



MEMORANDUM

Date: January 4, 2022

To: Peter Haag, DelDOT Chief Traffic Engineer

From: Steve Harr, WRA

Subject: Crash Trends at New Signal Locations – 2020 Crash Data Update

CC: Matt Buckley, WRA

Scott Neidert, DelDOT Traffic

In response to DelDOT’s request, WRA obtained and analyzed crash data for periods before and after recent signal installations. The locations analyzed had signals installed/activated between 2010 and 2019 to ensure at least one year of “after” crash data. Three years of data prior to the signal installation/activation was used to establish “before” conditions.

Signals installed along newly constructed roadways with no “before” data (e.g., SR 1 ramps near Christiana Mall), Fire signals, temporary signals, and HAWK pedestrian signal installations were omitted from the analysis. A final “shortlist” of 60 standard stop-and-go signals on existing roadways was produced, and crash data summaries were used to assess total crashes, rear end crashes, angle crashes, injury crashes, and property damage only (PDO) crashes during the “before” and “after” periods at each location. Due to variations in the “after” time periods, crash totals were converted to rates for analysis. Table 1 summarizes the annual crash rate comparison of the “before” and “after” conditions for all 60 signals.

Table 1. Annual Crash Rate Changes at New Signals

Before	Total	Rear End	Angle	Other	PDO	Injury
	3.83	1.21	1.73	0.89	2.72	1.11
After	Total	Rear End	Angle	Other	PDO	Injury
	5.86	3.05	1.47	1.34	4.40	1.46
% Change	53%	152%	-15%	51%	62%	31%

Although the data indicates that angle crashes decreased and rear end crashes increased, corresponding with multiple studies found in the *CMF Clearinghouse*, other types of crashes, including injury crashes and total crashes increased as well. However, other variables are likely contributing to the rate changes, as discussed in subsequent sections.

Existing Volume vs. Additional Volume

The most significant correlation between increased crash rates in the dataset of new signals was where the signal was installed as part of a larger project involving a significant traffic generator (e.g., Walmart, Redner’s, etc.). Many of these intersection locations in the “before” period were simply a highway median crossover or a low-volume “T” intersection. In the “after” period, the intersections became three- or four-legged intersections with significantly higher traffic volumes. Table 2 summarizes the crash rate changes at the 10 signals inclusive of a project/development generating additional traffic volume at the intersection.

Table 2. Annual Crash Rate Changes at New Signals with New Traffic Generators

Before	Total	Rear End	Angle	Other	PDO	Injury
	2.10	0.97	0.73	0.40	1.60	0.50
After	Total	Rear End	Angle	Other	PDO	Injury
	8.43	5.12	1.82	1.49	6.49	1.94
%Change	301%	430%	148%	272%	305%	288%

Conversely, 50 of the new signalizations were not in conjunction with significant additional development. These signals include conversion of flashing or part-time signals to full-time stop-and-go signalization, highway safety improvements, completion of a minor development that warranted signalization but did not significantly alter traffic patterns or intersection geometrics, and roadway realignment projects. Table 3 summarizes the crash rate changes at the 50 signals that were considered to have “after” traffic conditions relatively similar to “before” conditions.

Table 3. Annual Crash Rate Changes at New Signals without New Traffic Generators

Before	Total	Rear End	Angle	Other	PDO	Injury
	4.18	1.26	1.93	0.99	2.94	1.23
After	Total	Rear End	Angle	Other	PDO	Injury
	5.19	2.50	1.38	1.31	3.85	1.34
%Change	24%	99%	-28%	32%	31%	8%

The difference between these two sets of traffic generator data (i.e., Tables 2 and 3) is clear – signal installations exclusive of new large traffic generators exhibit the expected reduction in angle crash rate at the expense of a moderate increase in rear end crashes. Other crash types showed minor increases that may be related to yearly traffic volume increases, latent demand, and/or the fact that some sites did include some relatively minor development – e.g., build-out of neighborhoods, completion of corporate parks, and small commercial development. At sites referenced in Table 2, the additional traffic generated from the related major development becomes the controlling factor and all types of crash rates increase significantly; although, it should be noted that angle crashes increased at a significantly lower rate than other crash types.

Flashing or Part-Time Operation to Full-Time Signalization

Five sites at or near schools – SR 72 (Paper Mill Road) at Independence School, Walther Road at Barrett Run Drive, SR 279 (Elkton Road) at McIntire Drive, McKennans Church Road at McKean High School, and US 9 at Sussex Central Drive – were converted from predominantly flashing operation to 24-hour standard signalization during the 2010-2018 study period. Additionally, three sites were converted from overhead beacon flashers to 24-hour full-color signalization – SR 17 (Roxana Road) at Burbage Road, US 9 at Hudson Road/Fisher Road, and Brackenville Road Mill Creek Road. Table 4 shows the crash rates before and after the changes at these 8 signals.

Table 4. Annual Crash Rate Changes at Signals Changed from Flashing to Full-time Operation

Before	Total	Rear End	Angle	Other	PDO	Injury
	3.67	1.25	1.88	0.54	2.33	1.33
After	Total	Rear End	Angle	Other	PDO	Injury
	3.78	1.90	1.12	0.76	2.86	0.93
%Change	3%	52%	-40%	40%	22%	-31%

Switching to full-time operation reduced angle crashes by 40 percent and injury crashes 31 percent, with other crash types showing modest increases. This data further supports not leaving signals on flashing or part-time operation because of the motorist expectancy concerns and the difficulty in accurately determining the precise time-of-day traffic demand at a site/school.



Divided Four-Lane Roadways vs. Undivided Two-Lane Roadways

For the 50 new signalizations not accompanied by significant development and new traffic generators, crash rates of signals on divided four-lane roadways (16 locations) and undivided two-lane roadways (33 locations) were compared. One location (Carr Road at I-95 NB off-ramp) is on a divided two-lane roadway and was not included in this analysis. Tables 5 and 6 show the crash rates before and after signalization at these roadway types.

