIX D

Transit and Bicycle



5

Twinbrook M – White Flint M – Grosvenor-Strathmore M –
Garrett Park – Kensington – Paul S. Sarbanes TC (Silver Spring M)



KEY

- BUS ROUTE
- CERTAIN TRIPS
- EXPRESS SERVICE
- METRO STATION
- SCHOOL
- LIBRARY
- POINT OF INTEREST
- HOSPITAL

May 2017

Subject to change

WEEKDAY

Route 5 - Silver Spring - Kensington-Twinbrook

EFFECTIVE: AUGUST 2, 2020

Direction	North
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* Midday Trips to Victory Forest

Silver Spring Station	Second-Linden	Capitol View-Leafy	Connecticut-Knowles	Rockville Pike-Strathmore	White Flint Station	Jefferson-Montrose	Twinbrook Station W
500a	506a	510a	517a	522a	526a	531a	536a
540a	546a	550a	557a	602a	606a	611a	616a
600a	607a	612a	619a	625a	630a	635a	641a
620a	627a	632a	639a	645a	650a	655a	701a
640a	647a	652a	659a	705a	710a	715a	721a
700a	708a	713a	720a	726a	731a	737a	743a
720a	728a	733a	740a	746a	751a	757a	803a
740a	748a	753a	800a	806a	811a	817a	823a
800a	808a	813a	820a	826a	831a	837a	843a
820a	828a	833a	840a	846a	851a	857a	903a
840a	848a	853a	900a	906a	911a	917a	923a
900a*	907a	913a	921a	926a	931a	937a	942a
940a	947a	953a	959a	1004a	1009a	1015a	1020a
1020a*	1027a	1033a	1041a	1046a	1051a	1057a	1102a
1100a	1107a	1113a	1119a	1124a	1129a	1135a	1140a
1140a*	1147a	1153a	1201p	1206p	1211p	1217p	1222p
1220p	1227p	1233p	1239p	1244p	1249p	1255p	100p
100p*	107p	113p	121p	126p	131p	137p	142p
140p	147p	153p	159p	204p	209p	215p	220p
220p*	227p	233p	241p	246p	251p	257p	302p
300p	309p	315p	321p	327p	333p	339p	344p
340p	349p	355p	401p	407p	413p	419p	424p
400p	409p	415p	421p	427p	433p	439p	444p
420p	430p	436p	443p	450p	456p	502p	508p
440p	450p	456p	503p	510p	516p	522p	528p
500p	510p	516p	523p	530p	536p	542p	548p
520p	530p	536p	543p	550p	556p	602p	608p
540p	550p	556p	603p	610p	616p	622p	628p
600p	610p	616p	623p	630p	636p	642p	648p
620p	629p	634p	640p	645p	650p	655p	700p
640p	649p	654p	700p	705p	710p	715p	720p
700p	709p	714p	720p	725p	730p	735p	740p
740p	749p	754p	800p	805p	810p	815p	820p
820p	829p	834p	840p	845p	850p	855p	900p
900p	909p	914p	920p	925p	930p	935p	940p
940p	949p	954p	1000p	1005p	1010p	1015p	1020p
1020p	1026p	1031p	1036p	1041p	1045p	1050p	1054p
1100p	1106p	1111p	1116p	1121p	1125p	1130p	1134p
1155p	1201x	1206x	1211x	1216x	1220x	1225x	1229x

Direction	South
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* Midday Trips to Victory Forest

Twinbrook Station W	Jefferson-Montrose	White Flint Station	Rockville Pike-Strathmore	Connecticut-Knowles	Capitol View-Leafy	Second-Linden	Silver Spring Station
540a	545a	550a	554a	600a	604a	609a	616a
630a	635a	640a	644a	650a	654a	659a	706a
655a	700a	705a	709a	715a	719a	724a	731a
715a	721a	728a	732a	740a	745a	750a	759a
735a	741a	748a	752a	800a	805a	810a	819a
755a	801a	808a	812a	820a	825a	830a	839a
815a	821a	828a	832a	840a	845a	850a	859a
835a	841a	848a	852a	859a	904a	909a	916a
855a	901a	908a	912a	919a	924a	929a	936a
915a	921a	928a	932a	939a	944a	949a	956a
955a*	1001a	1008a	1012a	1019a	1026a	1031a	1038a
1035a	1041a	1048a	1052a	1059a	1104a	1109a	1116a
1115a*	1121a	1128a	1132a	1139a	1146a	1151a	1158a
1155a	1201p	1208p	1212p	1219p	1224p	1229p	1236p
1235p*	1243p	1251p	1256p	103p	110p	115p	124p
115p	123p	131p	136p	143p	148p	153p	202p
155p*	201p	207p	212p	220p	227p	232p	239p
235p	241p	247p	252p	300p	305p	310p	317p
255p	301p	307p	312p	323p	328p	333p	340p
315p	321p	327p	332p	343p	350p	355p	402p
335p	341p	347p	352p	403p	408p	413p	420p
355p	401p	407p	412p	423p	428p	433p	440p
415p	421p	427p	432p	445p	450p	455p	503p
435p	441p	447p	452p	505p	510p	515p	523p
455p	501p	507p	512p	525p	530p	535p	543p
515p	521p	527p	532p	545p	550p	555p	603p
535p	541p	547p	552p	605p	610p	615p	623p
555p	601p	607p	612p	625p	630p	635p	643p
615p	621p	627p	632p	642p	647p	651p	658p
635p	641p	647p	652p	702p	707p	711p	718p
655p	700p	705p	709p	716p	720p	724p	731p
715p	720p	725p	729p	736p	740p	744p	751p
735p	740p	745p	749p	756p	800p	804p	811p
755p	800p	805p	809p	816p	820p	824p	831p
835p	840p	845p	849p	856p	900p	904p	911p
915p	920p	925p	929p	936p	940p	944p	951p
955p	1000p	1005p	1009p	1016p	1020p	1024p	1031p
1035p	1040p	1045p	1049p	1056p	1100p	1104p	1111p
1115p	1120p	1125p	1129p	1134p	1138p	1142p	1148p
1155p	1200x	1205x	1209x	1214x	1218x	1222x	1228x

SATURDAY

Route 5- Silver Spring - Kensington-Twinbrook

EFFECTIVE: AUGUST 2, 2020

Direction	North
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* Midday Trips to Victory Forest

Silver Spring Station	Second-Linden	Capitol View-Leafy	Connecticut-Knowles	Rockville Pike-Strathmore	White Flint Station	Jefferson-Montrose	Twinbrook Station W
540a	546a	550a	555a	559a	603a	609a	613a
620a	626a	630a	635a	639a	643a	649a	653a
700a	706a	710a	715a	719a	723a	729a	733a
740a	746a	750a	755a	759a	803a	809a	813a
820a	826a	830a	835a	839a	843a	849a	853a
900a*	906a	910a	917a	921a	925a	931a	935a
940a	947a	951a	959a	1003a	1008a	1014a	1019a
1020a*	1027a	1031a	1041a	1045a	1050a	1056a	1101a
1100a	1107a	1111a	1119a	1123a	1128a	1134a	1139a
1140a*	1147a	1151a	1201p	1205p	1210p	1216p	1221p
1220p	1227p	1231p	1239p	1243p	1248p	1254p	1259p
100p*	107p	111p	121p	125p	130p	136p	141p
140p	147p	151p	159p	203p	208p	214p	219p
220p*	227p	231p	241p	245p	250p	256p	301p
300p	307p	311p	319p	323p	328p	334p	339p
340p	347p	351p	359p	403p	408p	414p	419p
420p	427p	431p	438p	442p	447p	453p	458p
500p	507p	511p	518p	522p	527p	533p	538p
540p	547p	551p	558p	602p	607p	613p	618p
620p	626p	630p	637p	641p	645p	650p	654p
700p	706p	710p	717p	721p	725p	730p	734p
740p	746p	750p	757p	801p	805p	810p	814p
820p	826p	830p	837p	841p	845p	850p	854p
900p	906p	910p	916p	919p	923p	928p	932p
940p	946p	950p	956p	959p	1003p	1008p	1012p
1020p	1026p	1030p	1036p	1039p	1043p	1048p	1052p
1100p	1106p	1110p	1116p	1119p	1123p	1128p	1132p
1148p	1154p	1158p	1204x	1207x	1211x	1216x	1220x

Direction	South
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* Midday Trips to Victory Forest

Twinbrook Station W	Jefferson-Montrose	White Flint Station	Rockville Pike-Strathmore	Connecticut-Knowles	Capitol View-Leafy	Second-Linden	Silver Spring Station
625a	629a	634a	637a	642a	646a	651a	657a
715a	719a	724a	727a	732a	736a	741a	747a
755a	759a	804a	808a	814a	819a	824a	831a
835a	839a	844a	848a	854a	859a	904a	911a
915a	919a	924a	928a	934a	939a	944a	951a
955a*	959a	1004a	1008a	1014a	1021a	1026a	1033a
1035a	1039a	1044a	1048a	1054a	1059a	1104a	1111a
1115a*	1119a	1124a	1128a	1134a	1141a	1146a	1153a
1155a	1159a	1204p	1208p	1214p	1219p	1224p	1231p
1235p*	1240p	1246p	1250p	1256p	104p	109p	116p
115p	120p	126p	130p	136p	142p	147p	154p
155p*	200p	206p	210p	216p	224p	229p	236p
235p	240p	247p	251p	257p	303p	308p	315p
315p	320p	327p	331p	337p	345p	350p	357p
355p	400p	407p	411p	417p	423p	428p	435p
435p	440p	447p	451p	457p	503p	508p	515p
515p	520p	527p	531p	537p	543p	548p	555p
555p	600p	607p	611p	617p	623p	628p	635p
635p	640p	646p	650p	656p	701p	705p	712p
715p	720p	726p	730p	736p	741p	745p	752p
755p	800p	805p	809p	815p	819p	823p	829p
835p	840p	845p	849p	855p	859p	903p	909p
915p	920p	925p	929p	935p	939p	943p	949p
955p	1000p	1005p	1009p	1015p	1019p	1023p	1029p
1035p	1040p	1045p	1049p	1055p	1059p	1103p	1109p
1115p	1120p	1125p	1129p	1135p	1139p	1143p	1149p
1155p	1200x	1205x	1209x	1215x	1219x	1223x	1229x

SUNDAY

Route 5- Silver Spring - Kensington-Twinbrook

EFFECTIVE: AUGUST 2, 2020

Direction	North
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* Midday Trips to Victory Forest

Silver Spring Station	Second-Linden	Capitol View-Leafy	Connecticut-Knowles	Rockville Pike-Strathmore	White Flint Station	Jefferson-Montrose	Twinbrook Station W
540a	545a	549a	555a	559a	603a	608a	612a
620a	625a	629a	635a	639a	643a	648a	652a
700a	705a	709a	715a	719a	723a	728a	732a
740a	746a	750a	756a	800a	804a	809a	813a
820a	826a	830a	836a	840a	844a	849a	853a
900a*	906a	910a	918a	922a	926a	931a	935a
940a	946a	950a	956a	1000a	1004a	1009a	1013a
1020a*	1026a	1030a	1039a	1043a	1048a	1054a	1059a
1100a	1106a	1110a	1117a	1121a	1126a	1132a	1137a
1140a*	1146a	1150a	1159a	1203p	1208p	1214p	1219p
1220p	1226p	1230p	1237p	1241p	1246p	1252p	1257p
100p*	106p	110p	119p	123p	128p	134p	139p
140p	146p	150p	157p	201p	206p	212p	217p
220p*	226p	231p	240p	244p	249p	255p	301p
300p	306p	311p	318p	322p	327p	333p	339p
340p	346p	351p	358p	402p	407p	413p	419p
420p	425p	429p	435p	439p	443p	448p	453p
500p	505p	509p	515p	519p	523p	528p	533p
540p	545p	549p	555p	559p	603p	608p	613p
620p	625p	629p	635p	639p	643p	648p	653p
700p	705p	709p	715p	719p	723p	728p	733p
740p	745p	749p	755p	759p	803p	808p	813p
820p	825p	829p	835p	839p	843p	848p	853p
900p	905p	909p	915p	919p	923p	928p	933p
940p	945p	949p	955p	959p	1003p	1008p	1013p
1020p	1025p	1029p	1035p	1039p	1043p	1048p	1053p
1100p	1105p	1109p	1114p	1118p	1121p	1126p	1130p
1148p	1153p	1157p	1202x	1206x	1209x	1214x	1218x

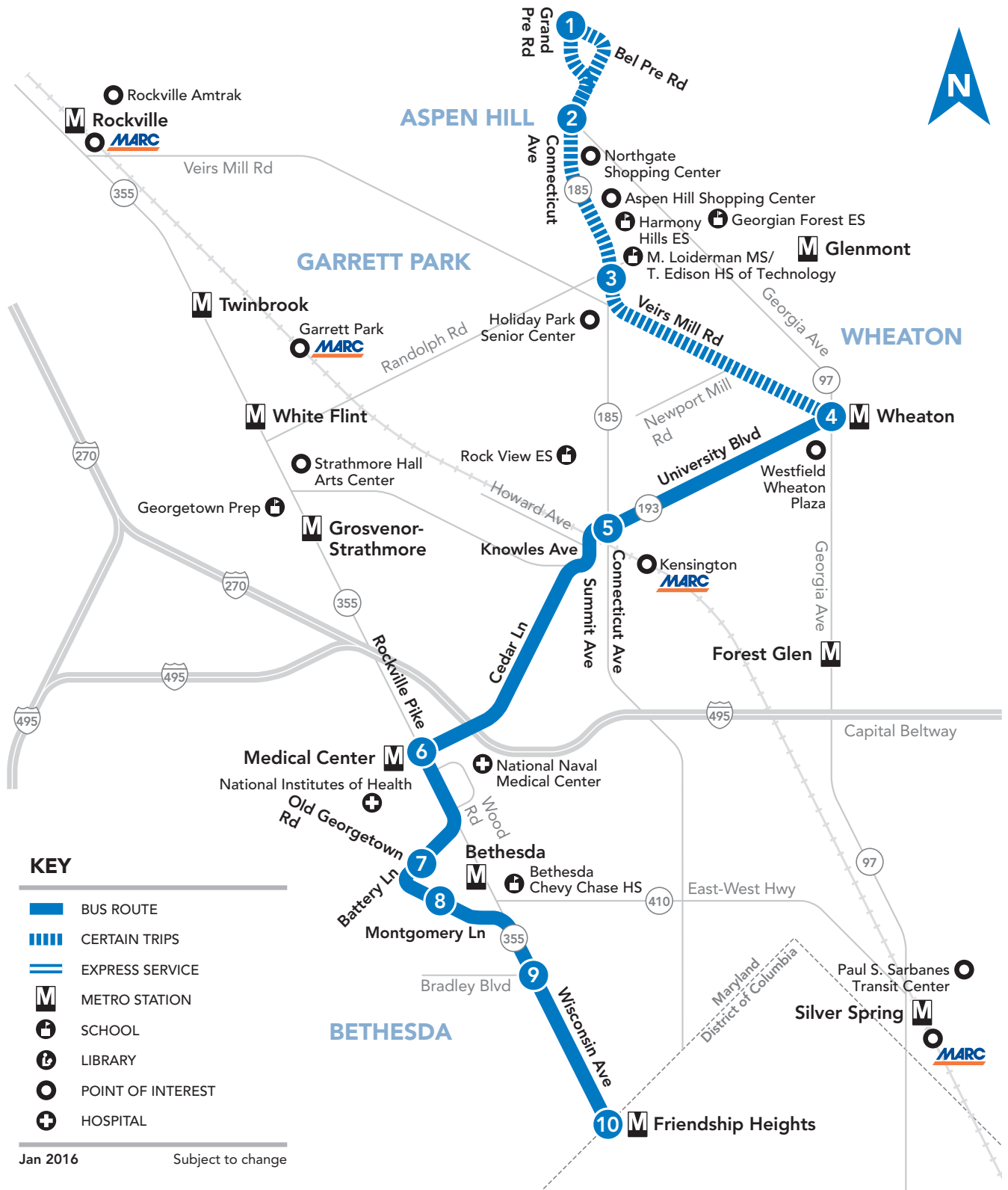
Direction	South
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* Midday Trips to Victory Forest

Twinbrook Station W	Jefferson-Montrose	White Flint Station	Rockville Pike-Strathmore	Connecticut-Knowles	Capitol View-Leafy	Second-Linden	Silver Spring Station
625a	629a	633a	636a	641a	645a	649a	655a
715a	719a	725a	728a	734a	738a	742a	749a
755a	759a	805a	808a	814a	818a	822a	829a
835a	840a	847a	851a	858a	903a	907a	914a
915a	920a	927a	931a	938a	943a	947a	954a
955a*	1000a	1007a	1011a	1018a	1025a	1029a	1036a
1035a	1040a	1047a	1051a	1058a	1103a	1107a	1114a
1115a*	1120a	1127a	1131a	1138a	1145a	1149a	1156a
1155a	1200p	1207p	1211p	1218p	1223p	1227p	1234p
1235p*	1240p	1247p	1251p	1258p	105p	109p	116p
115p	120p	127p	131p	138p	143p	147p	154p
155p*	200p	207p	211p	218p	225p	229p	236p
235p	240p	247p	251p	258p	303p	307p	314p
315p	320p	327p	331p	338p	345p	349p	356p
355p	400p	407p	411p	418p	423p	427p	434p
435p	440p	447p	451p	458p	503p	507p	514p
515p	520p	527p	531p	538p	543p	547p	554p
555p	600p	607p	611p	618p	623p	627p	634p
635p	639p	645p	649p	654p	658p	702p	708p
715p	719p	725p	729p	734p	738p	742p	748p
755p	759p	805p	809p	814p	818p	822p	828p
835p	839p	845p	849p	854p	858p	902p	908p
915p	919p	925p	929p	934p	938p	942p	948p
955p	959p	1005p	1009p	1014p	1018p	1022p	1028p
1035p	1039p	1044p	1047p	1052p	1056p	1100p	1106p
1115p	1119p	1124p	1127p	1132p	1136p	1140p	1146p
1155p	1159p	1204x	1207x	1212x	1216x	1220x	1226x

34

Aspen Hill (Designated Trips) - Wheaton Metro Station -
Kensington - Medical Center Metro Station -
Bethesda Metro Station - Friendship Heights Metro Station



Jan 2016

Subject to change

WEEKDAY

Route 34 - Friendship Heights - Bethesda - Wheaton

EFFECTIVE: AUGUST 2, 2020

Direction	North
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Friendship Heights Sta.	Wisconsin-Bradley	Bethesda Station	Battery-Old Georgetown	Medical Center Station	Connecticut-Knowles	Wheaton Station	Connecticut-Randph	Connecticut-Georgia	Grand Pre-Bel Pre
515a	518a	523a	526a	534a	542a	546a			
610a	613a	618a	621a	629a	637a	641a			
645a	649a	656a	700a	710a	720a	726a			
720a	724a	731a	735a	745a	755a	801a			
755a	759a	806a	810a	820a	830a	836a			
825a	829a	836a	840a	850a	900a	906a			
855a	859a	906a	910a	920a	930a	936a			
925a	929a	936a	940a	950a	1000a	1006a			
955a	959a	1006a	1012a	1019a	1028a	1035a			
1025a	1029a	1036a	1042a	1049a	1058a	1105a			
1055a	1059a	1106a	1112a	1119a	1128a	1135a			
1125a	1129a	1136a	1142a	1149a	1159a	1205p			
1155a	1159a	1206p	1212p	1219p	1229p	1235p			
1225p	1229p	1236p	1242p	1249p	1259p	105p			
1255p	1259p	106p	112p	119p	129p	135p			
125p	129p	136p	142p	149p	159p	205p			
155p	159p	206p	212p	222p	235p	243p			
225p	229p	236p	242p	252p	305p	313p			
255p	259p	306p	312p	322p	335p	343p	351p	358p	400p
325p	329p	336p	341p	353p	412p	420p	429p	437p	439p
355p	359p	406p	411p	423p	442p	450p	459p	507p	509p
425p	429p	437p	444p	457p	515p	524p	533p	541p	543p
455p	459p	507p	514p	527p	545p	554p	603p	611p	613p
525p	529p	537p	544p	557p	615p	624p	633p	641p	643p
555p	559p	607p	614p	627p	645p	654p	703p	711p	713p
625p	629p	637p	643p	655p	707p	715p	723p	731p	733p
655p	659p	707p	712p	722p	732p	739p	746p	754p	756p
725p	728p	734p	739p	745p	755p	800p			
755p	758p	804p	809p	815p	825p	830p			
835p	838p	844p	849p	855p	905p	910p			
915p	918p	924p	929p	935p	945p	950p			
955p	958p	1004p	1009p	1015p	1025p	1030p			
1035p	1038p	1044p	1048p	1054p	1103p	1108p			
1115p	1118p	1124p	1128p	1134p	1143p	1148p			
1155p	1158p	1204x	1208x	1214x	1223x	1228x			

Direction	South
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Grand Pre-Bel Pre	Connecticut-Georgia	Connecticut-Randph	Wheaton Station	Connecticut-Knowles	Medical Center Station	Battery-Old Georgetown	Bethesda Station	Wisconsin-Bradley	Friendship Heights Sta.
			500a	508a	518a	521a	525a	529a	532a
509a	513a	520a	530a	538a	548a	551a	555a	559a	602a
535a	541a	550a	600a	609a	619a	622a	626a	632a	635a
602a	609a	618a	630a	640a	653a	702a	709a	709a	713a
632a	639a	648a	700a	711a	724a	728a	735a	743a	748a
702a	709a	718a	730a	741a	754a	758a	805a	813a	818a
732a	739a	748a	800a	811a	824a	828a	835a	843a	848a
803a	810a	819a	830a	840a	852a	856a	902a	910a	914a
833a	840a	849a	900a	910a	922a	926a	932a	940a	944a
			930a	940a	952a	956a	1002a	1010a	1014a
			1000a	1009a	1019a	1023a	1029a	1037a	1041a
			1030a	1039a	1049a	1053a	1059a	1107a	1111a
			1100a	1109a	1119a	1123a	1129a	1137a	1141a
			1130a	1139a	1149a	1153a	1159a	1207p	1211p
			1200p	1209p	1219p	1223p	1229p	1237p	1241p
			1230p	1239p	1249p	1253p	1259p	107p	111p
			100p	109p	119p	123p	129p	137p	141p
			130p	139p	149p	153p	159p	207p	211p
			200p	209p	219p	223p	229p	237p	241p
			230p	239p	250p	254p	301p	310p	314p
			300p	309p	320p	324p	331p	340p	344p
			330p	339p	350p	354p	401p	410p	414p
			400p	409p	420p	424p	431p	441p	445p
			430p	439p	450p	454p	501p	511p	515p
			500p	509p	520p	524p	531p	541p	545p
			530p	539p	550p	554p	601p	611p	615p
			600p	608p	617p	620p	625p	632p	635p
			635p	643p	652p	655p	700p	707p	710p
			715p	723p	732p	735p	740p	747p	750p
			755p	803p	812p	815p	820p	827p	830p
			835p	842p	850p	853p	857p	903p	906p
			915p	922p	930p	933p	937p	943p	946p
			955p	1002p	1010p	1013p	1017p	1023p	1026p
			1035p	1042p	1050p	1053p	1057p	1103p	1106p
			1120p	1127p	1135p	1138p	1142p	1148p	1151p

SATURDAY

Route 34 - Friendship Heights - Bethesda - Wheaton

EFFECTIVE: AUGUST 2, 2020

Direction	North
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Friendship Heights Sta.	Wisconsin-Bradley	Bethesda Station	Battery-Old Georgetown	Medical Center Station	Connecticut-Knowles	Wheaton Station
550a	553a	558a	602a	608a	616a	620a
635a	638a	643a	647a	653a	701a	705a
720a	723a	728a	732a	738a	746a	750a
805a	808a	813a	817a	823a	831a	835a
850a	854a	859a	904a	910a	918a	923a
930a	934a	939a	944a	950a	958a	1003a
1005a	1009a	1014a	1019a	1025a	1033a	1038a
1040a	1044a	1049a	1054a	1100a	1108a	1113a
1115a	1119a	1124a	1129a	1135a	1143a	1148a
1150a	1154a	1200p	1206p	1213p	1222p	1228p
1225p	1229p	1235p	1241p	1235p	1257p	103p
100p	104p	110p	116p	123p	132p	138p
135p	139p	145p	151p	158p	207p	213p
210p	214p	220p	226p	233p	242p	248p
245p	249p	255p	301p	308p	317p	323p
320p	324p	330p	336p	343p	352p	358p
355p	359p	405p	411p	418p	427p	433p
435p	439p	445p	451p	458p	507p	513p
515p	519p	525p	530p	537p	546p	551p
555p	559p	605p	610p	617p	626p	631p
635p	639p	645p	650p	657p	706p	711p
720p	724p	730p	735p	742p	751p	756p
805p	808p	813p	818p	825p	833p	837p
850p	853p	858p	903p	910p	918p	922p
935p	938p	943p	948p	955p	1003p	1007p
1020p	1023p	1028p	1033p	1040p	1048p	1052p
1105p	1108p	1113p	1118p	1125p	1133p	1137p
1155p	1158p	1203x	1208x	1215x	1223x	1227x

Direction	South
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Wheaton Station	Connecticut-Knowles	Medical Center Station	Battery-Old Georgetown	Bethesda Station	Wisconsin-Bradley	Friendship Heights Sta.
550a	557a	605a	608a	613a	620a	623a
635a	642a	650a	653a	658a	705a	708a
720a	727a	735a	738a	743a	750a	753a
805a	812a	820a	823a	828a	835a	838a
840a	848a	857a	901a	907a	914a	917a
915a	923a	932a	936a	942a	949a	952a
950a	958a	1007a	1011a	1017a	1024a	1027a
1025a	1033a	1042a	1046a	1052a	1059a	1102a
1100a	1108a	1117a	1121a	1127a	1134a	1137a
1135a	1143a	1152a	1156a	1202p	1211p	1214p
1210p	1218p	1227p	1231p	1237p	1246p	1249p
1245p	1253p	102p	106p	112p	121p	124p
120p	128p	137p	141p	147p	156p	159p
155p	203p	212p	216p	222p	231p	234p
230p	238p	247p	251p	257p	306p	309p
305p	313p	322p	326p	332p	341p	344p
345p	353p	402p	406p	412p	421p	424p
425p	433p	442p	446p	452p	501p	504p
505p	512p	521p	524p	530p	538p	541p
550p	557p	606p	609p	615p	623p	626p
635p	642p	651p	654p	700p	708p	711p
720p	727p	736p	739p	745p	753p	756p
805p	811p	820p	823p	828p	835p	838p
850p	856p	905p	908p	913p	920p	923p
935p	941p	950p	953p	958p	1005p	1008p
1020p	1026p	1035p	1038p	1043p	1050p	1053p
1105p	1111p	1120p	1123p	1128p	1135p	1138p
1150p	1156p	1205x	1208x	1213x	1220x	1223x

SUNDAY

Route 34 - Friendship Heights - Bethesda - Wheaton

EFFECTIVE: AUGUST 2, 2020

Direction	North
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Friendship Heights Sta.	Wisconsin-Bradley	Bethesda Station	Battery-Old Georgetown	Medical Center Station	Connecticut-Knowles	Wheaton Station
550a	553a	558a	602a	608a	616a	620a
635a	638a	643a	647a	653a	701a	705a
720a	723a	728a	732a	738a	746a	750a
805a	808a	813a	817a	823a	831a	835a
850a	854a	859a	904a	910a	918a	923a
935a	939a	944a	949a	955a	1003a	1008a
1020a	1024a	1029a	1034a	1040a	1048a	1053a
1105a	1109a	1114a	1119a	1125a	1133a	1138a
1150a	1154a	1200p	1206p	1213p	1222p	1228p
1235p	1239p	1245p	1251p	1258p	107p	113p
120p	124p	130p	136p	143p	152p	158p
205p	209p	215p	221p	228p	237p	243p
250p	254p	300p	306p	313p	322p	328p
335p	339p	345p	351p	358p	407p	413p
420p	424p	430p	436p	443p	452p	458p
505p	509p	515p	520p	527p	536p	541p
550p	554p	600p	605p	612p	621p	626p
635p	639p	645p	650p	657p	706p	711p
720p	724p	730p	735p	742p	751p	756p
805p	808p	813p	818p	825p	833p	837p
850p	853p	858p	903p	910p	918p	922p
935p	938p	943p	948p	955p	1003p	1007p
1020p	1023p	1028p	1033p	1040p	1048p	1052p
1105p	1108p	1113p	1118p	1125p	1133p	1137p
1155p	1158p	1203x	1208x	1215x	1223x	1227x

Direction	South
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Wheaton Station	Connecticut-Knowles	Medical Center Station	Battery-Old Georgetown	Bethesda Station	Wisconsin-Bradley	Friendship Heights Sta.
550a	557a	605a	608a	613a	620a	623a
635a	642a	650a	653a	658a	705a	708a
720a	727a	735a	738a	743a	750a	753a
805a	812a	820a	823a	828a	835a	838a
850a	858a	907a	911a	917a	924a	927a
935a	943a	952a	956a	1002a	1009a	1012a
1020a	1028a	1037a	1041a	1047a	1054a	1057a
1105a	1113a	1122a	1126a	1132a	1139a	1142a
1150a	1158a	1207p	1211p	1217p	1226p	1229p
1235p	1243p	1252p	1256p	102p	111p	114p
120p	128p	137p	141p	147p	156p	159p
205p	213p	222p	226p	232p	241p	244p
250p	258p	307p	311p	317p	326p	329p
335p	343p	352p	356p	402p	411p	414p
420p	428p	437p	441p	447p	456p	459p
505p	512p	521p	524p	530p	538p	541p
550p	557p	606p	609p	615p	623p	626p
635p	642p	651p	654p	700p	708p	711p
720p	727p	736p	739p	745p	753p	756p
805p	811p	820p	823p	828p	835p	838p
850p	856p	905p	908p	913p	920p	923p
935p	941p	950p	953p	958p	1005p	1008p
1020p	1026p	1035p	1038p	1043p	1050p	1053p
1105p	1111p	1120p	1123p	1128p	1135p	1138p
1150p	1156p	1205x	1208x	1213x	1220x	1223x

WEEKDAY

Route 37 - Wheaton - Grosvenor - Potomac

EFFECTIVE: AUGUST 2, 2020

Direction	West
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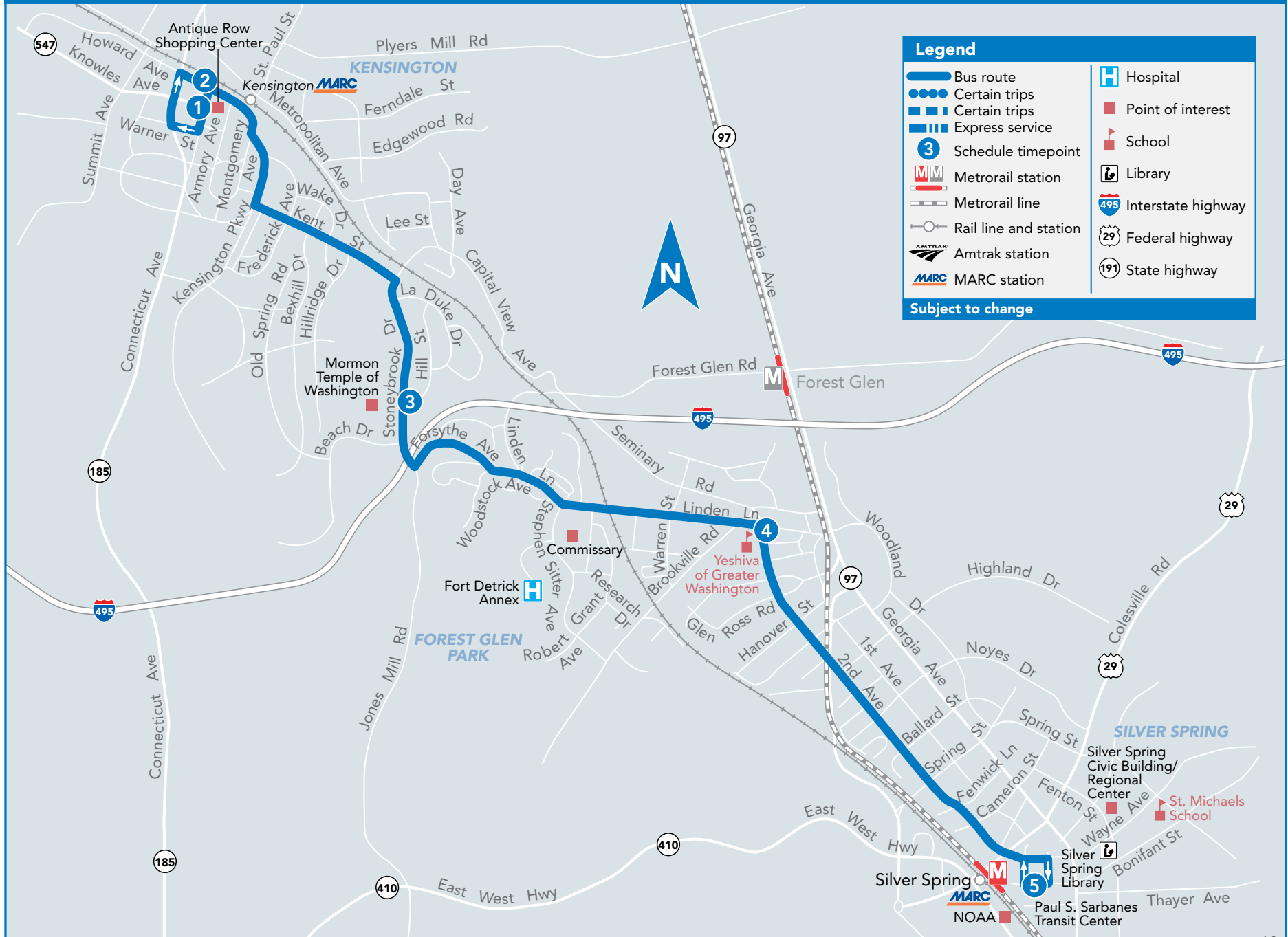
Wheaton Station	Connecticut-Knowles	Grosvenor Station	Tuckerman-Old Georgetown	Tuckerman-Seven Locks	Falls-Tuckerman	Potomac Community
600a	610a	618a	624a	629a	635a	637a
650a	701a	709a	715a	720a	727a	729a
740a	751a	759a	805a	810a	817a	819a
830a	841a	849a	854a	858a	905a	907a
		400p	406p	411p	418p	426p
		450p	456p	501p	508p	516p
		540p	546p	551p	558p	606p
		635p	641p	646p	653p	700p
		730p	736p	741p	748p	755p

Direction	East
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Potomac Community	Tuckerman-Falls	Tuckerman-Seven Locks	Tuckerman-Old Georgetown	Grosvenor Station	Connecticut-Knowles	Wheaton Station
555a	603a	609a	613a	618a		
645a	653a	659a	703a	708a		
735a	745a	753a	758a	803a		
825a	835a	843a	848a	853a		
915a	925a	931a	936a	940a		
430p	434p	440p	446p	452p	506p	514p
520p	524p	530p	536p	541p	555p	603p
610p	614p	620p	626p	631p	645p	653p
705p	709p	714p	720p	725p	737p	745p

4

Kensington – Fort Detrick Annex – Linden Lane – Paul S. Sarbanes Transit Center (Silver Spring M)



4 To Paul S. Sarbanes Transit Center (Silver Spring M)

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

1	2	3	4	5
6:41	6:43	6:48	6:55	7:02
7:10	7:12	7:17	7:24	7:31
7:40	7:42	7:48	7:56	8:04
8:10	8:12	8:18	8:26	8:34
8:40	8:42	8:48	8:56	9:04
9:10	9:12	9:17	9:24	9:31
9:40	9:42	9:47	9:54	10:01
1:35	1:38	1:43	1:50	1:56
2:05	2:08	2:13	2:20	2:26
2:35	2:38	2:43	2:50	2:56
3:05	3:08	3:13	3:20	3:26
3:35	3:38	3:44	3:52	3:58
4:05	4:08	4:14	4:22	4:28
4:35	4:38	4:44	4:52	4:58
5:05	5:08	5:14	5:22	5:28
5:35	5:38	5:44	5:52	5:58
6:05	6:08	6:14	6:22	6:28
6:36	6:39	6:45	6:53	6:59

NOTES: AM PM

Please arrive at your stop several minutes ahead of your bus' scheduled arrival. Since safe service is a priority at Ride On, buses may be delayed due to traffic or weather.

4 To Kensington

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

5	4	3	1
6:06	6:13	6:18	6:24
6:38	6:45	6:50	6:56
7:08	7:15	7:20	7:26
7:38	7:47	7:53	7:58
8:08	8:17	8:23	8:28
8:38	8:47	8:53	8:58
9:08	9:17	9:23	9:28
9:38	9:47	9:53	9:58
1:36	1:44	1:50	1:55
2:06	2:14	2:20	2:25
2:36	2:44	2:50	2:55
3:06	3:14	3:20	3:25
3:36	3:44	3:50	3:55
4:06	4:14	4:20	4:25
4:36	4:44	4:50	4:55
5:06	5:15	5:21	5:27
5:36	5:45	5:51	5:57
6:06	6:15	6:21	6:27
6:36	6:45	6:51	6:57

NOTES: AM PM

There is NO Saturday or Sunday service on this route

HOW TO RIDE A BUS

Check schedule for timepoint nearest your location. Wait at the blue and white **RIDE ON** bus stop sign. Arrive several minutes before scheduled time. Have exact fare ready (drivers do not make change).

- Not all stops are listed on a public timetable.
- If you are unfamiliar with your stop, sit or stand behind the line near the front of the bus and ask the bus driver to notify you when your stop is approaching.
- Ask the bus driver if you are not sure if the bus goes to your stop.
- If you have internet access (at home or somewhere else, such as a public library), it may be easier for you to use an online trip planner rather than a paper timetable.
- Be mindful of changes in the schedule, for holidays or bad weather.
- Please observe the following rules for all patrons: No eating, drinking, or smoking.
- Electronic devices may be played with earphones set at low level.

HOW TO READ A TIMETABLE

- Find the schedule for the day of the week and the direction you wish to ride.
- Find the timepoints closest to your origin and destination. The timepoints are shown on the route map and indicate the time the bus is scheduled to be at the particular location. Your nearest bus stop may be between timepoints.
- Read down the column to see the times when a trip will be at the given timepoint. Read the times across to the right to see when the trip reaches other timepoints. If no time is shown, that trip does not serve that timepoint.

FARES

Effective September 2, 2017

Regular Fare, Token, or SmarTrip®	\$2.00
SmarTrip® Fare Transfer from MetroRail	\$1.50
Seniors and persons with disability with valid ID (including attendant-eligible) except during free periods:	
Senior/Disabled SmarTrip® or Cash	\$1.00
Senior/Disabled SmarTrip® Transfer from Metrorail	\$0.50
Seniors age 65 years or older with a Senior SmarTrip® card or valid Metro Senior ID Card or with valid Medicare Card and Photo ID from 9:30 am – 3:00 pm Monday through Friday and Saturday from 8:30 am – 4:00 pm.	FREE
Person with disability with Metro Disabled ID Card from 9:30 am – 3:00 pm Monday through Friday and Saturday from 8:30 am – 4:00 pm.	
Person with disability with Metro Disability ID Card – Attendant Eligible from 9:30 am – 3:00 pm Mon. through Fri. and Sat. from 8:30 am – 4:00 pm. Attendant rides half fare or free depending on time.	
MetroAccess - Certified Customer with ID	FREE
MetroAccess - Companion	
Children under age 5	FREE
Limit 2 children per paying passenger	
Local Bus Transfer with SmarTrip®	FREE
Children 5 to 18 with a student ID or Youth Cruiser SmarTrip® Card	
Monday to Friday, 2:00 - 8:00 pm	

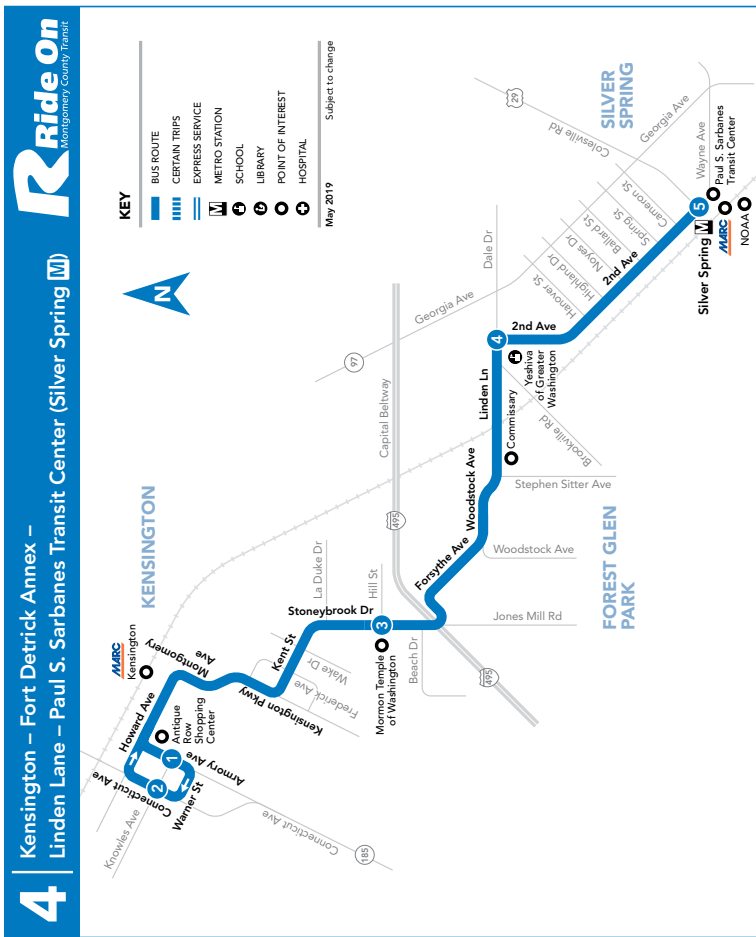
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When you take Metrobus, Metrorail and Ride On to work, you are eligible to participate in the free Commuter Connections Guaranteed Ride Home Program. To register and to receive program details call: Commuter Services at **301-770-POOL(7665)**.

METROACCESS

Alternative paratransit service to this Ride On route for people with certified disabilities is available. Call MetroAccess at **301-562-5360**.





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Outside Montgomery County **240-777-0311**

Visit our web site at:
www.rideonbus.com
 Real Time information is available at:
www.rideonrealtime.com

Regular Mailing Address:
 Montgomery County DOT
 Division of Transit Services
 101 Monroe Street, 5th
 Floor Rockville, MD 20850

For more information, or to request this document in an alternate format or translated into another language, please call 311, or outside Montgomery County 240-777-0311.

Para más información o para pedir este documento en un formato diferente o traducido a otro idioma, por favor, llame al 311 o de fuera del Condado de Montgomery al 240-777-0311.

如需更多信息，需要以其它格式提供本文檔或需要將本文檔翻譯成其它語言，請撥打311。如果您不在蒙哥馬利郡，請撥打240-777-0311。

자세한 정보를 원하시거나 본 문서를 다른 형식 또는 다른 언어로의 번역본으로 원하실 경우, 전화번호 311, 또는 몽고메리 카운티 이외의 지역에서는 240-777-0311로 연락하시기 바랍니다.

ለተጨማሪ መረጃ፣ ወይም ይህንን ደብዳቤ በተለዋዋጭ መልኩ ለመጠየቅ ወይም ወደሌላ ቋንቋ ለማስተርጎም፣ ከባለቃትን በ 311 ወይም ከዋነን ጉሙሥ ካውንቲ ውጪ 240-777-0311 ይደውሉ።

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HOLIDAY SCHEDULE

Weekday Schedule operates on Columbus Day
 Saturday Schedule operates on Independence Day
 Sunday Schedule operates on New Year's Day,
 Memorial Day, Labor Day, Thanksgiving Day, Christmas Day
 Special Schedule operates on MLK, Jr. Day, Presidents' Day, Veterans Day

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4

Approximate travel time between stops

- Armory & Knowles Aves
- 2-3 mins
- Connecticut & Knowles Aves
- 5-6 mins
- Mormon Temple Stoneybrook Dr
- 5-8 mins
- 2nd Ave & Linden Ln
- 6-9 mins
- Paul S. Sarbanes Transit Center (Silver Spring)

SERVICE DAYS
MONDAY - FRIDAY

Ride On
 Montgomery County Transit
 Telephone **311**
 Online at www.rideonbus.com
 Real Time Info at www.rideonrealtime.com

L8

Connecticut Ave.-Maryland Line

For route and schedule information

Call 202-637-7000

www.wmata.com



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The program will get you home in the event of a personal emergency or unscheduled overtime.

To register and to receive program details, call Commuter Connection at 1-800-745-RIDE.

(2/07)





ROCKVILLE STATION & BAY B - WEST - GERMANTOWN RD & GOLDENROD LN

[View In Website Mode](#)

The L8 bus line (ROCKVILLE STATION & BAY B - WEST - GERMANTOWN RD & GOLDENROD LN) has 2 routes. For regular weekdays, their operation hours are:

(1) Aspen Hill: 6:00 AM - 8:05 PM (2) Friendship Heights: 6:10 AM - 8:43 PM

Use the Moovit App to find the closest L8 bus station near you and find out when is the next L8 bus arriving.

Direction: Aspen Hill

58 stops

[VIEW LINE SCHEDULE](#)

Friendship Hts Station

28 Wisconsin Cir, Washington

Nw Western Av & Nw Livingston St

NW Western Av & NW 41st St

5500 Cedar Pkw, Chevy Chase Village

Western Ave & Oliver St

5671 Western Avenue Northwest, Washington

Connecticut Ave & Irving St

5810 Connecticut Ave, Washington

Connecticut Ave & Lenox St

5903 Connecticut Ave, Washington

Connecticut Ave & Newlands St

West Newlands Street, Chevy Chase Village

Connecticut Ave & Quincy St

2 Quincy St, Chevy Chase Village

Connecticut Ave & Raymond St

3809 Raymond St, Chevy Chase Section Three

Connecticut Ave & Taylor St

7009 Connecticut Ave, Chevy Chase Section Three

Connecticut Ave & Thornapple St

3810 Thornapple St, Chevy Chase Section Five

Connecticut Ave & Williams La

7303 Connecticut Ave, Chevy Chase Section Five

Connecticut Ave & Leland St

7507 Connecticut Ave, Chevy Chase Section Five

L8 bus Time Schedule

Aspen Hill Route Timetable:

Sunday	6:00 AM - 8:05 PM
Monday	Not Operational
Tuesday	Not Operational
Wednesday	Not Operational
Thursday	Not Operational
Friday	Not Operational
Saturday	6:00 AM - 11:05 PM

L8 bus Info

Direction: Aspen Hill

Stops: 58

Trip Duration: 32 min

Line Summary: Friendship Hts Station, Nw Western Av & Nw Livingston St, NW Western Av & NW 41st St, Western Ave & Oliver St, Connecticut Ave & Irving St, Connecticut Ave & Lenox St, Connecticut Ave & Newlands St, Connecticut Ave & Quincy St, Connecticut Ave & Raymond St, Connecticut Ave & Taylor St, Connecticut Ave & Thornapple St, Connecticut Ave & Williams La, Connecticut Ave & Leland St, Connecticut Ave & Blackthorn St, Connecticut Ave & East West Hwy, Connecticut Ave & Club Dr, Connecticut Av & Dunlop St, Connecticut Ave & #8101, Connecticut Av & Chevy Chase Lake Dr, Connecticut Av & Manor Rd, Connecticut Av & Montrose Dr, Connecticut Av & Beach Dr, Connecticut Ave & Culver St, Connecticut Ave & Dunnell La, Connecticut Av & Saul Rd, Connecticut Ave & Franklin St, Connecticut Av & Everett St, Connecticut Av & Washington St, Connecticut Av & Baltimore St, Connecticut Av & Warner St, Connecticut Ave & Knowles Ave, Connecticut Ave & Plyers Mill Rd, Connecticut Ave & Perry Ave, Connecticut Av &

Connecticut Ave & Blackthorn St
7631 Connecticut Ave, Chevy Chase

Connecticut Ave & East West Hwy
7705 Connecticut Ave, Chevy Chase

Connecticut Ave & Club Dr
7901 Connecticut Avenue, Chevy Chase

Connecticut Av & Dunlop St
8001 Connecticut Avenue, Chevy Chase

Connecticut Ave & #8101

Connecticut Av & Chevy Chase Lake Dr
8401 Connecticut Avenue, Chevy Chase

Connecticut Av & Manor Rd
8547 Connecticut Ave, Chevy Chase

Connecticut Av & Montrose Dr
3818 Montrose Dr, Chevy Chase

Connecticut Av & Beach Dr

Connecticut Ave & Culver St

Connecticut Ave & Dunnell La
3922 Dannel Lane, South Kensington

Connecticut Av & Saul Rd
3909 Saul Road, South Kensington

Connecticut Ave & Franklin St
9901 Connecticut Ave, South Kensington

Connecticut Av & Everett St
10009 Connecticut Ave, South Kensington

Connecticut Av & Washington St
3820 Washington St, South Kensington

Connecticut Av & Baltimore St
10211 Connecticut Ave, Kensington

Connecticut Av & Warner St
3812 Warner St, Kensington

Connecticut Ave & Knowles Ave
10515 Connecticut Ave, Kensington

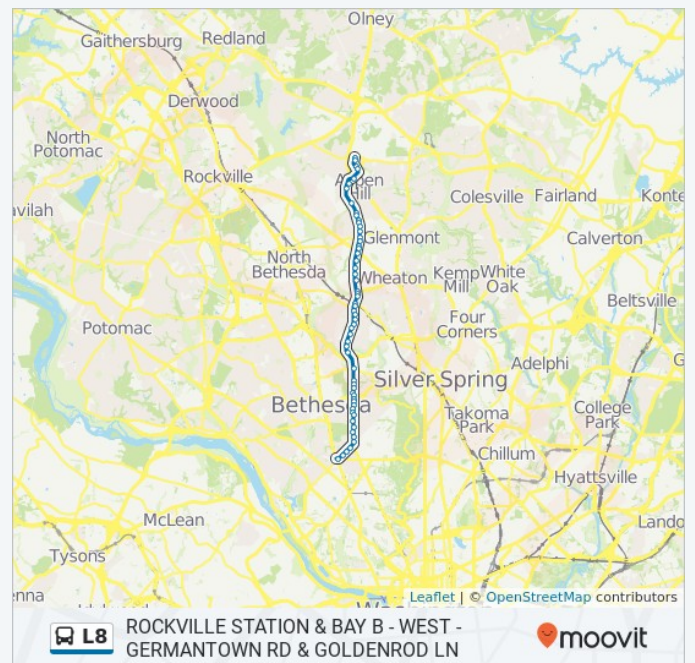
Connecticut Ave & Plyers Mill Rd
10619 Connecticut Avenue, Kensington

Connecticut Ave & Perry Ave
10805 Connecticut Ave, Kensington

Connecticut Av & Decatur Av
10821 Connecticut Ave, Kensington

Connecticut Av & Lawrence Av

Decatur Av, Connecticut Av & Lawrence Av,
Connecticut Ave & Denfeld Ave, Connecticut Ave &
#11400, Connecticut Av & Spruell Dr, Connecticut Av
& Adams Dr, Connecticut Av & Veirs Mill Rd,
Connecticut Ave & Brightview St, Connecticut Ave &
Carey St, Connecticut Ave & Randolph Rd,
Connecticut Ave & Everton St, Connecticut Ave &
Greenly St, Connecticut Ave & Weller Rd, Connecticut
Ave & Isbell St, Connecticut Ave & Jeffry St,
Connecticut Ave & Kayson St, Connecticut Ave &
Dean Rd, Connecticut Ave & Turkey Branch Pkwy,
Connecticut Ave & Aspen Hill Rd, Connecticut Ave &
Northgate Sc, Connecticut Ave & Georgia Ave, Grand
Pre Rd & Connecticut Ave, Grand Pre Rd &
Connecticut Ave, Grand Pre Rd & Grand Bel Manor,
Grand Pre Rd & Bel Pre Rd



3722 Lawrence Ave, Kensington

Connecticut Ave & Denfeld Ave

11202 Woodson Ave, North Kensington

Connecticut Ave & #11400

Connecticut Avenue, Kensington

Connecticut Av & Spruell Dr

Catalina Terrace, North Kensington

Connecticut Av & Adams Dr

11852 Huggins Dr, North Kensington

Connecticut Av & Veirs Mill Rd

Connecticut Ave & Brightview St

12021 Connecticut Ave, Wheaton

Connecticut Ave & Carey St

Carey Street, Wheaton

Connecticut Ave & Randolph Rd

12221 Connecticut Ave, Wheaton

Connecticut Ave & Everton St

12307 Connecticut Ave, Wheaton

Connecticut Ave & Greenly St

12425 Connecticut Ave, Wheaton

Connecticut Ave & Weller Rd

Weller Road, Wheaton

Connecticut Ave & Isbell St

12713 Connecticut Ave, Wheaton

Connecticut Ave & Jeffry St

12721 Connecticut Ave, Wheaton

Connecticut Ave & Kayson St

12821 Connecticut Ave, Wheaton

Connecticut Ave & Dean Rd

12907 Connecticut Ave, Wheaton

Connecticut Ave & Turkey Branch Pkwy

3953 Wendy Lane, Aspen Hill

Connecticut Ave & Aspen Hill Rd

13711 Connecticut Ave, Aspen Hill

Connecticut Ave & Northgate Sc

13826 Georgia Ave, Aspen Hill

Connecticut Ave & Georgia Ave

Grand Pre Rd & Connecticut Ave

14112 Grand Pre Rd, Aspen Hill

Grand Pre Rd & Connecticut Ave

Grand Pre Road, Aspen Hill

Grand Pre Rd & Grand Bel Manor

3840 Bel Pre Rd, Aspen Hill

Grand Pre Rd & Bel Pre Rd

3814 Bel Pre Rd, Aspen Hill

Direction: Friendship Heights

64 stops

[VIEW LINE SCHEDULE](#)

Grand Pre Rd & Bel Pre Rd

3814 Bel Pre Rd, Aspen Hill

Bel Pre Rd & Grand Pre Rd

3800 Gawayne Ter, Leisure World

Bel Pre Rd & Dunsinane Dr

3604 Bel Pre Rd, Aspen Hill

Bel Pre Rd & Connecticut Ave

3616 Pear Tree Ct, Aspen Hill

Connecticut Ave & Bel Pre Rd

3620 Pear Tree Ct, Aspen Hill

Connecticut Ave & Pear Tree Ct

4101 Peppertree La, Aspen Hill

Connecticut Ave & Grand Pre Rd

14030 Connecticut Ave, Aspen Hill

Connecticut Ave & Georgia Ave

Connecticut Ave & Georgia Ave

14013 Georgia Ave, Aspen Hill

Connecticut Ave & Aspen Hill Rd

13810 Connecticut Ave, Aspen Hill

Connecticut Ave & Aspen Hill Rd

13531 Turkey Branch Pkw, Aspen Hill

Connecticut Ave & Independence St

Connecticut Ave & Turkey Branch Pkwy

Connecticut Ave & Kelsey St

3801 Kelsey St, Wheaton

Connecticut Ave & Atherton Dr

12816 Connecticut Ave, Wheaton

Connecticut Ave & Jeffry St

12800 Connecticut Ave, Wheaton

Connecticut Ave & Isbell St

12714 Connecticut Ave, Wheaton

Connecticut Ave & Weller Rd

Weller Road, Wheaton

Connecticut Ave & Greenly St

12420 Connecticut Ave, Wheaton

L8 bus Time Schedule

Friendship Heights Route Timetable:

Sunday	6:10 AM - 8:43 PM
Monday	Not Operational
Tuesday	Not Operational
Wednesday	Not Operational
Thursday	Not Operational
Friday	Not Operational
Saturday	6:10 AM - 10:13 PM

L8 bus Info

Direction: Friendship Heights

Stops: 64

Trip Duration: 37 min

Line Summary: Grand Pre Rd & Bel Pre Rd, Bel Pre Rd & Grand Pre Rd, Bel Pre Rd & Dunsinane Dr, Bel Pre Rd & Connecticut Ave, Connecticut Ave & Bel Pre Rd, Connecticut Ave & Pear Tree Ct, Connecticut Ave & Grand Pre Rd, Connecticut Ave & Georgia Ave, Connecticut Ave & Georgia Ave, Connecticut Ave & Aspen Hill Rd, Connecticut Ave & Aspen Hill Rd, Connecticut Ave & Independence St, Connecticut Ave & Turkey Branch Pkwy, Connecticut Ave & Kelsey St, Connecticut Ave & Atherton Dr, Connecticut Ave & Jeffry St, Connecticut Ave & Isbell St, Connecticut Ave & Weller Rd, Connecticut Ave & Greenly St, Connecticut Ave & Everton St, Connecticut Ave & Randolph Rd, Connecticut Ave & Carey St, Connecticut Ave & Brightview St, Connecticut Ave & Veirs Mill Rd, Connecticut Ave & Adams Dr, Connecticut Ave & Spruell Dr, Connecticut Ave & #11300, Connecticut Ave & Denfeld Ave, Connecticut Ave & Lawrence Av, Connecticut Ave & Decatur Av, Connecticut Ave & Farragut Ave, Connecticut Ave & Plyers Mill Rd, Connecticut Ave & Howard Ave, Connecticut Ave & Warner Av, Connecticut Ave & Baltimore St, Connecticut Ave & Washington St, Connecticut Ave & Dresden St, Connecticut Ave & Franklin St, Connecticut Ave & Saul Rd, Connecticut Ave & Dunnell La, Connecticut Ave & Culver St, Connecticut Ave & Beach Dr, Connecticut Ave & Woodlawn Rd, Connecticut Ave & Parsons Rd, Connecticut Ave & Manor Rd, Connecticut Ave & Chevy Chase Lake Dr, Connecticut Ave & #8101, Connecticut Ave & Dunlop St, Connecticut Ave & Club Dr, Connecticut Ave & East West Hwy, Connecticut Ave & Blackthorn St, Connecticut Ave & Leland St, Connecticut Ave & Virgilia St, Connecticut Ave & Thornapple St, Connecticut Ave & Taylor St, Connecticut Ave & Shepherd St, Connecticut Ave & Rosemary St, Connecticut Ave & Quincy St,

Connecticut Ave & Everett St

12400 Connecticut Ave, Wheaton

Connecticut Ave & Randolph Rd

12300 Connecticut Ave, Wheaton

Connecticut Ave & Carey St

12108 Connecticut Ave, Wheaton

Connecticut Ave & Brightview St

12102 Connecticut Ave, Wheaton

Connecticut Av & Veirs Mill Rd

Connecticut Av & Adams Dr

11606 Connecticut Ave, North Kensington

Connecticut Av & Spruell Dr

3600 Spruell Dr, North Kensington

Connecticut Ave & #11300

11302 Connecticut Ave, North Kensington

Connecticut Ave & Denfeld Ave

Connecticut Av & Lawrence Av

10920 Connecticut Ave, Kensington

Connecticut Av & Decatur Av

10812 Connecticut Ave, Kensington

Connecticut Ave & Farragut Ave

10806 Connecticut Ave, Kensington

Connecticut Ave & Plyers Mill Rd

10620 Connecticut Avenue, Kensington

Connecticut Ave & Howard Ave

10550 Connecticut Ave, Kensington

Connecticut Av & Warner Av

Warner Street, Kensington

Connecticut Av & Baltimore St

3911 Baltimore St, Kensington

Connecticut Av & Washington St

3905 Washington St, South Kensington

Connecticut Av & Dresden St

3900 Dresden St, South Kensington

Connecticut Av & Franklin St

4001 Franklin St, South Kensington

Connecticut Av & Saul Rd

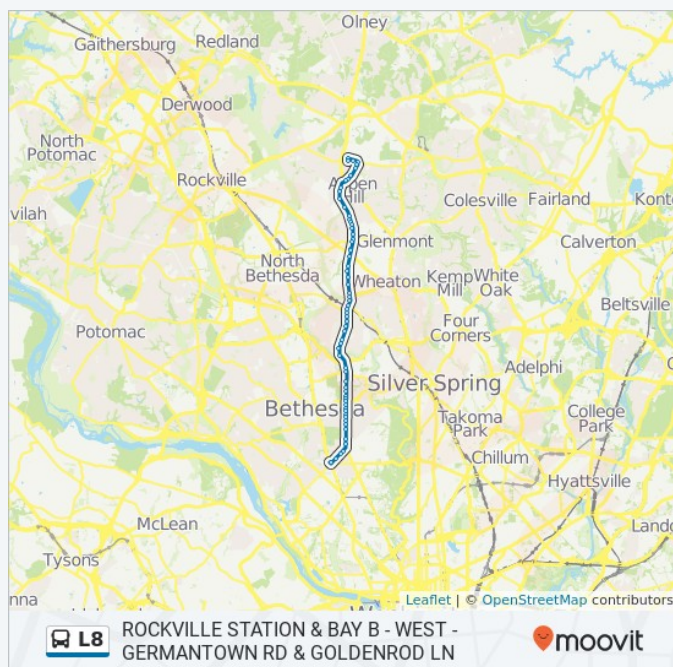
4000 Saul Rd, South Kensington

Connecticut Ave & Dunnell La

4101 Dunnell Lane, South Kensington

Connecticut Ave & Culver St

Connecticut Ave & Lenox St, Connecticut Ave & Irving St, Western Ave & Oliver St, Western Ave & Cedar Pkwy, Nw Western Av & Nw Livingston St, Friendship Hts Station



4100 Dana Ct, South Kensington

Connecticut Av & Beach Dr

Connecticut Av & Woodlawn Rd

3901 Woodlawn Road, Chevy Chase

Connecticut Ave & Parsons Rd

3901 Parsons Rd, Chevy Chase

Connecticut Av & Manor Rd

Connecticut Avenue, Chevy Chase

Connecticut Av & Chevy Chase Lake Dr

8402 Connecticut Ave, Chevy Chase

Connecticut Ave & #8101

Connecticut Av & Dunlop St

Connecticut Ave & Club Dr

Connecticut Ave & East West Hwy

7801 Connecticut Ave, Chevy Chase

Connecticut Ave & Blackthorn St

7616 Connecticut Ave, Chevy Chase

Connecticut Ave & Leland St

7506 Connecticut Ave, Chevy Chase

Connecticut Ave & Virgilia St

7400 Connecticut Ave, Chevy Chase

Connecticut Ave & Thornapple St

7200 Connecticut Ave, Chevy Chase

Connecticut Ave & Taylor St

Connecticut Avenue, Montgomery County

Connecticut Ave & Shepherd St

6818 Connecticut Ave, Chevy Chase

Connecticut Ave & Rosemary St

6800 Connecticut Ave, Chevy Chase

Connecticut Ave & Quincy St

Connecticut Ave & Lenox St

6000 Connecticut Ave, Washington

Connecticut Ave & Irving St

5900 Connecticut Ave, Washington

Western Ave & Oliver St

5636 Western Ave, Washington

Western Ave & Cedar Pkwy

5604 Western Ave, Washington

Nw Western Av & Nw Livingston St

5500 Western Ave, Montgomery County

Friendship Hts Station

28 Wisconsin Cir, Washington

L8 bus time schedules and route maps are available in an offline PDF at [moovit.com](https://www.moovit.com). Use the [Moovit App](#) to see live bus times, train schedule or subway schedule, and step-by-step directions for all public transit in Washington, D.C. - Baltimore, MD.

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THE MONTGOMERY COUNTY **BICYCLE MASTER PLAN**

PLANNING BOARD DRAFT | MAY 2018

Contact

Montgomery County Planning Department (M-NCPPC)
8787 Georgia Ave
Silver Spring, MD 20910

MontgomeryPlanning.Org/BikePlan

Cover Photos

From left to right:

1. Michael Jackson
2. Montgomery County Planning Department
3. Lynn Ho
4. Scott Willets

Abstract

The Bicycle Master Plan contains the text and supporting maps and tables for a comprehensive amendment to the 1978 Master Plan of Bikeways, 2005 Countywide Bikeways Functional Master Plan and all bikeway recommendations in past functional plans, area master plans and sector plans, bringing Montgomery County in line with leading practices in bicycle planning. The plan is a key element in Montgomery County's Vision Zero Two-Year Action Plan to eliminate traffic-related fatalities and serious injuries.

This plan makes recommendations for a low-stress network of bikeways throughout Montgomery County. The goal of this system is to ensure cyclists of all ages and abilities are comfortable and safe riding to transit stations, employment centers, shops, public facilities and other destinations in Montgomery County.

A new classification system is proposed in the plan to evaluate cycling routes based on their level of separation from traffic. A new concept, the Breezeway Network, is recommended to create a high-capacity system of arterial bikeways between major activity centers. This network allows faster bicyclists to travel with less delay and is one in which all users – including slower moving bicyclists and pedestrians – can safely and comfortably coexist.

Long-term bicycle parking stations are recommended at all Metrorail Red Line and many MARC Brunswick Line, future Purple Line and Corridor Cities Transitway stations to encourage bicycling to transit.

In addition, this plan recommends capital, educational and outreach programs, and a legal and policy framework to encourage bicycling.

Source of copies

The Maryland-National Capital Park and Planning Commission
8787 Georgia Avenue
Silver Spring, MD 20910

Online at montgomeryplanning.org/bikeplan

EXECUTIVE SUMMARY

- The Bicycle Master Plan is a **comprehensive overhaul** of the 1978 Master Plan of Bikeways, 2005 Countywide Bikeways Functional Master Plan and all bikeway recommendations in past functional plans, area master plans and sector plans, bringing Montgomery County in line with leading practices in bicycle planning.
- To create a world-class bicycling community, this plan focuses on **four key goals**: 1) increasing bicycling rates in Montgomery County, 2) creating a highly-connected, convenient and low-stress bicycling network, 3) providing equal access to low-stress bicycling for all members of the community, and 4) improving the safety of bicycling.
- This plan recommends an **extensive network of low-stress bikeways** in Montgomery County. This will create an environment where people of all ages and bicycling abilities feel comfortable and safe riding bicycles to work, shop, transit, public facilities and other destinations in the county.
- A **new bikeway classification system** is proposed to organize bikeways based on their level of separation from traffic. The system ranges from trails, which are fully separated from traffic, to shared roads, where it is appropriate for bicycles and automobiles to share the same space.
- After applying the **Level of Traffic Stress** methodology to Montgomery County's road network, appropriate bikeway recommendations were selected to create a low-stress bicycling network. The 1,100-mile network of bikeways includes 573 miles of sidepaths, 172 miles of trails, 128 miles of bike-able shoulders, 99 miles of separated bike lanes and 48 miles of neighborhood greenways. More than one-quarter of this network currently exists.
- The plan uses a **data-driven approach** to assess the amount of discomfort that people feel when they bicycle close to traffic on roads in the county. Currently, 14 percent of potential bicycling trips can be made on a low-stress bicycling network in Montgomery County. This plan aims to increase this measure of low-stress connectivity to 55 percent by 2043.
- A new concept, the **Breezeway Network**, is recommended as a high-capacity network of arterial bikeways between major activity centers, enabling bicyclists to travel with fewer delays, and where all users – including slower moving bicyclists and pedestrians – can safely and comfortably coexist.

EXECUTIVE SUMMARY

- To complement the low-stress bicycling network, the plan recommends **abundant and secure bicycle parking**. These facilities include bicycle parking stations at all Metrorail Red Line stations and at the higher demand MARC, future Purple Line and Corridor Cities Transitway (CCT) stations. The plan also includes guidelines for short-term and long-term bicycle parking at commercial and multi-family residential developments.
- The innovative **Bicycle Facility Design Toolkit** is included to guide planners and designers on building high-quality bikeways and intersections.
- A strategic, thoughtful and effective **outreach program** was executed for the plan with traditional and new ways to engage with the community. This outreach included a stress-reducing coloring book to educate the public about bicycle facility types, a bicycling photo contest to collect real-world examples of bicycling in Montgomery County and multiple online maps for crowdsourced feedback and documenting of bicycling conditions.
- To encourage bicycling, the plan recommends bicycle-supportive **programs and a legal and policy framework**.
- The plan creates a **two-step approach to implementing** networks of **separated bike lanes** in urban areas of the county. In the first step, the county constructs low-cost separated bike lanes through retrofits to existing roads. Over time, these bikeways are upgraded as part of development approvals and county facility planning studies. These permanent designs will incorporate more aesthetically pleasing treatments and stormwater management, and increase the capacity of the bikeways.
- The plan creates a new approach to understanding **potential bicycle demand** by converting the regional travel demand model to a potential demand model for bicycling. This analysis was a primary factor in prioritizing bikeway recommendations.
- A **biennial monitoring report** will track progress in implementing the Bicycle Master Plan's vision. The report sets goals, objectives, metrics and targets that enable transparency and accountability in plan implementation.
- The plan is a key element in Montgomery County's **Vision Zero Action Plan** to eliminate traffic-related fatalities and serious injuries by 2030.

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Photo: City of Calgary Bike Program

INTRO



The Bicycle Master Plan sets the stage for a cultural shift, encouraging people of all ages and bicycling abilities to meet their daily needs by bicycle. Cycling to work, stores, schools and transit or going for a leisurely ride on the weekend will be so embedded in our way of life that bicycling will be considered a mainstream mode of transportation.

The Bicycle Master Plan paves the way for safe, comfortable and accessible bicycling throughout Montgomery County. Appropriate bikeways are recommended in response to the amount of stress that traffic creates on each road. On busy roads, bicyclists will have dedicated space separated from traffic. On residential streets, they will be able to comfortably share the road. Between activity centers, people will be able to travel comfortably and efficiently on a “breezeway network,” where faster moving bicyclists are able to travel with fewer delays, and where all users – including slower moving bicyclists and pedestrians – can safely and comfortably coexist. In rural areas of the County, a network of bikeable shoulders is recommended for recreational bicyclists who prefer to ride on the road.

Investing in bicycling is highly desirable for Montgomery County as it is a healthful, environmentally-friendly and cost-effective mode of transportation that will help the county achieve its climate change goals, an amenity for achieving a higher quality of life and a tool for economic development. With targeted investments, it is realistic to expect that much of the daily travel in Montgomery County can be made by bicycle, since half of all trips in the county are 3.5 miles or shorter, about a 20 to 25-minute bike ride for most people.

Creating this world-class bicycling community requires a commitment on many levels. Leading bicycling communities have integrated bicycle planning and implementation into their decision-making processes, established innovative bicycle facility design guidelines and made steady investments in bicycling infrastructure, block by block and curb by curb, to build their networks. In some ways, many of these communities have integrated bicycling so deeply into their transportation planning processes that a separate bicycle master plan is superfluous.

But there are significant obstacles to overcome. Foremost is a culture that has prioritized automobile travel over walking and bicycling, and mobility over safety for much of the past 70 years. Montgomery County has a road network where about 75 percent of the street mileage is comfortable for most people to bicycle on. But these streets largely represent “islands of connectivity” that are separated by arterial roads and environmental features, such that only about 14 percent of potential bicycling trips can be made on a comfortable bicycling network today.

An ideal plan vision reflects the unique priorities of its communities and sets goals that are served by clear and coherent strategies. The Bicycle Master Plan vision will be achieved through a robust network of low-stress bike-ways and bicycle parking that prioritizes bicycling as a mode of travel for people of all ages and bicycling abilities. And it establishes policies and programs that integrate bicycling into decision-making at all levels.

The ultimate impact of a well-made plan is dependent on the degree to which it is implemented. The Montgomery County Bicycle Master Plan is the starting point for achieving this vision. It is up to the elected officials, department heads, staff, advocacy groups and committed citizens to make this plan a reality.

It's time to connect neighborhoods, protect bike lanes and treat bicycling with the same thoughtfulness and skill applied to roads and intersections for motor vehicles. Everyone deserves the opportunity for safe, convenient and direct ways of traveling by bicycle. This master plan advances that vision by taking bicycle planning to the next level.

Not only is biking to work vastly healthier and cheaper than the alternative of cars or public transportation, but it also has far-reaching effects that extend past the individual level. People who cycle to work will relieve increasing healthcare costs. Less cars on the road means less traffic, less pollution and, most importantly, a more productive community for employers.

JIM YOUNG, VICE PRESIDENT OF CORPORATE FACILITIES AND REAL ESTATE,
MARRIOTT INTERNATIONAL

HOW TO BUILD A WORLD-CLASS BICYCLING COMMUNITY IN MONTGOMERY COUNTY



Abundant and Secure Bicycle Parking

Monitoring of Implementation

Low-Stress Bicycle Network

Bicycle-Supportive Legal and Policy Framework

Cutting-Edge Bikeway Design Standards

Breezeway Network



Community residents participate in a group bike ride. Photo: Lynn Ho.



MASTER PLAN PURPOSE

The Bicycle Master Plan sets forth a vision for Montgomery County as a world-class bicycling community, where people in all areas of the county have access to a comfortable, safe and connected bicycle network, and where bicycling is a viable transportation option that improves the quality of life.

The plan focuses on increasing bicycling among what surveys consistently reveal as a majority of the public who would like to bicycle more but are concerned for their safety. These people are less tolerant of riding close to traffic and require physical separation from the road to be comfortable riding on wider and faster streets. They represent about 50 percent of the population and, therefore, present the greatest opportunity to increase bicycling in Montgomery County.

MASTER PLAN FRAMEWORK

The Bicycle Master Plan is organized into four sections. These sections are described below.



DEFINING THE VISION

Imagines a future that provides access to a comfortable, safe and connected bicycle network, and expresses that vision through the goals and objectives of the plan.



ACHIEVING THE VISION

Presents specific actions that the government, property owners, stakeholders and the public can take to fulfill the vision. These actions include establishing bicycling-supportive infrastructure, programs and policies needed to make the vision a reality.



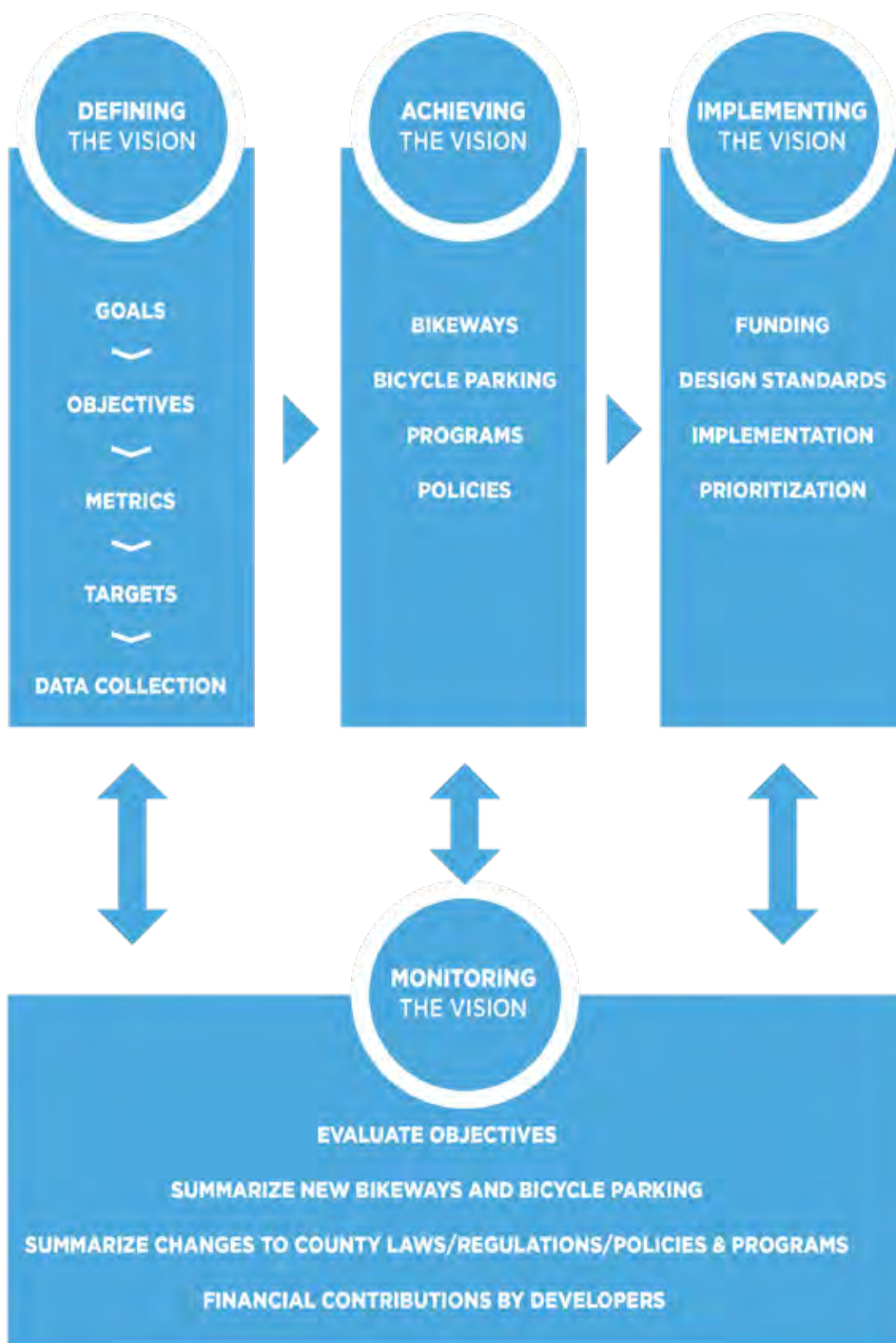
IMPLEMENTING THE VISION

Explains how bicycling will be incorporated in all aspects of decision-making. Developing design standards to ensure high-quality bikeway design, leveraging public and private projects to incorporate the proposed bicycling network, and establishing funding mechanisms are some of the ways of implementing the recommendations in this plan.




MONITORING THE VISION

Sets up an ongoing monitoring program to track how well the vision of the plan is fulfilled by regularly assessing progress in reaching the targets for each metric in the plan. This monitoring program supports the implementation of the plan by providing an ongoing assessment of how effective Montgomery County is in creating the bicycle environment envisioned in the plan.



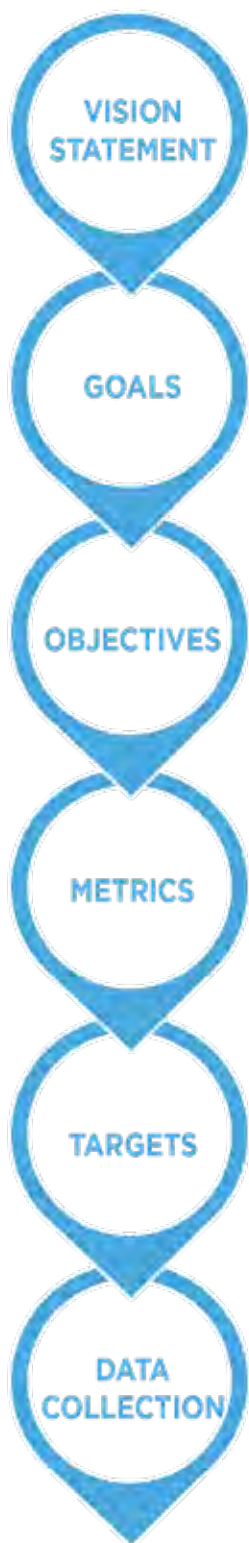


DEFINING THE VISION



The Bicycle Master Plan begins by envisioning a future where all residents have access to a comfortable, safe and connected bicycle network, and expressing that vision through the goals and objectives of this plan.

Defining a vision for the Bicycle Master Plan does not simply mean stating the goals on paper. It also lays the foundation for a comprehensive monitoring program, which supports the implementation of the plan by providing an ongoing assessment of how effective Montgomery County is in meeting the plan's goals and objectives over the next 25 years. The components of the Bicycle Master Plan vision are clear and measurable.



The **vision statement** paints a clear picture of what the plan is intended to achieve. It is further explained through goals that identify the conditions needed to achieve the vision statement.

Goals are broad conditions that must be met to achieve the plan's vision. They are general and brief, and can always be improved. Goals do not prejudge a solution, but rather articulate the conditions that might lead to a particular solution. Each goal is described by one or more objectives that indicate the steps that need to be taken to advance that goal. Goals are only as effective as the objectives that shape them.

Objectives are specific conditions that must be met to advance a goal. They are achievable, measurable and time-specific. Objectives are effective when they show a meaningful change among different scenarios. They do not prejudge a solution, but rather articulate the conditions that might lead to a particular solution. Objectives are more likely to be assessed when they are carefully defined, avoid subjective interpretation and do not require substantial new data collection.

Metrics are the standards of measurement applied to objectives. They determine the data needed to assess how well the objectives are being met.

Targets are specific numbers in the objectives that are to be achieved.

Data Collection is the gathering of specific information required to assess each metric. It indicates the source of the data and whether the data is currently available, could be available with modifications to existing survey instruments or needs to be collected through a new survey.

THE VISION

Montgomery County will become a world-class bicycling community. Everyone in Montgomery County will be able to travel by bicycle on a comfortable, safe and connected bicycle network. Bicycling will become a viable transportation option and will elevate the quality of life in the county.



GOALS, OBJECTIVES, METRICS AND TARGETS

The vision is defined by four goals.



GOAL 1

Increase bicycling rates in Montgomery County.



GOAL 2

Create a highly-connected, convenient and low-stress bicycling network.



GOAL 3

Provide equal access to low-stress bicycling for all members of the community.



GOAL 4

Improve the safety of bicycling.



Photo: Michael Tercha/Chicago Tribune



GOAL 1

INCREASE BICYCLING RATES IN MONTGOMERY COUNTY

The most important measure of success for the Bicycle Master Plan is the extent to which the amount of bicycling increases in Montgomery County. Goal 1 evaluates how bicycling increases over time among different groups of people, destinations and trip types. Success in advancing this goal is largely driven by success in advancing the other three goals of the plan and, therefore, the recommendations for bikeways, bicycle parking, policies and programs.

1.1

OBJECTIVE

By 2043, 8 percent of commuter trips by Montgomery County residents will be by bicycle, up from 0.6 percent in 2016.

METRIC

Percentage of residents who commute by bicycle.

DATA REQUIREMENT (SOURCE)

- Method of transportation that people use for the longest distance segment of their trip to work (American Community Survey).

Note: A county-led data collection effort may be needed if the American Community Survey fails to meet the data needs of this objective.

1.2

OBJECTIVE

By 2043, the percentage of people who commute by bicycle to a Montgomery County Transportation Management District (TMD) will be:

- TBD percent in the Silver Spring TMD.
- TBD percent in the Bethesda TMD.
- TBD percent in the Friendship Heights TMD.
- TBD percent in the North Bethesda TMD.
- TBD percent in the Greater Shady Grove TMD.
- TBD percent in the White Oak TMD.

METRIC

Percentage of commuters who bicycle to a Transportation Management District.

DATA REQUIREMENT (SOURCE)

- Number of respondents who bicycle to work by Transportation Management District (requires changes to the existing commuter survey).
- Number of respondents by Transportation Management District (commuter surveys).

Note: Montgomery County Commuter Services will be modifying the annual commuter survey to capture this information. Targets for the objective can be established once the baseline data is available.

1.3

OBJECTIVE

By 2043, the percentage of people who access a transit station by bicycle during the AM peak period will be:

- 10 percent for Red Line stations, up from 1.5 percent in 2016.
- TBD percent for Brunswick Line stations, up from TBD percent in 2016.
- TBD percent for Purple Line stations.
- TBD percent for Corridor Cities Transitway stations.

METRIC

Percentage of transit boardings during the AM peak period where the transportation mode of access is bicycle for the Metro Red Line, MARC Brunswick Line, Purple Line and Corridor Cities Transitway.

DATA REQUIREMENT (SOURCE)

- Number of boardings at each Red Line, Brunswick Line, Purple Line and Corridor Cities Transitway station by mode of transportation.

1.4

OBJECTIVE

By 2043, the percentage of public school students who bicycle to school will be:

- TBD percent for elementary schools.
- TBD percent for middle schools.
- TBD percent for high schools.

METRIC

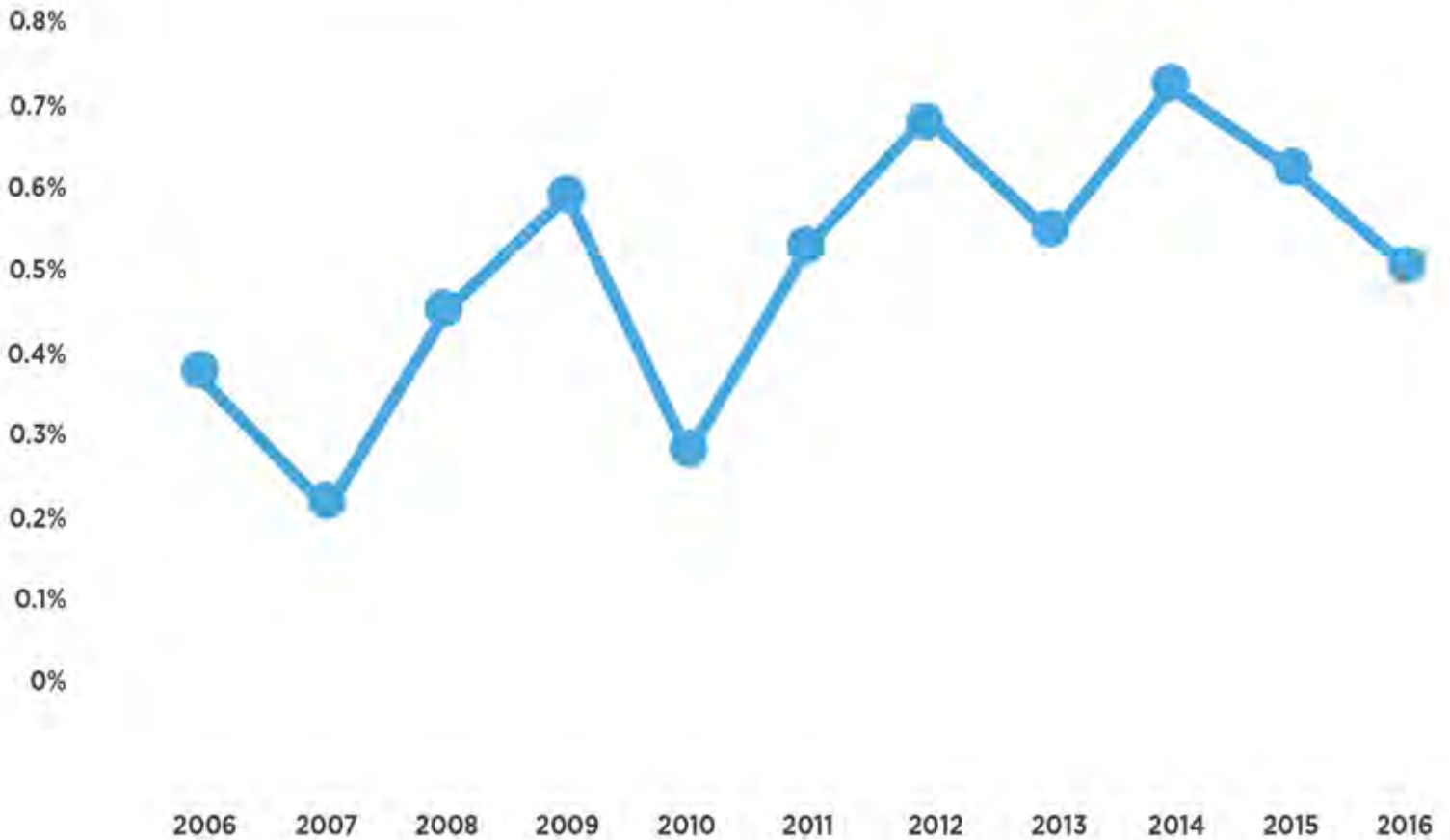
Percentage of public school students who bicycle to elementary, middle and high schools.

