

**SR 1 (Primehook Road to Tulip Drive)
Intersection and Median Crossover Assessment
Executive Summary
April 24, 2019**

As a follow-up action item from the November 11, 2016 public workshop for the SR 1 and SR 16 grade-separated intersection, DelDOT recently performed a corridor-wide study to investigate safety enhancements along SR 1 at the unsignalized intersections and median crossovers from Primehook Road/Sylvan Acres Road to Tulip Drive/Slipper Shell Way. Along this approximately 9-mile corridor, 15 intersections were extensively studied. There are 22 additional intersections and crossovers with significantly lower traffic volumes and crash frequencies that were also screened for safety and operational concerns.

Crash history from January 2012 to March 2019 and vehicular volumes from summer 2017 were used in analyzing the 15 study intersections. Eight intersections have suggested short-term improvements:



2 – SR 5	21 crashes (Rank #8)	Prohibit northbound SR 1 left turns and southbound u-turns. Widen northbound SR 1 to provide a free-flowing, inside merge lane for eastbound SR 5 left turns.
3 – Reynolds Road	7 crashes (Rank #14)	Close the median crossover.
4 – Deep Branch Road (north end)	21 crashes (Rank #8)	Prohibit eastbound and westbound Deep Branch Rd left turns and thru movements.
6 – Hudson Road/ Steamboat Landing Road	37 crashes (Rank #6)	Prohibit northbound and southbound SR 1 left turns, westbound left turns, and eastbound and westbound thru movements. Widen northbound SR 1 to provide a free-flowing, inside merge lane for eastbound Hudson Rd left turns.
7 – Oyster Rocks Road/Eagle Crest Road	18 crashes (Rank #10)	Prohibit eastbound Eagle Crest Rd and westbound Oyster Rocks Rd left turns and thru movements.
8 – Cave Neck Road	71 crashes (Rank #2)	Prohibit eastbound Cave Neck Rd left turns and southbound SR 1 u-turns.
11 – Minos Conaway Road	38 crashes (Rank #5)	Consider improving the eastbound Minos Conaway Rd right-turn acceleration/merge lane onto southbound SR 1.
14 – Nassau Road/ Janice Road	69 crashes (Rank #3)	Install short-term safety improvements to reduce the likelihood of angle crashes. Long term, incorporate access into the service roads for the Minos Conaway Rd grade-separated intersection.
15 – Tulip Drive/ Slipper Shell Way	57 crashes (Rank #4)	Install short-term safety improvements to reduce the likelihood of rear-end crashes. Long term, incorporate access into the service roads for the Minos Conaway Rd grade-separated intersection.

SR 1 (Primehook to Tulip) Intersection and Median Crossover Assessment - Updated April 2019																			
Map #	Intersection of SR 1 and	Total Crashes	Crash Rank	Max EB L+T Volume	EB L+T Angle Crashes	% EB L+T Angle Crashes	Max WB L+T Volume	WB L+T Angle Crashes	% WB L+T Angle Crashes	Max NB L+U Volume	NB L+U Angle Crashes	% NB L+U Angle Crashes	Max SB L+U Volume	SB L+U Angle Crashes	% SB L+U Angle Crashes	Unknown Involvement Angle Crashes	% Unknown Involvement Angle Crashes	2007 SR 1 CAPP Report Short-Term Proposed	Suggested Potential Next Steps
1	Primehook/Sylvan Acres Rd	18	10	9	1	6%	19	1	6%	74			2			3	17%	Prohibit EB L/T and WB L/T	
2	SR 5	21	8	101	9	43%				12	0	0%	2	0	0%			Prohibit EB L and SB U	Prohibit NB L and SB U (widen within median for inside NB merge lane)
3	Reynolds Rd	7	14	9	1	14%				3			4			2	29%	Close; Right-in/right-out only	Close; Right-in/right-out only
4	Deep Branch Rd (north)	21	8	23	7	33%	2	0	0%	28	3	14%	3	0	0%			Prohibit EB L/T and WB L/T	Prohibit EB L/T and WB L/T
5	SR 16	76	1	89	5	7%	111	3	4%	298	4	5%	34	0	0%			N/A	Presently a full-time signal; planned GSI
6	Hudson Rd	37	6	121	15	41%	17	2	5%	14	2	5%	10	0	0%			Prohibit EB L/T and WB L/T	Prohibit NB/SB L, EB T, WB L/T (widen within median for inside NB merge lane)
7	Oyster Rocks/Eagle Crest Rd	18	10	19	1	6%	55	4	22%	34			13			2	11%	Prohibit EB L/T and WB L/T	Prohibit EB L/T and WB L/T
8	Cave Neck Rd	71	2	26	14	20%				299	17	24%	2	0	0%			Prohibit EB L and SB U	Prohibit EB L and SB U. EB L to next crossover (~1500'). Use signing and striping with tubular markers, not formal geometric changes.
9	Willow Creek Rd	9	13				25	1	11%	1			21			3	33%	Close; Right-in/right-out only	
10	Devon Rd	6	15	6						51	1	17%	5			1	17%	Prohibit EB L	
11	Minos Conaway Rd	38	5	40	10	26%				136	5	13%	15	1	3%			Prohibit EB L	Improve EB R acceleration/merge lane
12	Old Mill Rd	13	12				14	3	23%	3	0	0%	11	2	15%			Close; Right-in/right-out only	
13	Nassau Rd (north)	22	7				2	4	18%	4			232	1	5%	4	18%	Prohibit WB L and NB U	
14	Nassau/Janice Rd	69	3	42	22	32%	60	11	16%	110	12	17%	39	2	3%	1	1%	N/A	Short-term safety improvements (signing and striping, "LOOK AHEAD" plaques, formalize vehicle right-of-way in median). Long-term incorporation into service road for Minos Conaway GSI.
15	Tulip Dr/Slipper Shell Way	57	4				90	4	7%				60	1	2%			N/A	Short-term safety improvements (dynamic warning beacons, HFST, speed reduction markings). Long-term incorporation into service road for Minos Conaway GSI.

SR 1 always assumed to be N-S

Grade Separation Planned
Part of Proposed Grade Separation
Movement Not Applicable

Methodology:

- 14 intersections with an expectation of significant side street volumes were chosen to be counted in July 2017.
- Summary crash data for 1/2012 to 3/2019 was analyzed for the study area.
- Detailed crash reports were collected for intersections or crossovers that had 5+ angle or crossover-related crashes in the study period.
- The above table was produced to analyze the detailed crash data and volumes for each intersection/crossover.
- Recommendations for movement restrictions were made based on crash data, volumes, and observations of alternative routes.
- Recommendations were compared to those in the 2007 SR 1 Corridor Capacity Preservation Program report.