Table 5. Annual Crash Rate Changes at Signals on Four-Lane Divided Roadways

Before	Total	Rear End	Angle	Other	PDO	Injury
	5.92	1.98	2.46	1.48	4.07	1.86
After	Total	Rear End	Angle	Other	PDO	Injury
	6.93	3.55	1.42	1.97	5.20	1.73
% Change	17%	79%	-42%	33%	28%	-7%

Table 6. Annual Crash Rate Changes at Signals on Two-Lane Undivided Roadways

Before	Total	Rear End	Angle	Other	PDO	Injury
	4.04	1.11	2.04	0.89	2.91	1.13
After	Total	Rear End	Angle	Other	PDO	Injury
	4.53	2.09	1.43	1.01	3.33	1.20
% Change	12%	89%	-30%	13%	14%	6%

There does not appear to be any significant distinctions between the rate changes due to signalization on the different roadway types. Angle crashes and injury crashes are reduced slightly more and crash rates are generally higher on four-lane divided roadways than two-lane undivided roadways. This statistic is intuitive due to the increased difficulty of turning across multiple lanes and the generally higher volumes and higher speeds of divided four-lane roadways.

Delaware Findings vs. Current National Guidance

Many studies have been conducted and published over the last 20 years analyzing the safety effects of installing a signal. These studies attempt to quantify a Crash Modification Factor (CMF) for how the change to signalization affects different types of crash rates based on a variety of roadway characteristics (e.g., urban/rural, AADT, speed limits, etc.). Data from five studies was collected from the *CMF Clearinghouse* and a range of presented CMF values was determined for angle crashes, rear end crashes, and total crashes. These values were then compared to the average crash rate change presented in Table 3 – crash rate changes at the 44 signals that were considered to have “after” traffic conditions relatively similar to “before” conditions. Table 7 presents the comparison.

Table 7. Delaware CMF Comparison to Published National Research

Crash Type	Total	Rear End	Angle
Delaware CMF approximation	1.25	2.01	0.71
CMF range in national research	0.50 - 1.20	1.58 - 2.43	0.23 - 0.70

As shown, the changes in crash rates experienced at new signals in Delaware fall within or just above the range of current published research for CMFs. The general conclusion can be made that new signalization is relatively effective at reducing angle crashes; however, it is reasonable to expect rear end crashes to increase. Effects on total crashes may be offset and rates may remain basically unchanged, or a slight increase or decrease may be experienced.



Signal Installations Due to Crash History

Changes in crash rates at signals that were installed due to satisfying Signal Warrant #7 – Crash Experience were compared to changes in crash rates at signals that were installed for any other reason (e.g., volume warrants). To determine which signals had met the crash experience warrant, signal resolutions were reviewed. It was found that 13 of the 60 analysis locations had documentation noting the crash warrant was met in the “before” condition. Also, though not technically meeting the warrant, 3 additional signals (SR 7 at School Bell Road, US 40 at Biddle Avenue, and US 13 at Hyetts Corner Road) experienced four of the five crashes in a one-year period required to meet the signal warrant and were included in the data. It was assumed the crash history at these signals met the intent of the request to analyze signals that had significant crash history against those that did not. Tables 8 and 9 present this comparison. The 9 signals with significantly different traffic conditions in the “before” and “after” period were removed from this analysis.

Table 8. Annual Crash Rate Changes at Signals which Met Crash Warrant

Before	Total	Rear End	Angle	Other	PDO	Injury
	5.46	1.54	2.77	1.15	3.88	1.58
After	Total	Rear End	Angle	Other	PDO	Injury
	5.70	2.74	1.57	1.39	4.35	1.35
%Change	4%	77%	-43%	21%	12%	-15%

Table 9. Annual Crash Rate Changes at Signals which Did Not Meet Crash Warrant

Before	Total	Rear End	Angle	Other	PDO	Injury
	3.63	1.12	1.59	0.92	2.56	1.06
After	Total	Rear End	Angle	Other	PDO	Injury
	4.99	2.46	1.26	1.27	3.61	1.39
%Change	38%	120%	-21%	39%	41%	30%

Angle crashes are reduced in both data sets – the reduction achieved was about 105 percent greater at the locations that met the crash warrant – and injury crashes decreased at the locations that met the crash warrant. Also, rear end crashes increased more at locations where there was no crash history. The data suggests that signals in general can lower angle crash rates, but where there is a history of crash problems, signal installations can decrease more severe crash types as well without significant increases to rear end crashes.

Recommendations

The growing list of “new” signal installations now includes signals with over 10 years of “after” crash data. This is a concern for a few reasons:

- “Before” crash rates are based on only 3 years of data; comparing trends over two significantly different time periods may reduce accuracy
- Significant changes have occurred at many signals following activation (development, construction projects, phasing changes, traffic pattern changes, etc.) that may affect crash patterns more than the original signal activation
- Signals installed/activated within the last few years that may otherwise have “interesting” or “impactful” crash trends, are far outweighed by the years and years of “after” data at some of the 2012 and earlier analyzed intersections

Beginning with the 2021 crash data update, it is recommended that signals with more than 6 years of “after” data (i.e., 2014 and earlier signal installations/activations) be removed from the annual report updates. With 5 years to normalize crash rates, it is reasonable to assume that any significant changes to crash patterns following that “after” period could be attributed to other factors than the initial signalization. This would also allow more recent signal installations to have more impact on the rate changes presented in the report.



