




Bicycle Master Plan Public Hearing Draft Work Session #1

	David Anspacher, Supervisor, david.anspacher@montgomeryplanning.org , 301-495-2191
	Stephen Tu, Associate Planner, stephen.tu@montgomeryplanning.org , 301-495-4639
	Jon Ryder, Associate Planner, jon.ryder@montgomeryplanning.org , 301-495-4596
	Pamela Dunn, Chief, pamela.dunn@montgomeryplanning.org , 301-650-5649

Completed: 02/08/2018

DESCRIPTION

On January 25, 2018, the Planning Board conducted a public hearing on the Bicycle Master Plan Public Hearing Draft and received testimony from the public. This staff report includes all written testimony in Attachment A. Attachment B summarizes public comment (both verbal and written testimony) as well as staff responses on all non-bikeway specific comments in matrix form.

The February 15, 2018 work session is anticipated to include these issues:

- Issue 1: Four Types of Transportation Cyclists
- Issue 2: The Bicycle Master Plan Marginalizes “Moderate-Stress” Bicycling
- Issue 3: Conventional Bike Lanes & Bikeable Shoulders are Better for Moderate-Stress Bicyclists
- Issue 4: Breezeway Network
- Issue 5: Two-Way Bikeways on Both Sides of the Street
- Issue 6: Provide Equal Access to Low-Stress Bicycling for All Members of the Community (Goal 3)
- Issue 7: Connectivity to Schools, Libraries and Recreation Centers

The February 22, 2018 work session is anticipated to include these issues:

- Protected Intersections
- Breezeway Network Attributes
- Development Impact Taxes
- Use of Developer Contributions
- Bicycle Parking
- School Policies
- Bikeway Prioritization
- Loading Zones

The March 1, 2018 work session is anticipated to address any remaining non-bikeway issues.

Future work sessions after March 1, 2018 will review comments on specific bikeway recommendations.

Planning Board Commissioners are asked to bring their copy of the Bicycle Master Plan Public Hearing Draft and Appendix, which was included in the January 25, 2018 packets.

DISCUSSION

Comments on the Bicycle Master Plan were received from 271 individuals, organizations, municipalities and government agencies. Of those, 228 indicated that they were supportive or not supportive of the plan, including 200 that indicated they were supportive (187 in form letter), 23 that indicated they were supportive with changes, and 5 that indicated they were not supportive of the plan. An additional 43 comments recommended changes or had other questions and comments but did not indicate that they support or oppose the plan.

Issue 1: Four Types of Transportation Cyclists

Perhaps the most important concept for the Bicycle Master Plan is “traffic stress.” This is the notion 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. To attract the broadest segment of the population, Montgomery County needs to create a bicycling network that does not exceed most people’s tolerance for traffic stress and does not require an excessive amount of detour to bicycle on a low-stress route.

Numerous studies have tried to quantify the percent of the population that falls into different traffic stress tolerance levels. Perhaps the most comprehensive study, referenced on page 37 of the plan, was published in 2017 by Dill & McNeil based on a sample of 3,000 adults living in the 50 largest metropolitan areas in the United States. Those who tolerate a high level of traffic stress are comfortable bicycling on most streets, including major highways such as Georgia Avenue. 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, such as sections of Darnestown Road. 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.

A comparison to a 2013 study conducted by the same authors for the City of Portland, Oregon shows similar results, though slightly more people fit into the “enthused and confident” and “interested but concerned” groups.

Group	2017 National Study	2013 Portland Study
Strong & Fearless (High Stress Tolerance)	7%	4%
Enthused & Confident (Moderate Stress Tolerance)	5%	9%
Interested but Concerned (Low Stress Tolerance)	51%	56%
No Way No How (Everyone Else)	37%	31%

Jack Cochrane of MoBike notes that these results may not be representative of bicycling in Montgomery County and points to some studies that show the “enthused & confident” group as having a larger share of the population than shown in the 2017 study. Mr. Cochrane’s point is not to construct fewer low-stress bikeways, but that the Bicycle Master Plan needs to consider the needs of “moderate-stress” bicyclists in addition to low-stress bicyclists. (Attachment B, Comment #23)

While staff acknowledges that there are differences from community to community in how they perceive traffic stress, the larger point is that surveys consistently show that most people only tolerate a low level of traffic stress. It would be valuable for Montgomery County to conduct a survey to identify how its population is distributed among the four types of transportation cyclists.

