

**Location:** Davidsonville Rd. from Bell Branch Athletic Complex to Layton St.

This segment is located in a setting of commercial, residential and municipal land uses. The intersection of MD 450 and MD 424 in Davidsonville has the potential to become a thriving commercial hub.

As the commercial area is developed, better pedestrian and bicycle connections should be included to connect the area with the surrounding schools and parks.



Location Map, Corridor in Yellow

ADC The Map People P.U.N. # 20202113

### Existing Conditions

Maryland Routes 450 and 424 intersect in Crofton. Both are arterial roads with curbs and gutters at the intersections and are predominately an open cross-section in the remainder of the corridors. There are some sidewalks near the intersection on the northeast quadrant of the intersection and a few sections on the northern approach of MD 424. Davidsonville Rd. varies, but averages close to 22-feet for two travel lanes. The roadway shoulders range between 2 to 3.5 feet in width. The existing speed limit is currently 45 m.p.h. with observed speeds near 50 m.p.h.



Looking South towards Bell Branch Park



Intersection of Rt. 424 and Rt. 450

## Potential Pedestrian Improvements

### Install and connect sidewalks

The corridor has high potential for encouraging pedestrian travel, though the few sidewalks that do exist currently are short and unconnected. Sidewalks should be connected and/or constructed through the commercial area of the segment and also extended to the local elementary school and athletic complex. The roadway should be curbed to increase the comfort level of pedestrians and protect them from traffic along the corridor.

### Install Curb Ramps

Current design guidelines recommend that two curb ramps be installed on each corner of an intersection to serve street crossing in both directions. The intersection of state routes 424 and 450 do not have adequate curb ramp access. As pedestrian connections are developed, curb ramps will be required at all existing intersections.

### High Visibility Crosswalks

High visibility crosswalks should be located on all four legs of the intersection. The crosswalks should direct pedestrian traffic to the specified access points for the adjacent sidewalks.

### Pedestrian Signal

A pedestrian walk signal should be provided at the intersection of MD 450 and MD 424. This signal will enable pedestrians to cross the intersection safely and reduce significant pedestrian delays. The pedestrian push button should be in compliance with ADA guidelines.

### Increased Shoulder Width

Providing greater separation between pedestrians and motorists helps increase the safety and comfort level of pedestrians. In situations where sidewalks are not feasible to construct, increased shoulder widths could provide an alternative for pedestrian movement throughout the corridor.



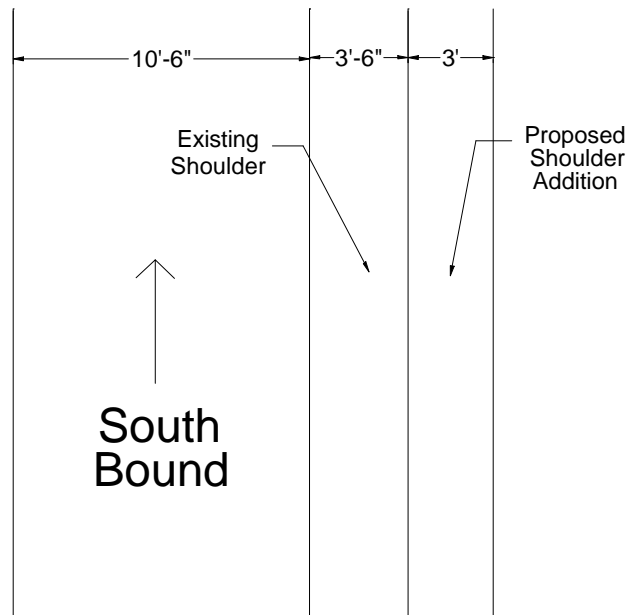
Looking north from Bell Branch Park



Looking south towards Bell Branch Park turning lane

## Potential Bicycle Improvements

Increasing the shoulder width throughout the corridor will provide better conditions for bicycling. An additional three to four feet of shoulder pavement on each side of the segment will allow a bicycle lane that will connect the residential and commercial areas to the athletic complex. The design of the bicycle lane will require special attention when approaching the intersection of MD 450 and MD 424. It may be also necessary to acquire additional right of way. Below is an example showing the additional shoulder width needed. Shoulder width varies throughout the corridor.



## Bicycle Level of Service

In order to increase the level of service grade on Davidsonville Rd. the following improvements will have to be made. These improvements include decreasing the travel and turning lanes where possible and adding three feet of shoulder to the road. This additional shoulder width will raise the level of service two grades to a "D". However, any additional shoulder width over three feet will continue to help improve the level of service grade.

Route Name	From	To	Lanes (L)		Traffic Vol. (AADT)	Pct. (HV (%))	Post. Spd. (SPp) (mph)	Width of Pavement			Occu. Park. (%)	Pvmt. Cond. (PC <sub>5</sub> ) (5..1)	Bicycle LOS	
			Th #	Con.				(Wt) (ft)	(Wl) (ft)	(Wps) (ft)			Score (1..7)	Grade (A..F)
Davidsonville Rd.	Reidel Rd.	Defense Hwy.	2	S	16,825	8	45	14.0	3.5	0	0	3.0	5.79	F
<b>Alternative</b>			2	S	16,825	8	45	18.0	6.5	0	0	5.0	3.83	D