DATA REQUIREMENT (SOURCE)

- The number of elementary, middle and high school students who bicycle to schools (requires new survey conducted by Montgomery County Public Schools).

Note: Montgomery County Public Schools does not yet collect data on bicycling to school. Targets for this objective can be established once the baseline data is available.

OBJECTIVE 1.1: EXISTING PERCENTAGE OF RESIDENTS WHO COMMUTE TO WORK VIA BIKE IN MONTGOMERY COUNTY



Source: American Community Survey, Means of Transportation to Work (1-Year Estimates)

While bicycling represents only a small share of the trips to work by Montgomery County residents, it is growing. With the emergence of a robust bicycling network connecting people to jobs and transit, this number will continue to increase.



Montgomery County Planning Department Bicycle Stress Map



GOAL 2

CREATE A HIGHLY CONNECTED, CONVENIENT AND LOW-STRESS BICYCLING NETWORK

Bicycling can become a mainstream mode of transportation in Montgomery County if a low-stress network is developed that enables people to travel by bicycle to the places they want to go. While about 75 percent¹ of the roads in the county are already low-stress, they are often surrounded by high speed and high volume roads or difficult intersections, effectively creating islands of connectivity. Where feasible, reductions in traffic lanes and speeds can link these islands; where infeasible, bicycle infrastructure, such as sidepaths, separated bike lanes and conventional bike lanes, are needed to connect the network.

Simply providing a comfortable bicycling network is insufficient if people do not have a secure place to leave their bicycles when they get to their destinations. This goal also considers bicycle parking at major destinations, such as transit stations, commercial areas and public facilities, including schools, libraries and recreation centers.

¹ Based on a Level of Traffic Stress evaluation of all roads where it is legal to bicycle in Montgomery County.

2.1

OBJECTIVE

By 2043, 55 percent of potential bicycle trips will be able to be made on a low-stress bicycling network.

METRIC

Percentage of potential bicycle trips will be able to be made on a low-stress bicycling network.

DATA REQUIREMENT (SOURCE)

- Level of Traffic Stress Network (M-NCPPC).
- Regional Travel Demand Model Trip table (M-NCP-PC).
- Bicycle trip length decay function (MWCOC Household Travel Survey).
- Location of dwelling units (M-NCPPC).

Note: See Appendix D for a description of Level of Traffic Stress.

2.2

OBJECTIVE

By 2043, the level of low-stress connectivity to each transit service, defined as the percentage of dwelling units within two miles of each transit station that are connected to the transit station on a low-stress bicycling network, will be:

- 65 percent for Red Line stations, up from 9 percent in 2018.
- 55 percent for Brunswick Line stations, up from 12 percent in 2018.
- 70 percent for Purple Line stations, up from 4 percent in 2018.
- 40 percent for Corridor Cities Transitway stations, up from 0 percent in 2018.

METRIC

Percentage of dwelling units within 2 miles of each Red Line, Brunswick Line, Purple Line and Corridor Cities Transitway station that are connected to the transit station on a low-stress bicycling network.

DATA REQUIREMENT (SOURCE)

- Level of Traffic Stress Network (M-NCPPC).
- Location of existing and planned Metrorail, MARC and Purple Line stations (M-NCPPC).
- Location of dwelling units (M-NCPPC).

Note: Analysis evaluates connectivity based on a “network” distance of two-miles from the transit station.

2.3

OBJECTIVE

By 2043, the level of very low-stress connectivity to each public school, defined as the percentage of dwelling units within one mile of elementary schools, 1.5 miles of middle schools and 2 miles of high schools that are connected to the school on a very low-stress bicycling network, will be:

- 45 percent for elementary schools, up from 39 percent in 2018.
- 35 percent for middle schools, up from 25 percent in 2018.
- 25 percent for high schools, up from 13 percent in 2018.

METRIC

Percentage of dwelling units within one mile of elementary schools, 1.5 miles of middle schools and 2 miles of high schools that are connected to the schools on a very low-stress bicycling network.

DATA REQUIREMENT (SOURCE)

- Level of Traffic Stress Network (M-NCPPC).
- Location of Montgomery County public schools (M-NCPPC).
- School service areas (M-NCPPC).
- Location of dwelling units (M-NCPPC).

Note: Analysis evaluates connectivity based on an “as the crow flies” distance of from each school, as that is how Montgomery County Public Schools determines their busing zones.

2.4

OBJECTIVE

By 2043, the level of low-stress connectivity to public libraries, recreation centers and regional / recreational parks, defined as the percentage of dwelling units within two miles of these public facilities that are connected to the public facility on a low-stress bicycling network, will be:

- 50 percent for public libraries, up from 8 percent in 2018.
- 35 percent for recreation centers, up from 13 percent in 2018.
- 50 percent for regional / recreational parks, up from 27 percent in 2018.

METRIC

Percentage of dwelling units within 2 miles of public libraries, recreation centers and regional / recreational parks that are connected to the public facility on a low-stress bicycling network.

DATA REQUIREMENT (SOURCE)

- Level of Traffic Stress Network (M-NCPPC).
- Location of public libraries (M-NCPPC).
- Location of recreation centers (M-NCPPC).
- Location of regional and recreational parks (M-NCPPC).
- Location of dwelling units (M-NCPPC).

Note: Analysis evaluates connectivity based on a “network” distance of two-miles from the public facility.

2.5

OBJECTIVE

By 2043, 11 Red Line stations, 5 Brunswick Line stations, 7 Purple Line stations and 3 Corridor Cities Transitway stations will have bicycle parking stations in Montgomery County.

METRIC

Number of rail stations in Montgomery County with a bicycle parking station.

DATA REQUIREMENT (SOURCE)

- Location of bicycling parking stations (M-NCPPC).

2.6

OBJECTIVE

By 2043, 100 percent of Montgomery County public schools will have one short-term bicycle parking space for every 20 students of planned capacity, with bicycle parking styles that are acceptable per the Association of Pedestrian and Bicycle Professionals *Bicycle Parking Guidelines, 2nd Edition*.

METRIC

Percentage of Montgomery County public schools that have at least one short-term bicycle parking space for every 20 students of planned capacity, with bicycle parking styles that are acceptable per established guidelines, such as the Association of Pedestrian and Bicycle Professionals *Bicycle Parking Guidelines, 2nd Edition*.

DATA REQUIREMENT (SOURCE)

- Number of bike racks at each Montgomery County public school (RackSpotter, www.rackspotter.com).
- Planned capacity at each Montgomery County public school (MCPS).

2.7

OBJECTIVE

By 2043, 40 percent of blocks in 19 Bicycle Pedestrian Priority Areas will have the number of short-term bicycle parking spaces required by the zoning code.

METRIC

Percentage of blocks in 19 bicycle pedestrian priority areas that have the number of short-term bicycle parking spaces required by the current zoning code.

DATA REQUIREMENT (SOURCE)

- Number and locations of bike racks in Montgomery County (RackSpotter, www.rackspotter.com).
- Short-term bicycle parking requirements by zoning category (Montgomery County Planning Department).
- Existing land use in commercial areas (Montgomery County Planning Department).

2.8

OBJECTIVE

By 2043, 100 percent of Montgomery County public libraries and recreation centers will have one short-term bicycle parking space per 8,000 square feet of floor area, with bicycle parking styles that are acceptable per the Association of Pedestrian and Bicycle Professionals *Bicycle Parking Guidelines, 2nd Edition*.

METRIC

Percentage of Montgomery County public libraries and recreation centers with at least one short-term bicycle parking space per 8,000 square feet of floor area, with bicycle parking styles that are acceptable per established guidelines, such as the Association of Pedestrian and Bicycle Professionals' *Bicycle Parking Guidelines, 2nd Edition*.

DATA REQUIREMENT (SOURCE)

- Number and locations of bike racks in Montgomery County (RackSpotter, www.rackspotter.com).
- Number and location of libraries and recreation centers (M-NCPPC).
- Square feet of floor area per library and recreation center (Montgomery County Department of General Services).





Bike Lane on Carroll Avenue, Takoma Park



GOAL 3

PROVIDE EQUAL ACCESS TO LOW-STRESS BICYCLING FOR ALL MEMBERS OF THE COMMUNITY

Equal access to low-stress bicycling for all members of the community, including people with incomes below the average median income for Montgomery County, is a critical aspect of a world-class bicycling network.

3.1

OBJECTIVE

By 2043, the percentage of bicycle trips that can be made on a low-stress bicycling network in US census tracts where the median income is below 60 percent of the county average median income will be the same as or greater than the county overall.

METRIC

Ratio of potential bicycle trips that can be made on a low-stress bicycling network in US census tracts where the median income is below 60 percent of the county average median income compared to the rest of the county.

DATA REQUIREMENT (SOURCE)

- Level of Traffic Stress Network (M-NCPPC).
- Regional Travel Demand Model Trip table (M-NCPPC).
- Bicycle trip length decay function (MWCOC Household Travel Survey).
- Location of dwelling units (M-NCPPC).
- Census tracts where the median income is below 60 percent of the county average median income (US Census).



GOAL 4

IMPROVE THE SAFETY OF BICYCLING

The intent of this goal is to make bicycling safe by eliminating serious injuries and fatalities. While safety can be improved by taking active measures to reduce travel speeds and providing separation from traffic, this goal will be evaluated by reactive metrics based on crash reports.

4.1

OBJECTIVE

By 2030, eliminate bicycling fatalities and serious injuries.

METRIC

The number of bicycling fatalities and serious injuries per year.


DATA REQUIREMENT (SOURCE)

- Bicycle crash reports (Montgomery County CountyStat).



Photo: Toole Design Group

ACHIEVING THE VISION



This section of the Bicycle Master Plan offers recommendations on how to achieve the plan's vision. It includes concrete actions that government, property owners, stakeholders and the public can take to fulfill the vision. Recommendation for a network of bikeways and bicycle parking, and bicycling-supportive programs and policies are included in this section.



Bicycle-supportive infrastructure focuses on a highly-connected and low-stress **bikeway network**. This network includes physical improvements on higher stress roads so that the 75 percent of roads and trails in Montgomery County that are already appropriate for people of all ages and bicycling abilities can be connected.

Bicycle-supportive infrastructure also includes abundant and secure **bicycle parking**, since many people will not ride a bicycle if they are concerned that their parked bicycle will be damaged or stolen. This infrastructure includes privately maintained bicycle parking spaces at residential and commercial buildings, and publicly maintained parking spaces at activity centers, such as transit stations, employment centers and commercial areas.

Bicycle programs encourage bicycling by identifying bicycle-supportive events, services, opportunities and projects. They include bikeway funding programs, the county's bikeshare program and a proposed BikeMontgomery outreach program.

Bicycle policies guide actions taken by the government that affect bicycling, including laws, policies, regulations, standards and guidelines. They include Montgomery County's context-sensitive road design standards and local land use laws.

The more commuter options available in a development equates to a more attractive project for potential tenants and their employees. Bicycle facilities in a project provide a healthy, economic alternative to the single occupant vehicle."

ALAN H. GOTTLIEB, CHIEF OPERATING OFFICER, LERNER ENTERPRISES

BIKEWAYS

Although many trips are short enough to be made by bicycle, most are made by private vehicles². One barrier to bicycling is what is known as “traffic stress.”³ The concept of traffic stress is that people have a certain tolerance for bicycling near traffic, and if that tolerance is exceeded even for a short distance, they may be deterred from bicycling. In order to attract the broadest segment of the population to bicycle, Montgomery County will need to create a bicycling network that does not exceed most people’s tolerance for traffic stress and does not require an excessive level of detour.

While currently about 75 percent of street mileage in Montgomery County is low-stress, these streets largely represent “islands of connectivity” that are separated by arterial roads and environmental features. The Bicycle Master Plan addresses Goal 2 and Goal 3 by recommending a network of low-stress bikeways to connect residential communities to the places that people want to go in Montgomery County, including transit stations, employment centers, stores, public facilities and other destinations.

Recent national surveys separate people into different traffic stress tolerance levels⁴. Those who tolerate a high level of traffic stress are comfortable bicycling on most streets, including major highways. These so-called “strong and fearless” bicyclists account for about 7 percent of the population. Those who tolerate a moderate level of traffic stress are comfortable bicycling on major highways and arterial roads with bike lanes. These “enthused and confident” bicyclists account for about 5 percent of the population. Those who tolerate a low level of traffic stress are comfortable on residential streets, trails and major highways / arterial roads with bikeways that are separated from traffic. These “interested but concerned” bicyclists account for about 51 percent of the population and include children. About 37 percent of the population is not interested in bicycling for various reasons.

THE FOUR TYPES OF TRANSPORTATION CYCLISTS⁵

7%

STRONG & FEARLESS

Very comfortable on non-residential streets without bike lanes.

5%

ENTHUSED & CONFIDENT

Very comfortable on non-residential streets with bike lanes.

51%

INTEREST BUT CONCERNED

Less than very comfortable on non-residential streets with or without bike lanes.

37%

NO WAY, NO HOW

Everyone else.

² The median trip per the 2007 / 2008 regional household survey is 3.5 miles or less – about a 20 to 25-minute bike ride for most people.

³ The concept of traffic stress is described and quantified in Mekuria, Maaza, Peter G. Furth, and Hilary Nixon, Low-Stress Bicycling and Network Connectivity, San Jose, CA: Mineta Transportation Institute, 2012. A modified version of the Level of Traffic Stress methodology used for the analysis in this master plan is available in Appendix D.

⁴ Jennifer Dill and Nathan McNeil, “Revisiting the Four Types of Cyclists: Findings from a National Survey,” Transportation Research Record: Journal of the Transportation Research Board, Volume 2587, 2017.

⁵ While these survey results represent the 50 largest metropolitan areas in the United States, they may not be representative of Montgomery County. However, multiple studies make clear that the “interested but concerned” group represents the largest group of bicyclists.



A low-stress bicycling network will increase both perceived and actual safety. When a separated bike lane is constructed in an urban environment, most people will perceive that they are safer bicycling in the bike lane, because it is separated from traffic. Perceived safety increases actual safety when it attracts greater bicycling. Due to the “safety in greater numbers” effect, motorists become more vigilant as they become conditioned to look for bicyclists.

To execute a network of low-stress bikeways that is appropriate for the diverse communities in Montgomery County, the Bicycle Master Plan is organized around five main types of bicycling trips:

- **Trips between activity centers** tend to be longer distance and, in the plan, will be centered on the Breezeway Network. This high-capacity, multispeed network of arterial bikeways enables faster bicyclists to comfortably, conveniently and safely travel with slower bicyclists and pedestrians.
- **Trips to activity centers** from suburban areas will typically be less than 3 miles and will focus on getting people from residential areas to commercial centers and transit stations on a network largely consisting of neighborhood greenways and sidepaths. This network will be complemented by abundant and secure bicycle parking at transit stations and commercial locations.
- **Trips within urban areas** will typically be less than 1 mile and will include travel to work, shopping, entertainment and transfers to transit stations on a network of separated bike lanes and trails. These trips will include bicycle parking at transit stations and commercial locations as well as the county’s bikeshare program.
- **Trips to county facilities**, such as schools, libraries, recreation centers and parks, will focus on providing safe accommodation for children and, therefore, will require a very low level of traffic stress. These bikeways consist of a network of sidepaths, neighborhood greenways and trails in suburban areas, and separated bike lanes and trails in urban areas. These trips will include abundant and secure bicycle parking at all public facilities.
- **Recreational trips**, especially those in rural areas, will often include long-distance trips by individuals and groups where bikeable shoulders of consistent widths are particularly appealing.

Some confident cyclists prefer bike accommodations that support even faster, more efficient travel between destinations. They are willing to sacrifice some separation from traffic in order to maintain continuously higher speeds, avoid pedestrian conflicts, bypass obstacles, and maintain right-of-way at intersections. They may want to enter, exit, and re-enter the bikeway freely, and they can find separated bikeways cumbersome to navigate. Many separated bikeways may be inappropriate for the speeds they travel. Such riders often prefer accommodations that are moderate in stress but not high stress, including striped bike lanes, bikeable shoulders and non-residential shared roadways. In addition, many recreational riders prefer riding in such facilities, especially outside urban centers and in parks.

Therefore, this plan provides the following guidance: Where space is available and does not substantially detract from the default bikeway, conflict with another master plan recommendation or exceed the master plan right-of-way, bike lanes or bikeable shoulders can be added in addition to the default bikeway, in some cases overlapping with on-street parallel parking.

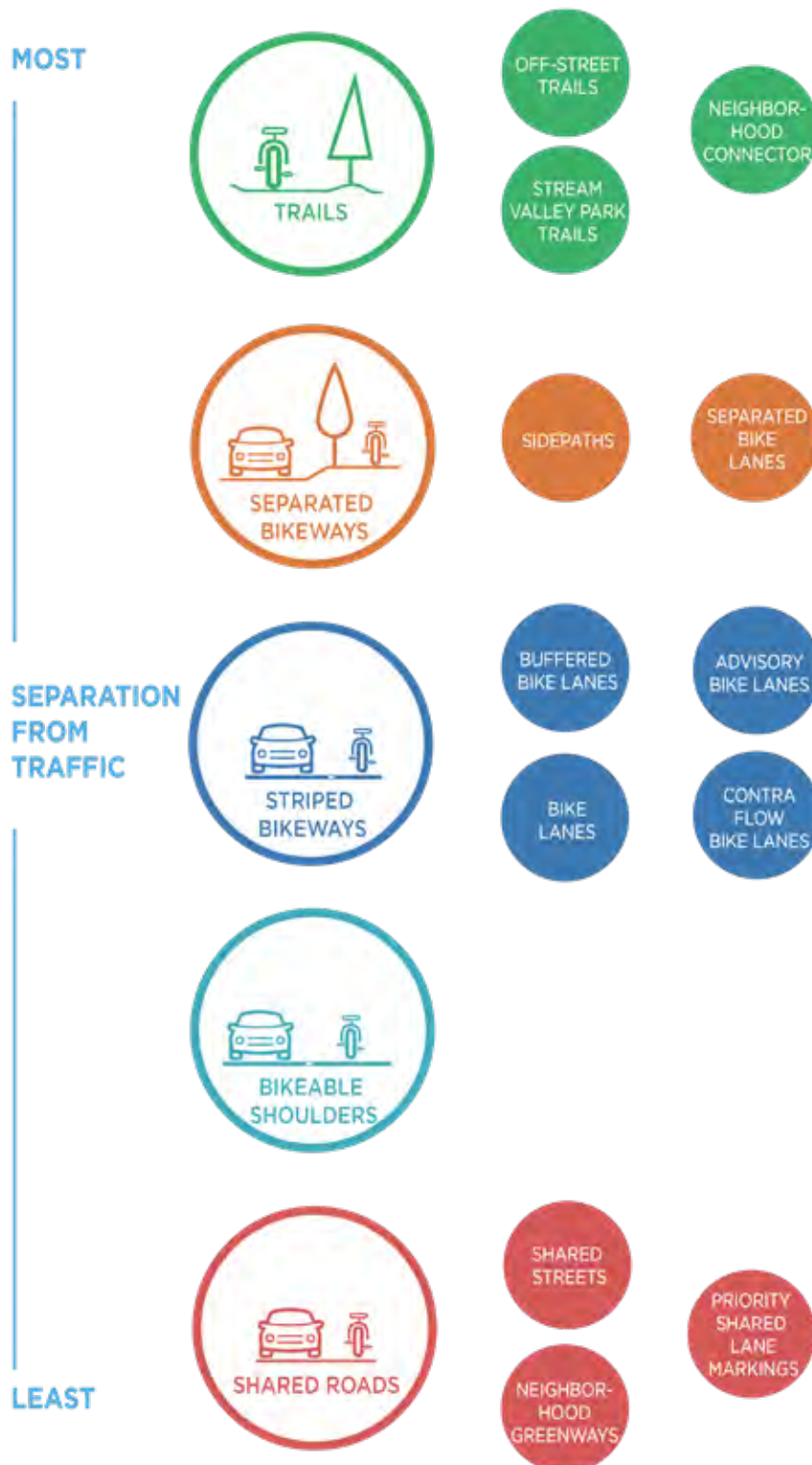
Moreover, before taking away existing shoulders or parking lanes, road designers and future planners should be cognizant that cyclists often ride in these spaces, even if they are not specifically identified as bikeways in this plan.

In addition, this plan specifically recommends several roads as having two bike facility types – both a separated bikeway (such as a sidepath) and unseparated bikeway (such as conventional bike lanes and bikeable shoulders). These are typically roads that have existing shoulders or bike lanes frequently used by cyclists.



BIKEWAY FACILITY CLASSIFICATIONS

A new bikeway facility classification system is proposed for Montgomery County as part of this plan. This system organizes bikeways into five facility classifications based on their level of separation from traffic. These five classifications are then subdivided into bikeway types and are explained on the following pages and in Appendix B.







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 very 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, trails can be widened to between 15 and 24 feet wide.

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

Photo: Capital Crescent Trail



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 using other non-motorized modes.

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 rail-road 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 Maryland-National Capital Park and Planning Commission (M-NCPPC) stream valley park that provide two-way travel for people walking, bicycling and using other non-motorized modes of transportation.

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



A neighborhood connector on Hempstead Avenue

Neighborhood Connectors



Neighborhood connectors are short paths that provide critical connections in the residential walking and bicycling network. They create short-cuts and often bypass or minimize the amount of travel along higher-stress streets. In most instances, neighborhood connectors are owned by private entities, especially homeowner associations. About one-third of neighborhood connectors are in the public right-of-way or owned by the Montgomery County Board of Education or the Maryland-National Capital Park and Planning Commission. Many neighborhood connectors need to be upgraded, by paving a dirt or a gravel surface, repaving a surface that has deteriorated over time or widening the pathway to meet the requirements of the Americans with Disabilities Act (ADA).

Benefits

- Provide a short path for walking and bicycling.

Typical Application

- Located within residential communities.

Examples in Montgomery County

- See Appendix J



Photo: Kenneth Woodard
Best Commuter Picture
Bicycle Master Plan Photo Contest



Separated Bikeways

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

In general, separated bike lanes are recommended in higher activity areas. Sidepaths are recommended in lower activity areas. Higher activity areas include those parts of the county zoned Commercial-Residential (CR), Life Sciences Center (LSC) or their floating zone equivalents, or that are located within 0.5 miles of a rail station. Areas that are zoned R-10, R-20, R-30 (multifamily residential zones) and RT (townhouse zones) are considered higher activity areas if they are adjacent to properties that are zoned CR, LSC or floating zones, or located near rail stations. All other areas of the county are considered lower activity areas.

Q TYPICAL APPLICATION



TRAFFIC LANES
3+ LANES



POSTED SPEED
LIMIT
**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**



Separated bike lanes on Woodglan Drive, North Bethesda



Sidepath on Key West Avenue in the Life Sciences Center

Sidepaths



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

Benefits

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

Typical Application

- See page 48.
- Adjacent to the roadway.
- Recommended in lower activity areas (see page 66), with higher traffic volumes and speeds.

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, as discussed on pages 126 to 135.

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 page 48.
- Adjacent to the roadway.
- Recommended in higher activity areas (see page 66) with higher traffic volumes and speeds.

Examples in Montgomery County

- Woodglen Drive
- Nebel Street
- Spring Street
- Glenbrook Road



BUFFERED
BIKE LANES

BIKE
LANES

ADVISORY
BIKE LANES

CONTRA
FLOW
BIKE LANES

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. Over the past few years, a variety of new bike lane types have arisen, including **buffered bike lanes** and **advisory bike lanes**. Collectively, this plan 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.

Q TYPICAL APPLICATION



TRAFFIC LANES
**3 LANES
OR FEWER**



POSTED SPEED
LIMIT
**30 MPH OR
SLOWER**



TRAFFIC
**9,000
VEHICLES
PER DAY
OR FEWER**



ON-STREET
PARKING
TURNOVER
INFREQUENT



BIKE LANE
OBSTRUCTION
**LIKELY TO BE
INFREQUENT**

**WHERE A
SEPARATED
BIKEWAY IS
INFEASIBLE OR
UNDESIRABLE**



Bike Lanes on Battery Lane, Bethesda



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 vehicle travel lane and/or parking lane to increase the comfort of bicyclists.

Benefits

- Provide greater separation between motor vehicles and bicyclists.
- Provide space for one bicyclist to pass another without encroaching into the adjacent vehicle travel lane.
- Encourage bicyclists to ride outside of the door zone when the buffer is between parked cars and the bike lane.
- Provide 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.
- Appeal to a wider cross-section of bicycle users.

Typical Application

- See page 52.
- Buffered bike lanes are recommended instead of separated bike lanes where it is desirable to place the bike lane between a travel lane and on-street parking or where blockage by parked vehicles is unlikely to be a problem.

Examples in Montgomery County

- None



Conventional bike lanes on Marinelli Road in White Flint

Conventional 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

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

Typical Application

- See page 52.

Examples in Montgomery County

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



Advisory bike lanes on Potomac Green Drive, Alexandria, Virginia

Advisory 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 pass safely on narrow, unlaned roads in residential areas.

Benefits

- Require less space to implement than conventional bike lanes.
- Encourage motorists to safely pass bicyclists.
- Visually remind motorists of bicyclists' right of way in the street.
- Removing the center line reduces the speed of motor vehicles.

Typical Application

- Where there is insufficient space for conventional bike lanes and two lanes of traffic.
- Surrounding 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 page 52.
- One-way streets.

Examples in Montgomery County

- Cedar Street



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 4 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 a low-stress environment on roads where the posted speed limit exceeds 30 mph.

Benefits

- Provide separation from traffic.
- Increase the comfort of recreational bicycling.

Typical Application

- Primarily found in rural locations.
- Posted speed limit: between 40 and 50 mph.

Examples in Montgomery County

- Clarksburg Road
- 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.





DC Wharf, Washington, DC

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.

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

Neighborhood Greenways



Neighborhood greenways 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 can 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.
- Wayfinding signs to guide bicyclists along the route and to key destinations.

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 is 25 mph or slower.
- Context: areas where through traffic can be diverted to parallel streets.
- Street pattern where a continuous route for bicycling is possible.
- Traffic volumes should be less than 3,000 vehicles per day and preferably closer to 1,000 vehicles per day.

Examples in Montgomery County

- None
- Shared-lane markings (sharrows) where appropriate to alert drivers to the path bicyclists need to take on a shared roadway.
- Crossing improvements where the bikeway 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 backgrounds 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.

The lane markings can be installed in limited instances on roadways where it is infeasible to install bicycle lanes, separated bike lanes or shared use paths, but where it is desirable to communicate the priority of bicyclists within a shared lane. Priority shared lane markings are only to be used as a retrofit on existing streets where implementing the desired bikeway is infeasible. They are not to be used on new streets.

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



Photo: Scott Wilets
Best Recreation Picture
Bicycle Master Plan Photo Contest

GENERAL BIKEWAY APPLICATIONS

A countywide master plan cannot anticipate all opportunities to implement bikeways that might arise. A bikeway segment not identified in the plan may be implemented if it advances the goals of the plan. The following table provides default bikeway recommendations for streets where the Bicycle Master Plan does not recommend a bikeway. Additionally, while the bikeway recommendations in this plan reflect the state-of-the practice, they can be upgraded as the state-of-the-practice changes.

These default bikeways will be incorporated into transportation studies conducted by the Montgomery County Department of Transportation (MCDOT), the Maryland State Highway Administration and other government agencies where a bikeway recommendation does not exist. They will also be incorporated into development applications that include non-master planned streets. See Appendix B for a description of each bikeway facility.

The table on the next page recommends a default bikeway type based on the roadway functional classification and whether the area is planned to support higher or lower activities. Higher activity areas include those parts of the county that are zoned Commercial-Residential (CR), Life Sciences Center (LSC) or their floating zone equivalents, or that are located within 0.5 miles of a rail station. Areas that are zoned R-10, R-20, R-30 (multifamily residential zones) and RT (townhouse zones) are considered higher activity areas if they are adjacent to properties that are zoned CR, LSC or floating zones, or near rail stations. All other areas of the county are considered lower activity areas.



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)
		Example: Great Seneca Hwy (South of Sam Eig Hwy)	Example: Great Seneca Hwy (North of Longdraft Rd)
Major Highway*	4+	Two-Way Separated Bike Lanes (Both Sides of Street)	Sidepath
		Example: Rockville Pike (White Flint)	Example: Middlebrook Rd (South of Great Seneca Hwy)
Arterial*	5	Two-Way Separated Bike Lanes (Both Sides of Street)	Sidepath (Both Sides of Street)
		Example: Darnestown Rd (East of Shady Grove Rd)	Example: Bel Pre Rd (East of Connecticut Ave)
	2-4	One-Way Separated Bike Lanes (Both Sides of Street)	Sidepath (One Side of Street)
		Example: Spring St (Silver Spring)	Example: Wilson Ln (Bethesda)
Minor Arterial*	2-3	One-Way Separated Bike Lanes (Both Sides of Street)	Sidepath (One Side of Street)
		Example: few at this time	Example: few at this time
Country Arterials	Any	N/A	Bikeable Shoulders
			Example: 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)
		Example: Marinelli St (White Flint)	Example: Westbard Ave (Westbard)
Primary Residential	2	N/A	Sidepath, Bike Lanes (Buffered, Conventional, Advisory)
			Example: Arctic Ave
Secondary Residential	Un-Laned	N/A	On-Road Bikeway
			Example: Gelding Ln (Olney)
Tertiary Residential	Un-Laned	N/A	On-Road Bikeway
			Example: Gelding Ct (Olney)
Utility Corridors	N/A	Trail	Trail

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

** Where it is impractical or infeasible to implement a master-planned bikeway on a primary residential street, traffic calming should be implemented to improve the comfort of both walking and bicycling in the street, including speed limit reductions, raise crosswalks, curb extensions, traffic diversions, etc, consistent with other county policies.



Breezeway Network

Imagine county residents walking and bicycling on safe routes removed from fast-moving cars, trucks and buses, where bicyclists experience less delay, but where all users – including slower moving bicyclists and pedestrians – can safely and comfortably coexist. These special bikeways, called “breezeways,” are an innovative concept for Montgomery County. Based on similar systems in London, Dubai and the Netherlands, the Breezeway Network takes the county to the next level in providing safe, separated routes for longer trips without having to worry about traffic or a bikeway too constricted for easy movement.

To accommodate the full range of cyclists, the Breezeway Network will not only provide a high level of comfort, but also a high level of convenience, safety and efficiency that is attractive and appropriate for bicyclists of all ages and abilities. It will prioritize higher speed bicycle travel between major activity centers, including central business districts, transit stations and job centers, since people are more likely to travel longer distances when the travel time for their trip is closer to that of traveling by automobile.

As a suburban jurisdiction with densifying but still widely spaced activity centers, Montgomery County is the perfect candidate for this network, which supports efficient travel over long distances. Much like motorists rely upon higher speed roadways to connect distant activity centers, the Breezeway Network will enable cyclists and pedestrians to “breeze” quickly or leisurely along a protected and separate environment from a roadway without comprising each other’s safety or efficiency. Once fully implemented, the Breezeway Network will make it feasible for cyclists and pedestrians to efficiently travel between activity centers.



The Breezeway Network corridors are the arterials of the bikeway network in that they are envisioned to carry a large number of bicyclists. While many trips on the Breezeway Network will be for longer, faster trips to central business districts (CBDs), transit stations, activity hubs and job centers, these corridors will also be used for shorter and slower trips. The Breezeway Network will comprise trails, sidepaths, separated bike lanes and neighborhood greenways. Local bikeways, including neighborhood greenways, sidepaths, bike lanes and low-volume / low-speed streets, will funnel bicycle traffic to the Breezeways.

Bikeway Types

Trails

Sidepaths

Separated Bike Lanes

Neighborhood Greenways



Visualization of cycle superhighway in London, England (London Cycling Design Standards, 2014)

Five Types of Breezeways:

- ① Rail and utility corridors, such as the Capital Crescent Trail, which include grade-separated crossings of major roads.
- ② Freeway trails, such as the Intercounty Connector Trail.
- ③ Modern major highways, such as Great Seneca Highway, that are characterized by wider rights-of-way and greater spacing between intersections and driveways.
- ④ Older major highways, such as Veirs Mill Road and University Boulevard, which could become Breezeways over time with a gradual consolidation of driveways and intersections.
- ⑤ Neighborhood greenways paralleling older major highways, such as Woodland Drive and Amherst Avenue between Downtown Silver Spring and Wheaton, that provide direct access to destinations, minimize the number of turns and stops, and facilitate safe and direct crossings of major roadways.

Bikeway Network Characteristics

Design Speed: The Breezeway Network will have a design speed of 20 miles per hour in lower activity areas and 12 mph in higher activity areas. Design speed is influenced by the pavement quality and bikeway curvature, among other conditions, and is not an endorsement of bicycling at high speeds in crowded locations.

Separation from Traffic: Providing fixed, continuous separation from traffic, such as curbs or concrete barriers, will increase the comfort of bicycling on the Breezeway Network. Sidepaths or trails that run parallel to a roadway will be separated from the roadway by at least 5 feet. Along high-speed roadways with speed limits of 35 mph or greater, separation greater than 5 feet is desirable to reduce the stress from riding close to traffic.

Separation Between Bicycling and Walking/Faster and Slower Users: Separation between pedestrians and bicyclists or between fast and slower users will increase comfort for users and allow faster users to travel with minimal delay, especially in areas with higher use. On trails and sidepaths in suburban areas, separate spaces for pedestrians and bicyclists can be adjacent to each other, although a buffer between them is preferred. In urban areas where separation is provided using sidewalks and separated bike lanes, busy areas will need to provide more pedestrian space with widened waiting areas and pedestrian refuge islands at intersections, wider sidewalks and dedicated space for those waiting at bus stops.

Breezeways will feature adequate widths for side-by-side bicycle travel and passing, as well as adequate buffers from motor vehicle traffic.

- Trails and Sidepaths: The minimum bikeway width is 11 feet and the minimum pedestrian width is 5 feet. In areas with high pedestrian demand, the pedestrian width is 8 feet or more.
- Two-Way Separated Bike Lanes: the minimum bikeway width is 11 feet, excluding the gutter pan.
- One-Way Separated Bike Lanes: the minimum bikeway width is 8 feet, excluding the gutter pan.

Minimal Intersection Delay: Breezeways feature intuitive and safe intersection and driveway crossings that minimize delay for pedestrians and bicyclists. The crossings are developed to prioritize non-motorized travel by making it easier and safer to travel through intersections. Breezeway crossings include elements that both separate bicycle movements from motor vehicles and make bicyclists and pedestrians more visible to other road users. Crossings will:

- Slow motor vehicle traffic.
- Improve bicyclist and pedestrian visibility.
- Reduce bicyclist and pedestrian exposure.
- Reduce or eliminate conflicts.



Minneapolis' Midtown Greenway delineates separate spaces for bicyclists and pedestrians.

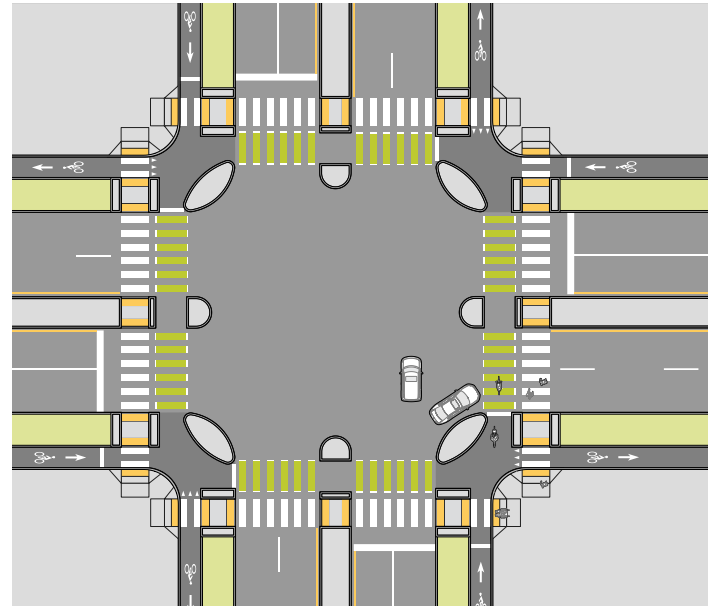
Treatments to facilitate these crossings may include:

- **Grade separation**, including underpasses and overpasses, eliminate potential conflicts with automobiles and minimize bicyclist delay by allowing bicyclists to cross over or under motor vehicle traffic without stopping.
- **Protected intersections** reduce the number of potential conflict points between bicyclists and motor vehicles, making these conflicts easier to mitigate.
- **Colored pavement** through intersections delineates bicyclist right-of-way and improves bicyclist visibility.
- **Bike signals** reduce conflicts by allowing bicycle and motor vehicle intersection movements to be separated. These signals have interim approval from the Federal Highway Administration (FHWA) and are in use in many jurisdictions around the country.
- **Leading pedestrian / bicycle intervals** at traffic signals reduce conflicts by allowing bicyclists to enter the intersection ahead of right-turning vehicles, establishing right-of-way and improving motor vehicle yielding.
- **Narrower curb** radii improve bicyclist visibility by requiring motorists to slow down while turning, widening their field of vision and making it more likely they will see bicyclists proceeding through the intersection.
- **Driveway consolidation** reduces conflicts between motor vehicles and bicyclists by limiting the number of conflict points a bicyclist must traverse.
- **Raised crosswalks** slow driver speeds when crossing the Breezeway from a side street. When motor vehicles travel slower, they have a wider field of vision and are more likely to see bicyclists.

Crossings of Interstates: Due to the high speed of traffic on most freeway on- and off-ramps, crossing freeway ramps is a major safety concern and impediment to both walking and bicycling. Potential approaches to improving crossings at interstates include:

- Traffic control at crossings, including signalized intersections.
- Grade-separated crossings.

Pavement Surface: Breezeways will be constructed to meet requirements of public road design. They will feature high-quality construction, surface materials and maintenance practices that maximize surface smoothness and pavement life, minimizing potential for pavement cracking and buckling.



A protected intersection. Source: Toole Design Group



Rock Creek Trail Bridge over Veirs Mill Road near the City of Rockville

Specific construction requirements should be adapted to each location in a manner appropriate to local conditions and anticipated wear-and-tear. If maintenance, service or emergency vehicles will need to access the Breezeway, construction methods and materials should take that into account.

Within the bikeway network, Breezeways are prioritized for maintenance in a manner similar to priority arterials within the roadway network. This priority applies to snow removal, resurfacing, sweeping and other general maintenance activities.

Street Infrastructure: In addition to separation from motor vehicle traffic, Breezeways will be free of obstructions, such as utility poles, trees or sign posts. Breezeways will also have corridor-long pedestrian-scale lighting. Lighting will provide continuous illumination along the travelway and immediate wayside areas. In residential areas or sensitive habitat areas, specialized lighting or screens may be required to avoid adverse impacts on the surroundings.

Branding and Wayfinding: Unique branding improves Breezeway Network legibility and helps the network express its own identity as a high-quality transportation option. There are many examples of how this branding might be handled, including using:

- Signage that distinguishes the Breezeway from the rest of the network.
- Pavement markings.
- Different colored surface treatments.

Transitions: Transitions between Breezeways and standard bicycle facilities will be direct, seamless and intuitive. See Appendix B for transitions between separated bike lanes and other bicycle facilities.

Neighborhood Greenways: For neighborhood greenways that are designated as part of the Breezeway Network, traffic volumes should be less than 2,000 vehicles per day. Where traffic volumes are around 3,000 vehicles per day, a designated bikeway may need to be implemented in lieu of a neighborhood greenway.

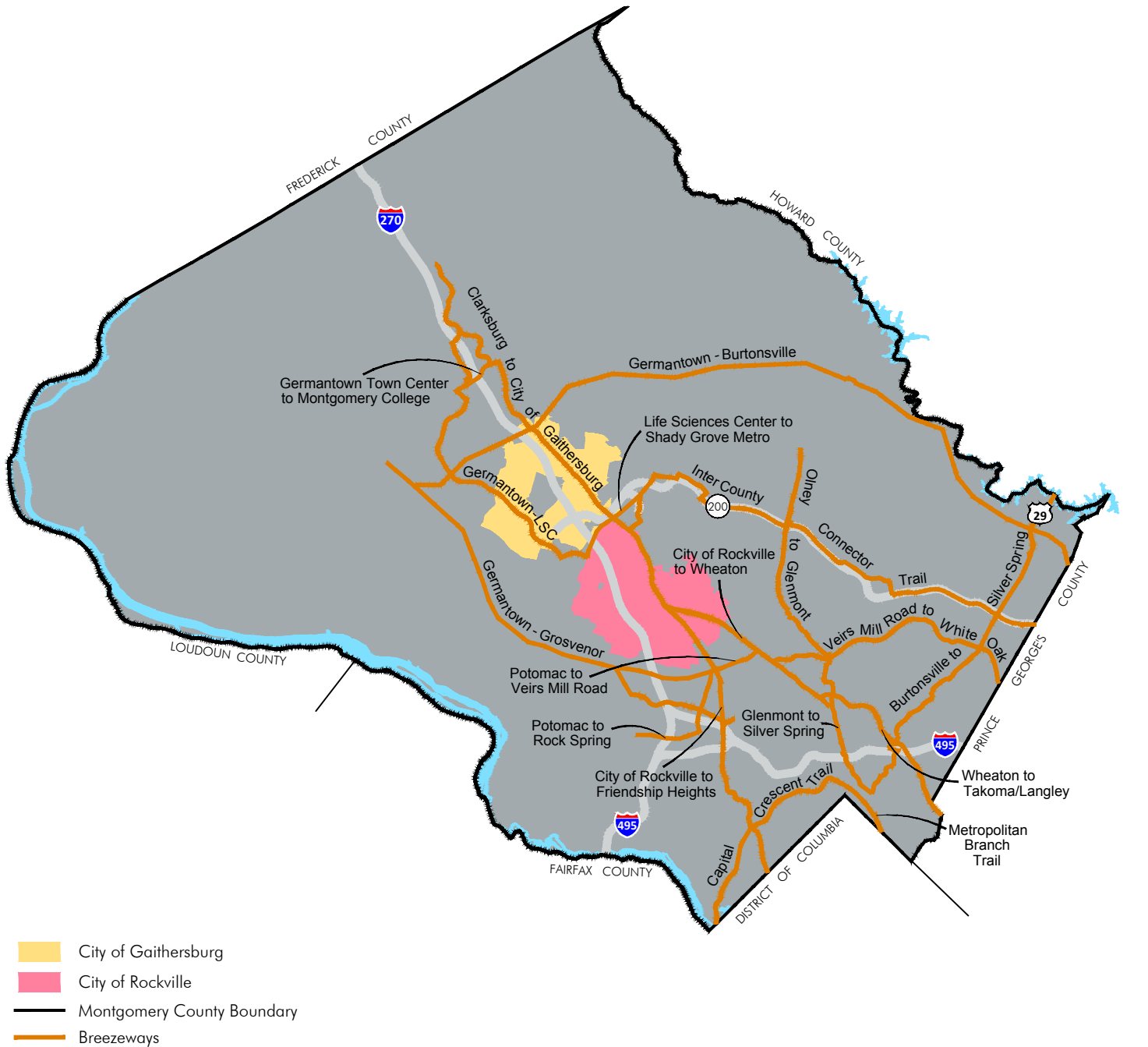
Policy Guidance

Implementing and maintaining the Breezeway Network may require adjusting several existing county and state policies and practices:

- Dedicated design guidelines should be adopted by MCDOT to codify minimum widths and other design standards. Newer intersection treatments may also need to be added to MCDOT's design standards.
- Maintenance practices and policies will need to be revised. New equipment will be required for sweeping, snow removal and emergency response on the county's separated bike lane network and growing trails network.
- A maintenance, snow removal and repaving schedule should be developed for Breezeways. This process may require revisions to the existing prioritization process for maintenance and snow removal. Snow removal laws may require careful attention to bikeways in residential areas where Breezeways run alongside the roadway, as these bikeways will need to be treated by Montgomery County or the State Highway Administration.

Proposed Breezeway Network

Fourteen corridors are proposed for the Breezeway Network, as shown in the map below. A description of each Breezeway and its major infrastructure recommendations is provided on the following pages. See Appendix I for a detailed description of the bikeway recommendations for each Breezeway corridor.



Breezeway Corridors

CORRIDOR	FROM	TO	TPOLOGY
Burtonsville to Silver Spring	Howard County	Fenton Street	Freeway
Capital Crescent Trail	District of Columbia	Silver Spring Transit Center	Rail Corridor
City of Rockville to Friendship Heights	City of Rockville	District of Columbia	Older Major Highway
City of Rockville to Wheaton	City of Rockville	Georgia Avenue	Older Major Highway
Clarksburg to City of Gaithersburg	Stringtown Road	City of Gaithersburg	Modern Major Highway
Germantown Road	Aircraft Drive	Observation Drive	Modern Major Highway
Germantown to Burtonsville	Utility Corridor	Prince George's County	Utility Corridor
Germantown to Grosvenor	Schaeffer Road	MD 355	Utility Corridor
Germantown to Life Sciences Center	Middlebrook Road	City of Rockville	Modern Major Highway
Glenmont to Silver Spring	Glenmont Metrorail Station	Ellsworth Drive	Older Major Highway
Intercounty Connector Trail	MD 355	Prince George's County	Freeway
Life Sciences Center to Shady Grove Metro	Key West Avenue	Shady Grove Access Road	Older Major Highway
Olney to Glenmont	Olney-Laytonsville Rd	Glenmont Metrorail Station	Older Major Highway
Potomac to Rock Spring	Seven Locks Rd	Old Georgetown Rd	Modern Major Highway
Potomac to Veirs Mill Road	Falls Road	Veirs Mill Road	Modern Major Highway
Veirs Mill Road to White Oak	Veirs Mill Road	Columbia Pike	Older Major Highway
Wheaton to Takoma / Langley	Veirs Mill Road	Prince George's County	Older Major Highway
White Flint to Rock Spring	Montrose Parkway	Democracy Boulevard	Older Major Highway

*Upon approval of the master plan, the Montgomery County Department of Transportation and Planning Department will seek funding to confirm the locations of the Breezeway Network corridors.

Burtonsville to Silver Spring

The Burtonsville to Silver Spring Breezeway connects Howard County to Fenton Street and will be composed of separated bike lanes, sidepaths, neighborhood greenways and trails. Major infrastructure projects include:

- New bridge over Patuxent River.
- New bridge over Paint Branch.
- New bridge over Northwest Branch.⁶
- New bridge over I-495.

Capital Crescent Trail

The Capital Crescent Trail is an off-road shared-use path along a rail corridor that forms a crescent between Georgetown and Silver Spring via Bethesda. Montgomery County purchased the Georgetown Branch right-of-way between the District of Columbia and the Metropolitan Branch just west of Silver Spring in 1988.

The Maryland-National Capital Park and Planning Commission (M-NCPPC) has jurisdiction over the portion between the District of Columbia and Woodmont Avenue in Bethesda, and the MCDOT has jurisdiction over the portion between Woodmont Avenue and Silver Spring. In 1990, the National Park Service acquired the part of Georgetown Branch reaching from Georgetown in the District of Columbia to Montgomery County.

The Capital Crescent Trail is currently paved with asphalt from Georgetown to Bethesda. It will be paved east of Bethesda and extended to the Silver Spring Transit Center as part of the Purple Line light rail project. Major infrastructure projects include:

- Widening the trail to 15 feet with 2-foot-wide shoulders between Massachusetts Avenue and Bethesda Avenue, with a 5-7-foot-wide walkway and an 8-10-foot-wide bikeway.
- Adding lighting along the trail between Bethesda Avenue and the Silver Spring Transit Center.
- Strongly considering trail lighting between River Road and Bethesda Avenue during the facility planning process.
- Studying an improved connection from the Capital Crescent Trail to MacArthur Boulevard.

City of Rockville to Friendship Heights

The City of Rockville to Friendship Heights Breezeway connects the City of Rockville to Friendship Heights and consists of separated bike lanes, sidepaths and trails. Major infrastructure projects include:

- Widening the entire Bethesda Trolley Trail to as much as 23 feet, providing separated space for walking (5 to 8 feet) and bicycling (8 to 11 feet) with shoulders (2 feet each).
- Reconstructing Rockville Pike between the City of Rockville and Marinelli Road with two-way separated bike lanes on the west side.

City of Rockville to Wheaton

The City of Rockville to Wheaton Breezeway connects the City of Rockville to Wheaton on the south side of the road. Major infrastructure projects include:

- New crossing of Rock Creek and Turkey Branch.

Clarksburg to City of Gaithersburg

The Clarksburg to City of Gaithersburg Breezeway connects Clarksburg to the City of Gaithersburg. It consists of sidepaths along MD 355 and Observation Drive. Major infrastructure projects include:

- Extension of Observation Drive between Clarksburg and Germantown.

Additionally, pedestrian-scale lighting is recommended on trail portions of this corridor.

Germantown Road

The Germantown Road Breezeway connects Germantown Town Center to Montgomery College and consists of sidepaths.

Germantown to Burtonsville

The Germantown to Burtonsville Breezeway is a trail that extends along an electrical transmission corridor between Germantown and Prince George's County. Major infrastructure projects include new crossings of these major roadways:

⁶ Appropriate measures must be taken to minimize impacts to the former WSSC buildings. Any changes to the road cross section may require elevating the roadway out of the floodplain and reconstructing the stream channel upstream and downstream.

- Great Seneca Highway
- CSX railroad tracks
- Interstate-270
- Frederick Road
- Woodfield Road
- US 29

Additionally, pedestrian-scale lighting is recommended on trail portions of this corridor.

Germantown to Grosvenor

The Germantown to Grosvenor Breezeway is a trail as it extends along an electrical transmission corridor between Schaeffer Road and Tuckerman Lane, and separated bike lanes along Tuckerman Lane to Rockville Pike. Major infrastructure along the power lines is to be determined by a PEPCO-Exelon facility planning study.

Germantown to Life Sciences Center

The Germantown to Life Sciences Center Breezeway connects Germantown Town Center to the Life Sciences Center and consists of separated bike lanes in Germantown and sidepaths along Great Seneca Highway and Key West Avenue. Major infrastructure projects include:

- New bridge on Dorsey Mill Road.

Additionally, pedestrian-scale lighting is recommended on trail portions of this corridor.

Glenmont to Silver Spring

The Glenmont to Silver Spring Breezeway runs along the state highway between the Glenmont Metrorail Station and Ellsworth Drive in Silver Spring. It consists of trails, two-way separated bike lanes, sidepaths and neighborhood greenways on the west side of Georgia Avenue, north of Arcola Avenue and on the east side of Georgia Avenue, south of Arcola Avenue. Major infrastructure projects include:

- Grade separated crossing of I-495 and I-495 ramps on the east side of Georgia Avenue.

Intercounty Connector Trail

The Intercounty Connector Trail Breezeway connects Shady Grove to Prince George's County. It largely consists of a trail that parallels the Intercounty Connector, but includes sidepaths in locations where the trail diverts from the highway. Major infrastructure projects include:

- New crossing of MD 200.
- New bridge over Northwest Branch.
- New bridge over Paint Branch.
- New crossing of US 29.

Additionally, pedestrian-scale lighting is recommended on trail portions of this corridor.

Life Sciences Center to Shady Grove

The Life Sciences Center to Shady Grove Breezeway connects the Life Sciences Center to the Shady Grove Metrorail station area and consists of a sidepath.

Olney to Glenmont

The Olney to Glenmont Breezeway runs along the state highway between Olney-Laytonsville Road in Olney and the Glenmont Metrorail Station. It consists of trails, two-way separated bike lanes, sidepaths and neighborhood greenways on the west side of Georgia Avenue, extending along parallel streets where the detour is minimal. Major infrastructure projects include:

- Crossing at the Georgia Avenue-Randolph Road interchange.
- Crossing at the planned Norbeck Road interchange.

Potomac to Rock Spring

The Potomac to Rock Spring Breezeway connects Rock Spring to Potomac and consist of sidepaths.

Potomac to Veirs Mill Road

The Potomac to Veirs Mill Road Breezeway is a trail that will connect Falls Road to Veirs Mill Road. Major infrastructure projects include:

- East of White Flint, Montrose Parkway is an unbuilt highway. While current plans include a 10-foot-wide shared use path, this dimension should be increased to reflect the importance of this bikeway within the proposed Breezeway network.

Additionally, pedestrian-scale lighting is recommended on trail portions of this corridor.

Veirs Mill Road to White Oak

The Veirs Mill Road to White Oak Breezeway connects Veirs Mill Road and White Oak, and will be composed exclusively of sidepaths. Major infrastructure projects include:

- New bridge over Northwest Branch.
- New bridge over Paint Branch.

Wheaton to Takoma/Langley

The Wheaton to Takoma/Langley Breezeway connects Wheaton to Takoma/Langley and White Oak and will be composed of separated bike lanes in urban and urbanizing areas, and sidepaths. Major infrastructure projects include:

- New bridge over Interstate-495.

White Flint to Rock Spring

The White Flint to Rock Spring Breezeway connects White Flint to Rock Spring and consists of separated bike lanes and sidepaths.



*Photo: Lynn Ho
Best Family Picture
Bicycle Master Plan Photo Contest*

BIKEWAY RECOMMENDATIONS

The recommended bicycling network is organized based on geographic areas known as “policy areas,” created as part of the county’s subdivision staging policy. This is the standard categorization of geographic areas for transportation in Montgomery County.

Each policy area is accompanied by a map of recommended bikeways and a detailed table describing the bikeways starting on page 229. The policy area maps display the bicycle facility classification and whether the bikeway is existing or proposed. They also indicate where a bicycle parking station is proposed and whether grade separation between the bikeway and the intersecting street exists or is proposed. The policy area tables indicate the name of the road, where the road segment starts and ends, the bikeway facility classification and the bikeway type for that segment.

While the full bikeway network is extensive and unlikely to be constructed within the life of this plan, such a large network is recommended so that opportunities to implement the bikeway recommendations are not lost when unforeseen circumstances arise. A prioritized list of bikeways is included in the prioritization section of this plan.

Overall, the Bicycle Master Plan recommends about 1,100 miles of bikeways, of which slightly more than one-quarter currently exist. The largest category of bikeways comprises sidepaths (573 miles), followed by trails (172 miles), bikeable shoulders (128 miles), separated bike lanes (99 miles) and neighborhood greenways (48 miles).

A summary of the bikeway recommendations is shown in table on the next page.

Non-Master Planned Roads

Just like motorists and pedestrians, bicyclists travel on all roads where it is legal⁷ to ride a bicycle to access their homes, jobs, shopping and other local destinations. While only a portion of roads in Montgomery County will be master-planned bikeways, all non-master-planned roads where it is legal to bicycle, will be designed with the understanding that people of all ages and bicycling abilities will bicycle on them.

⁷ In Maryland, bicycles are permitted on all roadways except on expressways, unless on adjacent bicycle paths or ways approved by the MDOT / State Highway Administration, or on any other controlled access highway specifically prohibited with signs. However, on roads where the posted speed limit is more than 50 mph, bicycles may use the shoulder adjacent to a roadway and enter the roadway only if making or attempting to make a left turn; crossing through an intersection; or the shoulder is overlaid with a right turn lane, a merge lane, a bypass lane, or any other marking that breaks the continuity of the shoulder.

Summary of Bikeway Recommendations (Miles)

CATEGORY	BIKEWAY TYPE	EXISTING	PROPOSED	TOTAL
Trails	Off-Street Trails	99	73	172
	Stream Valley Park Trails	28	0	28
	Neighborhood Connectors	11	3	14
Separated Bikeways	Shared Use Paths	117	456	573
	Separated Bike Lanes	2	97	99
Striped Bikeways	Buffered Bike Lanes	0	7	7
	Conventional Bike Lanes	10	15	25
	Advisory Bike Lanes	0	0	0
	Contra-Flow Bike Lanes	1	5	6
Bikeable Shoulders	Bikeable Shoulders	0	128	128
Shared Roads	Neighborhood Greenways	0	48	48
	Shared Streets	0	1	1
	Priority Shared Lane Markings	0	5	5
Total		266	839	1,105



See detailed bikeway recommendations on page 229 or
at mcatlas.org/bikeplan

Park Trails

Park trails are the backbone of the existing bicycling network in many areas of Montgomery County. While trails such as the Matthew Henson Trail and Capital Crescent Trail are built to modern standards, older trails such as the Rock Creek Trail and the Sligo Creek Trail are sub-standard in design in some locations. It is challenging if not impossible to upgrade these trails in many locations due to steep slopes, proximity to streams and other environmental constraints. Four park trails are identified in this plan due to their high level of transportation use: Rock Creek Trail, Sligo Creek Trail, Capital Crescent Trail and Matthew Henson Trail. Other hard surface park trails, while not identified in this plan, also provide transportation utility. Where possible, the Montgomery County Department of Parks should upgrade park trails over time to standards set by the American Association of State Highway and Transportation Officials (AASHTO) and American with Disabilities Act (ADA) standards.



Utility Corridors

A condition of the PEPCO-Exelon merger was that the utility company would pilot the use of utility right-of-way for trails between the Germantown Soccerplex and Westlake Drive. Construction of a natural surface trail is underway in the Germantown area and a hard surface trail is under design for the entire length of the corridor. The Bicycle Master Plan explicitly recommends trails on four utility corridors, including:

- Utility Corridor #1: Dickerson Road to Tuckerman Lane
- Utility Corridor #2: Germantown to Burtonsville
- Utility Corridor #3: Bowie Mill Road to Cherry Valley Drive
- Utility Corridor #4: Muncaster Mill Road to Morningwood Drive

There are many other utility corridors in Montgomery County that might be appropriate for trails and this plan does not exclude them from future consideration.

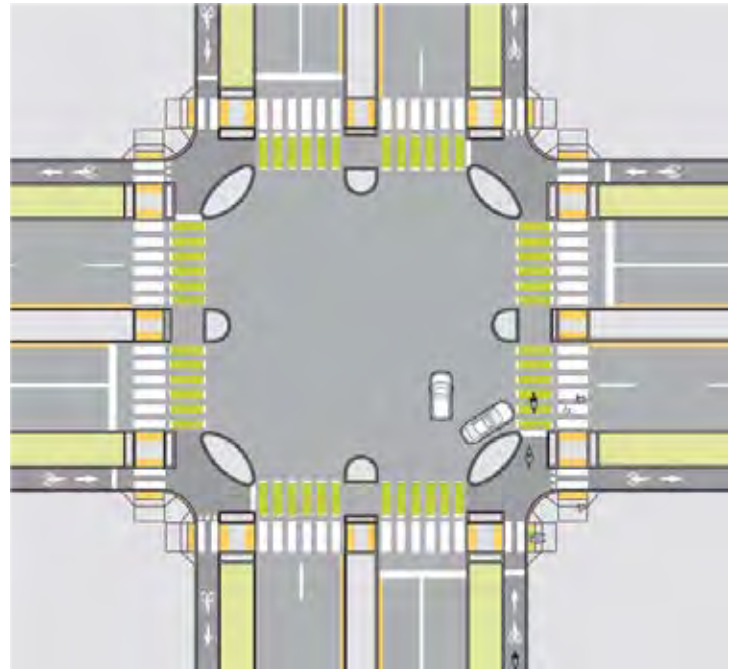
Floating Transit Island

In this design, the transit-vehicle stops at a raised concrete island, while the bike lane travels behind the island. This configuration allows transit vehicles to stay in their own lane without jumping in front of cyclists, and gives cyclists added protection from vehicular traffic at the transit stop. Appendix B has an example of a floating transit island.

Crossings

There is increased potential for crashes between bicyclists and motorists at locations where bikeways cross intersections and driveways. However, since the operation of intersections, including traffic control and the provision of turn lanes, is considered outside of the scope of a master plan, only limited guidance on intersections is included in this plan.

Protected Intersections: Montgomery County should make protected intersections the preferred treatment at all intersections where at least one street is recommended to have a sidepath, separated bike lane, buffered bike lane or conventional bike lane. Protected intersections increase safety by reducing the speed of turning traffic, improving sightlines and designating space for all road users. They reduce conflict points between motor vehicles, pedestrians and bicyclists and can eliminate the remaining conflicts with signalization. There are several different configurations of protected intersections, many of which are illustrated in Appendix B.



A protected intersection with one-way separated bike lanes.

Trail Crossings: Montgomery County should upgrade all mid-block trail crossings where the roadway is three lanes or wider without a median or where the posted speed limit is 30 mph or faster. Potential approaches to improving mid-block crossings include:

- Traffic calming that removes traffic lanes and/or reduces the design speed of the road.
- Reducing conflicts by realigning the trail to an existing signalized intersection where the detour is minimal and convenient for bicyclists, providing a grade separated crossing, or adding new traffic signalization.
- Other improvements that improve the safety and comfort of the crossing.

M-NCPPC will develop a prioritized list of park trail crossings to improve as part of an ongoing study. MCDOT should consider developing a similar list for other trail crossings in the county.

Interstate Ramps: Due to the high speed of traffic on most freeway on- and off-ramps, crossing freeway ramps is a major safety concern and impediment to both walking and bicycling. Potential approaches to improving crossings at interstates include:

- Traffic control at the crossing, including full signalized intersections.
- Grade-separated crossings.
- Geometric changes.

BICYCLE PARKING

The availability of secure and convenient bicycle parking is an important factor when considering making a trip by bicycle. No matter how well connected the bikeway network, many people will forgo bicycling if their destinations lack safe places to secure their bicycles. An adequate supply of bicycle parking encourages bicycling while reducing theft and improper use of trees and street furniture for bicycle parking.


Whether traveling to work, school, shopping or home, people must feel confident that their bicycles will not be stolen or vandalized when stored. The length of time that a bicycle will be parked determines to a large extent the level of security that is needed. The longer the time period, the more secure the bicycle parking needs to be. Bicycle parking is a key component of the Bicycle Master Plan, as incorporated in several objectives of Goal 2.

In 2016, the Montgomery County Police Department's Second District reported 187 thefts of bicycles in Bethesda.


Bicycle parking can be implemented with a combination of public and private investments. The parking table on the next page identifies whether the private sector or government is the likely provider of bicycle parking, based on whether the parking is long-term or short-term, the trip purpose and the destination type. Trip purpose can influence the length of time that is needed and, therefore, the level of security. Destination type influences whether the private sector or government is the primary provider of the bicycle parking.

Appendix K provides bicycle parking guidelines for short-term and long-term bicycle parking.





TYPE OF BIKE PARKING	TRIP PURPOSE	DESTINATION	PROVIDER
Long-Term	Work	Office	Private/Government
		Retail	Private/Government
		Transit	Government
	School	Public Schools	Government
		Private Schools	Government
	Home	Multi-Family	Private
		Single-Family	Private (within dwelling units)
Short-Term	Shopping	Retail	Private/Government
	Entertainment	Libraries	Government
		Recreation Centers	Government
		Parks	Government
		Commercial	Private/Government



Short-Term Bicycle Parking

Short-term bicycle parking is intended to provide **quick access** to briefly visited destinations, such as retail locations and civic facilities, and should be convenient and easy to use. It is typically located in highly visible locations, in front of building entrances and along streets and bikeways, and is available for public use. A common type of secure, short-term bicycle parking is an inverted-u rack.



Short-term bicycle parking in downtown Silver Spring. The inverted U-rack shown here is the preferred short-term parking facility because it provides two points of contact for securing a bicycle; on the frame and on the wheel.

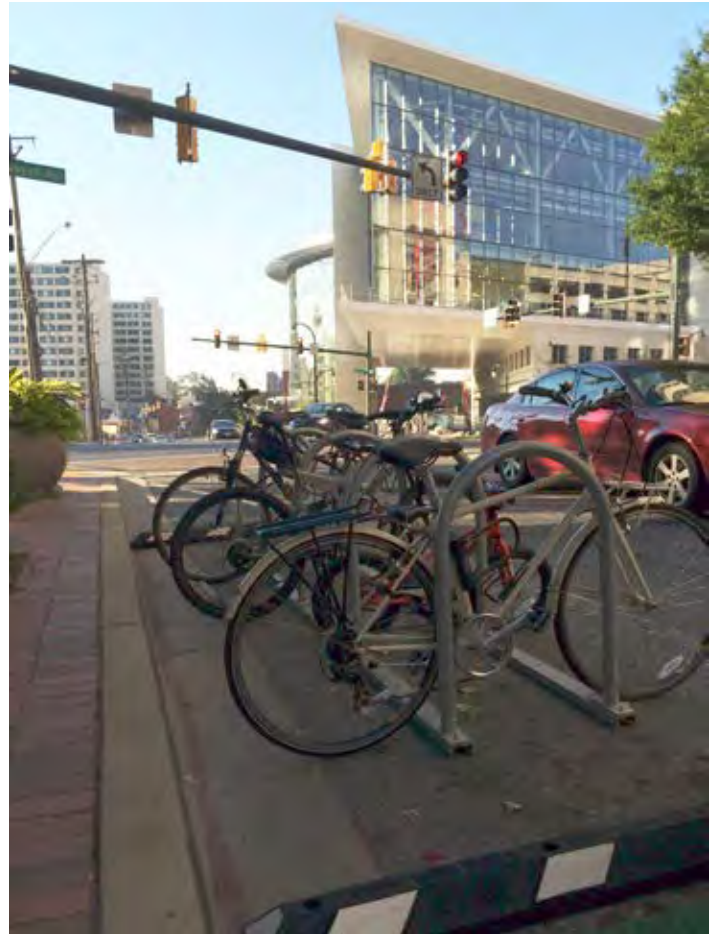
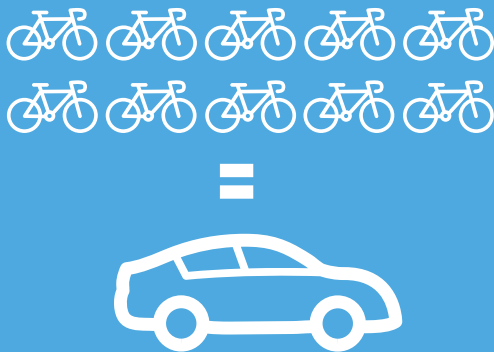
In Montgomery County, short-term bicycle parking is provided by the county government at public facilities, such as parks, libraries, recreational centers and other government services, and sometimes in front of commercial buildings where there is a bicycle parking shortage. As new buildings are constructed by the private sector, owners of these properties are required to install short-term bicycle parking to meet the requirements of the zoning code.

The current standards in the Montgomery County zoning code require short-term bike parking at a prescribed rate per unit (such as square feet) of development, but such requirements have not always been in place. As a result, there is a deficit of short-term bicycle parking in most areas of Montgomery County. New developments must conform to the 2014 changes to the zoning code, which requires more short-term bicycle parking.

One of the many advantages of bicycle parking is that it takes less space than parking for cars. Up to 10 bicycles can fit securely in the same space that is needed to park one automobile.

An evaluation of short-term bicycle parking can be found in the Monitoring the Vision section of this plan, as well as Appendix F. Programs and policies to increase the number and quality of bike parking can be found on pages 104, 115 and 118.

ROUGHLY 10 BICYCLE PARKING
SPACES CAN OCCUPY THE SAME
SPACE AS PARKING FOR ONE
AUTOMOBILE



Bike corrals can fit 10 bicycles in the spaces of one automobile parking space, as shown in this temporary installation in downtown Silver Spring.

Long-Term Bicycle Parking

Long-term bicycle parking is intended to provide sheltered and secure bicycle storage for residents, students, employees and long-term visitors who are leaving their bicycles for several hours or longer. It is typically provided in a fixed, safe and weather-protected setting, including bike stations, bike rooms or cages inside buildings and stand-alone bike lockers.

In Montgomery County, long-term bicycle parking is provided by the public sector at schools and transit stations. The private sector is responsible for providing long-term bicycle parking in retail settings, office buildings and multi-family housing per the requirements in the zoning code.

There are five types of bicycle parking in residential and commercial buildings:

A **bicycle room located on the ground** floor of a commercial or residential building is the preferred form of long-term bicycle parking because it provides:

- Highly secure bicycle storage in an enclosed facility.
- Direct access to the street or sidewalk.
- Little or no conflict with automobiles.

A **bicycle room located in the parking garage** of a commercial or residential building is the second-best form of long-term bicycle parking because it provides:

- Highly secure bicycle storage within an enclosed facility.
- Indirect access to the street or sidewalk through a parking garage.
- Reduced conflict with automobiles as cyclists navigate through the parking garage.



A bicycle room with stacked bike racks

A **bicycle cage** located in the parking garage of a commercial or residential building is the third best form of long-term bicycle parking because it provides:

- Secure bicycle storage in a facility typically constructed of chain-link fencing, which can be cut and leaves bicycles vulnerable to vandalism and theft.
- Indirect access to the street or sidewalk through a parking garage.
- Some conflict with automobiles as cyclists navigate through the parking garage.



A bike cage in downtown Silver Spring

A secure, locked **bicycle locker** is the fourth best form of long-term bicycle parking because it provides:

- Highly secure bicycle storage in an enclosed box.
- Direct or indirect access to the street or sidewalk depending on whether it is located in a parking garage or at street level.
- Varying amount of conflict with automobiles, depending on whether the locker is located in a parking garage or at street level.
- An inefficient use of space.

Bicycle racks located in a parking garage of a commercial or a residential building are the least preferred form of long-term bicycle parking because they provide:

- Less secure bicycle storage because bicycles are vulnerable to vandalism and theft.
- Indirect access to the street or sidewalk through a parking garage.
- Some conflict with automobiles as cyclists navigate through the parking garage.

As with short-term bicycle parking, there is also a deficit of long-term bicycle parking. While new developments must conform to the 2014 changes to the zoning code, requiring more long-term bicycle parking, many older commercial and multi-family residential buildings offer little or no secure bike parking. While no data exists on long-term bicycle parking at commercial and residential buildings, the Washington Metropolitan Area Transit Authority (WMATA) provides some long-term bicycle parking at Metrorail stations in the form of bike lockers.

Bicycle Parking Stations

Progressive transit agencies and local governments across the country are investing in long-term bicycle parking stations within or directly adjacent to transit stations to increase transit ridership at a fraction of the cost of operating local bus service or constructing and operating parking garages. Secure bicycle parking stations can expand the use of bicycling to transit by attracting people who:

- Live beyond a 10-minute walk of the transit station and outside of the bikeshare service area.
- Are uncomfortable locking their bicycles to a standard inverted u-rack for an extended periods.

Bicyclists in Montgomery County currently have a few options when they arrive at a transit station. They can leave their bicycles at existing bike lockers and bike racks, or bring their bicycles onto Metrorail cars outside of peak periods.

Secure bicycle parking stations could offer transit riders another means to store their bicycles. These enclosed and covered facilities offer high-volume and high-security bicycle parking. Additionally, many bicycle parking stations offer services such as bicycle repair, bicycle rental, bicycle retail, food service, showers and changing rooms, lockers for personal belongings and bicycling information.

Due to capacity issues, most transit operators place limits on bringing bicycles onto buses and rail cars. For example, only folding bikes are allowed on the trains of the MARC Brunswick Line, a commuter service that operates during peak periods only, though MARC is now including bike-only cars on some trips. WMATA permits up to two bicycles per car on Metrorail during weekends and weekdays, except between rush hours of 7 and 10 a.m. and 4 and 7 p.m. All Metrobus and Ride On buses can accommodate bicycles on the front of the vehicles.

Bicycle parking stations can be located in a variety of environments, including dense urban environments, such as the Union Station Metrorail Station in Washington, DC and in suburban areas, such as the Kramer Station in Austin, Texas.

Good locations for bicycle parking are directly adjacent to and visible from station entrances and can be easily monitored by station managers or cameras. These locations are advantageous because they are easy for bicyclists to find and generally more secure than spaces that are tucked away from view. Bicycle parking facilities provided on the paid side of fare gates may be an effective means to deter theft.



An urban bicycle parking station directly adjacent to the Union Station Metrorail Station in Washington, DC



A suburban bicycle parking station at Kramer Station in Austin, Texas

Bicycle Parking Recommendations At Transit Stations

Long-term bicycle parking is recommended at all WMATA Metrorail Red Line stations and at the higher demand MARC, future Purple Line and Corridor Cities Transitway (CCT) stations to increase the numbers of bicyclists traveling to these transit hubs. The following table summarizes the recommended amount of bicycle parking spaces to be provided directly adjacent to each transit station.

Long-term bicycle parking is recommended to be provided in bicycle parking stations. Short-term bicycle parking is recommended to be provided by inverted “U” racks in a covered location. The methodology used to calculate bicycle parking is based on setting a goal for bicycle access and is described in Appendix G. Actual demand may be higher or lower based on factors such as the build-out of the bicycling network and whether bicyclists park their bicycles at transit stations for reasons other than transit access.

Planned stations where detailed engineering has not yet begun, including the proposed White Flint MARC station and the Corridor Cities Transitway Phase 2 stations, are recommended to have a minimum of 20 long-term spaces and 6 short-term spaces. As ridership estimates become available, these recommendations will be updated.

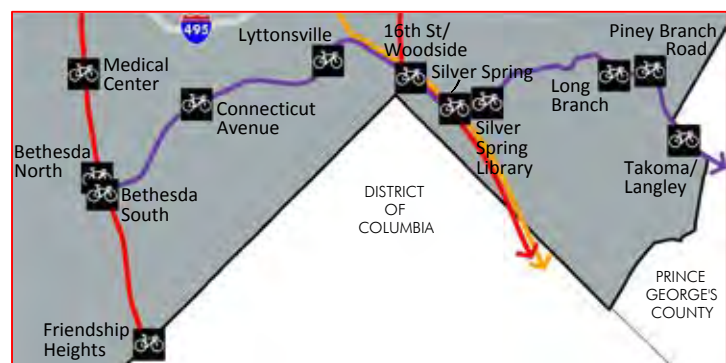
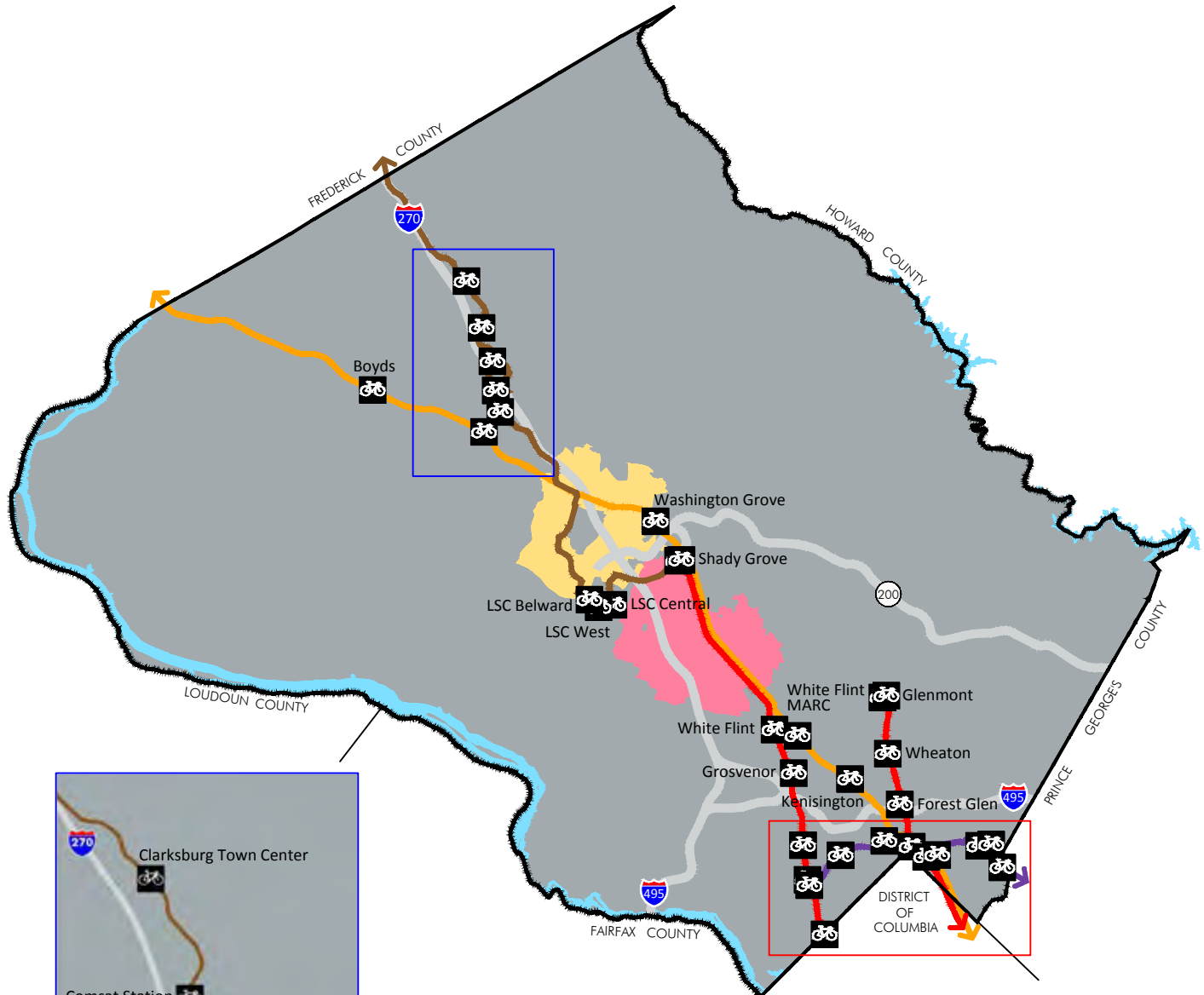
STATION	LONG-TERM (MIN)		SHORT-TERM (MIN)		RECOMMENDED LOCATION
	# OF SPACES	SQUARE FEET	# OF SPACES	SQUARE FEET	
Barnesville	0	0	10	200	Station parking lot.
Bethesda (North)	100	1,100	50	1,200	WMATA property at Wisconsin Ave level and at bus loop level.
Bethesda (South)	330	3,600	130	3,100	Within the Apex Building site and adjacent to the Capital Crescent Trail.
Boyd's	20	200	10	200	Station parking lot.
Connecticut Avenue	20	200	10	200	Gas station site on east side of Connecticut Ave adjacent to Purple Line station.
Dale Drive	0	0	10	200	Adjacent to station.
DANAC	0	0	20	500	Adjacent to station.
Dickerson	0	0	10	200	Station parking lot.
Forest Glen	300	3,200	100	2,400	Redevelopment of WMATA surface parking lot.
Friendship Heights	200	2,200	50	1,200	Redevelopment of 2 Wisconsin Cir (ultimate); Wisconsin Cir retail (interim).
Germantown	30	300	10	200	Station parking lot.
Glenmont	400	4,300	150	3,600	Both sides of the station on WMATA property.
Grosvenor	350	3,800	100	2,400	Redevelopment of WMATA parking lot.
Kensington	30	300	10	200	Station parking lot.

STATION	LONG-TERM		SHORT-TERM		RECOMMENDED LOCATION
	# OF SPACES	SQUARE FEET	# OF SPACES	SQUARE FEET	
Long Branch	30	300	10	200	Redevelopment of Giant Shopping Center site.
LSC Belward	80	900	20	500	Belward Farm site.
LSC Central	60	600	20	500	Hospital site.
LSC West	90	1,000	10	200	PSTA redevelopment site.
Lyttonsville	50	500	10	200	On MTA property along Brookeville Rd, adjacent to proposed pedestrian bridge.
Manchester Place	0	0	10	200	Station parking lot.
Medical Center	200	2,200	50	1,200	Station entrance.
Piney Branch Road	10	100	10	200	Redevelopment of northeast corner of University Blvd and Piney Branch Rd.
Shady Grove	330	3,600	110	2,600	Both sides of the station on WMATA property.
Silver Spring	600	6,500	170	4,100	Beneath Purple Line tracks or station or within WMATA joint development site.
Silver Spring Library	40	400	10	200	At the Silver Spring Library or Wayne Ave garage.
Takoma / Langley	20	200	10	200	Redevelopment of shopping center on west side of University Blvd.
Washington Grove	10	100	10	200	Station parking lot.
Wheaton	400	4,300	100	2,400	Adjacent to the bus loop or as part of redevelopment of the bus loop site.
White Flint (Metrorail)	250	2,700	50	1,200	WMATA property adjacent to existing or proposed station entrance.
White Flint (MARC)	20	200	10	200	Station entrance.
Woodside	20	200	10	200	Redevelopment of shopping center site.
TOTAL	3,990	43,000	1,290	30,300	

Notes:

1. Long-term bicycle parking stations will be located directly adjacent to transit station.
2. Friendship Heights recommendations only include Montgomery County demand and should be adjusted if DC demand is to be considered.
3. Short-term bicycle parking should be covered.

Long-Term Bicycle Parking Stations



- City of Gaithersburg
- City of Rockville
- Montgomery County Boundary
- 🚲 Bicycle Parking Stations

- Corridor Cities Transitway
- MARC Brunswick Line
- Purple Line
- Red Line





BICYCLE-SUPPORTIVE PROGRAMS

This section describes the existing and recommended bicycle-supportive programs that have the greatest potential for advancing the goals of the Bicycle Master Plan. Each program description is aligned with a goal of the Bicycle Master Plan using the following symbols:

GOALS



Increase bicycling rates in Montgomery County.



Create a highly connected, convenient and low-stress bicycling network.



Provide equal access to low-stress bicycling for all members of the community.



Improve the safety of bicycling.

Summary of Bicycle-Supportive Programs

The table on the next page summarizes the existing, expanded and new bicycle-supportive programs recommended in this plan and identifies the Bicycle Master Plan goals supported by each program.

PROGRAMS	GOAL 1: INCREASE BICYCLING RATES	GOAL 2: LOW-STRESS CONNECTIVITY	GOAL 3: EQUITY	GOAL 4: SAFETY
EXISTING PROGRAMS				
1.1 Facility Planning – Transportation	X	X		X
1.2 Stand-Alone Capital Projects	X	X		X
1.3 Bikeshare	X		X	
1.4 Montgomery County Bicycle Action Group	X	X		X

PROGRAMS	GOAL 1: INCREASE BICYCLING RATES	GOAL 2: LOW-STRESS CONNECTIVITY	GOAL 3: EQUITY	GOAL 4: SAFETY
EXISTING PROGRAMS (CONTINUED)				
1.5 Safe Routes to School	X	X		X
1.6 Transportation Improvements for Schools	X	X		X
1.7 Neighborhood Traffic Calming Program	X	X		X
1.8 Pedestrian Safety Program	X	X		X
1.9 Bicycle Pedestrian Priority Areas Program	X	X		X
1.10 Additional MCDOT Programs	X	X		X
1.11 Non-MCDOT Programs	X	X		X
1.12 Pedestrian Bicycle Traffic Safety Advisory Committee	X	X	X	X
RECOMMENDED EXPANDED PROGRAMS				
2.1 Bikeways Program - Minor Projects	X	X		X
2.2 Roadway and Bikeway Related Maintenance	X			X
2.3 Snow Removal / Wind / Rain Storms	X			X
2.4 Resurfacing: Primary/Arterial AND Sidewalk & Curb Replacement	X	X		X
RECOMMENDED NEW PROGRAMS				
3.1 BikeMontgomery Outreach Program	X		X	
3.2 Bicycle Master Plan Monitoring Report	X	X	X	X
3.3 Neighborhood Greenway Program	X	X		X
3.4 Bicycle Parking Program	X	X		
3.5 Public School Bicycle Education	X			X
3.6 Bicycle Facility Education	X			X
3.7 Bicycle Count Program	X			X
3.8 Countywide Wayfinding Plan	X	X		

Existing Bicycle-Supportive Programs

The following existing bicycle-supportive programs have the greatest potential for advancing the goals of the Bicycle Master Plan.

1.1 Facility Planning – Transportation



Facility planning studies are conducted prior to the establishment of stand-alone transportation projects in Montgomery County's Capital Improvements Program. Phase I facility planning studies determine the purpose and need of the project; identify community, economic, social, environmental and historic impacts; and provide a recommended concept design.

At the completion of Phase I, the Transportation, Infrastructure, Energy and Environment (T&E) Committee of the County Council determines if the project advances to a more detailed facility planning study. Phase II studies provide preliminary engineering designs to show more detailed features of the project and refine the impact analysis and cost estimates. At the completion of Phase II, the County Executive and County Council hold project-specific public hearings to determine if the proposal merits consideration in the Capital Improvements Program as a funded stand-alone project.

Lead Agency: Montgomery County Department of Transportation

1.2 Stand-Alone Capital Projects



If upon completion of a Phase II facility planning or other concept study the County Council decides to fund a bicycle project, it becomes a stand-alone project in the Capital Improvement Program. Existing bicycle projects include the Capital Crescent Trail east of Bethesda, Falls Road East Side Hiker/ Biker Path, Frederick Road Bike Path and Metropolitan Branch Trail.