We recommend adding this footnote to the bottom of page 37: "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."

Issue 2: The Bicycle Master Plan Marginalizes “Moderate-Stress” Bicycling

Jack Cochrane of MoBike expressed concern that the Bicycle Master Plan marginalizes “moderate-stress” bicyclists by focusing metrics solely on achieving a “low-stress” bicycling network and asks that the plan include a metric for “moderate-stress” bicycling. (Attachment B, Comment #10)

Previous Planning Board Discussion: The Planning Board decided against adding a “moderate-stress” metric in its September 8, 2016 work session on the Bicycle Master Plan Framework Report.

Staff Response: Staff continues to believe that the Bicycle Master Plan should focus on achieving a “low-stress” bicycling network and that the plan should not include a “moderate-stress” bicycling metric. Planning for “low-stress” bicycling is considered a best practice in North America.

Furthermore, data analysis is time-consuming and therefore expensive. In developing the Bicycle Master Plan, staff crafted the goals, objectives and metrics so that they provide decisionmakers with the most important information needed to develop the plan and to establish implementation priorities. Since the county is focused on constructing a “low-stress” bicycling network, there is little benefit to including a “moderate-stress” bicycling metric.

Issue 3: Conventional Bike Lanes & Bikeable Shoulders are Better for Moderate-Stress Bicyclists

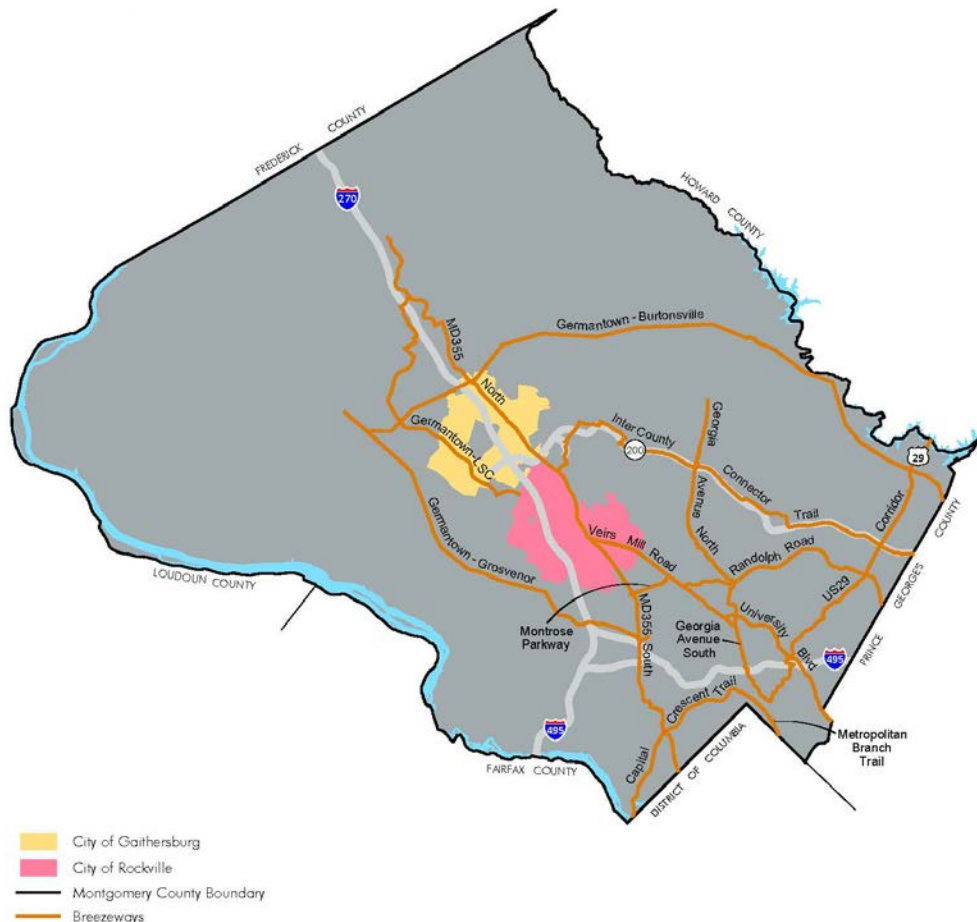
Jack Cochrane of MoBike indicated that some confident bicyclists prefer bicycle accommodations that support faster, more efficient travel between destinations. They are willing to sacrifice some separation from traffic to maintain continuously higher speeds, avoid pedestrian conflicts, bypass obstacles, 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 (such as sidepaths and separated bike lanes) 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 conventional 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. (Attachment B, Comment #28).