Appendix A – Signal Location Reference and Data Grouping

Permit Number	Major Road	Intersecting Road	"Live" Date	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8	Table 9
K279	Governors Avenue	South Street	1/30/2012	x		x			x	x		x
K288	US 13	Hickory Ridge Road / Spring Meadow Drive	1/22/2010	x		x		x		x		x
K289	North Street	Clarence Street / Banning Street	6/14/2010	x	x							
K290	US 13	Jerome Drive	10/5/2011	x	x							
K291	SR 15 (Hazletville Road)	SR 15 (Wyoming Mill Road) / Westover Drive	11/21/2011	x		x			x	x		x
K292	SR 8 (Halltown Road)	SR 44 (Hartly Road) / Royal Farms	12/12/2012	x		x			x	x		x
K294	S State Street	Grandview Drive / W Birdie Lane	5/29/2012	x		x			x	x	x	
K295	US 13	Carpenter Bridge Road / Moose Lodge	8/12/2013	x		x		x		x		x
K301	US 13	Old North Road	2/15/2013	x	x							
K302	Carter Road	Sunnyside Road	12/6/2013	x		x			x	x		x
K304	SR 8 (Forrest Avenue)	Dover High Drive	7/10/2014	x		x			x	x		x
K308	SR 15 / Scarborough Road	SR 15 (McKee Road)	2/5/2018	x		x			x	x		x
K313	SR 8 (Division Street)	Weston Drive	4/22/2014	x		x			x	x		x
N004P	SR 72 (Paper Mill Road)	Independence School	8/22/2013	x		x	x		x	x		x
N011P	McKennans Church Rd	McKean High School	10/8/2015	x		x	x		x	x		x
N536	Brackenville Road	Mill Creek Road	10/10/2019	x		x	x		x	x	x	
N628	Walther Road	Barrett Run Drive	8/25/2011	x		x	x		x	x	x	
N643	SR 279 (Eikton Road)	McIntire Drive	8/24/2013	x		x	x	x		x	x	
N704	Rockland Road	Ronald McDonald House / Nemours Parking	5/4/2017	x		x			x	x		x
N767	SR 299	Dove Run Boulevard	10/22/2010	x		x			x	x		x
N769	SR 7 (Limestone Road)	Lantana Drive / WSFS Bank	5/29/2011	x		x			x	x		x
N772	SR 7 (Bear Christiana Road)	School Bell Road	12/31/2013	x		x		x		x	x	
N775	US 40	Becks Woods Drive	3/21/2013	x		x		x		x		x
N780	US 40	Biddle Avenue	8/6/2013	x		x		x		x	x	
N781	SR 71 (Red Lion Road)	Old Porter Road	9/17/2019	x		x			x	x	x	
N791	US 13	SR 1 NB ramps (N. Smyrna)	6/27/2016	x		x		x		x		x
N792	US 13	Mid County Drive	6/16/2014	x	x							
N805	Pleasant Valley Road	Pencader Drive	11/21/2016	x		x			x	x		x
N808	SR 4 (Ogletown Stanton Rd)	Centurian Dr / Twin C Ln	5/18/2015	x		x		x		x	x	
N811	US 13	Hyetts Corner Rd	7/1/2015	x		x		x		x	x	
N812	SR 52 (Kennett Pike)	Owls Nest Road / Twaddell Mill Road	2/15/2016	x		x			x	x	x	
N814	Centerville Road	Red Clay Drive	3/14/2016	x		x			x	x		x
N818	Eagle Run Road	Delvarva Power (North Entrance)	1/11/2019	x		x			x	x		x
N819	Eagle Run Road	Delvarva Power (South Entrance)	10/8/2018	x		x			x	x		x
N820	US 13	Fieldsboro Rd	11/3/2015	x		x		x		x	x	
N822	Carr Road	I-95 NB Off-Ramp	12/12/2019	x		x				x		x
N824	E. Main Street	UD Green (Ped)	8/18/2016	x		x		x		x		x
N825	SR 896 (Boyds Corner Road)	Bayberry Parkway	7/1/2016	x	x				x			x
N826	Terminal Avenue (SR 9A)	Pigeon Point Road	10/30/2017	x		x		x		x	x	
N830	US 13	Cox Neck Road	8/24/2017	x		x		x		x		x
N831	E. Delaware Avenue	UD Green (Ped)	4/23/2018	x		x		x		x		x
N833	Paper Mill Road	Creek View Road	6/18/2018	x	x							
N834	Mall Road	Center Boulevard East	6/1/2018	x		x			x	x		x
N838	Red Mill Road	Bala Road	10/1/2019	x		x			x	x		x
S007P	US 9	Sussex Central Drive / Margaret Street	9/20/2018	x		x	x		x	x		x
S300	SR 17 (Roxana Road)	Burbage Road	12/8/2016	x		x	x		x	x		x
S310	SR 1A (Rehoboth Avenue)	Church Street	7/15/2010	x		x			x	x		x
S319	Savannah Road (US 9 Bus)	Vikings Way	8/23/2010	x		x			x	x		x
S320	SR 54 (Lighthouse Road)	W Fenwick Boulevard	7/16/2010	x	x							
S321	Plantation Road	Shady Road / Salt Marsh Boulevard	4/4/2012	x		x			x	x		x
S324	SR 30 (Cedar Creek Road)	Wilkins Road	11/12/2013	x	x							
S328	Plantation Rd	Cedar Grove Rd/Postal Ln	5/20/2015	x		x			x	x	x	
S329	Central Ave	Cedar Dr	1/2/2015	x		x			x	x		x
S330	US 113	Cypress Hall Boulevard	8/3/2012	x	x							
S332	US 113	Arrow Safety Road / First State Chevrolet	3/1/2012	x		x		x		x	x	
S338	US 9	Hudson Road / Fisher Road	11/10/2016	x		x	x		x	x	x	
S339	US 113	College Park Drive	4/28/2014	x	x							
S351	US 113	Kruger Rd/Wood Branch Rd	11/16/2015	x		x		x		x	x	
S352	SR 24 (John J. Williams Highway)	Hollyville Road / Jersey Road	4/17/2017	x		x			x	x		x
S370	SR 30 (Cedar Creek Road)	SR 1 SB Ramps / Wellness Way	10/3/2019	x		x			x	x		x