Lead Agency: Montgomery County Department of Transportation

1.3 Bikeshare



This program administers and operates bikeshare in Montgomery County. More than 70 bikeshare docks are currently provided by Capital Bikeshare within Bethesda, Chevy Chase Lake, Friendship Heights, Life Sciences Center, Rockville, Shady Grove, Silver Spring, Takoma Park and Wheaton. Free memberships are available for those who meet income eligibility requirements under a program called MCLiberty. Montgomery County is also piloting a dockless bikeshare program. The program employs a Bikeshare Program Manager.

Lead Agency: Montgomery County Department of Transportation

1.4 Montgomery County Bicycle Action Group



The Montgomery County Bicycle Action Group (MCBAG) was created in 1996 to engage citizens interested in bicycling issues. The group meets monthly and advises the Montgomery County Department of Transportation on current issues, programs and projects relating to bicycling in the county.

Lead Agency: Montgomery County Department of Transportation

1.5 Safe Routes to School Program



The Safe Routes to School program aims to increase walking and bicycling to school through engineering, education, enforcement and encouragement. The program employs a Safe Routes to School coordinator.

Lead Agency: Montgomery County Department of Transportation

1.6 Transportation Improvements for Schools Program



This program provides transportation improvements, such as intersection modifications, sidewalks, traffic signals and streetlights, necessary for safe pedestrian and vehicular circulation for schools identified in the Montgomery County Public Schools (MCPS) Capital Program.

Lead Agency: Montgomery County Department of Transportation

1.7 Neighborhood Traffic Calming Program



This program provides for the planning, design and construction of physical traffic control features in residential neighborhoods. Traffic calming features, such as traffic circles and islands, curb extensions, speed humps, physical and painted lane narrowing devices, are used to maintain and improve the safety and livability of residential neighborhoods by addressing issues of aggressive driving and excessive speeds and volumes. Traffic calming is an integral part of the neighborhood greenways proposed in the Bicycle Master Plan.

Lead Agency: Montgomery County Department of Transportation

1.8 Pedestrian Safety Program



Improving safety for pedestrians and bicycles is the goal of this program. Methods include constructing and installing new crosswalks, pedestrian refuge islands, sidewalks, bus pull-off areas, fencing to channel pedestrians to safer crossing locations, bicycle signs and markings, relocating, adding or eliminating bus stops, accessible pedestrian signals or warning beacons, and improving signage. The program supports the construction of street improvements around schools identified in the Safe Routes to School program. It audits pedestrian safety in high incidence areas and implements identified physical improvements, as well as oversees educational and outreach programs.

Lead Agency: Montgomery County Department of Transportation

1.9 Bicycle Pedestrian Priority Areas Program



This program is dedicated to the design and construction of bicycle and pedestrian capital improvements in the county's 31 Bicycle-Pedestrian Priority Areas (BiPPAs) identified in master plans and by Council resolution. Implementation of projects in the Silver Spring Central Business District BiPPA began in fiscal year 2016. Implementation of projects in the Grosvenor, Glenmont, Wheaton CBD, Veirs Mill Road/Randolph Road, Flower Avenue/Piney Branch Road, Piney Branch Road/University Boulevard and Takoma-Langley Crossroads BiPPAs began in fiscal year 2017.

Justification: The Tier 1 bikeways recommended in the prioritization section of this plan are focused on substantially implementing networks of separated bike lanes in seven of the county's Bicycle Pedestrian Priority Areas (Bethesda CBD, Friendship Heights CBD, Life Sciences Center, Silver Spring CBD, Wheaton CBD, White Flint and White Oak) within five years of approval of this plan. The Montgomery County Department of Transportation will need additional funding to hire staff and construct these bikeways within this timeframe.

Lead Agency: Montgomery County Department of Transportation

1.10 Additional MCDOT Programs



The Montgomery County Department of Transportation has a number of programs in the capital budget that include bicycle-supportive elements, including road, traffic improvement, bridge and mass transit projects.

1.11 Non-MCDOT Programs



There are a number of non-Montgomery County Department of Transportation programs that include bicycle-supportive elements, including Maryland Department of Transportation projects, National Park Service projects and Maryland-National Capital Park and Planning Commission projects.

1.12 Pedestrian Bicycle Traffic Safety Advisory Committee



The Pedestrian, Bicycle, and Traffic Safety Advisory Committee (PBTSAC) is a group of citizens, elected officials, and government representatives focused on pedestrian and bicycle safety issues in Montgomery County.

Lead Agency: Montgomery County Department of Transportation

Recommended Expanded Bicycle-Supportive Programs

Existing bicycle-supportive programs recommended for expansion are discussed in this section. Recommended actions to expand existing programs are listed below along with a justification statement for each recommendation.

2.1 Bikeways Program – Minor Projects



Under the annual bikeways program, bikeways, trails and wayfinding signs that cost less than \$1 million are planned, designed and constructed. The program's current implementation schedule includes construction of shared use paths, on-street bikeways, wayfinding and bicycle parking on Rockville Pike at Strathmore, Marinelli Road, Washington Grove Connector and Emory Lane/Muncaster Mill Road (MD115). The program employs a bikeways coordinator.

The program should be expanded to fund new neighborhood connectors and upgrade and maintain existing neighborhood connectors. These efforts should be included in the project description form (PDF) for the program. See page 44 and Appendix J for more information on neighborhood connectors.

Justification: Neighborhood connectors provide direct connections to residential streets, but are often poorly maintained. They provide much needed linkages between low-stress traffic streets, thereby allowing bicyclists to avoid higher stress streets.

Lead Agency: Montgomery County Department of Transportation

2.2 Roadway and Bikeway Related Maintenance

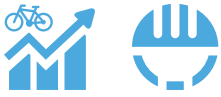


The roadway and related maintenance program provides mowing, roadside vegetation clearing, street cleaning and other maintenance activities. It should be expanded to include debris removal and trimming or removing overgrown vegetation from bikeways. Priorities may include bikeways in commercial areas, surrounding transit stations and major connections between activity centers. While bikeway debris clearance should primarily be a government function, use of volunteers as part of an "Adopt a Bikeway" program could be part of this effort.

Justification: Ensuring clear and navigable bikeways improves safety and accessibility.

Lead Agency: Montgomery County Department of Transportation

2.3 Snow Removal / Wind / Rain Storms



The snow removal / wind / rain storms program includes the removal of storm debris within rights-of-way and snow from county roadways. This program includes plowing and applying salt and sand, equipment preparation and clean-up from snow storms, and wind and rain storm cleanup. It should be expanded to include snow removal from bikeways. Priorities may include bikeways in commercial areas, surrounding transit stations and major connections between activity centers. The program should authorize the purchase of specialized equipment to plow separated bike lanes, which in some cases are too narrow for conventional plowing vehicles.

Justification: Snow is an impediment to safe bicycling. Furthermore, during snow storms, people are sometimes more willing to walk or bike than they are willing to drive. Ensuring clear and navigable bikeways improves accessibility and safety.

Lead Agency: Montgomery County Department of Transportation

2.4 Resurfacing: Primary/Arterial AND Sidewalk & Curb Replacement



While Montgomery County has programs to resurface roads and sidewalks, there is no current program focused on repaving bikeways. Both the resurfacing: primary / arterial and the sidewalk and curb replacement programs should be expanded to include bikeways. Resurfacing: primary / arterial would repave bikeways within the road (striped bikeways, separated bikeways, bikeable shoulders, shared roads). The sidewalk & curb replacement program would repave bikeways outside of the road (trails, separated bikeways).

Justification: The quality of the bikeway surface degrades over time and needs to be resurfaced on occasion.

Lead Agency: Montgomery County Department of Transportation

Recommended New Bicycle-Supportive Programs

New bicycle-supportive programs are recommended in this section along with a justification statement for each recommendation.

3.1 BikeMontgomery Outreach Program



The BikeMontgomery Outreach Program encourages more people to bicycle in Montgomery County through community engagement and community building. Its efforts include organizing a Bicycle Ambassador program, maintaining an online bicycling forum, holding bicycling events, such as bike rodeos and thematic bike rides, organizing bicycle camps using the park trails network and conducting tours of new bicycle infrastructure.

Justification: Similar programs, such as the DC Bike Ambassador program and BikeArlington, have helped to expand bicycling in their respective jurisdictions by encouraging communities that strongly support bicycling.

Lead Agency: Montgomery County Department of Transportation

3.2 Bicycle Master Plan Monitoring Report



The Bicycle Master Plan Monitoring Report is a biennial evaluation presented to the County Council. This future document would track the progress of advancing the Bicycle Master Plan's goals and objectives, and summarize new bicycle infrastructure and changes to county bicycling programs and policies. This report would also document available bicycle count data.

Justification: Provides transparent and accountable implementation of the Bicycle Master Plan. Similar monitoring reports are used to evaluate the implementation of plan recommendations for White Flint, the Great Seneca Science Corridor and Shady Grove.

Lead Agency: Montgomery County Planning Department

Supporting Agencies: Montgomery County Department of Transportation, Public Schools, Police Department

3.3 Neighborhood Greenway Program



The program implements the neighborhood greenways recommended in the Bicycle Master Plan. This effort includes marketing the community-wide benefits of neighborhood greenways and developing a toolkit of treatments. Barriers to implementing successful neighborhood greenways are assessed and remedied through legislative and regulatory means. The program oversees construction of the network, including wayfinding and integration into local maps.

Justification: Neighborhood greenways are a cost-effective way to providing low-stress bicycle networks through residential communities. The Tier 1 bikeways recommended in the prioritization section of this plan include neighborhood greenways that feed into seven Bicycle Pedestrian Priority Areas (Bethesda CBD, Friendship Heights CBD, Life Sciences Center, Silver Spring CBD, Wheaton CBD, White Flint and White Oak) and are recommended to be completed within five years of approval of this plan. The Montgomery County Department of Transportation will need additional funding to hire staff and construct these bikeways.

Lead Agency: Montgomery County Department of Transportation

Supporting Agency: Montgomery County Planning Department

3.4 Bicycle Parking Program



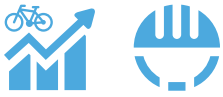
The Bicycle Parking Program increases the supply of short-term and long-term bicycle parking, and replaces sub-standard bike racks with those that conform to industry standards. It will include a bicycle parking implementation plan focused on commercial areas, transit stations, schools, recreation centers, libraries, other public facilities and multi-family dwelling units. The program will maintain a geospatial inventory of public and private short-term and long-term bicycle parking, and a continuous assessment of bicycle parking shortages based on the analysis in Appendix F. Requests for bike racks in certain locations will be tracked through a website. County inspectors will be trained to ensure bicycle parking is installed correctly and coordinate bicycle valet parking for special events in the county. The program will be led by a bicycle parking coordinator.

Justification: Montgomery County has a shortage of bicycle parking, as shown in Appendix F. When people cannot park their bicycles, they are discouraged from bicycling for non-recreational trips. Providing additional bike parking will increase bicycling and will reduce theft and improper use of trees and other street infrastructure for bicycle parking.

Lead Agency: Montgomery County Department of Transportation

Supporting Agencies: Montgomery County Department of General Services, Department of Parks and Department of Permitting Services

3.5 Public School Bicycle Education



The Public School Bicycle Education program incorporates bicycle training and safety curricula into the Montgomery County public school system, including elementary, middle and high schools, similar to the program that the District of Columbia has implemented for second graders.

Justification: Many adults are deterred from bicycling because they did not learn how to ride a bicycle as a child or have not been educated in bicycle safety. Additionally, children are great advocates for supporting bicycling. Learning the rules of the road as children better prepares students to be safer drivers in the future.

Lead Agency: Montgomery County Public Schools

Supportive Agency: Montgomery County Department of Transportation, Police Department

3.6 Bicycle Facility Education



The Bicycle Facility Education program educates motorists, pedestrians and bicyclists on the safe use of new bike-ways. Among other benefits, this program would create public service announcements, provide information and conduct onsite trainings so that all roadway users know how to safely navigate new bicycle infrastructure.

Justification: Public outreach is needed to educate members of the public on the appropriate use of new forms of bicycle infrastructure. It will also educate pedestrians and motorists on how to interact with these new bikeways.

Lead Agency: Montgomery County Department of Transportation

Supporting Agency: Montgomery County Police Department

3.7 Bicycle Count Program



The Bicycle Count Program conducts pre- and post-implementation studies of new bicycle infrastructure projects to track the frequency at which they are being used. Under this program, permanent bicycle counters are installed at key locations to track the growth of bicycling over time. Annual counts of bicyclists are collected at multiple locations and counts at locations of high crash rates are monitored. Data collected from this initiative will be posted online.

Justification: Enables a data-driven process that tracks bicycling trends in Montgomery County and provides a measure of exposure to support the county's Vision Zero program.

Lead Agency: Montgomery County Department of Transportation

Supporting Agency: Montgomery County Department of Parks, Planning Department

3.8 Countywide Wayfinding Plan



The Countywide Wayfinding Plan directs bicyclists to major destinations, including commercial areas, transit stations and major public facilities, through signage and visual markers. This plan would identify key destinations, low-stress routes and a consistent, legible and branded protocol for communicating those elements to bicyclists. The plan will be updated every few years.

Justification: With an emerging bicycling network that is not fully connected, wayfinding is needed to direct bicyclists to low-stress bikeways.

Lead Agency: Montgomery County Department of Transportation

BICYCLE-SUPPORTIVE LEGAL AND POLICY FRAMEWORK

This section describes the existing and recommended bicycle-supportive laws, regulations and policies that have the greatest potential for advancing the goals of the Bicycle Master Plan. Each element in this framework is aligned with one or more goals of the Bicycle Master Plan, signified in the list below by the following symbols:

GOALS



Increase bicycling rates in Montgomery County.



Create a highly connected, convenient and low-stress bicycling network.



Provide equal access to low-stress bicycling for all members of the community.



Improve the safety of bicycling.

Summary of Bicycle-Supportive Legal and Policy Framework

This table summarizes the existing and recommended bicycle-supportive laws, regulations and policies recommended in this plan and identifies the Bicycle Master Plan goals supported by them.

PROGRAMS	GOAL 1: INCREASE BICYCLING RATES	GOAL 2: LOW-STRESS CONNECTIVITY	GOAL 3: EQUITY	GOAL 4: SAFETY
EXISTING LEGAL AND POLICY FRAMEWORK				
1.1 Vision Zero				X
1.2 Road Code Urban Areas	X	X		
1.3 Local Land Use Laws	X	X		
RECOMMENDED LAWS, REGULATIONS AND POLICIES				
Roadway Laws and Policies				
2.1 Authorize Lower Posted Speed Limits	X	X		X
2.2 Repeal the Mandatory Use Law				X
2.3 Conduct a "Rules of the Road" Assessment				X
2.4 Replace the State's Marked Bike Lane Policy	X			X
2.5 Develop a County Policy on E-Bikes	X			X
Roadway Laws and Policies				
2.6 Establish Level of Traffic Stress Targets	X			X
2.7 Update Context Sensitive Road Design Standards	X	X		X
2.8 Compare all Designed Projects to Best Practices	X	X		X
2.9 Make Separated Bikeways the Preferred Bikeway Facility	X	X		X
2.10 Extending Separated Bike Lanes Through Intersections	X	X		X
2.11 Consolidate Driveways along Master-Planned Bikeways		X		X

PROGRAMS	GOAL 1: INCREASE BICYCLING RATES	GOAL 2: LOW-STRESS CONNECTIVITY	GOAL 3: EQUITY	GOAL 4: SAFETY
2.12 Develop a Shared Lane Marking Policy	X			X
2.13 Develop Bicycle Parking Standards for County Facilities	X	X		
2.14 Reassess Road Code Urban Area Boundaries	X			X
2.15 Develop Standards for Trail Crossings at Major Roads	X			X
Maintenance				
2.16 Develop Protocols for Bicycle Facility Closures and Detours	X			X
Other				
2.17 School Site Selection	X	X		X
2.18 Enable Traffic Calming and Access Restrictions on Neighborhood Greenways	X	X		X
2.19 Update the Zoning Code		X		
2.20 Revise the Bicycle to School Policy	X			
2.21 Abandonments	X	X		
2.22 Loading Zones		X		X

Existing Legal and Policy Framework

The following existing laws, regulations and policies have the greatest potential for advancing the goals of the Bicycle Master Plan.

1.1 Vision Zero



Montgomery County has adopted a policy of zero transportation-related fatalities and serious injuries by 2030. To move toward that vision, the county has released a two-year Vision Zero action plan that includes a set of activities to be undertaken. A 10-year action plan is expected to be released in late 2019. Specific Vision Zero items related to this master plan include evaluating trail crossings and intersections, expanding the low-stress bicycling network and updating county road design standards, among others.

Lead Agency: Montgomery County CountyStat

1.2 Urban Road Code Areas



The Montgomery County Code specifies maximum standards for lane widths (10 to 11 feet) and curb radii (15 feet) on urban roads, as well as speed limits when they are not already predetermined in a specific master plan. Narrower streets and curb radii improve bicycling by slowing the speed of traffic and by providing space for bikeways. Lower speed limits create a lower-stress environment for bicyclists and pedestrians.

Lead Agency: Montgomery County Department of Transportation

1.3 Local Land Use Laws



The Maryland-National Capital Park and Planning Commission (M-NCPPC) reviews all development proposals and site plans for consistency with master plans and zoning code requirements. Property owners may be required to dedicate land for transportation facilities, construct bikeways on the site and along the frontage of the property, and/or provide bicycle parking, showers and changing facilities.

Lead Agency: Montgomery County Planning Department

Recommended Laws, Regulations and Policies

The following new bicycle-supportive laws, regulations and policies are likely to have the greatest effect on advancing the goals of the Bicycle Master Plan.

2.1 Authorize Lower Posted Speed Limits



Petition the Maryland General Assembly to lower the default speed limit to 25 mph on all highways in a business district and undivided highways in a residential district in Montgomery County. Reduce the lowest possible speed limit to 10 mph on shared streets and 20 mph on neighborhood greenways in Montgomery County.

Justification: Lower automobile speeds reduce both the number of crashes by increasing the likelihood that motorists will successfully yield at conflict points and lessen the severity of crashes.

Lead Agencies: Montgomery County Government

2.2 Repeal the Mandatory Use Law



Advocate for the repeal of Section 21-1205.1(b)(2) of the Maryland Code's Transportation Article, which requires bicyclists to ride in marked bicycle lanes.

Justification: Bicycle facilities may not be considered adequate/safe to all users, and bicyclists should have the right to decide where it is safe to bicycle.

Lead Agencies: Montgomery County Government

2.3 Conduct a "Rules of the Road" Assessment



Conduct an analysis of state and county laws, policies and regulations to identify gaps and inconsistencies in the legal framework supporting bicycling. Address those gaps and inconsistencies through changes to legislation, policies and regulations.

Justification: State and county laws, policies and regulations are unclear and often inconsistent.

Lead Agencies: Montgomery County Department of Transportation, Planning Department and Police Department, and Maryland State Highway Administration

2.4 Replace the State's Marked Bike Lane Policy



Work with the Maryland State Highway Administration to update their policies to achieve a low-stress bicycling environment instead of prescribing that conventional bike lanes are to be installed when road projects involve widening or new construction.

Justification: The state's marked bike lane policy⁸ requires that all road projects involving widening or new construction include the installation of conventional bike lanes. In addition, the policy considers installing conventional bike lanes as part of all activities that disturb the paved roadway area, disturb the adjacent curb or adjust lane striping. **While conventional bike lanes are appropriate in some locations, they are a poor use of the public right-of-way when implemented on roads with four or more lanes of traffic, a 30 mph or faster posted speed limit, or a road that is traveled by more than 6,000 vehicles per day, because few people will be comfortable using them.** In many instances, a sidepath or separated bike lane would be the more appropriate, less stressful facility. Additional flexibility in design is needed with the marked bike lane policy.

Lead Agencies: Montgomery County Government

2.5 Develop a County Policy on E-Bikes



Electric bicycles (e-bikes) are the fastest growing market for bicycles in the United States and a consistent policy regarding this type of transportation is needed in Montgomery County.

Justification: E-bikes make bicycling a viable transportation option for more people, reduce barriers for people who travel longer distances, carry heavy loads or passengers, or face other challenges that might preclude using a traditional bicycle to make a trip. At the same time, e-bikes also raise fears among some people that trails and other bike-ways will become speedways. Currently, e-bikes are not permitted on county park trails, but are permitted on National Park Service trails and other shared use paths. The updated policy should establish context-sensitive regulations that are intuitive and consistent.

Lead Agencies: Montgomery County Government

2.6 Establish Level of Traffic Stress Targets



Establish Level of Traffic Stress targets, including a "low" level of traffic stress countywide and a "very low" level of traffic stress within the vicinity of schools, including one mile of elementary schools, 1.5 miles of middle schools and 2 miles of high schools.

Justification: A "low" level of traffic stress is appropriate for most adults and a "very low" level of traffic stress is appropriate for most children.

Lead Agencies: Montgomery County Planning Department, Montgomery County Department of Transportation

⁸ Bicycle Policy & Design Guidelines, Maryland State Highway Administration, January 2015.

2.7 Update Context-Sensitive Road Design Standards



Montgomery County's context-sensitive road design standards need to be updated to include all bicycle facility types outlined in the Bicycle Facility Toolkit in Appendix B. These types include separated bike lanes, buffered bike lanes, advisory bike lanes, neighborhood greenways, shared streets and protected intersections. Obsolete bikeways, such as wide outside lanes, should be removed from the standards. Out-of-date bikeway applications, including conventional bike lanes on major highways, arterials and minor arterials, should likewise be removed from the standards. However, conventional bike lanes can be considered an interim bicycle facility or as a supplement to recommended facilities, particularly in locations where provision of conventional bike lanes does not increase the road cross section. They are not a substitute for low-stress facilities, particularly on higher volume / higher speed roads.

Justification: Montgomery County road design standards are inconsistent with the recommendations in this plan.

Lead Agency: Montgomery County Department of Transportation

Supporting Agency: Montgomery County Planning Department

2.8 Compare all Designed Projects to Best Practices



Several capital projects that include bicycle and pedestrian elements were designed years ago and do not reflect best practices. These efforts include the Falls Road and Seven Locks Road Hiker / Biker projects. The Montgomery County Department of Transportation should review and upgrade the design for bikeway projects that have been designed, but have not yet been implemented. The agency should compare current designs to best practices for bikeways.

Justification: Many capital projects with bicycle elements have completed designs that no longer reflect best practices. Montgomery County should revisit these designs rather than proceed with projects that will need to be upgraded later at a higher cost.

Lead Agency: Montgomery County Department of Transportation

Supporting Agency: Montgomery County Planning Department

2.9 Make Separated Bikeways the Preferred Bikeway Facility



Establish separated bikeways (separated bike lanes and sidepaths) as the preferred bicycle facility classification in Montgomery County's context-sensitive road design standards. This classification applies to roads with four or more lanes of traffic, traffic speeds of 30 mph or faster, with traffic volumes anticipated to exceed 6,000 vehicles per day and on commercial streets with on-street parking.

Justification: Separated bikeways, including separated bike lanes and sidepaths, encourage bicycling on roads with high traffic volumes, high speeds and in commercial areas.

Lead Agency: Montgomery County Department of Transportation

Supporting Agency: Montgomery County Planning Department

2.10 Extending Separated Bike Lanes Through Intersections



Where motorists cross paths with bicyclists, intersection designs should be chosen for their ability to minimize the following at the point of conflict:

- Bicyclist and pedestrian exposure to the conflict
- Speed differential between bicyclists, pedestrians, and motorists
- Bicyclist and pedestrian crossing distances and associated traffic signal timing requirements

At the time of adoption of this plan, protected intersections are the state of the practice for extending separated bike lanes through the intersection and should be implemented where separated bike lanes cross major highways, arterial roads, business district streets or other high-volume streets. Should best—practices change, the most recent guidance for these designs should be applied.

Justification: Protected intersections improve safety for all modes of transportation by slowing traffic and consolidating conflicts to a single point so that remaining minimal conflicts can be mitigated.

Lead Agency: Montgomery County Department of Transportation

2.11 Consolidate Driveways along Master-Planned Bikeways



Develop policies to encourage greater consolidation of driveways as part of facility planning and development approvals along master-planned bikeways.

Justification: Driveways create a conflict area between bicyclists and motorists, and stronger policies are needed to require greater driveway consolidation.

Lead Agency: Montgomery County Government

2.12 Develop a Shared Lane Marking Policy



Develop a policy for the use of shared lane markings, also known as sharrows, that indicates when these pavement markings are appropriate. This policy could include low-volume and low-speed streets, such as neighborhood greenways, where sharrows reinforce bicyclists' right to bicycle in the center of the lane and can serve a wayfinding function.

Additionally, the sharrow policy could also be used on an interim basis on streets that are master-planned for other bicycle facilities and serve a critical network function in connecting major destinations, but where implementation of the master-planned bicycle facility may take several years to be completed.

Justification: Montgomery County does not have a policy that specifies when it is appropriate to use shared lane markings. The current implementation of sharrows is confusing to both motorists and bicyclists, as it is not uniformly applied throughout the county.

Lead Agency: Montgomery County Department of Transportation, Maryland State Highway Administration

2.13 Develop Bicycle Parking Standards for County Facilities



Establish short-term bicycle rack standards for use at county facilities based on those outlined in established guidelines, such as Association of Pedestrian and Bicycle Professionals *Bicycle Parking Guidelines, 2nd Edition*.

Justification: Public buildings should model best practices in the use of bicycling parking. However, Montgomery County continues to install substandard short-term bicycle parking racks at county facilities.

Lead Agency: Montgomery County Department of General Services

2.14 Reassess Road Code Urban Area Boundaries



The road code urban area designation, identified through master plans and County Council resolution, reduces the design speed of roads by narrowing traffic lanes and reducing turning radii and speed limits. Assess the existing road code urban area boundaries to determine if additional areas should be classified as urban based on existing zoning and proximity to major existing and planned transit stations.

Justification: There are several areas in Montgomery County that are not currently designated as urban, even though they are governed by mixed-use or high density residential zoning that will likely generate high levels of walking and bicycling. Over time, designating additional areas as urban will help to encourage more walking and bicycling, as narrower traffic lanes and slower speeds create a safer and more comfortable walking and bicycling environment. Narrowing traffic lanes can also provide additional space for bicycle and pedestrian infrastructure.

Lead Agency: Montgomery County Planning Department

2.15 Develop Standards for Trail Crossings at Major Roads



Establish a policy of improving trail crossings of roads with three or more lanes of traffic or a posted speed limit of 30 mph or greater. Improvements to trail crossings could be made in a variety of ways, including:

- Traffic calming that removes traffic lanes and / or reduces the design speed of the road,
- Reducing conflicts by realigning the trail to an existing signalized intersection, providing a grade separated crossing, or adding new traffic signalization, and / or
- Other improvements that increase the safety and comfort of the crossing.

Justification: The low-stress bicycling experience that trails provide is interrupted where trails cross high speed or multilane roads.

Lead Agencies: Montgomery County Department of Transportation, Department of Parks, Maryland State Highway Administration

Supporting Agency: Montgomery County Planning Department

2.16 Develop Protocols for Bicycle Facility Closures and Detours



Develop a protocol for bikeway closures and detours to ensure that comparable bikeways are provided to the extent possible, adequate signing is supplied to communicate the detour to bicyclists and the public is given adequate notice of the detour. When a public right-of-way occupancy permit authorizes blockage of a sidewalk or bikeway, the holder of the permit should be required to provide safe accommodation for pedestrians and bicyclists using the same traffic control practices that would be applied when a motor vehicle lane is closed.

Justification: Adequate bicycle and pedestrian facilities should be maintained when bikeway and pedestrian closures and detours are needed.

Lead Agency: Montgomery County Department of Transportation

2.17 School Site Selection



When Montgomery County Public Schools (MCPS) selects a new school site, their criteria should strongly consider the appropriateness of existing walking and bicycling infrastructure for children. Where safe and comfortable walking and bicycling infrastructure does not already exist, MCPS should work with MCDOT to construct child-appropriate walking and bicycling infrastructure in the immediate vicinity of the school.

Justification: Providing a safe and comfortable walking environment to public schools is a core objective for Montgomery County.

Lead Agency: Montgomery County Public Schools

Supporting Agency: Montgomery County Department of Transportation, Planning Department

2.18 Enable Traffic Calming and Access Restrictions on Neighborhood Greenways



To fully and effectively implement neighborhood greenways on residential streets, MCDOT should consider changes to the executive regulations to allow traffic calming features and access restrictions along neighborhood greenways that may not meet the criteria for similar treatments under Executive Regulations governing Speed Humps (ER 32-08), Access Restrictions (ER 17-94), and any other regulations or policies that limit implementation of traffic calming and access restrictions.

Justification: Executive regulations specify when traffic calming and traffic access restrictions may be used. While neighborhood greenway treatments may result in features and treatments typical of traffic calming and access restrictions, the goal of neighborhood greenways is to provide low-stress bicycling corridors, and implementation of corridor-wide improvements may warrant these treatments in areas that might not otherwise meet the requirements set forth in the executive regulations governing access management or traffic calming. Limiting the applicability of this policy to areas designated by the Bicycle Master Plan as a neighborhood greenway should prevent overuse of these treatments in areas where they are unwarranted and will not circumvent existing executive regulations relating to these treatments.

Lead Agency: Montgomery County Department of Transportation

2.19 Update the Zoning Code



Amend the Montgomery County Zoning Ordinance to improve the bicycle parking and end-of-trip bicycle facility requirements.

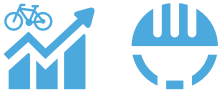
Justification: While the zoning code revisions in 2014 introduced major improvements for the provision of bicycle parking, showers and changing rooms, additional updates are needed to clarify existing requirements and to meet industry best practices, including requirements to:

- Incentivize bicycle rooms as the preferred form of long-term bicycle parking in residential and commercial buildings.
- Disallow bicycle lockers and bicycle racks as long-term bicycle parking in residential and commercial buildings.
- Identify performance standards for stacked bike racks.
- Provide repair station requirements in the long-term bicycle parking section of the code.
- Provide a portion of long-term bicycle parking to accommodate larger bicycles, including tandems, bicycles with trailers and cargo bikes.

Justification: Higher-quality bicycle parking encourages more bicycling.

Lead Agency: Montgomery County Planning Department

2.20 Revise the Bicycle to School Policy



Description: Develop a countywide policy that permits children to bicycle to school.

Justification: School principals retain the authority to determine when students can bicycle to school and many prohibit bicycling due to safety concerns.

Lead Agency: Montgomery County Public Schools

2.21 Abandonments



Recommendations included in the Bicycle Master Plan should be considered as part of any right-of-way abandonment petition.

Lead Agency: Montgomery County Department of Transportation

2.22 Loading Zones



Develop a policy on loading zones that encourages loading zones to be located on-site and that consolidates loading zones and driveways immediately adjacent to one another.

Justification: Loading zones present potential conflicts between motorists and non-motorists. On-site loading zones are desirable especially in urban areas, because they provide a designated space for trucks outside the bikeway and sidewalk. Consolidating loading zones and driveways for the same building limits exposure for pedestrians and bicyclists along a roadway.

Lead Agency: Montgomery County Planning Department



IMPLEMENTING THE VISION

Developing a plan for a world-class bicycling community is the starting point. Taking the vision of the Bicycle Master Plan to reality will require a transformation in how Montgomery County incorporates bicycling into all aspects of its decision-making. The five main components of the implementation strategy are to:

1. Encourage a strong bicycling community.
2. Establish a task force to oversee implementation of the Bicycle Master Plan.
3. Develop small area infrastructure plans that serve as a bridge between the master plan and its implementation in areas of the county with significant development potential.
4. Upgrade design standards to reflect best practices.
5. Update mechanisms for implementation, bringing together public and private entities to create a high-quality bicycling network.
6. Prioritize the recommendations of the Bicycle Master Plan.

ENCOURAGING A STRONG BICYCLING COMMUNITY

Creating a world-class bicycling community requires more than building a bicycling network. The network needs to be promoted and supported by a vibrant bicycling culture. A world-class bicycle plan reaches beyond infrastructure to address programmatic elements and foster a culture of bicycling.

Montgomery County can help by establishing a BikeMontgomery Outreach Program, described on page 103 of this plan. Indicators of a healthy bicycling culture can include high profile public events, popular and festive group rides, places with a reputation as a bicycling destinations or simply a common acceptance among most people that bicycling is a normal, practical and useful mode of transportation.





The Washington Area Bicyclist Association's Celebrate the Silver Spring Circle! in 2017 was supported in part by the Montgomery County Planning Department and Department of Transportation.

ESTABLISHING A BICYCLE MASTER PLAN IMPLEMENTATION TASK FORCE

Upon approval of the Bicycle Master Plan, the Planning Board will establish a Bicycle Master Plan Implementation Task Force to guide implementation of the recommendations in the plan. This staff-level task force will include representatives of the Montgomery County Department of Transportation (Director's Office, Traffic Engineering, Transportation Engineering), Maryland State Highway Administration, Planning Department (Development Review, Bicycle Planning), Department of Parks, Department of General Services, Department of Permitting Services, CountyStat, Maryland Transit Administration and Washington Metropolitan Area Transit Authority. This task force will meet regularly to discuss ways to encourage bicycling and facilitate implementation of the Bicycle Master Plan. It will be chaired by the Montgomery County Planning Department and will report annually to the Montgomery County Council about the progress of the plan.

SMALL AREA INFRASTRUCTURE PLANS

The Bicycle Master Plan offers a high-level vision for a network of low-stress bikeways and bicycle storage facilities that will make Montgomery County a premier location for bicycle-based transportation and recreation. Although this plan provides many recommendations intended to accomplish this vision, it recognizes that a countywide planning effort cannot anticipate the site-specific complexities associated with each recommendation, including potential impacts on private property, traffic flow and environmental resources.

To facilitate the implementation of this plan's recommendations, the Montgomery County Department of Transportation and Montgomery County Planning Department will collaborate to create a series of small area infrastructure plans for areas of the county with high development potential. These communities include, but are not limited to, downtown Bethesda, downtown Silver Spring, Germantown, the Life Sciences Center, Rock Spring, Twinbrook, Wheaton central business district, White Flint and White Flint 2. It is anticipated that the cost of these studies will be recouped through greater construction of the bikeway network by developers as the county is able to provide developers with greater direction in designing and building bikeways.

The small area infrastructure plans will consider previous planning efforts, including the Bicycle Pedestrian Priority Area studies completed by the Montgomery County Department of Transportation and may incorporate recommendations from those studies.

The Montgomery County Planning Board may approve additional locations as appropriate for the development of small area infrastructure plans. Such plans will provide interim designs, where appropriate, and permanent designs for the bicycle facilities recommended in the Bicycle Master Plan. An interim design option will include a bikeway network that is likely to be implemented through public or private efforts, within the next five years. The permanent design option will outline what is possible during a longer period, when facility planning projects are implemented and developments are constructed.

In creating small area infrastructure plans for these areas, Montgomery County Department of Transportation and Planning Department staff will consider site-specific challenges associated with implementing the Bicycle Master Plan's recommendations and settle on preferred design options. This process will be particularly helpful in areas recommended for separated bike lanes, which can be designed in many different configurations. While a small area sketch plan is not intended to provide the only acceptable option for meeting the recommendations of the larger plan, it will offer both public and private developers a starting point for designing projects in conformance with those recommendations.

The Bicycle Master Plan envisions all small area infrastructure plans completed within three years of the plan's adoption by the Maryland-National Capital Park and Planning Commission. Each small area sketch plan must be approved by the Montgomery County Planning Board before it is considered complete.

BIKEWAY DESIGN STANDARDS

Bicycle facilities must be high-quality to attract bicyclists of all ages and bicycling abilities. For example, bike lanes designed without gutter seams, separated bikeways wide enough to accommodate expected bicycle volumes and off-street bikeways constructed with materials that will not degrade quickly as they age, are all critical to ensuring the development of a world-class bicycling network. To achieve the vision of the Bicycle Master Plan, Montgomery County will continue to update its Context-Sensitive Road Design Standards to ensure that it is delivering a high-quality product.

Trails and Sidepaths

Trails and sidepaths will continue to be the backbone of a low-stress bicycling network in most areas of Montgomery County, due to existing investments and compatibility with surrounding land uses. Unfortunately, there is a legacy of poor design of trails and sidepaths throughout the United States and these bikeways often do not create a high-quality bicycling environment. To improve the quality of new and existing trails and sidepaths, Montgomery County must revise its design standards to accommodate:

- **Design Speed:** Trails and sidepaths will be designed to enable a design speed of 12 mph in higher activity areas and 20 mph in lower areas (see page 66 for a description of these areas). Note that design speed is influenced by the pavement quality and bikeway curvature, among other conditions, and is not an endorsement of bicycling 20 mph in crowded locations.
- **Bikeway Width:** A bicycling network that allows people of all ages and bicycling abilities to use trails and sidepaths safely and conveniently requires constructing bikeways that are sufficiently wide to enable side-by-side bicycling and passing. Trails and sidepaths will be a minimum of 10 feet wide, although 8 feet is acceptable in areas with an environmental or historic constraint. A width of 11 feet enables two people to bicycle side-by-side while being passed by another bicyclist. A 14-foot-wide path is recommended on high volume trails and sidepaths. Trails of between 19 and 23 feet wide are recommended on the Breezeway Network and where a high level of existing or anticipated walking and bicycling makes it desirable to separate walking and bicycling. See Appendix B for additional design details.
- **Surface Quality:** Sidepaths in Montgomery County are plagued by degrading pavement, including pavement cracking and buckling due to the growth of tree roots. Sidepaths will be designed to withstand such root growth and vehicle loading since maintenance trucks will use them on occasion.

- **Intersections:** The design of sidepaths and trails will consider traffic control or grade separation at all mid-block crossings. Bicyclists (and pedestrians) should not be required to travel an unreasonable distance to get to a safe crossing location.
- **Driveways:** Driveways must be consolidated to the extent possible as part of development approvals and capital projects. On properties where driveways remain, property developers must improve sightlines for all users, reduce the speed of traffic and provide visual cues to motorists to look for pedestrians and bicyclists. Montgomery County will consider greater use of raised crossings along all minor street crossings and high-volume driveways.
- **Pedestrian/Bicycle-Scale Lighting:** Lighting is essential to provide safe and secure walking and bicycling facilities, and will help increase use of bikeways during the evening, especially during winter months when the sun sets earlier. While bicycle lights help with safety, they are insufficient to create a secure environment and are not typically used by pedestrians who will share these spaces.
- **Buffer from Traffic:** A minimum 5-foot-wide buffer is needed from vehicular traffic. Wider buffers are appropriate along roads with higher design speeds.
- **Obstructions:** Sidepaths must be direct and free from obstructions.



Pavement cracking is common on sidepaths

Separated Bike Lanes

Jurisdictions across the United States are using different approaches to implement separated bike lanes. Many are constructing these bikeways as interim / low-cost retrofits of existing rights-of-way using flexible delineator posts and paint, while others are constructing more permanent forms of separation, such as curb-separated bike lanes, that represent a permanent design standard. Although interim separation types can be easier to implement, agencies have raised concerns about their maintenance costs and aesthetics, noting that some of these separation types provide less protection from adjacent automobile traffic than more permanent solutions, which can be more aesthetically pleasing, although they often carry a higher cost.

Interim Separated Bike Lanes

As with many jurisdictions, Montgomery County is focusing its efforts at building a network of separated bike lanes as quickly as possible to provide responsiveness to public demands for improved bicycling and allow ongoing evaluation of new approaches to bikeways. Interim separated bike lanes address separation from traffic using flexible delineator posts, planters, parking stops, concrete barriers or rigid bollards, and are shown on the following pages. These projects substantially improve the comfort of bicycling by reducing traffic stress and make bicycling accessible to a greater segment of the population.

Responding to the strong desire to implement a network of bikeways as quickly as possible, these projects tend to employ interim designs that are low cost and may need to be upgraded over time to incorporate urban design and stormwater management opportunities and to achieve the lowest stress possible. Three features of interim separated bike lanes are discussed below.

Separated Bike Lane Widths

Interim separated bike lanes will have the following widths:

- One-way separated bike lanes: 5 feet at a minimum, exclusive of shy distances.
- Two-way separated bike lanes: 8 feet at a minimum, exclusive of shy distances.

Intersections

While the ultimate objective is to implement protected intersections as part of separated bike lane projects, this will not be feasible with all interim projects. Bike boxes and two-stage turn queue boxes are ways to improve intersections in the interim until full protected intersections can be implemented. Bike lane drops are inappropriate for interim separated bike lanes.

Separation from Traffic

Interim separated bike lanes address separation from traffic using flexible delineator posts, planters, parking stops, concrete barriers or rigid bollards, and are shown on the following pages. These forms of separation help to reduce the stress of bicycling, and can be improved over time as funding becomes available.



Interim separated bike lanes on Nebel Street in White Flint can be upgraded over time by new development or county projects



Paint and flexible delineator posts provide separation from traffic for these bike lanes in Washington, DC. Photo: Toole Design Group

INTERIM SEPARATION TYPE

Flexible Delineator Posts

LEVEL OF COMFORT/PROTECTION

- May not offer a high level of comfort to some riders due to lack of continuous separation.
- May be less suitable for young children due to the permeability of the separation.

AESTHETICS

- Less attractive than some other separation types. Multiple options for post types (color, shape, etc.).

CONSIDERATIONS

- Maintenance/ durability issues. May require closer spacing if parking encroachment is an issue.
- Easily accommodate emergency vehicle access.
- Fewest storm water/ drainage implications.

CAPITAL COSTS - Low, easy to install and remove

OPERATING COSTS - Low to medium (depending on frequency of damage).



Parking stops provide separation from traffic for these bike lanes in Washington, DC.

INTERIM SEPARATION TYPE

Parking Stops/ Precast Concrete Surface-Mounted Medians

LEVEL OF COMFORT/PROTECTION

- May not offer a high level of comfort due to limited height.
- Low profile reduces risks of pedal strikes.

AESTHETICS

- Can be less attractive than some other separation types.
- Multiple options (color, pattern, etc.) for parking stop and precast concrete median types.

CONSIDERATIONS

- Require minimal buffer space. Highly durable.
- Can create tripping hazards and access issues when adjacent to on-street parking.
- May need additional vertical objects or on-street parking to increase comfort of bicyclists.
- Low impact on storm water drainage.

CAPITAL COST - Low to medium

OPERATING COST - Low



Parked cars provide separation from traffic for this bike lane in Silver Spring, MD.

INTERIM SEPARATION TYPE

Parked Cars

LEVEL OF COMFORT/PROTECTION

- Moderate comfort due to potential for cars to be parked too close to the bikeway.

AESTHETICS

- Can be less attractive than some other separation types.

CONSIDERATIONS

- Separation from traffic should be at least 3 feet wide.

CAPITAL COST - Low to medium

OPERATING COST - Low



Planters provide separation from traffic for these separated bike lanes in Vancouver, British Columbia, Canada.

INTERIM SEPARATION TYPE

Planter Boxes

LEVEL OF COMFORT/PROTECTION

- High comfort due to height of planters and consistent wall of separation from traffic.

AESTHETICS

- Provides enhancement to streetscape with plantings. Multiple options for planter choice (size, color, shape, etc.).

CONSIDERATIONS

- Higher long-term maintenance costs (landscaping) than other types of separation.
- May not be appropriate for higher-speed roadways.
- Additional bike lane width required to provide offset from vertical obstruction.
- Lower impact on drainage if placed with spaces between planter boxes.

CAPITAL COST - Low to medium

OPERATING COST - Medium to high



Concrete barriers provide separation from traffic on this bike lane in Vancouver, British Columbia, Canada.

INTERIM SEPARATION TYPE

Concrete Barriers

LEVEL OF COMFORT/PROTECTION

- High level of protection due to consistent wall and height of separation.

AESTHETICS

- Lower aesthetic quality, though can be constructed with small planter area on top or decorative inset panels on sides.
- May require a crash cushion at ends.

CONSIDERATIONS

- Potential drainage and maintenance vehicle access issues.
- Incompatible with on-street parking.
- Additional bike lane width required to provide offset from vertical obstruction.
- Lower impact on drainage if placed with spaces between barriers.

CAPITAL COST - Medium

OPERATING COST - Low

Permanent Separated Bike Lanes

Permanent separated bike lanes create bicycling environments that are appropriate for people of all ages and bicycling abilities. They expand the capacity of the bicycling network by implementing wide bike lanes that enable passing and incorporate more aesthetically pleasing treatments and stormwater management.

Separated Bike Lane Widths

Permanent separated bike lanes will have the following widths:

- One-way separated bike lanes: 6.5 feet at a minimum (8.0 ft preferred), exclusive of shy distances.
- Two-way separated bike lanes: 10 feet at a minimum (11 ft preferred), exclusive of shy distances.

Intersections

Permanent separated bike lanes will reduce conflicts at intersections with protected intersections and mitigate the remaining conflicts.

Separation from Traffic

Permanent separation provides a high level of protection and often has greater potential for placemaking, quality aesthetics and integration with stormwater management. Examples of permanent separation include raised medians and raised separated bike lanes at an intermediate level, and are shown on the following pages. Each of these separation types provides an increasingly higher level of comfort for bicycling, separation from traffic and opportunity for improved aesthetics within the streetscape. Permanent separation can reduce maintenance costs associated with temporary separation and improve durability and bicyclists' safety on higher volume roadways.



Separated bike lanes on Maine Ave in Washington, DC



Raised medians provide separation from traffic for these bike lanes. Photo: Toole Design Group

PERMANENT SEPARATION TYPE

Raised Medians

LEVEL OF COMFORT/PROTECTION

- High level of comfort due to durability of median, potentially enhanced with plantings that provide additional height and sense of separation.

AESTHETICS

- With plantings, can add to streetscape aesthetic.
- Plantings will require additional maintenance.

CONSIDERATIONS

- Passenger unloading and pedestrian pass-through areas needed to accommodate on-street parking.
- Opportunity to incorporate green storm water infrastructure.
- High impact on storm water drainage; must be considered in design.

CAPITAL COST - High

OPERATING COST - Low to high (depending on plantings).



A landscaped buffer will provide separation from traffic on this separated bike lane at an intermediate level between the street and sidewalk in Vancouver, British Columbia, Canada.

PERMANENT SEPARATION TYPE

Raised Lane

LEVEL OF COMFORT/PROTECTION

- High level of comfort due to grade separation from automobiles.
- Adequate separation from pedestrians needed when at sidewalk level to ensure bicyclist and pedestrian comfort.

AESTHETICS

- Choice of pavement types for bike lane, buffers and sidewalk materials can enhance streetscape aesthetic.

CONSIDERATIONS

- Transitions at intersections, driveways and pedestrian crossings require additional consideration.
- Greater flexibility for curb reveal and drainage.
- May necessitate moving utility locations.

CAPITAL COST - High

OPERATING COST - Low

Phasing Separated Bike Lane Implementation

While Montgomery County should strive to implement permanent separated bike lanes, there are many cases where this will not be feasible in the short-term. Interim separated bike lanes can offer substantial benefits over the status quo.

Interim separated bike lanes will be implemented when:

- Project constraints, such as available right-of-way or funding, do not allow implementation of a permanent design in the short term.
- Interim separation will be upgraded in the future by private development or large-scale capital projects.
- There is a need to test design effectiveness over the short term or to quickly respond to significantly increased bicycle ridership, public demand or other issues.

Permanent separated bike lanes will be implemented when:

- Private developers are required to implement frontage improvements or internal road as part of their projects.
- The bikeway will be along a new or reconstructed road that will be constructed by public agencies or private developers.
- The bikeway will be constructed as part of a larger capital road or bicycle project.

Striped Bikeways

The Montgomery County Department of Transportation and the Maryland State Highway Administration install striped bikeways on roads through repaving projects when a lane diet (narrowing lanes) or road diet (removing lanes) is feasible. The Bicycle Master Plan supports striped bikeways where they are recommended in the bikeways section of this plan and on primary residential streets or other non-commercial streets. Striped bikeways are also recommended where the posted speed limit does not exceed 30 mph, where there are no more than three lanes of traffic, where traffic volumes do not exceed 6,000 vehicles per day and in non-commercial areas.

This plan endorses installing temporary striped bikeways as part of street resurfacing projects, where the striped bikeway is extended to the intersection, because they can reduce traffic stress by narrowing the road and providing a designated space for bicycling. Where striped bikeways are temporarily installed, the space can later be repurposed to install a master-planned recommended bikeway or achieve another county purpose.

IMPLEMENTATION MECHANISM

Montgomery County's bicycling network will be implemented through a number of mechanisms:

- Montgomery County Capital Improvements Program
- Montgomery County Planning Board's approval of development
- Public facility projects undertaken by the Montgomery County Department of Transportation, Maryland State Highway Administration and other agencies

Implementation Through Capital Improvements Program

One way that bicycle facilities are implemented in Montgomery County is through the capital improvements program. Montgomery County's capital budget provides the spending authority that county agencies need to implement projects. This six-year program for construction projects and improvements is comprehensively amended on even-numbered years and with less substantial adjustments during odd-numbered years.

The capital budget includes funding for several programs that improve bicycling, described in the programs section of this plan. Major funding programs include stand-alone projects, such as construction of new roads that include bikeways, stand-alone bikeway projects added to existing roads and facility planning projects that enable preliminary engineering of projects which include bikeways.

A typical planning process should include the components below. The first three components are included in most planning studies. This master plan recommends a new, fourth component:

1. **Review of master plan recommendations:** The starting point for any planning study should be to implement the master plan-recommended bikeway along the study corridor.
2. **Determine if space is sufficient to implement a master-planned bikeway:** One of the initial considerations facing designers is whether the master-planned bikeway fits within the existing right-of-way without excessive impacts to the surrounding community. If the master-planned bikeway fits, the project should begin with more detailed design following the master plan recommendation. If the master-planned bikeway does not fit, designers need to consider whether it is feasible to expand the existing right-of-way or repurpose space used within the existing right-of-way to accommodate the master-planned bikeway.
3. **Expand or repurpose the right-of-way:** In determining whether existing space can be repurposed, designers should consider road diets and lane diets. If sufficient space can be repurposed from existing elements in the roadway, the project should begin with more detailed design following the master plan recommendation. If sufficient space within the existing right-of-way cannot be repurposed, additional right-of-way may need to be purchased. If neither option is desirable, designers need to consider interim solutions.
4. **Interim solutions for bikeways:** Interim solutions should identify a moderate stress bikeway along the corridor and a low-stress bikeway on a parallel route where possible. Over the long-term,

designers should revisit the corridor to determine whether it becomes feasible to implement a low-stress bikeway along the road because additional right-of-way is available, fewer lanes are needed or some other reason.

Extensive public outreach is needed during project implementation as well as early coordination with project stakeholders, such as the Maryland State Highway Administration and Maryland-National Capital Park and Planning Commission.

Montgomery County Department of Transportation (MCDOT) Transportation Project Development Process

Facility planning for transportation projects, including bikeways, serves as the transition between the master plan and a stand-alone project within the county's Capital Improvements Program (CIP). As of 2018, the Montgomery County Department of Transportation's (MCDOT) Transportation Project Development Process includes several phases to evaluate and preliminarily design a proposed project, provide information for elected officials to determine if the project should be funded, and move forward to final design and construction. All phases include public involvement. These phases include:

- **Capital Funding Process:** Every year, MCDOT submits a capital budget request for the design and construction of current approved capital projects and new capital project expenses. After a project has successfully made it through the Transportation Facility Planning Process, it is ready to be submitted as a "stand alone" capital improvement project.
- **Planning & Analysis (Facility Planning Phase I):** This phase is a rigorous planning level investigation of the proposed improvements leading to a preferred alternative, concept development and a benefit / impacts assessment for the following critical elements: public participation, background data, purpose and need, travel demand forecasting, conceptual alignments and typical sections, preliminary impacts and a project summary report.
- **Preliminary Design and Engineering (Facility Planning Phase II & Final Design):** This phase begins the 35 percent preliminary engineering design work for the project while Final Design takes a project to full 100 percent design. Upon completion of 35 percent design and when the project is funded in the Capital Improvements Program (CIP), the Division of Transportation Engineering can proceed with final design of the project. The length of time necessary to perform design varies depending on the size and complexity of the project. Major tasks of Phase II include ongoing public participation, topographic survey, horizontal and vertical alignments, right-of-way / easements needed, environmental impacts, construction sequence and construction costs. At the completion of Phase II, the County Executive and County Council review the project to determine if the project merits consideration in the CIP as a funded stand-alone project.
- **Right-of-Way, Utilities and Permitting:** The County must apply for and obtain permits from several agencies before construction can begin. As the design work is completed and the alignments and profile of the project are finalized, all necessary Right of Way is acquired for the project.
- **Procurement and Construction:** When the plans and design for a project are completed, it is ready to be bid out for construction. During construction, the Transportation Construction Section supervises and inspects the Contractor's work to ensure the project is being constructed to Montgomery County's standards for design and quality, while minimizing the inconvenience to the public/community.

Implementation Through Development Approvals

Like many jurisdictions, Montgomery County supplements its capital projects by requiring the construction of bikeways through the development approval process. Developers are required to construct bicycle facilities within and along the frontage of their projects, as required by applicable master plans and local law. This private construction can result in substantial contributions to the bicycling network, such as long segments of on-road bikeways adjacent to larger-scale development projects. Other advantages to requiring developers to implement bicycle network improvements as part of their development projects include:

1. Reducing costs for Montgomery County by requiring construction by the private sector.
2. Encouraging the construction of bicycle facilities when adjoining properties that have frontage along the same master-plan bikeway redevelop.
3. Reducing future impacts to the community resulting from separate construction projects.
4. Avoiding the difficulty of constructing a bikeway in the public right-of-way, where a property owner perceives the space to be privately owned.

For smaller development projects, constructing incremental bicycling improvements at the time of development is desirable as long as it does not result in unsafe conditions or severe environmental impacts. In cases where the Planning Department and MCDOT staff determine that the project is unsafe, the developer must pay a *pro rata* share of the proposed bikeway or protected intersections construction costs to an appropriate capital improvements project. To determine the amount of the contribution, the developer must prepare a concept plan (30 percent engineering design / horizontal alignment) for the proposed bikeway or protected intersection for approval by MCDOT on county roads and MDOT / SHA on state roads.⁹

In addition, where staff determines that construction of a bikeway or protected intersection at the time of development is not desirable, the developer must facilitate future implementation of the bikeway or protected intersection by dedicating land or establishing other necessary easements to accommodate the future bikeway or protected intersection and ensuring that utilities, stormwater management facilities, streetscape improvements, landscaping and other features do not conflict with the future implementation of the permanent bikeway. For on-road striped bikeways, the developer must also construct shoulders that will be delineated with pavement markings. **If the minimum right-of-way recommended in a master plan is insufficient to accommodate the bicycle improvement, additional dedication or easements will be required to implement the bicycle improvement.** The small area infrastructure plans, described above, will help facilitate this process and limit conflicts between proposed bicycle facilities and new development.

The Bicycle Master Plan recommends many types of bicycle facilities throughout Montgomery County (see Appendix B). Where the plan recommends the following bikeways within a proposed private development or along a development's frontage on a public-right-of-way, the development must conform to the following standards, as applicable.

Trails

- Construct all trails internal to the project.
- Construct all trails along the project's right-of-way frontage.

⁹ The Montgomery County Department of Transportation and the Maryland State Highway Administration make the final decision in the design and implementation of bikeways through the development review process and capital improvements program.

Separated Bikeways

- Construct all separated bikeways (separated bike lanes and sidepaths) internal to the project.
- Construct all sidepaths along the project's right-of-way frontage.
- Upgrade all existing, interim separated bike lanes to permanent separated bike lanes, as discussed in the Bikeways Design Standards section of this plan.
- Construct new permanent separated bike lanes along the project's right-of-way frontage where there are logical end points for the bikeway, such as intersections, intersecting bikeways, pedestrian connections or other locations to be determined by the Montgomery County Department of Transportation.
- Lay the groundwork for future implementation (see sidebar below) of separated bike lanes along the project's right-of-way frontage where there are not logical end points for the bikeway, as determined by the Montgomery County Planning Board. In this case, the developer must also contribute the difference in cost between laying the groundwork and full implementation of the bikeway to the Montgomery County Department of Transportation for improvements to the local bikeway network.

Striped Bikeways

- Construct all bikeways internal to the project.
- Widen pavement to provide space for striped bikeways.
- Construct new striped bikeways along the project's right-of-way frontage where there are logical termini for the bikeway, such as intersections, intersecting bikeways, pedestrian connections or other locations to be determined by the Montgomery County Department of Transportation.
- Lay the groundwork for future implementation (see sidebar below) of striped bikeways along the project's right-of-way frontage where there are not logical termini for the bikeway, as determined by the Montgomery County Department of Transportation.

Bikeable Shoulders

- Construct all bikeable shoulders along the project's right-of-way frontage.

Shared Roads

- Construct all bikeways internal to the project.
- Construct all bikeways along the project's right-of-way frontage in consultation with the Montgomery County Department of Transportation.

Protected Intersections

- Dedicate right-of-way and implement protected intersection improvements at all portions of the intersection on the project's right-of-way frontage where at least one street is recommended to have a sidepath, separated bike lane, buffered bike lane or conventional bike lane.

Payments In Lieu of Constructing Bikeway Implementation

While the Bicycle Master Plan strongly recommends using the development approval approach discussed in the “Implementation through Development Approvals” section of the plan when determining what bikeways developers are required to construct as part of their projects, there will be instances, as described in blue box below, where the Planning Board determines that a development project, on a case-by-case basis, may not be required to follow this process. In those instances, the developer is required to make a financial contribution in lieu of constructing the sidewalk and / or bikeway to support the Planning Board’s finding of safe, adequate and efficient site access and circulation.

Laying the Groundwork for Future Implementation of Bikeways

The Montgomery County Planning Department and Department of Transportation may determine that it is not desirable to require a developer to fully implement a master-planned bikeway or protected intersection on the property’s right-of-way frontage because there are no logical end points to do so. In this case the developer will be required to enable the future implementation of the bikeway or protected intersection by dedicating land to the future bikeway or establishing easements where the future bikeway or protected intersection will go. In addition, the developer will ensure utilities, streetscape improvements and landscaping do not conflict with the future construction of the bikeway or protected intersection. Utilities and major streetscape elements, such as trees, will be located in such a way as to avoid the need for removal and reconstruction when the bicycle facility is implemented. For striped bikeways, this preparation includes paving shoulders that will be later marked with bike lanes. The prioritized small area infrastructure plans described above will help facilitate this process and limit conflicts between proposed bicycle facilities and new development.

Additional Requirements

A countywide plan such as the Bicycle Master Plan cannot anticipate all opportunities to implement bikeways that might arise. To ensure adequate bicycle facilities throughout the county, all developers must conform to the following standards:

- Developers with projects on non-master planned streets must implement the general bikeway application on page 66.
- When a development project has frontage on a street paralleling a major highway or arterial road and there is a gap in the street grid parallel to the major highway or arterial road, the developer must extend the street grid to the extent possible.
- Developers constructing dead-end streets must link these streets with trails to the extent possible.
- The sidepath and separated bike lane recommendations in this plan often recommend the side of the road where the bikeway is envisioned and whether separated bike lanes are envisioned to be one-way or two-way. For those bikeways that are listed as “Side TBD” in the bikeway table, the side of the road and the bikeway configuration will be determined by the Montgomery County Department of Transportation and Planning Department staff during a small area sketch plan study, a facility planning study or the development review process, whichever comes first.

Implementation Through Public Facility Projects

While the capital improvements program and the development approval process are the major mechanisms for implementing bikeways, other county projects offer the ability to realize these projects. Schools, libraries, recreation centers and other public facilities are important destinations that can benefit from and contribute to bicycling in Montgomery County. While it is preferable that master-planned bikeways are implemented as part of these county projects, at a minimum, the right-of-way for the bikeway must be provided to accommodate future improvements to infrastructure, streetscapes and bike facilities within the dedicated space.

All county public facility projects must ensure that utilities, streetscape improvements and landscaping do not conflict with the future implementation of the bikeway network. As with development approvals, utilities and major streetscape elements, such as trees, must be located in such a way as to avoid the need for removal and reconstruction when a bicycle facility is later implemented.

Public facility projects must also consider how people access and circulate on bicycles within the site. This accommodation not only includes the provision of very low stress bikeways that are appropriate for people of all ages and bicycling abilities, but also secure bicycle storage for people using the public facility.

IMPLEMENTING SEPARATED BIKE LANES IN CONSTRAINED CORRIDORS

In much of Montgomery County, street right-of-way is limited and there are often competing demands on using the available space. For this reason, building the county's planned network of separated bike lanes will require tough choices and trade-offs along the way. Guidance on designing separated bike lanes in constrained corridors is needed because in most cases, limited rights-of-way mean that installing a separated bike lane will require narrowing or reconfiguring an existing element of the streetscape, be it a travel lane, a street buffer or another element. While each element has unique considerations that inform its importance and design along a particular corridor, the interplay between streetscape elements can change the utility and effectiveness of the separated bike lane.

A context-sensitive evaluation of each location is required to determine the priority of streetscape elements without compromising any user's safety or inhibiting the street's function within the multimodal transportation network. Developing general guidance on priority streetscape elements based on the local context of the street under consideration will save county planners time in performing each individual context-sensitive evaluation and help ensure consistent application.

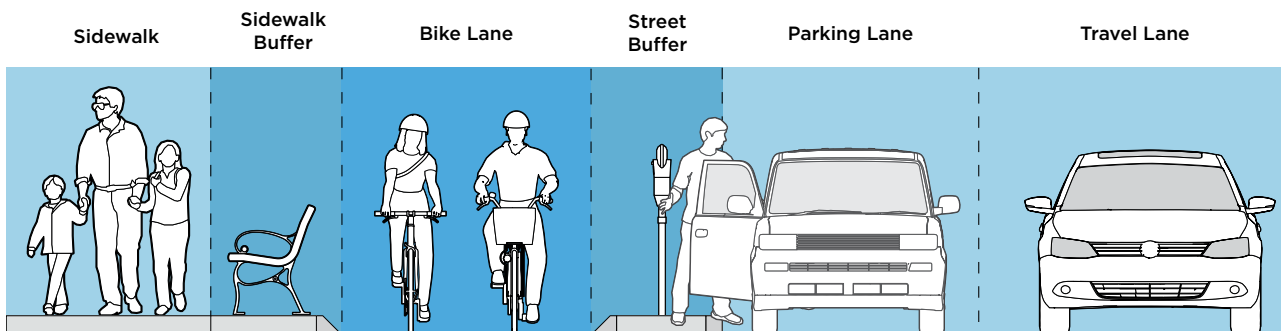
Above all, the following guidance is shaped by the central consideration that the installation of a separated bike lane should not detract from the safety and comfort of those walking. Fortunately, if designed appropriately, separated bike lanes can enhance the walking experience by providing greater separation between bicyclists and pedestrians, and pedestrians and motor vehicles, improving the aesthetic of the overall streetscape (if street trees and beautification are part of the design) and calming traffic (if lane narrowing or curb radii improvements are part of the design).

Designing Separated Bike Lanes In Constrained Corridors

Designing a separated bike lane in a constrained corridor involves reallocating space from one or more streetscape zones and installing a bicycle facility that is appropriate in type and width to the corridor. The following section discusses where the space can be reallocated to make room for the appropriate bicycle facility. This guidance is flexible, as specific roadway conditions may result in a reordering of these priorities.

Starting at the building faces and moving toward the street centerline, the zones are as described below.

- **Sidewalk:** The area designated for pedestrian travel.
- **Sidewalk Buffer:** The area located between the separated bike lane and the sidewalk. Its presence helps to discourage encroachment between bicyclists and pedestrians.
- **Separated Bike Lane:** The bicyclist operating space located between the street buffer and sidewalk buffer.
- **Street Buffer:** The area situated between the separated bike lane and motor vehicle traffic. In general, the faster the speed of traffic, the wider the street buffer needs to be in order to create a low-stress bicycling experience.
- **Parking Lane:** Paved areas adjacent to the street curb where motor vehicles can be stored when not in use.
- **Travel Lane:** Paved area of a street that carries automobile traffic through a corridor.



Zones of a separated bike lane street

Narrowing Travel Lanes: When looking for space to install a separated bike lane, narrowing the vehicular travel lanes should be considered first, regardless of the corridor's context. Montgomery County Code specifies the maximum travel lane widths in urban areas and many streets have lanes that are wider than the standard minimum. Specifically, Section 49-32 of the Montgomery County Code sets the maximum lane width as 10 feet for travel lanes in urban areas, although the outside travel lane should be no wider than 11 feet, including the gutter pan or when adjacent to on-street parking. This legislation is supported by the American Association of State Highway and Transportation Officials (AASHTO) Green Book, which specifies 10-foot travel lanes on roadways with speed limits below 45 mph.

Research indicates that 10-11-foot travel lanes on urban and suburban arterials do not have a negative effect on safety or vehicular capacity.¹⁰ Narrowing roadways has a traffic calming effect that makes traffic conditions safer for all users, including drivers. The width available for a separated bike lane resulting from the lane diet depends on how wide and how many travel lanes currently exist. As an example, on a four-lane road with 12-foot-wide lanes, narrowing the lanes to 10- and 11-foot widths provides 6 feet that could be reallocated for a separated bike lane.

Eliminating On-Street Parking: Depending on parking lane width, removing one on-street parking lane can provide 7 or more feet for separated bike lanes.

Eliminating Travel Lanes: If a road has more travel lanes than necessary based on traffic volume, the lanes can be removed to provide space for separated bike lanes. There are other instances when travel lane removal should be considered due to the safety or operational benefits of fewer lanes.

Narrowing or Eliminating the Sidewalk Buffer: The space separating the sidewalk from the separated bike lane, which may hold landscaping or street furniture, can be minimized or removed to provide space for the bicycle facility.

Narrowing the Street Buffer: In general, the recommended street buffer width is 6 feet. In constrained conditions, street buffers may be narrowed to 2 feet.

Narrowing Separated Bike Lanes to Minimum Widths: While the ideal width for separated bike lanes is a function of expected peak hour use, in constrained circumstances, there are minimum recommended widths. For one-way separated bike lanes adjacent to curbs, lanes should be at least 5 feet wide. A width of 4 feet is allowed for short sections if vertical separation, such as curbs or planters, is not directly adjacent to the bike lane.

For a two-way separated bike lane, a minimum width of 8 feet is recommended. On constrained corridors with steep grades, wider bike lanes may be provided in the uphill roadway direction to enable faster moving bicyclists to pass slower ones. See Appendix B for more information about separated bike lanes widths.

Narrowing the Sidewalk: If the sidewalk is wider than necessary to accommodate current and planned pedestrian demand, it can be narrowed to provide space for a separated bike lane. Minimum sidewalk width in an urban context is 5 feet. As described below, this minimum sidewalk width is almost always the last resort, as bicycle facilities should enhance and not compromise the quality of the pedestrian environment.

¹⁰ Potts, Ingird B., Douglas W. Harwood, and Karen R. Richard. "Relationship of Lane Width to Safety on Urban and Suburban Arterials." Transportation Research Record, Issues 2023 (2007): 63-82.

Defining Street Types

This section presents four different street types and recommends a hierarchy that can help planners consider where to repurpose space for separated bike lanes in a constrained urban environment. When identifying space for separated bike lanes on these corridors, planners should use the table below.

Traffic Priority: These streets carry significant traffic volumes and are major regional travel arteries. Roads that fall into this street type include Georgia Avenue and Colesville Road in Montgomery County.

Sidewalk Café Priority: These are streets with continuous ground-floor retail where outdoor seating and the pedestrian environment are particularly important. One example of this type of street is Woodmont Avenue between Elm Street and Bethesda Avenue in Montgomery County. On these streets, sidewalks and sidewalk buffers should not be narrowed. These streets require ample pedestrian space as an essential part of their public realm, facilitating commerce and social exchange.

On-Street Parking Priority: These streets have a high demand for on-street parking and limited or no off-street short-term parking options located within one or two blocks. One example of this type of street is Cordell Avenue from Old Georgetown Road to Wisconsin Avenue in Montgomery County. On these streets, on-street parking should remain part of the street design. Land uses on these streets require on-street parking to be successful.

Bikeway Priority: These are streets identified as priorities in the Bicycle Master Plan. They connect major destinations where no low-stress bikeway alternatives currently exist within three blocks. An example street is Bradley Boulevard between Wisconsin Avenue and Glenbrook Road in Montgomery County.

	TRAFFIC PRIORITY	SIDEWALK CAFÉ PRIORITY	ON-STREET PARKING PRIORITY	BIKEWAY PRIORITY
Narrowing travel lanes to minimum widths	1	1	1	1
Eliminating on-street parking	2(b)	3(e)	N/A	2
Narrowing or eliminating the sidewalk buffer	3	N/A	3	4
Narrowing the street buffer	4(c)	4	4	5
Narrowing the separated bike lane	5	5	5	6
Narrowing the sidewalk (a)	6	N/A	6	7
Eliminating travel lanes	7(d)	2	2	3

Notes

(a) Narrowing the sidewalk is only appropriate in areas where current or projected pedestrian volumes are low.

(b) Vehicles searching for parking and entering or exiting parking spaces slow through traffic and create vehicular conflicts. The main function of these streets is not affected by parking removal.

(c) On traffic priority streets, higher traffic speeds and volumes make the street buffer very important for bicyclist comfort, especially if there is no on-street parking.

(d) This action may only be considered as a last resort because lane removal may create operational issues for the street.

(e) This action may have an adverse effect on retail businesses, but nearby off-street parking may be able to accommodate the short- and long-term parking need.



Vancouver, British Columbia

PRIORITIZATION

The network of bikeways and bicycle parking stations recommended in the Bicycle Master Plan is extensive and it is likely to be only partially completed during the 25-year life of this plan. Such a large network is proposed so that opportunities to implement the preferred bicycling network are not lost when unforeseen circumstances arise. However it is important to identify bikeway network priorities because funding for implementation is limited.

The approach to prioritizing the bicycling network is based on reaching the targets established for each metric in the Goals, Objectives, Metrics and Targets section of this plan. The priorities focus on increasing bicycling in the county as quickly as possible, by focusing initial efforts on constructing networks of bikeways in places that the Montgomery County Council has designated as Bicycle Pedestrian Priority Areas (BPPA)¹¹ and completing connections between major activity centers. Also prioritized are missing gaps in the existing low-stress bicycling network and low-cost bike-ways, such as neighborhood greenways, which will funnel bicyclists to the BPPAs.

The bikeway and bicycle parking station prioritization in this plan are guidelines based on the best available information at the time the plan was approved by the Montgomery County Council. This prioritization should be reassessed every few years based on available resources, lessons learned and to ensure consistency with the goals of the plan and to ensure continuity of the bicycling network. In addition, the implementation of bikeways and bicycle parking stations that are identified as lower priorities in this plan can be accelerated as opportunities to implement them arise, such as redevelopment projects and state and local capital projects.

A summary of the process used to develop the bikeway recommendations is included in Appendix E.

Bicycle Pedestrian Priority Areas



¹¹ Montgomery County has designated 31 areas as Bicycle Pedestrian Priority Areas. These locations have higher existing or anticipated levels of walking and bicycling and are prioritized for improvements to walking and bicycling.

Prioritization of Bikeways

The figure below shows how the proposed bicycle network would be built out. Currently about 261 miles of the recommended bikeway network exists. Within the 25-year life of this plan, an additional 356 miles would be constructed, including bikeways that are currently programmed in the county's capital budget and projects prioritized in one of four tiers. Approximately 44 percent of the recommended bikeway network would be constructed beyond the 25-year life of this plan.



To meet the aggressive timeframe for implementing Tier 1 bikeway projects, Montgomery County will need to program additional funds for the Bicycle Pedestrian Priority Areas program and create a new Neighborhood Greenway program. Even with additional funding, several Tier 1 projects, such as Rockville Pike in White Flint, will require substantial dedication from development approvals before they can be implemented.

It is envisioned that most separated bike lane projects will be initially implemented with interim construction (see pages 127 to 132), supplemented (and/or upgraded) by permanent separated bike lane construction (pages 133 to 135) as part of stand-alone facility planning projects by the Montgomery County Department of Transportation and development approvals.

Programmed Bikeways

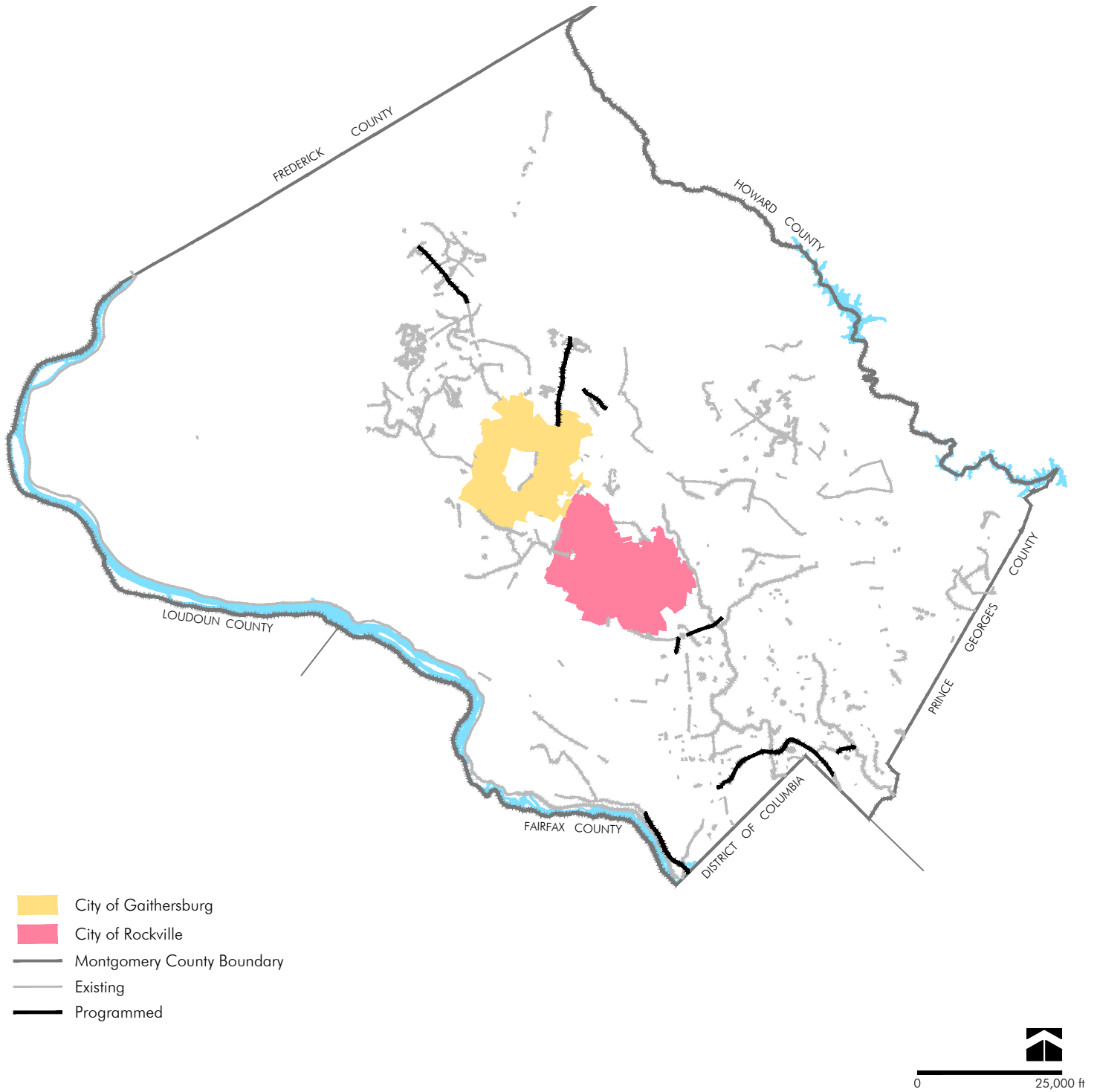
Programmed bikeways include those that are completely or partially funded for construction in the county's six-year capital improvements budget and are components of the recommended low-stress bicycling network. The list of programmed bikeways shown below are recommended in existing master plans and are largely funded to be completed within 6 years. A full list of funded projects is available at montgomerycountymd.gov/OMB

23 Miles



Total = 283 Miles

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Capital Crescent Trail (Surface Route)	Woodmont Ave	Elm Street Park	Separated Bike Lanes	Bethesda CBD	0.3
Capital Crescent Trail Breezeway	Elm St Park	Silver Spring Transit Center	Off-Street Trail	Multiple	4.8
Frederick Rd	Stringtown Rd	Brink Rd	Sidepath	Clarksburg	2.5
Goshen Rd	Warfield Rd	Girard St	Sidepath and Conventional Bike Lanes	Montgomery Village/Airpark	6.0
MacArthur Blvd	Goldsboro Rd	District of Columbia	Sidepath and Bikeable Shoulders	Bethesda/Chevy Chase (West)	5.0
Metropolitan Branch Trail	Silver Spring Transit Center	Montgomery College	Off-Street Trail	Silver Spring CBD	0.5
Potomac to Veirs Mill Road Breezeway	Randolph Rd	Veirs Mill Rd	Sidepath	Multiple	1.3
Old Georgetown Rd (South)	Towne Rd	Old Georgetown Rd	Sidepath	White Flint	0.3
Silver Spring Green Trail	Cedar St	Sligo Creek Pkwy	Sidepath	Silver Spring/Takoma Park (East)	0.7
Snouffer School Rd	Centerway Dr	Sweet Autumn Dr	Sidepath	Montgomery Village/Airpark	1.0
White Flint to Rock Spring Breezeway	Montrose Pkwy	Old Georgetown Rd	Separated Bike Lanes	White Flint	0.3



Tier 1 Bikeway Projects

Tier 1 projects are recommended to be substantially completed within five years of approval of the Bicycle Master Plan. These projects include:

- Bikeways located in seven Bicycle Pedestrian Priority Areas.
- Neighborhood greenways feeding into these BPPA areas.
- Bikeways with high demand that are included in the capital improvements program.
- Other county priorities.

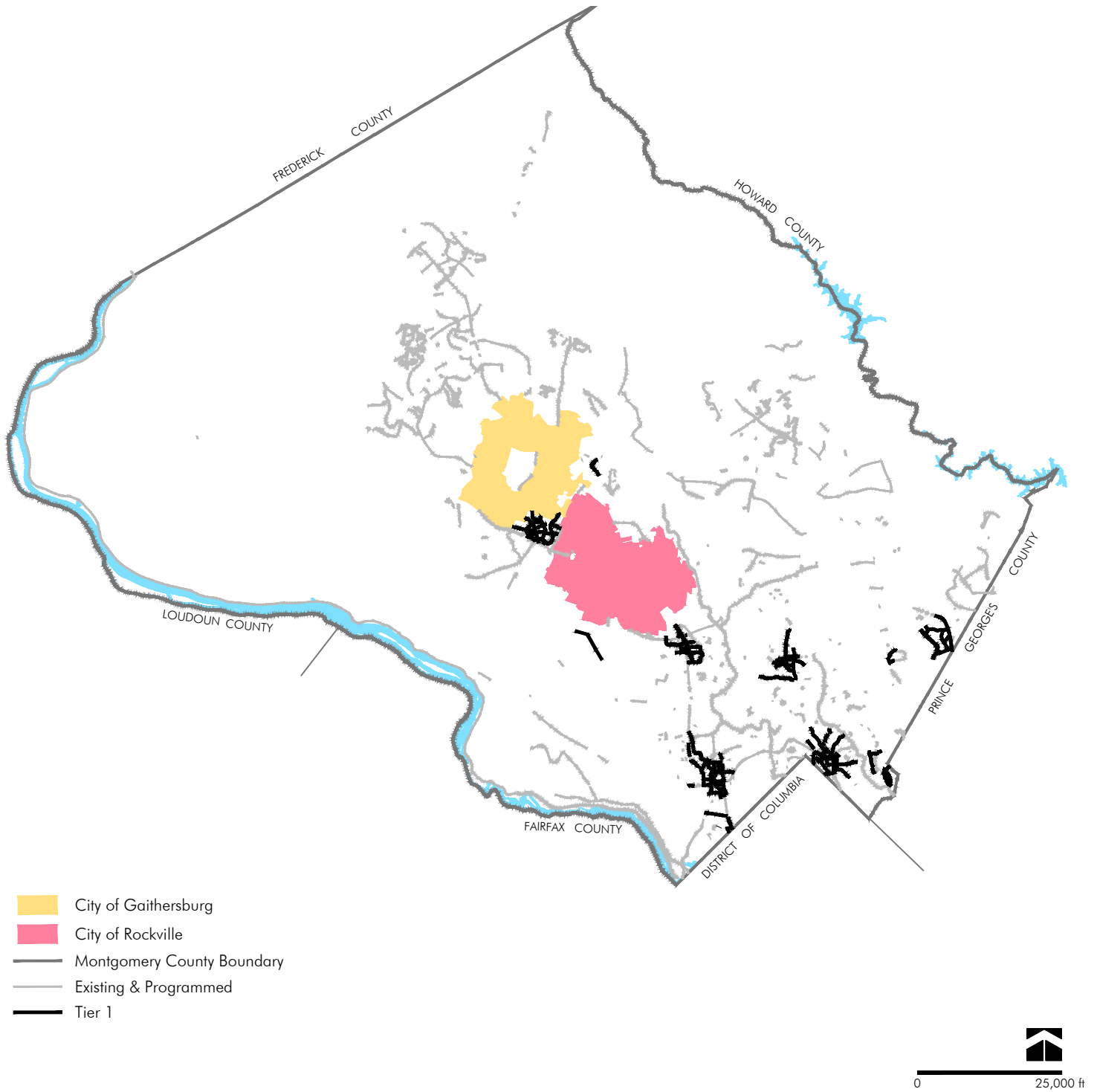
Projects that should be implemented immediately in Tier 1 are shown below and include those that are likely to have the highest demand due to their location around Metro stations and high-density areas. All other Tier 1 bike-ways are shown on the following pages.

