

Field study for pedestrian signals

June 20th, 2019

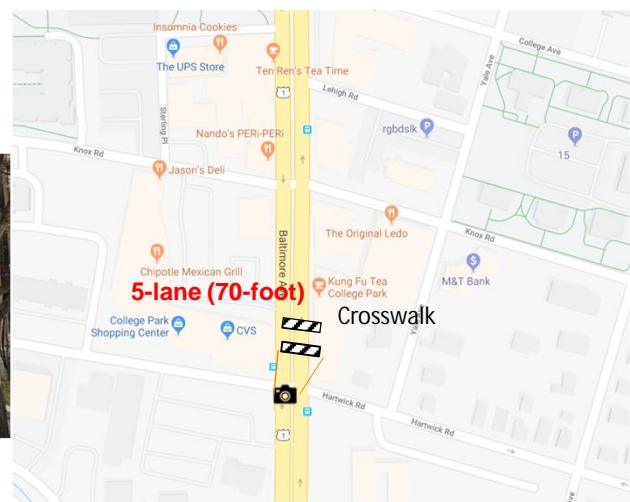
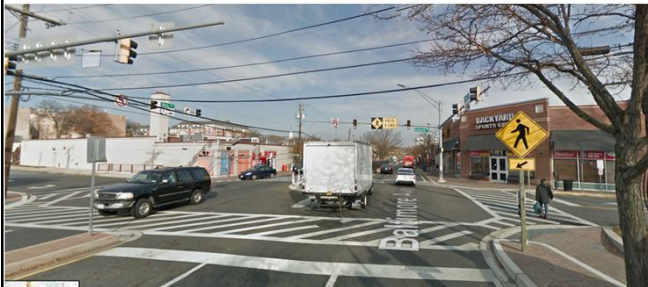
BRTB Traffic Signal Subcommittee Meeting

- Three sites with different pedestrian activated signals
 - Site 1- Flashing yellow hazard indication beacon (HIB): *MD 500 @ Jamestown Rd*
 - Site 2- Pedestrian hybrid beacon (PHB): *MD 410 WB @ Bethesda-Chevy Chase High School*
 - **Site 3- Always-On fire house type Maryland pedestrian signal: *US 1 @ Hartwick Rd***
- Site 2 field study conducted 6 months after the deployment of PHB
- Preliminary field observations on the response of pedestrians/bikes and drivers to the pedestrian signals

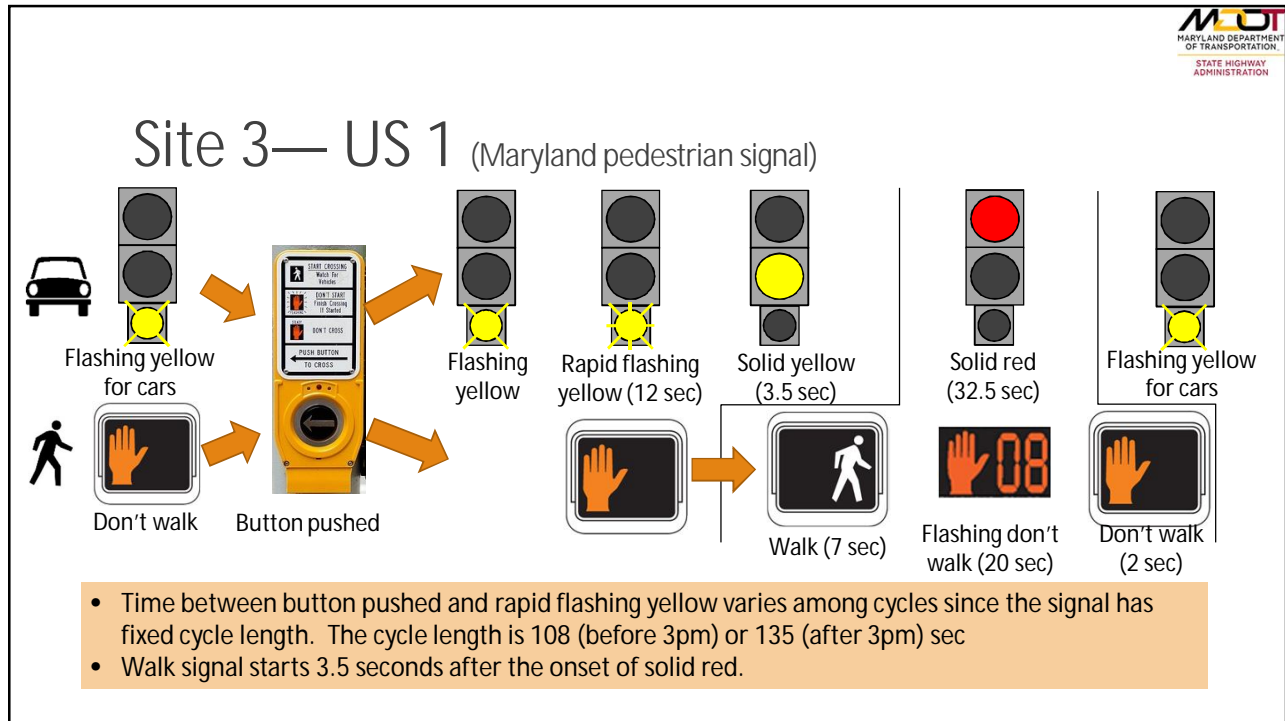
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Site 3 — Maryland pedestrian signal