2019 Signal Activation



Appendix B – Crash Data and Intersection Characteristics by Signal

2019 Signal Activation

Permit Number	Major Road	Intersecting Road	Yearly Crash Rates Before Signalization					
			Before Crashes	Before Rear End	Before Angle	Before Other	Before PDO	Before Injury
K279	Governors Avenue	South Street	1.33	0.00	1.00	0.33	0.67	0.67
K288	US 13	Hickory Ridge Road / Spring Meadow Drive	3.67	0.67	2.00	1.00	1.67	2.00
K289	North Street	Clarence Street / Banning Street	1.33	0.00	1.33	0.00	0.33	1.00
K290	US 13	Jerome Drive	2.33	1.33	0.33	0.67	1.33	1.00
K291	SR 15 (Hazlettville Road)	SR 15 (Wyoming Mill Road) / Westover Drive	7.00	1.67	4.00	1.33	4.34	2.67
K292	SR 8 (Halltown Road)	SR 44 (Hartly Road) / Royal Farms	4.67	1.33	2.00	1.33	4.34	0.33
K294	S State Street	Grandview Drive / W. Birdie Lane	3.67	1.00	2.00	0.67	2.00	1.67
K295	US 13	Carpenter Bridge Road / Moose Lodge	5.00	3.00	0.33	1.67	3.34	1.67
K301	US 13	Old North Road	2.67	1.33	1.00	0.33	2.00	0.67
K302	Carter Road	Sunnyside Road	3.34	0.00	1.67	1.67	3.00	0.33
K304	SR 8 (Forrest Avenue)	Dover High Drive	3.34	1.00	1.33	1.00	2.33	1.00
K308	SR 15 / Scarborough Road	SR 15 (McKee Road)	3.67	0.67	2.33	0.67	2.33	1.33
K313	SR 8 (Division Street)	Weston Drive	2.00	0.00	1.67	0.33	1.00	1.00
N004P	SR 72 (Paper Mill Road)	Independence School	2.67	1.67	0.67	0.33	2.33	0.33
N011P	McKennans Church Road	McKean High School	0.00	0.00	0.00	0.00	0.00	0.00
N536	Brackenville Road	Mill Creek Road	8.34	2.00	5.00	1.33	6.00	2.33
N628	Walther Road	Barrett Run Drive	2.00	0.33	1.33	0.33	1.00	1.00
N643	SR 279 (Elkton Road)	McIntire Drive	5.67	3.67	1.67	0.33	3.00	2.67
N704	Rockland Road	Ronald McDonald House / Nemours Parking	0.33	0.00	0.00	0.33	0.33	0.00
N767	SR 299	Dove Run Boulevard	5.34	3.00	0.67	1.67	4.34	1.00
N769	SR 7 (Limestone Road)	Lantana Drive / WSFS Bank	4.00	0.33	3.00	0.67	2.33	1.67
N772	SR 7 (Bear Christiana Road)	School Bell Road	9.34	5.00	1.67	2.67	7.34	2.00
N775	US 40	Becks Woods Drive	12.01	4.34	5.67	2.00	10.34	1.67
N780	US 40	Biddle Avenue	4.00	2.00	1.00	1.00	3.00	1.00
N781	SR 71 (Red Lion Road)	Old Porter Road	3.00	1.33	1.33	0.33	2.33	0.67
N791	US 13	SR 1 NB ramps (N. Smyrna)	9.67	2.00	4.67	3.00	6.34	3.34
N792	US 13	Mid County Drive	0.67	0.33	0.33	0.00	0.33	0.33
N805	Pleasant Valley Road	Pencader Drive	1.33	0.33	0.33	0.67	1.00	0.33
N808	SR 4 (Ogletown Stanton Road)	Centurian Drive / Twin C Lane	9.34	0.33	7.34	1.67	6.67	2.67
N811	US 13	Hyetts Corner Road	3.34	2.00	1.00	0.33	1.67	1.67
N812	SR 52 (Kennett Pike)	Owls Nest Road / Twaddell Mill Road	7.34	1.33	4.34	1.67	6.00	1.33
N814	Centerville Road	Red Clay Drive	1.33	0.33	1.00	0.00	0.33	1.00
N818	Eagle Run Road	Delvarva Power (North Entrance)	0.00	0.00	0.00	0.00	0.00	0.00
N819	Eagle Run Road	Delvarva Power (South Entrance)	0.00	0.00	0.00	0.00	0.00	0.00
N820	US 13	Fieldsboro Rd	7.67	1.33	5.00	1.33	5.34	2.33
N822	Carr Road	I-95 NB Off-Ramp	1.00	0.33	0.00	0.67	0.67	0.33
N824	E. Main Street	UD Green (Ped)	4.00	2.33	0.00	1.67	2.67	1.33
N825	SR 896 (Boyd's Corner Road)	Bayberry Parkway	1.33	0.33	1.00	0.00	1.00	0.33
N826	Terminal Avenue (SR 9A)	Pigeon Point Road	3.34	0.00	2.33	1.00	2.67	0.67
N830	US 13	Cox Neck Road	4.67	2.00	2.00	0.67	2.33	2.33
N831	E. Delaware Avenue	UD Green (Ped)	4.67	1.67	1.00	2.00	3.34	1.33
N833	Paper Mill Road	Creek View Road	1.67	1.33	0.33	0.00	1.67	0.00
N834	Mall Road	Center Boulevard East	7.67	2.33	3.67	1.67	6.67	1.00
N838	Red Mill Road	Bala Road	4.00	2.00	1.33	0.67	3.34	0.67
S007P	US 9	Sussex Central Drive / Margaret Street	1.33	0.67	0.33	0.33	1.33	0.00
S300	SR 17 (Roxana Road)	Burbage Road	5.00	0.33	4.00	0.67	2.00	3.00
S310	SR 1A (Rehoboth Avenue)	Church Street	4.67	2.67	1.00	1.00	3.34	1.33
S319	Savannah Road (US 9 Bus)	Vikings Way	0.67	0.67	0.00	0.00	0.33	0.33
S320	SR 54 (Lighthouse Road)	W Fenwick Boulevard	1.67	0.33	0.67	0.67	1.33	0.33
S321	Plantation Road	Shady Road / Salt Marsh Boulevard	3.34	0.67	2.00	0.67	2.33	1.00
S324	SR 30 (Cedar Creek Road)	Wilkins Road	2.00	0.67	1.00	0.33	1.33	0.67
S328	Plantation Road	Cedar Grove Road / Postal Lane	7.67	1.67	4.67	1.33	6.67	1.00
S329	Central Avenue	Cedar Drive	1.00	0.00	0.00	1.00	0.67	0.33
S330	US 113	Cypress Hall Boulevard	0.00	0.00	0.00	0.00	0.00	0.00
S332	US 113	Arrow Safety Road / First State Chevrolet	4.34	0.67	2.00	1.67	3.00	1.33
S338	US 9	Hudson Road / Fisher Road	4.34	1.33	2.00	1.00	3.00	1.33
S339	US 113	College Park Drive	7.34	4.00	1.33	2.00	6.67	0.67
S351	US 113	Kruger Road / Wood Branch Road	4.00	0.67	1.67	1.67	2.33	1.67
S352	SR 24 (John J. Williams Highway)	Hollyville Road / Jersey Road	6.34	2.33	2.00	2.00	3.67	2.67
S370	SR 30 (Cedar Creek Road)	SR 1 SB Ramps / Wellness Way	2.33	0.00	2.33	0.00	2.00	0.33