56 Miles



Total = 340 Miles

STREET	FROM	TO	BIKEWAY	LENGTH (MI)
2nd Ave / Wayne Ave	Spring St	Georgia Ave	Separated Bike Lanes	0.5
Arlington Rd	Old Georgetown Rd	Bradley Blvd	Separated Bike Lanes	0.7
Bethesda Trolley Trail	Battery La	Rugby Ave	Off-Street Trail	0.1
Broadburch Dr	Tech Rd	Cherry Hill Rd	Separated Bike Lanes	0.7
Capital Crescent Trail Breezeway	Woodmont Ave	Elm Street Park	Off-Street Trail	0.2
Cherry Hill Rd	Prosperity Dr	Prince George's County	Separated Bike Lanes	1.3
City of Rockville to Friendship Heights Breezeway	Battery Ln	Old Georgetown Rd	Separated Bike Lanes	0.5
	NIH Property Line	Battery La	Off-Street Trail	0.1
	Old Georgetown Rd	Wisconsin Ave	Separated Bike Lanes	0.5
	Rockville Pike	Woodglen Dr	Separated Bike Lanes	0.1
Edgemoor La	Arlington Rd	Bethesda Metrorail Station	Separated Bike Lanes	0.2
Edgemoor La	Exeter Rd	Arlington Rd	Neighborhood Greenway	0.2
Fenton St	Ellsworth Dr	Wayne Ave	Separated Bike Lanes	0.1
Fenton St	Wayne Ave	King St	Separated Bike Lanes	0.6
Friendship Blvd	Willard Ave	District of Columbia	Separated Bike Lanes	0.2
Glenmont to Silver Spring Breezeway	Blueridge Ave	University Blvd	Separated Bike Lanes	0.1
	Cameron St	Ellsworth Dr	Separated Bike Lanes	0.2
	Planning Dept Parking Lot	Cameron St	Separated Bike Lanes	0.2
	University Blvd	Windham La	Separated Bike Lanes	0.7
Grandview Ave	Blueridge Ave	University Blvd	Separated Bike Lanes	0.1
Grandview Ave	University Blvd	Reedie Dr	Separated Bike Lanes	0.2
Marinelli Rd	Executive Blvd	Woodglen Dr	Separated Bike Lanes	0.2
Marinelli Rd	Woodglen Dr	Nebel St	Separated Bike Lanes	0.4
Medical Center Dr (Inner)	Great Seneca Hwy	Key West Ave	Separated Bike Lanes	1.1
Medical Center Dr Ext (Inner)	Key West Ave	Great Seneca Hwy	Separated Bike Lanes	0.4
Medical Center Dr Ext (Outer)	Key West Ave	Great Seneca Hwy	Separated Bike Lanes	0.5
Montgomery Ave	Wisconsin Ave	East-West Hwy	Separated Bike Lanes	0.2
Montgomery La	Woodmont Ave	Wisconsin Ave	Separated Bike Lanes	0.1
Veirs Mill Road to White Oak Brzwy	Columbia Pike	Prosperity Dr	Separated Bike Lanes	0.1
Woodmont Ave	Strathmore Ave	Wisconsin Ave	Separated Bike Lanes	0.2



Tier 1 Bikeways

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
13th St / Burlington Ave	District of Columbia	Fenton St	Separated Bike Lanes	Silver Spring CBD	0.3
16th St	Spring St	District of Columbia	Separated Bike Lanes	Silver Spring CBD	0.3
2nd Ave / Wayne Ave	Spring St	Georgia Ave	Separated Bike Lanes	Silver Spring CBD	0.5
Alton Pkwy - Edgevale Rd	Georgia Ave	Sligo Creek Trail	Neighborhood Greenway	Silver Spring/Takoma Park (West)	0.6
Anne St	University Blvd	Glenside Dr	Neighborhood Greenway	Takoma/Langley	0.3
Arlington Rd	Old Georgetown Rd	Bradley Blvd	Separated Bike Lanes	Bethesda CBD	0.7
Battery La / Exeter Rd	Old Georgetown Rd	Elm St	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.6
Battery La	Old Georgetown Rd	Wisconsin Ave	Separated Bike Lanes	Bethesda CBD	0.3
Belward Campus Dr (North Side)	Muddy Branch Rd	Great Seneca Hwy	Separated Bike Lanes	R&D Village	0.7
Bethesda - Somerset Neighborhood Greenway	Bradley Blvd	Norwood Rd	Off-Street Trail	Bethesda CBD	0.2
Bethesda Trolley Trail	Battery La	Rugby Ave	Off-Street Trail	Bethesda CBD	0.1
Blackwell Rd	Darnestown Rd	Shady Grove Rd	Separated Bike Lanes	R&D Village	1.1
Blueridge Ave	Grandview Ave	Taber St	Separated Bike Lanes / Neighborhood Greenway	Wheaton CBD	0.5
Bradley Blvd	Fairfax Rd	Wisconsin Ave	Separated Bike Lanes	Bethesda CBD	0.5
Broadbirch Dr	Tech Rd	Cherry Hill Rd	Separated Bike Lanes	White Oak	0.7
Broschart Rd (East Side)	Key West Ave	Darnestown Rd	Separated Bike Lanes	R&D Village	0.5
Burtonsville to Silver Spring Breezeway	Stewart La	Lockwood Dr	Separated Bike Lanes / Sidepath	White Oak	0.5
Burtonsville to Silver Spring Breezeway	White Oak Park Drwy	Lockwood Dr	Sidepath	White Oak	0.1
Burtonsville to Silver Spring Breezeway	Sligo Creek Trail	Spring St	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.7
Burtonsville to Silver Spring Breezeway	Spring St	Fenton St	Separated Bike Lanes	Silver Spring CBD	0.2
Cameron St	2nd Ave	Spring St	Separated Bike Lanes	Silver Spring CBD	0.3
Capital Crescent Trail Breezeway	Woodmont Ave	Elm Street Park	Off-Street Trail	Bethesda CBD	0.2
Capital Crescent Trail Breezeway Lighting	Elm Street Park	Silver Spring Transit Center	Off-Street Trail	Bethesda CBD	4.8

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Cheltenham Dr	Wisconsin Ave	Tilbury St	Separated Bike Lanes	Bethesda CBD	0.1
Cherry Hill Rd	Prosperity Dr	Prince George's County	Separated Bike Lanes	White Oak	1.3
City of Rockville to Friendship Heights Breezeway	City of Rockville	Marinelli Rd	Separated Bike Lanes	North Bethesda, White Flint	0.9
City of Rockville to Friendship Heights Breezeway	Rockville Pike	Woodglen Dr	Separated Bike Lanes	White Flint	0.1
City of Rockville to Friendship Heights Breezeway	Marinelli Rd	Edson La	Separated Bike Lanes	White Flint	0.2
City of Rockville to Friendship Heights Breezeway	Charles St	Cedar La	Sidepath	Bethesda/Chevy Chase (East)	0.2
City of Rockville to Friendship Heights Breezeway	Cedar La	South of Lincoln St	Sidepath	Bethesda/Chevy Chase (East)	0.5
City of Rockville to Friendship Heights Breezeway	Old Georgetown Rd	NIH Perimeter	Off-Street Trail	Bethesda/Chevy Chase (East)	0.7
City of Rockville to Friendship Heights Breezeway	NIH Property Line	Battery La	Off-Street Trail	Bethesda CBD	0.1
City of Rockville to Friendship Heights Breezeway	Bethesda Trolley Trail	Woodmont Ave	Separated Bike Lanes	Bethesda CBD	0.2
City of Rockville to Friendship Heights Breezeway	Battery Ln	Old Georgetown Rd	Separated Bike Lanes	Bethesda CBD	0.5
City of Rockville to Friendship Heights Breezeway	Old Georgetown Rd	Wisconsin Ave	Separated Bike Lanes	Bethesda CBD	0.5
City of Rockville to Friendship Heights Breezeway	Woodmont Ave	Bradley Blvd	Priority Shared Lane Markings	Bethesda CBD	0.2
City of Rockville to Friendship Heights Breezeway	Strathmore Ave	Wisconsin Ave	Separated Bike Lanes	Bethesda CBD	0.1
City of Rockville to Friendship Heights Breezeway	Bradley Blvd	Nottingham St	Sidepath	Bethesda/Chevy Chase (East)	0.1
City of Rockville to Friendship Heights Breezeway	Oliver St	District of Columbia	Separated Bike Lanes	Friendship Heights	0.4
City of Rockville to Wheaton Breezeway	College View Ave	Georgia Ave	Separated Bike Lanes	Wheaton CBD	0.6
Colesville Rd (North Side)	East-West Hwy	Wayne Ave	Separated Bike Lanes	Silver Spring CBD	0.1
Colesville Rd (South Side)	16th St	Georgia Ave	Separated Bike Lanes / Sidepath	Silver Spring CBD	0.5
Cornish Rd / Elm St	Bradley Blvd	Arlington Rd	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.5
Crabbs Branch Way (East Side)	Northern Terminus	Shady Grove Rd	Sidepath	Derwood	0.4
Custer Rd / Grant St / Park La	Sonoma Rd	Battery La	Neighborhood Greenway	Bethesda/Chevy Chase (East)	1.0
Discoverly Dr (North / West)	Great Seneca Hwy	City of Gaithersburg	Separated Bike Lanes	R&D Village	0.5
Diamondback Dr (East Side)	City of Gaithersburg	Discoverly Dr	Sidepath	R&D Village	0.5

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Diamondback Dr (East Side)	Decoverly Dr	Key West Ave	Separated Bike Lanes	R&D Village	0.2
Dixon Ave	Wayne Ave	Georgia Ave	Separated Bike Lanes	Silver Spring CBD	0.3
Dorset Ave	Little Falls Pkwy	Wisconsin Ave	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.8
Douglas Ave / McComas Ave / Windham La	St Paul St	Georgia Ave	Neighborhood Greenway	Kensington/Wheaton, Wheaton CBD	1.2
East Ave / Upton Dr	Upton Dr	University Blvd	Neighborhood Greenway	Wheaton CBD	0.2
East-West Hwy	16th St	Colesville Rd	Separated Bike Lanes	Silver Spring CBD	0.2
East-West Hwy	Colesville Rd	Georgia Ave	Separated Bike Lanes	Silver Spring CBD	0.5
Edgemoor La	Exeter Rd	Arlington Rd	Neighborhood Greenway	Bethesda CBD, Bethesda/Chevy Chase (East)	0.2
Edgemoor La	Arlington Rd	Bethesda Metrorail Station	Separated Bike Lanes	Bethesda CBD	0.2
Edson La	Woodglen Dr	Rockville Pike	Separated Bike Lanes	White Flint	0.2
Ellsworth Dr	Fenton St	Georgia Ave	Sidepath	Silver Spring CBD	0.2
Elm St Park - Bradley La	Elm St	Bradley La	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.4
Executive Blvd	Old Georgetown Rd	Nicholson La	Separated Bike Lanes	White Flint	0.3
FDA Blvd (North Side)	Cherry Hill Rd	FDA Gate	Separated Bike Lanes	White Oak	0.8
Fenton St - Piney Branch Rd	Fenton St	Piney Branch Rd	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.6
Fenton St	Ellsworth Dr	Wayne Ave	Separated Bike Lanes	Silver Spring CBD	0.1
Fenton St	Wayne Ave	King St	Separated Bike Lanes	Silver Spring CBD	0.6
Flower - University	Flower Ave	University Blvd	Neighborhood Greenway	Long Branch Sector Plan	0.5
Friendship Blvd	Willard Ave	District of Columbia	Separated Bike Lanes	Friendship Heights	0.2
Germantown - Grosvenor Breezeway	Falls Rd	Tuckerman La	Off-Street Trail	Potomac	1.4
Germantown - Life Sciences Center Breezeway	Great Seneca Hwy	City of Rockville	Separated Bike Lanes	R&D Village	0.7
Germantown - Life Sciences Center Breezeway	Sam Eig Hwy	Darnestown Rd	Sidepath	R&D Village	0.5
Glenmont to Silver Spring Breezeway	Georgia Ave	Arcola Ave	Neighborhood Greenway	Kensington/Wheaton	0.7
Glenmont to Silver Spring Breezeway	Arcola Ave	Blueridge Ave	Separated Bike Lanes	Kensington/Wheaton, Wheaton CBD	0.3

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Glenmont to Silver Spring Breezeway	Blueridge Ave	University Blvd	Separated Bike Lanes	Wheaton CBD	0.1
Glenmont to Silver Spring Breezeway	University Blvd	Windham La	Separated Bike Lanes	Wheaton CBD	0.7
Glenmont to Silver Spring Breezeway	Columbia Blvd	Spring St	Neighborhood Greenway	Silver Spring/Takoma Park (West)	0.8
Glenmont to Silver Spring Breezeway	Planning Department Parking Lot	Cameron St	Separated Bike Lanes	Silver Spring CBD	0.2
Glenmont to Silver Spring Breezeway	Cameron St	Ellsworth Dr	Separated Bike Lanes	Silver Spring CBD	0.2
Glenside / Erskine	Carroll Ave	New Hampshire Ave	Neighborhood Greenway	Takoma/Langley	0.6
Grandview Ave	Arcola Ave	Blueridge Ave	Neighborhood Greenway	Kensington/Wheaton, Wheaton CBD	0.3
Grandview Ave	Blueridge Ave	University Blvd	Separated Bike Lanes	Wheaton CBD	0.1
Grandview Ave	University Blvd	Reedie Dr	Separated Bike Lanes	Wheaton CBD	0.2
Great Seneca Hwy (West Side)	Key West Ave	Darnestown Rd	Sidepath	R&D Village	0.5
Greenwood Ave	Piney Branch Rd	Wabash Ave	Neighborhood Greenway	Long Branch Sector Plan	0.3
Greenwood Ave	Wabash Ave	Division St	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.5
Industrial Pkwy (North Side)	Columbia Pike	FDA Blvd	Separated Bike Lanes	White Oak	1.0
Industrial Pkwy (South Side)	Columbia Pike	FDA Blvd	Separated Bike Lanes	White Oak	1.0
Jefferson St / Executive Blvd	City of Rockville	Old Georgetown Rd	Separated Bike Lanes	North Bethesda	0.6
Johns Hopkins Dr (West Side)	Belward Campus Dr	Key West Ave	Separated Bike Lanes	R&D Village	0.1
Jones Bridge Rd (South Side)	Glenbrook Pkwy	Maryland Ave	Sidepath	Bethesda/Chevy Chase (East)	0.1
Kennebec Ave	Sligo Creek Trail	Long Branch Trail	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.1
Kensington Blvd / Galt Ave	Kensington Blvd	Upton Dr	Neighborhood Greenway	Wheaton CBD	0.1
Kensington Blvd	Galt Ave	Grandview Ave	Sidepath	Wheaton CBD	0.3
Key West Ave (North Side)	Darnestown Rd	Great Seneca Hwy	Separated Bike Lanes	R&D Village	0.3
Leland St	Wisconsin Ave	46th St	Separated Bike Lanes	Bethesda CBD	0.1
Lockwood Dr / Stewart La	Old Columbia Pike	White Oak Park Drwy	Conventional Bike Lanes	White Oak	0.1
Lockwood Dr	White Oak Park Drwy	New Hampshire Ave	Sidepath	White Oak	0.2

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Marinelli Rd	Executive Blvd	Woodglen Dr	Separated Bike Lanes	White Flint	0.2
Marinelli Rd	Woodglen Dr	Nebel St	Separated Bike Lanes	White Flint	0.4
Maryland Ave / Pearl St	Jones Bridge Rd	Sleaford Rd	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.5
Medical Center Dr (Inner Side)	Great Seneca Hwy	Key West Ave	Separated Bike Lanes	R&D Village	1.1
Medical Center Dr Ext (Inner Side)	Key West Ave	Great Seneca Hwy	Separated Bike Lanes	R&D Village	0.4
Medical Center Dr Ext (Outer Side)	Key West Ave	Great Seneca Hwy	Separated Bike Lanes	R&D Village	0.5
Medical Center Dr (Outer Side)	Great Seneca Hwy	Broschart Rd	Separated Bike Lanes	R&D Village	0.1
Montgomery Ave	Wisconsin Ave	East-West Hwy	Separated Bike Lanes	Bethesda CBD	0.2
Montgomery Ave Greenway	Wisconsin Ave	Belmont Ave Trail	Separated Bike Lanes	Friendship Heights	0.1
Montgomery La	Woodmont Ave	Wisconsin Ave	Separated Bike Lanes	Bethesda CBD	0.1
Nebel St Ext	Nicholson Ln	Rockville Pike	Separated Bike Lanes	White Flint	0.7
Nebel St	Randolph Rd	Nicholson Ln	Separated Bike Lanes	White Flint	0.2
Nicholson Ln	Old Georgetown Rd	Rockville Pike	Separated Bike Lanes	White Flint	0.5
Nicholson Ln	Rockville Pike	Nebel St	Separated Bike Lanes	White Flint	0.4
Norfolk Ave	Rugby Ave	Woodmont Ave	Shared Street	Bethesda CBD	0.3
Norfolk Ave	Woodmont Ave	Wisconsin Ave	Separated Bike Lanes	Bethesda CBD	0.1
Old Georgetown Rd	Rockville Pike	Nebel St	Separated Bike Lanes	White Flint	0.3
Old Georgetown Rd (South Side)	Rockville Pike	Towne Rd	Separated Bike Lanes	White Flint	0.3
Old Georgetown Rd	Woodmont Ave	Wisconsin Ave	Separated Bike Lanes	Bethesda CBD	0.1
Omega Dr	Fields Rd	Key West Ave	Separated Bike Lanes	R&D Village	0.5
Pearl St	Sleaford Rd	East West Hwy	Separated Bike Lanes / Neighborhood Greenway	Bethesda CBD	0.2
Pearl St	East West Hwy	Montgomery Ave	Separated Bike Lanes	Bethesda CBD	0.1
Pearl St	Montgomery Ave	Capital Crescent Trail	Shared Street	Bethesda CBD	0.1
Piedmont Crossing LP Trail	Amity Dr	Crabbs Branch Way	Off-Street Trail	Derwood	0.4

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Plum Orchard Dr	Broadbirch Dr	Cherry Hill Rd	Separated Bike Lanes	White Oak	0.6
Prichard Rd	Georgia Ave	Amherst Ave	Separated Bike Lanes	Wheaton CBD	0.2
Reedie Dr	Veirs Mill Rd	Georgia Ave	Shared Street	Wheaton CBD	0.1
Reedie Dr	Georgia Ave	Amherst Ave	Separated Bike Lanes	Wheaton CBD	0.1
Rockville Pike (East Side)	Bou Ave	Edson La	Separated Bike Lanes	North Bethesda, White Flint	1.2
Rockville Pike (East Side)	City of Rockville	Bou Ave	Separated Bike Lanes	North Bethesda	0.2
Rockville Pike (West Side)	Marinelli Rd	Edson La	Separated Bike Lanes	White Flint	0.5
Rosedale Ave	Wisconsin Ave	Neighborhood Connector	Neighborhood Greenway	Bethesda CBD	0.2
Silver Spring - Glenmont Bikeway	16th St	Spring St	Neighborhood Greenway	Silver Spring/Takoma Park (West)	0.4
Silver Spring Ave	Georgia Ave	Grove St	Priority Shared Lane Markings	Silver Spring CBD	0.3
Silver Spring Ave	Grove St	Piney Branch Rd	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.7
Sleaford Rd	Tilbury St	Capital Crescent Trail	Neighborhood Greenway	Bethesda CBD, Bethesda/Chevy Chase (East)	0.5
Spring St	16th St	2nd Ave	Separated Bike Lanes	Silver Spring CBD	0.1
St Elmo Ave	Woodmont Ave	Old Georgetown Rd	Conventional Bike Lanes	Bethesda CBD	0.1
Street B-5	Plum Orchard Dr	FDA Blvd	Separated Bike Lanes	White Oak	0.4
Tech Rd	Columbia Pike	Industrial Pkwy	Separated Bike Lanes	White Oak	0.3
Tilbury St	Rosedale Ave	Sleaford Rd	Neighborhood Greenway	Bethesda CBD	0.3
Towne Rd (West Side)	Rockville Pike	Montrose Pkwy	Separated Bike Lanes	North Bethesda	0.2
Traville Gateway Dr Ext	Darnestown Rd	Medical Center Dr	Separated Bike Lanes	R&D Village	0.1
University Blvd	Valley View Ave	Veirs Mill Rd	Separated Bike Lanes	Wheaton CBD	0.3
Veirs Mill Road to White Oak Breezeway	Columbia Pike	Prosperity Dr	Separated Bike Lanes	White Oak	0.1
Wayne Ave - Philadelphia Ave	Wayne Ave	Philadelphia Ave	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.7
Wayne Ave	Georgia Ave	Cedar St	Separated Bike Lanes	Silver Spring CBD	0.3
Wheaton Plaza Entrance	University Blvd	Wheaton Plaza Ring Rd	Separated Bike Lanes	Wheaton CBD	0.1

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Wheaton Plaza Entrance	Veirs Mill Rd	Wheaton Plaza Ring Rd	Separated Bike Lanes	Wheaton CBD	0.1
Wheaton to Takoma / Langley Breezeway	Valley View Ave	Amherst Ave	Separated Bike Lanes	Wheaton CBD	0.4
Wheaton to Takoma / Langley Breezeway	Amherst Ave	Dayton St	Sidepath	Wheaton CBD	0.4
Wildwood Dr	Carroll Ave	Glenside Dr	Neighborhood Greenway	Takoma/Langley	0.6
Willard Ave Trail	Willard Ave	Western Ave	Off-Street Trail	Bethesda/Chevy Chase (East), Friendship Heights	0.1
Woodmont Ave	Strathmore Ave	Wisconsin Ave	Separated Bike Lanes	Bethesda CBD	0.1

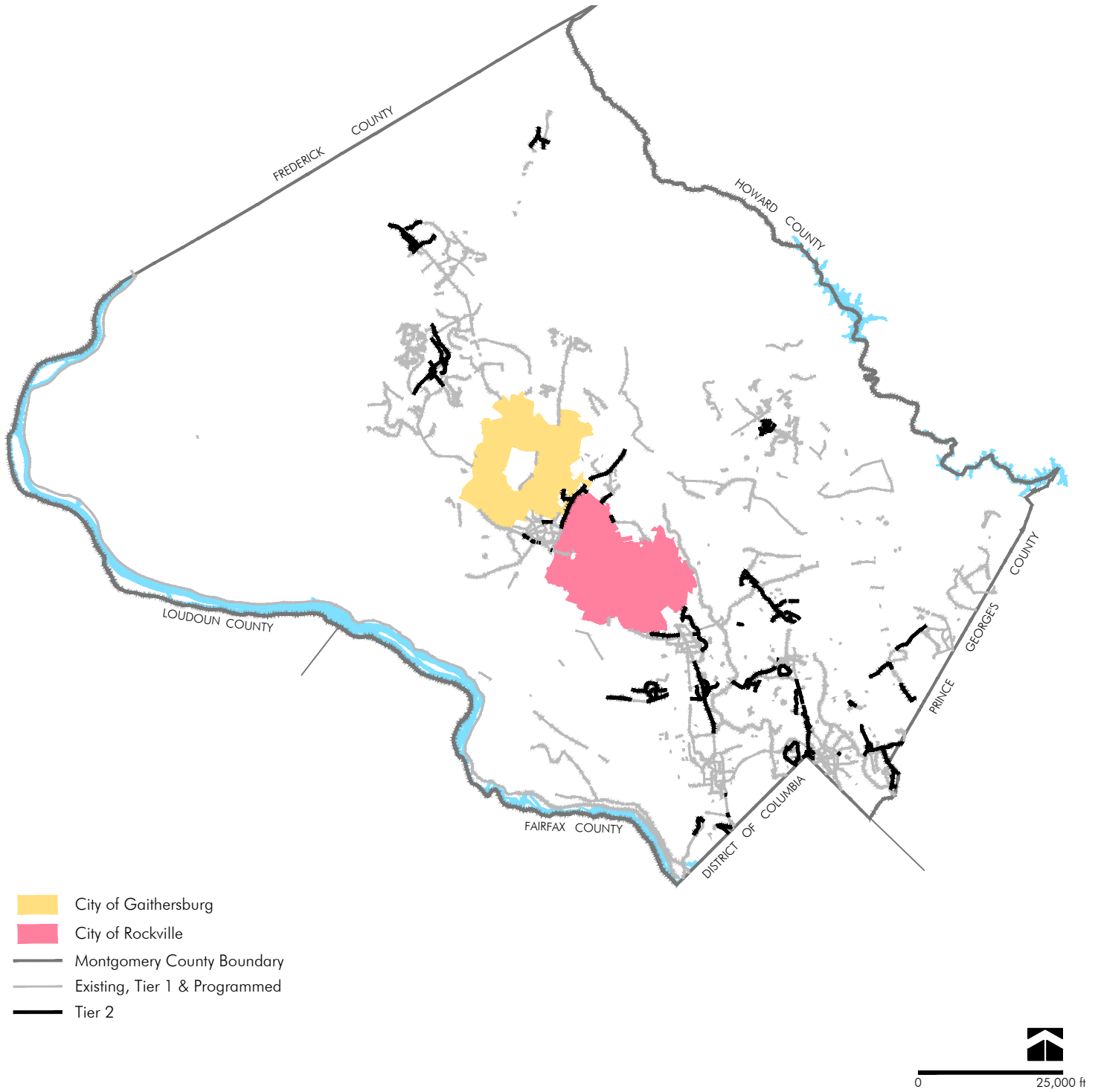
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Tier 2 Bikeway Projects

Tier 2 projects are recommended to be substantially completed within 10 years of approval of the Bicycle Master Plan. These projects include:

- Bikeways located in the remaining Bicycle Pedestrian Priority Areas.





Tier 2 Bikeways

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
16th St	Georgia Ave	Spring St	Separated Bike Lanes	Silver Spring/Takoma Park (West)	0.8
Arliss St	Flower Ave	Piney Branch Rd	Separated Bike Lanes	Long Branch Sector Plan	0.3
Aspen Hill Rd	Connecticut Ave	Georgia Ave	Separated Bike Lanes	Aspen Hill	0.3
Bradley Ln	Wisconsin Ave	West Ave	Separated Bike Lanes	Bethesda CBD	0.1
Burtonsville to Silver Spring Breezeway	New Hampshire Ave	Columbia Pike	Sidepath	White Oak	0.8
Burtonsville to Silver Spring Breezeway	Tech Rd	Stewart La	Sidepath	Fairland/Colesville, White Oak	1.3
Century Blvd	Aircraft Dr	Middlebrook Rd	Priority Shared Lane Markings	Germantown Town Center	0.4
Century Blvd	Middlebrook Rd	Wisteria Dr	Priority Shared Lane Markings	Germantown Town Center	0.2
City of Rockville to Friendship Heights Breezeway	Bradley Blvd	Oliver St	Sidepath	Bethesda/Chevy Chase (East)	0.1
Clarksburg Rd	Frederick Rd	Gateway Center Dr	Sidepath and Conventional Bike Lanes	Clarksburg Town Center	0.4
Clarksburg to City of Gaithersburg Breezeway	Shady Grove Rd	City of Rockville	Sidepath	Shady Grove Metro Station	0.2
Clarksburg to City of Gaithersburg Breezeway	Paramount Dr	East Gude Dr	Sidepath	Derwood	0.2
Colie Dr	Randolph Rd	Havard St	Sidepath	Kensington/Wheaton	0.2
Connecticut Ave (East Side)	Georgia Ave	Aspen Hill Rd	Separated Bike Lanes	Aspen Hill	0.3
Connecticut Ave (East Side)	Aspen Hill Rd	Independence St	Separated Bike Lanes	Aspen Hill	0.3
Connecticut Ave (West Side)	Farragut Ave	Knowles Ave	Separated Bike Lanes	Kensington/Wheaton	0.3
Crystal Rock Dr (East Side)	Father Hurley Blvd	Cloverleaf Dr	Separated Bike Lanes	Germantown Town Center	0.3
Crystal Rock Dr (East Side)	Cloverleaf Dr	Aircraft Dr	Separated Bike Lanes	Germantown Town Center	0.3
Crystal Rock Dr (East Side)	Aircraft Dr	Germantown Rd	Separated Bike Lanes	Germantown Town Center	0.4
Crystal Rock Dr	Germantown Rd	Middlebrook Rd	Sidepath	Germantown West	0.4
Darnestown Rd (North Side)	Key West Ave	City of Rockville	Sidepath	R&D Village	0.4
Denley Rd	Randolph Rd	Georgia Ave	Neighborhood Greenway	Glenmont, Kensington/Wheaton	0.5

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
East-West Hwy	Sundale Dr	16th St	Sidepath	Silver Spring/Takoma Park (West)	0.4
Flower Ave	Arliss St	Piney Branch Rd	Separated Bike Lanes	Long Branch Sector Plan	0.2
Franklin Ave - Arliss St	Franklin Ave	Arliss St	Neighborhood Greenway	Long Branch Sector Plan, Silver Spring/Takoma Park (East)	0.8
Frederick Rd	Comus Rd	Snowden Farm Pkwy	Sidepath and Bikeable Shoulders	Clarksburg Town Center	1.1
Frederick Rd	Snowden Farm Pkwy	Stringtown Rd	Sidepath	Clarksburg Town Center	0.7
Georgia Ave - Forest Glen Rd	Georgia Ave	Forest Glen Rd	Neighborhood Greenway	Kensington/Wheaton	0.9
Georgia Ave (East Side)	Wendy Ln	Hewitt Ave	Sidepath	Aspen Hill	0.2
Georgia Ave (West Side)	Lansdowne Way	16th St	Separated Bike Lanes	Silver Spring/Takoma Park (West)	0.4
Germantown to Life Sciences Center Breezeway	Century Blvd	Germantown Rd	Separated Bike Lanes	Germantown Town Center	0.1
Germantown to Life Sciences Center Breezeway	Dorsey Mill Rd	Aircraft Rd	Separated Bike Lanes	Germantown Town Center, Germantown West	1.4
Germantown Rd	Father Hurley Blvd	Middlebrook Rd	Sidepath	Germantown Town Center, Germantown West	1.1
Germantown Rd (South Side)	Crystal Rock Dr	Aircraft Dr	Sidepath	Germantown West	0.1
Glenallan Ave (South Side)	Georgia Ave	Layhill Rd	Separated Bike Lanes	Glenmont	0.3
Glenallan Ave (South Side)	Layhill Rd	Randolph Rd	Separated Bike Lanes	Glenmont	0.3
Glenmont to Silver Spring Breezeway	Windham Ln	Forest Glen Rd	Neighborhood Greenway	Kensington/Wheaton	1.1
Glenmont to Silver Spring Breezeway	Woodland Dr	Georgia Ave	Sidepath	Kensington/Wheaton	0.1
Glenmont to Silver Spring Breezeway	Forest Glen Rd	Woodland Dr	Off-Street Trail	Kensington/Wheaton, Silver Spring/Takoma Park (West)	0.4
Glenmont to Silver Spring Breezeway	I-495 Bridge (East Side)	Spring St	Neighborhood Greenway	Silver Spring/Takoma Park (West)	0.2
Glenside / Erskine	New Hampshire Ave	Prince George's County	Neighborhood Greenway	Takoma/Langley	0.2
Grosvenor La	Bethesda Trolley Trail	Rockville Pike	Sidepath	Grosvenor, North Bethesda	0.5
Grosvenor Pl	Tuckerman La	Grosvenor La	Sidepath	Grosvenor	0.5
Grubb Rd / Lyttons ville Rd	Brookville Rd	Lyttons ville Pl	Separated Bike Lanes	Silver Spring/Takoma Park (West)	0.1
Grubb Rd / Lyttons ville Rd	Lyttons ville Pl	East West Hwy	Separated Bike Lanes	Silver Spring/Takoma Park (West)	0.4

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Grubb Rd	Lyttonsville Rd	District of Columbia	Separated Bike Lanes	Silver Spring/Takoma Park (West)	0.3
High Corner St / Lewis Dr	Ridge Rd	Main St	Separated Bike Lanes	Damascus	0.2
Hillcrest Rd / Appomattox Ave	Georgia Ave	Spartan Rd	Separated Bike Lanes	Olney	0.2
Holton La	Wildwood Dr	New Hampshire Ave	Neighborhood Greenway	Takoma/Langley	0.1
Howard Ave / Montgomery Ave	Connecticut Ave	Kensington Pkwy	Sidepath	Kensington/Wheaton	0.1
Industrial Dr / Gaither Rd	City of Gaithersburg	Shady Grove Rd	Sidepath	Derwood	0.5
Intercounty Connector Trail Breezeway	MD 200 Ramp	Midcounty Hwy	Sidepath	Derwood	0.9
Intercounty Connector Trail Breezeway	Needwood Rd (South)	Shady Grove Access Rd	Sidepath	Shady Grove Metro Station	0.5
Knowles Ave	Rock Creek Trail	Summit Ave	Sidepath	Kensington/Wheaton	0.4
Layhill Rd (West Side)	Glenallan Ave	Georgia Ave	Separated Bike Lanes	Glenmont	0.2
Life Sciences Center to Shady Grove Metro Breezeway	Oakmont Ave	Crabbs Branch Way	Sidepath	Shady Grove Metro Station	0.3
Life Sciences Center to Shady Grove Metro Breezeway	Crabbs Branch Way	Shady Grove Access Rd	Sidepath	Shady Grove Metro Station	0.4
Life Sciences Center to Shady Grove Metro Breezeway	City of Gaithersburg	Frederick Rd	Sidepath	Shady Grove Metro Station	0.1
Life Sciences Center to Shady Grove Metro Breezeway	Frederick Rd	Key West Ave	Sidepath	Shady Grove Metro Station	1.5
Lyttonsville Rd / Michigan Ave	Pennsylvania Ave	Lyttonsville Pl	Neighborhood Greenway	Silver Spring/Takoma Park (West)	0.3
Main St	Lewis Dr	Woodfield Rd	Separated Bike Lanes	Damascus	0.2
Main St	Woodfield Rd	Howard Chapel Dr	Sidepath	Damascus	0.2
Middlebrook Rd (West Side)	Locbury Dr	Century Blvd	Separated Bike Lanes	Germantown Town Center	0.2
Middlebrook Rd (West Side)	Century Blvd	Germantown Rd	Separated Bike Lanes	Germantown Town Center	0.1
Montrose Ave	Tuckerman La	End of Montrose Ave	Sidepath	Grosvenor, North Bethesda	0.5
Montrose Rd	Montrose Pkwy	Towne Rd	Sidepath	North Bethesda	1.0
Morningwood Dr	Olney #1	Georgia Ave	Sidepath	Olney	0.2
New Hampshire Ave (East Side)	Lockwood Dr	Powder Mill Rd	Separated Bike Lanes / Sidepath	White Oak	0.9
New Hampshire Ave (East Side)	Powder Mill Rd	Prince George's County	Separated Bike Lanes	White Oak	0.1

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
New Hampshire Ave (East Side)	Sligo Creek Pkwy	Ethan Allen Ave	Sidepath	Silver Spring/Takoma Park (East)	0.1
New Hampshire Ave (West Side)	University Blvd	Glenside Dr	Separated Bike Lanes	Takoma/Langley	0.5
New Hampshire Ave (West Side)	Glenside Dr	Sligo Creek Pkwy	Sidepath	Takoma/Langley	0.1
Olney #2	Appomattox Ave	Spartan Rd	Separated Bike Lanes	Olney	0.3
Olney #6	Olney-Laytonsville Rd	Georgia Ave	Off-Street Trail	Olney	0.1
Olney to Glenmont Breezeway	Olney-Laytonsville Rd	Queen Mary Dr	Separated Bike Lanes	Olney	0.4
Olney to Glenmont Breezeway	Connecticut Ave	Wendy La	Sidepath	Aspen Hill	0.4
Olney to Glenmont Breezeway	Wendy La	Matthew Henson Trail	Neighborhood Greenway	Aspen Hill	0.4
Olney to Glenmont Breezeway	Matthew Henson Trail	Georgia Ave	Neighborhood Greenway	Glenmont, Kensington/Wheaton	1.7
Olney-Sandy Spring Rd (North Side)	Georgia Ave	Spartan Rd	Sidepath	Olney	0.2
Parklawn Dr / Nicholson La	Randolph Rd	Nebel St	Sidepath	North Bethesda, White Flint	0.8
Parklawn Dr	Twinbrook Pkwy	Randolph Rd	Sidepath	North Bethesda, Twinbrook	0.8
Piney Branch Rd	Sligo Creek Pkwy	Flower Ave	Sidepath	Long Branch Sector Plan, Silver Spring/Takoma Park (East)	0.2
Piney Branch Rd	Flower Ave	University Blvd	Separated Bike Lanes	Long Branch Sector Plan	0.5
Piney Branch Rd	University Blvd	Carroll Ave	Separated Bike Lanes	Long Branch Sector Plan	0.3
Piney Branch Rd	Carroll Ave	Prince George's County	Sidepath	Silver Spring/Takoma Park (East)	0.5
Plyers Mill Rd	Summit Ave	Lexington Ave Ext	Separated Bike Lanes	Kensington/Wheaton	0.3
Plyers Mill Rd	Lexington Ave Ext	St Paul St	Sidepath	Kensington/Wheaton	0.1
Porter Rd / Sundale Dr / Washington Ave	Michigan Ave	Grubb Rd	Neighborhood Greenway	Silver Spring/Takoma Park (West)	0.8
Potomac to Rock Spring Breezeway	Seven Locks Rd	Westlake Dr	Sidepath	Potomac	0.7
Potomac to Rock Spring Breezeway	Westlake Dr	Fernwood Rd	Sidepath	North Bethesda, Potomac	0.3
Potomac to Rock Spring Breezeway	Fernwood Rd	Old Georgetown Rd	Sidepath	North Bethesda	0.6
Powder Mill Rd	New Hampshire Ave	Prince George's County	Sidepath	White Oak	0.2

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Queen Mary Dr	Olney Elementary School	Georgia Ave	Sidepath	Olney	0.1
Randolph Rd	Nebel St	Parklawn Dr	Sidepath	North Bethesda	0.2
Ridge Rd	Woodfield Rd	Beall Ave	Sidepath	Damascus	0.1
Ridge Rd	Beall Ave	Main St	Separated Bike Lanes	Damascus	0.3
Ridge Rd	Main St	Bethesda Church Rd	Separated Bike Lanes	Damascus	0.3
River Rd (West Side)	Westbard Ave Ext	Capital Crescent Trail	Sidepath	Bethesda/Chevy Chase (West)	0.2
Rock Spring Dr	Fernwood Rd	Old Georgetown Rd	Separated Bike Lanes	North Bethesda	0.6
Rockledge Dr	Westlake Ter	Rockledge Blvd	Separated Bike Lanes	North Bethesda	0.6
Rockledge Dr	Rockledge Dr	Democracy Blvd	Separated Bike Lanes	North Bethesda	0.5
Rockville Pike (East Side)	Edson Ln	Strathmore Ave	Sidepath	North Bethesda, White Flint	0.4
Rockville Pike	Strathmore Ave	Grosvenor La	Sidepath	Grosvenor, North Bethesda	0.9
Rockville Pike	Grosvenor La	Cedar La	Sidepath	Bethesda/Chevy Chase (East), Grosvenor, Kensington/Wheaton	1.2
Shady Grove Rd (East Side)	Frederick Rd	Key West Ave	Sidepath	Rockville City	0.1
Shady Grove Rd (South Side)	Crabbs Branch Way	Shady Grove Access Rd	Sidepath	Shady Grove Metro Station	0.1
Silver Spring - Glenmont Neighborhood Greenway	Darcy Forest Dr	Georgia Ave	Sidepath	Kensington/Wheaton	0.1
Snowden Farm Pkwy	Frederick Rd	Clarksburg Rd	Sidepath	Clarksburg Town Center	0.6
Spartan Rd	Georgia Ave	Olney-Sandy Spring Rd	Separated Bike Lanes	Olney	0.3
Spartan Rd	Olney-Sandy Spring Rd	Appomattox Ave	Separated Bike Lanes	Olney	0.2
St Paul St	Metropolitan Ave	Montgomery Ave	Priority Shared Lane Markings / Off-Street Trail	Kensington/Wheaton	0.4
Strathmore Hall St	Tuckerman La	End of Montrose Ave	Sidepath	Grosvenor	0.1
Strathmore Trail	Strathmore Ave	Tuckerman La	Off-Street Trail	Grosvenor	0.1
Street A-251	Frederick Rd	Stringtown Rd	Sidepath	Clarksburg Town Center	0.7
Street B-2	Diamondback Dr	Omega Dr	Separated Bike Lanes	R&D Village	0.3

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Street B-2	Georgia Ave	Randolph Rd	Separated Bike Lanes	Glenmont	0.1
Stringtown Rd (East Side)	Snowden Farm Pkwy	Gateway Center Dr	Sidepath	Clarksburg	1.0
Summit Ave / Farragut Ave	Connecticut Ave	Plyers Mill Rd	Separated Bike Lanes	Kensington/Wheaton	0.2
Summit Ave / Farragut Ave	Plyers Mill Rd	Knowles Ave	Separated Bike Lanes	Kensington/Wheaton	0.2
Summit Hills Bikeway	Spencer Rd	16th St	Sidepath or Separated Bike Lanes	Silver Spring/Takoma Park (West)	0.2
Tuckerman La	Rockville Pike	Rockville Pike	Separated Bike Lanes	Grosvenor	0.7
Twinbrook Pkwy (East Side)	Halpine Rd	Parklawn Dr	Separated Bike Lanes	Twinbrook	0.3
Twinbrook Pkwy (East Side)	Parklawn Dr	City of Rockville	Separated Bike Lanes	Twinbrook	0.1
University Blvd (West Side)	Lorain Ave	Franklin Ave	Sidepath	Kensington/Wheaton	0.2
University Blvd (West Side)	Carroll Ave	Prince George's County	Separated Bike Lanes	Takoma/Langley	0.6
University Blvd	Connecticut Ave	Decatur Ave	Separated Bike Lanes	Kensington/Wheaton	0.2
University Blvd	Decatur Ave	Valley View Ave	Sidepath	Kensington/Wheaton, Wheaton CBD	0.7
Walter Johnson Rd	Bowman Mill Dr	Middlebrook Rd	Sidepath / Off-Street Trail	Germantown Town Center	0.3
Wayne Ave - Philadelphia Ave	Wayne Ave	Philadelphia Ave	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.1
Weller Rd / Briggs Rd	Flack St	Layhill Rd	Neighborhood Greenway / Sidepath	Glenmont	0.8
Westbard Ave	River Rd	Westbard Cir	Separated Bike Lanes	Bethesda/Chevy Chase (West)	0.3
Westbard Ave	Westbard Cir	Massachusetts Ave	Sidepath	Bethesda/Chevy Chase (West)	0.3
Westlake Ter / Fernwood Rd	Westlake Dr	Rockledge Dr	Separated Bike Lanes	North Bethesda, Potomac	0.5
Westlake Ter / Fernwood Rd	Rockledge Dr	Democracy Blvd	Separated Bike Lanes	North Bethesda	0.4
Wheaton Plaza Ring Road	Wheaton Plaza Ring Road	Wheaton Plaza Ring Road	Separated Bike Lanes	Wheaton CBD	1.1
Wheaton to Takoma / Langley Breezeway	Lorain St	Lexington Ave	Sidepath	Kensington/Wheaton	0.3
Wheaton to Takoma / Langley Breezeway	Piney Branch Rd	Carroll Ave	Separated Bike Lanes	Long Branch Sector Plan	0.4
Wheaton to Takoma / Langley Breezeway	Carroll Ave	Prince George's County	Separated Bike Lanes	Silver Spring/Takoma Park (East)	0.1
Willard Ave	Willard Ave Trail	Wisconsin Ave	Separated Bike Lanes	Friendship Heights	0.5

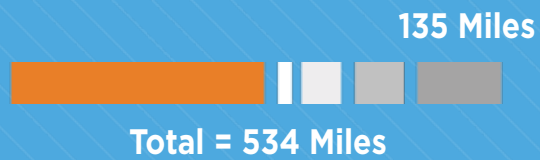
STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Willard Ave Trail	Willard Ave	Western Ave	Off-Street Trail	Friendship Heights	0.5
Wisteria Dr (East Side)	Father Hurley Blvd	Germantown Rd	Separated Bike Lanes	Germantown Town Center	0.1
Wisteria Dr (East Side)	Germantown Rd	Crystal Rock Dr	Separated Bike Lanes	Germantown Town Center	0.2
Wisteria Dr (East Side)	Crystal Rock Dr	Great Seneca Hwy	Separated Bike Lanes	Germantown West	0.3
Woodfield Rd	Main St	Bethesda Church Rd	Sidepath	Damascus	0.3

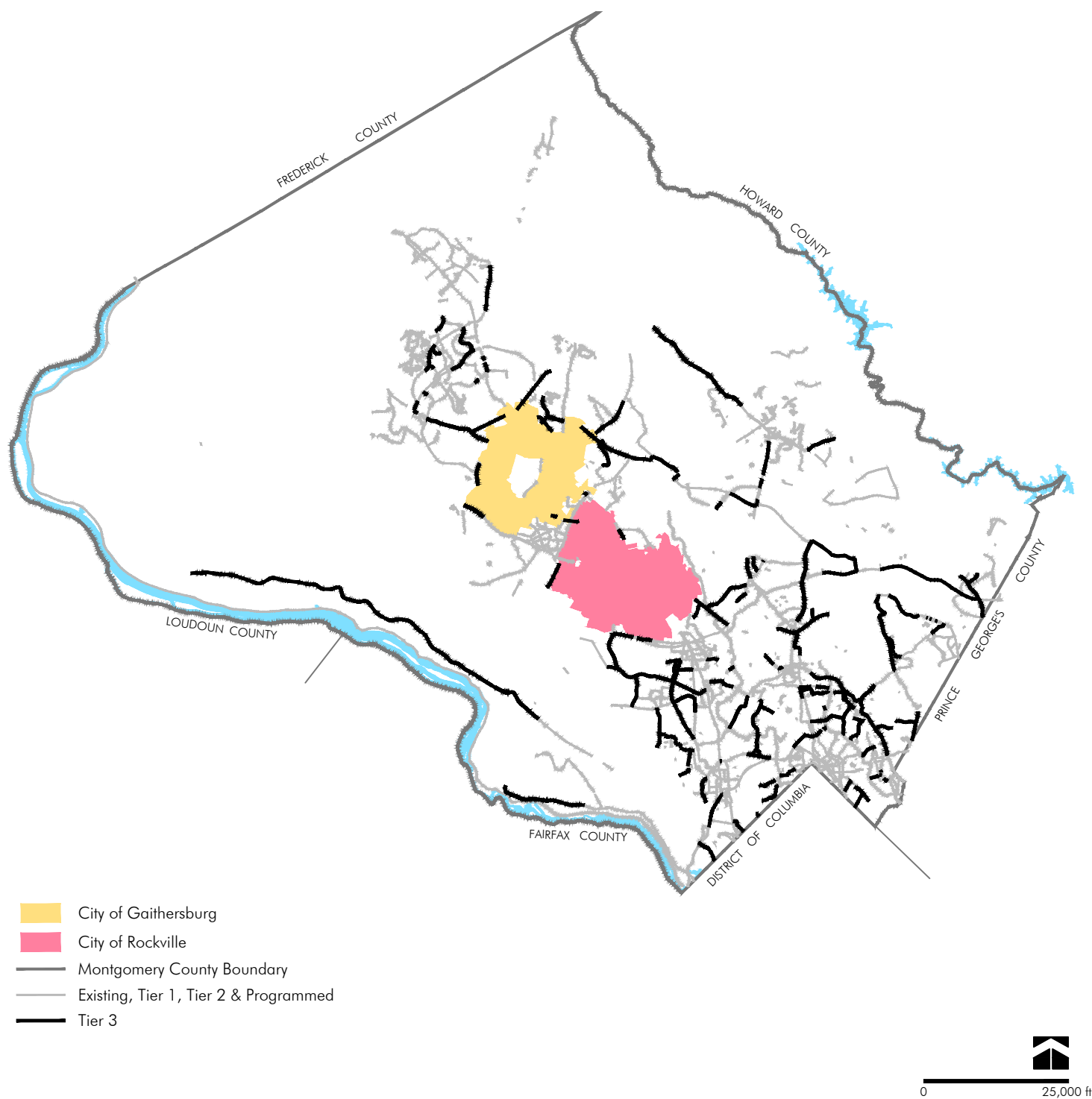


Tier 3 Bikeways

Tier 3 projects are recommended to be substantially completed within 20 years of approval of the Bicycle Master Plan. These projects include:

- Remaining neighborhood greenways.
- Highest demand bikeways located outside of the Bicycle Pedestrian Priority Areas.
- High demand recreational bicycling routes.





Tier 3 Bikeways

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Aberdeen / Garfield	Sonoma Rd	Bradley Blvd	Neighborhood Greenway	Bethesda/Chevy Chase (East), Bethesda/Chevy Chase (West)	1.0
Amity Dr	Washington Grove Ln	Piedmont Crossing LP Trail	Sidepath	Derwood	0.9
Aspen Hill Rd	Veirs Mill Rd	Arctic Ave	Sidepath	Aspen Hill	0.4
Aspen Hill Rd	Arctic Ave	Parkland Dr	Sidepath	Aspen Hill	0.9
Aspen Hill Rd	Parkland Dr	Connecticut Ave	Sidepath	Aspen Hill	0.4
Briggs Chaney Rd (North Side)	Old Columbia Pike	ICC Trail	Sidepath	Fairland/Colesville	1.1
Briggs Chaney Rd (South Side)	Old Columbia Pike	Prince George's County	Sidepath	Fairland/Colesville	0.6
Brookville Rd / Rock Creek Trail (North)	Connecticut Ave	Beach Dr	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.6
Brookville Rd / Rock Creek Trail (South)	Beach Dr	Brookville Rd	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.9
Brookville Rd	Stewart Ln	Seminary Rd	Sidepath	Silver Spring/Takoma Park (West)	0.6
Brunett Ave	University Blvd	Sligo Creek Parkway	Neighborhood Greenway	Kensington/Wheaton, Silver Spring/Takoma Park (West)	1.0
Burtonsville to Silver Spring Breezeway	Cherry Hill Rd	Tech Rd	Sidepath	White Oak	0.5
Burtonsville to Silver Spring Breezeway	Lockwood Dr	Southwood Ave	Sidepath	Kensington/Wheaton, White Oak	0.7
Burtonsville to Silver Spring Breezeway	Southwood Ave	University Blvd	Sidepath / Neighborhood Greenway	Kensington/Wheaton	0.5
Burtonsville to Silver Spring Breezeway	University Blvd	Franklin Ave	Neighborhood Greenway / Off-Street Trail	Silver Spring/Takoma Park (East)	0.9
Burtonsville to Silver Spring Breezeway	Caroline Ave	Worth Ave	Sidepath	Silver Spring/Takoma Park (East)	0.2
Burtonsville to Silver Spring Breezeway	Franklin Ave	Sligo Creek Pkwy	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.1
Capital Crescent Trail Breezeway Lighting	River Rd	Woodmont Ave	Off-Street Trail	Bethesda CBD, Bethesda/Chevy Chase (East)	1.2
Castle Blvd	Castle Ridge Cir	Briggs Chaney Rd	Separated Bike Lanes	Fairland/Colesville	0.5
Christopher Ave	Montgomery Village Ave	City of Gaithersburg	Separated Bike Lanes	Montgomery Village/Airpark	0.2
City of Rockville to Friendship Heights Breezeway	Rossmore Dr	Fleming St	Sidepath	North Bethesda	0.4
City of Rockville to Friendship Heights Breezeway	Tuckerman Ln	I-270 Spur	Priority Shared Lane Markings	North Bethesda	0.1

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
City of Rockville to Wheaton Breezeway	Twinbrook Pkwy	Aspen Hill Rd	Sidepath	North Bethesda	0.5
City of Rockville to Wheaton Breezeway	Aspen Hill Rd	Montrose Pkwy	Sidepath	Aspen Hill	0.9
Clarksburg to City of Gaithersburg Breezeway	Observation Dr	Scenery Dr	Sidepath	Germantown East	0.1
Clarksburg to City of Gaithersburg Breezeway	Ridge Rd	Germantown Rd	Sidepath	Germantown East, Germantown Town Center	1.1
Clarksburg to City of Gaithersburg Breezeway	Germantown Rd	City of Gaithersburg	Sidepath	Germantown East	0.4
Clarksburg to City of Gaithersburg Breezeway	Waters Discovery La	Dorsey Mill Rd	Sidepath	Germantown East	0.1
Clarksburg to City of Gaithersburg Breezeway	West Gude Dr	Mannakee St	Separated Bike Lanes	Derwood	0.4
Clopper Rd (West Side)	Germantown Rd	Great Seneca Hwy	Sidepath	Germantown West	0.1
Clopper Rd	Great Seneca Hwy	Mateny Rd	Sidepath and Bikeable Shoulders	Germantown West	1.0
Clopper Rd	Mateny Rd	City of Gaithersburg	Sidepath and Bikeable Shoulders	Germantown West, North Potomac	3.4
College View Dr / Trail	Glorus Pl	Veirs Mill Rd	Neighborhood Greenway	Kensington/Wheaton	0.6
Connecticut Ave (East Side)	Bel Pre Rd	Georgia Ave	Sidepath	Aspen Hill	0.1
Corridor Cities Transitway Trail	Omega Dr	King Farm Blvd	Off-Street Trail	Gaithersburg City	0.2
Darnestown Rd	Quince Orchard Rd	Tschiffely Square Rd	Separated Bike Lanes and Conventional Bike Lanes	North Potomac	0.7
Darnestown Rd	Tschiffely Square Rd	Main St	Sidepath and Conventional Bike Lanes	North Potomac	0.8
Dawson Farm Rd	Germantown Rd	Great Seneca Hwy	Sidepath	Germantown West	0.2
Edson La	Old Georgetown Rd	Woodglen Dr	Sidepath	North Bethesda	0.5
Emory La	Holly Ridge Rd	Muncaster Mill Rd	Sidepath	Olney	0.3
Father Hurley Blvd (West Side)	Wisteria Dr	Crystal Rock Dr	Sidepath	Germantown West	0.9
Fernwood Rd - Grant St	Fernwood Rd	Grant St	Neighborhood Greenway	Bethesda/Chevy Chase (East), Bethesda/Chevy Chase (West)	1.6
Fernwood Rd	Democracy Blvd	Bradley Blvd	Sidepath	Bethesda/Chevy Chase (West), North Bethesda	1.3
Fields Rd	Sam Eig Hwy	City of Gaithersburg	Sidepath	R&D Village	0.2
Forest Glen Rd	Georgia Ave	Brunett Ave	Sidepath	Kensington/Wheaton	1.1

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Four Corners	University Blvd	Colesville Rd	Neighborhood Greenway	Kensington/Wheaton	0.8
Franklin Ave	University Blvd	End of Franklin Ave	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.6
Frederick Rd (East Side)	O'Neill Dr	Shady Grove Rd	Sidepath	Derwood	0.1
Garret Park Rd	Schuylkill Rd	Rock Creek Trail	Sidepath	Kensington/Wheaton, North Bethesda	0.2
Georgia Ave - Sligo Creek Trail	Georgia Ave	Sligo Creek Trail	Neighborhood Greenway	Silver Spring/Takoma Park (West)	0.4
Georgia Ave - University Blvd	Georgia Ave	University Blvd	Neighborhood Greenway	Kensington/Wheaton	1.7
Georgia Ave (East Side)	Randolph Rd	Mason St	Sidepath	Kensington/Wheaton	0.2
Georgia Ave (East Side)	Mason St	Henderson Ave	Sidepath	Kensington/Wheaton	0.3
Germantown to Burtonsville Breezeway	Clopper Rd	Frederick Rd	Off-Street Trail	North Potomac	1.2
Germantown to Burtonsville Breezeway	Frederick Rd	Montgomery Village Ave	Off-Street Trail	Montgomery Village/Airpark	1.7
Germantown to Grosvenor Breezeway	Utility Corridor #1	Angus Pl	Separated Bike Lanes	Potomac	0.4
Germantown to Grosvenor Breezeway	Angus Pl	Old Georgetown Rd	Separated Bike Lanes	North Bethesda, Potomac	1.9
Germantown to Grosvenor Breezeway	Old Georgetown Rd	Rockville Pike	Sidepath	Grosvenor, North Bethesda	1.2
Germantown to Life Sciences Center Breezeway	Observation Dr	Century Blvd	Separated Bike Lanes	Germantown East, Germantown West	0.5
Germantown Rd (North Side)	Clopper Rd	Father Hurley Blvd	Sidepath	Germantown West	0.3
Germantown Rd Breezeway	Aircraft Dr	Observation Dr Pkwy	Sidepath	Germantown East, Germantown Town Center, Germantown West	0.9
Glen Mill Rd	Darnestown Rd	Valley Dr	Sidepath	R&D Village	0.9
Glenbrook Rd	Battery La	Bradley Blvd	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.9
Glenmont to Silver Spring Breezeway	Randolph Rd	Mason St	Sidepath	Kensington/Wheaton	0.2
Grand Pre Rd	Bel Pre Rd	Connecticut Ave	Sidepath	Aspen Hill	0.5
Grant Ave	Piney Branch Rd	Ethan Allen Ave	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.7
Henderson Ave	Georgia Ave	Trail	Sidepath	Kensington/Wheaton	0.2
Hesketh - Kirkside	Wisconsin Ave	Western Ave	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.5

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Independence St	Parkland Dr	Connecticut Ave	Sidepath	Aspen Hill	0.4
Intercounty Connector Trail Breezeway	Shady Grove Rd	Muncaster Mill Rd	Sidepath	Derwood	0.9
Intercounty Connector Trail Breezeway	Muncaster Mill Rd	Beach Dr	Sidepath	Rural East (East)	0.3
Intercounty Connector Trail Breezeway	Muncaster Rd	Needwood Rd	Sidepath and Bikeable Shoulders	Derwood, Rural East (East)	1.8
Intercounty Connector Trail Breezeway	Emory La	Georgia Ave	Off-Street Trail	Olney	1.2
Intercounty Connector Trail Breezeway	ICC Trail	Notley Rd	Sidepath	Cloverly	0.8
Intercounty Connector Trail Breezeway	Layhill Rd	Bonifant Rd	Off-Street Trail	Aspen Hill	0.8
Intercounty Connector Trail Breezeway	Bonifant Rd	New Hampshire Ave	Sidepath	Cloverly	0.4
Intercounty Connector Trail Breezeway	New Hampshire Ave	Briggs Chaney Rd	Off-Street Trail	Cloverly, Fairland/Colesville	3.5
Jackson Rd - Columbia Pike	Jackson Rd	Columbia Pike	Neighborhood Greenway	Fairland/Colesville	0.9
Jones Bridge Rd (North Side)	Wisconsin Ave	Connecticut Ave	Sidepath	Bethesda/Chevy Chase (East), Chevy Chase Lake Master Plan	0.2
Jones Bridge Rd	Connecticut Ave	Jones Mill Rd	Sidepath	Chevy Chase Lake Master Plan	0.6
Kenilworth / Montgomery	Kensington Pkwy	Jones Bridge Rd	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.3
Kennebec Ave	Sligo Creek Trail	Long Branch Trail	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.4
Kensington Pkwy	Montgomery Ave	Rock Creek Trail	Sidepath	Kensington/Wheaton	1.3
Kensington Pkwy	Rock Creek Trail	Husted Drwy	Sidepath	Kensington/Wheaton, Bethesda/Chevy Chase (East)	0.4
Kensington Pkwy	Husted Drwy	Connecticut Ave	Separated Bike Lanes	Bethesda/Chevy Chase (East)	0.4
Kent St	Kensington Pkwy	Stonebrook Dr	Neighborhood Greenway	Kensington/Wheaton	0.5
Layhill Rd	Park Vista Dr	Matthew Henson Trail	Sidepath and Conventional Bike Lanes	Aspen Hill	3.0
Layhill Rd	Matthew Henson Trail	Briggs Rd	Sidepath and Conventional Bike Lanes	Kensington/Wheaton	1.7
Layhill Rd (East Side)	Saddlebrook Connector	Glenallan Ave	Sidepath and Conventional Bike Lanes	Kensington/Wheaton	1.0
Linden La / Seminary Rd	Brookville Rd	Georgia Ave	Separated Bike Lanes / Sidepath	Silver Spring/Takoma Park (West)	0.3
Long Branch Trail	Maplewood Ave	Carroll Ave	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.2

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Longdraft Rd	Birdsong La	Quince Orchard Rd	Sidepath	North Potomac	0.7
Lost Knife Rd	Montgomery Village Ave	Odendhal Ave	Separated Bike Lanes	Montgomery Village/Airpark	0.5
Luxmanor	Tilden La	Tuckerman La	Neighborhood Greenway	North Bethesda	0.7
MacArthur Blvd	Falls Rd	I-495	Sidepath and Bikeable Shoulders	Potomac	4.7
Maple Ave	Grant Ave	District of Columbia	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.5
Massachusetts / Baltimore Ave	Massachusetts Ave	District of Columbia	Neighborhood Greenway / Sidepath	Bethesda/Chevy Chase (East), Bethesda/Chevy Chase (West)	0.9
Matthew Henson Trail Ext	Alderton Rd	Notley Rd	Off-Street Trail	Fairland/Colesville	1.1
Melrose St / Nevada Ave	Brookville Rd	Western Ave	Neighborhood Greenway	Bethesda/Chevy Chase (East)	0.2
Midcounty Hwy	Montgomery Village Ave	Goshen Rd	Sidepath and Bikeable Shoulders	Montgomery Village/Airpark	1.2
Midcounty Hwy	Goshen Rd	Washington Grove Ln	Sidepath and Bikeable Shoulders	Montgomery Village/Airpark	1.7
Midcounty Hwy	Washington Grove Ln	Shady Grove Rd	Sidepath and Bikeable Shoulders	Derwood	2.1
Middlebrook Rd	I-270	Observation Dr	Sidepath	Germantown East	0.2
Middlebrook Rd (West Side)	Father Hurley Blvd	Locbury Dr	Sidepath	Germantown Town Center	0.2
Middlevale La / Garden Gate Rd	Briggs Rd	Randolph Rd	Sidepath	Kensington/Wheaton	0.4
Montgomery Village Ave (East Side)	Stedwick Rd	Midcounty Hwy	Sidepath	Montgomery Village/Airpark	0.7
Montgomery Village Ave (East Side)	Midcounty Hwy	City of Gaithersburg	Sidepath	Montgomery Village/Airpark	0.3
Montrose Rd	Falls Rd	Montrose Rd	Sidepath	North Bethesda	0.5
New Hampshire Ave (East Side)	Eldrid Dr	Jackson Rd	Sidepath	Fairland/Colesville	0.8
New Hampshire Ave (West Side)	Jackson Rd	Columbia Pike	Sidepath	Fairland/Colesville	0.8
New Hampshire Ave (West Side)	Columbia Pike	Lockwood Dr	Sidepath	White Oak	0.3
New Hampshire Ave	Powder Mill Rd	Prince George's County	Sidepath	White Oak, Silver Spring/Takoma Park (East)	1.0
Nicholson Ct / Wyaconda Rd	Nebel St Ext	Schuylkill Rd	Separated Bike Lanes / Off-Street Trail	North Bethesda, White Flint	0.4
Oakview Dr	Northwest Branch Trail	New Hampshire Ave	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.7

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Observation Dr (West Side)	Shakespeare Blvd	Germantown Rd	Sidepath	Germantown East	0.1
Old Georgetown Rd (East Side)	Democracy Blvd	Cheshire Dr	Separated Bike Lanes / Sidepath	North Bethesda	0.2
Old Georgetown Rd	Cheshire Dr	Charles St	Sidepath	Bethesda/Chevy Chase (East)	0.6
Old Georgetown Rd	Cheshire Dr	Charles St	Sidepath	North Bethesda	0.6
Olney to Glenmont Breezeway	Bel Pre Rd	Connecticut Ave	Sidepath	Aspen Hill	0.7
Olney to Glenmont Breezeway	Queen Mary Dr	Emory La	Sidepath	Olney	1.1
Olney-Laytonsville Rd	Town of Laytonsville	Fieldcrest Rd	Bikeable Shoulders	Rural East (East)	2.6
Olney-Laytonsville Rd	Fieldcrest Rd	Wickham Rd	Bikeable Shoulders	Rural East (East)	3.4
Olney-Laytonsville Rd	Wickham Rd	Olney Mill Rd	Bikeable Shoulders	Rural East (East)	1.9
Olney-Sandy Spring Rd	Dr. Bird Rd	Brooke Rd	Sidepath	Olney	1.0
Potomac to Veirs Mill Road Breezeway	I-270	Rockville Pike	Sidepath / Off-Street Trail	North Bethesda, Potomac	0.7
Randolph Rd - New Hampshire Ave	Randolph Rd	New Hampshire Ave	Neighborhood Greenway	Fairland/Colesville	1.0
Ridge Rd	Little Seneca Pkwy	Snowden Farm Pkwy	Sidepath	Clarksburg	1.1
Ridge Rd	Midcounty Hwy	Brink Rd	Sidepath	Clarksburg	0.4
River Rd	Willard Rd	Gary Rd	Bikeable Shoulders	Potomac, Rural West	14.7
Rock Creek - Grubb Rd	Rock Creek Trail	Grubb Rd	Neighborhood Greenway	Silver Spring/Takoma Park (West)	0.6
Rossmore Dr	Old Georgetown Rd	Bethesda Trolley Trail	Neighborhood Greenway	North Bethesda	0.8
Seven Locks Rd	Montrose Rd	Tuckerman La	Sidepath and Bikeable Shoulders	Potomac	2.4
Silver Spring - Glenmont Neighborhood Greenway	Windham La	Forest Glen Rd	Sidepath	Kensington/Wheaton	0.4
Strathmore Ave - Weymouth St	Strathmore Ave	Weymouth St	Neighborhood Greenway	North Bethesda	0.5
Strathmore Ave	Strathmore Trail	Kenilworth Ave	Sidepath	North Bethesda	0.4
Summit Ave / Cedar La	Knowles Ave	Rock Creek Trail	Sidepath	Kensington/Wheaton	1.3
Takoma Ave	Gist Ave	Metropolitan Branch Trail	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.4
Tilden Ln	Danville Dr	Old Georgetown Rd	Sidepath	North Bethesda	0.5

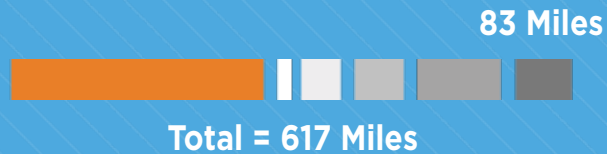
STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Trail	Henderson Ave	Arcola Ave	Off-Street Trail	Kensington/Wheaton	0.2
Veirs Mill Road to White Oak Breezeway	Denley Rd	Georgia Ave	Sidepath	Kensington/Wheaton	0.7
Veirs Mill Road to White Oak Breezeway	Georgia Ave	Glenallan Rd	Sidepath	Kensington/Wheaton	0.3
Veirs Mill Road to White Oak Breezeway	Glenallan Rd	Kemp Mill Rd	Sidepath	Kensington/Wheaton	0.9
Veirs Mill Road to White Oak Breezeway	Fairland Rd	Columbia Pike	Sidepath	Fairland/Colesville	1.5
Washington Grove La	Emory Grove Rd	Amity Dr	Sidepath	Derwood	0.2
Waters Landing Dr	Father Hurley Blvd	Crystal Rock Dr	Sidepath	Germantown West	0.4
Wayne Ave	Cedar St	Whitney St	Sidepath	Silver Spring/Takoma Park (East)	0.6
Westlake Dr	Tuckerman La	Democracy Blvd	Sidepath and Bikeable Shoulders	Potomac	1.1
Wheaton to Takoma / Langley Breezeway	Dayton St	Arcola Ave	Sidepath	Kensington/Wheaton	0.9
Wheaton to Takoma / Langley Breezeway	Arcola Ave	Lorain St	Sidepath	Kensington/Wheaton	1.1
Wheaton to Takoma / Langley Breezeway	Lexington Dr	Franklin Ave	Sidepath	Kensington/Wheaton, Silver Spring/Takoma Park (East)	0.7
Wheaton to Takoma / Langley Breezeway	Franklin Ave	Piney Branch Rd	Sidepath / Separated Bike Lanes	Long Branch Sector Plan, Silver Spring/Takoma Park (East)	1.0
White Flint to Rock Spring Breezeway	Montrose Pkwy	Democracy Blvd	Separated Bike Lanes / Sidepath	North Bethesda	1.4
Windham La	Georgia Ave	Sligo Creek Trail	Neighborhood Greenway	Kensington/Wheaton, Wheaton CBD	0.8
Wolf Dr	New Hampshire Ave	Kara La	Sidepath	Fairland/Colesville	0.1
Woodfield Rd	Airpark Rd	Muncaster Mill Rd	Sidepath	Montgomery Village/Airpark	0.6
Woodfield Rd	Muncaster Mill Rd	Emory Grove Rd	Sidepath	Montgomery Village/Airpark	0.8

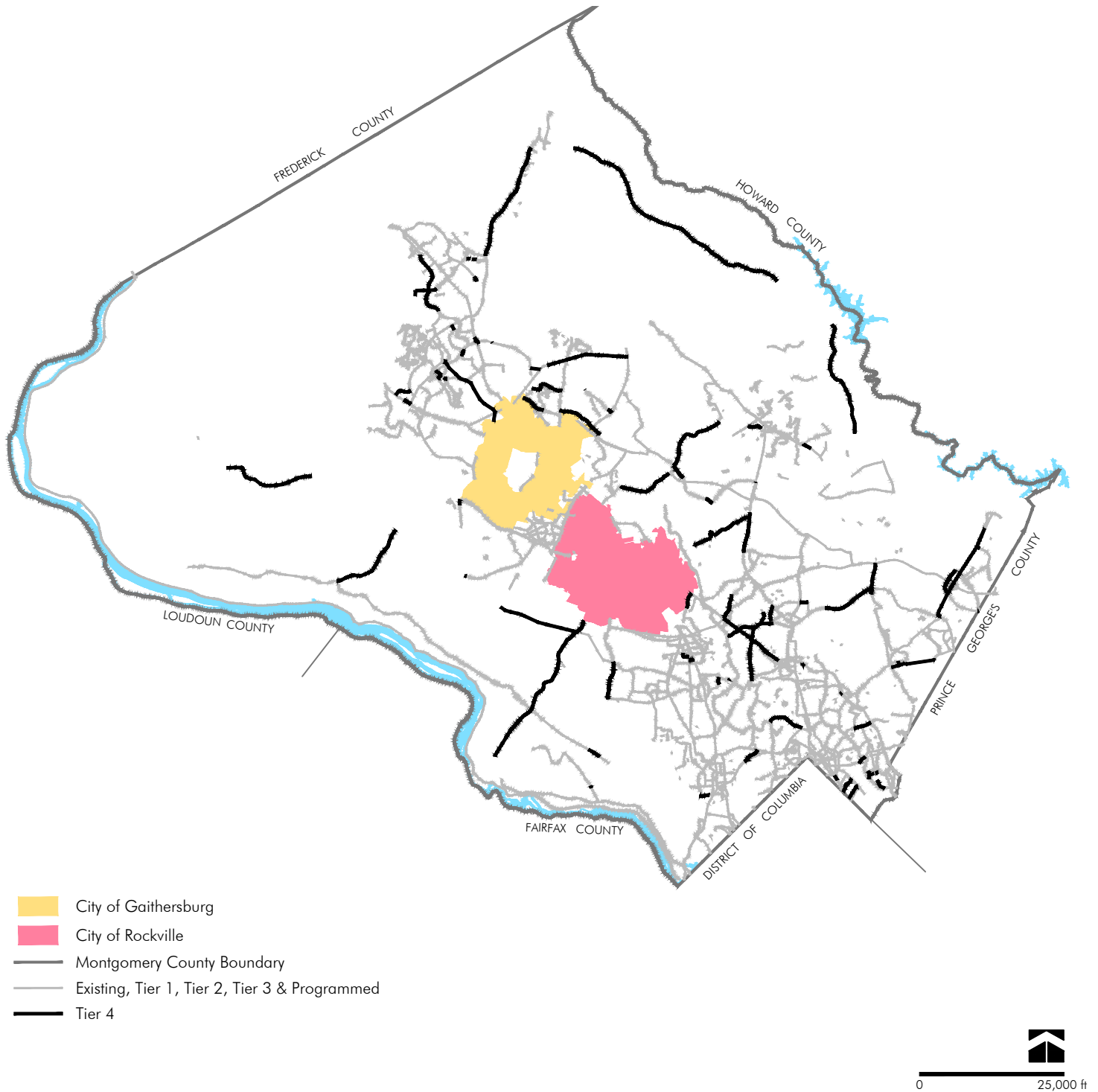


Tier 4 Bikeway Projects

Tier 4 projects are recommended to be substantially completed within 25 years of approval of the Bicycle Master Plan. These projects include:

- All remaining bikeways that are recommended for completion within the 25-year life of the plan.
- Several heavily-used recreational bicycling routes.





Tier 4 Bikeways

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Baltimore Ave	Philadelphia Ave	District of Columbia	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.4
Bowie Mill Rd	Muncaster Mill Rd	Cashell Rd	Sidepath	Olney, Rural East (East)	2.4
Bradley Blvd	Wilson La	Fairfax Rd	Sidepath and Conventional Bike Lanes	Bethesda/Chevy Chase (East)	0.6
Briggs Rd	Layhill Rd	Middlevale La	Sidepath	Kensington/Wheaton	0.3
Burtonsville to Silver Spring Breezeway	Blackburn Rd	Briggs Chaney Rd	Sidepath	Fairland/Colesville	1.7
Burtonsville to Silver Spring Breezeway	Briggs Chaney Rd	Tech Rd	Sidepath	Fairland/Colesville	1.7
Cedar Ave	District of Columbia	Philadelphia Ave	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.4
Centerway Rd	Montgomery Village Ave	Goshen Rd	Sidepath	Montgomery Village/Airpark	0.7
City Hall Parking Lot	Philadelphia Ave	Grant Ave	Off-Street Trail	Silver Spring/Takoma Park (East)	0.1
City of Rockville to Wheaton Breezeway	Montrose Pkwy	College View Dr	Separated Bike Lanes / Sidepath	Kensington/Wheaton	2.3
Clarksburg to City of Gaithersburg Breezeway	Little Seneca Pkwy	Dorsey Mill Rd	Sidepath	Clarksburg	0.9
Clopper Rd (East Side)	Kingsview Rd	Germantown Rd	Sidepath	Germantown West	0.3
Connecticut Ave (West Side)	Randolph Rd	Veirs Mill Rd	Sidepath / Contra-Flow Bike Lane	Kensington/Wheaton	0.4
Connecticut Ave (West Side)	Veirs Mill Rd	Denfeld Ave	Sidepath	Kensington/Wheaton	0.9
Connecticut Ave (West Side)	Denfeld Ave	Farragut Ave	Sidepath	Kensington/Wheaton	0.5
Connecticut Ave (West Side)	Laird Pl	Newdale Rd	Sidepath	Chevy Chase Lake Master Plan	0.1
Connecticut Ave	Manor Rd	Chevy Chase Lake Dr	Separated Bike Lanes	Chevy Chase Lake Master Plan	0.2
Corridor Cities Transitway Trail	Century Blvd	City of Gaithersburg	Off-Street Trail	Germantown Town Center, Germantown West, North Potomac	2.8
Crystal Rock Dr	Middlebrook Rd	Bowman Mill Dr Ext	Sidepath	Germantown West	0.2
Dalewood Dr / Dean Rd	Weller Rd	Randolph Rd	Neighborhood Greenway	Kensington/Wheaton	0.4
Damascus Rd	Stanley Hills Way	Georgia Ave	Bikeable Shoulders	Damascus, Rural East (East), Rural East (West)	9.0
Dennis Ave	Douglas Ave	Edgewood Ave	Sidepath	Kensington/Wheaton	0.1

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Dr. Bird Rd	Olney-Sandy Spring Rd	Norwood Rd	Sidepath	Rural East (East)	0.3
Emory Grove Rd	Goshen Rd	Strawberry Knoll Rd	Sidepath	Montgomery Village/Airpark	0.3
Emory Grove Rd	Strawberry Knoll Rd	Woodfield Rd	Sidepath	Montgomery Village/Airpark	0.9
Emory Grove Rd	Woodfield Rd	Washington Grove Ln	Sidepath	Montgomery Village/Airpark	0.4
Executive Blvd	Marinelli Rd	Woodglen Dr	Separated Bike Lanes	White Flint	0.3
Fairland Rd	Old Columbia Pike	Briggs Chaney Rd	Sidepath	Fairland/Colesville	0.2
Falls Rd	Dunster Rd	River Rd	Bikeable Shoulders	Potomac	3.6
Falls Rd	River Rd	MacArthur Blvd	Bikeable Shoulders	Potomac	2.0
Flower Ave	Carroll Ave	Sligo Creek Trail	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.4
Forest Glen / Linden	Seminary Rd	Darcy Forest Dr	Sidepath	Kensington/Wheaton	0.2
Franklin Ave	Worth Ave	University Blvd	Sidepath	Silver Spring/Takoma Park (East)	0.6
Frederick Rd (West Side)	Shakespeare Blvd	Germantown Rd	Sidepath	Germantown East	0.2
Georgia Ave North Breezeway	Emory La	Norbeck Rd	Sidepath	Olney	0.1
Germantown to Burtonsville Breezeway	Montgomery Village Ave	Woodfield Rd	Off-Street Trail	Montgomery Village/Airpark	2.7
Germantown to Grosvenor Breezeway	Piney Meetinghouse Rd	Falls Rd	Off-Street Trail	Potomac, Rural West	2.6
Germantown to Life Sciences Center Breezeway	Germantown Rd	Crystal Rock Dr	Separated Bike Lanes	Germantown Town Center	0.2
Germantown to Life Sciences Center Breezeway	Crystal Rock Dr	Great Seneca Hwy	Sidepath	Germantown West	0.1
Germantown Rd (North Side)	Frederick Rd	Scenery Dr	Sidepath	Germantown East	0.1
Goldenrod La	Germantown Rd	Observation Dr	Sidepath	Germantown East	0.2
Greencastle Rd	Old Columbia Pike	Greencastle Ridge Ter	Sidepath and Conventional Bike Lanes	Fairland/Colesville	0.2
Hathaway Dr / Valleywood Dr	Flack St	Randolph Rd	Sidepath / Off-Street Trail	Kensington/Wheaton	0.5
Hopkins Rd	Clopper Rd	Father Hurley Blvd	Sidepath	Germantown West	0.6
Kenilworth Pkwy / Montrose Ave / Oxford St	Montrose Ave	Oxford St	Neighborhood Greenway	North Bethesda	0.1
Little Seneca Pkwy (North Side)	Broadway Ave	Observation Dr Ext	Sidepath	Clarksburg	0.4

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Little Seneca Pkwy (North Side)	Observation Dr Ext	Frederick Rd	Sidepath	Clarksburg	0.3
Little Seneca Pkwy	Snowden Farm Pkwy	Ridge Rd	Sidepath	Clarksburg	0.3
Manor Rd	Connecticut Ave	Jones Bridge Rd	Sidepath	Chevy Chase Lake Master Plan	0.4
Maple Ave	Kennebec Ave	Hilltop Rd	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.3
Maplewood Ave	Maple Ave	Long Branch Pkwy	Neighborhood Greenway	Silver Spring/Takoma Park (East)	0.3
Metropolitan Branch Trail (Ultimate)	King St	Fenton St	Off-Street Trail	Silver Spring CBD	0.2
Midcounty Hwy	Great Seneca Creek	Montgomery Village Ave	Sidepath	Montgomery Village/Airpark	0.8
Montgomery Village Ave (East Side)	Stewartown Rd	Stedwick Rd	Sidepath	Montgomery Village/Airpark	0.2
Morningwood Dr	Headwaters Rd	Olney #1	Sidepath	Olney	0.5
Muncaster Mill Rd	Bowie Mill Rd	ICC Trail	Sidepath and Bikeable Shoulders	Rural East (East)	1.0
Muncaster Mill Rd	Avery Rd	Emory Ln	Sidepath and Bikeable Shoulders	Olney	0.5
Needwood Rd	Redland Rd	ICC Trail	Sidepath	Derwood	1.8
Neighborhood Connector	Reedie Dr	University Blvd	Neighborhood Connector	Wheaton CBD	0.1
New Hampshire Ave - FDA Blvd Connector	New Hampshire Ave	FDA Blvd	Off-Street Trail	White Oak	1.4
New Hampshire Ave (East Side)	ICC Trail	Wolf Dr	Sidepath	Fairland/Colesville	0.2
New Hampshire Ave (West Side)	ICC Trail	Randolph Rd	Sidepath	Fairland/Colesville	0.8
New Hampshire Ave	Georgia Ave	Olney-Sandy Spring Rd	Bikeable Shoulders	Rural East (East)	4.0
Newdale Rd	Terminus	Connecticut Ave	Sidepath	Chevy Chase Lake Master Plan	0.1
Norbeck Rd (North Side)	Muncaster Mill Rd	Georgia Ave	Sidepath	Olney	0.2
Norbeck Rd North	Bauer Dr	Muncaster Mill Rd	Neighborhood Greenway	Aspen Hill	2.2
Observation Dr Ext (West Side)	Roberts Tavern Dr	Little Seneca Pkwy	Sidepath	Clarksburg	1.3
Old Columbia Pike	Briggs Chaney Rd	Fairland Rd	Sidepath and Conventional Bike Lanes	Fairland/Colesville	1.4
Olney to Glenmont Breezeway	Emory La	Norbeck Rd	Sidepath	Olney	0.2
Olney to Glenmont Breezeway	Norbeck Rd	Connecticut Ave	Sidepath	Aspen Hill	1.2

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Parkland Dr	Independence St	Veirs Mill Rd	Sidepath	Aspen Hill	0.8
Persimmon Tree Rd	Eggert Rd	MacArthur Blvd	Sidepath	Potomac	0.1
Piney Branch Rd	Philadelphia Ave	Ray Dr	Sidepath	Silver Spring/Takoma Park (East)	0.2
Piney Branch Rd	Silver Spring Ave	Sligo Creek Pkwy	Sidepath	Silver Spring/Takoma Park (East)	0.3
Quince Orchard Rd	Darnestown Rd	Dufief Mill Rd	Sidepath	North Potomac	0.2
Randolph Rd Breezeway	Connecticut Ave	Denley Rd	Sidepath	Kensington/Wheaton	0.1
Randolph Rd	Rock Creek Trail	Veirs Mill Rd	Sidepath	Kensington/Wheaton	0.4
Ridge Rd	Bethesda Church Rd	Valley Park Dr	Sidepath	Damascus	0.8
Ridge Rd	Valley Park Dr	Sweepstakes Rd	Sidepath	Damascus	0.9
Ridge Rd	Sweepstakes Rd	Skylark Rd	Sidepath	Clarksburg, Damascus	2.2
River Rd	Bradley Blvd	Seven Locks Rd	Sidepath	Potomac	0.4
Security Ln	Rockville Pike	Woodglen Dr	Separated Bike Lanes	White Flint	0.1
Seminary Rd	Forest Glen Rd	2nd Ave	Conventional Bike Lanes	Kensington/Wheaton, Silver Spring/Takoma Park (West)	0.7
Seneca Rd	Darnestown Rd	River Rd	Bikeable Shoulders	Rural West	2.8
Seven Locks Rd	Tuckerman La	Democracy Blvd	Sidepath and Bikeable Shoulders	Potomac	2.5
Sidepath	Little Seneca Pkwy	Black Hills Regional park	Sidepath	Clarksburg	0.2
Snouffer School Rd	Sweet Autumn Dr	Woodfield Rd	Sidepath	Montgomery Village/Airpark	0.2
Snowden Farm Pkwy	Little Seneca Pkwy	Ridge Rd	Sidepath	Clarksburg	0.2
Stedwick Rd	Watkins Mill Rd	Montgomery Village Ave	Sidepath	Montgomery Village/Airpark	0.3
Stewartown Rd Ext	Watkins Mill Rd	Montgomery Village Ave	Sidepath	Montgomery Village/Airpark	0.3
Street B-25	Ridge Rd	Seneca Meadows Pkwy	Separated Bike Lanes	Germantown Town Center	0.2
Trail	Stoneybrook Dr	Linden La	Off-Street Trail	Kensington/Wheaton	0.4
Travilah Rd	Darnestown Rd	Dufief Mill Rd	Sidepath	Rural West	0.1

STREET	FROM	TO	BIKEWAY	POLICY AREA	LENGTH (MI)
Twinbrook Pkwy (East Side)	Veirs Mill Rd	Halpine Rd	Sidepath	North Bethesda	0.5
Veirs Mill Road to White Oak Breezeway	Veirs Mill Rd	Connecticut Ave	Sidepath	Kensington/Wheaton	0.5
Veirs Mill Road to White Oak Breezeway	Connecticut Ave	Denley Rd	Sidepath	Kensington/Wheaton	0.7
Veirs Mill Road to White Oak Breezeway	Kemp Mill Rd	New Hampshire Ave	Sidepath	Fairland/Colesville	1.7
Weymouth St	Montrose Ave	Knowles Ave	Sidepath	North Bethesda	0.1
White Oak - FDA Connector	Lockwood Dr	FDA	Off-Street Trail	White Oak	0.1
Whites Ferry Rd	Town of Poolesville	Darnestown Rd	Bikeable Shoulders	Rural West	3.1



Prioritization of Bicycle Parking Stations

The table below prioritizes implementation of the bicycle parking stations into four tiers (Tier 1, Tier 2, Tier 3 and Tier 4) based on anticipated demand (see Appendix G for a description of how demand was assessed). All bicycle parking stations are recommended to be completed during the life of this plan, although some are contingent upon development approvals, which may occur beyond the life of this master plan. Construction of bicycle parking stations will be a cooperative effort between Montgomery County, transit agencies and private development, depending on a number of factors, including development opportunities, funding sources and property ownership. **Operation of the Bethesda South and Silver Spring bicycling stations are recommended to coincide with operation of the Purple Line.**

Prioritization of Bicycle Parking Stations

STATION	TRANSIT CORRIDOR	MINIMUM NUMBER OF SPACES	
		LONG-TERM	SHORT-TERM
TIER 1			
Bethesda South	Red Line, Purple Line	330	130
Forest Glen	Red Line	300	100
Glenmont	Red Line	400	150
Shady Grove	Red Line, CCT	330	110
Silver Spring	Red Line, Purple Line	600	170
Wheaton	Red Line	400	100
White Flint	Red Line	250	50
TIER 2			
Bethesda North	Red Line	100	50
Friendship Heights	Red Line	200	50
Germantown	MARC	30	10
Grosvenor	Red Line	350	100
Medical Center	Red Line	200	50
Silver Spring Library	Purple Line	20	10
TIER 3			
Connecticut Avenue	Purple Line	20	10
Kensington	MARC	30	10

STATION	TRANSIT CORRIDOR	MINIMUM NUMBER OF SPACES	
		LONG-TERM	SHORT-TERM
LSC Belward	CCT	80	20
LSC Central	CCT	60	20
LSC West	CCT	90	10
Takoma / Langley	Purple Line	20	10
White Flint (proposed)	MARC	20	10
TIER 4			
Boys	MARC	20	10
Long Branch	Purple Line	30	10
Lyttonsville	Purple Line	50	10
Piney Branch Road	Purple Line	10	10
Washington Grove	MARC	10	10
Woodside	Purple Line	20	10



Caption: A bicycle parking station in Boulder, Colorado. Photo: Matt Johnson

Prioritization of Bicycle Supportive Programs

The table below identifies target dates for initiating bicycle supportive programs.

Prioritization of Bicycle Supportive Programs

PROGRAM	TARGET
1.9 Bicycle Pedestrian Priority Areas	Immediately
2.1 Bikeways Program – Minor Projects	Immediately
2.2 Roadway and Bikeway Related Maintenance	Three years after plan approval
2.3 Snow Removal / Wind / Rain Storms	Three years after plan approval
2.4 Resurfacing: Primary/Arterial AND Sidewalk & Curb Replacement	Three years after plan approval
3.1 BikeMontgomery Outreach Program	Three years after plan approval
3.2 Bicycle Master Plan Monitoring Report	Ongoing
3.3 Neighborhood Greenway Program	Immediately
3.4 Bicycle Parking Program	Two years after plan approval
3.5 Public School Bicycle Education	Three years after plan approval
3.6 Bicycle Facility Education	Immediately
3.7 Bicycle Count Program	One year after plan approval
3.8 Countywide Wayfinding Plan	Three years after plan approval

Prioritization of Bicycle Supportive Laws, Regulations and Policies

The table below identifies target dates for changes to laws, regulations and policies.

Prioritization of Bicycle Supportive Laws, Regulations and Policies

LAW, REGULATION AND POLICY	TARGET COMPLETION
ROADWAY LAWS AND POLICIES	
2.1 Authorize Lower Posted Speed Limits	Ongoing
2.2 Repeal the Mandatory Use Law	Ongoing
2.3 Conduct a "Rules of the Road" Assessment	Two years after plan approval
2.4 Replace the State's Marked Bike Lane Policy	Ongoing
2.5 Develop a County Policy on E-Bikes	Two years after plan approval
DESIGN STANDARDS AND PRACTICES	
2.6 Establish Level of Traffic Stress Targets	One year after plan approval
2.7 Update Context Sensitive Road Design Standards	11/1/2019 (Per Vision Zero Action Plan)
2.8 Review all Designed Projects Against Best Practices	One year after plan approval
2.9 Make Separated Bikeways the Preferred Bikeway Facility Type	One year after plan approval
2.10 Extending Separated Bike Lanes Through Intersections	One year after plan approval
2.11 Consolidate Driveways along Master-Planned Bikeways	Two years after plan approval
2.12 Develop a Shared Lane Marking Policy	Two years after plan approval
2.13 Develop Bicycle Parking Standards for County Facilities	One year after plan approval
2.14 Reassess Road Code Urban Area Boundaries	One year after plan approval
2.15 Establish Standards for Trail Crossings at Major Roads	One year after plan approval

LAW, REGULATION AND POLICY	TARGET COMPLETION
MAINTENANCE	
2.16 Develop Protocols for Bicycle Facility Closures and Detours	Two years after plan approval
OTHER	
2.17 School Site Selection	Two years after plan approval
2.18 Enable Traffic Calming and Access Restrictions on Neighborhood Greenways	Immediately
2.19 Update the Zoning Code	One year after plan approval
2.20 Revise the Bicycle to School Policy	Two years after plan approval
2.21 Abandonments	Two years after plan approval
2.22 Loading Zones	Two years after plan approval



*Photo: Scott Wilets
Best Other Category
Bicycle Master Plan Photo Contest*



CITY OF
VANCOUVER

GREENEST
CITY 2020

12:03

BICYCLES TODAY

1971

THIS YEAR

18477

Bike Trips on both
East and West Sides of
the Burrard Bridge



BIKE VANCOUVER

MONITORING THE VISION



A biennial monitoring program led by the Montgomery County Planning Department will track how well the vision of the plan is being fulfilled through the goals and objectives, and enable transparency and accountability in plan implementation. The monitoring template in this section reflects each of the plan's objectives and includes target values for the plan to achieve at several points over the life of the plan. The report will be reviewed by the Planning Board and approved by the County Council.