- US 1 @ Hartwick Rd
- Close to the Univ. of MD, College Park
- High Pedestrian volume (students)
- 5 hours data collection



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Site 3— US 1 (Maryland pedestrian signal)

Observation Date : October 31, 2018 (Wednesday) time: 11:30- 16:30

Pedestrian

	Push + wait or wait	Push and go /Avg waiting time in sec	Arrival and Go during Walk Time	Arrival and Go during FDW	Not pushed or jaywalk
North Crossing	124 (40%)	39 (14%) / 23s	28 (9%)	32 (10%)	84 (27%)
South Crossing	114 (80%)	4 (3%) / 24s	5 (3%)	1 (1%)	19 (13%)
Total	238 (53%)	44 (10%) / 23s	33 (7%)	33 (7%)	103 (23%)

Driver

	Stopped properly	Ran on red
SB	229	19 (8%)
NB	158	16 (9%)
Total	387	35 (8%)

- More than a half of the pedestrians pushed the button and waited.
- About 10% of pedestrians pushed the button but did not wait until the ped signal shows " WALK".
- Less than 10% of vehicles ran red.

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Summary for all three sites

- Most vehicles (more than 75% for all sites) stop properly for pedestrians; about 10% of vehicles do not stop properly for pedestrians.
- About a half of the pedestrians (44% to 59% for all sites) push the button.
- Relatively, HIB causes the most safety concerns; PHB and Maryland pedestrian signal seem to be safer because pedestrians are guided with a signal to follow.
- MD ped signal yields the lowest violation rate.

Site (Ped Signal ¹)	Not pushed or jaywalk ²	Pushed but not waited for walk signal	Vehicles not stopping properly
Site 1 (HIB)	56%	--	12%
Site 2 (PHB)	51%	30%	10%
Site 3 (MD ped signal)	41%	17%	8%

1. HIB: Hazard Indication Beacon; PHB: Pedestrian Hybrid Beacon
2. Excluding those who arrive during activations or after the button has already been pushed

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Next Steps

For Site 1, conduct an after-period observation after an upgrade from 12" HIB to 12-12-8 inch MD Ped Signal

For Site 2,

- Consider shortening the 10-sec flashing yellow phase
- Consider making the 35-sec solid red phase variable time-of-day or allowing vehicles to proceed during the alternating flashing red phase
- Change the "STOP HERE FOR PED" sign to "STOP HERE ON RED"
- Check changes in drivers/pedestrians compliance over time in spring/summer 2019

Observation conducted
on June 7th

For Site 3,

- Conduct an after-period observation after a change from MD Ped Signal to Full Color Signal

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