Appendix B – Crash Data and Intersection Characteristics by Signal

2019 Signal Activation

Permit Number	Major Road	Intersecting Road	Yearly Crash Rates After Signalization					
			After Crashes	After Rear End	After Angle	After Other	After PDO	After Injury
K279	Governors Avenue	South Street	4.04	1.57	1.57	0.90	2.47	1.57
K288	US 13	Hickory Ridge Road / Spring Meadow Drive	6.86	4.02	1.10	1.74	4.57	2.29
K289	North Street	Clarence Street / Banning Street	3.41	2.09	0.95	0.38	1.90	1.52
K290	US 13	Jerome Drive	12.56	7.25	2.92	2.38	8.88	3.68
K291	SR 15 (Hazletville Road)	SR 15 (Wyoming Mill Road) / Westover Drive	8.45	4.72	2.64	1.10	6.04	2.42
K292	SR 8 (Halltown Road)	SR 44 (Hartly Road) / Royal Farms	2.61	0.87	0.99	0.75	1.99	0.62
K294	S State Street	Grandview Drive / W. Birdie Lane	5.36	1.51	2.45	1.40	3.61	1.75
K295	US 13	Carpenter Bridge Road / Moose Lodge	9.75	4.88	1.22	3.66	7.99	1.76
K301	US 13	Old North Road	22.24	14.87	4.32	3.05	17.28	4.96
K302	Carter Road	Sunnyside Road	3.40	0.99	1.98	0.42	1.56	1.84
K304	SR 8 (Forrest Avenue)	Dover High Drive	4.63	1.08	0.62	2.93	2.16	2.47
K308	SR 15 / Scarborough Road	SR 15 (McKee Road)	3.45	2.07	1.38	0.00	2.07	1.38
K313	SR 8 (Division Street)	Weston Drive	1.79	0.75	0.45	0.60	0.75	1.05
N004P	SR 72 (Paper Mill Road)	Independence School	3.67	2.58	0.14	0.95	3.13	0.54
N011P	McKennans Church Road	McKean High School	1.72	0.19	0.76	0.76	1.15	0.57
N536	Brackenville Road	Mill Creek Road	4.09	1.63	1.63	0.82	3.27	0.82
N628	Walther Road	Barrett Run Drive	1.71	1.18	0.53	0.00	1.28	0.43
N643	SR 279 (Elkton Road)	McIntire Drive	5.44	3.13	1.50	0.82	3.27	2.18
N704	Rockland Road	Ronald McDonald House / Nemours Parking	0.00	0.00	0.00	0.00	0.00	0.00
N767	SR 299	Dove Run Boulevard	6.48	4.02	1.37	1.08	4.81	1.67
N769	SR 7 (Limestone Road)	Lantana Drive / WSFS Bank	6.15	3.23	1.67	1.25	4.80	1.36
N772	SR 7 (Bear Christiana Road)	School Bell Road	7.72	3.14	3.00	1.57	6.43	1.29
N775	US 40	Becks Woods Drive	8.36	4.76	1.03	2.57	6.17	2.19
N780	US 40	Biddle Avenue	4.05	2.03	0.27	1.76	3.38	0.68
N781	SR 71 (Red Lion Road)	Old Porter Road	1.55	0.00	0.78	0.78	1.55	0.00
N791	US 13	SR 1 NB ramps (N. Smyrna)	12.42	4.88	4.88	2.66	7.54	4.88
N792	US 13	Mid County Drive	7.03	2.60	2.29	2.14	5.50	1.53
N805	Pleasant Valley Road	Pencader Drive	4.14	1.22	0.97	1.95	2.68	1.46
N808	SR 4 (Ogletown Stanton Road)	Centurian Drive / Twin C Lane	5.52	2.67	1.07	1.78	4.80	0.71
N811	US 13	Hyetts Corner Road	6.55	4.00	0.55	2.00	4.91	1.64
N812	SR 52 (Kennett Pike)	Owls Nest Road / Twaddell Mill Road	5.34	1.85	2.26	1.23	4.52	0.82
N814	Centerville Road	Red Clay Drive	4.59	1.67	1.67	1.25	3.13	1.46
N818	Eagle Run Road	Delvarva Power (North Entrance)	0.00	0.00	0.00	0.00	0.00	0.00
N819	Eagle Run Road	Delvarva Power (South Entrance)	0.00	0.00	0.00	0.00	0.00	0.00
N820	US 13	Fieldsboro Rd	7.56	3.10	2.71	1.74	4.46	3.10
N822	Carr Road	I-95 NB Off-Ramp	3.80	0.95	0.00	2.85	2.85	0.95
N824	E. Main Street	UD Green (Ped)	5.50	1.83	1.83	1.83	5.27	0.23
N825	SR 896 (Boyds Corner Road)	Bayberry Parkway	5.11	3.33	1.11	0.67	4.45	0.67
N826	Terminal Avenue (SR 9A)	Pigeon Point Road	2.21	0.32	0.63	1.26	2.21	0.00
N830	US 13	Cox Neck Road	3.88	2.39	0.60	0.90	3.28	0.60
N831	E. Delaware Avenue	UD Green (Ped)	2.23	0.74	0.74	0.74	1.86	0.37
N833	Paper Mill Road	Creek View Road	3.16	2.76	0.00	0.39	1.97	1.18
N834	Mall Road	Center Boulevard East	10.85	4.26	3.49	3.10	9.68	1.16
N838	Red Mill Road	Bala Road	8.81	0.00	8.81	0.00	8.01	0.80
S007P	US 9	Sussex Central Drive / Margaret Street	3.07	0.88	1.32	0.88	2.63	0.44
S300	SR 17 (Roxana Road)	Burbage Road	3.45	0.49	1.48	1.48	2.71	0.74
S310	SR 1A (Rehoboth Avenue)	Church Street	7.84	4.78	1.15	1.91	6.12	1.72
S319	Savannah Road (US 9 Bus)	Vikings Way	2.32	1.64	0.19	0.48	1.83	0.48
S320	SR 54 (Lighthouse Road)	W Fenwick Boulevard	2.01	1.24	0.29	0.48	1.63	0.38
S321	Plantation Road	Shady Road / Salt Marsh Boulevard	2.29	0.69	1.14	0.46	1.83	0.46
S324	SR 30 (Cedar Creek Road)	Wilkins Road	2.24	0.84	0.56	0.84	1.54	0.70
S328	Plantation Road	Cedar Grove Road / Postal Lane	6.95	3.03	3.03	0.89	4.99	1.96
S329	Central Avenue	Cedar Drive	0.50	0.17	0.00	0.33	0.50	0.00
S330	US 113	Cypress Hall Boulevard	3.09	2.14	0.12	0.83	2.50	0.59
S332	US 113	Arrow Safety Road / First State Chevrolet	8.61	5.10	0.57	2.94	6.79	1.81
S338	US 9	Hudson Road / Fisher Road	8.95	4.35	3.39	1.21	7.50	1.45
S339	US 113	College Park Drive	23.37	14.53	5.24	3.60	19.78	3.60
S351	US 113	Kruger Road / Wood Branch Road	5.86	3.51	1.37	0.98	4.69	1.17
S352	SR 24 (John J. Williams Highway)	Hollyville Road / Jersey Road	8.10	4.59	2.70	0.81	7.02	1.08
S370	SR 30 (Cedar Creek Road)	SR 1 SB Ramps / Wellness Way	1.61	0.00	1.61	0.00	0.00	1.61