A template for a detailed biennial monitoring report is provided in Appendix A.

OBJECTIVE	METRIC		EXIST- ING (2018)	FUND- ED	HIGH PRIOR- ITY	TIER 1	TIER 2	TIER 3	TIER 4	BUILD OUT
GOAL 1: INCREASE BICYCLING RATES IN MONTGOMERY COUNTY										
1.1	Percentage of residents who commute by bicycle.		0.5% (2016)	0.5% (2016)	1%	3%	4%	6%	8%	12%
1.2	Bicycling Rates to Transportation Management Districts	Bethesda	Data Not Yet Surveyed							
		Friendship Heights								
		North Bethesda								
		Shady Grove								
		Silver Spring								
		White Oak								
1.3	Bicycling Rates to Transit	Red Line	1.6% (2016)	1.6% (2016)	2%	4%	6%	8%	10%	15%
		Brunswick Line	TBD							
		Purple Line (planned)	TBD							
		Corridor Cities Transitway (planned)	TBD							
1.4	Bicycling Rates at Public Schools	Elementary Schools	Data Not Yet Surveyed							
		Middle Schools								
		High Schools								
GOAL 2: CREATE A HIGHLY-CONNECTED, CONVENIENT AND LOW-STRESS BICYCLING NETWORK										
2.1	Countywide Connectivity		14%	N/A	20%	25%	35%	50%	55%	85%
2.2	Connectivity to Transit Stations	Red Line	10%	10%	20%	35%	55%	60%	65%	80%
		Brunswick Line	10%	15%	20%	30%	50%	55%	55%	75%
		Purple Line	5%	10%	20%	30%	60%	65%	70%	75%
		Corridor Cities Transitway	0%	0%	0%	30%	35%	40%	40%	75%

Objective	Metric		Exist- ing (2018)	Fund- ed	High Prior- ity	Tier 1	Tier 2	Tier 3	Tier 4	Build Out
2.3	Connectivity to Public Schools	Elementary Schools	40%	40%	40%	40%	40%	45%	45%	60%
		Middle Schools	25%	25%	25%	30%	30%	35%	35%	55%
		High Schools	15%	15%	15%	15%	20%	20%	25%	35%
2.4	Connectivity to Public Facilities	Public Libraries	10%	10%	15%	20%	35%	45%	50%	85%
		Recreation Centers	15%	15%	15%	20%	25%	30%	35%	70%
		Recreational and Regional Parks	25%	25%	25%	30%	30%	45%	50%	75%
2.5	Rail Stations with Bicycle Parking Stations	Red Line	0	0	0	4	8	11	11	11
		MARC Brunswick Line	0	0	0	2	4	5	5	5
		Purple Line	0	0	0	2	5	7	7	7
		Corridor Cities Transitway	0	0	0	0	3	3	3	3
2.6	Sufficient Bicycle Parking at Public Schools	Elementary Schools	0%	N/A	N/A	N/A	100%	100%	100%	100%
		Middle Schools	0%	N/A	N/A	N/A	100%	100%	100%	100%
		High Schools	0%	N/A	N/A	N/A	100%	100%	100%	100%
2.7	Sufficient Bicycle Parking in Bicycle- Pedestrian Priority Areas		15%	15%	20%	30%	40%	50%	60%	80%
2.8	Sufficient Bicycle Parking at Public Facilities	Public Libraries	11%	11%	50%	100%	100%	100%	100%	100%
		Recreation Centers	15%	15%	50%	100%	100%	100%	100%	100%
Goal 3: Provide Equal Access to Low-Stress Bicycling for All Members of the Community										
3.1	Connectivity to Low Income Areas		50%	N/A	65%	65%	75%	80%	80%	90%
Goal 4: Improve the Safety of Bicycling										
4.1	The number of bicycling fatalities and serious injuries per year.		20 (2016)	0 by 2030 (per Vision Zero Action Plan)						



Photo Lynn Ho
Best Kid Picture
Bicycle Master Plan Photo Contest

OUTREACH



Conducting a long-term master plan can be demanding. Keeping the public engaged in the planning effort for more than two years can be difficult. How do you ensure your stakeholders are actively involved after the initial rush of outreach efforts winds down? How do you keep your plan's outreach exciting and relevant while also building support with the bicycling community?

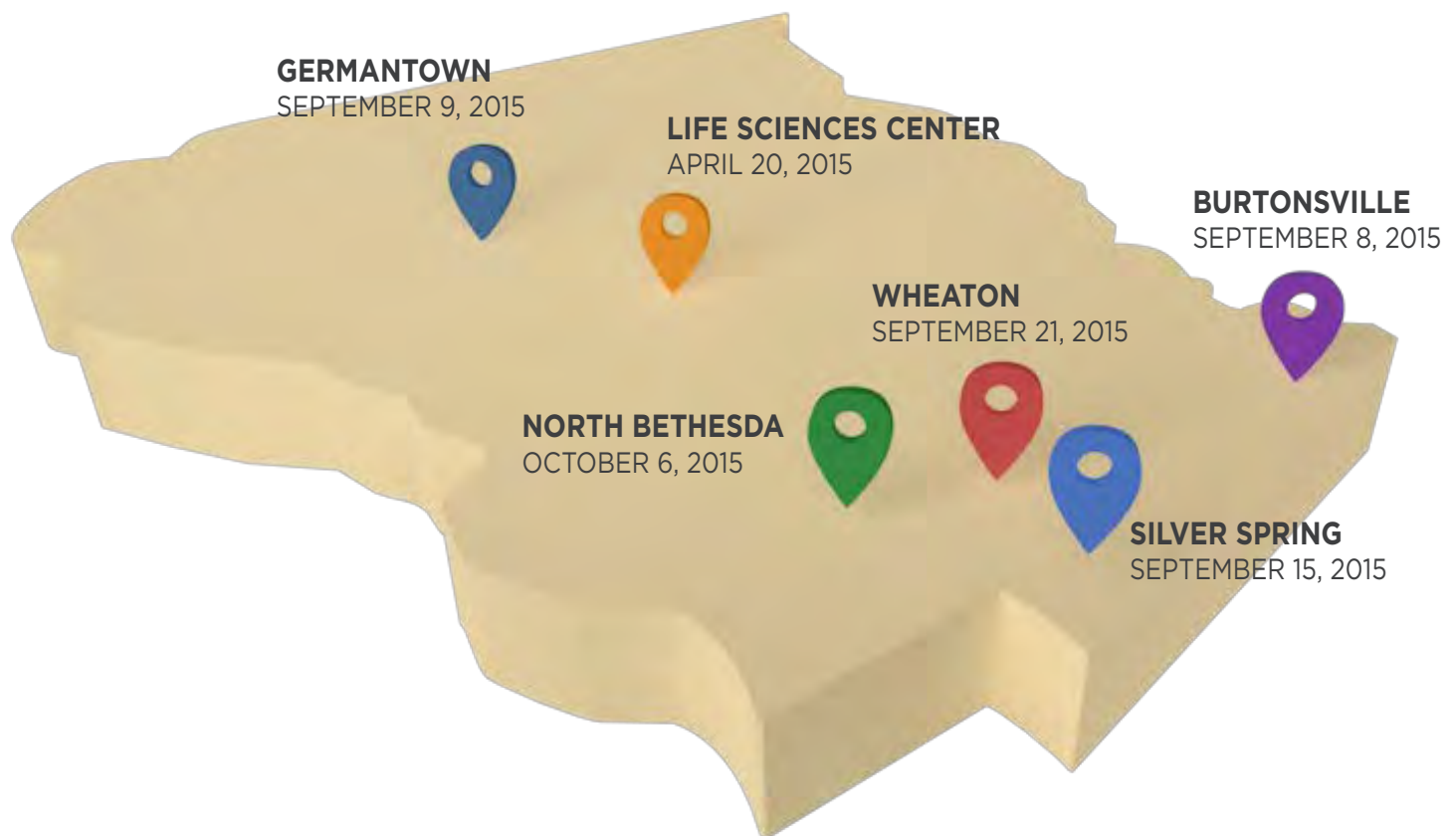
The outreach program for the Bicycle Master Plan has been strategic, thoughtful and effective in its comprehensive approach to innovative community engagement. By implementing a strategic communication plan, staff followed a “road map” focused on audience, messaging and deliverables in order to create a strong and consistent brand for the plan.

The resulting feedback from stakeholders and media exposure showed the communication plan worked. The following pages outline the tools used to achieve the communication goals for the Bicycle Master Plan.

COMMUNITY MEETINGS

Public meetings are an important way to engage broad cross section of community members in a master plan. They allow staff to engage directly with the public, explain concepts that are difficult to convey on paper and allow for informative conversations among planners and residents. When you conduct a countywide effort such as the Bicycle Master Plan, one or two meetings are insufficient. In 2015, the Bicycle Master Plan team conducted six public meetings in different areas of the county to engage a broader cross section of the public. In 2017, five public meetings were held to discuss the preliminary recommendations of the plan.

Kick-off Meetings



Preliminary Bikeway Recommendations

Five public meetings to review the preliminary bikeway recommendations for the Bicycle Master Plan were held in June 2017.

Each event consisted of an open house and informal discussion from 4 to 7 p.m. when attendees met with Planning Department staff to review and discuss the bikeway recommendations. The open house was followed by a bikeway recommendations presentation and a question-and-answer session.



COMMUNITY EVENTS

Community events enabled the public to engage with the Bicycle Master Plan team in informal settings. From community-led bike rides that allowed the public to identify bicycling concerns in their neighborhoods to Park(ing) Day where the staff demonstrated bicycle corrals and separated bike lanes, the events were fun and informative for planners and county residents.

Great MoCo Bike Summits

The annual Great MoCo Bike Summit provided a fantastic opportunity to update the community on the progress of the Bicycle Master Plan. In 2015, the Planning Department created a gigantic wall map of Montgomery County. Attendees wrote their thoughts and concerns about bicycling on the map. This document was the foundation for the online, GIS-based Cycling Concerns

Feedback Map where comments were collected electronically. Bike summits were held in Silver Spring (2015) and Rockville (2016), when the planning team continued to inform the public about the Bicycle Master Plan.





Community Bike Rides



The planning team wanted to “ride the talk” so they held community bike rides that toured various areas of Montgomery County.



OLNEY



SATURDAY, MAY 7, 2016



BURTONSVILLE/ FAIRLAND



SATURDAY, JULY 24, 2016



COLESVILLE



SUNDAY, OCTOBER 30, 2016



WHEATON



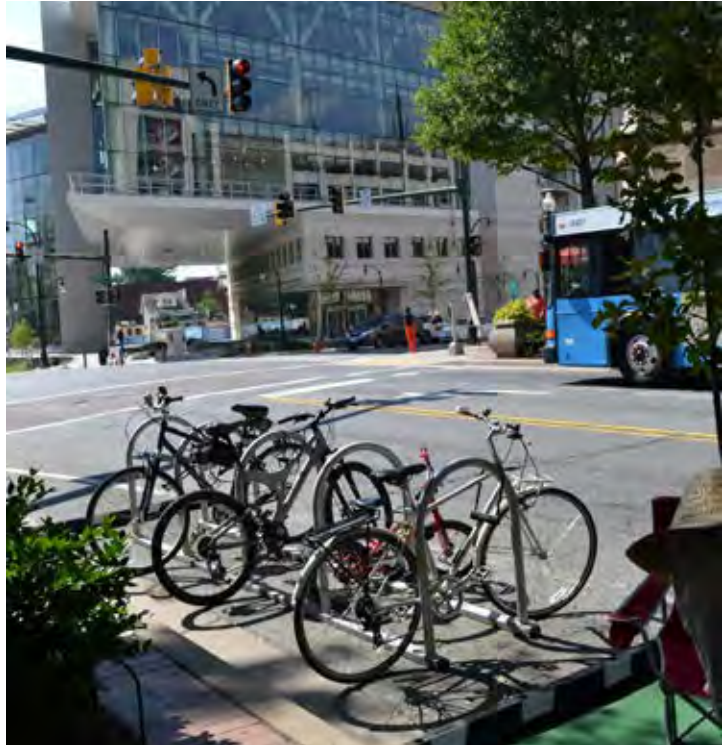
SATURDAY, JUNE 17, 2017



The Wheaton Community Bike Ride

Park(ing) Day

In 2015, 2016 and 2017, the Bicycle Master Plan team took to downtown Silver Spring to transform parking spaces into educational and interactive displays of bicycle concepts. In 2015, the team chose to feature the benefits of bicycle parking and, in 2016, the team created a simulated separated bike lane using stationary bicycles and potted plants (pictured right). In 2017, the team featured poster-sized pages from their low-stress coloring book (see page 224 for more details).



Photos: (clockwise from top right) Bike corral in 2015, simulated separated bike lane in 2016, low-stress coloring book in 2017





IT'S LIKE TO RIDE IN A
PROTECTED BIKE LANE!



PROTECTED BIKE LANES OR CYCLE TRACKS) PROVIDE A SAFER,
RIDE YOUR BICYCLE. THESE BIKEWAYS PROVIDE A LOW-STRESS
AND PHYSICAL SEPARATION FROM BOTH MOTOR VEHICLES AND

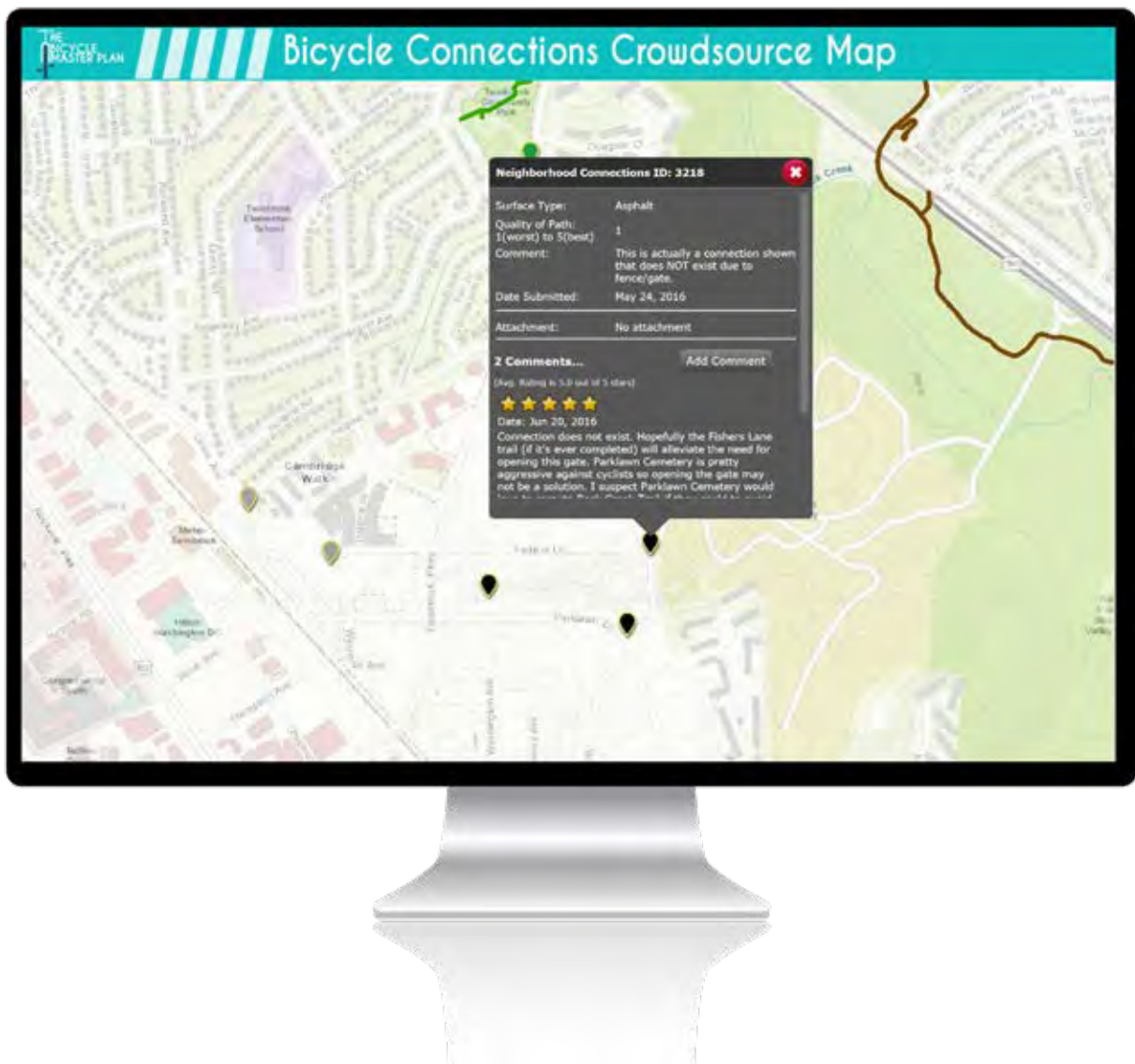
OW...
PROTECTED BIKE LANE

ONLINE OUTREACH

Online tools enable the Planning Department to engage members of the community who are unable or unwilling to attend public meetings and events. These methods include digital feedback maps, such as the Cycling Concerns Feedback Map and the Bikeway ReactMap, crowd sourcing maps, such as the Cycling Connections Map, and online tools, such as the Bicycle Stress Map.

Cycling Connections

Neighborhood connections are small bikeways that are vital for community connectivity but are often so short that they do not show up in county maps. To increase the number of neighborhood connectors in its database, the Planning Department created a crowdsourcing map and asked the public to identify locations of neighborhood connections. Nearly 200 comments indicating possible locations were received in 2016.



Media Coverage

While the Bicycle Master Plan will create a long-term vision for bicycling in Montgomery County, it is also a chance to build a strong bicycling community. Events such as the photo contest and the low-stress coloring book create fun opportunities to engage the public and to encourage them to sign up for our newsletter, while providing valuable information about in Montgomery County that is included in the plan.



If done well, the **project could do more than make life easier for cyclists**: It could ease traffic, cut carbon emissions and spur economic growth by drawing residents and visitors to newly accessible areas.

- Washington Post Editorial, June 21, 2015



NOTABLE PAPERS

“HANDY ‘STRESS MAP’ HELPS CYCLISTS AVOID THE SCARIEST OF STREETS”

-Wired, April 26, 2017

“NEW MAP SHOWS SPOTS WHERE BI-CYCLISTS STRESS OUT DUE TO DANGER LEVEL”

-Washington Post, April 7, 2016

“WITH MORE PEOPLE BIKING, LOCAL GOVERNMENTS ARE TRYING TO MAKE IT EASIER”

-WTOP, August 13, 2015

“COUNTY PLANNERS TO APPLY BICYCLING STRESS TEST”

-Bethesda Magazine, May 21, 2015



NOTABLE BLOGS

“KEEPING A BIKE PLAN IN HIGH GEAR: MONTGOMERY COUNTY’S PUBLIC ENGAGEMENT PLAN”

-American Planning Association, May 2017

“CLOSING GAPS IN LOW-STRESS NETWORKS TO BRING BICYCLING TO MORE PEOPLE”

-Mobility Lab, June 20, 2017

“MONTGOMERY COUNTY AIMS TO BECOME A MODEL CYCLING COMMUNITY”

-Greater, Greater Washington, June 2, 2015

“THIS MAP SHOWS MONTGOMERY COUNTY’S PROPOSED BIKEWAYS”

-Technically DC, June 14, 2017

“CYCLING STRESS MAP HELPS BIKERS AVOID TRICKY STREETS”

-Curbed, April 28, 2017

Cycling Concerns Feedback Map

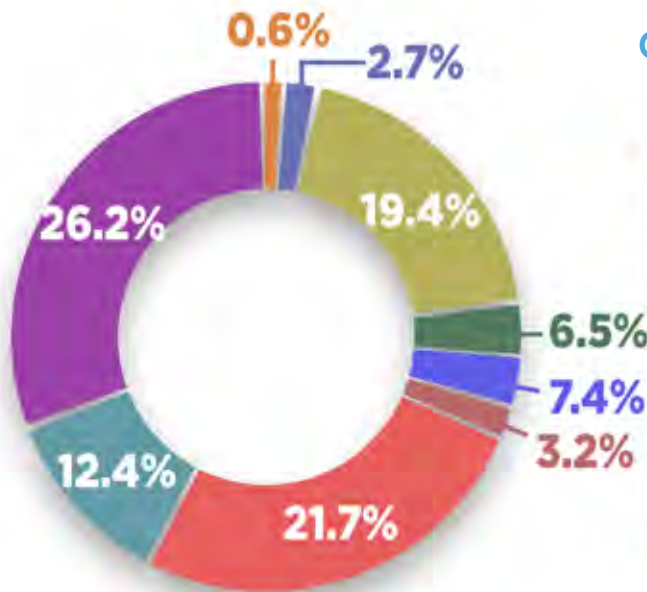
In September and October 2015, Montgomery County residents were invited to share their concerns and ideas, and provide comments on the [Cycling Concerns Feedback Map](#), an interactive tool for communicating with the public.



1,896 TOTAL COMMENTS



1,191 UNIQUE POINTS OF INTEREST



COMMENTS BY THE NUMBERS



TOP 12 POLICY AREAS WITH THE MOST CONCERNS

SILVER SPRING/TAKOMA PARK: 296	OLNEY: 95
BETHESDA/CHEVY CHASE: 272	NORTH BETHESDA: 86
KENSINGTON/WHEATON: 233	ASPEN HILL: 63
BETHESDA CBD: 138	FAIRLAND/COLESVILLE: 62
SILVER SPRING CBD: 126	WHITE OAK: 56
RURAL EAST: 101	ROCKVILLE CITY: 51

TOP 10 STREETS & ROADS WITH THE MOST CONCERNS

MACARTHUR BLVD: 29	VEIRS MILL ROAD: 18
CAPITAL CRESCENT TRAIL: 28	GEORGETOWN BRANCH TRAIL: 18
WOODMONT AVENUE: 24	COLESVILLE ROAD: 16
GEORGIA AVENUE: 22	BEACH DRIVE: 16
NEW HAMPSHIRE AVENUE: 20	WAYNE AVENUE: 14



VIEW THE MAP AT
MCATLAS.ORG/CYCLINGCONCERNS

TYPES OF CONCERNS

-  Difficult Crossing
-  Poor/No Connection
-  Excessive Speed
-  High Traffic Volume
-  Insufficient Bicycle Parking

-  Bicycle-Safe Grate Needed
-  Cars Block Bikeway
-  Poor Pavement
-  Other

EXISTING BIKEWAYS

-  Bike Lanes
-  Separated Bike Lanes
-  Shared Use Paths
-  Hard Surface Park Trails

Bicycle Stress Map

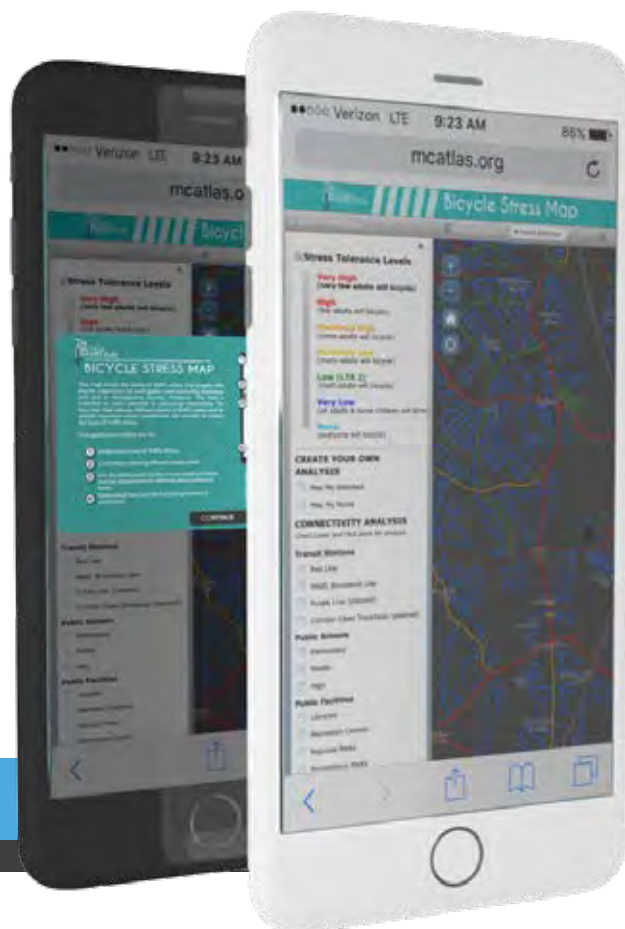


The map provides a **data-driven approach** to understanding bicycle connectivity by linking the traffic stress evaluation to the goals, objectives and performance metrics outlined in the county's Bicycle Master Plan.

- American Planning Association (APA)



» MCATLAS.ORG/BIKESTRESS



The **Bicycle Stress Map** is a publicly accessible tool located on the Montgomery County Planning Department website at www.mcatlas.org/bikestress. It shows the stress levels encountered when bicycling in different areas of Montgomery County, from very low stress (appropriate for children) to very high stress (appropriate for only about one percent of adults). Videos linked to the map explain the experience of bicycling in areas with different traffic stress conditions.

The Bicycle Stress Map was launched in April 2016 and has been widely embraced for highlighting how difficult it is for the average person to travel by bicycle in Montgomery County. While most adults can bicycle on 75 percent of the road miles in the county, only about 14 percent of trips can be completed on a low-stress bicycling network.

3,500+ MILES

of roads and trails were assigned a level of traffic stress during the creation of the map by Montgomery County Planning Department staff. Project team members used a combination of online resources as well as site visits to evaluate the conditions of the roads.



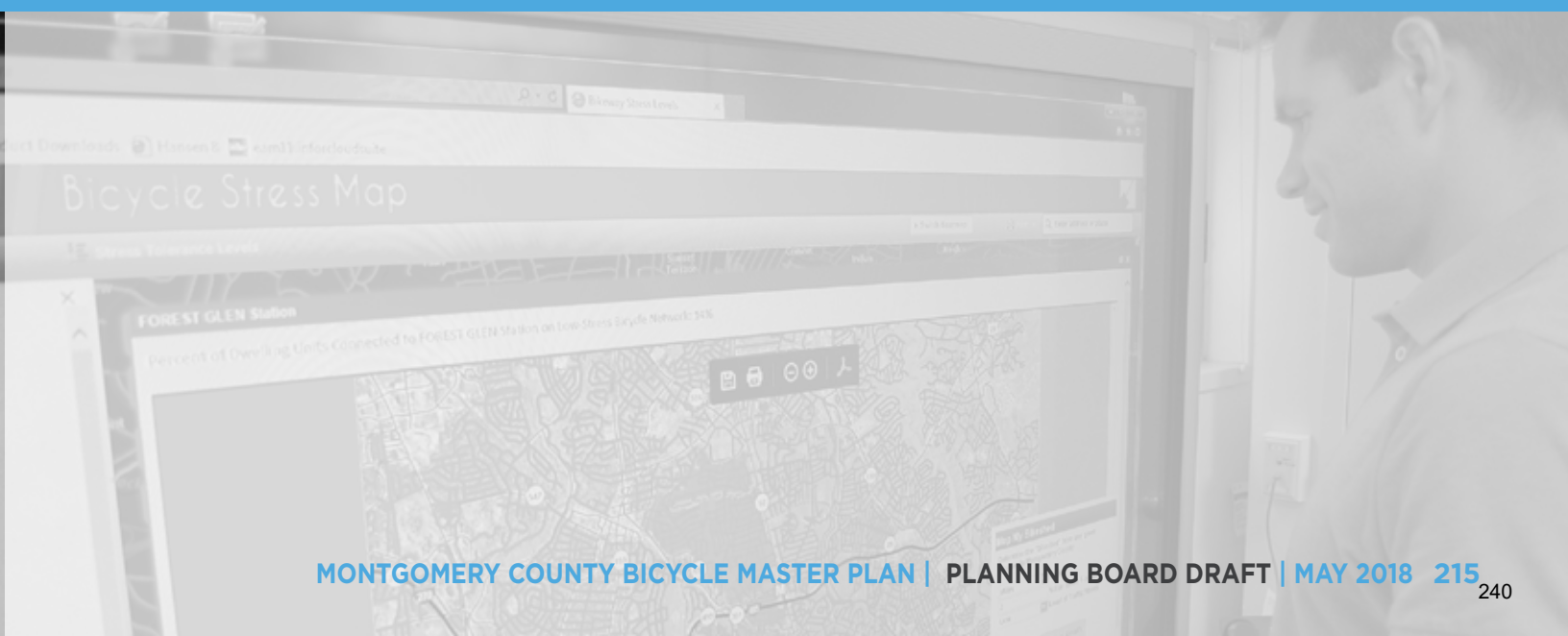
AMERICAN PLANNING ASSOCIATION

2017 NATIONAL ACHIEVEMENT AWARD TRANSPORTATION PLANNING | GOLD



AMERICAN PLANNING ASSOCIATION - NATIONAL CAPITAL AREA CHAPTER

2016 AWARD FOR AN OUTSTANDING IMPLEMENTATION TOOL



Bikeway ReactMap

The **Bikeway ReactMap** encouraged the public to comment on the Bicycle Master Plan's preliminary bikeway recommendations. Users could view the map legend, review a brief description of bikeway facility types and add comments about the bikeway recommendations.

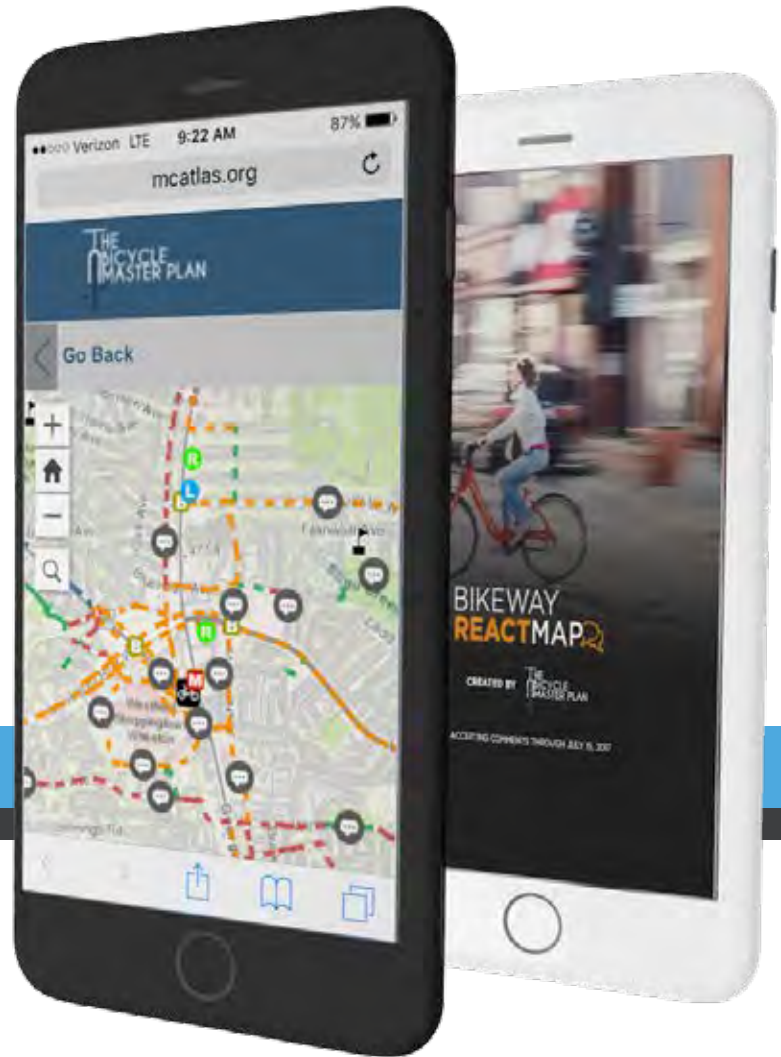


**1,489 TOTAL
COMMENTS**



**4,699 TOTAL
PAGE VIEWS**

» MCATLAS.ORG/BIKEREACT



TOP 11 LOCATIONS WITH MOST COMMENTS

Woodmont Avenue and Bethesda Avenue	12
Bethesda Trolley Trail Crossing Tuckerman Lane	10
Proposed New Bridge over I-495 at Colesville Road	9
Grosvenor Lane East of MD 355	9
Woodmont Ave Between Elm Street and Bethesda Avenue	8
Proposed Trail along I-495 between Stoneybrook Drive and Linden Lane	8
Stoneybrook Drive between Capitol View Avenue and Kent Street	6
Capital Crescent Trail at Little Falls Parkway	7
Oakview Drive at Northwest Branch Trail	6
Maple Avenue at DC line	6
Fenton Street south of Silver Spring Avenue	6



TOP 10 POLICY AREAS WITH MOST COMMENTS

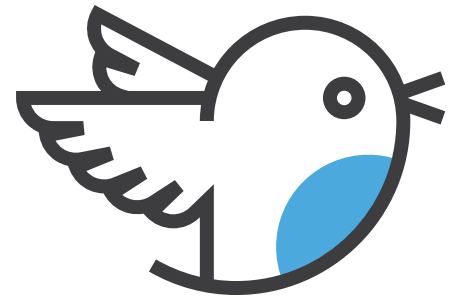
Kensington/Wheaton	251
Silver Spring/Takoma Park	187
Bethesda/Chevy Chase	173
North Bethesda	85
Silver Spring CBD	82
Bethesda CBD	80
Fairland/Colesville	78
Rural East	85
Rural West	52
Aspen Hill	49

TOP 13 STREETS AND TRAILS WITH MOST COMMENTS

Fenton Street	42
Capital Crescent Trail	33
Old Georgetown Road	26
Bethesda Trolley Trail	26
Capitol View Avenue	25
Beach Drive	20
New Hampshire Avenue	19
Intercounty Connector Trail	18
Carroll Avenue	17
Randolph Road	16
Rockville Pike	16
Maple Avenue	16
Woodmont Avenue	16

Social Media

To reach as many stakeholders as possible, the Bicycle Master Plan team launched a Twitter account and communicated information through the Planning Department's Facebook account. Posts about updates on the plan, videos and photos provided a forum that extended beyond community meetings and press releases.



TWITTER | @MCBIKEPLAN
500+ Followers



E-LETTER
800+ Subscribers



Video



BICYCLE MASTER PLAN PROMO

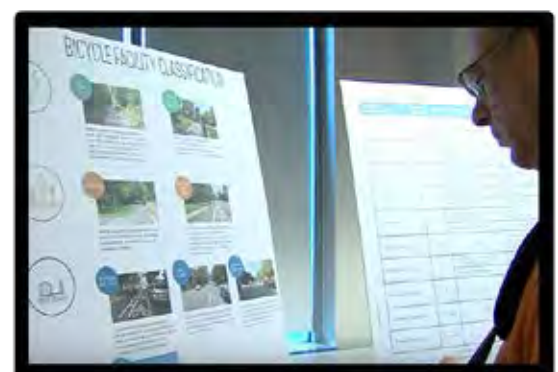
*2015 MarCom Awards
Platinum Award Winner*



BICYCLE STRESS MAP RELEASE



PARK(ING) DAY 2016



PRELIMINARY BIKEWAY RECOMMENDATIONS MEETING

VIDEOS CAN BE VIEWED AT [YOUTUBE.COM/MONTGOMERYPLANNING](https://www.youtube.com/montgomeryplanning)





COMMUNITY ADVISORY GROUP

In 2016, the Planning Board appointed a diverse 21-member community advisory group to provide advice to the Bicycle Master Plan team. This group includes eight members representing different geographic areas of Montgomery County, as well as 13 representatives of community organizations and interest groups.

16 MEETINGS

INNOVATIVE OUTREACH

While the Bicycle Master Plan will create a long-term vision for bicycling in Montgomery County, it is also a chance to build a strong bicycling community. Outreach tools such as the photo contest and the low-stress coloring book create fun opportunities to engage the public and encourage them to sign up for our newsletter, while providing valuable information about the progress of the plan.



Photo Contest

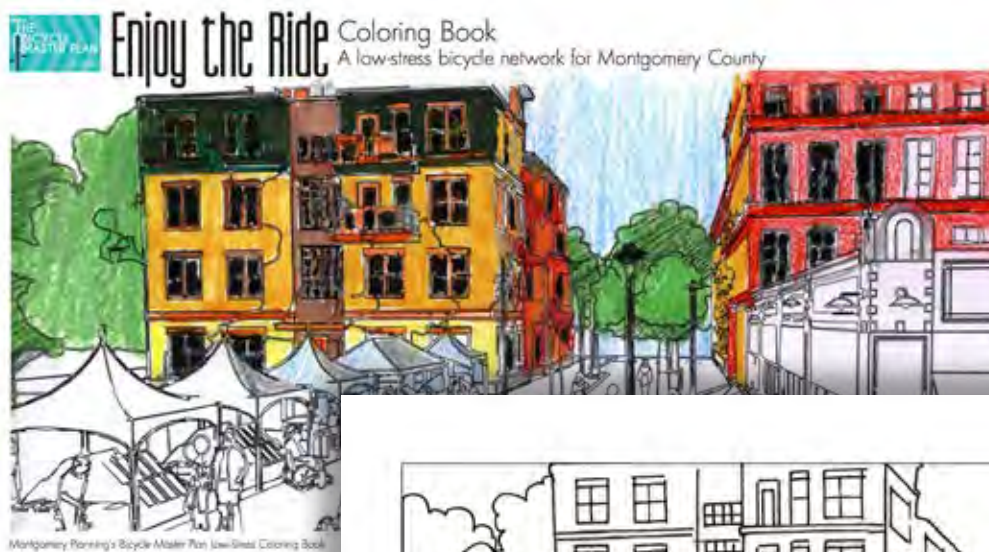
In September and October 2016, the Planning Department held the bicycle photo contest to engage the public and choose images for the **Bicycle Master Plan** and other planning documents. The public voted on the winners using an online poll.



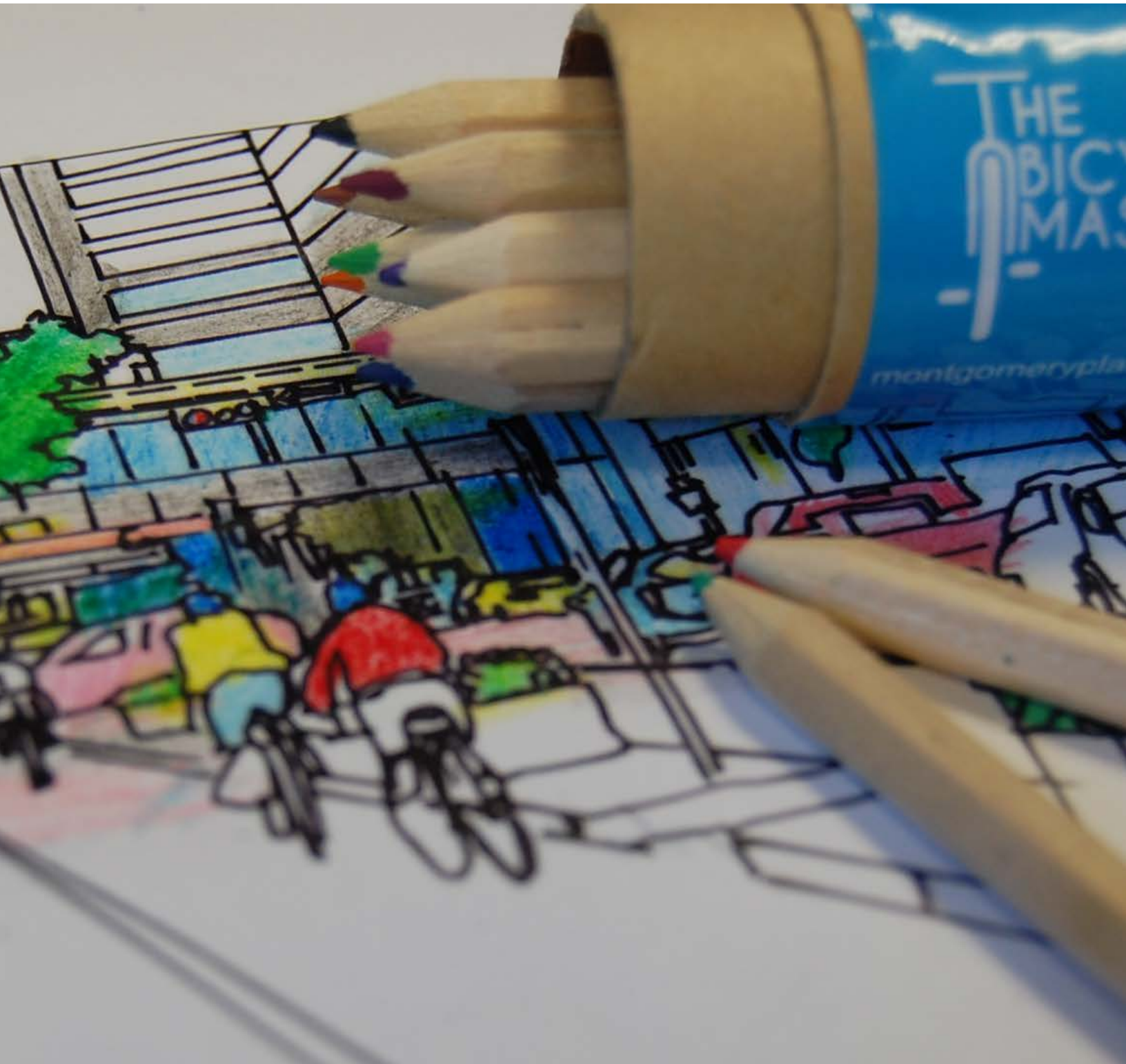
Photo: Winning Recreational Bicycling Photo By Scott Wilets

Coloring Book

A 34-page coloring book, *Enjoy the Ride*, was made available online to the public in fall 2017 to present the types of bikeways included in the draft Bicycle Master Plan. Since the goal of the plan is to create a low-stress bicycle network that will let people of all ages and abilities feel comfortable riding a bike, the book seemed fitting, since coloring has also been shown to be a stress-relieving activity. Each black-and-white page depicts a different type of bikeway, such as a neighborhood greenway, a separated bike lane and a trail. The community was invited to post their completed illustrations online to Facebook, Twitter or Instagram using hashtag #lowstressbiking.



Montgomery Planning's Bicycle Master Plan: low-stress Coloring Book



Transit Ads



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY (WMATA) DISPLAYS

The plan used a mix of English and Spanish outreach at key Metrorail stations and bus stops to reach a wide audience.

AD RUN SCHEDULE

Ads ran in 2017

SHADY GROVE	7/3 - 7/30	○
WHITE FLINT	6/5 - 7/23	○
GROSVENOR-STRATHMORE	6/5 - 7/30	○
MEDICAL CENTER	6/5 - 7/30	○
BETHESDA	6/5 - 7/30	○
FRIENDSHIP HEIGHTS	6/5 - 7/23	○
SILVER SPRING	7/3-7/30	○
WHEATON	6/5 - 7/30	○
GLENMONT	6/5 - 7/6	○



Above: Artwork for the WMATA advertising campaign.

Right: The advertisement placed on the platform at the Shady Grove Metro Station.



BUS SHELTERS



AD LOCATIONS

Ads ran from June 5 to July 2, 2017



Above: Artwork for the bus shelter advertising campaign.

Left: The advertisement placed on bus shelter at the corner of University Boulevard and Piney Branch Road.

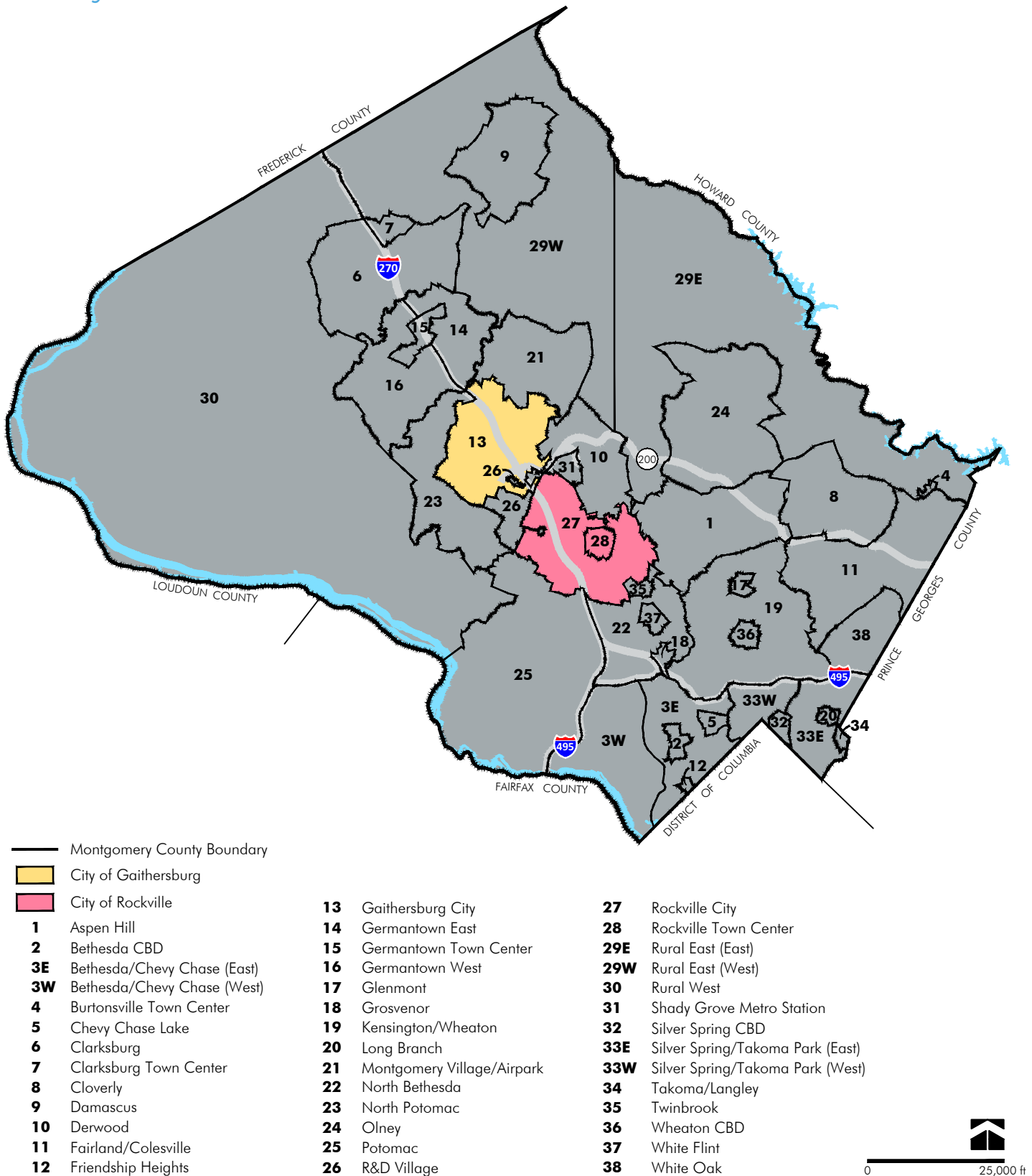


BIKEWAY RECOMMEN- DATIONS

The following section provides a detailed look at bikeway recommendations for each of the county's policy areas.



Policy Area Overview



Recommendations can be viewed at MCAtlas.org/bikeplan

ASPEN HILL



Policy Area

Parkland

City of Rockville

B Bus Rapid Transit Station (Proposed)

== Breezeway Network

Existing

Proposed

Trails

Separated Bikeways

Striped Bikeways

Bikeable Shoulders

Shared Roads

Note: White lines represent non-master planned bikeways

0 4000'



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
OLNEY TO GLENMONT BREEZEWAY				
Georgia Ave Access Road	Norbeck Rd (MD 28)	Bel Pre Rd	Separated Bikeway	Sidepath (West Side)
Georgia Ave (MD 97)	Bel Pre Rd	Wendy La	Separated Bikeway	Sidepath (West Side)
Wendy La	Loyola St	Georgia Ave (MD 97)	Shared Road	Neighborhood Greenway
Loyola St	Wendy La	Harmony Hill Neighborhood Park	Shared Road	Neighborhood Greenway
Harmony Hills NP Trail	Loyola St	Loyola St	Trail	Off-Street Trail
Loyola St	Harmony Hill Neighborhood Park	Ralph Rd	Shared Road	Neighborhood Greenway
Ralph Rd	Kilburn La	Loyola St	Shared Road	Neighborhood Greenway
Trail	Kilburn La	Matthew Henson Trail	Trail	Off-Street Trail
CITY OF ROCKVILLE TO WHEATON BREEZEWAY				
Veirs Mill Rd (MD 586)	Rock Creek Trail	Parkland Dr	Separated Bikeway	Sidepath (South Side)
Veirs Mill Road (MD 586)	Parkland Dr	Matthew Henson Trail	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
POTOMAC TO VEIRS MILL ROAD BREEZEWAY				
Montrose Parkway	Rock Creek	Veirs Mill Rd (MD 586)	Separated Bikeway	Sidepath (North Side)
INTERCOUNTY CONNECTOR (MD 200) TRAIL BREEZEWAY				
Intercounty Connector Trail	Norbeck Rd (MD 28)	Park Vista Ct	Trail	Off-Street Trail
Park Vista Dr	Intercounty Connector Trail	Layhill Rd (MD 182)	Separated Bikeway	Sidepath (North Side)
Intercounty Connector Trail	Layhill Rd (MD 182)	Bonifant Rd	Trail	Off-Street Trail
NORBECK RD (MD 28) NORTH BIKEWAY				
Norbeck Rd (MD 28)	City of Rockville	End of Access Rd	Separated Bikeway	Sidepath (South Side)
Norbeck Rd Access Road	End of Access Rd	Emory La	Shared Road	Contra-Flow Bike Lane
Emory La	Norbeck Rd (MD 28)	Sunflower Dr	Shared Road	Neighborhood Greenway
Sunflower Dr	Emory La	Red Clover Dr	Shared Road	Neighborhood Greenway
Red Clover Dr	Sunflower Dr	Flower Valley Dr	Shared Road	Neighborhood Greenway
Flower Valley Dr	Red Clover Dr	Hannans Way	Shared Road	Neighborhood Greenway

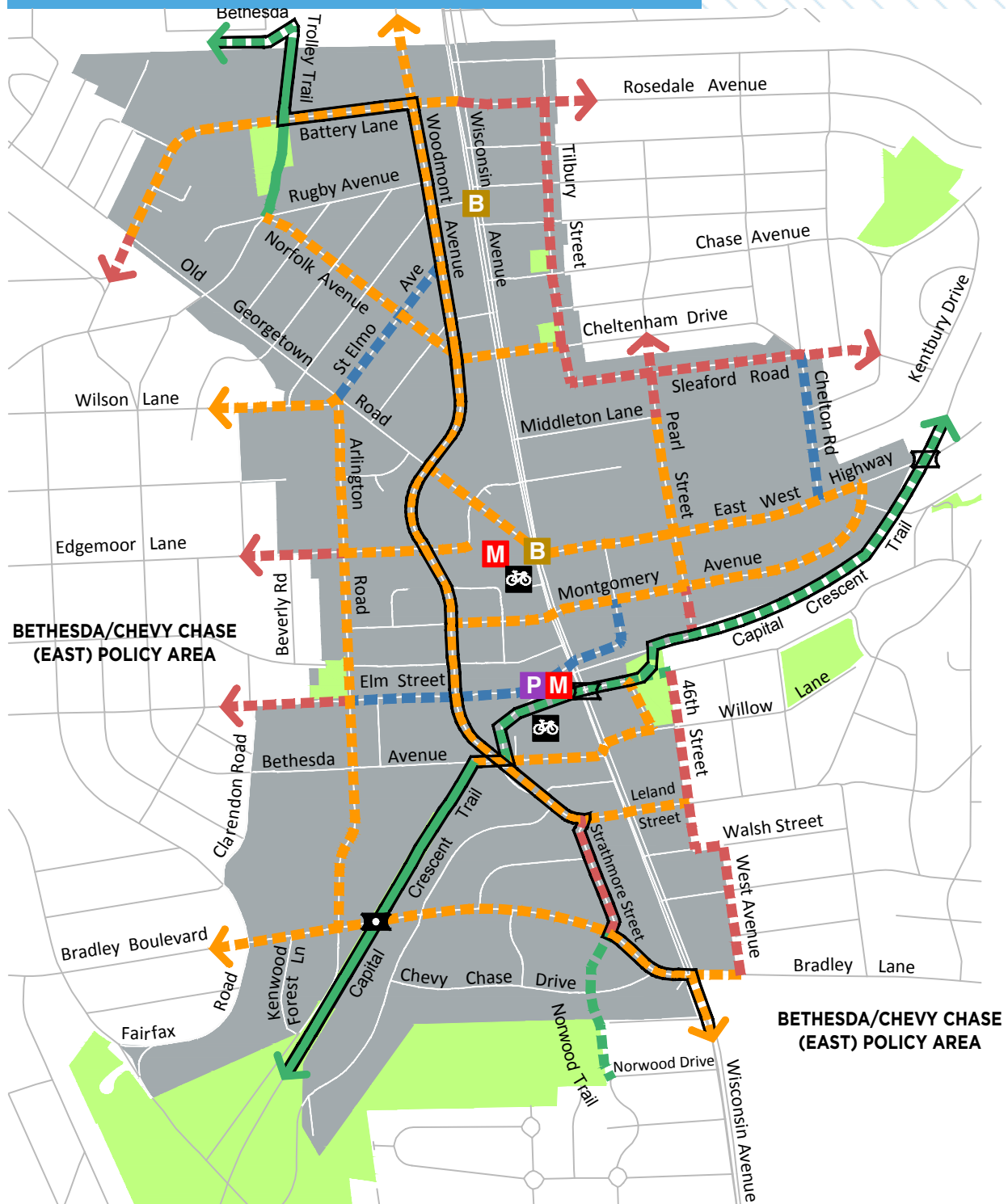
BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Hannans Way	Flower Valley Dr	Norbeck Rd (MD 28)	Shared Road	Neighborhood Greenway
Norbeck Rd Access Road	Hannans Way	End of Access Rd	Shared Road	Contra-Flow Bike Lane
Norbeck Rd (MD 28)	Norbeck Rd Access Road	Layhill Rd (MD 182)	Separated Bikeway	Sidepath (North Side)
NORBECK RD (MD 28) SOUTH BIKEWAY				
Norbeck Rd (MD 28)	Bauer Dr	Norbeck Rd Access Road	Separated Bikeway	Sidepath (South Side)
Norbeck Rd Service Road	400' West Of Nadine Dr	Georgia Ave (MD 97)	Shared Road	Contra-Flow Bike Lane
CONNECTICUT AVE (MD 185) WEST BIKEWAY				
Connecticut Ave (MD 185)	Grand Pre Rd	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes (West Side)
Connecticut Ave (MD 185)	Georgia Ave (MD 97)	Aspen Hill Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Connecticut Ave (MD 185)	Aspen Hill Rd	Independence St	Separated Bikeway	Sidepath (West Side)
Connecticut Ave (MD 185)	Independence St	Matthew Henson Trail	Separated Bikeway	Sidepath (West Side)
CONNECTICUT AVE (MD 185) EAST BIKEWAY				
Connecticut Ave (MD 185)	Bel Pre Rd	Grand Pre Rd	Separated Bikeway	Sidepath (East Side)
Connecticut Ave (MD 185)	Grand Pre Rd	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (East Side)
Connecticut Ave (MD 185)	Georgia Ave (MD 97)	Aspen Hill Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Connecticut Ave (MD 185)	Aspen Hill Rd	Independence St	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Connecticut Ave (MD 185)	Independence St	Matthew Henson Trail	Separated Bikeway	Sidepath (East Side)
ADDITIONAL RECOMMENDATIONS				
Alderton Rd	Bonifant Rd	Matthew Henson Trail	Separated Bikeway	Sidepath (East Side)
Arctic Ave	Bel Pre Rd	Aspen Hill Rd	Separated Bikeway	Sidepath (Side TBD)
Aspen Hill Rd	Veirs Mill Rd (MD 586)	Connecticut Ave (MD 185)	Separated Bikeway	Sidepath (North Side)
	Connecticut Ave (MD 185)	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Bauer Dr	Norbeck Rd (MD 28)	Marianna Dr	Separated Bikeway	Sidepath (Side TBD)
Bel Pre Rd	Norbeck Rd (MD 28)	Layhill Rd (MD 182)	Separated Bikeway	Sidepath (South Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Bonifant Rd	Layhill Rd (MD 182)	Intercounty Connector Trail	Separated Bikeway	Sidepath (South Side)
	Intercounty Connector Trail	Pebblestone Dr	Separated Bikeway	Sidepath (South Side)
Georgia Ave (MD 97)	Norbeck Rd (MD 28)	Matthew Henson Trail	Separated Bikeway	Sidepath (East Side)
Grand Pre Rd	Bel Pre Rd	Connecticut Ave	Separated Bikeway	Sidepath (Side TBD)
Heathfield Rd	Parkland Dr	Georgia Ave	Separated Bikeway	Sidepath (Side TBD)
Hewitt Ave	Georgia Ave	Rippling Brook Dr	Separated Bikeway	Sidepath (Side TBD)
Homecrest Rd	Longmead Crossing Dr	Bel Pre Rd	Striped Bikeway	Conventional Bike Lanes
Independence St	Parkland Dr	Connecticut Ave (MD 185)	Separated Bikeway	Sidepath (Side TBD)
Layhill Rd (MD 182)	Norbeck Rd (MD 28)	Baughman Dr	Separated Bikeway	Sidepath (East Side)
	Baughman Dr	Park Vista Dr	Separated Bikeway	Sidepath (Both Sides)
	Park Vista Dr	Matthew Henson Trail	Separated Bikeway and Striped Bikeway	Sidepath (East Side) and Conventional Bike Lanes
Longmead Crossing Dr	Intercounty Connector Trail	Layhill Rd (MD 182)	Separated Bikeway	Sidepath (North Side)
Marianna Dr	Bauer Dr	Parkland Dr	Separated Bikeway	Sidepath (Side TBD)
Matthew Henson Trail	Rock Creek Trail	Alderton Rd	Trail	Stream Valley Park Trail
	Alderton Rd	Fairland / Colesville Policy Area	Trail	Stream Valley Park Trail
Matthew Henson Trail Connector	Rippling Brook Dr	Matthew Henson Trail	Trail	Off-Street Trail
Muncaster Mill Rd	North Branch Rock Creek	Norbeck Rd (MD 28)	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Palmira La	Aspen Hill Shopping Center	Wendy La	Shared Road	Neighborhood Greenway
Parkland Dr	Chesterfield Rd	Marianna Dr	Separated Bikeway	Sidepath (Side TBD)
	Marianna Dr	Veirs Mill Rd (MD 586)	Separated Bikeway	Sidepath (Side TBD)
Renn St	Arctic Ave	Marianna Dr	Separated Bikeway	Sidepath (Side TBD)
Rippling Brook Dr	Bel Pre Rd	Matthew Henson Trail	Separated Bikeway	Sidepath (East Side)
Rock Creek Trail	Avery Rd	Veirs Mill Rd (MD 586) Trail Connector	Trail	Stream Valley Park Trail
Russett Rd	Bauer Dr	Arctic Ave	Separated Bikeway	Sidepath (East Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Veirs Mill Rd (MD 586)	City of Rockville	Matthew Henson Trail	Separated Bikeway	Sidepath (North Side)
Wendy La	Palmira La	Loyola St	Shared Road	Neighborhood Greenway

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BETHESDA CBD



Policy Area

Parkland

M Metrorail Station

B Bus Rapid Transit Station (Proposed)

P Purple Line Station (Proposed)

== Breezeway Network

Existing Proposed

Trails

Separated Bikeways

Striped Bikeways

Shared Roads



Grade Separated Crossing

Bicycle Parking Station



Note: White lines represent non-master planned bikeways

0 1000'

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CAPITAL CRESCENT TRAIL BREEZEWAY				
Capital Crescent Trail	Kenwood Forest La	Woodmont Ave	Trail	Off-Street Trail
Capital Crescent Trail (Tunnel Route)	Woodmont Ave	47th St	Trail	Off-Street Trail
Capital Crescent Trail	47th St	Pearl St	Trail	Off-Street Trail
CITY OF ROCKVILLE TO FRIENDSHIP HEIGHTS BREEZEWAY				
Bethesda Trolley Trail	NIH Property Line	Battery La	Trail	Off-Street Trail
Battery La	Bethesda Trolley Trail	Wisconsin Ave (MD 355)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Woodmont Ave	Battery La	Wisconsin Ave (MD 355)	Separated Bikeway	Separated Bike Lanes*
ADDITIONAL RECOMMENDATIONS				
46th St	Elm St	Walsh Ave	Shared Road	Neighborhood Greenway
Arlington Rd	Old Georgetown Rd (MD 187)	Bradley Blvd (MD 191)	Separated Bikeway	Separated Bike Lanes*
Battery La	Old Georgetown Rd (MD 187)	Wisconsin Ave (MD 355)	Separated Bikeway	Separated Bike Lanes(Two-Way, Side TBD)
Bethesda Trolley Trail	Battery La	Rugby Ave	Trail	Off-Street Trail
Bradley Blvd (MD 191)	Fairfax Rd	Wisconsin Ave (MD 355)	Separated Bikeway	Separated Bike Lanes(Two-Way, East Side)
Bradley La	Wisconsin Ave (MD 355)	West Ave	Separated Bikeway	Separated Bike Lanes(Two-Way, North Side)
Capital Crescent Trail (Surface Route)	Woodmont Ave	Wisconsin Ave (MD 355)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
	Wisconsin Ave (MD 355)	47th St	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
	Willow La	Elm St	Separated Bikeway	Sidepath (East Side)
Cheltenham Dr	Wisconsin Ave (MD 355)	Tilbury St	Separated Bikeway	Separated Bike Lanes
Chelton Rd	Sleaford Rd	East-West Hwy (MD 410)	Striped Bikeway	Conventional Bike Lanes
East-West Hwy (MD 410)	Wisconsin Ave (MD 355)	Montgomery Ave	Separated Bikeway	Separated Bike Lanes (Two-Way, Side TBD)
Edgemoor La	Beverly Rd	Arlington Rd	Shared Road	Neighborhood Greenway
	Arlington Rd	Bethesda Metrorail Station	Separated Bikeway	Separated Bike Lanes (two-way, south side)

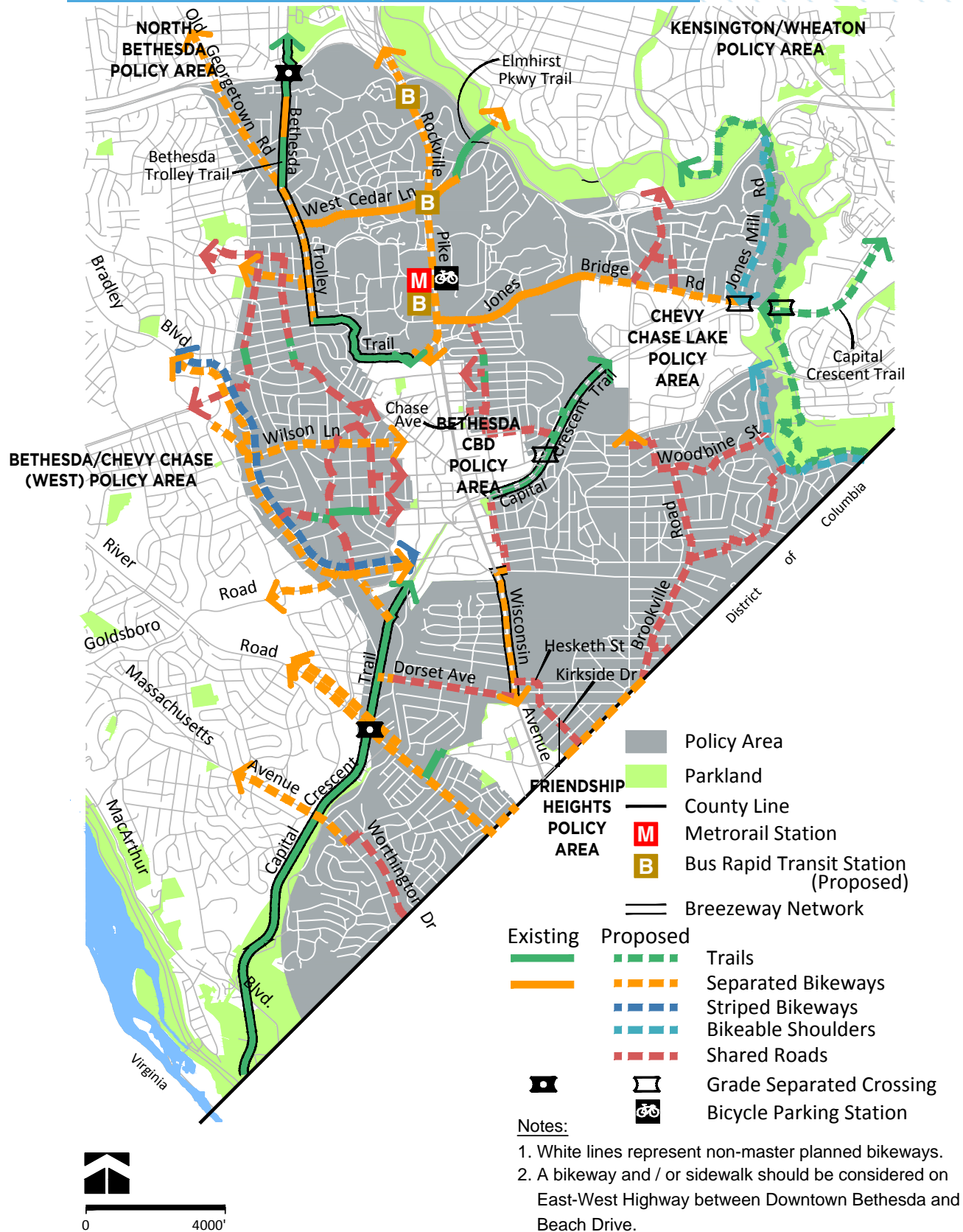
STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Elm St	Clarendon Rd	Arlington Rd	Shared Road	Neighborhood Greenway
	Arlington Rd	Wisconsin Ave (MD 355)	Striped Bikeway	Conventional Bike Lanes
Leland St**	Wisconsin Ave (MD 355)	46th St	Separated Bikeway	Separated Bike Lanes
Montgomery Ave (MD 28)	Wisconsin Ave (MD 355)	East-West Hwy (MD 410)	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Montgomery La	Woodmont Ave	Wisconsin Ave (MD 355)	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Neighborhood Connector	Chevy Chase Dr	Bethesda-Chevy Chase (East) Policy Area	Trail	Neighborhood Connector
Norfolk Ave	Rugby Ave	Woodmont Ave	Shared Road	Shared Street*
	Woodmont Ave	Wisconsin Ave (MD 355)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Old Georgetown Rd (MD 187)	Woodmont Ave	Wisconsin Ave (MD 355)	Separated Bikeway	Separated Bike Lanes (Two-Way, Side TBD)
Pearl St	Sleaford Rd	Middleton La	Shared Road	Neighborhood Greenway
	Middleton La	Montgomery Ave	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
	Montgomery Ave	Capital Crescent Trail	Shared Road	Shared Street
Rosedale Ave	Wisconsin Ave (MD 355)	Tilbury St	Shared Road	Neighborhood Greenway
Sleaford Rd	Tilbury St	Chelton Rd	Shared Road	Neighborhood Greenway
St Elmo Ave	Woodmont Ave	Old Georgetown Rd (MD 187)	Striped Bikeway	Conventional Bike Lanes or Separated Bike Lanes
Strathmore St (MD 547)	Woodmont Ave	Bradley Blvd (MD 191)	Shared Road	Priority Shared Lanes
Norwood Trail	Bradley Blvd (MD 191)	Norwood Dr	Trail	Neighborhood Connector
Tilbury St	Rosedale Ave	Sleaford Rd	Shared Road	Neighborhood Greenway
Walsh St	46th St	West Ave	Shared Road	Neighborhood Greenway
West Ave	Walsh Ave	Bradley La	Shared Road	Neighborhood Greenway
Waverly St	Wisconsin Ave (MD 355)	East-West Hwy (MD 410)	Striped Bikeway	Conventional Bike Lanes
Wilson La (MD 188)	Cordell Ave	Old Georgetown Rd (MD 187)	Separated Bikeway	Sidepath (North Side)
Woodmont Ave	Bethesda-Chevy Chase (East) Policy Area	Battery La	Separated Bikeway	Sidepath (West Side)

* See the Bethesda Downtown Plan

** This bikeway should be on the same side of the road as the Woodmont Avenue bikeway between Bethesda Ave and Wisconsin Avenue.

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BETHESDA -CHEVY CHASE (EAST)



STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CITY OF ROCKVILLE TO FRIENDSHIP HEIGHTS BREEZEWAY				
Bethesda Trolley Trail	I-495	Charles St	Trail	Off-Street Trail
	Charles St	South of Lincoln St	Separated Bikeway	Sidepath (East Side)
	Old Georgetown Rd (MD 187)	NIH Property Line	Trail	Off-Street Trail
SEE BETHESDA CBD POLICY AREA				
Wisconsin Ave (MD 355)	Bradley Blvd (MD 191)	Dorset Ave	Separated Bikeway	Sidepath (East Side)
	Dorset Ave	Oliver St	Separated Bikeway	Sidepath (East Side)
CAPITAL CRESCENT TRAIL BREEZEWAY				
Capital Crescent Trail	River Rd (MD 190)	Kenwood Forest La	Trail	Off-Street Trail
SEE BETHESDA CBD POLICY AREA				
Capital Crescent Trail	Pearl St	End of Newdale Rd	Trail	Off-Street Trail
BROOKVILLE RD - BEACH DR NEIGHBORHOOD GREENWAY				
Cummings La	Brookville Rd (MD 186)	Brennon La	Shared Road	Neighborhood Greenway
Brennon La	Cummings La	Shepherd St	Shared Road	Neighborhood Greenway
Shepherd St	Brennon La	Turner La	Shared Road	Neighborhood Greenway
Pomander La	Turner La	Leland St	Shared Road	Neighborhood Greenway
Leland St	Pomander La	Beach Dr	Shared Road	Neighborhood Greenway
CAPITAL CRESCENT TRAIL - BRADLEY LA NEIGHBORHOOD GREENWAY				
46th St	Elm St	Walsh St	Shared Road	Neighborhood Greenway
Walsh St	46th St	West Ave	Shared Road	Neighborhood Greenway
West Ave	Walsh St	Bradley La	Shared Road	Neighborhood Greenway
Woodbine St	Brookville Rd	Beach Dr	Shared Road	Neighborhood Greenway

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Woodbine St	Glendale Rd	Beach Dr	Shared Road	Neighborhood Greenway
JONES BRIDGE RD - EAST-WEST HIGHWAY NEIGHBORHOOD GREENWAY				
Maryland Ave	Jones Bridge Rd	Chelsea La	Shared Road	Neighborhood Greenway
Neighborhood Connector	Chelsea La	Maple Ave	Trail	Neighborhood Connector
Maryland Ave	Maple Ave	Chase Ave	Shared Road	Neighborhood Greenway
Pearl St	Chase Ave	Sleaford Rd	Shared Road	Neighborhood Greenway
MASSACHUSETTS AVE BIKEWAY				
Massachusetts Ave (MD 396)	Capital Crescent Trail	Baltimore Ave	Separated Bikeway	Sidepath (North Side)
Baltimore Ave	Massachusetts Ave (MD 396)	Worthington Dr	Shared Road	Neighborhood Greenway
Worthington Dr	Baltimore Ave	District of Columbia	Shared Road	Neighborhood Greenway
FERNWOOD RD - BATTERY LA NEIGHBORHOOD GREENWAY				
Grant St	Sonoma Rd	Roosevelt St	Shared Road	Neighborhood Greenway
Neighborhood Connector	Roosevelt St	Northfield Rd	Trail	Neighborhood Connector
Moorland La	Northfield Rd	Custer Rd	Shared Road	Neighborhood Greenway
Custer Rd	Moorland La	Lambeth Rd	Shared Road	Neighborhood Greenway
Park La	Lambeth Rd	Battery La	Shared Road	Neighborhood Greenway
SONOMA RD - BRADLEY BLVD NEIGHBORHOOD GREENWAY				
Oneida La	Sonoma Rd	Greentree Rd	Shared Road	Neighborhood Greenway
Garfield St	Greentree Rd	Roosevelt St	Shared Road	Neighborhood Greenway
Neighborhood Connector	Roosevelt St	Northfield Rd	Trail	Neighborhood Connector
Garfield St	Northfield Rd	Huntington Pkwy	Shared Road	Neighborhood Greenway
Aberdeen Pl	Huntington Pkwy	Aberdeen Rd	Shared Road	Neighborhood Greenway
Aberdeen Rd	Aberdeen Pl	Bradley Blvd (MD 191)	Shared Road	Neighborhood Greenway

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
ADDITIONAL RECOMMENDATIONS				
Battery La	Wilson La (MD 188)	Old Georgetown Rd (MD 187)	Shared Road	Neighborhood Greenway
Beach Dr	East West Hwy (MD 410)	District of Columbia	Bikeable Shoulders	Bikeable Shoulders
Bradley Blvd (MD 191)	Aberdeen Rd	Fairfax Rd	Separated Bikeway and Striped Bikeway	Sidepath (East Side) and Conventional Bike Lanes
Brookville Rd (MD 186)	Woodbine St	Western Ave	Shared Road	Priority Shared Lane Markings
Cedar La	Rockville Pike (MD 355)	Elmhirst Pkwy Trail	Separated Bikeway	Sidepath (North Side)
Chase Ave	Tilbury St	Pearl St	Shared Road	Neighborhood Greenway
Connecticut Ave (MD 185)	East-West Hwy (MD 410)	Blackthorn St	Separated Bikeway	Sidepath (East Side)
Cornish Rd	Bradley Blvd (MD 191)	Burling Rd	Shared Road	Neighborhood Greenway
Dorset Ave	Capital Crescent Trail	Little Falls Trail	Separated Bikeway	Sidepath (South Side)
	Little Falls Trail	Wisconsin Ave (MD 355)	Shared Road	Neighborhood Greenway
East Melrose St	Brookville Rd (MD 186)	Nevada Ave	Shared Road	Neighborhood Greenway
Edgemoor La	Exeter Rd	Beverly Rd	Shared Road	Neighborhood Greenway
Elm St	Exfair Rd	Clarendon Rd	Shared Road	Neighborhood Greenway
Elmhirst Pkwy Trail	Cedar La	Cedar La	Trail	Off-Street Trail
Exeter Rd	Wilson La (MD 188)	Elm St	Shared Road	Neighborhood Greenway
Glenbrook Rd	Battery La	Bradley Blvd (MD 191)	Shared Road	Neighborhood Greenway
Glenbrook Rd	Bradley Blvd (MD 191)	Little Falls Pkwy	Separated Bikeway	Sidepath (West Side)
Greentree Rd	Bethesda-Chevy Chase (West) Policy Area	Old Georgetown Rd (MD 187)	Separated Bikeway	Sidepath (South Side)
Hesketh St	Wisconsin Ave (MD 355)	Kirkside Dr	Shared Road	Neighborhood Greenway
Jones Bridge Rd	Wisconsin Ave (MD 355)	Glenbrook Pkwy	Separated Bikeway	Sidepath (North Side)
	Glenbrook Pkwy	Maryland Ave	Separated Bikeway	Sidepath (Both Sides)
	Maryland Ave	Columbia Country Club	Separated Bikeway	Sidepath (South Side)
Jones Mill Rd	Beach Dr	Jones Bridge Rd	Bikeable Shoulders	Bikeable Shoulders

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Kenilworth Drwy	Kensington Pkwy	Montgomery Ave (MD 28)	Shared Road	Neighborhood Greenway
Kensington Pkwy	I-495	Husted Drwy	Separated Bikeway	Sidepath (East Side)
	Husted Drwy	Connecticut Ave (MD 185)	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Kirkside Dr	Hesketh St	District of Columbia	Shared Road	Neighborhood Greenway
Little Falls Pkwy	Glenbrook Rd	Capital Crescent Trail	Separated Bikeway	Sidepath (West Side)
Montgomery Ave (MD 28)	Kenilworth Drwy	Jones Bridge Rd	Shared Road	Neighborhood Greenway
Neighborhood Connector	Bethesda CBD Policy Area	Norwood Rd	Trail	Neighborhood Connector
Nevada Ave	East Melrose St	Western Ave	Shared Road	Neighborhood Greenway
Old Georgetown Rd (MD 187)	Greentree Rd	Southwick St	Separated Bikeway	Sidepath (West Side)
Old Georgetown Rd (MD 187)	Lincoln St	McKinley St	Separated Bikeway	Sidepath (West Side)
Old Georgetown Rd (MD 187)	I-495	Charles St	Separated Bikeway	Sidepath (East Side)
River Rd (MD 190)	Capital Crescent Trail	Little Falls Pkwy	Separated Bikeway	Sidepath (West Side) and Separated Bike Lanes (East Side)
	Little Falls Pkwy	District of Columbia	Separated Bikeway	Sidepath (East Side)
Rock Creek Trail	Stoneybrook Dr	Rock Creek	Trail	Stream Valley Park Trail
Rockville Pike (MD 355)	I-495	Cedar La	Separated Bikeway	Sidepath (East Side)
	Cedar La	Woodmont Ave	Separated Bikeway	Sidepath (West Side)
Rosedale Ave	Tilbury St	Neighborhood Connector	Shared Road	Neighborhood Greenway
Sleaford Rd	Chelton Rd	Kentbury Dr	Shared Road	Neighborhood Greenway
Sonoma Rd	Hempstead Ave	Grant St	Shared Road	Neighborhood Greenway
W Cedar La	Bethesda Trolley Trail	Rockville Pike (MD 355)	Separated Bikeway	Sidepath (South Side)
Western Ave	River Rd (MD 190)	Cortland Rd	Separated Bikeway	Sidepath (North Side)
Western Ave	Western Grove Urban Park	Kirkside Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
	Kirkside Dr	Chevy Chase Cir	Separated Bikeway	Sidepath (North Side)
	Chevy Chase Cir	Brookville Rd	Separated Bikeway	Sidepath (North Side)

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Willard Ave Trail	River Rd (MD 190)	Willard Ave	Trail	Off-Street Trail
Wilson La (MD 188)	Bradley Blvd (MD 191)	Cordell Ave	Separated Bikeway	Sidepath (North Side)
Wisconsin Ave (MD 355)	Dorset Ave	Oliver St	Separated Bikeway	Sidepath (West Side)
Woodmont Ave	Rockville Pike (MD 355)	Bethesda CBD Policy Area	Separated Bikeway	Sidepath (West Side)

BETHESDA -CHEVY CHASE (WEST)



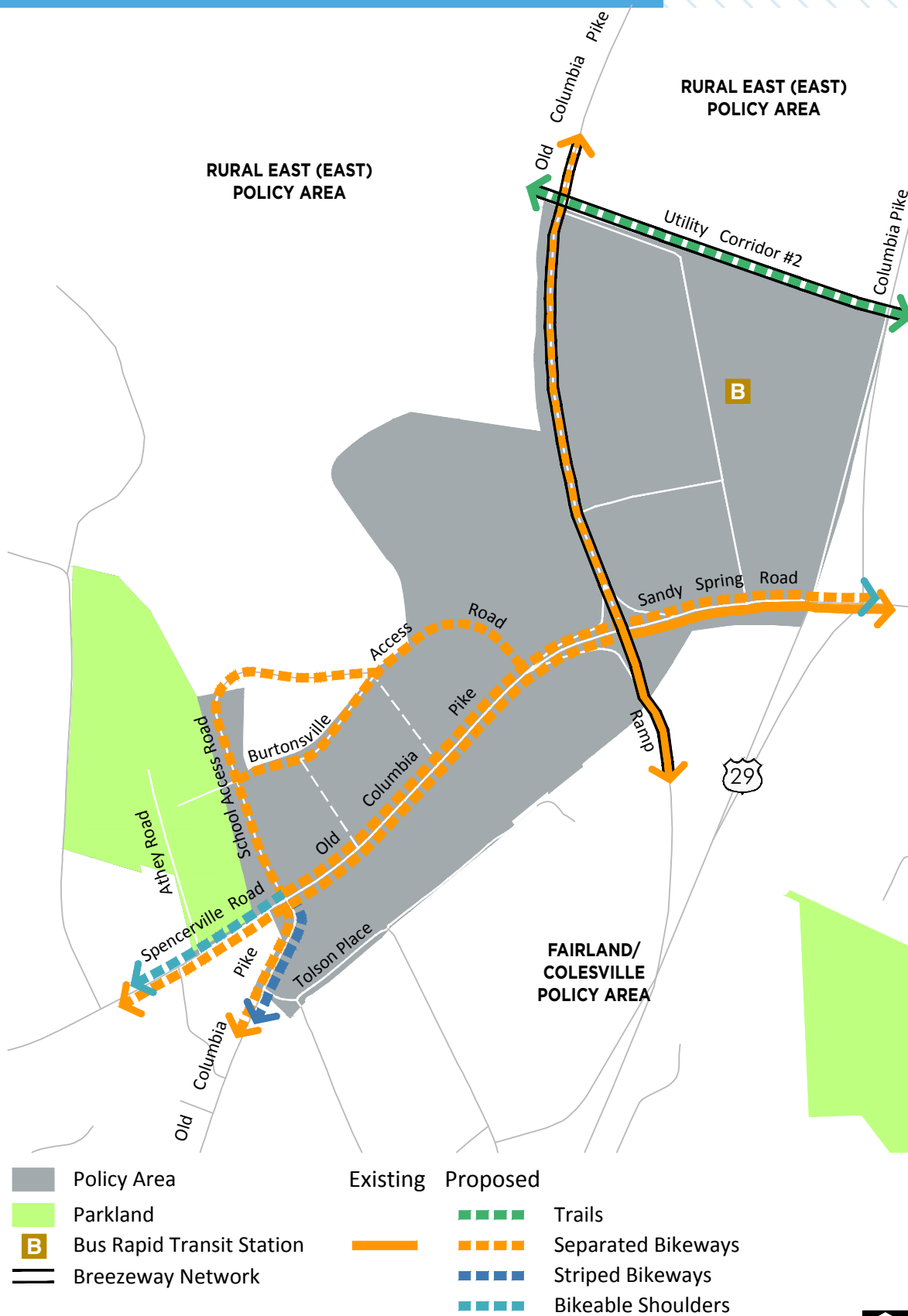
STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CAPITAL CRESCENT TRAIL BREEZEWAY				
Capital Crescent Trail	District of Columbia	River Rd (MD 190)	Trail	Off-Street Trail
FERNWOOD RD - BATTERY LA NEIGHBORHOOD GREENWAY				
Marywood Rd	Fernwood Rd	Kirkdale Rd	Shared Road	Neighborhood Greenway
Kirkdale Rd	Marywood Rd	Wilmett Rd	Shared Road	Neighborhood Greenway
Wilmett Rd	Kirkdale Rd	Ewing Dr	Shared Road	Neighborhood Greenway
Ewing Dr	Wilmett Rd	Johnson Ave	Shared Road	Neighborhood Greenway
Johnson Ave	Ewing Dr	Lindale Dr	Shared Road	Neighborhood Greenway
Lindale Dr	Johnson Ave	Sonoma Rd	Shared Road	Neighborhood Greenway
Sonoma Rd	Lindale Dr	Hempstead Ave	Shared Road	Neighborhood Greenway
ADDITIONAL RECOMMENDATIONS				
Aberdeen Rd	Wilson La (MD 188)	Bradley Blvd (MD 191)	Shared Road	Neighborhood Greenway
Bradley Blvd (MD 191)	I-495	Aberdeen Rd	Separated Bikeway and Striped Bikeway	Sidepath (East Side) and Conventional Bike Lanes
C&O Canal Towpath	I-495	District of Columbia	Trail	Off-Street Trail
Capital Crescent Trail Connector*	Broad St	Capital Crescent Trail	Trail	Off-Street Trail
Fernwood Rd	I-495	Bradley Blvd (MD 191)	Separated Bikeway	Sidepath (East Side)
Goldsboro Rd (MD 614)	MacArthur Blvd	Bradley Blvd (MD 191)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Greentree Rd	Fernwood Rd	Bethesda-Chevy Chase (East) Policy Area	Separated Bikeway	Sidepath (South Side)
I-495	Virginia	MacArthur Blvd	Trail	Off-Street Trail
MacArthur Blvd	I-495	District of Columbia	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Massachusetts Ave (MD 396)	Goldsboro Rd (MD 614)	Capital Crescent Trail	Separated Bikeway	Sidepath (North Side)
Persimmon Tree Rd	I-495	MacArthur Blvd	Separated Bikeway	Sidepath (West Side)

* The implementation of this trail is contingent upon an evaluation of potential impacts to park land.

