

MD 99 Corridor Investigation

Summary of Findings and Recommendations

Findings

The investigation found that automobile traffic demand on MD 99 at very specific times of the day (rush hours for commuters and during Mt. Hebron's school start and end times) exceeds the capacity of specific segments and intersections on MD 99, which is roughly 1,000 vehicles per hour per direction.	Travel times, speed and queues on MD 99 are comparable to I-70 during peak hours and even with congested intersections on MD 99, drivers can achieve similar travel times during the peak hours along MD 99 compared to I-70.
Seven intersections have sight line challenges that will require mitigation.	The investigation found that several intersections are near capacity in the existing conditions – Marriottsville Road and Woodstock Road – while St. John's Lane exceeds capacity in the AM and Rogers Ave/Old Frederick Road fails in the AM and PM peak hours.
The investigation found that the stop sign controlled intersections at McKenzie Road, Mt. Hebron Drive and Mt. Hebron High School west entrance exceeded the level of service D delay standard but none by more than approximately 60 seconds on average.	The pedestrian and bike infrastructure shortcomings are reflected in the low number of students walking or biking to school, as well the limited size of the school walk zone compared to the catchment areas for each of the schools.

5% of total traffic volumes on Micheals Way and Greenway Drive are potentially diverting from MD 99, Bethany Lane or St. John's Lane.

Recommendations

Location	Recommendation	Type	Benefit
MD 99 / St John's Lane at Mt. Hebron HS Entrances and Parking Lot	Option 0: Signal Timing Improvements only.	Signal	
	Option 1A: Restrict through-movements (except school buses) from Mt. Hebron HS and St. John's Ln during bell times, run green light simultaneously.	Signal/Operations	Improves AM bell time to a level of service D
	Option 1B: Reconstruct entrance to high school at St. John's lane to allow only right-turns in and out. All other traffic diverted to the west entrance.	School Entrance/Operations	Improves AM bell time to a level of service D
	Option 2A: Widen MD 99 to provide a new exclusive eastbound right turn and widen St. John's Lane to provide a new northbound left turn lane.	Roadway	Improves AM bell time to a level of service D
	Option 2B: Remove marked on-road bike lane, shift bike lane to new shared use path along the north side of MD 99 on school property. Reconfigure lane widths and assignments to provide eastbound exclusive right turn lane.	Roadway	Improves AM bell time to a level of service D
	Option 3: Widen St. John's Lane to provide a new northbound left-turn lane. Restrict through-movements (except school buses) from Mt. Hebron High School and St. John's Lane during bell times. Close connection between student parking and drop-off/faculty parking lot.	Roadway and internal school	Improves AM bell time to a level of service C
	Auxiliary drop-off loop (all options) (construction of a formal auxiliary drop-off loop to the east of the intersection adjacent to the high school's soccer field).	School Dropoff	
Rogers Avenue & Old Fredrick Road	Option 1: Addition of a spur ramp for southbound traffic entering the circle and exiting westbound on Rogers Avenue to bypass the need to enter the circulating roadway.	Roadway	AM SB-Reduces queues from 40 to under 5 vehicles
			PM NB-Reduces queues from 35 to under 5 vehicles
			PM EB-No change in queues
			PM WB-No change in queues
Option 2: Replacement of the roundabout with a traditional four-leg intersection with traffic signal control.	Roadway	AM SB- Reduces queues from 40 to 20 vehicles	
		PM SB-Reduces queues from 35 to under 15 vehicles	
		PM EB- Increases queues from 15 to 20 vehicles	
			PM WB--Reduces queues, 20 to under 15 vehicles
MD 99 at US 29	Modify cycle length at US 29 /revise lane configuration along NB US 29	Signal	Reduces queue lengths
MD 99 Bethany Lane	New left turn arrow northbound Bethany Lane	Signal	
MD 99 at Woodstock Rd.	Left turn arrow along EB MD 99	Signal/Lanes	Reduces left turn delay
Taylor Farm Road	Trim or Remove Vegetation	Sight Distance	Improves Sight Distance
Weatherstone Drive	Relocate Entrance Sign		
McKenzie Road	Trim or Remove Vegetation		
Tiller Drive	Install Advisory Speed Limit		
Maple Rock Drive (SB)	Trim or Remove Vegetation		
Maple Rock Drive (NB)	Install Advisory Speed Limit		
Mt . Hebron Drive	Install Advisory Speed Limit		
Melba Drive	Trim or Remove Vegetation		
Mt Hebron High School Area	Rebuilding of sidewalk on the St. John's Lane bridge over I-70 to include a substantial buffer.	Bike and Pedestrian Access	Improved access to schools and potential walk zone expansions
	Build sidewalk on the north side of MD 99 from Mt. Hebron Drive to Tiller Drive.		
	Build pathway from Melba Road to Toby Lane across power line then sidewalk along MD 99 from Toby Lane to St. John's Lane.		
	Build sidewalk on north side of MD 99 from Old Mill Road to the school.		
	Build sidewalk from Litter Drive to Weatherstone Drive then pathway from Treyburn Court to Sparrow Court on County-owned property.		
Waverly Elementary School area	Build pathway between Red Lion Tavern Court and Wetherburn Drive opposite Tarpley Court or sidewalk along MD 99 between Wetherburn Road and Raleigh Tavern Lane.	Bike and Pedestrian Access	Improved access to schools and potential walk zone expansions
	Construct continuation of pathway along Market Square south and east and Martins Gate HOA land.		
Patapsco Middle School/Hollifield Station Elementary School Areas	Sidewalks along Rogers Avenue, Old Frederick Road.	Bike and Pedestrian Access	Improved access to schools and potential walk zone expansions
	Sidewalks along school driveway, Old Frederick Road, and Orchard Avenue to bring students to signalized crossing of Rogers Ave.		