Appendix B – Crash Data and Intersection Characteristics by Signal

2019 Signal Activation

Permit Number	Major Road	Intersecting Road	"Live" Date	Duration of Before and After Periods for Crash Analysis					
				Before Period		After Period		Before Years	After Years
K279	Governors Avenue	South Street	1/30/2012	1/29/2009	1/29/2012	1/31/2012	12/31/2020	3.00	8.92
K288	US 13	Hickory Ridge Road / Spring Meadow Drive	1/22/2010	1/22/2007	1/21/2010	1/23/2010	12/31/2020	3.00	10.94
K289	North Street	Clarence Street / Banning Street	6/14/2010	6/14/2007	6/13/2010	6/15/2010	12/31/2020	3.00	10.55
K290	US 13	Jerome Drive	10/5/2011	10/4/2008	10/4/2011	10/6/2011	12/31/2020	3.00	9.24
K291	SR 15 (Hazletville Road)	SR 15 (Wyoming Mill Road) / Westover Drive	11/21/2011	11/20/2008	11/20/2011	11/22/2011	12/31/2020	3.00	9.11
K292	SR 8 (Halltown Road)	SR 44 (Hartly Road) / Royal Farms	12/12/2012	12/12/2009	12/11/2012	12/13/2012	12/31/2020	3.00	8.05
K294	S State Street	Grandview Drive / W. Birdie Lane	5/29/2012	5/29/2009	5/28/2012	5/30/2012	12/31/2020	3.00	8.59
K295	US 13	Carpenter Bridge Road / Moose Lodge	8/12/2013	8/12/2010	8/11/2013	8/13/2013	12/31/2020	3.00	7.38
K301	US 13	Old North Road	2/15/2013	2/15/2010	2/14/2013	2/16/2013	12/31/2020	3.00	7.87
K302	Carter Road	Sunnyside Road	12/6/2013	12/6/2010	12/5/2013	12/7/2013	12/31/2020	3.00	7.07
K304	SR 8 (Forrest Avenue)	Dover High Drive	7/10/2014	7/10/2011	7/9/2014	7/11/2014	12/31/2020	3.00	6.47
K308	SR 15 / Scarborough Road	SR 15 (McKee Road)	2/5/2018	2/5/2015	2/4/2018	2/6/2018	12/31/2020	3.00	2.90
K313	SR 8 (Division Street)	Weston Drive	4/22/2014	4/22/2011	4/21/2014	4/23/2014	12/31/2020	3.00	6.69
N004P	SR 72 (Paper Mill Road)	Independence School	8/22/2013	8/22/2010	8/21/2013	8/23/2013	12/31/2020	3.00	7.36
N011P	McKennans Church Road	McKean High School	10/8/2015	10/7/2012	10/7/2015	10/9/2015	12/31/2020	3.00	5.23
N536	Brackenville Road	Mill Creek Road	10/10/2019	10/9/2016	10/9/2019	10/11/2019	12/31/2020	3.00	1.22
N628	Walther Road	Barrett Run Drive	8/25/2011	8/24/2008	8/24/2011	8/26/2011	12/31/2020	3.00	9.35
N643	SR 279 (Elkton Road)	McIntire Drive	8/24/2013	8/24/2010	8/23/2013	8/25/2013	12/31/2020	3.00	7.35
N704	Rockland Road	Ronald McDonald House / Nemours Parking	5/4/2017	5/4/2014	5/3/2017	5/5/2017	12/31/2020	3.00	3.66
N767	SR 299	Dove Run Boulevard	10/22/2010	10/22/2007	10/21/2010	10/23/2010	12/31/2020	3.00	10.19
N769	SR 7 (Limestone Road)	Lantana Drive / WSFS Bank	5/29/2011	5/28/2008	5/28/2011	5/30/2011	12/31/2020	3.00	9.59
N772	SR 7 (Bear Christiana Road)	School Bell Road	12/31/2013	12/31/2010	12/30/2013	1/1/2014	12/31/2020	3.00	7.00
N775	US 40	Becks Woods Drive	3/21/2013	3/21/2010	3/20/2013	3/22/2013	12/31/2020	3.00	7.78
N780	US 40	Biddle Avenue	8/6/2013	8/6/2010	8/5/2013	8/7/2013	12/31/2020	3.00	7.40
N781	SR 71 (Red Lion Road)	Old Porter Road	9/17/2019	9/16/2016	9/16/2019	9/18/2019	12/31/2020	3.00	1.29
N791	US 13	SR 1 NB ramps (N. Smyrna)	6/27/2016	6/27/2013	6/26/2016	6/28/2016	12/31/2020	3.00	4.51
N792	US 13	Mid County Drive	6/16/2014	6/16/2011	6/15/2014	6/17/2014	12/31/2020	3.00	6.54
N805	Pleasant Valley Road	Pencader Drive	11/21/2016	11/21/2013	11/20/2016	11/22/2016	12/31/2020	3.00	4.11
N808	SR 4 (Ogletown Stanton Road)	Centurian Drive / Twin C Lane	5/18/2015	5/17/2012	5/17/2015	5/19/2015	12/31/2020	3.00	5.62
N811	US 13	Hyetts Corner Road	7/1/2015	6/30/2012	6/30/2015	7/2/2015	12/31/2020	3.00	5.50
N812	SR 52 (Kennett Pike)	Owls Nest Road / Twaddell Mill Road	2/15/2016	2/14/2013	2/14/2016	2/16/2016	12/31/2020	3.00	4.87
N814	Centerville Road	Red Clay Drive	3/14/2016	3/14/2013	3/13/2016	3/15/2016	12/31/2020	3.00	4.80
N818	Eagle Run Road	Delvara Power (North Entrance)	1/11/2019	1/11/2016	1/10/2019	1/12/2019	12/31/2020	3.00	1.97
N819	Eagle Run Road	Delvara Power (South Entrance)	10/8/2018	10/8/2015	10/7/2018	10/9/2018	12/31/2020	3.00	2.23
N820	US 13	Fieldsboro Rd	11/3/2015	11/2/2012	11/2/2015	11/4/2015	12/31/2020	3.00	5.16
N822	Carr Road	I-95 NB Off-Ramp	12/12/2019	12/11/2016	12/11/2019	12/13/2019	12/31/2020	3.00	1.05
N824	E. Main Street	UD Green (Ped)	8/18/2016	8/18/2013	8/17/2016	8/19/2016	12/31/2020	3.00	4.37
N825	SR 896 (Boyd's Corner Road)	Bayberry Parkway	7/1/2016	7/1/2013	6/30/2016	7/2/2016	12/31/2020	3.00	4.50
N826	Terminal Avenue (SR 9A)	Pigeon Point Road	10/30/2017	10/30/2014	10/29/2017	10/31/2017	12/31/2020	3.00	3.17
N830	US 13	Cox Neck Road	8/24/2017	8/24/2014	8/23/2017	8/25/2017	12/31/2020	3.00	3.35
N831	E. Delaware Avenue	UD Green (Ped)	4/23/2018	4/23/2015	4/22/2018	4/24/2018	12/31/2020	3.00	2.69
N833	Paper Mill Road	Creek View Road	6/18/2018	6/18/2015	6/17/2018	6/19/2018	12/31/2020	3.00	2.54
N834	Mall Road	Center Boulevard East	6/1/2018	6/1/2015	5/31/2018	6/2/2018	12/31/2020	3.00	2.58
N838	Red Mill Road	Bala Road	10/1/2019	9/30/2016	9/30/2019	10/2/2019	12/31/2020	3.00	1.25
S007P	US 9	Sussex Central Drive / Margaret Street	9/20/2018	9/20/2015	9/19/2018	9/21/2018	12/31/2020	3.00	2.28
S300	SR 17 (Roxana Road)	Burbage Road	12/8/2016	12/8/2013	12/7/2016	12/9/2016	12/31/2020	3.00	4.06
S310	SR 1A (Rehoboth Avenue)	Church Street	7/15/2010	7/15/2007	7/14/2010	7/16/2010	12/31/2020	3.00	10.46
S319	Savannah Road (US 9 Bus)	Vikings Way	8/23/2010	8/23/2007	8/22/2010	8/24/2010	12/31/2020	3.00	10.35
S320	SR 54 (Lighthouse Road)	W Fenwick Boulevard	7/16/2010	7/16/2007	7/15/2010	7/17/2010	12/31/2020	3.00	10.46
S321	Plantation Road	Shady Road / Salt Marsh Boulevard	4/4/2012	4/4/2009	4/3/2012	4/5/2012	12/31/2020	3.00	8.74
S324	SR 30 (Cedar Creek Road)	Wilkins Road	11/12/2013	11/12/2010	11/11/2013	11/13/2013	12/31/2020	3.00	7.13
S328	Plantation Road	Cedar Grove Road / Postal Lane	5/20/2015	5/19/2012	5/19/2015	5/21/2015	12/31/2020	3.00	5.62
S329	Central Avenue	Cedar Drive	1/2/2015	1/2/2012	1/1/2015	1/3/2015	12/31/2020	3.00	5.99
S330	US 113	Cypress Hall Boulevard	8/3/2012	8/3/2009	8/2/2012	8/4/2012	12/31/2020	3.00	8.41
S332	US 113	Arrow Safety Road / First State Chevrolet	3/1/2012	3/1/2009	2/29/2012	3/2/2012	12/31/2020	3.00	8.83
S338	US 9	Hudson Road / Fisher Road	11/10/2016	11/10/2013	11/9/2016	11/11/2016	12/31/2020	3.00	4.14
S339	US 113	College Park Drive	4/28/2014	4/28/2011	4/27/2014	4/29/2014	12/31/2020	3.00	6.67
S351	US 113	Kruger Road / Wood Branch Road	11/16/2015	11/15/2012	11/15/2015	11/17/2015	12/31/2020	3.00	5.12
S352	SR 24 (John J. Williams Highway)	Hollyville Road / Jersey Road	4/17/2017	4/17/2014	4/16/2017	4/18/2017	12/31/2020	3.00	3.70
S370	SR 30 (Cedar Creek Road)	SR 1 SB Ramps / Wellness Way	10/3/2019	10/2/2016	10/2/2019	10/4/2019	12/31/2020	3.00	1.24



Appendix B – Crash Data and Intersection Characteristics by Signal

2019 Signal Activation

Permit Number	Major Road	Intersecting Road	Intersection Characteristics										
			Divided/Undivided	Major Road # of Lanes	Minor Road # of Lanes	Rural/Urban	Major Road AADT	Minor Road AADT	Signal Operation	Lit/Unlit	Major Road Speed Limit	Functional Class.	Traffic Group
K279	Governors Avenue	South Street	Undivided	2	2	Urban	9602		FREE	Lit	35	Minor Art	2
K288	US 13	Hickory Ridge Road / Spring Meadow Drive	Divided	4	2	Urban	30662	2921	K001	Lit	55	Minor Art	2
K289	North Street	Clarence Street / Banning Street	Undivided	2	2	Urban	10440		K209	Lit	35	Major Col	2
K290	US 13	Jerome Drive	Divided	4	4	Urban	33311		K031	Unlit	55	Minor Art	5
K291	SR 15 (Hazletville Road)	SR 15 (Wyoming Mill Road) / Westover Drive	Undivided	2	2	Urban	4330 15746	- 7737	K016	Unlit	EB40 WB45	Major Col Minor Art	6 2
K292	SR 8 (Halltown Road)	SR 44 (Hartly Road) / Royal Farms	Undivided	2	2	Rural	7542	3898	K204	Lit	EB50	Minor Art	5
K294	S State Street	Grandview Drive / W. Birdie Lane	Undivided	2	2	Urban	11306		FREE	Unlit	NB35/SB50	Minor Art	5
K295	US 13	Carpenter Bridge Road / Moose Lodge	Divided	4	2	Rural	22729	1741	K036	Unlit	55	Princ Art	5
K301	US 13	Old North Road	Divided	4	2	Urban	44588		K035	Unlit	50	Princ Art	2
K302	Carter Road	Sunnyside Road	Undivided	2	2	Urban	8239	2291	FREE	Lit	EB35/WB40	Major Col	3
K304	SR 8 (Forrest Avenue)	Dover High Drive	Undivided	2	2	Urban	11232		K004	Lit	50	Minor Art	2
K308	SR 15 / Scarborough Road	SR 15 (McKee Road)	Undivided	2	2	Urban	21638 16482	4783	K026	Lit	45	Minor Art	2
K313	SR 8 (Division Street)	Weston Drive	Undivided	2	2	Urban	13336		K025	Lit	25	Minor Art	2
N004P	SR 72 (Paper Mill Road)	Independence School	Undivided	2	2	Urban	16123		N099	Lit	50	Minor Art	5
N011P	McKennans Church Road	McKean High School	Undivided	2	2	Urban	7145		FREE	Lit	35	Minor Art	2
N536	Brackenville Road	Mill Creek Road	Undivided	2	2	Urban	11143 6624	2397 1300	FREE	Lit	35	Major Col	3
N828	Walther Road	Barrett Run Drive	Divided	2	2	Urban	9176		FREE	Unlit	45	Major Col	3
N843	SR 279 (Elkton Road)	McIntire Drive	Divided	4	2	Urban	29409		FREE	Lit	NB50/SB40	Princ Art	2
N704	Rockland Road	Ronald McDonald House / Nemours Parking	Undivided	2	2	Urban	6194		FREE	Lit	25	Major Col	3
N767	SR 299	Dove Run Boulevard	Undivided	2	2	Urban	22997		N104	Lit	40	Minor Art	5
N769	SR 7 (Limestone Road)	Lantana Drive / WSFS Bank	Undivided	4	2	Urban	27984		N068	Lit	50	Princ Art	2
N772	SR 7 (Bear Christiana Road)	School Bell Road	Divided	4	2	Urban	17668	4749	N100	Lit	40	Princ Art	2
N775	US 40	Becks Woods Drive	Divided	4	2	Urban	35214		N084	Unlit	50	Princ Art	2
N780	US 40	Biddle Avenue	Divided	4	2	Urban	29027		N085	Unlit	EB55/WB40	Princ Art	2
N781	SR 71 (Red Lion Road)	Old Porter Road	Undivided	2	2	Urban	4515	4155	FREE	Unlit	35	Major Col	3
N791	US 13	SR 1 NB ramps (N. Smyrna)	Divided	4	2	Rural	19547		K999	Lit	30	Minor Art	5
N792	US 13	Md County Drive	Divided	4	2	Urban	9626		FREE	Unlit	NB45/SB55	Minor Art	5
N805	Pleasant Valley Road	Pencader Drive	Undivided	2	2	Urban	14374		FREE	Unlit	50	Major Col	3
N808	SR 4 (Ogleton Stanton Road)	Centurian Drive / Twin C Lane	Divided	4	2	Urban	18016	2129	N062	Lit	EB45/WB50	Princ Art	2
N811	US 13	Hyetts Corner Road	Divided	4	2	Urban	30428	1469	N076	Unlit	55	Minor Art	5
N812	SR 52 (Kennett Pike)	Owls Nest Road / Twaddell Mill Road	Undivided	2	2	Urban	12260	1964	FREE	Unlit	35	Princ Art	2
N814	Centerville Road	Red Clay Drive	Undivided	2	2	Urban	8751		N115	Lit	45	Major Col	2
N818	Eagle Run Road	Delvarva Power (North Entrance)	Undivided	2	2	Urban	21213		N105	Lit	35	Local	2
N819	Eagle Run Road	Delvarva Power (South Entrance)	Undivided	2	2	Urban	21213		FREE	Lit	35	Local	2
N820	US 13	Fieldsboro Rd	Divided	4	2	Urban	17580	3932	N050	Lit	55	Minor Art	5
N822	Carr Road	I-95 NB Off-Ramp	Divided	2	2	Urban	2160		FREE	Lit	35	Major Col	3
N824	E. Main Street	UD Green (Ped)	Divided	4	0	Urban	11967		N037	Lit	25	Princ Art	2
N825	SR 896 (Boyd's Corner Road)	Bayberry Parkway	Undivided	2	2	Rural	16498		N114	Unlit	50	Princ Art	5
N826	Terminal Avenue (SR 9A)	Pigeon Point Road	Divided	4	2	Urban	5657	3707	FREE	Unlit	35	Princ Art	2
N830	US 13	Cox Neck Road	Divided	4	2	Urban	9825	2209	N096	Lit	55	Minor Art	2
N831	E. Delaware Avenue	UD Green (Ped)	Divided	4	0	Urban	11967		N037	Lit	25	Princ Art	2
N833	Paper Mill Road	Creek View Road	Undivided	2	2	Urban	17396		N008	Lit	25	Minor Art	2
N834	Mall Road	Center Boulevard East	Undivided	4	4	Urban		1961	N109	Lit	25	Private	
N838	Red Mill Road	Bala Road	Undivided	2	4	Urban	15079	3144	N016	Lit	35	Minor Art	2
S007P	US 9	Sussex Central Drive / Margaret Street	Undivided	2	2	Urban	13750		FREE	Lit	25	Minor Art	8
S300	SR 17 (Roxana Road)	Burbage Road	Undivided	2	2	Rural	4679	2487	FREE	Unlit	50	Major Col	8
S310	SR 1A (Rehoboth Avenue)	Church Street	Undivided	2	2	Urban	15420	2339	S020	Lit	25	Minor Art	8
S319	Savannah Road (US 9 Bus)	Vikings Way	Undivided	2	2	Urban	12919		S023	Lit	30	Major Col	8
S320	SR 54 (Lighthouse Road)	W Fenwick Boulevard	Undivided	2	2	Rural	6189		S012	Unlit	40	Major Col	8
S321	Plantation Road	Shady Road / Salt Marsh Boulevard	Undivided	2	2	Urban	9100	4103	FREE	Unlit	45	Major Col	7
S324	SR 30 (Cedar Creek Road)	Wilkins Road	Undivided	2	2	Rural	5751	3202	FREE	Lit	40	Major Col	6
S328	Plantation Road	Cedar Grove Road / Postal Lane	Undivided	2	2	Urban	10795	6175	FREE	Lit	45	Major Col	7
S329	Central Avenue	Cedar Drive	Undivided	2	2	Urban	8711	5250	FREE	Unlit	30	Major Col	7
S330	US 113	Cypress Hall Boulevard	Divided	4	2	Urban	19184		K006	Unlit	55	Princ Art	2
S332	US 113	Arrow Safety Road / First State Chevrolet	Divided	4	2	Rural	25147	2055	S009	Unlit	55	Princ Art	5
S338	US 9	Hudson Road / Fisher Road	Undivided	2	2	Rural	14696	1515.5	S027	Lit	50	Princ Art	8
S339	US 113	College Park Drive	Divided	4	2	Urban	26118		S009	Unlit	55	Princ Art	5
S351	US 113	Kruger Road / Wood Branch Road	Divided	4	2	Rural	25541	893	S009	Unlit	55	Princ Art	5
S352	SR 24 (John J. Williams Highway)	Hollyville Road / Jersey Road	Undivided	2	2	Rural	21960	3448	FREE	Lit	35	Major Col	8
S370	SR 30 (Cedar Creek Road)	SR 1 SB Ramps / Wellness Way	Undivided	2	2	Rural	6098		FREE	Lit	40	Major Col	3