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
River Rd (MD 190)	I-495	Westbard Ave Ext	Separated Bikeway	Sidepath (Both Sides)
	Westbard Ave Ext	Capital Crescent Trail	Separated Bikeway	Sidepath (West Side) and Separated Bike Lanes (East)
Seven Locks Rd	I-495	MacArthur Blvd	Separated Bikeway and Bikeable Shoulders	Sidepath (East Side) and Bikeable Shoulders
Westbard Ave	River Rd (MD 190)	Westbard Cir	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
	Westbard Cir	Massachusetts Ave (MD 396)	Separated Bikeway	Sidepath (West Side)
Wilson La (MD 188)	MacArthur Blvd	Bradley Blvd (MD 191)	Separated Bikeway	Sidepath (North Side)

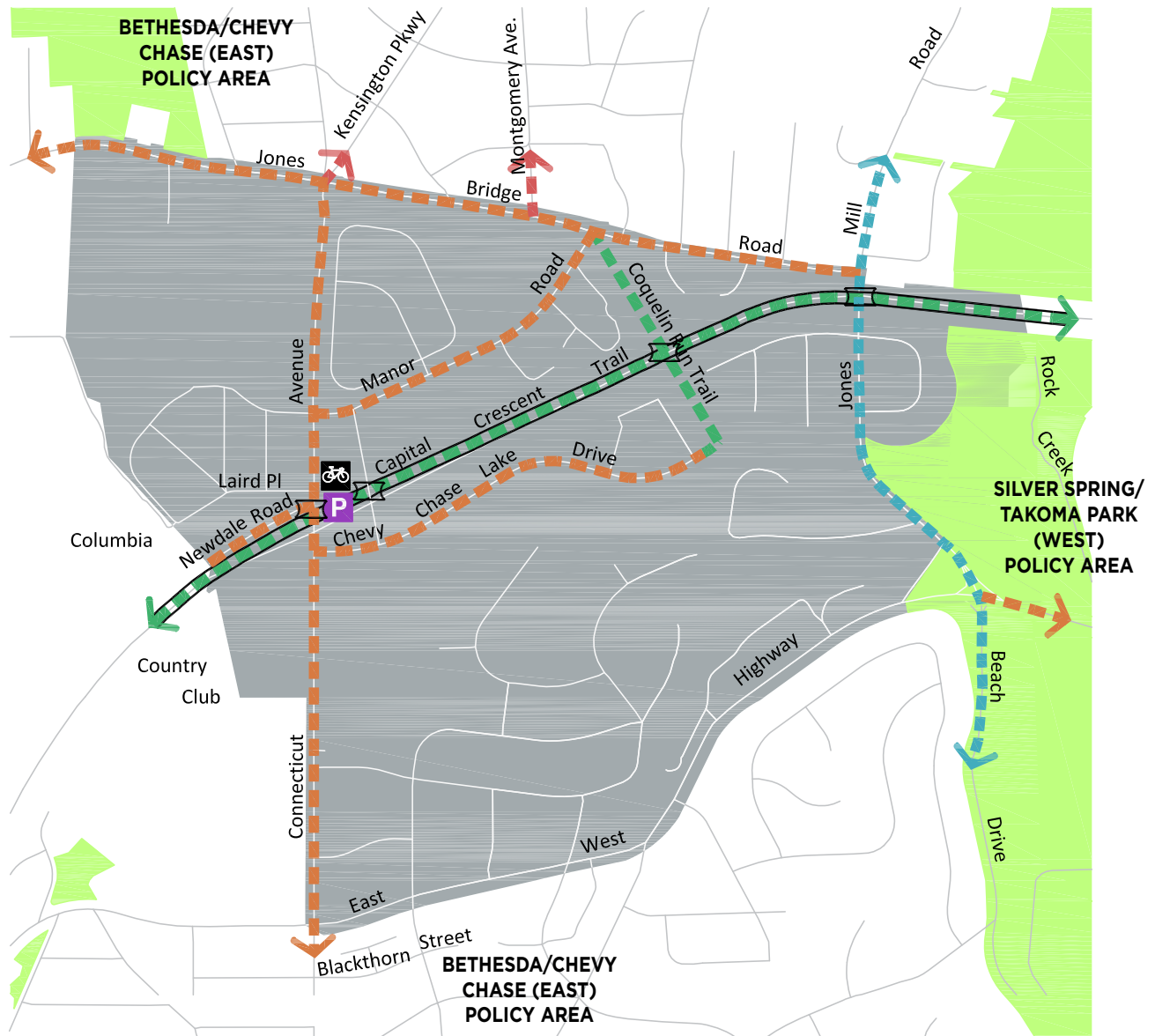
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BURTONSVILLE TOWN CENTER



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
BURTONSVILLE TO SILVER SPRING BREEZEWAY				
Old Columbia Pike	Utility Corridor #2	Sandy Spring Rd (MD 198)	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Columbia Pike Ramp	Sandy Spring Rd (MD 198)	Fairland / Colesville Policy Area	Separated Bikeway	Sidepath (West Side)
ADDITIONAL RECOMMENDATIONS				
Burtonsville Access Road	School Access Rd	Old Columbia Pike (MD 198)	Separated Bikeway	Sidepath (Side TBD)
Old Columbia Pike	Sandy Spring Rd (MD 198)	School Access Rd	Separated Bikeway	Sidepath (South Side) and Separated Bike Lanes (North Side)
Old Columbia Pike	Spencerville Rd (MD 198)	Tolson Pl	Separated Bikeway and Striped Bikeway	Sidepath (West Side) and Conventional Bike Lanes
Sandy Spring Rd (MD 198)	Old Columbia Pike	Columbia Pike (US 29)	Separated Bikeway	Sidepath (South Side) and Separated Bike Lanes (North Side)
School Access Rd	Burtonsville ES	Old Columbia Pike	Separated Bikeway	Sidepath (West Side)

CHEVY CHASE LAKE

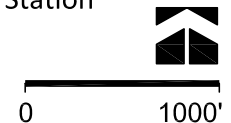


- Policy Area
- Parkland
- P Purple Line Station (Proposed)
- Breezeway Network

Existing Proposed

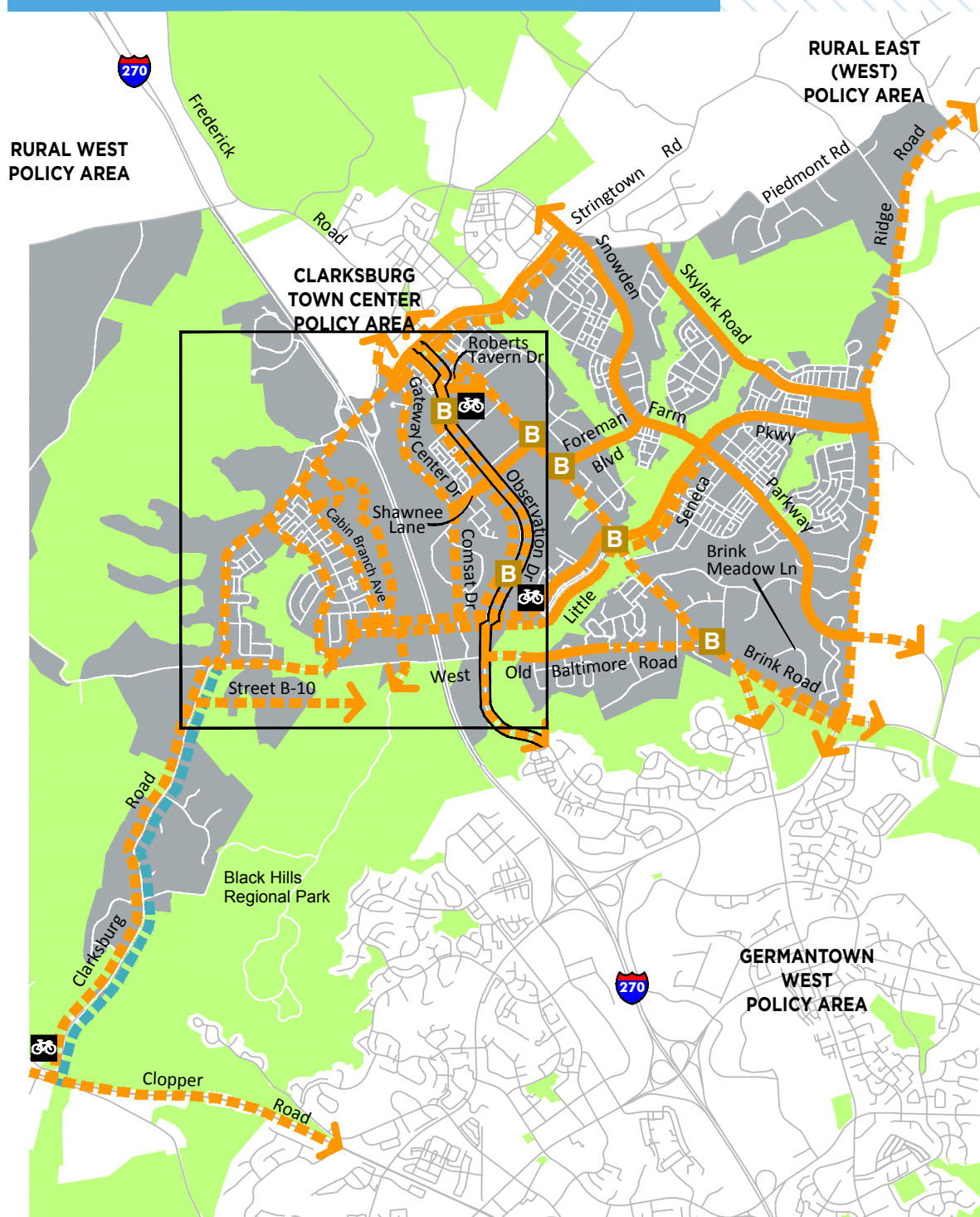
- Trails
- Separated Bikeways
- Bikeable Shoulders
- Shared Roads
- Grade Separated Crossing
- B Bicycle Parking Station

Note: White lines represent non-master planned bikeways



STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CAPITAL CRESCENT TRAIL BREEZEWAY				
Capital Crescent Trail	End of Newdale Rd	Rock Creek	Trail	Off-Street Trail
ADDITIONAL RECOMMENDATIONS				
Chevy Chase Lake Dr	Connecticut Ave (MD 185)	Coquelin Run Trail	Separated Bikeway	Sidepath (North Side)
Connecticut Ave (MD 185)	Jones Bridge Rd	Manor Rd	Separated Bikeway	Sidepath (East Side)
	Manor Rd	Laird Pl	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
	Laird Pl	Newdale Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side), Sidepath (West Side)
	Newdale Rd	Chevy Chase Lake Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
	Chevy Chase Lake Dr	East West Hwy (MD 410)	Separated Bikeway	Sidepath (East Side)
Coquelin Run Trail	Jones Bridge Rd	Chevy Chase Lake Dr	Trail	Off-Street Trail
East West Hwy (MD 410)	Beach Dr	Rock Creek	Separated Bikeway	Sidepath (North Side)
Jones Bridge Rd	Columbia Country Club	Jones Mill Rd	Separated Bikeway	Sidepath (South Side)
Jones Mill Rd	Jones Bridge Rd	East West Hwy (MD 410)	Bikeable Shoulders	Bikeable Shoulders
Manor Rd	Connecticut Ave (MD 185)	Jones Bridge Rd	Separated Bikeway	Sidepath (South Side)
Newdale Rd	Terminus	Connecticut Ave (MD 185)	Separated Bikeway	Sidepath (South Side)

CLARKSBURG



Policy Area

 Parkland

B Bus Rapid Transit Station (Proposed)

== Breezeway Network

Existing	Proposed
1. The existing design of the building is outdated and does not meet current safety standards.	1. The proposed design is modern and meets all current safety standards.
2. The existing building has a high energy consumption rate.	2. The proposed building is designed to be energy-efficient and sustainable.
3. The existing building has a poor ventilation system.	3. The proposed building has a state-of-the-art ventilation system.
4. The existing building has a limited parking space.	4. The proposed building has a large parking lot with ample space for cars and bicycles.
5. The existing building has a high maintenance cost.	5. The proposed building is designed to be low-maintenance and durable.

Proposed

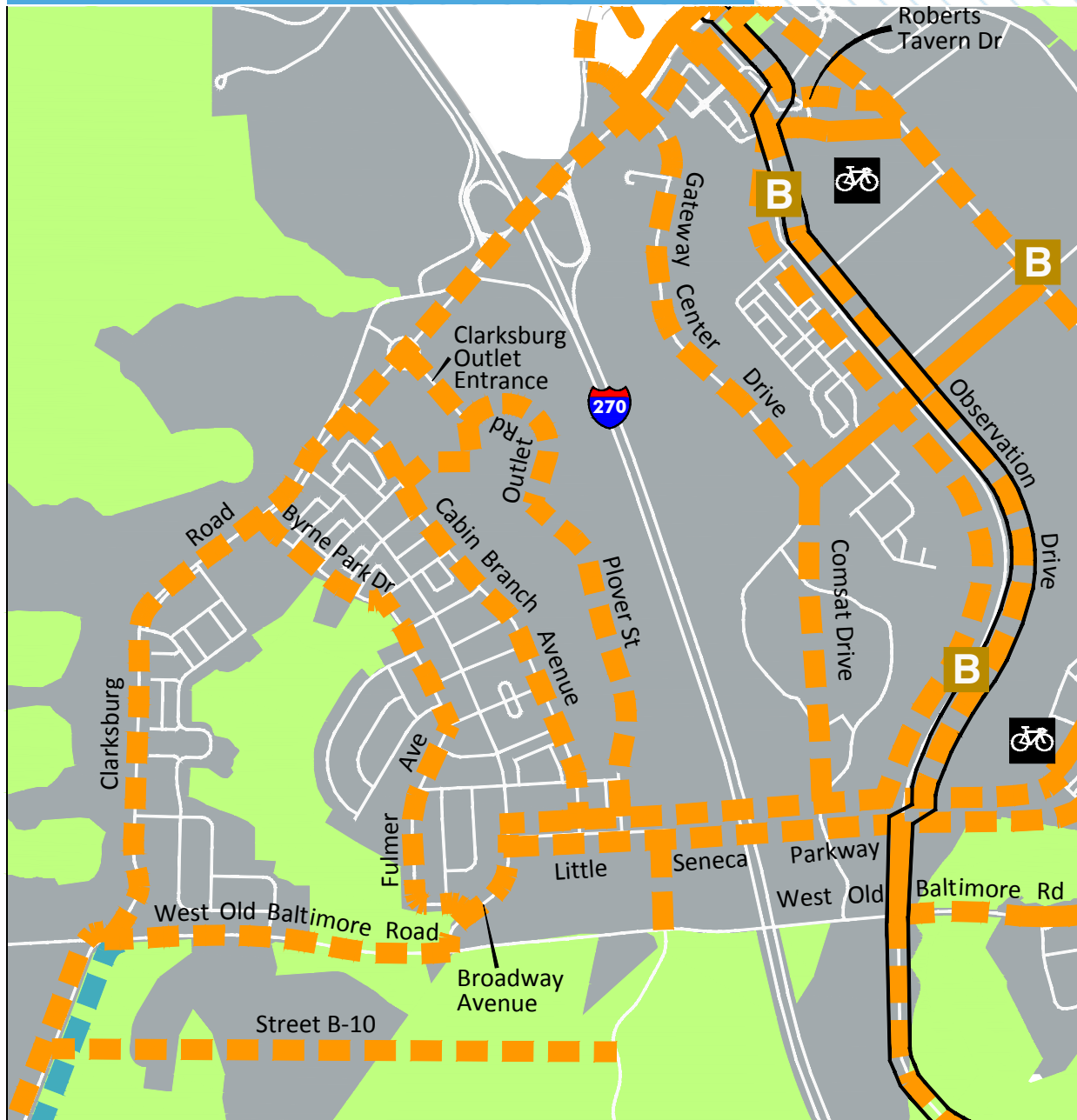
Separated Bikeways

Bikeable Shoulders

Bicycle Parking Station

Note: White lines represent non-master planned bikeways

CLARKSBURG INSERT



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CLARKSBURG TO CITY OF GAITHERSBURG BREEZEWAY				
Observation Dr Ext	Stringtown Rd	Little Seneca Creek	Separated Bikeway	Sidepath (Side TBD)
ADDITIONAL RECOMMENDATIONS				
Barnesville Rd (MD 117)	Boysd MARC Station	Clopper Rd (MD 117)	Separated Bikeway	Sidepath (South Side)
Brink Rd	Frederick Rd (MD 355)	Brink Meadow La	Separated Bikeway	Sidepath (South Side)
	Brink Meadow La	Ridge Rd (MD 27)	Separated Bikeway	Sidepath (Both Sides)
Broadway Ave	Little Seneca Pkwy	West Old Baltimore Rd	Separated Bikeway	Sidepath (West Side)
Byrne Park Dr	Clarksburg Rd (MD 121)	Fulmer Ave	Separated Bikeway	Sidepath (West Side)
Cabin Branch Ave	Clarksburg Rd (MD 121)	Tribute Pkwy	Separated Bikeway	Sidepath (East Side)
	Tribute Pkwy	Little Seneca Pkwy	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Clarksburg Outlet Entrance	Clarksburg Rd (MD 121)	Outlet Rd	Separated Bikeway	Separated Bike Lanes (Side TBD)
Clarksburg Rd (MD 121)	Gateway Center Dr	West Old Baltimore Rd	Separated Bikeway	Sidepath (East Side)
	West Old Baltimore Rd	Ten Mile Creek	Separated Bikeway and Bikeable Shoulders	Sidepath (East Side) and Bikeable Shoulders
Clopper Rd (MD 117)	Clarksburg Rd (MD 121)	Little Seneca Creek	Separated Bikeway	Sidepath (East Side)
Comsat Dr	Shawnee La	Little Seneca Pkwy	Separated Bikeway	Separated Bike Lanes (Side TBD)
Foreman Blvd	Frederick Rd (MD 355)	Snowden Farm Pkwy	Separated Bikeway	Sidepath (South Side)
Frederick Rd (MD 355)	Stringtown Rd	Brink Rd	Separated Bikeway	Sidepath (West Side)
Fulmer Ave	Bryne Park Ave	Broadway Ave	Separated Bikeway	Sidepath (West Side)
Gateway Center Dr	Stringtown Rd	Shawnee La	Separated Bikeway	Sidepath (East Side)
Little Seneca Pkwy	Broadway Ave	Snowden Farm Pkwy	Separated Bikeway	Sidepath (Both Sides)
Little Seneca Pkwy	Snowden Farm Pkwy	Ridge Rd (MD 27)	Separated Bikeway	Sidepath (North Side)
Observation Dr	Stringtown Rd	Roberts Tavern Dr	Separated Bikeway	Sidepath (Both Sides)
Outlet Rd	Cabin Branch Ave	Plover St	Separated Bikeway	Sidepath (South Side)
Plover St	Outlet Rd	Little Seneca Pkwy	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)

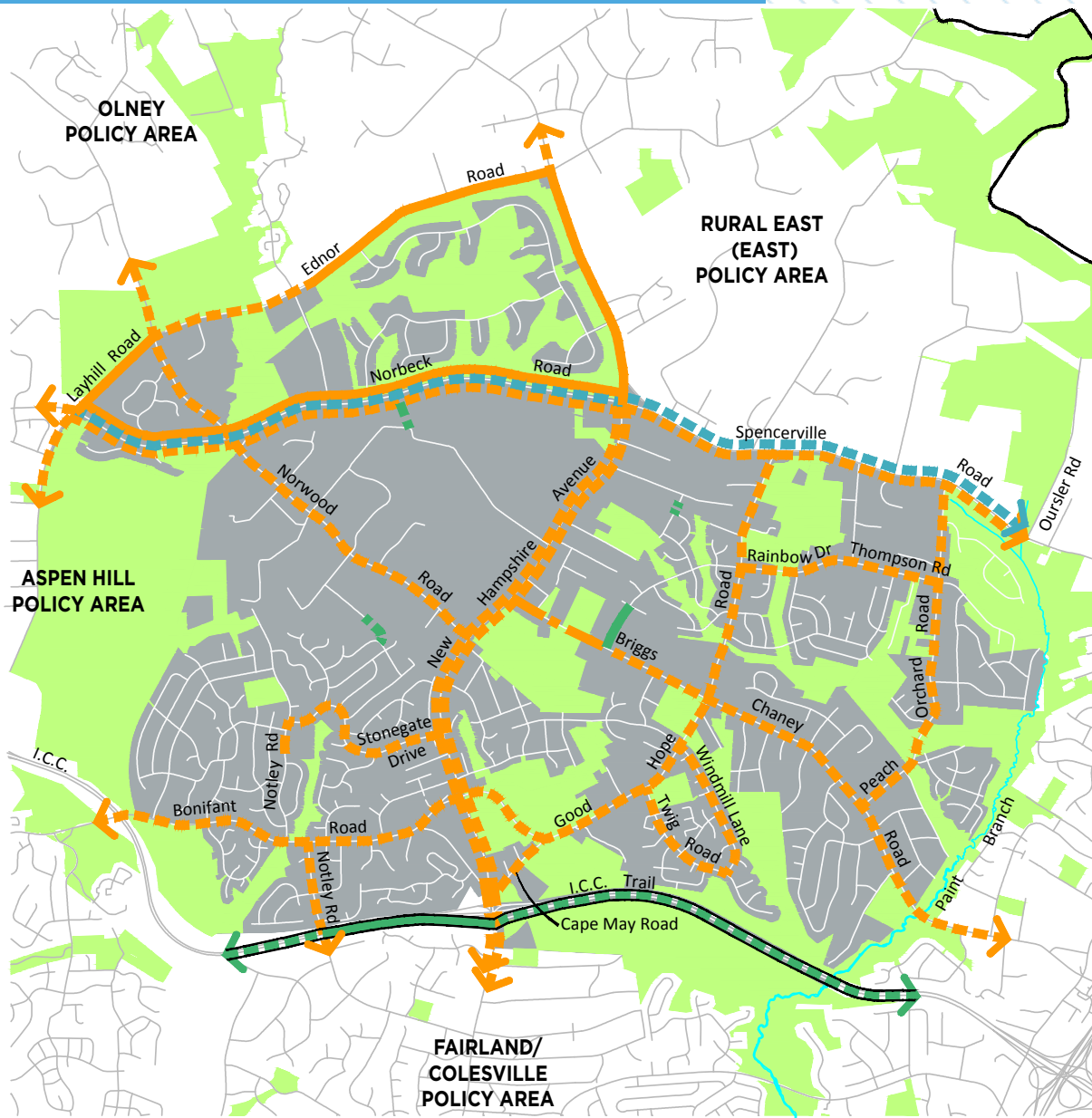
BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Ridge Rd (MD 27)	Kings Valley Rd	Brink Rd	Separated Bikeway	Sidepath (West Side)
Roberts Tavern Dr	Observation Dr	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (Both Sides)
Shawnee La	Gateway Center Dr	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (South Side)
Sidepath	Little Seneca Pkwy	Black Hills Regional Park	Separated Bikeway	Sidepath (Side TBD)
Skylark Rd	Piedmont Rd	Ridge Rd (MD 27)	Separated Bikeway	Sidepath (South Side)
Snowden Farm Pkwy	Stringtown Rd	Ridge Rd (MD 27)	Separated Bikeway	Sidepath (South Side)
Street B-10	Clarksburg Rd (MD 121)	Black Hills Regional Park	Separated Bikeway	Sidepath (Side TBD)
Stringtown Rd	Snowden Farm Pkwy	Gateway Center Dr	Separated Bikeway	Sidepath (Both Sides)
West Old Baltimore Rd	Observation Dr	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (South Side)
West Old Baltimore Rd	Clarksburg Rd (MD 121)	Broadway Ave	Separated Bikeway	Sidepath (North Side)

CLARKSBURG TOWN CENTER



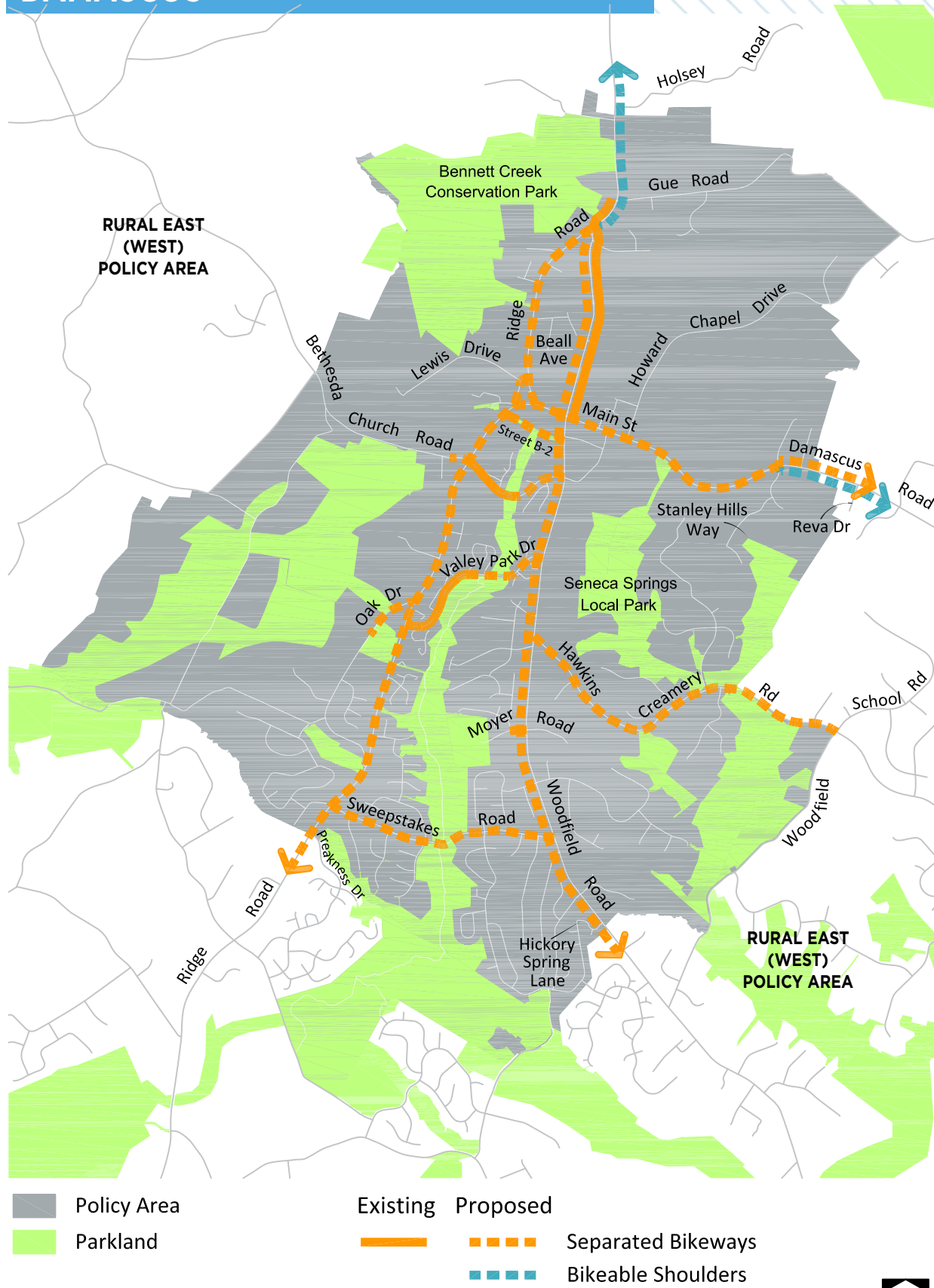
BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Burdette Forest Rd	Snowden Farm Pkwy	Clarksburg Square Rd	Separated Bikeway	Sidepath (West Side)
Clarksburg Rd (MD 121)	Snowden Farm Rd	Gateway Center Dr	Separated Bikeway and Striped Bikeway	Sidepath (East Side) and Conventional Bike Lanes
Frederick Rd (MD 355)	Comus Rd	Snowden Farm Pkwy	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
	Snowden Farm Pkwy	Stringtown Rd	Separated Bikeway	Sidepath (East Side)
Gateway Center Dr	Clarksburg Rd (MD 121)	Stringtown Rd	Separated Bikeway and Striped Bikeway	Sidepath (East Side) and Conventional Bike Lanes
Overlook Park Dr	Clarksburg Rd (MD 121)	Stringtown Rd	Separated Bikeway	Sidepath (East Side)
Snowden Farm Pkwy	Frederick Rd (MD 355)	Stringtown Rd	Separated Bikeway	Sidepath (South Side)
Street A-251	Frederick Rd (MD 355)	Stringtown Rd	Separated Bikeway	Sidepath (Side TBD)
Stringtown Rd	Snowden Farm Pkwy	Gateway Center Dr	Separated Bikeway	Sidepath (Both Sides)

CLOVERLY



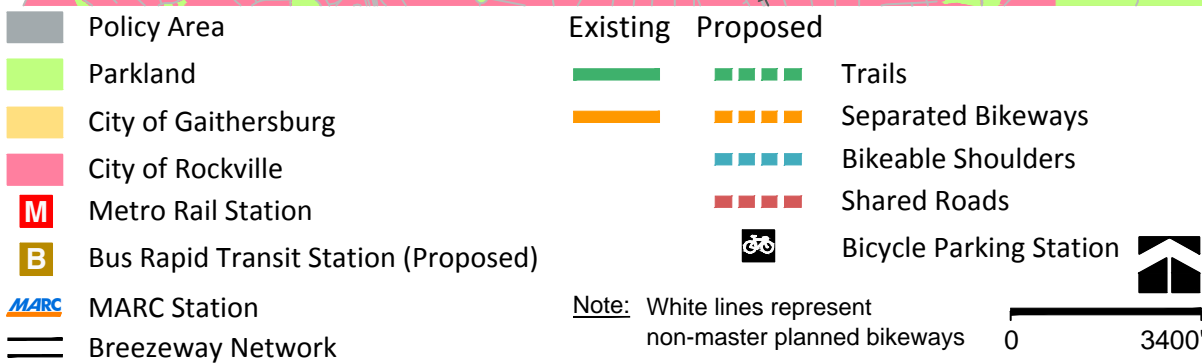
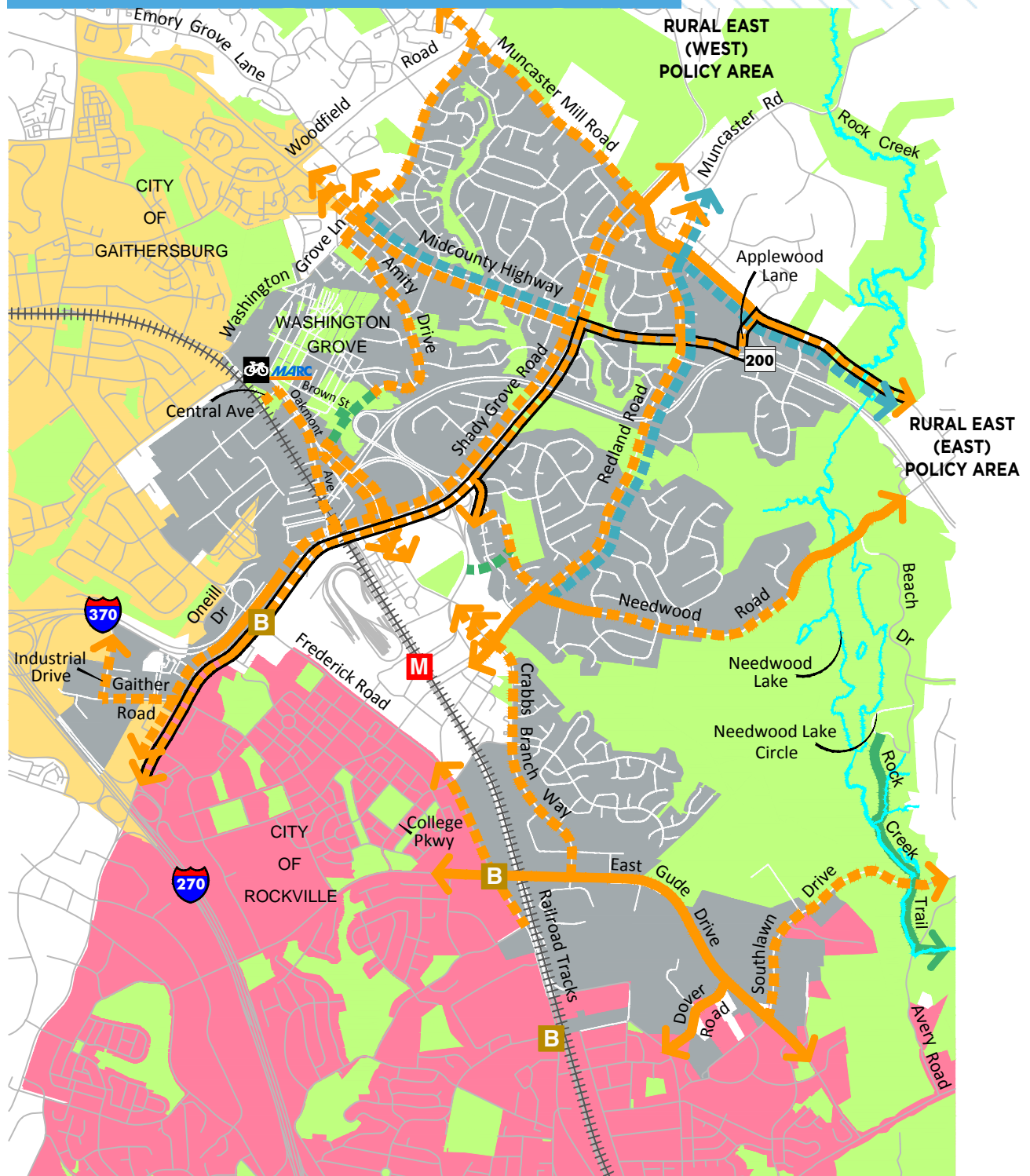
BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
INTERCOUNTY CONNECTOR (MD 200) TRAIL BREEZEWAY				
Bonifant Rd	Intercounty Connector (MD 200) Trail	Notley Rd	Separated Bikeway	Sidepath (South Side)
Notley Rd	Bonifant Rd	Intercounty Connector (MD 200)	Separated Bikeway	Sidepath (East Side)
SEE FAIRLAND-COLESVILLE POLICY AREA				
Intercounty Connector Trail	New Hampshire Ave (MD 650)	Fairland-Colesville Policy Area	Trail	Off-Street Trail
ADDITIONAL RECOMMENDATIONS				
Bonifant Rd	Intercounty Connector (MD 200) Trail	New Hampshire Ave (MD 650)	Separated Bikeway	Sidepath (South Side)
Briggs Chaney Rd	New Hampshire Ave (MD 650)	Paint Branch	Separated Bikeway	Sidepath (North Side)
Cape May Rd	Good Hope Rd	New Hampshire Ave (MD 650)	Separated Bikeway	Sidepath (South Side)
Ednor Rd	New Hampshire Ave (MD 650)	Norwood Rd	Separated Bikeway	Sidepath (East Side)
Good Hope Rd	New Hampshire Ave (MD 650)	Spencerville Rd (MD 198)	Separated Bikeway	Sidepath (East Side)
Layhill Rd (MD 182)	Norwood Rd	Norbeck Rd (MD 28)	Separated Bikeway	Sidepath (East Side)
New Hampshire Ave (MD 650)	Ednor Rd	Norbeck Rd (MD 28)	Separated Bikeway	Sidepath (West Side)
	Norbeck Rd (MD 28)	Intercounty Connector (MD 200) Trail	Separated Bikeway	Sidepath (Both Sides)
Norbeck Rd (MD 28)	Layhill Rd (MD 182)	New Hampshire Ave (MD 650)	Separated Bikeway and Bikeable Shoulders	Sidepath (Both Sides) and Bikeable Shoulders
Norwood Rd	Layhill Rd (MD 182)	New Hampshire Ave (MD 650)	Separated Bikeway	Sidepath (East Side)
Notley Rd	Stonegate Dr	Stonegate Elementary School	Separated Bikeway	Sidepath (East Side)
Peach Orchard Rd	Spencerville Rd (MD 198)	Briggs Chaney Rd	Separated Bikeway	Sidepath (Side TBD)
Rainbow Dr	Good Hope Rd	Thompson Rd	Separated Bikeway	Sidepath (South Side)
Spencerville Rd (MD 198)	New Hampshire Ave (MD 650)	Oursler Rd	Separated Bikeway and Bikeable Shoulder	Sidepath (North Side) and Bikeable Shoulder
Stonegate Dr	Notley Rd	New Hampshire Ave (MD 650)	Separated Bikeway	Sidepath (Side TBD)
Thompson Rd	Rainbow Dr	Peachtree Rd	Separated Bikeway	Sidepath (South Side)
Twig Rd	Good Hope Rd	Windmill La	Separated Bikeway	Sidepath (Side TBD)
Windmill La	Good Hope Rd	Twig Rd	Separated Bikeway	Sidepath (Side TBD)

DAMASCUS



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Bethesda Church Rd	Damascus Elementary School	Ridge Rd (MD 27)	Separated Bikeway	Sidepath (North Side)
	Ridge Rd (MD 27)	Woodfield Rd (MD 124)	Separated Bikeway	Sidepath (South Side)
Damascus Rd (MD 108)	Howard Chapel Dr	Stanley Hills Way	Separated Bikeway	Sidepath (South Side)
	Stanley Hills Way	Reva Dr	Separated Bikeway and Bikeable Shoulders	Sidepath (South Side) and Bikeable Shoulders
Hawkins Creamery Rd	Woodfield Rd (MD 124)	Woodfield School Rd	Separated Bikeway	Sidepath (Side TBD)
High Corner St	Ridge Rd (MD 27)	Lewis Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Lewis Dr	High Corner St	Main St (MD 108)	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Main St (MD 108)	Lewis Dr	Woodfield Rd (MD 124)	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
	Woodfield Rd (MD 124)	Howard Chapel Dr	Separated Bikeway	Sidepath (South Side)
Moyer Rd	Clearspring Elementary School	Woodfield Rd (MD 124)	Separated Bikeway	Sidepath or Separated Bike Lanes (South Side)
Oak Dr	Ridge Rd (MD 27)	John T Baker Middle School	Separated Bikeway	Sidepath (West Side)
Ridge Rd (MD 27)	Rural East Policy Area	Gue Rd	Bikeable Shoulders	Bikeable Shoulders
	Gue Rd	Woodfield Rd (MD 124)	Separated Bikeway and Bikeable Shoulders	Sidepath (East Side) and Bikeable Shoulders
	Woodfield Rd (MD 124)	Main St (MD 108)	Separated Bikeway	Sidepath (East Side)
	Beall Ave	Main St (MD 108)	Separated Bikeway	Separated Bike Lanes (East Side)
Ridge Rd (MD 27)	Main St (MD 108)	Bethesda Church Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
	Bethesda Church Rd	Oak Dr	Separated Bikeway	Sidepath (East Side)
	Oak Dr	Preakness Dr	Separated Bikeway	Sidepath (West Side)
Street B-2	Ridge Rd (MD 27)	Woodfield Rd (MD 124)	Separated Bikeway	Sidepath (South Side)
Sweepstakes Rd	Ridge Rd (MD 27)	Woodfield Rd (MD 124)	Separated Bikeway	Sidepath (South Side)
Valley Park Dr	Ridge Rd (MD 27)	Woodfield Rd (MD 124)	Separated Bikeway	Sidepath (North Side)
Woodfield Rd (MD 124)	Ridge Rd (MD 27)	Beall Ave	Separated Bikeway	Sidepath (Both Sides)
	Beall Ave	Main St (MD 108)	Separated Bikeway	Sidepath (East Side) and Separated Bike Lanes (West Side)
	Main St (MD 108)	Hickory Spring La	Separated Bikeway	Sidepath (West Side)

DERWOOD



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
INTERCOUNTY CONNECTOR TRAIL BREEZEWAY				
Shady Grove Rd	Shady Grove Access Rd	Midcounty Hwy (MD 124)	Separated Bikeway	Sidepath (South Side)
Midcounty Hwy (MD 124)	Shady Grove Rd	Applewood La	Separated Bikeway	Sidepath (Side TBD)
Applewood La	Midcounty Hwy (MD 124)	Muncaster Mill Rd (MD 115)	Separated Bikeway	Sidepath (East Side)
Muncaster Mill Rd (MD 115)	Applewood La	Rock Creek	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
ADDITIONAL RECOMMENDATIONS				
Amity Dr	Washington Grove La	Piedmont Crossing LP Trail	Separated Bikeway	Sidepath (North Side)
Crabbs Branch Way	Redland Rd	East Gude Dr	Separated Bikeway	Sidepath (West Side)
Crabbs Branch Way	Northern Terminus	Shady Grove Rd	Separated Bikeway	Sidepath (Both Sides)
East Gude Dr	Frederick Ave (MD 355)	Southlawn La	Separated Bikeway	Sidepath (West Side)
Frederick Rd (MD 355)	O'Neill Dr	Shady Grove Rd	Separated Bikeway	Sidepath (Both Sides)
Frederick Rd (MD 355)	Paramount Dr	College Pkwy	Separated Bikeway	Sidepath (East Side)
Gaither Rd	Industrial Dr	Shady Grove Rd	Separated Bikeway	Sidepath (Side TBD)
Industrial Dr	City of Gaithersburg	Gaither Rd	Separated Bikeway	Sidepath (Side TBD)
Midcounty Hwy (MD 124)	Washington Grove La	Shady Grove Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (Side TBD) and Bikeable Shoulders
Muncaster Mill Rd (MD 115)	Woodfield Rd (MD 124)	Muncaster Rd	Separated Bikeway	Sidepath (West Side)
Muncaster Mill Rd (MD 115)	Muncaster Rd	Rock Creek	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Needwood Rd	Keyport Ter	Redland Rd	Separated Bikeway	Sidepath (East Side)
	Redland Rd	Beach Dr	Separated Bikeway	Sidepath (South Side)
Oakmont Ave	Central Ave	Shady Grove Rd	Separated Bikeway	Sidepath (East Side)
Piedmont Crossing LP Trail	Amity Dr	Crabbs Branch Way	Trail	Off-Street Trail
Piedmont Crossing LP Trail	Brown St	Crabbs Branch Way	Trail	Off-Street Trail
Redland Rd	Muncaster Mill Rd (MD 115)	Needwood Rd (North)	Separated Bikeway and Bikeable Shoulders	Sidepath (North Side) and Bikeable Shoulders
	Needwood Rd (North)	Needwood Rd (South)	Separated Bikeway and Bikeable Shoulders	Sidepath (North Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Rock Creek Trail	Needwood Lake Cir	Avery Rd	Trail	Stream Valley Park Trail
Shady Grove Rd	City of Rockville	Muncaster Mill Rd (MD 115)	Separated Bikeway	Sidepath (Both Sides)
Southlawn La	Rock Creek Trail	East Gude Dr	Separated Bikeway	Sidepath (Side TBD)
Washington Grove La	Mineral Springs Dr	Emory Grove Rd	Separated Bikeway	Sidepath (West Side)

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BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
INTERCOUNTY CONNECTOR TRAIL BREEZEWAY				
Intercounty Connector Trail	Notley Rd	New Hampshire Ave (MD 650)	Trail	Off-Street Trail
SEE CLOVERLY POLICY AREA				
Intercounty Connector Trail	Cloverly Policy Area	Prince George's County	Trail	Off-Street Trail
BURTONSVILLE TO SILVER SPRING BREEZEWAY				
Columbia Pike (US 29)	Burtonsville Town Center Policy Area	Blackburn Rd	Separated Bikeway	Sidepath (West Side)
Columbia Pike (US 29)	Blackburn Rd	Cherry Hill Rd	Separated Bikeway	Sidepath (East Side)
Prosperity Dr	Cherry Hill Rd	Tech Rd	Separated Bikeway	Sidepath (West Side)
Tech Rd	Columbia Pike (US 29)	Old Columbia Pike	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
GERMANTOWN TO BURTONSVILLE BREEZEWAY				
Utility Corridor #2	Sandy Spring Rd (MD 198)	Prince George's County	Trail	Off-Street Trail
VEIRS MILL TO WHITE OAK BREEZEWAY				
Randolph Rd	Kemp Mill Rd	Fairland Rd	Separated Bikeway	Sidepath (North Side)
Randolph Rd	Fairland Rd	Columbia Pike (US 29)	Separated Bikeway	Sidepath (South Side)
COLESVILLE TO WHITE OAK NEIGHBORHOOD GREENWAY				
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 (MD 650)	Shared Road	Neighborhood Greenway
New Hampshire Ave (MD 650)	Eldrid Dr	Jackson Rd	Separated Bikeway	Sidepath (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

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
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	Columbia Pike (US 29)	Separated Bikeway	Sidepath (Side TBD)
ADDITIONAL RECOMMENDATIONS				
Aston Manor Dr	Briggs Chaney Rd	Sheffield Manor Dr	Striped Bikeway	Buffered Bike Lanes
Ballinger Dr	Wexhall Dr	Robey Rd	Striped Bikeway	Buffered Bike Lanes
Bentley Park Dr	Saddle Creek Dr	Prince George's County	Separated Bikeway	Sidepath (East Side)
Blackburn Rd	Columbia Pike SB Ramp	Columbia Pike (US 29)	Separated Bikeway	Sidepath (North Side)
Briggs Chaney Rd	Paint Branch	Old Columbia Pike	Separated Bikeway	Sidepath (North Side)
	Old Columbia Pike	Intercounty Connector Trail	Separated Bikeway	Sidepath (Both Sides)
	Intercounty Connector Trail	Prince George's County	Separated Bikeway	Sidepath (South Side)
Calverton Blvd	Gracefield Rd	Prince George's County	Striped Bikeway	Conventional Bike Lanes
Cannon Rd	New Hampshire Ave (MD 650)	Broadmore Rd	Separated Bikeway	Sidepath (South Side)
Castle Blvd	Castle Ridge Cir	Briggs Chaney Rd	Separated Bikeway	Separated Bike Lanes
Columbia Pike (US 29)	Sandy Spring Rd (MD 198)	Blackburn Rd	Separated Bikeway	Sidepath (East Side)
Columbia Pike (US 29)	Tech Rd	Rachel Carson Greenway	Separated Bikeway	Sidepath (West Side)
Fairland Rd	Randolph Rd	Briggs Chaney Rd	Separated Bikeway	Sidepath (South Side)
Galway Dr	Fairland Rd	Kilkerny St	Separated Bikeway	Sidepath (West Side)
Gateshead Manor Way	Briggs Chaney Rd	Aston Manor Dr	Striped Bikeway	Buffered Bike Lanes
Greencastle Rd	Old Columbia Pike	Greencastle Ridge Ter	Separated Bikeway and Striped Bikeway	Sidepath (West Side) and Conventional Bike Lanes
	Greencastle Ridge Ter	Prince George's County	Separated Bikeway	Sidepath (West Side)
Jackson Rd	New Hampshire Ave (MD 650)	Paint Branch Trail	Separated Bikeway	Sidepath (North Side)
Matthew Henson Trail	Aspen Hill Policy Area	Notley Rd	Trail	Off-Street Trail

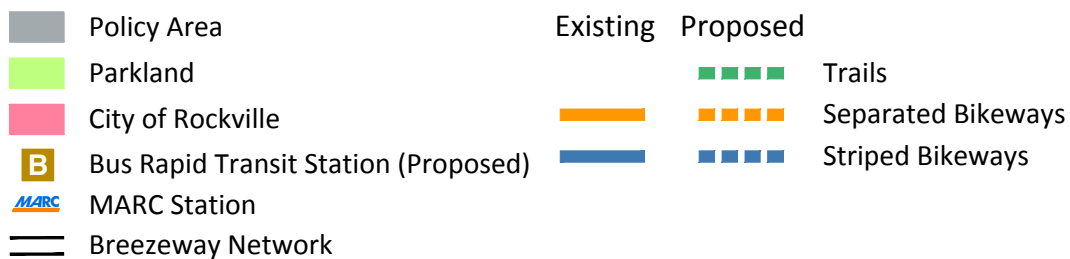
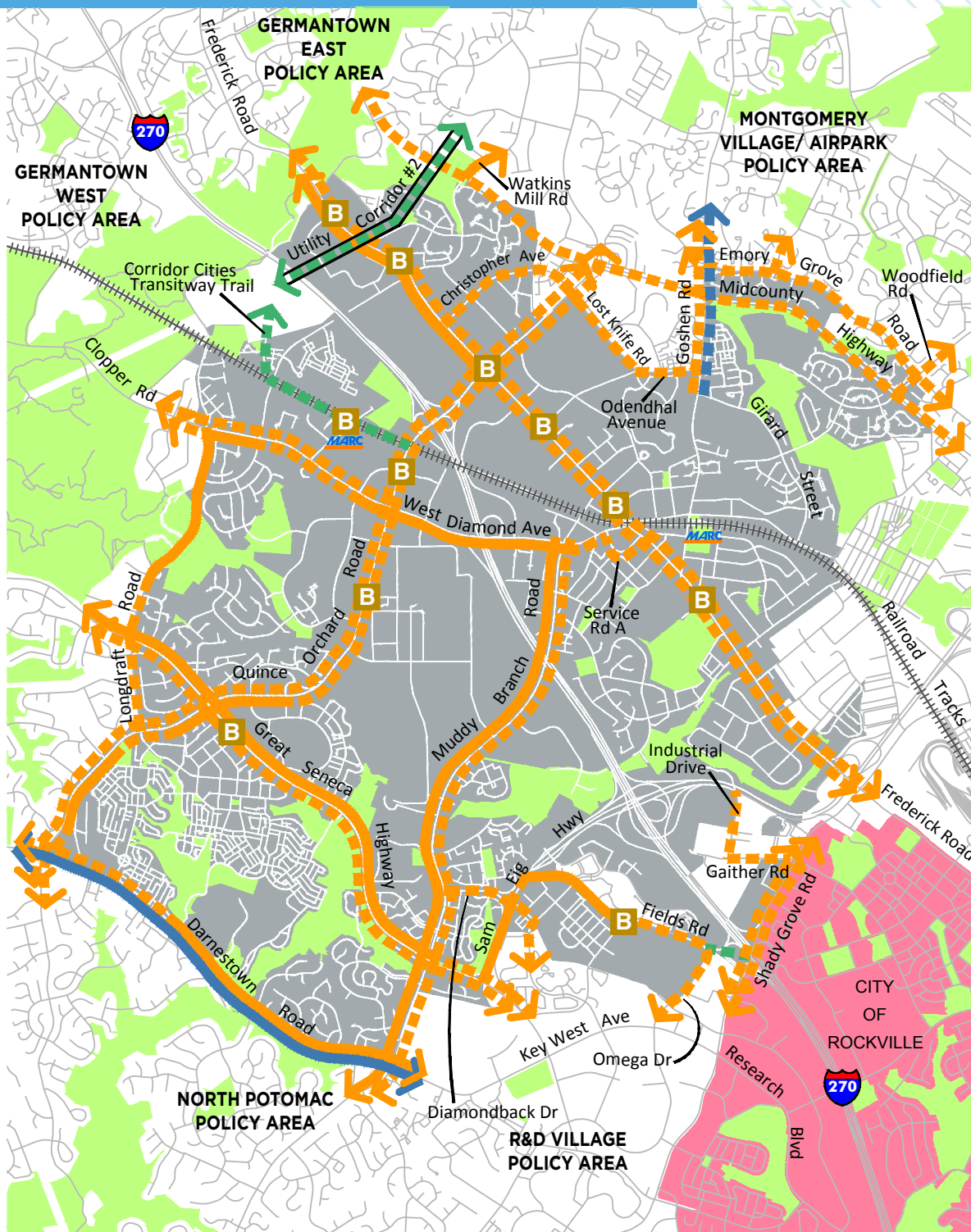
BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
McKnew Rd	Sandy Spring Rd (MD 198)	Saddle Creek Dr	Separated Bikeway	Sidepath (East Side)
Musgrove Rd	Old Columbia Pike	Fairland Rd	Separated Bikeway	Sidepath (South Side)
New Hampshire Ave (MD 650)	Intercounty Connector Trail	Wolf Dr	Separated Bikeway	Sidepath (Both Sides)
New Hampshire Ave (MD 650)	Wolf Dr	Columbia Pike (US 29)	Separated Bikeway	Sidepath (West Side)
Notley Rd	Intercounty Connector Trail	New Hampshire Ave (MD 650)	Separated Bikeway	Sidepath (East Side)
Old Columbia Pike	Tolson Pl	Tech Rd	Separated Bikeway and Striped Bikeway	Sidepath (West Side) and Conventional Bike Lanes
Old Columbia Pike	Tech Rd	Stewart La	Separated Bikeway	Sidepath (East 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 (MD 198)	Old 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
Serpentine Way	Fairland Rd	Randolph Rd	Separated Bikeway	Sidepath (West Side)
Sheffield Manor Dr	Aston Manor Dr	Shady Knoll Dr	Striped Bikeway	Buffered Bike Lanes
Spencerville Rd (MD 198)	Oursler Rd	School Access Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (North Side) and Bikeable Shoulder
Tech Rd	Old Columbia Pike	Columbia Pike (US 29)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Valley Brook Dr	Springbrook High School	New Hampshire Ave (MD 650)	Separated Bikeway	Sidepath (South Side)
Wexhall Dr	Greencastle Blvd	Ballinger Dr	Striped Bikeway	Buffered Bike Lanes
Wolf Dr	New Hampshire Ave (MD 650)	Kara La	Separated Bikeway	Sidepath (North Side)

FRIENDSHIP HEIGHTS CBD



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CITY OF ROCKVILLE TO FRIENDSHIP HEIGHTS BREEZEWAY				
Wisconsin Ave (MD 355)	Oliver Street	District of Columbia	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
ADDITIONAL RECOMMENDATIONS				
Belmont Ave Trail	Park St	Grove St	Trail	Off-Street Trail
Friendship Blvd	Willard Ave	District of Columbia	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Montgomery St Trail	Montgomery St	Belmont Ave Trail	Trail	Off-Street Trail
Neighborhood Connector	Montgomery St	Center St	Trail	Neighborhood Connector
Montgomery St	Wisconsin Ave (MD 355)	Montgomery St Trail	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Western Ave	Cortland Rd	Western Grove Urban Park	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Willard Ave	Willard Ave Trail	Wisconsin Ave (MD 355)	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Willard Ave Trail	Willard Ave	District of Columbia	Trail	Off-Street Trail
Wisconsin Ave (MD 355)	Oliver St	Somerset Ter	Separated Bikeway	Sidepath (West Side)
Wisconsin Cir	Wisconsin Ave (MD 355)	District of Columbia	Shared Road	Priority Shared Lane Markings

GAITHERSBURG CITY



Note: White lines represent non-master planned bikeways

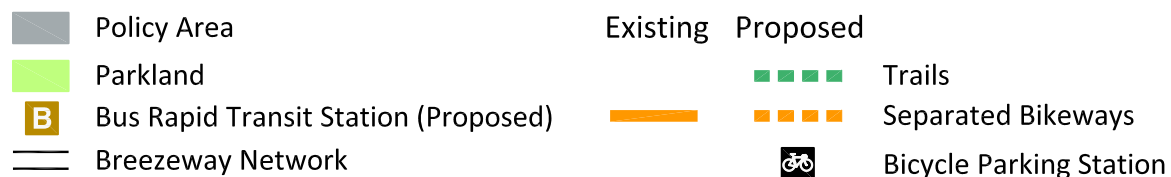
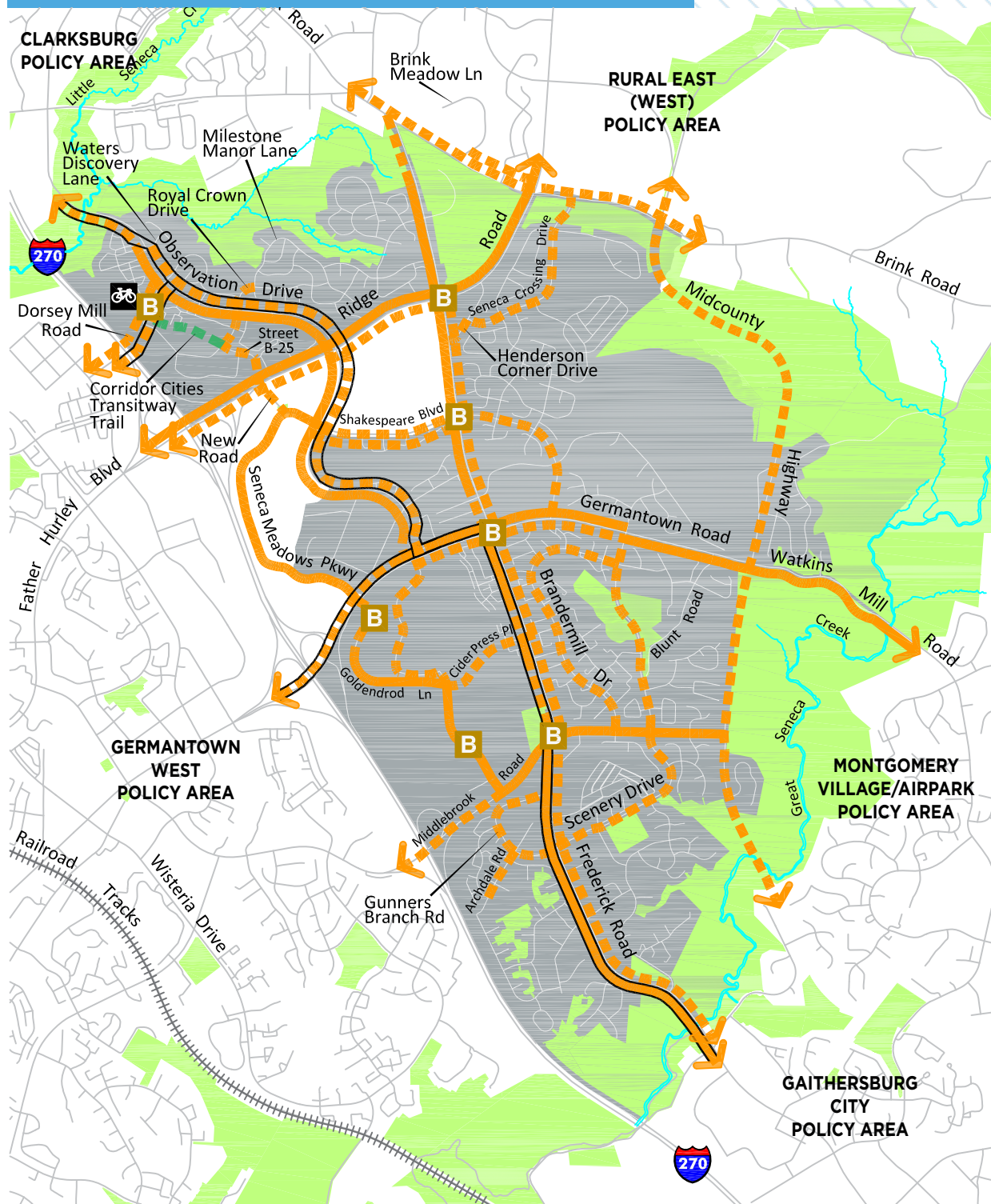


BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CCT Trail	Omega Dr	King Farm Blvd	Trail	Off-Street Trail
Christopher Ave	Frederick Ave (MD 355)	City of Gaithersburg	Separated Bikeway	Sidepath (South Side)
Clopper Rd	Longdraft Rd	Quince Orchard Rd (MD 124)	Separated Bikeway	Sidepath (Both Sides)
Corridor Cities Transitway Trail	City of Gaithersburg	Quince Orchard Rd (MD 124)	Trail	Off-Street Trail
Darnestown Rd (MD 28)	Quince Orchard Rd (MD 124)	Tschiffely Square Rd	Separated Bikeway and Striped Bikeway	Separated Bike Lanes (Two-Way, North Side) and
	Tschiffely Square Rd	Muddy Branch Rd	Separated Bikeway and Striped Bikeway	Sidepath (North Side) and Conventional Bike Lanes
Diamondback Dr	Muddy Branch Rd	Ellington Blvd	Separated Bikeway	Sidepath (South Side)
	Ellington Blvd	Reprise Dr	Separated Bikeway	Sidepath (Both Sides)
Emory Grove Rd	Goshen Rd	Washington Grove La	Separated Bikeway	Sidepath (North Side)
Fields Rd	Sam Eig Hwy	City of Gaithersburg	Separated Bikeway	Sidepath (South Side)
Frederick Ave (MD 355)	Game Preserve Rd	O'Neill Dr	Separated Bikeway	Sidepath (Both Sides)
Frederick Rd (MD 355)	O'Neill Dr	Shady Grove Rd	Separated Bikeway	Sidepath (Both Sides)
Gaither Rd	Industrial Dr	Shady Grove Rd	Separated Bikeway	Sidepath (Side TBD)
Gatestone St	Main St	Lakelands Dr	Separated Bikeway	Sidepath (South Side)
Golden Ash Way	Hart Rd	Main St	Separated Bikeway	Sidepath (North Side)
Goshen Rd	Emory Grove Rd	Odendhal Ave	Separated Bikeway and Striped Bikeway	Sidepath (West Side) and Conventional Bike Lanes
	Odendhal Ave	Girard St	Separated Bikeway and Striped Bikeway	Sidepath (West Side) and Conventional Bike Lanes
Great Seneca Hwy (MD 119)	Longdraft Rd	Sam Eig Hwy	Separated Bikeway	Sidepath (Both Sides)
	Sam Eig Hwy	Darnestown Rd (MD 28)	Separated Bikeway	Sidepath (Both Sides)
Great Seneca Hwy Ramp	Great Seneca Hwy (MD 119)	Sam Eig Hwy	Separated Bikeway	Sidepath (North Side)
Longdraft Rd	North Potomac Policy Area	North Potomac Policy Area	Separated Bikeway	Sidepath (West Side)
Lost Knife Rd	Montgomery Village Ave (MD 124)	Odendhal Ave	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Main St	Gatestone St	Golden Ash Way	Separated Bikeway	Sidepath (West Side)
	Golden Ash Way	Neighborhood Connector	Separated Bikeway	Sidepath (East Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Midcounty Hwy (MD 124)	Great Seneca Creek	Montgomery Village Ave (MD 124)	Separated Bikeway	Sidepath (Side TBD)
	Montgomery Village Ave (MD 124)	Washington Grove La	Separated Bikeway and Bikeable Shoulders	Sidepath (Side TBD) and Bikeable Shoulders
Montgomery Village Ave (MD 124)	Lost Knife Rd	I-270	Separated Bikeway	Sidepath (Both Sides)
Muddy Branch Rd	W Diamond Ave	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (Both Sides)
	Great Seneca Hwy (MD 119)	City of Gaithersburg	Separated Bikeway	Sidepath (West Side) and Separated Bike Lanes (East Side)
	City of Gaithersburg	Darnestown Rd (MD 28)	Separated Bikeway	Sidepath (West Side) and Separated Bike Lanes (East Side)
Odendhal Ave	Lost Knife Rd	Goshen Rd	Separated Bikeway	Sidepath (North Side)
Omega Dr	Fields Rd	Research Blvd	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Quince Orchard Rd (MD 124)	I-270	Longdraft Rd	Separated Bikeway	Sidepath (Both Sides)
	Longdraft Rd	Hillstone Rd	Separated Bikeway	Sidepath (Both Sides)
Sam Eig Hwy	Washingtonian Blvd Ramp	Fields Rd	Separated Bikeway	Sidepath (West Side)
	Fields Rd	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (West Side)
Sam Eig Hwy Ramp	City of Gaithersburg	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (East Side)
Service Road A	Frederick Ave (MD 355)	W Diamond Ave	Separated Bikeway	Sidepath (South Side)
Shady Grove Rd	City of Gaithersburg	City of Gaithersburg	Separated Bikeway	Sidepath (Both Sides)
Utility Corridor #2	I-270	Midcounty Hwy (MD 124)	Trail	Off-Street Trail
W Diamond Ave	Quince Orchard Rd (MD 124)	Service Road A	Separated Bikeway	Sidepath (South Side)
Woodfield Rd (MD 124)	Emory Grove Rd	Midcounty Hwy (MD 124)	Separated Bikeway	Sidepath (West Side)

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GERMANTOWN EAST



Note: White lines represent non-master planned bikeways

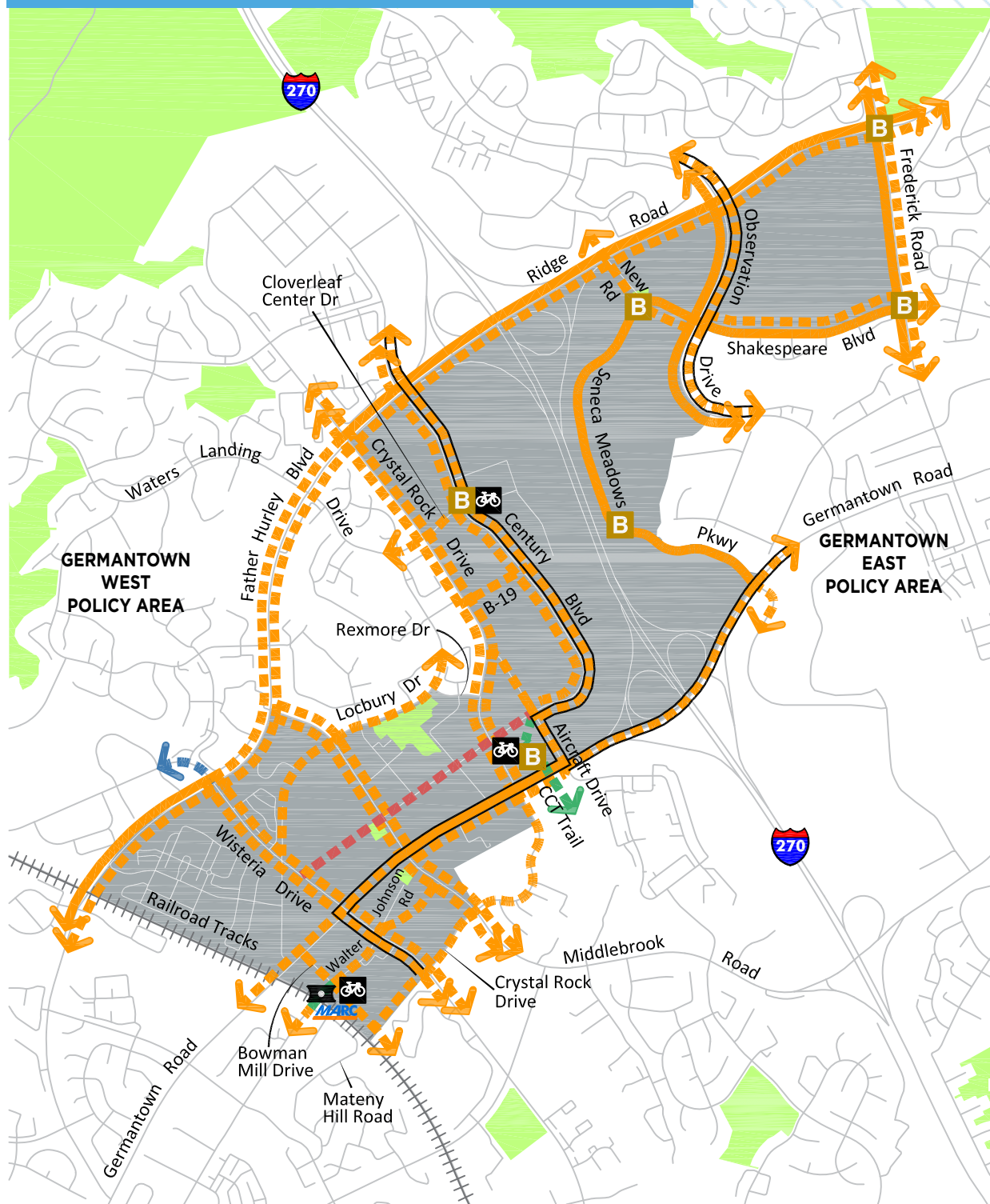


BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CLARKSBURG TO CITY OF GAITHERSBURG BREEZEWAY				
Observation Dr	Little Seneca Creek	Ridge Rd (MD 27)	Separated Bikeway	Sidepath (East Side)
Germantown Rd (MD 118)	Observation Dr	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (North Side)
Frederick Rd (MD 355)	Germantown Rd (MD 118)	Great Seneca Creek	Separated Bikeway	Sidepath (East Side)
GERMANTOWN TOWN CENTER TO MONTGOMERY COLLEGE BREEZEWAY				
Germantown Rd (MD 118)	Seneca Meadows Pkwy	Observation Dr	Separated Bikeway	Sidepath (North Side)
GERMANTOWN - LIFE SCIENCES CENTER BREEZEWAY				
Dorsey Mill Rd	I-270	Observation Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
ADDITIONAL RECOMMENDATIONS				
Archdale Rd	Gunners Branch Rd	Fox Chapel Elementary School	Separated Bikeway	Sidepath (East Side)
Brandermill Dr	Scenery Dr	Middlebrook Rd	Separated Bikeway	Sidepath (side TBD)
Brink Rd	Brink Meadow La	Ridge Rd (MD 27)	Separated Bikeway	Sidepath (Both Sides)
	Ridge Rd (MD 27)	MidCounty Hwy (MD 124)	Separated Bikeway	Sidepath (South Side)
Cider Press Pl	Observation Dr	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (North Side)
Corridor Cities Transitway Trail	Dorsey Mill Rd	Milestone Center Dr	Trail	Off-Street Trail
Dorsey Mill Rd	I-270	Observation Dr	Separated Bikeway	Sidepath (North Side)
Frederick Rd (MD 355)	Brink Rd	Ridge Rd (MD 27)	Separated Bikeway	Sidepath (West Side)
	Ridge Rd (MD 27)	Germantown Rd (MD 118)	Separated Bikeway	Sidepath (Both Sides)
Frederick Rd (MD 355)	Germantown Rd (MD 118)	Great Seneca Creek	Separated Bikeway	Sidepath (West Side)
Germantown Rd (MD 118)	Observation Dr	Scenery Dr	Separated Bikeway	Sidepath (Both Sides)
	Scenery Dr	Blunt Rd	Separated Bikeway	Sidepath (South Side)
Goldenrod La	Germantown Rd (MD 118)	Observation Dr	Separated Bikeway	Sidepath (East Side)
Gunners Branch Rd	Frederick Rd (MD 355)	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (West Side)
Henderson Corner Rd	Seneca Crossing Rd	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (East Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
MidCounty Hwy (MD 124)	Brink Rd	Great Seneca Creek	Separated Bikeway	Sidepath (side TBD)
Middlebrook Rd	I-270	Observation Dr	Separated Bikeway	Sidepath (South Side)
	Observation Dr	Midcounty Hwy (MD 124)	Separated Bikeway	Sidepath (South Side)
Milestone Center Dr	Dorsey Mill Rd	Observation Dr	Separated Bikeway	Sidepath (North Side)
Observation Dr	Waters Discovery La	Ridge Rd (MD 27)	Separated Bikeway	Sidepath (West Side)
Observation Dr	Shakespeare Blvd	Germantown Rd (MD 118)	Separated Bikeway	Sidepath (Both Sides)
	Germantown Rd (MD 118)	Middlebrook Rd	Separated Bikeway	Sidepath (East Side)
Ridge Rd (MD 27)	I-270	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (Both Sides)
	Frederick Rd (MD 355)	Brink Rd	Separated Bikeway	Sidepath (West Side)
Royal Crown Dr	Observation Dr	Milestone Manor La	Separated Bikeway	Sidepath (North Side)
Scenery Dr	Germantown Rd (MD 118)	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (East Side)
Seneca Crossing Dr	Brink Rd	Henderson Corner Rd	Separated Bikeway	Sidepath (East Side)
Seneca Meadows Pkwy	Germantown Rd (MD 118)	Observation Dr	Separated Bikeway	Sidepath (East Side)
Shakespeare Blvd	Observation Dr	Frederick Rd (MD 355)	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
	Frederick Rd (MD 355)	Germantown Rd (MD 118)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side) and Sidepath (South Side)
Street B-25 / Milestone Center Ct	Milestone Center Dr	Seneca Meadows Pkwy	Separated Bikeway	Separated Bike Lanes (One-Way, Boths Sides)
Watkins Mill Rd	Blunt Rd	Great Seneca Creek	Separated Bikeway	Sidepath (South Side)

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GERMANTOWN TOWN CENTER



Note: White lines represent non-master planned bikeways

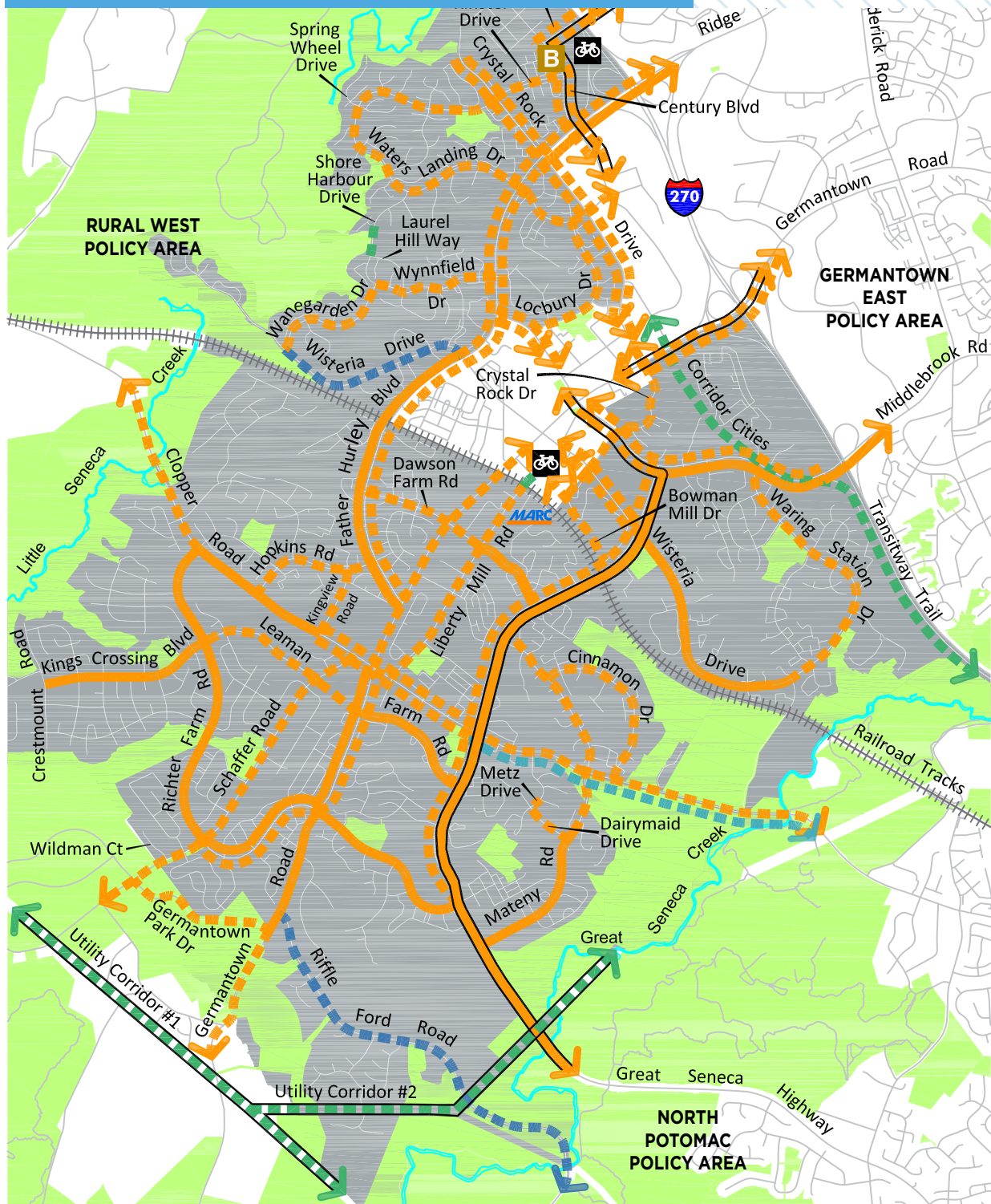
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BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CLARKSBURG TO CITY OF GAITHERSBURG BREEZEWAY				
Observation Dr	Ridge Rd (MD 27)	Shakespeare Blvd	Separated Bikeway	Sidepath (East Side)
GERMANTOWN TOWN CENTER TO MONTGOMERY COLLEGE BREEZEWAY				
Germantown Rd (MD 118)	Seneca Meadows Pkwy	Observation Dr	Separated Bikeway	Sidepath (North Side)
GERMANTOWN - LIFE SCIENCES CENTER BREEZEWAY				
Century Blvd	Father Hurley Blvd	Aircraft Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Aircraft Dr	Crystal Rock Dr	Germantown Rd (MD 118)	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Germantown Rd (MD 118)	Middlebrook Rd	Aircraft Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Middlebrook Rd	Germantown Rd (MD 118)	Crystal Rock Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
ADDITIONAL RECOMMENDATIONS				
Bowman Mill Dr	Germantown Rd (MD 118)	Crystal Rock Dr	Separated Bikeway	Sidepath (West Side)
Century Blvd	Father Hurley Blvd	Aircraft Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
	Aircraft Dr	Wisteria Dr	Shared Road	Priority Shared Lane Markings
Cloverleaf Center Dr	Crystal Rock Dr	Century Blvd	Separated Bikeway	Sidepath (South Side)
Corridor Cities Transitway Trail	Century Blvd	Germantown Rd (MD 118)	Trail	Off-Street Trail
Crystal Rock Dr	Father Hurley Blvd	Rexmore Dr	Separated Bikeway	Sidepath (West Side) and Separated Bike Lanes (Two-Way, East Side)
	Rexmore Dr	Germantown Rd (MD 118)	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Father Hurley Blvd	Railroad Tracks	I-270	Separated Bikeway	Sidepath (Both Sides)
Frederick Rd (MD 355)	Ridge Rd (MD 27)	Shakespeare Blvd	Separated Bikeway	Sidepath (Both Sides)
Germantown Rd (MD 118)	Railroad Tracks	Middlebrook Rd	Separated Bikeway	Sidepath (North Side)
	Middlebrook Rd	Aircraft Dr	Separated Bikeway	Sidepath (Both Sides)
Locbury Dr	Rexmore Dr	Middlebrook Rd	Separated Bikeway	Sidepath (Side TBD)
Locbury Dr	Middlebrook Rd	Wisteria Dr	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
MARC Station Bridge	Railroad Tracks	Walter Johnson Rd	Trail	Off-Street Trail

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Middlebrook Rd	Father Hurley Blvd	Locbury Dr	Separated Bikeway	Sidepath (Both Sides)
	Locbury Dr	Crystal Rock Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Observation Dr	Ridge Rd (MD 27)	Shakespeare Blvd	Separated Bikeway	Sidepath (West Side)
Street B-25	Ridge Rd (MD 27)	Seneca Meadows Pkwy	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Ridge Rd (MD 27)	I-270	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (Both Sides)
Seneca Meadows Pkwy	Observation Dr	New Rd	Separated Bikeway	Sidepath (North Side)
	New Rd	Germantown Rd (MD 118)	Separated Bikeway	Sidepath (Both Sides)
Shakespeare Blvd	Observation Dr	Frederick Rd (MD 355)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side) and Sidepath (South Side)
Street B-19	Crystal Rock Dr	Century Blvd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Walter Johnson Rd	Bowman Mill Dr	Middlebrook Rd	Separated Bikeway	Sidepath (North Side)
Wisteria Dr	Father Hurley Blvd	Crystal Rock Dr	Separated Bikeway	Sidepath (West Side) and Separated Bike Lanes (Two-Way, East Side)

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GERMANTOWN WEST



- | | | |
|--------------------------------------|----------|-------------------------|
| Policy Area | Existing | Trails |
| Parkland | Proposed | Separated Bikeways |
| Bus Rapid Transit Station (Proposed) | | Striped Bikeways |
| MARC Station | | Bikeable Shoulders |
| Breezeway Network | | Bicycle Parking Station |

Note: White lines represent non-master planned bikeways

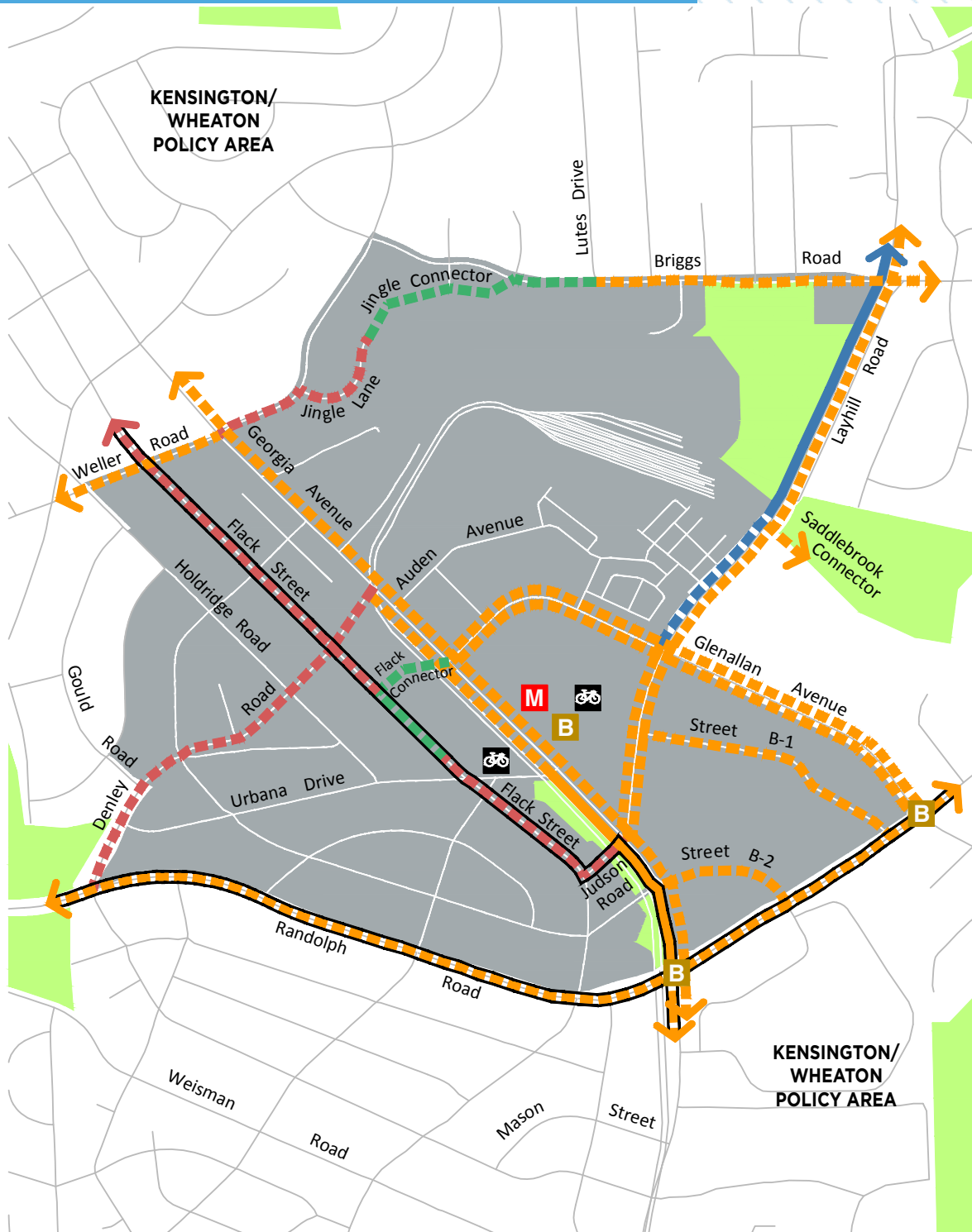
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BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
GERMANTOWN TOWN CENTER TO MONTGOMERY COLLEGE BREEZEWAY				
Germantown Rd (MD 118)	Seneca Meadows Pkwy	Observation Dr	Separated Bikeway	Sidepath (North Side)
GERMANTOWN TO LIFE SCIENCES CENTER BREEZEWAY				
Dorsey Mill Rd	Century Blvd	I-270	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Century Blvd	Dorsey Mill Rd	Father Hurley Blvd	Separated Bikeway	Separated Bike Lanes (East Side)
SEE GERMANTOWN TOWN CENTER POLICY AREA				
Middlebrook Rd	Crystal Rock Dr	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (East Side)
Great Seneca Hwy (MD 119)	Middlebrook Rd	Great Seneca Creek	Separated Bikeway	Sidepath (East Side)
GERMANTOWN - GROSVENOR BREEZEWAY				
Utility Corridor #1	Schaeffer Rd	Great Seneca Creek	Trail	Off-Street Trail
GERMANTOWN - BURTONSVILLE BREEZEWAY				
Utility Corridor #2	Rural West Policy Area	Great Seneca Creek	Trail	Off-Street Trail
ADDITIONAL RECOMMENDATIONS				
Bowman Mill Dr Ext	Crystal Rock Dr Ext	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (West Side)
Century Blvd	Dorsey Mill Rd	Father Hurley Blvd	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Cinnamon Dr	Mateny Rd	Clopper Rd (MD 117)	Separated Bikeway	Sidepath (East Side)
Clopper Rd	Little Seneca Creek	Kingsview Rd	Separated Bikeway	Sidepath (East Side)
	Kingsview Rd	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (Both Sides)
	Great Seneca Hwy (MD 119)	Great Seneca Creek	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Corridor Cities Transitway Trail	Germantown Rd (MD 118)	Great Seneca Creek	Trail	Off-Street Trail
Crystal Rock Dr	Dorsey Mill Rd	Father Hurley Blvd	Separated Bikeway	Sidepath (Both Sides)
	Father Hurley Blvd	Rexmore Dr	Separated Bikeway	Sidepath (West Side) and Separated Bike Lanes (Two-Way, East Side)
Crystal Rock Dr	Germantown Rd (MD 118)	Bowman Mill Dr Ext	Separated Bikeway	Sidepath (South Side)
Dairymaid Dr	Mateny Rd	Metz Dr	Separated Bikeway	Sidepath (West Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Dawson Farm Rd	Father Hurley Blvd	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (South Side)
Dorsey Mill Rd	Century Blvd	I-270	Separated Bikeway	Sidepath (North Side)
Father Hurley Blvd	Germantown Rd (MD 118)	I-270	Separated Bikeway	Sidepath (Both Sides)
Germantown Park Dr	Schaeffer Rd	Germantown Rd (MD 118)	Separated Bikeway	Sidepath (West Side)
Germantown Rd (MD 118)	Rural West Policy Area	Richter Farm Rd	Separated Bikeway	Sidepath (North Side)
	Richter Farm Rd	Clopper Rd (MD 117)	Separated Bikeway	Sidepath (Both Sides)
	Clopper Rd (MD 117)	Railroad Tracks	Separated Bikeway	Sidepath (North Side)
Germantown Rd (MD 118)	Crystal Rock Rd	Aircraft Dr	Separated Bikeway	Sidepath (Both Sides)
Great Seneca Hwy (MD 119)	Middlebrook Rd	Richter Farm Rd	Separated Bikeway	Sidepath (West Side)
Hopkins Rd	Clopper Rd (MD 117)	Father Hurley Blvd	Separated Bikeway	Sidepath (North Side)
Kings Crossing Blvd	Crestmount Rd	Richter Farm Rd	Separated Bikeway	Sidepath (North Side)
Kingsview Rd	Hopkins Rd	Clopper Rd (MD 117)	Separated Bikeway	Sidepath (East Side)
Kinster Dr	Crystal Rock Dr	Century Blvd	Separated Bikeway	Sidepath (North Side)
Leaman Farm Rd	Richter Farm Rd	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (North Side)
Liberty Mill Rd	Clopper Rd (MD 117)	Dawson Farm Rd	Separated Bikeway	Sidepath (Side TBD)
	Dawson Farm Rd	Railroad Tracks	Separated Bikeway	Sidepath (North Side)
Locbury Dr	Waters Landing Dr	Middlebrook Rd	Separated Bikeway	Sidepath (Side TBD)
MARC Station Bridge	Mateny Hill Rd	Railroad Tracks	Trail	Off-Street Trail
Mateny Rd	Great Seneca Hwy (MD 119)	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (West Side)
Metz Dr	Open Hearth Way	Dairymaid Dr	Separated Bikeway	Sidepath (Side TBD)
Middlebrook Rd	Father Hurley Blvd	Locbury Dr	Separated Bikeway	Sidepath (Both Sides)
Middlebrook Rd	Crystal Rock Dr	Corridor Cities Transitway Trail	Separated Bikeway	Sidepath (Both Sides)
	Corridor Cities Transitway Trail	I-270	Separated Bikeway	Sidepath (South Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Richter Farm Rd	Clopper Rd (MD 117)	Schaeffer Rd	Separated Bikeway	Sidepath (East Side)
	Schaeffer Rd	Germantown Rd (MD 118)	Separated Bikeway	Sidepath (Both Sides)
	Germantown Rd (MD 118)	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (North Side)
Riffle Ford Rd	Germantown Rd (MD 119)	Great Seneca Creek	Striped Bikeway	Buffered Bike Lanes
Schaeffer Rd	Burdette La	Clopper Rd (MD 117)	Separated Bikeway	Sidepath (North Side)
Wanegarden Dr	Wisteria Dr	Wynnfield Dr	Separated Bikeway	Sidepath (Side TBD)
Waring Station Rd	Wisteria Dr	Middlebrook Rd	Separated Bikeway	Sidepath (West Side)
Waters Landing Dr	Crystal Rock Dr	Crystal Rock Dr	Separated Bikeway	Sidepath (Inner Side)
Wisteria Dr	Wanegarden Dr	Father Hurley Blvd	Striped Bikeway	Buffered Bike Lanes
Wisteria Dr	Crystal Rock Dr	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (West Side), Separated Bike Lanes (Two-Way, East Side)
	Great Seneca Hwy (MD 119)	Waring Station Rd	Separated Bikeway	Sidepath (East Side)
Wynnfield Dr	Shore Harbour Dr	Laurel Hill Way	Trail	Off-Street Trail
Wynnfield Dr	Wanegarden Dr	Father Hurley Blvd	Separated Bikeway	Sidepath (Side TBD)