Mr. Cochrane would like language added to the plan indicating that where space is available and does not substantially detract from the default bikeway, conventional bike lanes or bikeable shoulders can be added in addition to the default bikeway. He also believes the plan should specifically recommend that several roads have two bicycle facility types (aka a “dual bikeway”) – both a separated bikeway (such as a sidepath) and an unseparated bikeway (such as conventional bike lanes and bikeable shoulders). These would typically be roads that have existing shoulders or conventional bike lanes frequently used by cyclists.

Montgomery County Department of Transportation (MCDOT), commenting on Policy 2.4 (page 108) and 2.7 (page 109), requests that the plan consider preserving conventional bike lanes as they may continue to play a role, especially if Maryland State Highway Administration (SHA) sticks with their current policy of requiring road projects involving widening or new construction to include the installation of conventional bike lanes, or if we consider that SHA may be unlikely to construct off-street facilities. They also state that the plan should continue to include roads with two bikeway recommendations, both a low-stress bikeway (such as a sidepath) and a moderate-stress bikeway (such as bike lanes). (Attachment B, Comment #79)

Previous Planning Board Discussion: At the September 8, 2016 work session on the Bicycle Master Plan Framework Report, the Planning Board recommended two major items to address the needs of “moderate-stress” bicyclists:

- Breezeway Network: As described on pages 66 – 75 of the plan and shown in the map below, the Breezeway Network is a system of 14 corridors that are recommended to be a high-capacity network of arterial bikeways between the county’s 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. It features higher quality design treatments and is intended to allow “moderate-stress” bicyclists to travel at higher speeds, but also benefits “low-stress” bicyclists.

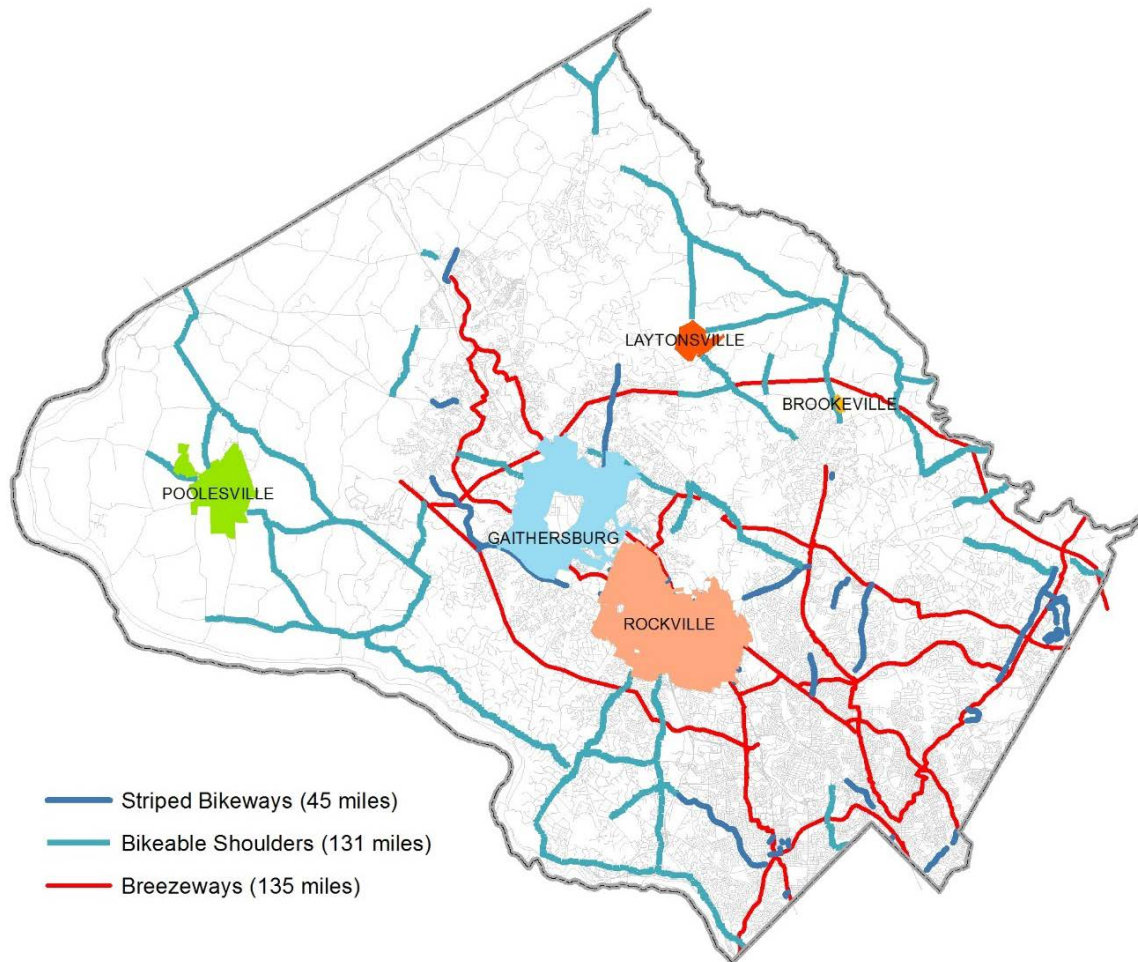


- General Bikeway Applications: The footnote on page 65 indicates that for major highways, arterials and minor arterials, where space is available and does not substantially detract from the default bikeway, bike lanes or bikeable shoulder can be added in addition to the default bikeway.

Staff Response: Many bicyclists rely on the ability to bicycle at high speed for travel efficiency. The suburban pattern of development in the County creates a greater distance between destinations and therefore bicycling is only a feasible option for many bicyclists who travel longer distances when they can travel at a higher speed. (Note: a typical bicyclist travels at a speed of 8 to 12 mph, while faster bicyclists typically travel at a speed of 15 to 20 mph – both are below the posted speed limit of most County roads.)

We believe that this plan provides a robust network for “moderate-stress” bicyclists, including about 300 miles of bikeways that are targeted to them, as shown in the map below. This includes:

- Bike Lanes (dark blue): 45 miles of bike lanes, including 30 miles of new bike lanes.
- Bikeable Shoulders (light blue): over 130 miles, which will benefit many recreational bicyclists.
- Breezeway Network (red): 135 miles



We are concerned that giving greater priority to the construction of bike lanes and bikeable shoulders will make it more difficult to implement a high-quality, low-stress bikeway. **If the Planning Board wants to address Mr. Cochrane's concerns without deprioritizing low-stress bikeways, they could consider including this statement on the bottom of page 38 (changes to Mr. Cochrane's proposed language are shown with underlining and strikethroughs):**

"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. ~~This may include on-street parallel parking areas as well.~~

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 an 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."

We do not believe that conventional bike lanes are an appropriate long-term bikeway for most bicyclists on higher speed and higher traffic volume roads and we believe that SHA will continue to adjust its policies to be more supportive of low-stress bicycling. We also agree with MCDOT that there will continue to be a benefit to conventional bike lanes as an interim bikeway type. Where there is sufficient right-of-way to provide conventional bike lanes in addition to separated bikeways, we do not object to the conventional bike lanes (see note on page 65). The plan also supports conventional bike lanes if for whatever reason the separated bikeway cannot be implemented but the conventional bike lane can be implemented as an interim bikeway (page 134).

Per our discussion with MCDOT, we recommend adding the following language on page 109, Policy 2.7, at the bottom of the first paragraph:

"However, conventional bike lanes can be considered as an interim way of providing bicycle facilities or as a supplement to recommended facilities, particularly in locations where provision of conventional bike lanes does not increase the road cross section. However, conventional bike lanes are not a substitute for low-stress facilities, particularly on higher volume / higher speed roads."

Issue 4: Breezeway Network

Many comments were received on the Breezeway Network, a proposed safe, separated network for cyclists and pedestrians to move around Montgomery County at a high level of comfort, convenience, safety and efficiency. Jack Cochrane of MoBike stated: "The Breezeway Network is an excellent target, but the network is too small and many of the corridors will not be able to meet the proposed standards, since there is insufficient space to separate walking from bicycling and because many have a large number of driveways. The Breezeway Network will not be a full substitute for moderate-stress bikeways." (Attachment B, Comment #45)

Mr. Cochrane is correct that it will be challenging to implement several of the Breezeway Network corridors to the proposed standards, especially on some of the older major highway corridors where rights-of-way are limited and there are many driveways (Randolph Road, University Boulevard and Veirs Mill Road). But, it is our position that if it is difficult to implement the Breezeway Network, it would similarly be difficult to implement conventional bike lanes for additional moderate-stress bikeways, especially in addition to the Breezeway Network.

We agree with MCDOT that a follow-up work item is needed to confirm the locations of the Breezeway Network corridors. If there is unlikely to be sufficient right-of-way to construct a Breezeway corridor on a specific route, it may be necessary to shift the corridor to a parallel road. **Therefore, we recommend adding a statement at bottom of page 73 that says:** "Upon approval of the master plan, the Montgomery County Department of Transportation and the Montgomery County Planning Department will seek funding to confirm the locations of the Breezeway Network corridors." (See Attachment B, Comment #46)

MCDOT and MoBike request a few additions to the Breezeway Network. **We recommend these additions to the Breezeway Network:**

- Extend Montrose Parkway from MD 355 to Falls Road.
- Add Old Georgetown Road between Montrose Parkway and Democracy Boulevard.
- Add Democracy Boulevard between Old Georgetown Road and Seven Locks Road.
- Add Germantown Road between Aircraft Drive and Observation Drive.
- Add Shady Grove Road between Shady Grove Access Road and Key West Avenue.

These corridors have some of the highest potential bicycling demand in the network that are not currently designated as part of the Breezeway Network. (See Attachment B, Comment #45, 47, 48, 49)

Issue 5: Two-Way Bikeways on Both Sides of the Street

The Bicycle Master Plan proposes two-way bikeways on both sides of the streets on many of the County's major highways. SHA questions whether there is sufficient demand to support this investment, whether there is sufficient right-of-way and whether it will take away space from other elements of the roadway. (Comment #122). Robert Goodill commented that in urban areas, bikeways should be one-way on both sides of street. He stated that two-way bikeways on both sides of the street is excessive and is inconsistent with urban character and specifically called out the bikeways proposed for the White Oak Policy Area (Comment #123). On the other hand, the Washington Area Bicyclists Association (WABA) commented that two-way bikeways are needed on both sides of the road whenever a road has more than two lanes in each direction or the speed limit is over 35 mph (Comment #124).

Staff Response: As discussed in Appendix C, pages 60-63, two-way separated bike lanes or shared use paths on both sides of the street are warranted in some situations. The general application for this facility type is along wide, high-volume streets with limited crossing opportunities where destinations exist on both sides of the street. Two-way bikeways on both sides of the street minimize the need to cross wide roadways, travel excessive distances to cross at a safe location and improve access and network connectivity to both sides of the street.

Conversely, two-way bikeways on one side of the street and one-way separated bike lanes on both sides of the street can limit access for bicyclists.

- A single two-way bikeway on one side of the street, while potentially beneficial to connect to some destinations along one side of the corridor, can require bicyclists to cross the roadway twice to reach their destinations and limit access to the other side of the street. This may deter some people from bicycling, lead to bicycling on the sidewalk or cause excessive delay to cross the street.
- Similarly, a pair of one-way bikeways on each side a street may present a problem if a bicyclist's destination is on the opposite side of the street from the direction of travel. This configuration requires the rider to either cross the street twice to access the destination, or it may lead a cyclist to ride against traffic on the side of the street where the destination is located.

By providing a two-way facility on each side of the street, Montgomery County will enable bicyclists to complete trips to their destinations with minimal conflicts and delay and encourage more "Interested but Concerned" riders to consider bicycling.

The Bicycle Master Plan recognizes that constructing two-way bikeways on both sides of the street is expensive and will require substantial right-of-way. Therefore, **the plan prioritizes constructing two-way bikeways on both sides of the road in only a few locations where the demand is expected to be high.** In most locations, a two-way bikeway is prioritized for one side of the road only.

Issue 6: Provide Equal Access to Low-Stress Bicycling for All Members of the Community (Goal 3)

The American Heart Association commented that the plan needs to prioritize low and moderate-income residents. (Attachment B, Comment #22)

Staff Response: Equity is an essential part of the Bicycle Master Plan and is called out as Goal 3. Objective 3.1 is intended to address equity by measuring low-stress connectivity for very low-income areas, where the median income is less than 60 percent of the countywide median income, compared to the rest of the county¹. In the table below, a value of 100 percent indicates that complete equity is achieved. The lower the value, the less equity is achieved. For example, the table shows that in 2018, very-low income areas have only 57 percent of the low-stress connectivity that other areas of the county have. If the Bicycle Master Plan’s recommendations are implemented, this will grow to 95 percent in 2043 and then slightly drop to 90 percent with the full build out of the plan². If the equity threshold is increased to 80 percent or 100 percent of countywide median income, the table below shows that the results will be similar. **Staff believes that the existing metric adequately measures equity, but the Planning Board is requested to provide direction to staff if they want to consider another threshold or another metric.**

Ratio of Potential Bicycle Trips that Can Be Made on a Low-Stress Bicycle Network in Areas where the Median Income is X Percent of the County Average Compared to the Rest of the County

Equity Threshold	# of Census Tracts	Existing 2018	2043	Full Build Out
60% of Median Income	24	57%	95%	90%
80% of Median Income	65	62%	100%	90%
100% of Median Income	108	51%	100%	95%

Issue 7: Connectivity to Schools, Libraries and Recreation Centers

WABA and Peggy Dennis commented that connectivity to schools, libraries and recreation centers is lacking. (Attachment B, Comment #119)

Staff Response: The plan does show poor connectivity to schools by 2043. Objective 2.3 on page 192 shows the percentage of dwelling units within one mile of elementary schools, 1.5 miles of middle schools and two miles of high schools that are connected to the school on a very low-stress bicycling network. For example, the table below shows that the existing connectivity to high schools is 6% in 2018 and that this will grow to 10% by 2033, 15% by 2043 and 30% with the full build out of the plan. (Note

¹ Of the 215 census tracts in the county, 24 have a median income that is less than 60 percent of the countywide median income.

² While the metric shows near equity in low-stress connectivity, 95 percent in 2043 and 90 percent with full build out of the plan indicate the recommendations are slightly inequitable. Subsequent work sessions will explain why this is the case and can explore ways to increase equity closer to 100 percent.

that 2043 represents the bikeway network that is intended to be constructed within the life of the plan and that 2033 is an interim year.)

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

	Existing	Target		Full Build
	2018	2033	2043	
Elementary Schools	26%	30%	30%	60%
Middle Schools	11%	15%	20%	50%
High Schools	6%	10%	15%	30%

There are a few reasons for the low connectivity for schools. First, the requirement for defining a road as bikeable for a child is more stringent than the requirements for adults. Some residential roads that are considered bikeable for adults are not considered bikeable for children without a bikeway improvement. For example, Primary Residential streets such as Dennis Avenue near Wheaton and Bells Mill Road in Potomac are recommended to have sidepaths. This is because these streets tend to have higher traffic volumes and because the presence of the double yellow line guides motorists to stay on their side of the road and therefore they tend to pass bicyclists with less space. About 20 percent of the proposed bikeway network is sidepaths on Primary Residential streets. It is also important to note that residential sidewalks were not considered to be bikeable by children.



Dennis Avenue at Sligo Middle School is a Primary Residential street

In addition, roads with a 40 mph or faster posted speed limit were considered bikeable by children if there is a wide buffer between the street and the sidepath. While this may be feasible on some roads

with wide rights-of-way, it is infeasible on most roads in the county. For example, Old Columbia Pike, which feeds to Paint Branch High School, would be considered inappropriate for children even if it had a sidepath on it due to insufficient separation between the bikeway and the 40-mph road.

Second, street crossings without traffic signals or stop signs were only deemed to be acceptable for children if they met one of these conditions:

- 2 – 3 lanes of traffic, 25 mph or slower speed limit.
- Pedestrian median refuge, 4 – 5 lanes of traffic, 25 mph or slower speed limit.
- Pedestrian median refuge, 2 – 3 lanes of traffic, 30 – 35 mph speed limit.



A pedestrian median refuge on Wisteria Drive south of Christa McAuliffe Elementary School

The low connectivity results for many schools (especially elementary and some middle schools) is largely a result of these schools being surrounded by one or more Primary Residential streets. Most of the recommendations on these streets were not prioritized for implementation because they will be difficult to implement due to their location in residential communities (they will be impactful) and their low use outside of school arrival/dismissal. **The Planning Board should consider whether sidewalks on residential streets should be considered bikeable by children. If the answer is “yes,” the Planning Board should consider whether to remove sidepaths from Primary Residential streets. If the answer is “no,” the Planning Board should consider whether they want to prioritize more sidepaths on residential streets.** About 120 miles (or 10%) of the 1,200-mile proposed bicycling network are bikeways on Primary Residential streets.

Additionally, some of the lack of connectivity to schools is due to crossings that have excessive posted speed limits or lack a pedestrian median refuges. **To address this concern, the Planning Board could consider recommending a Safe Routes to School policy: "Safe Routes to School: Develop a Safe Routes to School policy that permanently (not just during school hours) reduces posted speed limits in front of schools and provides traffic calming features and/or traffic control, such as pedestrian median refuges, adjacent to schools to facilitate safe crossings."** Master plans do not typical recommend crossing treatments at specific locations.

Many high schools are located on higher speed roads and therefore their connectivity metrics will always be poor unless the posted speed limit is reduced or if the traffic stress target for high schools is raised to that of adults. While some schools have speed zone restrictions, in practice it is likely that many motorists ignore these restrictions.

Objective 2.4 on page 193 shows that low-stress connectivity to public libraries is good (60 percent by 2043), but connectivity to recreation centers is low (40 percent by 2043). While the reasons for low connectivity to recreation centers vary, one of the major reasons is that while the roadways are considered low-stress, many of the intersections adjacent to these facilities are moderate stress. An example is the Whetstone Community Center is Montgomery Village. The Montgomery Village Master Plan recommends a sidepath on the north side of Centerway Road, but since this is a four-lane road with a posted speed limit of 35 mph and limited to no traffic controls (i.e., stop signs or signals), many of the crossings (such as at Thomas Farm Road) are not deemed bikeable for most people.

ATTACHMENTS

Attachment A – Public Testimony

Attachment B – Matrix of Responses to Public Testimony for Non-Bikeway Comments