

Section 5: Design and Maintenance Guidelines

Pathway Design Standards

New pathway and on-road facilities should comply with all applicable federal, state, and local design standards including Howard County, State Highway Administration (SHA) Maryland Department of Natural Resources (MD-DNR), Manual on Uniform Traffic Control Devices (MUTCD), American Association of State Highway and Transportation Officials (AASHTO), [AASHTO Guide for the Development of Bicycle Facilities](#) (June 2012 edition), the latest pathway guidance issued by the U.S. Access Board (draft “Shared Use Path Accessibility Guidelines”) and other guidelines, standards and specifications as appropriate. Refer to Pathway Design Criteria in Table 5.1 and Figure 5.1.

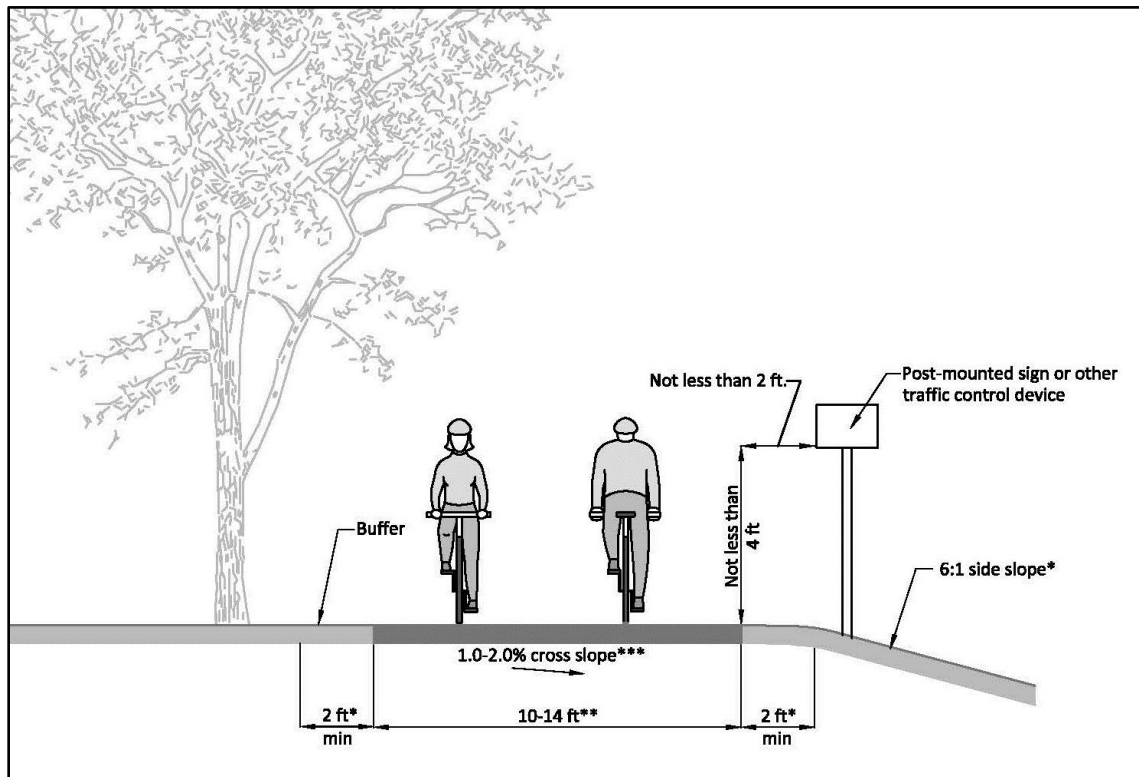
Table 5.1 Pathway Design Criteria

Pathway Design Criteria*		
Component	Relevant Guideline	Comments
Path Surface	All weather, smooth, stable and slip resistant	Preferably paved asphalt. Bridge surface materials are recommended to be slip resistant.
Width	10-ft wide; 12-ft to allow width for maintenance vehicles	Wider pathways (11-ft to 14-ft) may be necessary in locations with higher volumes of users. In locations with known conflicts between users, it can be beneficial to provide a centerline stripe to separate one direction of travel from the other.
Buffer/ Clear Zone	3-5 ft; cross slope 6:1	2-ft minimum, unless adjacent to a water hazard or steep downward slope, in which case 5-ft is desirable.
Vertical Clearance	10-ft	8-ft minimum to vertical obstructions
Cross Slope	1-2%	2% maximum to meet ADA
Longitudinal Slope	Adjacent to Roads: Match slope of roadway. Independent Corridors: 5% desired.	Refer to Draft ADA “Guidelines for Shared Use Paths” for conditions under which 5% slopes can be exceeded. If pathway meets these conditions, attempts should be made to mitigate steeper slopes, including: <ul style="list-style-type: none"> - Provide resting intervals - Design path for a higher design speed (i.e., 18-20 mph) - Provide additional width - Provide warning signage - Provide additional horizontal clearance for path users In the event that a pathway slope of 5% is not achievable, the County should document the evaluation that was completed, the reasons the guidelines could not be met, and mitigation factors considered.
Horizontal Alignment	Design Speed: 12 to 30 mph (approximately 27-ft to 166-ft radius)	Horizontal curvature should generally be based on a design speed of 14 mph for 10- ft wide new or rehabilitated pathways .

*Refer to the [AASHTO Guide for the Development of Bicycle Facilities](#) (June 2012 edition) for more information.

The preferred width for pedestrian bridges should be a minimum of 14 feet wide (10' treadway with 2' buffer on either side) composed of slip resistant wood or composite material. The bridge loading capacity should meet AASHTO guidelines (~100 lb/sf) and be capable of handling a utility maintenance vehicle for maintenance and emergency access (John Deere Gator or equivalent: 60"W x 113"L and vehicle weight: 1,500 lbs.). Proposed design dimensions of the bridges should comply with local, state, and federal guidelines and include universal design elements to enhance the pedestrian experience for all users.

Figure 5.1 Typical Off-Road Pathway Cross Section



Maintenance and Operations

It is recommended that pathways are monitored on a daily and /an as-needed basis if a maintenance issue arises. For example, path segments located in the floodplain which are known to flood frequently demand more care than other open space area pathways and are regularly checked for sediment and other debris. A seasonal maintenance schedule example is located in Table 5.2.

Table 5.2 Recommended Maintenance Schedule

Season	Maintenance Description
Spring	Clean-up of deadwood, debris, etc.; mowing (bi-weekly)
Summer	Mowing/ Edging (weekly), trail sweeping (weekly), light pruning (as-needed)
Fall	Leaf removal (weekly), major pruning
Winter	Snow removal (as-needed)
As needed	Clean-up of fallen trees, debris, boardwalk repair, sediment, etc.
Immediately	Vandalism and graffiti removal