GLENMONT



Policy Area

Parkland



Metro Rail Station



Bus Rapid Transit Station (Proposed)

Breezeway Network

Existing

Proposed



Trails



Separated Bikeroutes



Striped Bikeroutes



Shared Roads



Bicycle Parking Station



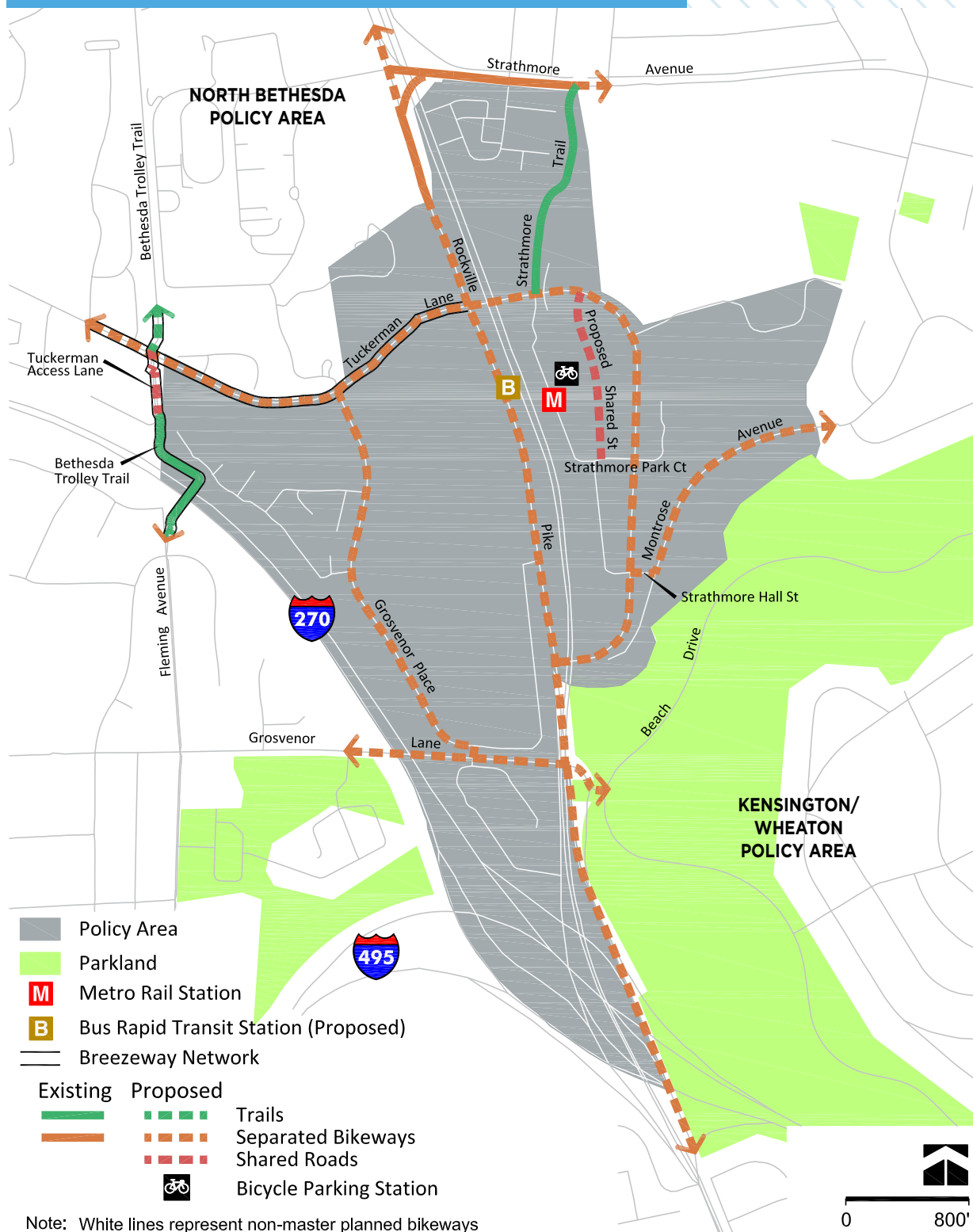
Note: White lines represent non-master planned bikeways

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BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
OLNEY TO GLENMONT BREEZEWAY				
Flack St	Weller Rd	Flack Connector	Shared Road	Neighborhood Greenway
Flack Connector	Flack St	Glenallan Ave	Trail	Off-Street Trail
Flack St	Trail	Judson Rd	Shared Road	Neighborhood Greenway
Judson Rd	Flack St	Georgia Ave (MD 97)	Shared Road	Neighborhood Greenway
GLENMONT TO SILVER SPRING BREEZEWAY				
Georgia Ave (MD 97)	Judson Rd	Randolph Rd	Separated Bikeway	Sidepath (West Side)
VEIRS MILL RD TO WHITE OAK BREEZEWAY				
Randolph Rd	Denley Rd	Glenallan Ave	Separated Bikeway	Sidepath (North Side)
ADDITIONAL RECOMMENDATIONS				
Briggs Rd	Lutes Dr	Layhill Rd (MD 182)	Separated Bikeway	Sidepath (South Side)
Denley Rd	Randolph Rd	Gould Rd	Shared Road	Neighborhood Greenway
Gould Rd	Denley Rd	Denley Rd	Shared Road	Neighborhood Greenway
Denley Rd	Gould Rd	Georgia Ave (MD 97)	Shared Road	Neighborhood Greenway
Georgia Ave (MD 97)	Weller Rd	Denley Rd	Separated Bikeway	Sidepath (East Side)
	Denley Rd	Judson Rd	Separated Bikeway	Sidepath (Both Sides)
	Judson Rd	Randolph Rd	Separated Bikeway	Sidepath (East Side)
Glenallan Ave	Georgia Ave (MD 97)	Randolph Rd	Separated Bikeway	Sidepath (North Side) and Separated Bike Lanes (Two-Way, South Side)
Jingle Connector	Jingle La	Briggs Rd	Trail	Off-Street Trail
Jingle La	Weller Rd	Jingle Connector	Shared Road	Neighborhood Greenway
Layhill Rd (MD 182)	Briggs Rd	Glenallan Ave	Separated Bikeway and Striped Bikeway	Sidepath (East Side) and Conventional Bike Lanes
	Glenallan Ave	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Neighborhood Connector	Briggs Ct	Lutes Dr	Trail	Neighborhood Connector
Street B-1	Layhill Rd (MD 182)	Randolph Rd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)

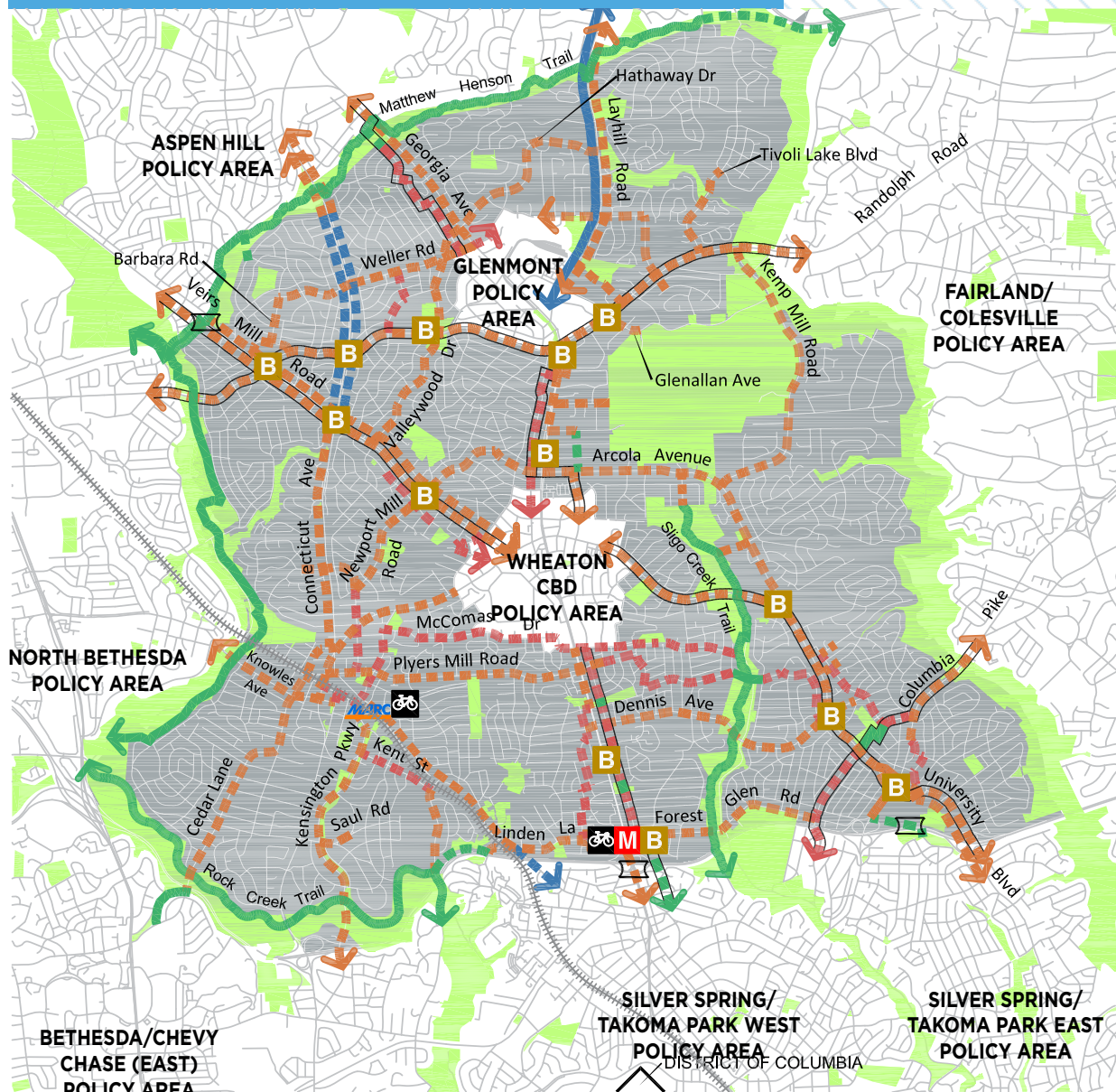
BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Street B-2	Georgia Ave (MD 97)	Randolph Rd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Trail	Flack Connector	Flack St	Trail	Off-Street Trail
Weller Rd	Holdridge Rd	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (North Side)
	Georgia Ave (MD 97)	Jingle La	Shared Road	Neighborhood Greenway

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BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CITY OF ROCKVILLE TO FRIENDSHIP HEIGHTS BREEZEWAY				
Bethesda Trolley Trail	Tuckerman Access La	Fleming Ave	Trail	Off-Street Trail
GERMANTOWN - GROSVENOR BREEZEWAY				
Tuckerman La	Grosvenor Pl	Rockville Pike (MD 355)	Separated Bikeway	Sidepath (Side TBD)
ADDITIONAL RECOMMENDATIONS				
Grosvenor La	I-270	Rockville Pike (MD 355)	Separated Bikeway	Sidepath (Side TBD)
Grosvenor Pl	Tuckerman La	Grosvenor La	Separated Bikeway	Sidepath (West Side)
Montrose Ave	Strathmore Hall St	North Bethesda Policy Area	Separated Bikeway	Sidepath (North Side)
Proposed Shared Street	Tuckerman La	Strathmore Park Ct	Shared Road	Shared Street
Rockville Pike (MD 355)	North Bethesda Policy Area	I-495	Separated Bikeway	Sidepath (East Side)
Strathmore Ave (MD 547)	Rockville Pike (MD 355)	Strathmore Trail	Separated Bikeway	Sidepath (South Side)
Strathmore Hall St	Tuckerman La	Montrose Ave	Separated Bikeway	Sidepath (North Side)
Strathmore Trail	Strathmore Ave (MD 547)	Tuckerman La	Trail	Off-Street Trail
Tuckerman Access La	Tuckerman La	Bethesda Trolley Trail	Shared Road	Priority Shared Lane Markings
Tuckerman La	Bethesda Trolley Trail	Rockville Pike (MD 355)	Separated Bikeway	Sidepath (Side TBD)
Tuckerman La	Rockville Pike (MD 355)	Rockville Pike (MD 355)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)

KENSINGTON-WHEATON



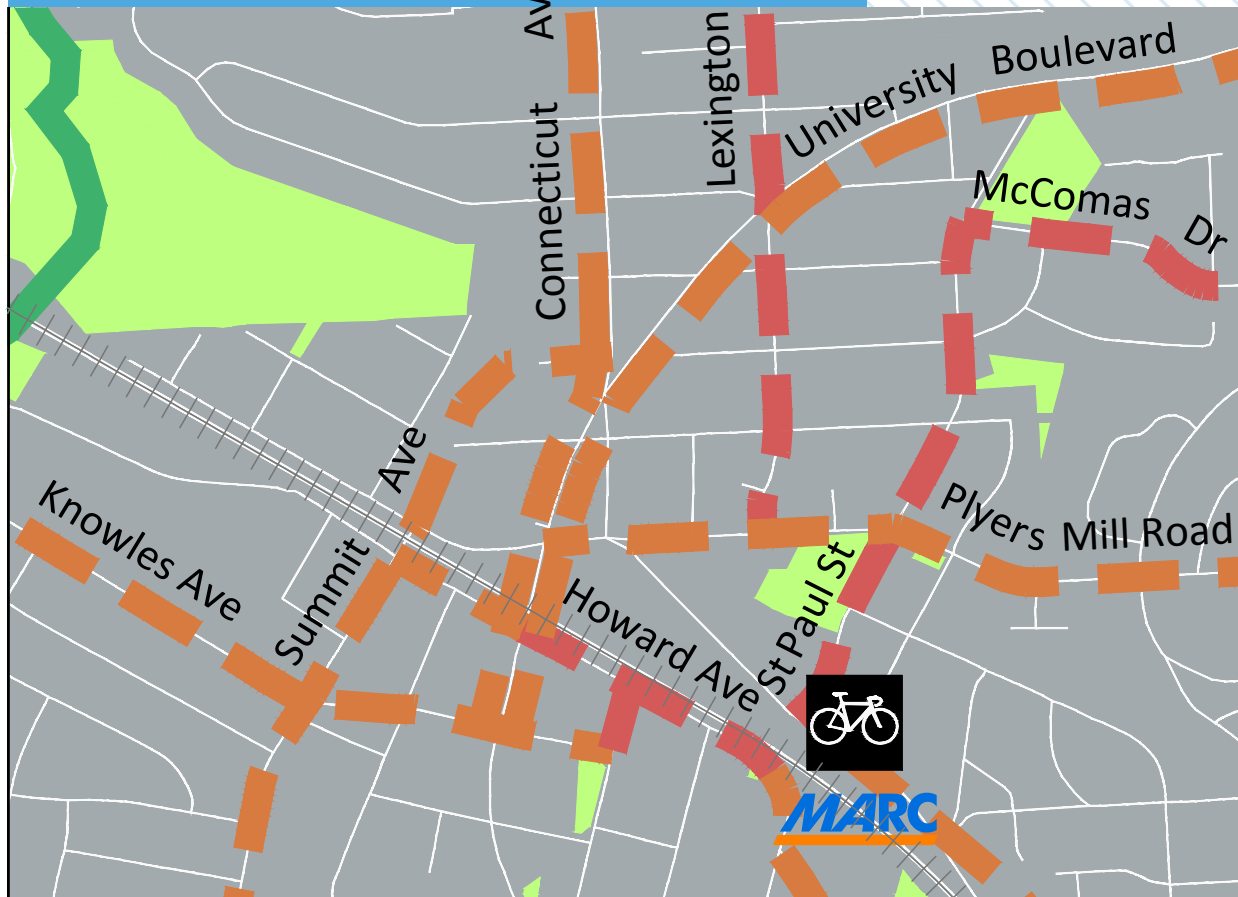
- Policy Area
- Parkland
- County Line
- M Metrorail Station
- MARC MARC Station
- B Bus Rapid Transit Station (Proposed)
- Breezeway Network

- | Existing | Proposed | |
|--|--|--------------------------|
| | | Trails |
| | | Separated Bikeways |
| | | Striped Bikeways |
| | | Shared Roads |
| | | Grade Separated Crossing |
| B | B | Bicycle Parking Station |

Note: White lines represent non-master planned bikeways

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KENSINGTON-WHEATON (INSERT)



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
GLENMONT TO SILVER SPRING BREEZEWAY				
Trail	Matthew Henson Trail	Holdridge Rd	Trail	Off-Street Trail
Holdridge Rd	Olympic St	May St	Shared Road	Neighborhood Greenway
May St	Holdridge Rd	Estelle Rd	Shared Road	Neighborhood Greenway
Estelle Rd	May St	Kayson St	Shared Road	Neighborhood Greenway
Kayson St	Estelle Rd	Flack St	Shared Road	Neighborhood Greenway
Flack St	Kayson St	Weller Rd	Shared Road	Neighborhood Greenway
SEE GLENMONT POLICY AREA				
Georgia Ave (MD 97)	Randolph Rd	Mason St	Separated Bikeway	Sidepath (West Side)
Mason St	Georgia Ave (MD 97)	Grandview Ave	Shared Road	Neighborhood Greenway
Grandview Ave	Mason St	Arcola Ave	Shared Road	Neighborhood Greenway
Arcola Ave	Grandview Ave	Amherst Ave	Separated Bikeway	Sidepath (Side TBD)
Amherst Ave	Arcola Ave	Elkin St	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
SEE WHEATON CBD POLICY AREA				
Amherst Ave	Windham La	Dennis Dr	Shared Road	Neighborhood Greenway
Woodland Dr Ext	Dennis Dr	Medical Park Dr	Shared Road	Neighborhood Greenway
Woodland Dr	Medical Park Dr	Forest Glen Rd	Shared Road	Neighborhood Greenway
I-495 Bridge (East Side)	Forest Glen Rd	Woodland Rd	Trail	Off-Street Trail
BURTONSVILLE TO SILVER SPRING BREEZEWAY				
Colesville Rd (US 29)	Northwest Branch	Lorain Ave	Separated Bikeway	Sidepath (East Side)
Lorain Ave	Colesville Rd (US 29)	Woodmoor Cir	Shared Road	Neighborhood Greenway
Woodmoor Cir	Lorain Ave	Woodmoor Dr	Shared Road	Neighborhood Greenway
Woodmoor Dr	Woodmoor Cir	Pierce Dr	Shared Road	Neighborhood Greenway
Pierce Dr	Woodmoor Dr	Lexington Dr	Shared Road	Neighborhood Greenway

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Lexington Dr	Pierce Dr	University Blvd (MD 193)	Separated Bikeway	Sidepath (West Side)
Colesville Rd (US 29)	University Blvd (MD 193)	I-495 Bridge	Separated Bikeway	Sidepath (East Side)
I-495 Bridge	Colesville Rd (US 29)	Marshall Ave	Trail	Off-Street Trail
WHEATON TO TAKOMA/LANGLEY BREEZEWAY				
University Blvd (MD 193)	Reedie Dr	I-495	Separated Bikeway	Sidepath (East Side)
CITY OF ROCKVILLE TO WHEATON BREEZEWAY				
Veirs Mill Rd (MD 586)	Matthew Henson Trail	Pendleton Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Veirs Mill Rd (MD 586)	Pendleton Dr	Newport Mill Rd	Separated Bikeway	Sidepath (South Side)
Veirs Mill Rd (MD 586)	Newport Mill Rd	College View Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
VEIRS MILL ROAD TO WHITE OAK BREEZEWAY				
Randolph Rd	Glenallan Ave	Kemp Mill Rd	Separated Bikeway	Sidepath (North Side)
SILVER SPRING - GLENMONT WEST NEIGHBORHOOD GREENWAY				
Georgia Ave (MD 97)	Windham La	Evans Dr	Separated Bikeway	Sidepath (West Side)
Evans Dr	Georgia Ave (MD 97)	Douglas Ave	Shared Road	Neighborhood Greenway
Douglas Ave	Evans Dr	Darrow St	Shared Road	Neighborhood Greenway
McKenney Ave	Darrow St	Hildarose Dr	Shared Road	Neighborhood Greenway
Hildarose Dr	McKenney Ave	Greeley Ave	Shared Road	Neighborhood Greenway
Greeley Ave	Hildarose Dr	Arthur Ave	Shared Road	Neighborhood Greenway
Clark Pl	Arthur Ave	Darcy Forest Dr	Shared Road	Neighborhood Greenway
Darcy Forest Dr	Clark Pl	Forest Glen Dr	Shared Road	Neighborhood Greenway
Forest Glen Rd (MD 192)	Darcy Forest Dr	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (North Side)
I-495 Bridge (West Side)	Forest Glen Rd (MD 192)	I-495	Separated Bikeway	Sidepath (West Side)
VEIRS MILL RD (NORTH SIDE)				
Veirs Mill Rd (MD 586)	Matthew Henson Trail	Havard St	Separated Bikeway	Sidepath (North Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Veirs Mill Rd (MD 586)	Havard St	Bushey Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Veirs Mill Rd (MD 586)	Bushey Rd	Galt Ave	Separated Bikeway	Sidepath (North Side)
VEIRS MILL RD NEIGHBORHOOD GREENWAY				
Glorus Pl	Huggins Dr	College View Dr	Shared Road	Neighborhood Greenway
College View Dr	Glorus Pl	Norris Dr	Shared Road	Neighborhood Greenway
Trail	Norris Dr	Pleasant View LP Trail	Trail	Neighborhood Connector
College View Dr	Pleasant View LP Trail	Veirs Mill Rd (MD 586)	Shared Road	Neighborhood Greenway
Veirs Mill Rd	College View Dr	Galt Ave	Separated Bikeway	Sidepath (North Side)
CONNECTICUT AVE (MD 185) WEST BIKEWAY				
Connecticut Ave (MD 185)	Matthew Henson Trail	Littleton St	Separated Bikeway	Sidepath (West Side)
Connecticut Ave Access Rd	Littleton St	Brightview St	Shared Road	Contra-Flow Bike Lane
Connecticut Ave (MD 185)	Brightview St	Farragut Ave	Separated Bikeway	Sidepath (West Side)
Connecticut Ave (MD 185)	Farragut Ave	Knowles Ave (MD 547)	Separated Bikeway	Separated Bike Lanes (West Side)
CONNECTICUT AVE (MD 185) EAST BIKEWAY				
Connecticut Ave (MD 185)	Matthew Henson Trail	Munsey St	Separated Bikeway	Sidepath (East Side)
Connecticut Ave Access Rd	Munsey St	400 Ft North Of Veirs Mill Rd (MD 586)	Shared Road	Contra-Flow Bike Lane
Connecticut Ave (MD 185)	400 Ft North Of Veirs Mill Rd	Veirs Mill Rd (MD 586)	Separated Bikeway	Sidepath (East Side)
COLESVILLE RD (US 29) WEST NEIGHBORHOOD GREENWAY				
Southwood Ave	Colesville Rd (US 29)	North Four Corners Local Park	Shared Road	Neighborhood Greenway
Park Trail	Southwood Ave	University Blvd (MD 193)	Trail	Off-Street Trail
Brunett Ave	University Blvd (MD 193)	I-495	Shared Road	Neighborhood Greenway
KENSINGTON - FOUR CORNERS NEIGHBORHOOD GREENWAY				
Plyers Mill Rd (MD 192)	Summit Ave	Lexington St Ext	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Plyers Mill Rd	Lexington Ave Ext	Amherst Ave	Separated Bikeway	Sidepath (South Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Plyers Mill Rd	Amherst Ave	Glenhaven Dr	Shared Road	Neighborhood Greenway
Glenhaven Dr	Plyers Mill Rd	Gridley La	Shared Road	Neighborhood Greenway
Gridley La	Glenhaven Dr	Malone St	Shared Road	Neighborhood Greenway
Malone St	Gridley La	Sligo Creek Trail Access	Shared Road	Neighborhood Greenway
Sligo Creek Trail Access	Malone St	Tenbrook Dr	Trail	Stream Valley Park Trail
Whitehall St	Tenbrook Dr	Orange Dr	Shared Road	Neighborhood Greenway
Orange Dr	Whitehall St	Gilmoure Dr	Shared Road	Neighborhood Greenway
Gilmoure Dr	Orange Dr	Dennis Ave	Shared Road	Neighborhood Greenway
KENSINGTON - CHEVY CHASE LAKE NEIGHBORHOOD GREENWAY				
Howard Ave	Summit Ave	Connecticut Ave (MD 185)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Howard Ave	Connecticut Ave (MD 185)	Proposed Railroad Crossing	Shared Road	Priority Shared Lane Markings
Howard Ave	Proposed Railroad Crossing	Montgomery Ave	Separated Bikeway	Sidepath (North Side)
Montgomery Ave	Howard Ave	Kensington Pkwy	Separated Bikeway	Sidepath (East Side)
Kensington Pkwy	Montgomery Ave	I-495	Separated Bikeway	Sidepath (East Side)
ROCK CREEK TRAIL - SLIGO CREEK TRAIL BIKEWAY				
Trail	Stoneybrook Dr	Linden La	Trail	Off-Street Trail
Linden La	Trail	Seminary Rd	Separated Bikeway	Sidepath (North Side)
Forest Glen Rd (MD 192)	Seminary Rd	Darcy Forest Dr	Separated Bikeway	Sidepath (North Side)
Forest Glen Rd (MD 192)	Darcy Forest Dr	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (Both Sides)
Forest Glen Rd	Georgia Ave (MD 97)	Brunett Ave	Separated Bikeway	Sidepath (South Side)
ADDITIONAL RECOMMENDATIONS				
Arcola Ave	Parker Ave	University Blvd (MD 193)	Separated Bikeway	Sidepath (Side TBD)
Armory Ave	Howard Ave	Knowles Ave (MD 547)	Shared Road	Priority Shared Lane Markings
Barbara Rd	Havard St	Randolph Rd	Separated Bikeway	Sidepath (South Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Briggs Rd	Layhill Rd (MD 182)	Middlevale La	Separated Bikeway	Sidepath (South Side)
Caddington Ave	University Blvd (MD 193)	Forest Knolls ES	Separated Bikeway	Sidepath (South Side)
Capitol View Ave (MD 192)*	Metropolitan Ave (MD 192)	Forest Glen Rd	Separated Bikeway	Sidepath (West Side)
Cedar La	Summit Ave	Elmhirst Pkwy Trail	Separated Bikeway	Sidepath (North Side)
Colie Dr	Havard St	Randolph Rd	Separated Bikeway	Sidepath (South Side)
Connecticut Ave (MD 185)	Farragut Ave	Knowles Ave (MD 547)	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Dalewood Dr	Dean Rd	Randolph Rd	Shared Road	Neighborhood Greenway
Dean Rd	Weller Rd	Dalewood Dr	Shared Road	Neighborhood Greenway
Denfield Ave	Dewey Rd	Newport Mill Rd	Separated Bikeway	Sidepath (North Side)
Dennis Ave	Douglas Ave	Edgewood Ave	Separated Bikeway	Sidepath (North Side)
Edgewood Ave	Eisner St	Southwood Ave	Shared Road	Neighborhood Greenway
Eisner St	University Blvd (MD 193)	Edgewood Ave	Shared Road	Neighborhood Greenway
Evans Parkway NP Trail	Amherst Ave	Evans Dr	Trail	Off-Street Trail
Farragut Ave	Connecticut Ave (MD 185)	Summit Ave Ext	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Garden Gate Rd	Randolph Rd	Billman La	Separated Bikeway	Sidepath (East Side)
Georgia Ave (MD 97)	Matthew Henson Trail	Weller Rd	Separated Bikeway	Sidepath (East Side)
Georgia Ave (MD 97)	Randolph Rd	Arcola Ave	Separated Bikeway	Sidepath (East Side)
Glenallan Ave	Randolph Rd	Wallace Ave	Separated Bikeway	Sidepath (North Side)
Grandview Ave	Arcola Ave	Dawson Ave	Shared Road	Neighborhood Greenway
Hathaway Dr	Layhill Rd (MD 182)	Valleywood Dr	Separated Bi keway	Sidepath (Side TBD)
Kemp Mill Rd	Randolph Rd	Arcola Ave	Separated Bikeway	Sidepath (West Side)
Kent St	Kensington Pkwy	Stoneybrook Dr	Shared Road	Neighborhood Greenway
Knowles Ave (MD 547)	Rock Creek Trail	Connecticut Ave (MD 185)	Separated Bikeway	Sidepath (West Side)
	Connecticut Ave (MD 185)	Armory Ave	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)

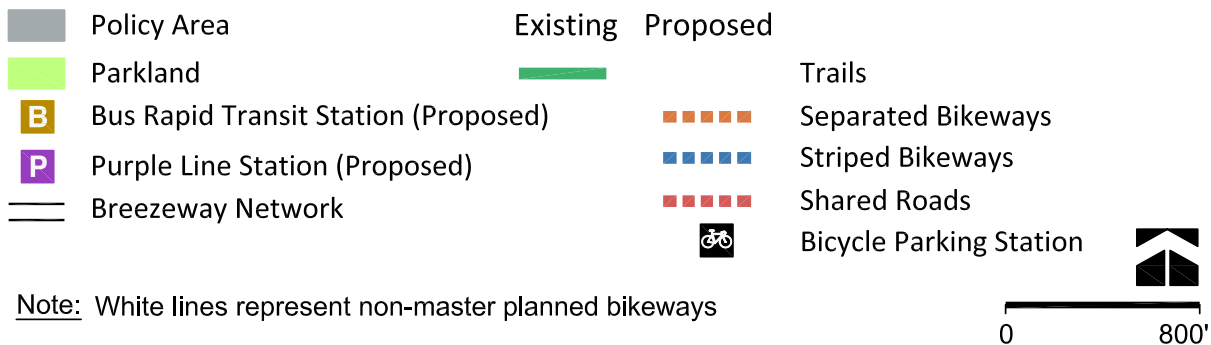
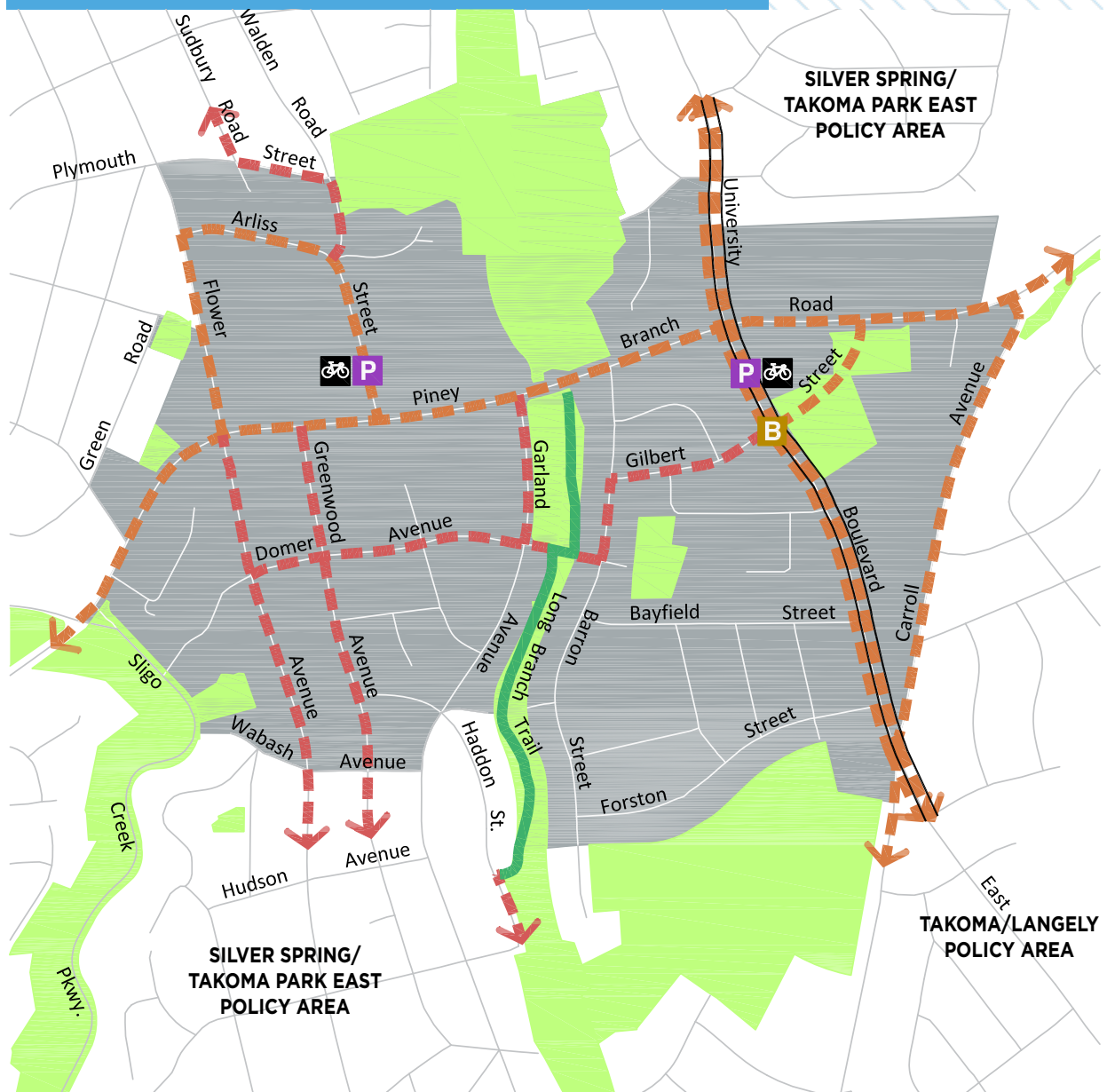
BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Orebaugh Ave	Wheaton Regional Park	Sligo Creek Trail	Shared Road	Neighborhood Greenway
Lamberton Rd	Sligo Creek Trail Access	Arcola Ave	Separated Bikeway	Sidepath (Side TBD)
Layhill Rd (MD 182)	Matthew Henson Trail	Briggs Rd	Separated Bikeway and Striped Bikeway	Sidepath (East Side) and Conventional Bike Lanes
Lexington St	University Blvd (MD 193)	Plyers Mill Rd	Shared Road	Priority Shared Lane Markings
Matthew Henson Trail	Rock Creek Trail	Alderton Rd	Trail	Stream Valley Park Trail
	Alderton Rd	Fairland / Colesville Policy Area	Trail	Stream Valley Park Trail
Matthew Henson Trail Connector	Matthew Henson Trail	Littleton St	Trail	Stream Valley Park Trail
McComas Ave	St Paul St	St Margarets Way	Shared Road	Neighborhood Greenway
Metropolitan Ave (MD 192)	St Paul St	Capitol View Ave (MD 192)	Separated Bikeway	Sidepath (West Side)
Middlevale La	Briggs Rd	Randolph Rd	Separated Bikeway	Sidepath (East Side)
Newport Mill Rd	King Tree St	Denfeld Ave	Separated Bikeway	Sidepath (East Side)
	Denfeld Ave	University Blvd (MD 193)	Shared Road	Priority Shared Lane Markings
Parker Ave	Newport Mill Rd	Arcola Ave	Separated Bikeway	Sidepath (Side TBD)
Railroad Crossing	Metropolitan Ave (MD 192)	Montgomery Ave	Trail	Off-Street Trail
Randolph Rd	Rock Creek	Denley Rd	Separated Bikeway	Sidepath (North Side)
Rippling Brook Dr	Bel Pre Rd	Matthew Henson Trail	Trail	Off-Street Trail
Rock Creek Trail	Matthew Henson Trail	Stoneybrook Dr	Trail	Stream Valley Park Trail
Saddlebrook Connector	Layhill Rd (MD 182)	Randolph Rd	Separated Bikeway	Sidepath (TBD)
Saddlebrook Dr Ext	Saddlebrook Dr	Street P-27	Trail	Off-Street Trail
Saul Rd	Kensington Pkwy	B-CC Middle School #2	Separated Bikeway	Sidepath (North Side)
Seminary Rd	Forest Glen Rd (MD 192)	I-495	Striped Bikeway	Conventional Bike Lanes
Shorefield Rd	Georgia Ave (MD 97)	Wheaton Regional Park	Separated Bikeway	Sidepath (Side TBD)
Sligo Creek Trail	Orebaugh Ave	I-495	Trail	Stream Valley Park Trail
St Paul St	Metropolitan Ave (MD 192)	McComas Ave	Shared Road	Priority Shared Lane Markings

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Stoneybrook Dr	Capitol View Ave (MD 192)	Beach Dr	Separated Bikeway	Sidepath (West Side)
Summit Ave Ext	Farragut Ave	Plyers Mill Rd (MD 192)	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Summit Ave	Plyers Mill Rd (MD 192)	Knowles Ave (MD 547)	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
	Knowles Ave (MD 547)	Cedar La	Separated Bikeway	Sidepath (North Side)
Tivoli Lake Blvd	Red Spire Rd	Randolph Rd	Separated Bikeway	Sidepath (East Side)
University Blvd (MD 193)	Connecticut Ave (MD 185)	Decatur Ave	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
	Decatur Ave	Drumm Ave	Separated Bikeway	Sidepath (South Side)
University Blvd (MD 193)	Lorain Ave	I-495	Separated Bikeway	Sidepath (West Side)
Upton Dr	Neighborhood Connector	Kensington Blvd	Shared Road	Neighborhood Greenway
Valleywood Dr	Dalewood Dr	Weisman Rd	Trail	Off-Street Trail
	Weisman Rd	Veirs Mill Rd (MD 586)	Separated Bikeway	Sidepath (Side TBD)
Weller Rd	Barbara Rd	Connecticut Ave (MD 185)	Separated Bikeway	Sidepath (Side TBD)
	Connecticut Ave (MD 185)	Holdridge Rd	Separated Bikeway	Sidepath (North Side)
Windham La	Douglas Ave	Sligo Creek Trail	Shared Road	Neighborhood Greenway

** This bikeway can be constructed on either the existing or master-planned alignments of Capitol View Avenue*

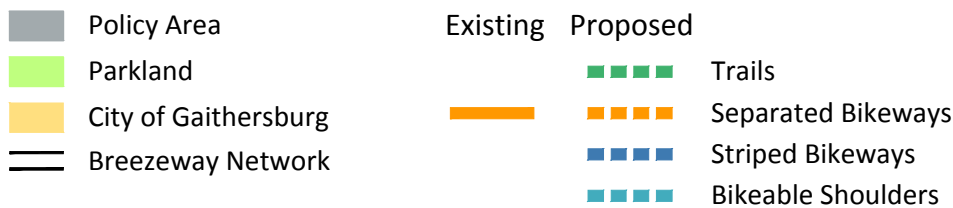
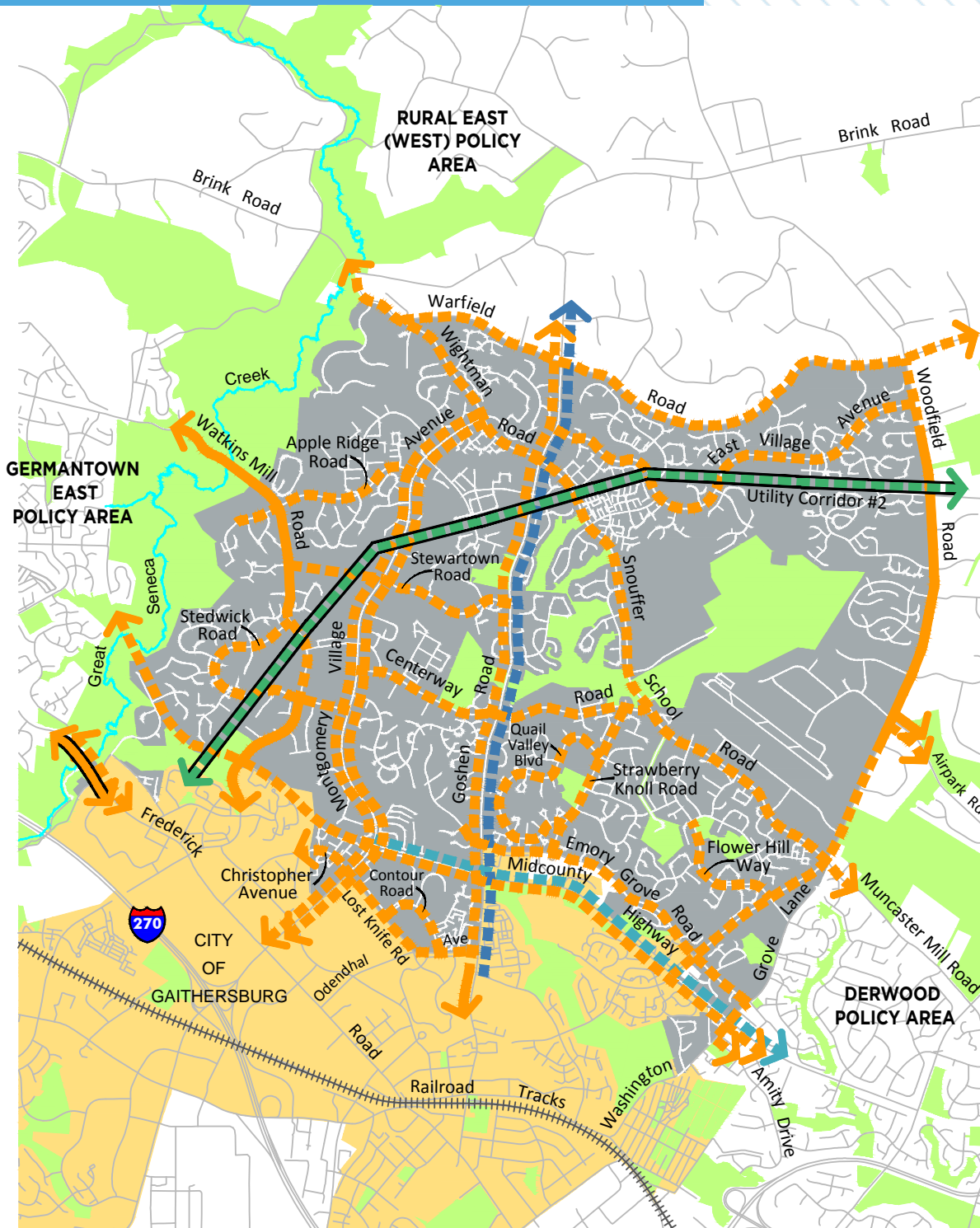
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LONG BRANCH



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
WHEATON TO TAKOMA/LANGLEY BREEZEWAY				
University Blvd (MD 193)	Langley Dr	Carroll Ave (MD 195)	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
ADDITIONAL RECOMMENDATIONS				
Arliss St (MD 594-D)	Flower Ave (MD 787)	Piney Branch Rd (MD 320)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Barron St	Domer Ave	Gilbert St	Shared Road	Neighborhood Greenway
Carroll Ave (MD 195)	Piney Branch Rd (MD 320)	University Blvd (MD 193)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Domer Ave	Flower Ave (MD 787)	Barron St	Shared Road	Neighborhood Greenway
Flower Ave (MD 787)	Arliss St (MD 594-D)	Piney Branch Rd (MD 320)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
	Piney Branch Rd (MD 320)	Wabash Ave	Shared Road	Priority Shared Lane Markings
Garland Ave	Piney Branch Rd (MD 320)	Domer Ave	Shared Road	Neighborhood Greenway
Gilbert St	Barron St	University Blvd (MD 193)	Shared Road	Neighborhood Greenway
	University Blvd (MD 193)	Piney Branch Rd (MD 320)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Greenwood Ave	Piney Branch Rd (MD 320)	Wabash Ave	Shared Road	Neighborhood Greenway
Long Branch Trail	Piney Branch Rd (MD 320)	Haddon Dr	Trail	Stream Valley Park Trails
Piney Branch Rd (MD 320)	Sligo Creek Pkwy	Flower Ave (MD 787)	Separated Bikeway	Sidepath (South Side)
	Flower Ave (MD 787)	Carroll Ave (MD 195)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Plymouth St	Sudbury Rd	Walden St	Shared Road	Neighborhood Greenway
University Blvd (MD 193)	Langley Dr	Carroll Ave (MD 195)	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Walden Rd	Plymouth St	Arliss St (MD 594-D)	Shared Road	Neighborhood Greenway

MONTGOMERY VILLAGE-AIRPARK



Note: White lines represent non-master planned bikeways

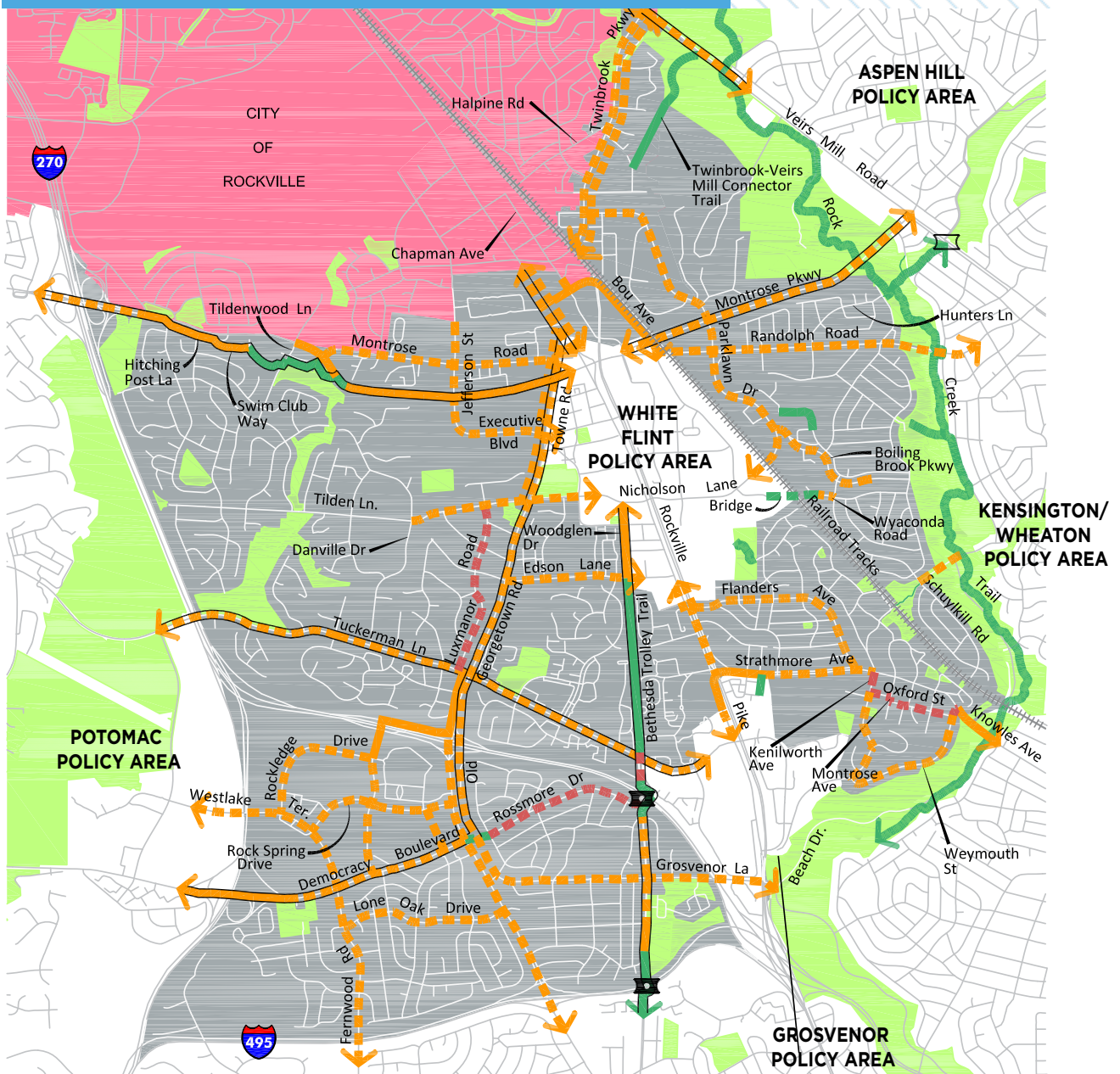


BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CLARKSBURG TO CITY OF GAITHERSBURG BREEZEWAY				
Frederick Rd (MD 355)	Great Seneca Creek	Game Preserve Rd	Separated Bikeway	Sidepath (East Side)
GERMANTOWN - BURTONSVILLE BREEZEWAY				
Utility Corridor #2	Midcounty Hwy (MD 124)	Woodfield Rd (MD 124)	Trail	Off-Street Trail
ADDITIONAL RECOMMENDATIONS				
Apple Ridge Rd	Watkins Mill High School	Montgomery Village Ave (MD 124)	Separated Bikeway	Sidepath (North Side)
Centerway Rd	Montgomery Village Ave (MD 124)	Snouffer School Rd	Separated Bikeway	Sidepath (North Side)
Christopher Ave	City of Gaithersburg	Montgomery Village Ave (MD 124)	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Contour Rd	Lost Knife Rd	Odendhal Ave	Separated Bikeway	Sidepath (North Side)
East Village Ave	Goshen Rd	Woodfield Rd (MD 124)	Separated Bikeway	Sidepath (North Side)
Emory Grove Rd	Walkers Mill Rd	Washington Grove La	Separated Bikeway	Sidepath (North Side)
Flower Hill Way	Mountain Laurel La	Woodfield Rd (MD 124)	Separated Bikeway	Sidepath (East Side)
Frederick Rd (MD 355)	Great Seneca Creek	Game Preserve Rd	Separated Bikeway	Sidepath (West Side)
Goshen Rd	Warfield Rd	Odendhal Ave	Separated Bikeway and Striped Bikeway	Sidepath (West Side) and Conventional Bike Lanes
Lost Knife Rd	Montgomery Village Ave (MD 124)	Odendhal Ave	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Midcounty Hwy (MD 124)	Great Seneca Creek	Montgomery Village Ave (MD 124)	Separated Bikeway	Sidepath (Side TBD)
	Montgomery Village Ave (MD 124)	Washington Grove La	Separated Bikeway and Bikeable Shoulders	Sidepath (Side TBD) and Bikeable Shoulders
Montgomery Village Ave	Wightman Rd	Lost Knife Rd	Separated Bikeway	Sidepath (Both Sides)
Odendhal Ave	City of Gaithersburg	Goshen Rd	Separated Bikeway	Sidepath (North Side)
Quail Valley Blvd	Strawberry Knoll Rd	Strawberry Knoll Rd	Separated Bikeway	Sidepath (East Side)
Snouffer School Rd	Goshen Rd	Woodfield Rd (MD 124)	Separated Bikeway	Sidepath (North Side)
Stedwick Rd	Watkins Mill Rd	Seneca Ridge Rd	Separated Bikeway	Sidepath (South Side)
Stedwick Rd	Seneca Ridge Rd	Montgomery Village Ave (MD 124)	Separated Bikeway	Sidepath (North Side)
Stewartown Rd Ext	Watkins Mill Rd	Montgomery Village Ave (MD 124)	Separated Bikeway	Sidepath (South Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Stewartown Rd	Montgomery Village Ave (MD 124)	Goshen Rd	Separated Bikeway	Sidepath (South Side)
Strawberry Knoll Rd	Centerway Rd	Emory Grove Rd	Separated Bikeway	Sidepath (West Side)
Warfield Rd	Wightman Rd	Woodfield Rd (MD 124)	Separated Bikeway	Sidepath (South Side)
Washington Grove La	Emory Grove Rd	Amity Dr	Separated Bikeway	Sidepath (West Side)
Watkins Mill Rd	Great Seneca Creek	Midcounty Hwy (MD 124)	Separated Bikeway	Sidepath (West Side)
Wightman Rd	Brink Rd	Goshen Rd	Separated Bikeway	Sidepath (North Side)
Woodfield Rd (MD 124)	Warfield Rd	Emory Grove Rd	Separated Bikeway	Sidepath (West Side)

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NORTH BETHESDA-TWINBROOK



Note: White lines represent non-master planned bikeways



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
POTOMAC TO ROCK SPRING BREEZEWAY				
Democracy Blvd	I-270	Old Georgetown Rd (MD 187)	Separated Bikeway	Sidepath (North Side)
GERMANTOWN TO GROSVENOR BREEZEWAY				
Tuckerman La	I-270	Old Georgetown Rd (MD 187)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
	Old Georgetown Rd (MD 187)	Grosvenor Pl	Separated Bikeway	Sidepath (Side TBD)
CITY OF ROCKVILLE TO FRIENDSHIP HEIGHTS BREEZEWAY				
Rockville Pike (MD 355)	City of Rockville	Towne Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
SEE WHITE FLINT POLICY AREA				
Bethesda Trolley Trail	Edson La	Tuckerman La	Trail	Off-Street Trail
	Tuckerman La	Tuckerman Access La	Shared Road	Priority Shared Lane Markings
	Tuckerman Access La	Rossmore Dr	Trail	Off-Street Trail
	Rossmore Dr	I-495	Separated Bikeway	Sidepath (East Side)
POTOMAC TO VEIRS MILL ROAD BREEZEWAY				
Montrose Rd	I-270	Hitching Post La	Separated Bikeway	Sidepath (South Side)
Hitching Post La	Montrose Rd	Swim Club Way	Separated Bikeway	Sidepath (South Side)
Swim Club Way	Hitching Post La	Trail	Separated Bikeway	Sidepath (South Side)
Trail	Swim Club Way	Montrose Pkwy (MD 927)	Trail	Off-Street Trail
Montrose Pkwy (MD 927)	Tildenwood La	Towne Rd	Separated Bikeway	Sidepath (North Side)
WHITE FLINT TO ROCK SPRING BREEZEWAY				
Old Georgetown Rd (MD 187)	Towne Rd	I-270	Separated Bikeway	Sidepath (East Side)
Old Georgetown Rd (MD 187)	I-270	Democracy Blvd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
CITY OF ROCKVILLE TO WHEATON BREEZEWAY BREEZEWAY				
Veirs Mill Rd (MD 586)	Twinbrook Pkwy	Rock Creek Trail	Separated Bikeway	Sidepath (Both Sides)

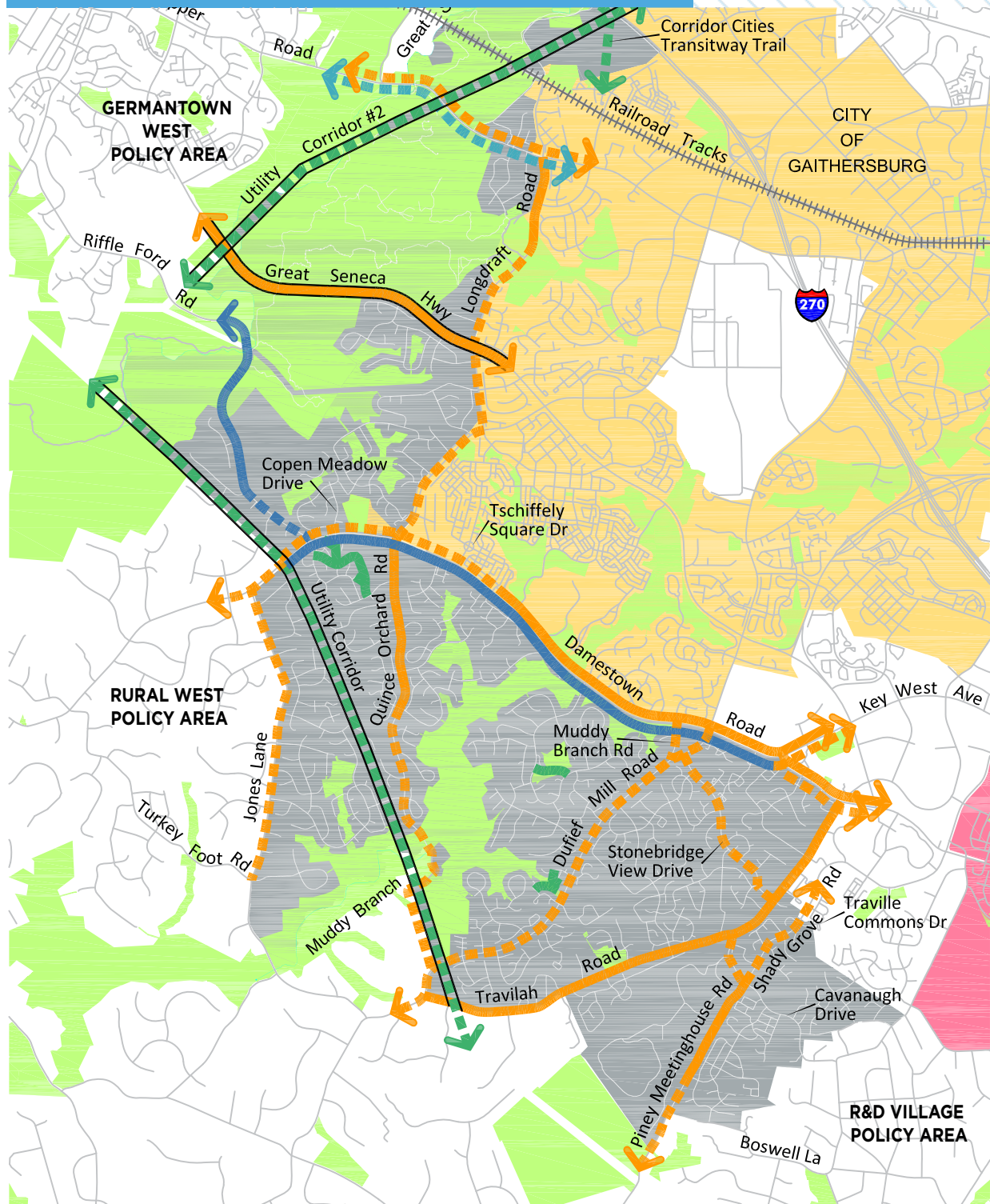
BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
STRATHMORE - KENSINGTON BIKEWAY				
Strathmore Ave (MD 547)	Rockville Pike (MD 355)	Kenilworth Ave	Separated Bikeway	Sidepath (South Side)
Kenilworth Ave	Strathmore Ave (MD 547)	Oxford St	Shared Road	Neighborhood Greenway
Oxford St	Kenilworth Ave	Montrose Ave	Shared Road	Neighborhood Greenway
Montrose Ave	Oxford St	Oxford St	Shared Road	Neighborhood Greenway
Oxford St	Montrose Ave	Weymouth St	Shared Road	Neighborhood Greenway
Weymouth St	Oxford St	Knowles Ave (MD 547)	Separated Bikeway	Sidepath (Side TBD)
Knowles Ave (MD 547)	Weymouth St	Rock Creek Trail	Separated Bikeway	Sidepath (West Side)
ADDITIONAL RECOMMENDATIONS				
Boiling Brook Pkwy	Parklawn Dr	Schuykill Rd	Separated Bikeway	Separated Bike Lanes (Side TBD)
Bou Ave	Rockville Pike (MD 355)	Montrose Pkwy	Separated Bikeway	Sidepath (East Side)
Chapman Ave	City of Rockville	Bou Ave	Separated Bikeway	Sidepath (West Side)
Cheshire Dr	Old Georgetown Rd (MD 187)	Grosvenor La	Separated Bikeway	Sidepath (Side TBD)
Edson La	Old Georgetown Rd (MD 187)	Woodglen Dr	Separated Bikeway	Sidepath (Side TBD)
Executive Blvd	Jefferson St	Old Georgetown Rd (MD 187)	Separated Bikeway	Separated Bike Lanes (Side TBD)
Fernwood Rd	Rockledge Dr	Democracy Blvd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
	Democracy Blvd	I-495	Separated Bikeway	Sidepath (East Side)
Flanders Ave	Rockville Pike (MD 355)	Strathmore Ave (MD 547)	Separated Bikeway	Sidepath (Side TBD)
Fleming Ave	Rossmore Dr	Bethesda Trolley Trail	Shared Road	Neighborhood Greenway
Garrett Park Rd	Schuykill Rd	Rock Creek Trail	Separated Bikeway	Sidepath (North Side)
Grosvenor La	Cheshire Dr	I-270	Separated Bikeway	Sidepath (Side TBD)
Grosvenor La	Rockville Pike (MD 355)	Beach Dr	Separated Bikeway	Sidepath (North Side)
I-270 Northbound Ramp	Old Georgetown Rd (MD 187)	Rockledge Blvd	Separated Bikeway	Sidepath (North Side)
Jefferson St	City of Rockville	Executive Blvd	Separated Bikeway	Separated Bike Lanes (Side TBD)
Kenilworth Ave	Montrose Ave	Neighborhood Connector	Separated Bikeway	Sidepath (West Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Lone Oak Dr	Fernwood Rd	Old Georgetown Rd (MD 187)	Separated Bikeway	Sidepath (South Side)
Luxmanor Rd	Tilden La	Tuckerman La	Shared Road	Neighborhood Greenway
Montrose Ave	Grosvenor Policy Area	Kenilworth Ave	Separated Bikeway	Sidepath (North Side)
Montrose Rd (MD 927)	Tildenwood La	Towne Rd	Separated Bikeway	Sidepath (North Side)
Nicholson La	Old Georgetown Rd (MD 187)	Executive Blvd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
North-South Connector	Rock Spring Dr	Democracy Blvd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Old Georgetown Rd (MD 187) (West)	Towne Rd	Nicholson La	Separated Bikeway	Sidepath (West Side)
	Tuckerman La	I-270	Separated Bikeway	Sidepath (West Side)
Old Georgetown Rd (MD 187) (East)	Democracy Blvd	Cheshire Dr	Separated Bikeway	Separate Bike Lanes (Two-Way, East Side)
	Cheshire Dr	I-495	Separated Bikeway	Sidepath (East Side)
Parklawn Dr	Twinbrook Pkwy	Railroad Tracks	Separated Bikeway	Sidepath (Side TBD)
Randolph Rd	Railroad Tracks	Parklawn Dr	Separated Bikeway	Sidepath (South Side)
	Parklawn Dr	Hunters La	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
	Hunters La	Rock Creek	Separated Bikeway	Sidepath (South Side)
Rock Creek Trail	Veirs Mill Rd Trail Connector	Matthew Henson Trail	Trail	Stream Valley Park Trail
Rock Spring Dr	Fernwood Rd	Old Georgetown Rd (MD 187)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Rockledge Blvd	I-270 Northbound Ramp	I-270 Southbound Ramp	Separated Bikeway	Sidepath (East Side)
	I-270 Southbound Ramp	Rockledge Dr	Separated Bikeway	Sidepath (East Side)
Rockledge Dr	Westlake Ter	Rockledge Blvd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
	Rockledge Dr	Democracy Blvd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Rockville Pike (MD 355)	City of Rockville	Towne Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Rockville Pike (MD 355)	White Flint Policy Area	Strathmore Ave (MD 547)	Separated Bikeway	Sidepath (Both Sides)
	Strathmore Ave (MD 547)	Grosvenor Policy Area	Separated Bikeway	Sidepath (East Side)
Rossmore Dr	Berkshire Dr	Fleming Ave	Shared Road	Neighborhood Greenway

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Strathmore Trail	Strathmore Ave (MD 547)	Tuckerman La	Trail	Off-Street Trail
Tilden La	Danville Dr	Old Georgetown Rd (MD 187)	Separated Bikeway	Sidepath (North Side)
Towne Rd	Rockville Pike (MD 355)	Old Georgetown Rd (MD 187)	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Twinbrook Pkwy	Veirs Mill Rd (MD 586)	Halpine Rd	Separated Bikeway	Sidepath (Both Sides)
	Halpine Rd	City of Rockville	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Twinbrook - Veirs Mill Rd Connector	Veirs Mill Rd (MD 586)	Rock Creek Mill Rd	Trail	Off-Street Trail
Westlake Ter	I-270 Spur	Rockledge Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Weymouth St	Montrose Ave	Knowles Ave (MD 547)	Separated Bikeway	Sidepath (Side TBD)
Woodglen Dr	Marinelli Rd	Edson La	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Wyaconda Rd	Bike / Ped Bridge	Schuylkill Rd	Separated Bikeway	Separated Bike Lanes (Side TBD)
Weymouth St	Montrose Ave	Knowles Ave (MD 547)	Separated Bikeway	Sidepath (Side TBD)

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NORTH POTOMAC



- Policy Area
- Parkland
- City of Gaithersburg
- City of Rockville
- Breezeway Network

Existing Proposed

- Trails
- Separated Bikeways
- Striped Bikeways
- Bikeable Shoulders

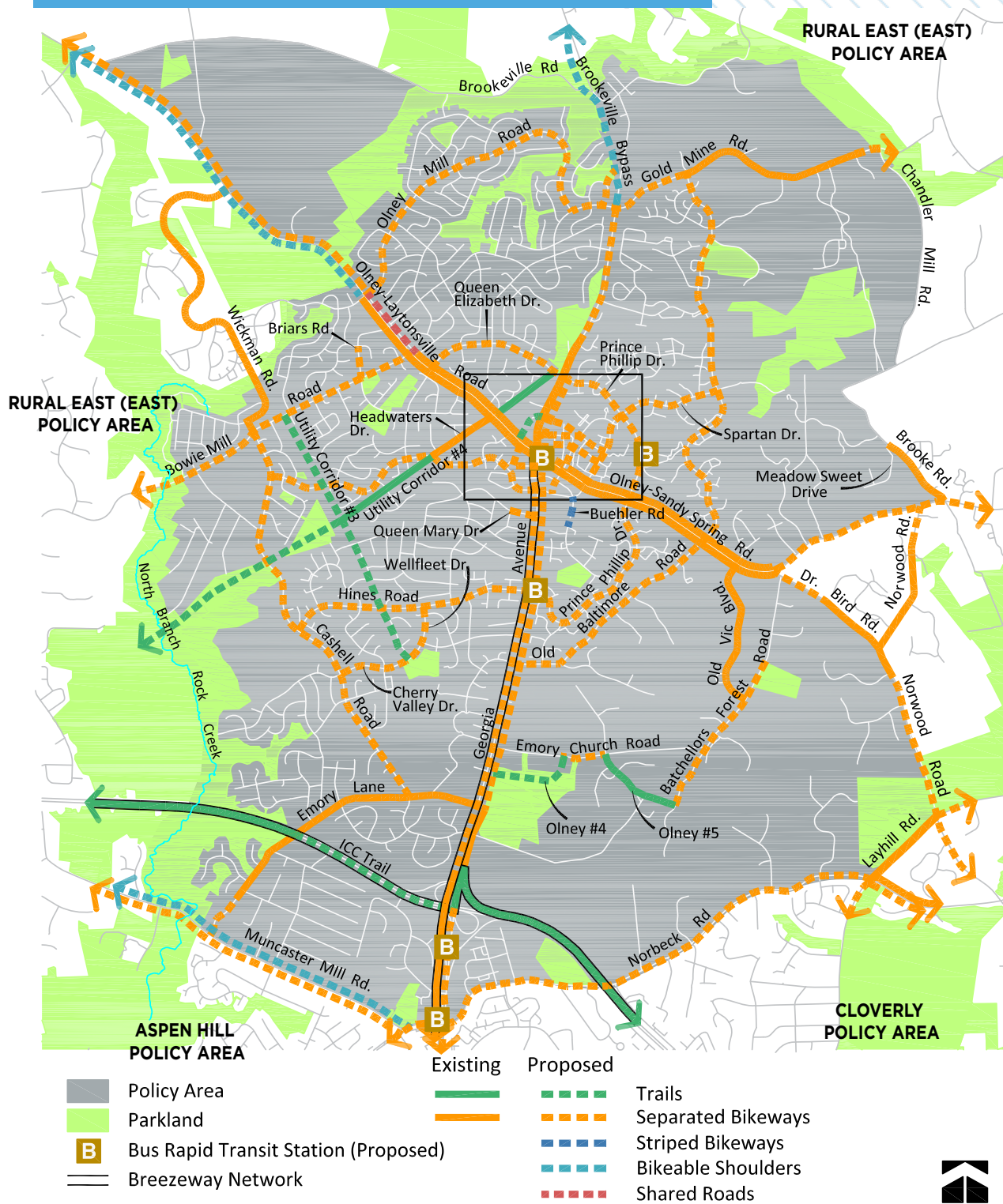
Note: White lines represent non-master planned bikeways

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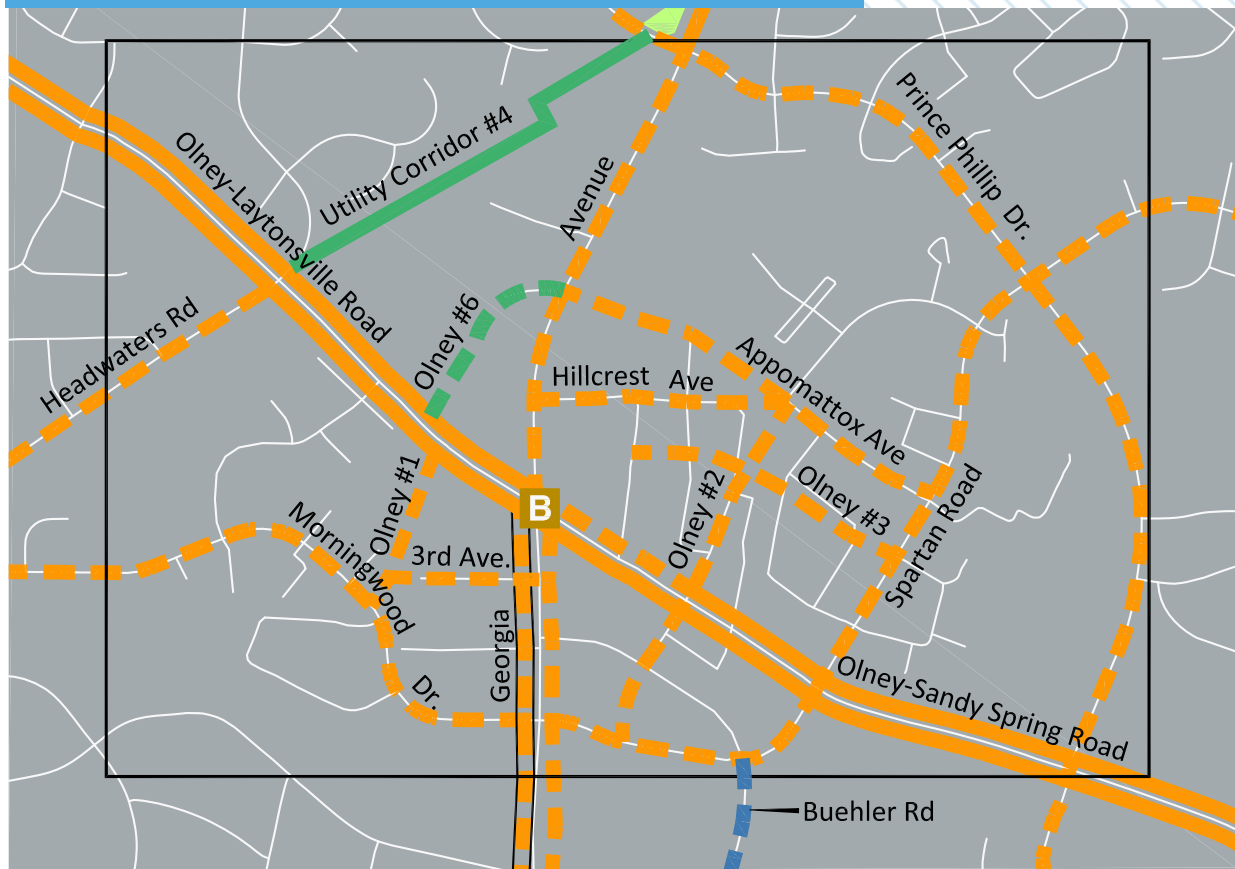


BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
GERMANTOWN TO GROSVENOR BREEZEWAY				
Utility Corridor #1	Great Seneca Creek	Travilah Rd	Trail	Off-Street Trail
GERMANTOWN TO BURTONSVILLE BREEZEWAY				
Utility Corridor #2	Great Seneca Creek	I-270	Trail	Off-Street Trail
GERMANTOWN TO LIFE SCIENCES CENTER BREEZEWAY				
Great Seneca Hwy (MD 119)	Great Seneca Creek	Longdraft Rd	Separated Bikeway	Sidepath (East Side)
ADDITIONAL RECOMMENDATIONS				
Clopper Rd (MD 117)	Great Seneca Creek	Longdraft Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Corridor Cities Transitway Trail	Great Seneca Creek	City of Gaithersburg	Trail	Off-Street Trail
Darnestown Rd (MD 28)	Utility Corridor #1	Copen Meadow Dr	Separated Bikeway and Striped Bikeway	Sidepath (North Side) and Conventional Bike Lanes
	Copen Meadow Dr	Tschiffely Square Rd	Separated Bikeway and Striped Bikeway	Separated Bike Lanes (Two-Way, North Side) and Conventional Bike Lanes
	Tschiffely Square Rd	Muddy Branch Rd	Separated Bikeway and Striped Bikeway	Sidepath (North Side) and Conventional Bike Lanes
	Muddy Branch Rd	Key West Ave (MD 28)	Separated Bikeway and Striped Bikeway	Separated Bike Lanes (North Side) and Conventional Bike Lanes
	Key West Ave (MD 28)	Travilah Rd	Separated Bikeway	Sidepath (Both Sides)
Dufief Mill Rd	Darnestown Rd (MD 28)	Travilah Rd	Separated Bikeway	Sidepath (East Side)
Longdraft Rd	Clopper Rd (MD 117)	Quince Orchard Rd (MD 124)	Separated Bikeway	Sidepath (West Side)
Muddy Branch Rd	Darnestown Rd (MD 28)	Dufief Mill Rd	Separated Bikeway	Sidepath (East Side)
Piney Meetinghouse Rd	Travilah Rd	Boswell La	Separated Bikeway	Sidepath (East Side)
Quince Orchard Rd (MD 124)	Hillstone Rd	Darnestown Rd (MD 28)	Separated Bikeway	Sidepath (Both Sides)
Quince Orchard Rd (MD 124)	Darnestown Rd (MD 28)	Dufief Mill Rd	Separated Bikeway	Sidepath (West Side)
Riffle Ford Rd	Great Seneca Creek	Darnestown Rd (MD 28)	Striped Bikeway	Buffered Bike Lanes
Shady Grove Rd	R&D Village Policy Area	Cavanaugh Dr	Separated Bikeway	Sidepath (West Side)
Stonebridge View Dr	Muddy Branch Rd	Travilah Rd	Separated Bikeway	Sidepath (East Side)
Travilah Rd	Darnestown Rd (MD 28)	Dufief Mill Rd	Separated Bikeway	Sidepath (West Side)

OLNEY



OLNEY INSERT



STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
OLNEY TO GLENMONT BREEZEWAY				
Georgia Ave (MD 97)	Olney-Laytonsville Rd (MD 108)	Queen Mary Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Georgia Ave (MD 97)	Queen Mary Dr	Norbeck Rd (MD 28)	Separated Bikeway	Sidepath (West Side)
INTERCOUNTY CONNECTOR TRAIL BREEZEWAY				
Intercounty Connector Trail	North Branch Rock Creek	Norbeck Rd (MD 28)	Trail	Off-Street Trail
MD 108 (NORTH SIDE)				
Olney-Laytonsville Rd (MD 108)	Brookeville Rd (MD 186)	Olney Policy Area	Separated Bikeway and Bikeable Shoulders	Sidepath (North Side) and Bikeable Shoulders
Olney-Laytonsville Service Rd	Olney Policy Area	Queen Elizabeth Dr	Shared Road	Neighborhood Greenway
Olney-Laytonsville Rd (MD 108)	Queen Elizabeth Dr	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (North Side)
Olney-Sandy Spring Rd (MD 108)	Georgia Ave (MD 97)	Brooke Rd	Separated Bikeway	Sidepath (North Side)
MD 108 (SOUTH SIDE)				
Olney-Laytonsville Rd (MD 108)	Brookeville Rd (MD 186)	Olney Policy Area	Separated Bikeway and Bikeable Shoulders	Bikeable Shoulders
Olney-Laytonsville Rd (MD 108)	Olney Policy Area	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (South Side)
Olney-Sandy Spring Rd (MD 108)	Georgia Ave (MD 97)	Dr. Bird Rd (MD 182)	Separated Bikeway	Sidepath (South Side)
ADDITIONAL RECOMMENDATIONS				
3rd Ave	Olney #1	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
Appomattox Ave	Hillcrest Rd	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 (MD 108)	Separated Bikeway	Sidepath (South Side)
Brooke Rd	Meadowsweet Dr	Olney-Sandy Spring Rd (MD 108)	Separated Bikeway	Sidepath (East Side)
Briars Rd	Thornhurst Dr	Bowie Mill Rd	Separated Bikeway	Sidepath (West Side)
Brookeville Bypass	Brookeville Rd (MD 186)	Gold Mine Rd	Bikeable Shoulders	Bikeable Shoulders
Buehler Rd	Spartan Rd	Lockness Cir	Striped Bikeway	Conventional Bike Lanes
Cashell Rd	Bowie Mill Rd	Emory La	Separated Bikeway	Sidepath (East Side)

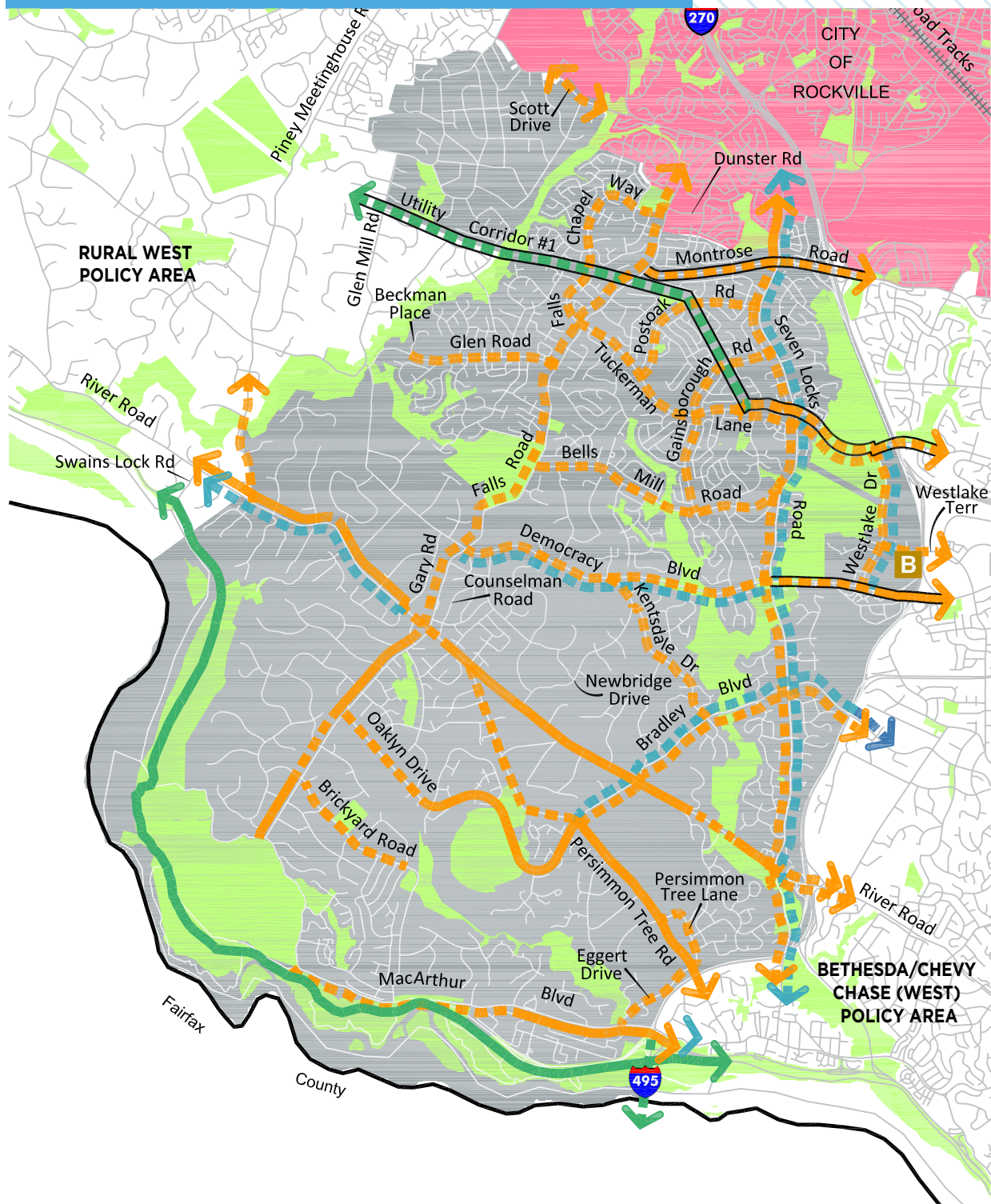
STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Cherry Valley Dr	Wellfleet Dr	Cashell Rd	Separated Bikeway	Sidepath (North Side)
Emory Church Rd	Olney #4	Olney #5	Separated Bikeway	Sidepath (South Side)
Emory La	Georgia Ave (MD 97)	Muncaster Mill Rd (MD 115)	Separated Bikeway	Sidepath (East Side)
Georgia Ave (MD 97)	Brookeville Rd (MD 186)	Norbeck Rd (MD 28)	Separated Bikeway	Sidepath (East Side)
Georgia Ave (MD 97)	Longwood Recreation Center	Gold Mine Rd	Separated Bikeway	Sidepath (West Side)
Gold Mine Rd	Olney Mill Rd	Chandlee Mill Rd	Separated Bikeway	Sidepath (South Side)
Headwaters Dr	Olney-Laytonsville Rd (MD 108)	Morningwood Dr	Separated Bikeway	Sidepath (South Side)
Hillcrest Ave	Georgia Ave (MD 97)	Appomattox Ave	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
Hines Rd	Cashell Rd	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes (Side TBD)
Morningwood Dr	Cashell Rd	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (Side TBD)
Muncaster Mill Rd (MD 115)	North Branch Rock Creek	Norbeck Rd (MD 28)	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Norbeck Rd (MD 28)	Muncaster Mill Rd (MD 115)	Layhill Rd (MD 182)	Separated Bikeway	Sidepath (North Side)
Old Baltimore Rd	Gold Mine Rd	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (West Side)
Old Vic Blvd	Olney-Sandy Spring Rd (MD 108)	Batchellors Forest Rd	Separated Bikeway	Sidepath (West Side)
Olney #1	Olney-Laytonsville Rd (MD 108)	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	Georgia Ave (MD 97)	Emory Church Rd	Trail	Off-Street Trail
Olney #5	Emory Church Rd	Batchellors Forest Rd	Trail	Off-Street Trail
Olney #6	Olney-Laytonsville Rd (MD 108)	Georgia Ave (MD 97)	Trail	Off-Street Trail
Olney Mill Rd	Olney-Laytonsville Rd (MD 108)	Gold Mine Rd	Separated Bikeway	Sidepath (West Side)
Prince Phillip Dr	Georgia Ave (MD 97)	Olney-Sandy Spring Rd (MD 108)	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
	Olney-Sandy Spring Rd (MD 108)	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (East Side)
Queen Elizabeth Dr	Olney-Laytonsville Rd (MD 108)	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (North Side)








STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Queen Mary Dr	Olney Elementary School	Georgia Ave (MD 97)	Separated Bikeway	Sidepath (North Side)
Spartan Rd	Georgia Ave (MD 97)	Appomattox Ave	Separated Bikeway	Separated Bike Lanes (One-Way on Both Sides of Street)
	Appomattox Ave	Old Baltimore Rd	Separated Bikeway	Sidepath (East Side)
Utility Corridor #3	Bowie Mill Rd	Cherry Valley Dr	Trail	Off-Street Trail
Utility Corridor #4	North Branch Rock Creek	Morningwood Dr	Trail	Off-Street Trail
Utility Corridor #4	Olney-Laytonsville Rd (MD 108)	Queen Elizabeth Dr	Trail	Off-Street Trail
Wellfleet Dr	Hines Rd	Cherry Valley Dr	Separated Bikeway	Sidepath (West Side)
Wickham Rd	Rural East Policy Area	Bowie Mill Rd	Separated Bikeway	Sidepath (West Side)

** This bikeway is advisory only until the Rustic Road designation is removed or the Rustic Roads policy changes.*

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POTOMAC



	Policy Area			Trails
	Parkland			Separated Bikeways
	City of Rockville			Striped Bikeways
	County Line			Bikeable Shoulders
	Bus Rapid Transit Station (Proposed)			
	Breezeway Network			

Note: White lines represent non-master planned bikeways

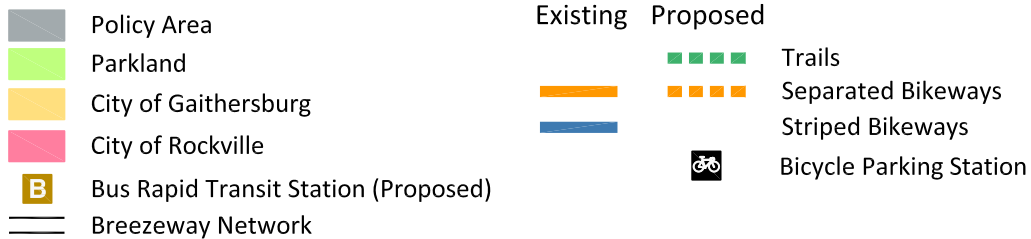
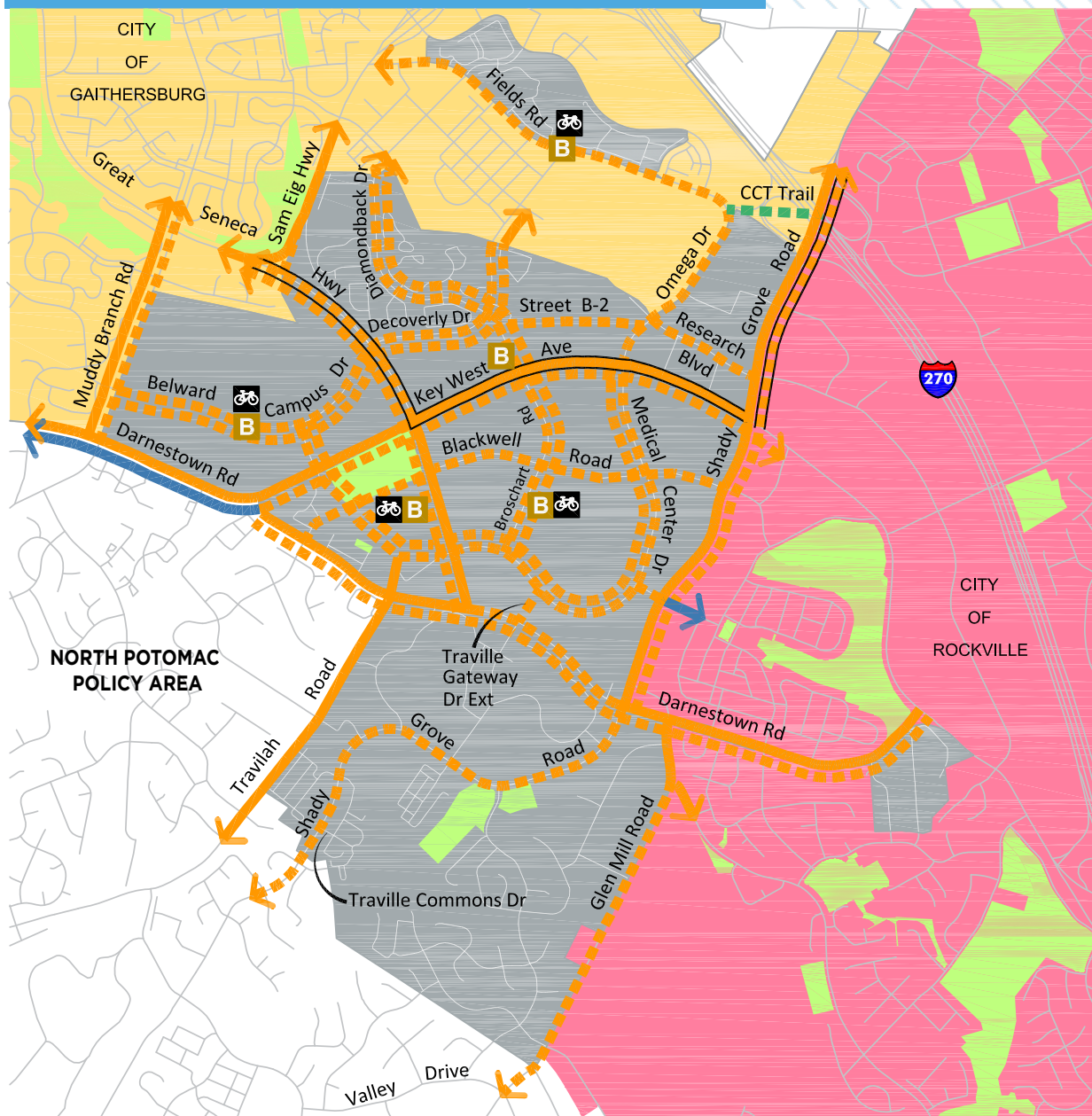
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BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
GERMANTOWN TO GROSVENOR BREEZEWAY				
Utility Corridor #1	Glen Mill Rd	Tuckerman La	Trail	Off-Street Trail
Tuckerman La	Utility Corridor #1	I-270	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
POTOMAC TO VEIRS MILL ROAD BREEZEWAY				
Montrose Rd	Falls Rd	I-270	Separated Bikeway	Sidepath (South Side)
ADDITIONAL RECOMMENDATIONS				
American Legion Bridge (I-495)	Virginia	MacArthur Blvd	Trail	Off-Street Trail
Bells Mill Rd	Falls Rd (MD 189)	Seven Locks Rd	Separated Bikeway	Sidepath (North Side)
Bradley Blvd (MD 191)	Persimmon Tree Rd	I-495	Separated Bikeway and Bikeable Shoulders	Sidepath (East Side) and Bikeable Shoulders
Brickyard Rd	Falls Rd (MD 189)	Horseshoe La	Separated Bikeway	Sidepath (North Side)
C&O Canal Towpath	Rural West Policy Area	I-495	Trail	Off-Street Trail
Democracy Blvd	Falls Rd (MD 189)	Seven Locks Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (North Side) and Bikeable Shoulders
	Seven Locks Rd	I-270 Spur	Separated Bikeway	Sidepath (North Side)
Eggert Dr	MacArthur Blvd	Persimmon Tree Rd	Separated Bikeway	Sidepath (North Side)
Falls Chapel Way	Falls Rd (MD 189)	Falls Rd (MD 189)	Separated Bikeway	Sidepath (West Side)
Falls Rd (MD 189)	Dunster Rd	River Rd (MD 190)	Separated Bikeway	Sidepath (East Side)
	River Rd (MD 190)	MacArthur Blvd	Separated Bikeway	Sidepath (West Side)
Gainsborough Rd	Seven Locks Rd	Bells Mill Rd	Separated Bikeway	Sidepath (East Side)
Glen Mill Rd	Veirs Dr	Valley Dr	Separated Bikeway	Sidepath (East Side)
Glen Rd	Beckman Pl	Falls Rd (MD 189)	Separated Bikeway	Sidepath (North Side)
Kentsdale Dr	Newbridge Dr	Bradley Blvd (MD 191)	Separated Bikeway	Sidepath (Side TBD)
MacArthur Blvd	Falls Rd (MD 189)	Old Angler's Inn	Bikeable Shoulders	Bikeable Shoulders
MacArthur Blvd	Old Angler's Inn	I-495	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Newbridge Rd	Democracy Blvd	Kentsdale Dr	Separated Bikeway	Sidepath (West Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Oaklyn Dr	Falls Rd (MD 189)	Persimmon Tree Rd	Separated Bikeway	Sidepath (North Side)
Persimmon Tree La	Persimmon Tree Rd	Persimmon Tree Rd	Separated Bikeway	Sidepath (Side TBD)
Persimmon Tree Rd	River Rd (MD 190)	I-495	Separated Bikeway	Sidepath (West Side)
Piney Meetinghouse Rd	Rural West Policy Area	River Rd (MD 190)	Separated Bikeway	Sidepath (East Side)
Postoak Rd	Seven Locks Rd	Tuckerman La	Separated Bikeway	Sidepath (West Side)
River Rd (MD 190)	Piney Meetinghouse Rd	Gary Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (East Side) and Bikeable Shoulders
	Gary Rd	Counselman Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
	Counselman Rd	Seven Locks Rd	Separated Bikeway	Sidepath (East Side)
	Seven Locks Rd	I-495	Separated Bikeway	Sidepath (Both Sides)
Scott Dr	City of Rockville	City of Rockville	Separated Bikeway	Sidepath (North Side)
Seven Locks Rd	City of Rockville	Bradley Blvd (MD 191)	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
	Bradley Blvd (MD 191)	I-495	Separated Bikeway and Bikeable Shoulders	Sidepath (East Side) and Bikeable Shoulders
Tuckerman La	Falls Rd (MD 189)	Utility Corridor #1	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Westlake Dr	Tuckerman La	Democracy Blvd	Separated Bikeway and Bikeable Shoulders	Sidepath (East Side) and Bikeable Shoulders
Westlake Ter	Westlake Drive	I-270 Spur	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)

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R&D VILLAGE



Note: White lines represent non-master planned bikeways

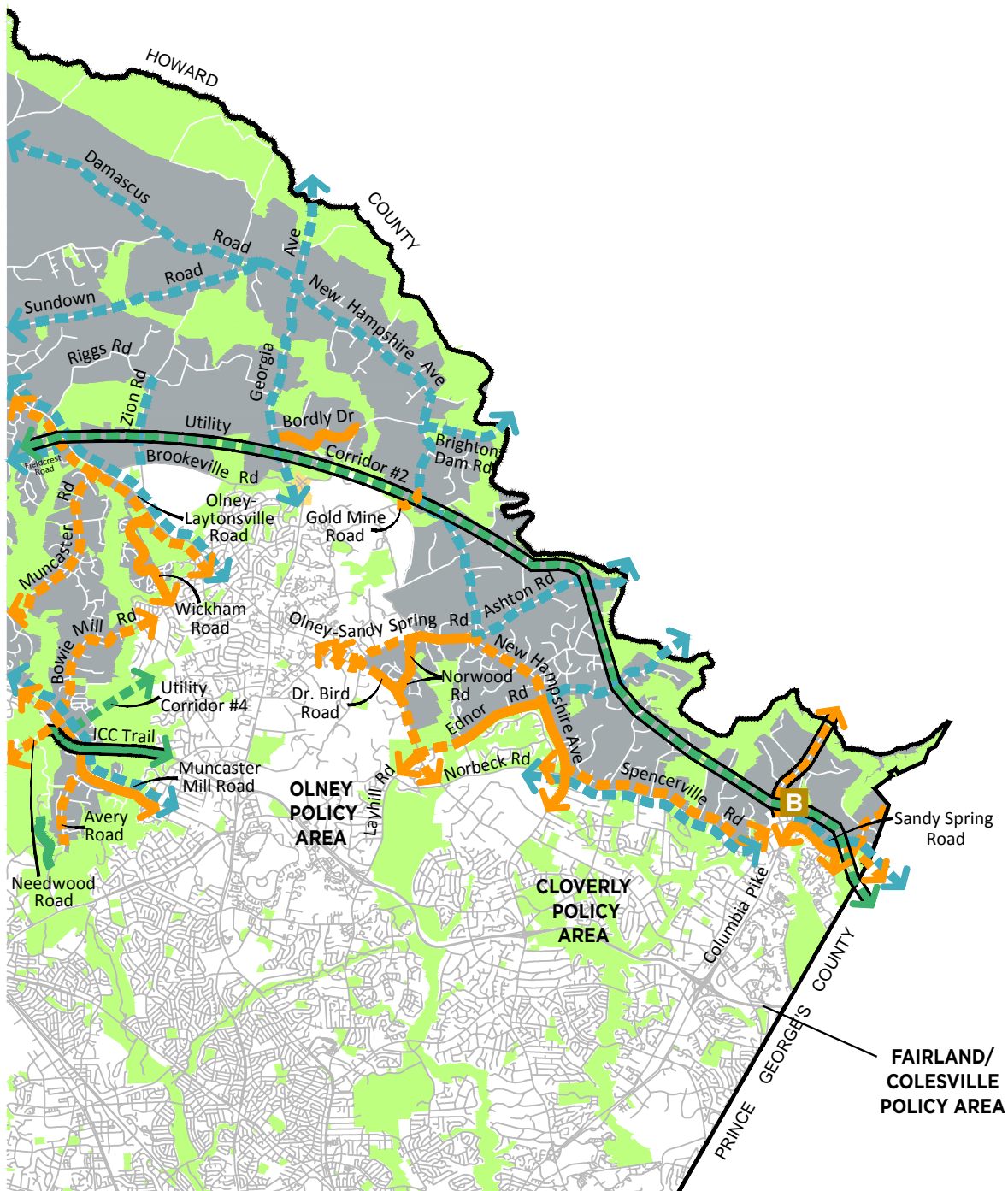


BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
GERMANTOWN TO LIFE SCIENCES CENTER BREEZEWAY				
Great Seneca Hwy (MD 119)	Sam Eig Hwy	Key West Ave (MD 28)	Separated Bikeway	Sidepath (West Side)
Key West Ave (MD 28)	Great Seneca Hwy (MD 119)	City of Rockville	Separated Bikeway	Separated Bike Lanes (North Side)
LIFE SCIENCES CENTER LOOP				
Belward Campus Dr	Johns Hopkins Dr	Great Seneca Hwy (MD 119)	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Discoverly Dr	Great Seneca Hwy (MD 119)	City of Gaithersburg	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Fields Rd	Discoverly	City of Gaithersburg	Separated Bikeway	Sidepath (South Side)
Omega Dr	Research Blvd	Key West Ave (MD 28)	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Medical Center Dr	Key West Ave (MD 28)	Great Seneca Hwy	Separated Bikeway	Separated Bike Lanes (Two-Way, Inner Side)
Medical Center Dr Ext	Great Seneca Hwy	Key West Ave (MD 28)	Separated Bikeway	Separated Bike Lanes (Two-Way, Inner Side)
Johns Hopkins Dr	Key West Ave (MD 28)	Belward Campus Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, East)
ADDITIONAL RECOMMENDATIONS				
Belward Campus Dr	Muddy Branch Rd	Johns Hopkins Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Belward Campus Dr	Johns Hopkins Dr	Great Seneca Hwy (MD 119)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
Blackwell Rd	Darnestown Rd	Shady Grove Rd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Broschart Rd	Key West Ave (MD 28)	Darnestown Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Darnestown Rd (MD 28)	Muddy Branch Rd	Key West Ave (MD 28)	Separated Bikeway and Striped Bikeway	Separated Bike Lanes (North Side) and Conventional Bike Lanes
	Key West Ave (MD 28)	Montgomery Ave (MD 28)	Separated Bikeway	Sidepath (Both Sides)
Discoverly Dr	Great Seneca Hwy (MD 119)	City of Gaithersburg	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Diamondback Dr	City of Gaithersburg	Discoverly Dr	Separated Bikeway	Sidepath (Both Sides)
	Discoverly Dr	Key West Ave (MD 28)	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Fields Rd	Sam Eig Hwy	Discoverly Dr	Separated Bikeway	Sidepath (South Side)
Glen Mill Rd	Darnestown Rd	Valley Dr	Separated Bikeway	Sidepath (East Side)
Great Seneca Hwy (MD 119)	Sam Eig Hwy	Darnestown Rd (MD 28)	Separated Bikeway	Sidepath (Both Sides)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Johns Hopkins Dr	Belward Campus Dr	Key West Ave (MD 28)	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Key West Ave (MD 28)	Darnestown Rd (MD 28)	City of Rockville	Separated Bikeway	Sidepath (South Side)
Medical Center Dr	Key West Ave (MD 28)	Great Seneca Hwy	Separated Bikeway	Separated Bike Lanes (Two-Way, Outer Side)
Medical Center Dr Ext	Great Seneca Hwy	Key West Ave (MD 28)	Separated Bikeway	Separated Bike Lanes (Two-Way, Outer Side)
Medical Center Way	Medical Center Dr	Shady Grove Rd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Muddy Branch Rd	City of Gaithersburg	Darnestown Rd (MD 28)	Separated Bikeway	Sidepath (West Side) and Separated Bike Lanes (East Side)
Research Blvd	Omega Dr	Shady Grove Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, Side TBD)
Sam Eig Hwy Ramp	Sam Eig Hwy	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (West Side)
Sam Eig Hwy	City of Gaithersburg	Great Seneca Hwy (MD 119)	Separated Bikeway	Sidepath (West Side)
Shady Grove Rd	City of Gaithersburg	Darnestown Rd	Separated Bikeway	Sidepath (Both Sides)
	Darnestown Rd	North Potomac Policy Area	Separated Bikeway	Sidepath (West Side)
Street B-2	Diamondback Dr	Omega Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, Side TBD)
Travilah Rd Ext	Medical Center Dr Ext	Darnestown Rd	Separated Bikeway	Sidepath (West Side)
Traville Gateway Dr Ext	Darnestown Rd	Medical Center Dr	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)

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RURAL EAST (EAST)



Policy Area

Parkland

Town of Brookeville

County Line

B Bus Rapid Transit Station (Proposed)

Breezeway Network

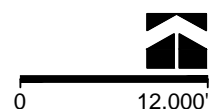
Existing Proposed

Trails

Separated Bikeways

Bikeable Shoulders

Note: White lines represent non-master planned bikeways



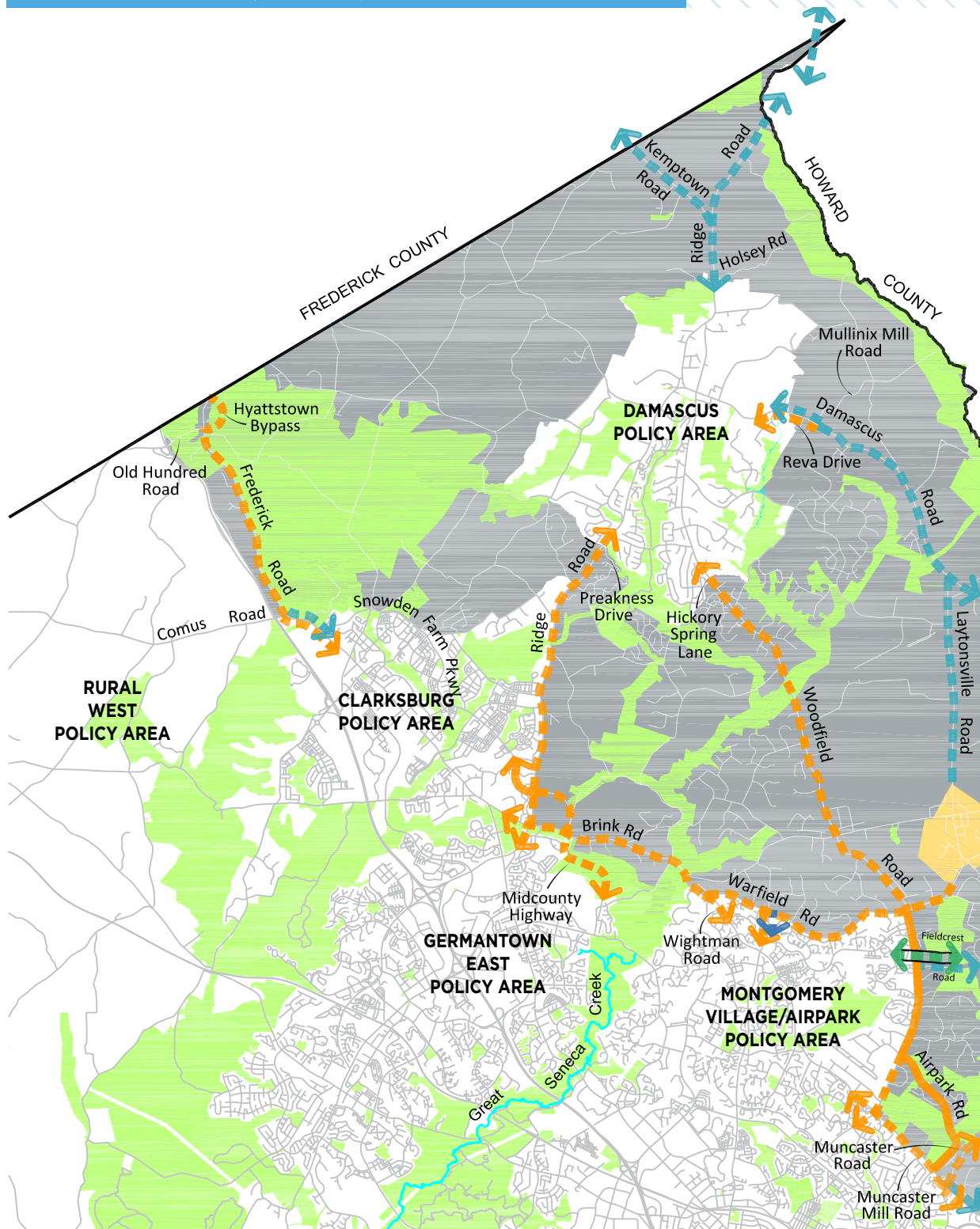
BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
BURTONSVILLE TO SILVER SPRING BREEZEWAY				
Columbia Pike (US 29)	Howard County	Old Columbia Pike	Separated Bikeway	Sidepath (West Side)
Old Columbia Pike	Columbia Pike (US 29)	Utility Corridor #2	Separated Bikeway	Sidepath (West Side)
GERMANTOWN TO BURTONSVILLE BREEZEWAY				
Utility Corridor #2	Rural East (West) Policy Area	Sandy Spring Rd (MD 198)	Trail	Off-Street Trail
INTERCOUNTY CONNECTOR TRAIL BREEZEWAY				
Muncaster Mill Rd (MD 115)	Rock Creek	Needwood Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Needwood Rd	Muncaster Mill Rd (MD 115)	Intercounty Connector Trail	Separated Bikeway	Sidepath (South Side)
Intercounty Connector (MD 200)	Needwood Rd	North Branch Rock Creek	Separated Bikeway	Sidepath (South Side)
ADDITIONAL RECOMMENDATIONS				
Ashton Rd	New Hampshire Ave (MD 650)	Howard County	Bikeable Shoulders	Bikeable Shoulders
Avery Rd	Muncaster Mill Rd (MD 115)	Southlawn Dr	Separated Bikeway	Sidepath (West Side)
Bordly Dr	Georgia Ave (MD 97)	Brighton Dam Rd	Separated Bikeway	Sidepath (South Side)
Bowie Mill Rd	Muncaster Mill Rd (MD 115)	North Branch Rock Creek	Separated Bikeway	Sidepath (South Side)
Brighton Dam Rd	New Hampshire Ave (MD 650)	Howard Co	Bikeable Shoulders	Bikeable Shoulders
Brookeville Bypass	Georgia Ave (MD 97)	Brookeville Rd (MD 186)	Bikeable Shoulders	Bikeable Shoulders
Damascus Rd (MD 108)	Laytonsville Rd (MD 108)	Georgia Ave (MD 97)	Bikeable Shoulders	Bikeable Shoulders
Dr. Bird Rd (MD 182)	Olney-Sandy Spring Rd (MD 198)	Norwood Rd	Separated Bikeway	Sidepath (East Side)
Ednor Rd	Howard County	New Hampshire Ave (MD 650)	Bikeable Shoulders	Bikeable Shoulders
Fieldcrest Rd	Belle Chase Dr	Olney-Laytonsville Rd (MD 108)	Bikeable Shoulders	Bikeable Shoulders
Georgia Ave (MD 97)	Howard County	Brookeville Bypass	Bikeable Shoulders	Bikeable Shoulders
Gold Mine Rd	Olney Policy Area	New Hampshire Ave (MD 650)	Separated Bikeway	Sidepath (South Side)
Muncaster Mill Rd (MD 115)	Muncaster Rd	North Branch Rock Creek	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Muncaster Rd	Olney-Laytonsville Rd (MD 108)	Rural East (West) Policy Area	Separated Bikeway	Sidepath (North Side)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Needwood Rd	Beach Dr	Muncaster Mill Rd (MD 115)	Separated Bikeway	Sidepath (South Side)
New Hampshire Ave (MD 650)	Georgia Ave (MD 97)	Olney-Sandy Spring Rd (MD 108)	Bikeable Shoulders	Bikeable Shoulders
	Olney-Sandy Spring Rd (MD 108)	Ednor Rd	Separated Bikeway	Sidepath (West Side)
Norwood Rd*	Olney-Sandy Spring Rd (MD 108)	Dr. Bird Rd (MD 182)	Separated Bikeway	Sidepath (West Side)
	Dr. Bird Rd (MD 182)	Ednor Rd	Separated Bikeway	Sidepath (East Side)
Old Columbia Pike	Columbia Pike (US 29)	Dustin Rd	Separated Bikeway	Sidepath (West Side)
	Dustin Rd	Utility Corridor #2	Separated Bikeway	Sidepath (East Side)
Olney-Laytonsville Rd (MD 108)	Town of Laytonsville	Olney Policy Area	Separated Bikeway and Bikeable Shoulders	Sidepath (North Side) and Bikeable Shoulders
Olney-Sandy Spring Rd (MD 108)	Dr. Bird Rd (MD 182)	New Hampshire Ave	Separated Bikeway	Sidepath (North Side)
Riding Stable Rd	Prince George's County	Sandy Spring Rd (MD 198)	Separated Bikeway	Sidepath
Sandy Spring Rd (MD 198)	Columbia Pike (US 29)	Prince George's County	Separated Bikeway and Bikeable Shoulders	Sidepath (South Side) and Bikeable Shoulders
Southlawn Dr	Avery Dr	Rock Creek Trail	Separated Bikeway	Sidepath (Side TBD)
Spencerville Rd (MD 198)	New Hampshire Ave (MD 650)	School Access Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (North Side) and Bikeable Shoulders
Sundown Rd	Town of Laytonsville	Damascus Rd (MD 108)	Bikeable Shoulders	Bikeable Shoulders
Utility Corridor #4	Muncaster Mill Rd (MD 115)	North Branch Rock Creek	Trail	Off-Street Trail
Wickham Rd	Olney-Laytonsville Rd (MD 108)	Olney Policy Area	Separated Bikeway	Sidepath (West Side)
Zion Rd	Riggs Rd	Brookeville Rd (MD 186)	Bikeable Shoulders	Bikeable Shoulders

** Appropriate measures must be taken to minimize impacts to Woodlawn Manor Special Park and Red Door Store Special Park.*

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RURAL EAST (WEST)



- Policy Area
- Parkland
- Town of Laytonsville
- County Line
- Breezeway Network

Existing Proposed

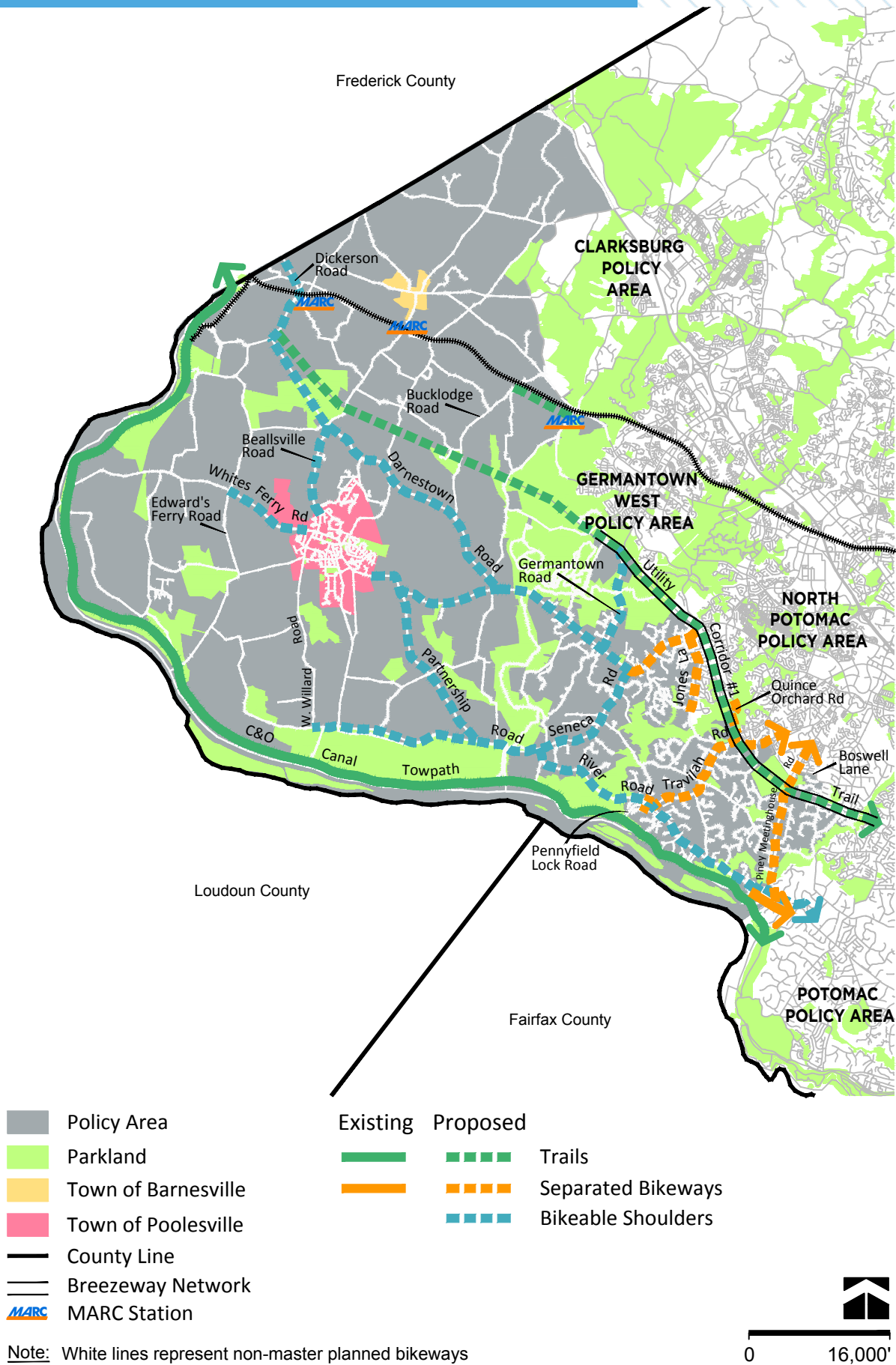
- Trails
- Separated Bikeways
- Striped Bikeways
- Bikeable Shoulders

Note: White lines represent non-master planned bikeways



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
GERMANTOWN TO BURTONSVILLE BREEZEWAY				
Utility Corridor #2	Woodfield Rd (MD 124)	Rural East (East) Policy Area	Trail	Off-Street Trail
ADDITIONAL RECOMMENDATIONS				
Airpark Rd	Woodfield Rd (MD 124)	Muncaster Mill Rd (MD 115)	Separated Bikeway	Sidepath (East Side)
Brink Rd	Ridge Rd (MD 27)	Wightman Rd	Separated Bikeway	Sidepath (South Side)
Damascus Rd (MD 108)	Reva Dr	Mullinix Mill Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (South Side) and Bikeable Shoulders
	Mullinix Mill Rd	Laytonsville Rd (MD 108)	Bikeable Shoulders	Bikeable Shoulders
Fieldcrest Rd	Woodfield Rd (MD 124)	Belle Chase Dr	Bikeable Shoulders	Bikeable Shoulders
Frederick Rd (MD 355)	Howard County	Hyattstown Bypass	Separated Bikeway	Sidepath (Side TBD)
Frederick Rd (MD 355)	Old Hundred Rd (MD 109)	Comus Rd	Separated Bikeway	Sidepath (West Side)
	Comus Rd	Snowden Farm Pkwy	Separated Bikeway and Bikeable Shoulders	Sidepath (West Side) and Bikeable Shoulders
Goshen Rd	Lochaven Dr	Warfield Rd	Separated Bikeway and Striped Bikeway	Sidepath (West Side) and Conventional Bike Lanes
Hyattstown Bypass	Frederick Rd (MD 355)	Frederick Rd (MD 355)	Separated Bikeway	Sidepath (Side TBD)
Laytonsville Rd (MD 108)	Damascus Rd (MD 28)	Town of Laytonsville	Bikeable Shoulders	Bikeable Shoulders
Midcounty Hwy (MD 124)	Ridge Rd (MD 27)	Brink Rd	Separated Bikeway	Sidepath (South Side)
	Brink Rd	Great Seneca Creek	Separated Bikeway	Sidepath (side TBD)
Muncaster Rd	Rural East (West) Policy Area	Muncaster Mill Rd (MD 115)	Separated Bikeway	Sidepath (North Side)
Ridge Rd (MD 27)	Howard County	Howard County	Bikeable Shoulders	Bikeable Shoulders
Ridge Rd (MD 27)	Howard County	Damascus Policy Area	Bikeable Shoulders	Bikeable Shoulders
Ridge Rd (MD 27)	Preakness Dr	Kings Valley Rd	Separated Bikeway	Sidepath (West Side)
Warfield Rd	Woodfield Rd (MD 124)	Town of Laytonsville	Separated Bikeway	Sidepath (North Side)
Woodfield Rd (MD 124)	Hickory Spring La	Warfield Rd	Separated Bikeway	Sidepath (West Side)

RURAL WEST

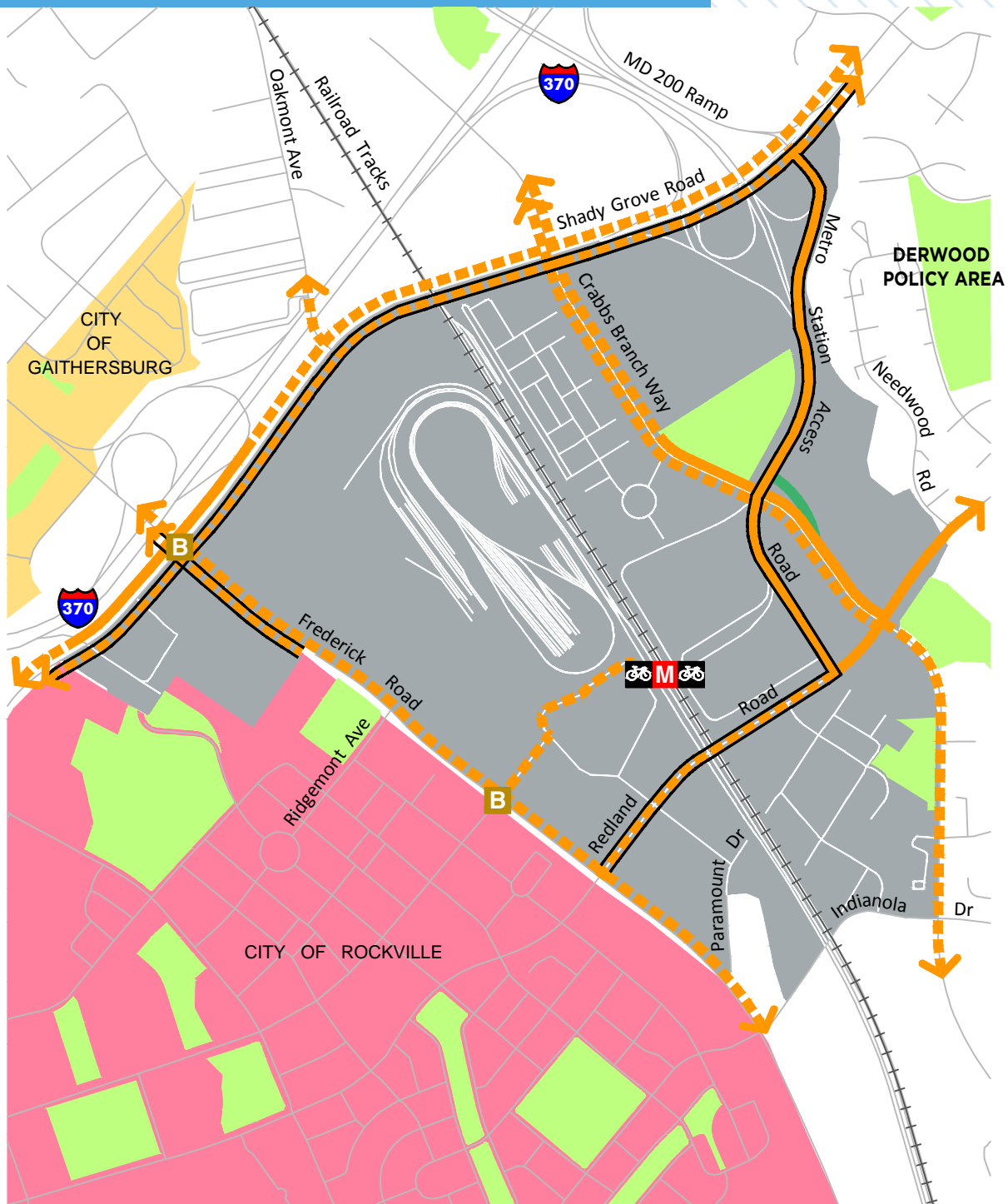


BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
GERMANTOWN TO GROSVENOR BREEZEWAY				
Utility Corridor #1	Schaeffer Rd	Great Seneca Creek	Trail	Off-Street Trail
SEE NORTH POTOMAC POLICY AREA				
Utility Corridor #1	Travilah Rd	Glen Mill Rd	Trail	Off-Street Trail
GERMANTOWN TO BURTONSVILLE BREEZEWAY				
Utility Corridor #2	Utility Corridor #1	Germantown West Policy Area	Trail	Off-Street Trail
ADDITIONAL RECOMMENDATIONS				
Beallsville Rd (MD 109)	Darnestown Rd (MD 28)	Poolesville	Bikeable Shoulders	Bikeable Shoulders
Bucklodge - White Ground Connector	Bucklodge Rd	White Ground Rd	Trail	Off-Street Trail
C&O Canal Towpath	Frederick Co	Potomac Policy Area	Trail	Off-Street Trail
Central Park Cir	Burdette Ln	Germantown Park Dr	Separated Bikeway	Sidepath (North Side)
Clarksburg Rd (MD 121)	Ten Mile Creek	Clopper Rd (MD 117)	Separated Bikeway and Bikeable Shoulders	Sidepath (East Side) and Bikeable Shoulders
Clopper Rd (MD 117)	Clarksburg Rd (MD 121)	Little Seneca Creek	Separated Bikeway	Sidepath (East Side)
Darnestown Rd (MD 28)	Dickerson Rd (MD 28)	Seneca Rd	Bikeable Shoulders	Bikeable Shoulders
	Seneca Rd	Utility Corridor	Separated Bikeway	Sidepath (North Side)
Dickerson Rd (MD 28)	Frederick Co	Darnestown Rd (MD 28)	Bikeable Shoulders	Bikeable Shoulders
Germantown Rd (MD 118)	Germantown West Policy Area	Utility Corridor #1	Separated Bikeway	Sidepath (North Side)
Germantown Rd (MD 118)	Utility Corridor #1	Darnestown Rd (MD 28)	Bikeable Shoulders	Bikeable Shoulders
Glen Rd	Piney Meetinghouse Rd	Watts Branch	Separated Bikeway	Sidepath (North Side)
Jones La	Darnestown Rd (MD 28)	Turkey Foot Rd	Separated Bikeway	Sidepath (West Side)
Partnership Rd	Whites Ferry Rd	River Rd (MD 190)	Bikeable Shoulders	Bikeable Shoulders
Piney Meetinghouse Rd	Boswell La	Potomac Policy Area	Separated Bikeway	Sidepath (East Side)
River Rd (MD 190)	W. Willard Rd	Swains Lock Rd	Bikeable Shoulders	Bikeable Shoulders
River Rd (MD 190)	Pennyfield Lock Rd	Travilah Rd	Separated Bikeway	Sidepath (Side TBD)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
River Rd (MD 190)	Swains Lock Rd	Piney Meetinghouse Rd	Separated Bikeway and Bikeable Shoulders	Sidepath (East Side) and Bikeable Shoulders
Seneca Rd	Darnestown Rd (MD 28)	River Rd (MD 190)	Bikeable Shoulders	Bikeable Shoulders
Travilah Rd	Dufief Mill Rd	River Rd (MD 190)	Separated Bikeway	Sidepath (West Side)
Utility Corridor #1	Dickerson Rd (MD 28)	Schaeffer Rd	Trail	Off-Street Trail
Whites Ferry Rd (MD 107)	Edwards Ferry Rd	Poolesville	Bikeable Shoulders	Bikeable Shoulders
Whites Ferry Rd (MD 107)	Poolesville	Darnestown Rd (MD 28)	Bikeable Shoulders	Bikeable Shoulders

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SHADY GROVE METRO STATION



- | | | | | | |
|--|--------------------------------------|--|----------|--|-------------------------|
| | Policy Area | | Existing | | Proposed |
| | Parkland | | | | |
| | City of Gaithersburg | | | | |
| | City of Rockville | | | | |
| | Metro Rail Station | | | | |
| | Bus Rapid Transit Station (Proposed) | | | | |
| | Breezeway Network | | | | |
| | | | Trails | | Separated Bikeways |
| | | | | | Bicycle Parking Station |

Note: White lines represent non-master planned bikeways

0 1200'

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
INTERCOUNTY CONNECTOR TRAIL BREEZEWAY				
Redland Rd	Frederick Rd (MD 355)	Shady Grove Access Rd	Separated Bikeway	Sidepath (North Side)
Shady Grove Access Rd	Redland Rd	Shady Grove Rd	Separated Bikeway	Sidepath (East Side)
LIFE SCIENCES CENTER TO SHADY GROVE METRO BREEZEWAY				
City of Rockville	City of Rockville	MD 200 Ramp	Separated Bikeway	Sidepath (South Side)
ADDITIONAL RECOMMENDATIONS				
Crabbs Branch Way	Shady Grove Rd	Redland Rd	Separated Bikeway	Sidepath (Both Sides)
	Redland Rd	Indianola Dr	Separated Bikeway	Sidepath (West Side)
Frederick Rd (MD 355)	Shady Grove Rd	City of Rockville	Separated Bikeway	Sidepath (Both Sides)
	City of Rockville	Ridgemont Ave	Separated Bikeway	Sidepath (East Side)
	Ridgemont Ave	Paramount Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Redland Rd	Needwood Rd (South)	Shady Grove Access Rd	Separated Bikeway	Sidepath (North Side)
Shady Grove Metro Parking Lot	Shady Grove Metro Station	Frederick Rd (MD 355)	Separated Bikeway	Separated Bike Lanes (Side TBD)
Shady Grove Rd	City of Rockville	MD 200 Ramp	Separated Bikeway	Sidepath (North Side)

SILVER SPRING CBD



- Policy Area
- Parkland
- County Line
- M Metro Rail Station
- B Bus Rapid Transit Station
- P Purple Line Station
- MARC MARC Station
- Breezeway Network

Existing Proposed

- Trails
- Separated Bikeways
- Striped Bikeways
- Shared Roads
- Grade Separated Crossing
- Bicycle Parking Station

Note: White lines represent non-master planned bikeways

0 1000'

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CAPITAL CRESCENT TRAIL BREEZEWAY				
Capital Crescent Trail	Spring St	Silver Spring Transit Center	Trail	Off-Street Trail
METROPOLITAN BRANCH TRAIL BREEZEWAY				
Metropolitan Branch Trail	Silver Spring Transit Center	Silver Spring - Takoma Park Policy Area	Trail	Off-Street Trail
GLENMONT TO SILVER SPRING BREEZEWAY				
Fenton St Extended	Spring St	Cameron St	Separated Bikeway	Separated Bike Lanes
Fenton St	Cameron St	Wayne Ave (MD 594-A)	Separated Bikeway	Separated Bike Lanes
BURTONSVILLE TO SILVER SPRING BREEZEWAY				
Ellsworth Dr	Spring St	Fenton St	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
ADDITIONAL RECOMMENDATIONS				
13th St	District of Columbia	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes (Side TBD)
16th St (MD 390)	Spring St	District of Columbia	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
2nd Ave / Wayne Ave	Spring St	Colesville Rd	Separated Bikeway	Separated Bike Lanes
	Colesville Rd (US 29)	Cedar St	Separated Bikeway	Separated Bike Lanes
Burlington Ave	Georgia Ave (MD 97)	Fenton St	Separated Bikeway	Separated Bike Lanes
Cameron St	Spring St	2nd Ave	Separated Bikeway	Separated Bike Lanes
Colesville Rd (US 29)	16th St (MD 390)	East-West Hwy (MD 410)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side) & Sidepath (South Side)
Colesville Rd (US 29)	East-West Hwy (MD 410)	Wayne Ave	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Colesville Rd (US 29)	Wayne Ave	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes (Two-way, South Side)
Dixon Ave	Wayne Ave	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes
East-West Hwy (MD 410)	16th St (MD 390)	Colesville Rd (US 29)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
	Colesville Rd (US 29)	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes
Ellsworth Dr	Fenton St	Georgia Ave (MD 97)	Shared Road	Shared Street
Fenton St	Wayne Ave (MD 594-A)	King St	Separated Bikeway	Separated Bike Lanes

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Metropolitan Branch Trail / King St (Interim)	Railroad Tracks	Fenton St	Separated Bikeway	Sidepath (South Side)
Metropolitan Branch Trail / Fenton St (Interim)	King St	New York Ave	Separated Bikeway	Sidepath (West Side)
Newell St	District of Columbia	East-West Hwy (MD 410)	Striped Bikeway	Conventional Bike Lanes
Philadelphia Ave (MD 410) / Gist Ave	Selim Rd	Silver Spring - Takoma Park Policy Area	Shared Road	Priority Shared Lane Markings
Selim Rd	Philadelphia Ave (MD 410)	Metropolitan Branch Trail	Separated Bikeway	Sidepath (West Side)
Silver Spring Ave	Georgia Ave (MD 97)	Silver Spring - Takoma Park Policy Area	Shared Road	Priority Shared Lane Markings
Silver Spring Ave	Fenton St	811 Silver Spring Ave	Separated Bikeway	Separated Bike Lanes
Spring St / Cedar St	16th St (MD 390)	Wayne Ave (MD 594-A)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)

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SILVER SPRING-TAKOMA PARK (EAST)



Notes:

1. White lines represent non-master planned bikeways.
2. A sidepath or sidewalk is recommended on Dale Drive

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
BURTONSVILLE TO SILVER SPRING BREEZEWAY				
Fairway Ave	Marshall Ave	Granville Dr	Shared Road	Neighborhood Greenway
Caroline Ave	Granville Dr	Franklin Ave	Shared Road	Neighborhood Greenway
Franklin Ave	Caroline Ave	Worth Ave	Separated Bikeway	Sidepath (South Side)
Sligo Creek Trail	Worth Ave	Bennington La	Trail	Stream Valley Park Trail
Bennington La	Bennington Dr	Off-Street Trail	Shared Road	Neighborhood Greenway
Bennington Dr	Ellsworth Dr	Bennington La	Shared Road	Neighborhood Greenway
Ellsworth Dr	Bennington Rd	Cedar St	Shared Road	Neighborhood Greenway
METROPOLITAN BRANCH TRAIL BREEZEWAY				
Takoma Ave	Silver Spring CBD Policy Area	District of Columbia	Trail	Off-Street Trail
WHEATON TO TAKOMA/LANGLEY BREEZEWAY				
University Blvd (MD 193)	I-495	Langley Dr	Separated Bikeway	Sidepath (East Side)
WAYNE AVE - FENTON ST NEIGHBORHOOD GREENWAY				
Cedar St	Wayne Ave (MD 594-A)	Bonifant St	Shared Road	Neighborhood Greenway
Bonifant St	Cedar St	Grove St	Shared Road	Neighborhood Greenway
Grove St	Bonifant St	Sligo Ave	Shared Road	Neighborhood Greenway
Sligo Ave	Grove St	Woodbury St	Separated Bikeway	Separated Bike Lanes (Two-Way, Side TBD)
Woodbury Dr	Sligo Ave	Neighborhood Connector	Shared Road	Neighborhood Greenway
Neighborhood Connector	Woodbury Dr	Fenton St	Trail	Neighborhood Connector
ADDITIONAL RECOMMENDATIONS				
Baltimore Ave	District of Columbia	Philadelphia Ave (MD 410)	Shared Road	Neighborhood Greenway
I-495 Bridge	I-495	Fairway Ave	Trail	Off-Street Trail

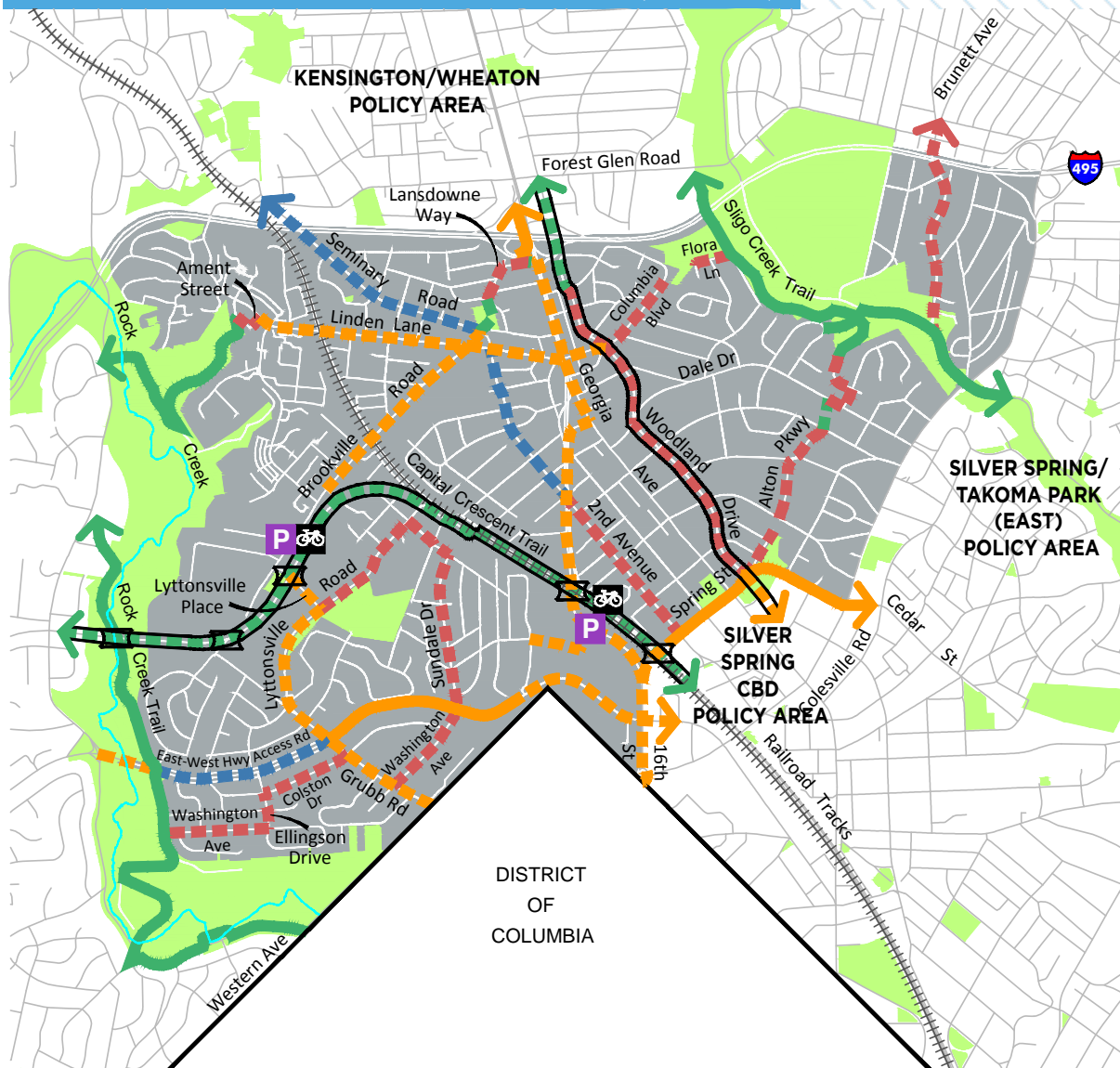
BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Carroll Ave (MD 195)	Piney Branch Rd (MD 320)	University Blvd (MD 193)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
	University Blvd (MD 193)	Merrimac Dr	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
	University Blvd (MD 193)	Long Branch Pkwy	Striped Bikeway	Conventional Bike Lanes
	Long Branch Pkwy	Flower Ave (MD 787)	Shared Road	Priority Shared Lane Markings
	Flower Ave (MD 787)	Lee Ave	Striped Bikeway	Conventional Bike Lanes
	Lee Ave	Ethan Allen Ave (MD 410)	Shared Road	Priority Shared Lane Markings
	Ethan Allen Ave (MD 410)	Tulip Ave	Striped Bikeway	Conventional Bike Lanes
	Tulip Ave	District of Columbia	Shared Road	Priority Shared Lane Markings
Cedar Ave	District of Columbia	Philadelphia Ave	Shared Road	Neighborhood Greenway
Cedar St	Ellsworth Dr	Wayne Ave (MD 594-A)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
City Hall Parking Lot	Philadelphia Ave (MD 410)	Grant Ave	Trail	Off-Street Trail
Division St	Greenwood Ave	Flower Ave (MD 787)	Shared Road	Neighborhood Greenway
Erskine St	New Hampshire Ave (MD 650)	Prince George's County	Shared Road	Neighborhood Greenway
Ethan Allen Ave (MD 410)	Carroll Ave (MD 195)	New Hampshire Ave (MD 650)	Separated Bikeway	Sidepath (North Side)
Flower Ave (MD 787)	Wabash Ave	Carroll Ave (MD 195)	Shared Road	Priority Shared Lane Markings
	Carroll Ave (MD 195)	Sligo Creek Pkwy	Shared Road	Neighborhood Greenway
Franklin Ave	Worth Ave	University Blvd (MD 193)	Separated Bikeway	Sidepath (South Side)
	University Blvd (MD 193)	End of Franklin Ave	Shared Road	Neighborhood Greenway
Gist Ave	Silver Spring CBD Policy Area	Ray Dr	Shared Road	Neighborhood Greenway
Grant Ave	Piney Branch Rd (MD 320)	Carroll Ave (MD 195)	Shared Road	Neighborhood Greenway
Greenwood Ave	Wabash Ave	Kennebec Ave	Shared Road	Neighborhood Greenway
	Kennebec Ave	Division St	Shared Road	Neighborhood Greenway
Haddon Dr	Long Branch Trail	Houston Ave	Shared Road	Neighborhood Greenway
Hamilton Ave	Sligo Creek Pkwy	Franklin Ave	Shared Road	Neighborhood Greenway

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Indian Spring Dr	Caroline Ave	University Blvd (MD 193)	Shared Road	Neighborhood Greenway
Kennebec Ave	Sligo Creek Pkwy	Long Branch Trail	Shared Road	Neighborhood Greenway
Long Branch Pkwy	Maplewood Ave	Carroll Ave (MD 195)	Shared Road	Neighborhood Greenway
Long Branch Trail	Houston Ave	Long Branch Pkwy	Trail	Stream Valley Park Trail
Maple Ave	Kennebec Ave	Hilltop Rd	Shared Road	Neighborhood Greenway
	Hilltop Rd	Philadelphia Ave (MD 410)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
	Philadelphia Ave (MD 410)	District of Columbia	Shared Road	Neighborhood Greenway
Maplewood Ave / Trail	Maple Ave	Flower Ave (MD 787)	Shared Road	Neighborhood Greenway
	Flower Ave (MD 787)	Greenwood Ave	Trail	Off-Street Trail
	Greenwood Ave	Garland Ave	Shared Road	Neighborhood Greenway
New Hampshire Ave (MD 650)	I-495	Prince George's County	Separated Bikeway	Sidepath (Both Sides)
New Hampshire Ave (MD 650)	Ersine St	Ethan Allen Ave (MD 410)	Separated Bikeway	Sidepath (Both Sides)
	Ethan Allen Ave (MD 410)	District of Columbia	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Oakview Dr	Northwest Branch Trail	New Hampshire Ave (MD 650)	Shared Road	Neighborhood Greenway
Philadelphia Ave (MD 410)	Baltimore Ave	Piney Branch Rd (MD 320)	Separated Bikeway	Sidepath (South Side)
Philadelphia Ave (MD 410)	Holly Ave	Maple Ave	Separated Bikeway	Sidepath (North Side)
Philadelphia Ave (MD 410)	Cedar Ave	Maple Ave	Shared Road	Neighborhood Greenway
Piney Branch Rd (MD 320)	Philadelphia Ave (MD 410)	Sligo Creek Pkwy	Separated Bikeway	Sidepath (South Side)
Piney Branch Rd (MD 320)	Carroll Ave (MD 195)	Prince George's County	Separated Bikeway	Sidepath (North Side)
Plymouth St	Sudbury Rd	Walden St	Shared Road	Neighborhood Greenway
Ray Dr	Gist Ave	Piney Branch Rd (MD 320)	Shared Road	Neighborhood Greenway
Silver Spring Ave	Silver Spring CBD Policy Area	Grove St	Shared Road	Priority Shared Lane Markings
	Grove St	Piney Branch Rd (MD 320)	Shared Road	Neighborhood Greenway
Sligo Creek Trail	Colesville Rd (US 29)	Prince George's County	Trail	Stream Valley Park Trail

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Spring St	Colesville Rd (US 29)	Ellsworth Dr	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Sudbury Rd	Franklin Ave	Plymouth St	Shared Road	Neighborhood Greenway
Takoma Ave	Gist Ave	Albany Ave	Shared Road	Neighborhood Greenway
University Blvd (MD 193)	I-495	Langley Dr	Separated Bikeway	Sidepath (West Side)
Wayne Ave (MD 594-A)	Cedar St	Whitney St	Separated Bikeway	Sidepath (North Side)
Worth Ave	Sligo Creek Pkwy	Franklin Ave	Shared Road	Neighborhood Greenway

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SILVER SPRING-TAKOMA PARK (WEST)



Policy Area

Parkland

County Line

Purple Line Station (Proposed)

Breezeway Network

Existing Proposed

Trails

Separated Bikeways

Striped Bikeways

Shared Roads

Grade Separated Crossing

Bicycle Parking Station

Notes:

1. White lines represent non-master planned bikeways.
2. A sidepath or sidewalk is recommended on Dale Drive between Woodland Drive and Piney Branch Road.



STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CAPITAL CRESCENT TRAIL BREEZEWAY				
Capital Crescent Trail	Rock Creek Trail	Spring St	Trail	Off-Street Trail
GLENMONT TO SILVER SPRING BREEZEWAY				
Woodland Dr	I-495 Bridge (East Side)	Spring St	Shared Road	Neighborhood Greenway
US 29 CORRIDOR WEST BIKEWAY				
Brunett Ave	I-495	Sligo Creek Pkwy	Shared Road	Neighborhood Greenway
Edgevale Rd	Sligo Creek Trail Connector	Harvey Rd	Shared Road	Neighborhood Greenway
Harvey Rd	Edgevale Rd	Dale Dr	Shared Road	Neighborhood Greenway
Dale Dr	Harvey Rd	Alton Pkwy	Shared Road	Neighborhood Greenway
Alton Pkwy	Dale Dr	Spring St	Shared Road	Neighborhood Greenway
SILVER SPRING - GLENMONT WEST NEIGHBORHOOD GREENWAY				
I-495 Bridge (West Side)	Forest Glen Rd	I-495	Separated Bikeway	Sidepath (West Side)
Lansdowne Way	Georgia Ave (MD 97)	2nd Ave	Shared Road	Neighborhood Greenway
2nd Ave	Lansdowne Way	Riley Pl	Shared Road	Neighborhood Greenway
	Riley Rd	Seminary Rd	Trail	Off-Street Trail
	Seminary Rd	16th St (MD 390)	Striped Bikeway	Conventional Bike Lanes
	16th St (MD 390)	Spring St	Shared Road	Neighborhood Greenway
ADDITIONAL RECOMMENDATIONS				
16th St (MD 390)	Georgia Ave (MD 97)	Spring St	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Ament St	Trail	Linden La	Shared Road	Neighborhood Greenway
Brookville Rd	Stewart La	Seminary Rd	Separated Bikeway	Sidepath (South Side)
Colston Dr	Ellingson Dr	Grubb Rd	Shared Road	Neighborhood Greenway
Columbia Blvd	Seminary Rd	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Columbia Blvd	Woodland Dr	Flora La	Shared Road	Neighborhood Greenway

STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Dale Dr	Georgia Ave (MD 97)	Woodland Dr	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
East West Hwy Access Rd	Rock Creek	Grubb Rd	Striped Bikeway	Contra-Flow Bike Lane
East West Hwy (MD 410)	Grubb Rd	16th St (MD 390)	Separated Bikeway	Sidepath (North Side)
Ellingson Dr	Washington Ave	Colston Dr	Shared Road	Neighborhood Greenway
Flora La	Flora Ter	Sligo Creek Trail Connector	Shared Road	Neighborhood Greenway
Georgia Ave (MD 97)	Lansdowne Way	16th St (MD 390)	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Grubb Rd	Lyttonsville Rd	District of Columbia	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
I-495 Bridge (East Side)	Forest Glen Rd	Woodland Dr	Trail	Off-Street Trail
Linden La	Ament St	2nd Ave	Separated Bikeway	Sidepath (South Side)
Lyttonsville Pl	Brookville Rd (MD 186)	Lyttonsville Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Lyttonsville Rd	Lyttonsville Pl	Grubb Rd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Lyttonsville Rd	Lyttonsville Pl	Michigan Ave	Shared Road	Neighborhood Greenway
Michigan Ave	Lyttonsville Pl	Pennsylvania Ave	Shared Road	Neighborhood Greenway
Pennsylvania Ave	Michigan Ave	Lanier Dr	Shared Road	Neighborhood Greenway
Porter Dr	Lanier Dr	Sundale Dr	Shared Road	Neighborhood Greenway
Rock Creek Trail	Rock Creek	Western Ave	Trail	Stream Valley Park Trail
Seminary Rd	I-495	Brookville Rd (MD 186)	Striped Bikeway	Conventional Bike Lanes
	Linden La	Seminary Pl	Striped Bikeway	Conventional Bike Lanes
	2nd Ave	Columbia Blvd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Sligo Creek Trail	I-495	Colesville Rd (US 29)	Trail	Stream Valley Park Trail
Spring St	16th St (MD 390)	Colesville Rd (US 29)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Summit Hills Bikeway	Spencer Rd	16th St (MD 390)	Separated Bikeway	Sidepath or Separated Bike Lanes
Sundale Dr	Porter Dr	East West Hwy (MD 410)	Shared Road	Neighborhood Greenway
Trail	Rock Creek Trail	Ament St	Trail	Stream Valley Park Trail

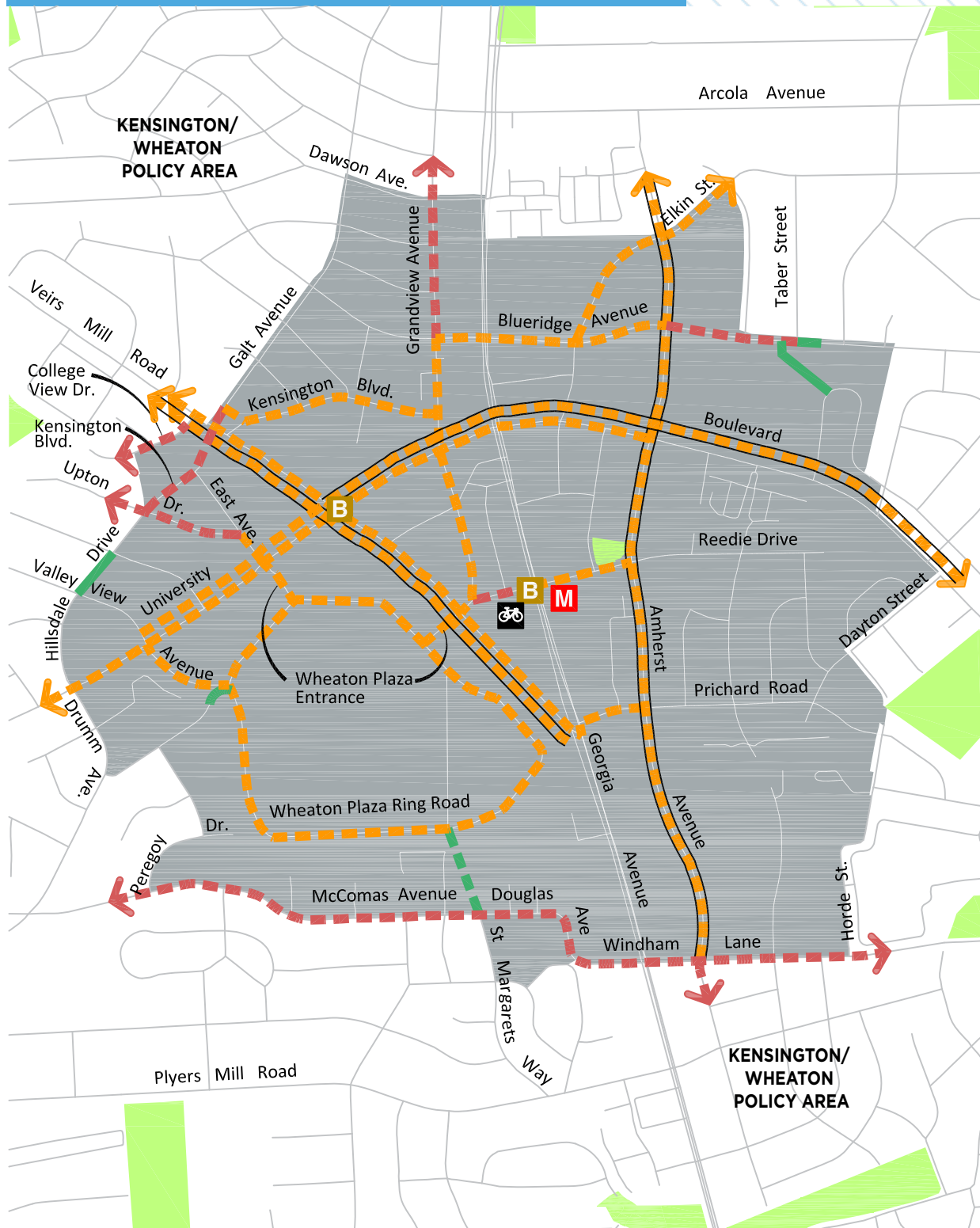
STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Washington Ave	Meadowbrook La	Ellingson Dr	Shared Road	Neighborhood Greenway
Washington Ave	East West Hwy (MD 410)	Grubb Rd	Shared Road	Neighborhood Greenway

TAKOMA-LANGLELEY



STREET	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
WHEATON TO TAKOMA/LANGLEY BREEZEWAY				
University Blvd (MD 193)	Carroll Ave (MD 195)	Prince George's County	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
ADDITIONAL RECOMMENDATIONS				
Anne St	University Blvd (MD 193)	Glenside Dr	Shared Road	Neighborhood Greenway
Carroll Ave (MD 195)	University Blvd (MD 193)	Merrimac Dr	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
	Merrimac Dr	Long Branch Pkwy	Striped Bikeway	Conventional Bike Lanes
Erskine St	New Hampshire Ave (MD 650)	Prince George's County	Shared Road	Neighborhood Greenway
Glenside Dr	Carroll Ave (MD 195)	New Hampshire Ave (MD 650)	Shared Road	Neighborhood Greenway
Holton La	Wildwood Dr	New Hampshire Ave (MD 650)	Shared Road	Neighborhood Greenway
	New Hampshire Ave (MD 650)	Prince George's County	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
New Hampshire Ave (MD 650)	University Blvd (MD 193)	Erskine St	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
	Erskine St	Sligo Creek Pkwy	Separated Bikeway	Sidepath (Both Sides)
Sligo Creek Trail	Glengarry Pl	Prince George's County	Trail	Stream Valley Park Trails
Street B-2	University Blvd (MD 193)	Holton La	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
University Blvd (MD 193)	Carroll Ave (MD 195)	Prince George's County	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Wildwood Dr	Carroll Ave (MD 195)	Glenside Dr	Shared Road	Neighborhood Greenway

WHEATON CBD



- | | | | | | |
|--|--------------------------------------|--|-----------------------|--|-----------------------------|
| | Policy Area | | Existing Trails | | Proposed Separated Bikeways |
| | Parkland | | Proposed Shared Roads | | Bicycle Parking Station |
| | Metrorail Station | | | | |
| | Bus Rapid Transit Station (Proposed) | | | | |
| | Breezeway Network | | | | |

Note: White lines represent non-master planned bikeways

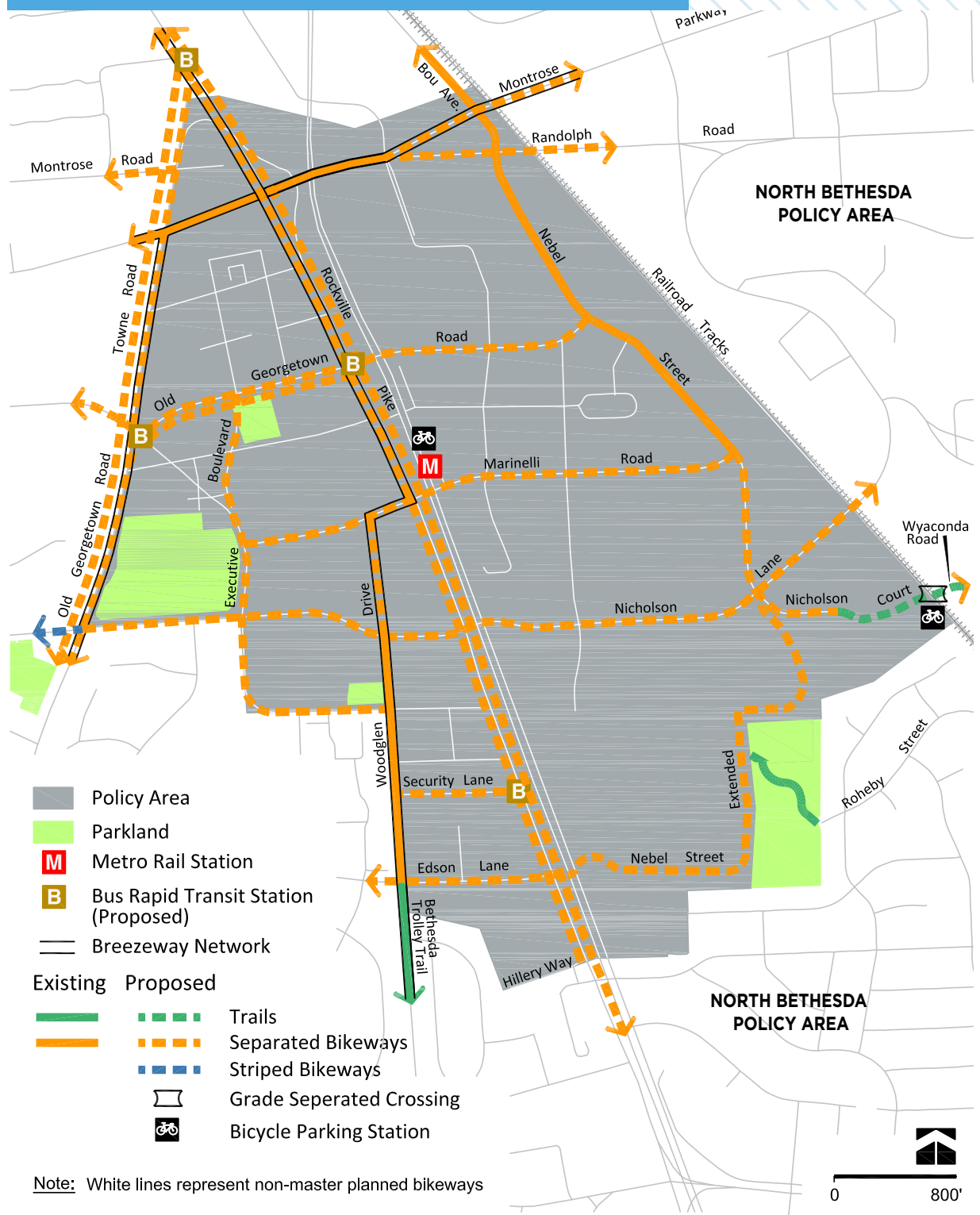
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BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
GLENMONT TO SILVER SPRING BREEZEWAY				
Amherst Ave	Elkin St	Windham La	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
CITY OF ROCKVILLE TO WHEATON BREEZEWAY				
Veirs Mill Rd (MD 586)	College View Dr	Georgia Ave	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
WHEATON TO TAKOMA/LANGLEY BREEZEWAY				
University Blvd (MD 193)	Veirs Mill Rd (MD 586)	Amherst Ave	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
University Blvd (MD 193)	Amherst Ave	Reedie Dr	Separated Bikeway	Sidepath (East Side)
VEIRS MILL RD (MD 586) (NORTH SIDE)				
Veirs Mill Rd (MD 586)	Galt Ave	Georgia Ave (MD 97)	Separated Bikeway	Separated Bike Lanes (Two-Way, North Side)
ADDITIONAL RECOMMENDATIONS				
Blueridge Ave	Grandview Ave	Amherst Ave	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Blueridge Ave Ext	Amherst Ave	Taber St	Shared Road	Neighborhood Greenway
College View Dr	Pleasant View LP Trail	Veirs Mill Rd (MD 586)	Shared Road	Neighborhood Greenway
Douglas Ave	St Margarets Way	Windham La	Shared Road	Neighborhood Greenway
East Ave	Upton Dr	University Blvd (MD 193)	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Elkin St	Bucknell Dr	Blueridge Ave	Separated Bikeway	Sidepath (South Side)
Franwell Ave	Tabor St	Bucknell Dr	Separated Bikeway	Sidepath (Side TBD)
Galt Ave	East Ave	Kensington Blvd	Shared Road	Neighborhood Greenway
Grandview Ave	Dawson Ave	Blueridge Ave	Shared Road	Neighborhood Greenway
	Blueridge Ave	Reedie Dr	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Kensington Blvd	Galt Ave	Grandview Ave	Separated Bikeway	Sidepath (South Side)
Kensington Blvd	Upton Dr	East Ave	Shared Road	Neighborhood Greenway
McComas Ave	Peregoy Dr	St Margarets Way	Shared Road	Neighborhood Greenway
Neighborhood Connector	Blueridge Ave	Taber St	Trail	Neighborhood Connector

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Neighborhood Connector	Blueridge Ave	Westchester Dr	Trail	Neighborhood Connector
Neighborhood Connector	Faulkner Pl	Wheaton Plaza Ring Road	Trail	Neighborhood Connector
Neighborhood Connector	Hillsdale Dr	Midvale Rd	Trail	Neighborhood Connector
Neighborhood Connector	Upton Dr	Kensington Blv	Trail	Neighborhood Connector
Neighborhood Connector	Wheaton Plaza Ring Road	Douglas Ave	Trail	Neighborhood Connector
Prichard Rd	Georgia Ave (MD 97)	Amherst Ave	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Reedie Dr	Veirs Mill Rd (MD 586)	Georgia Ave (MD 97)	Shared Road	Shared Street
Reedie Dr	Georgia Ave (MD 97)	Amherst Ave	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
University Blvd (MD 193)	Drumm Ave	Valley View Ave	Separated Bikeway	Sidepath (South Side)
	Valley View Ave	Amherst Ave	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
	Amherst Ave	Dayton St	Separated Bikeway	Sidepath (East Side)
Upton Dr	Kensington-Wheaton Policy Area	East Ave	Shared Road	Neighborhood Greenway
Valley View Ave	University Blvd (MD 193)	Wheaton Plaza Ring Rd	Separated Bikeway	Sidepath (South Side)
Wheaton Plaza Entrance	University Blvd (MD 193)	Wheaton Plaza Ring Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Wheaton Plaza Entrance	Veirs Mill Rd (MD 586)	Wheaton Plaza Ring Rd	Separated Bikeway	Separated Bike Lanes (Side TBD)
Wheaton Plaza Ring Road	Wheaton Plaza Ring Road	Wheaton Plaza Ring Road	Separated Bikeway	Separated Bike Lanes, One-Way, Both Sides
Windham La	Douglas Ave	Horde St	Shared Road	Neighborhood Greenway

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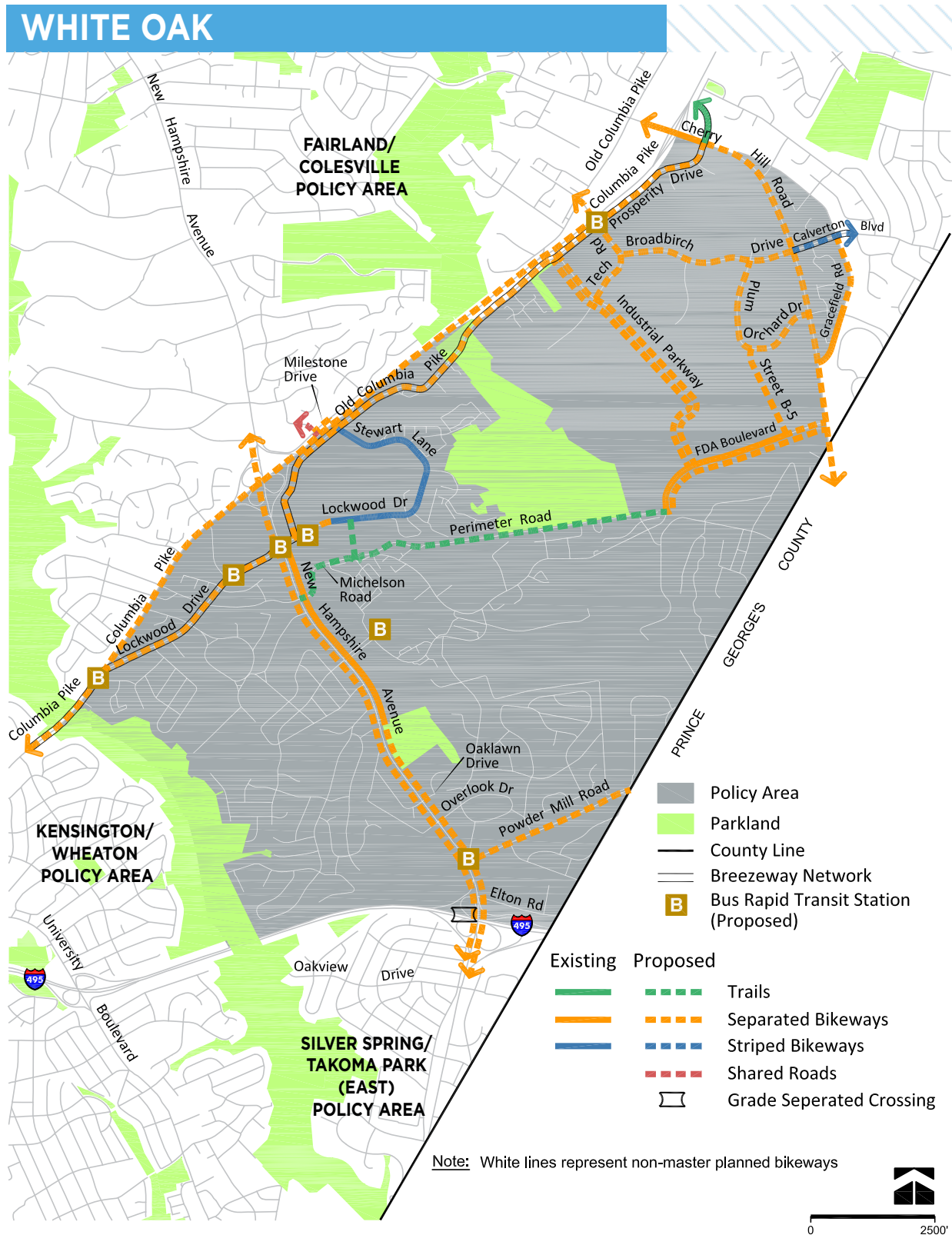


BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
CITY OF ROCKVILLE TO FRIENDSHIP HEIGHTS BREEZEWAY				
Rockville Pike (MD 355)	Towne Rd	Marinelli Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
Marinelli Rd	Rockville Pike (MD 355)	Woodglen Dr	Separated Bikeway	Separated Bike Lanes (Side TBD)
Woodglen Dr	Marinelli Rd	Edson La	Separated Bikeway	Separated Bike Lanes (Two-Way, West Side)
POTOMAC TO VEIRS MILL ROAD BREEZEWAY				
Montrose Pkwy	Towne Rd	Railroad Tracks	Separated Bikeway	Sidepath (North Side)
WHITE FLINT TO ROCK SPRING BREEZEWAY				
Towne Rd	Montrose Pkwy	Old Georgetown Rd (MD 187)	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Old Georgetown Rd (MD 187)	Towne Rd	Nicholson La	Separated Bikeway	Sidepath (East Side)
VEIRS MILL ROAD TO WHITE OAK BREEZEWAY				
Randolph Rd	Montrose Pkwy	Railroad Tracks	Separated Bikeway	Sidepath (South Side)
ADDITIONAL RECOMMENDATIONS				
Bike / Ped Bridge	Nicholson Ct	Wyaconda Rd	Trail	Off-Street Trail
Bou Ave	Montrose Pkwy	Randolph Rd	Separated Bikeway	Sidepath (East Side)
Edson La	Woodglen Dr	Rockville Pike (MD 355)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Executive Blvd	Old Georgetown Rd (MD 187)	Woodglen Dr	Separated Bikeway	Separated Bike Lanes (Side TBD)
Marinelli Rd	Executive Blvd	Nebel St	Separated Bikeway	Separated Bike Lanes (Side TBD)
Nebel St	Randolph Rd	Nicholson La	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Nebel St Ext	Nicholson La	Rockville Pike (MD 355)	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Neighborhood Connector	Rokeby Way	White Flint Mall	Trail	Neighborhood Connector
Nicholson Ct	Nebel St Ext	Bike / Ped Bridge	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Nicholson La	Old Georgetown Rd (MD 187)	Nebel St	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
	Nebel St	Railroad Tracks	Separated Bikeway	Sidepath (Side TBD)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Old Georgetown Rd (MD 187)	Nebel St	Rockville Pike (MD 355)	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
	Rockville Pike (MD 355)	Towne Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
	Towne Rd	Nicholson La	Separated Bikeway	Sidepath (West Side)
Rockville Pike	Towne Rd	Marinelli Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
	Marinelli Rd	North Bethesda Policy Area	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Security La	Rockville Pike (MD 355)	Woodglen Dr	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Towne Rd	Rockville Pike (MD 355)	Montrose Pkwy	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)

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WHITE OAK



BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
BURTONSVILLE TO SILVER SPRING BREEZEWAY				
Prosperity Dr	Cherry Hill Rd	Tech Rd	Separated Bikeway	Sidepath (West Side)
Old Columbia Pike	Tech Rd	White Oak Shopping Center	Separated Bikeway	Sidepath (East Side)
Old Columbia Pike	White Oak Shopping Center	Lockwood Dr	Separated Bikeway	Separated Bike Lanes (Two-Way, East Side)
Lockwood Dr	New Hampshire Ave (MD 650)	Columbia Pike (US 29)	Separated Bikeway	Sidepath (East Side)
Columbia Pike (US 29)*	Lockwood Dr	Northwest Branch	Separated Bikeway	Sidepath (East Side)
ADDITIONAL RECOMMENDATIONS				
Broadbirch Dr	Tech Rd	Cherry Hill Rd	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Calverton Blvd	Cherry Hill Rd	Gracefield Rd	Striped Bikeway	Conventional Bike Lane
Cherry Hill Rd	Columbia Pike (US 29)	Prince George's County	Separated Bikeway	Separated Bike Lanes (Two-Way, South Side)
Columbia Pike (US 29)	Tech Rd	Rachel Carson Greenway	Separated Bikeway	Sidepath (West Side)
FDA Blvd	Cherry Hill Rd	FDA Gate	Separated Bikeway	Separated Bike Lanes (Two-Way, Both Sides)
Gracefield Rd	Calverton Blvd	Cherry Hill Rd	Separated Bikeway	Sidepath (West Side)
Industrial Pkwy	Columbia Pike (US 29)	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 (MD 650)	Separated Bikeway	Sidepath (East Side)
Michelson Rd	New Hampshire Ave (MD 650)	Perimeter Rd	Separated Bikeway	Sidepath (Side TBD)
New Hampshire Ave (MD 650)	Columbia Pike (US 29)	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)

BIKEWAY	FROM	TO	FACILITY TYPE	BIKEWAY TYPE
Perimeter Rd**	Michelson Rd	FDA Blvd	Trail	Off-Street Trail
Plum Orchard Dr	Broadbirch Dr	Cherry Hill Rd	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
Powder Mill Rd	New Hampshire Ave (MD 650)	Prince George's County	Separated Bikeway	Sidewalk (North Side)
Stewart La	Columbia Pike (US 29)	Old Columbia Pike	Separated Bikeway	Sidewalk (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 (US 29)	Industrial Pkwy	Separated Bikeway	Separated Bike Lanes (One-Way, Both Sides)
White Oak - FDA Connector**	Lockwood Dr	FDA	Trail	Off-Street Trail

** Appropriate measures must be taken to minimize impacts to the former WSSC buildings. Any changes to the road cross section may require elevating the roadway out of the floodplain and reconstructing the stream channel upstream and downstream.*

*** Bikeway to be implemented along Perimeter Rd if approved by the federal government and / or through redevelopment of the adjacent multifamily dwelling units, whichever comes first.*

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Separated bike lanes on Maine Ave in Washington, DC

THE MONTGOMERY COUNTY
BICYCLE MASTER PLAN
PLANNING BOARD DRAFT | MAY 2018

 MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION