

Rutter's Store #103

City of Aberdeen, Harford County, Maryland

August 10, 2021

Traffic Impact Analysis

Prepared for:

Rutter's Stores

Mr. Damon W. Hall, PE
2295 Susquehanna Trail, Suite C
York, PA 17404
damon.hall@rutters.com



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Professional Certification:

Prepared by: Joseph J. Caloggero, P.E., PTOE, PTP
Qiang Tian, P.E., PTOE

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The Traffic Group, Inc. ®
Traffic Engineers & Transportation Planners

Merging Innovation and Excellence®

CORPORATE OFFICE
9900 Franklin Square Drive, Suite H
Baltimore, Maryland 21236
410-931-6600 Fax: 410-931-6601
1-800-583-8411
www.trafficgroup.com

INTRODUCTION AND SUMMARY OF FINDINGS

Study Purpose

The Traffic Group, Inc. has prepared this Traffic Impact Analysis to quantify the impact the proposed development of Rutter's Store #103 will have on the surrounding road network in the City of Aberdeen, Harford County, Maryland.

The subject site is located along the south side of US 40 and the north side of Old Philadelphia Road, generally between MD 7 and MD 715 and proposed with a 10,257 SF convenience store with 12 vehicle fueling positions and 5 high speed diesel bays.

Access to the property is proposed via one right-in/right-out along US 40 and one full movement access point along the north leg of the roundabout with Old Philadelphia Road and MD 159 (Perryman Road). Each access point would operate under stop/yield control. Full build out of the property is expected within 3 years.

Study Criteria/Methodology

This study was conducted in accordance with the City of Aberdeen's Traffic Impact Analysis requirements. Intersection analyses were conducted using the Critical Lane Volume (CLV), Highway Capacity Manual (HCM), and Sidra Analyses for all intersections as appropriate. Queuing analysis was also prepared using the HCM Methodology.

Scope of Services

The principal Scope of Services undertaken for this project was as follows:

- Conduct a field inspection to collect physical information concerning the nearby road system including a compilation of aerial photography.
- Collect intersection turning movement counts during the morning and evening peak periods at each study intersection.
- Apply a 3% regional growth factor to the roadway network to account for future conditions.
- Prepare trip generation and trip distribution for the proposed development of Rutter's Store #103.

- Undertake intersection capacity and queuing analysis using Highway Capacity Manual (HCM), Critical Lane Volume (CLV), and Sidra Methodologies as appropriate.
- Provide an overall evaluation of traffic operations.

Summary of Findings and Recommendations

This Traffic Impact Analysis will demonstrate that all intersections currently operate acceptable Levels of Service during the morning and evening peak periods. When considering the impact of regional growth and the development of the subject site, all intersections are projected to continue to operate at Level of Service “C” or better conditions during all studied time periods. In addition, queuing analysis reveals that all existing and projected future queue lengths can be accommodated within existing turn bay storage area.

Therefore, it is our opinion that this development meets the requirements for approval without off-site mitigation. The details and methodology are explained in the sections that follow.

EXISTING TRAFFIC CONDITIONS

Site Information

The proposed Rutter's Store #103 is located along the south side of US 40 and the north side of Old Philadelphia Road, generally between MD 7 and MD 715 in the City of Aberdeen, Harford County, Maryland. The proposed development will consist of a 10,257 SF convenience store with 12 vehicle fueling positions and 5 high speed diesel bays.

Access to the property is proposed via one right-in/right-out along US 40 and one full movement access point along the north leg of the roundabout with Old Philadelphia Road and MD 159 (Perryman Road). Each access point would operate under stop/yield control. A map showing the general area can be found in Figure 1. Figure 1A contains the proposed site layout.

Figure 1. Site Location Map and Study Intersections

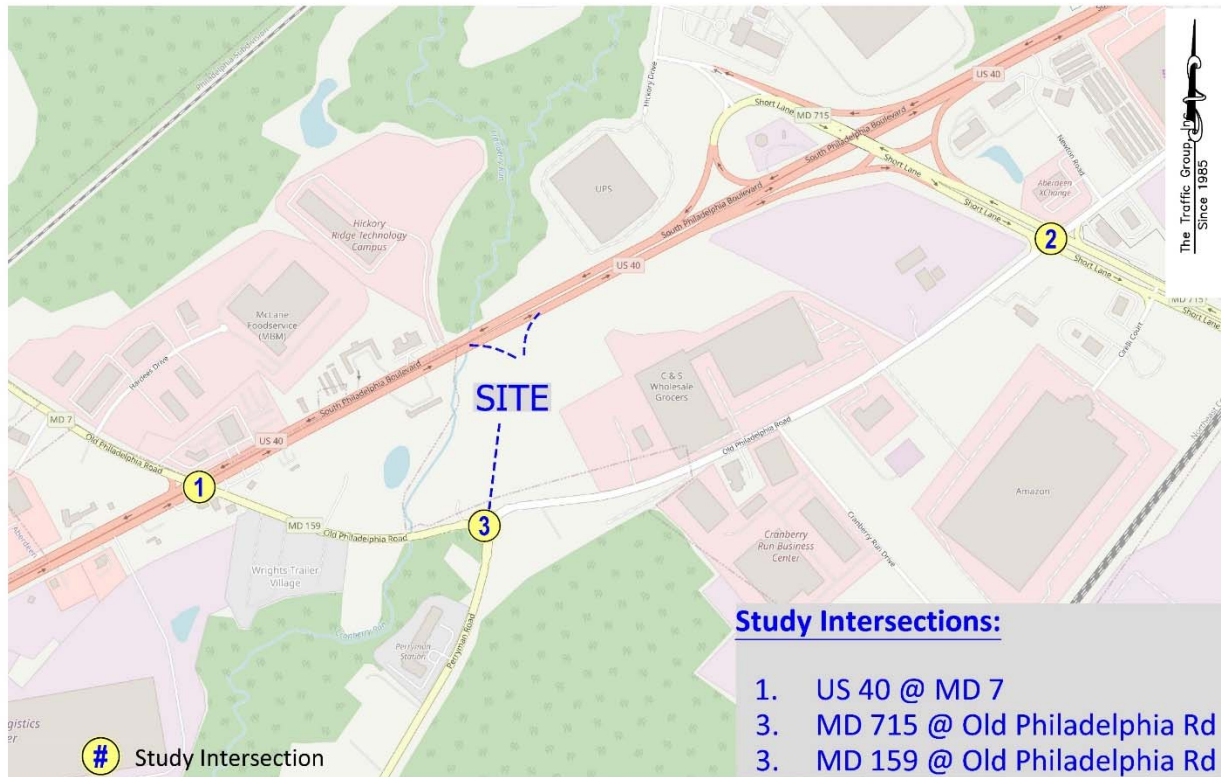
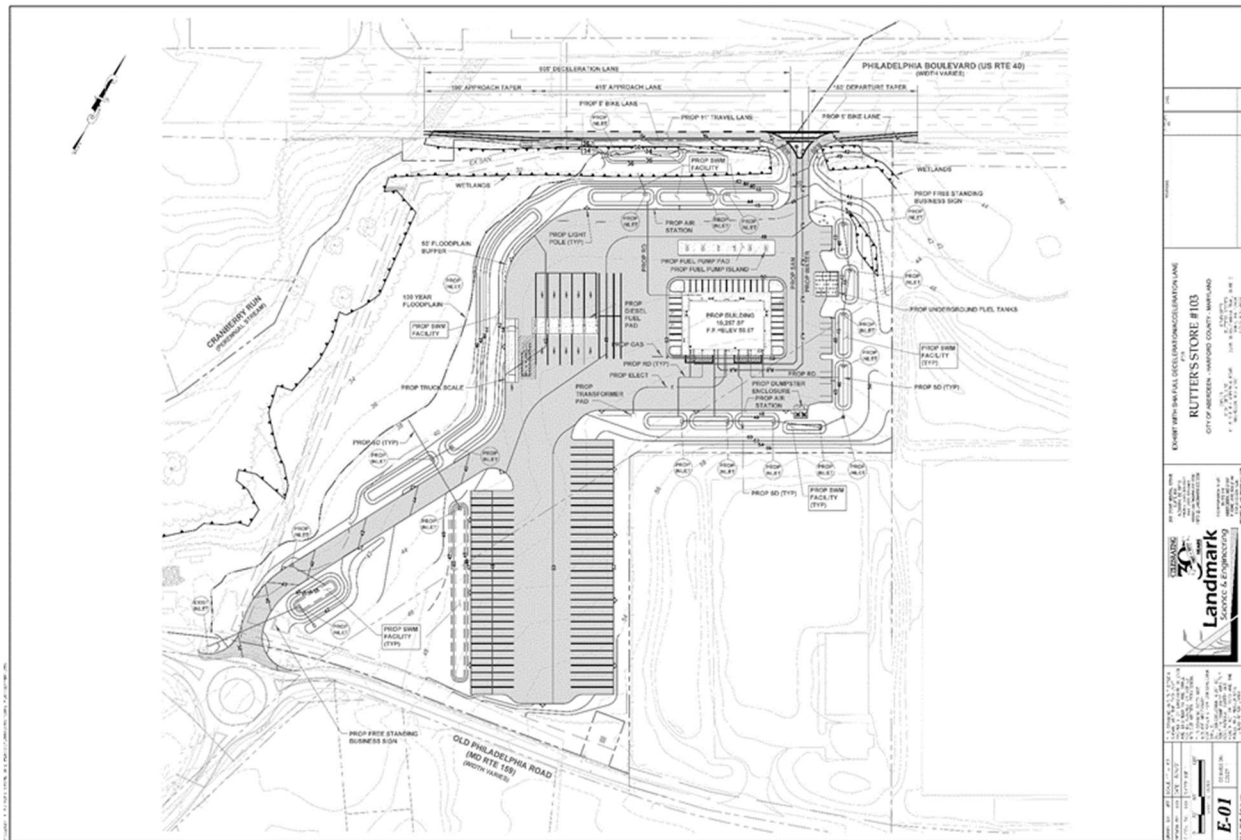


Figure 1A. Site Concept Plan



Study Area

Based on our discussions with the City of Aberdeen, the following offsite intersections were identified to be studied within this analysis:

- US 40 @ MD 7/Old Philadelphia Road (Traffic Signal);
- MD 715 @ Old Philadelphia Road (Traffic Signal); and
- Old Philadelphia Road @ MD 159 (Roundabout).

US 40 traverses Harford County from the Baltimore County Line to the Cecil County Line for a total distance of 18.61 miles. In the vicinity of the subject site, US 40 is classified as an Urban Principal Arterial on the state secondary system. The road features two travel lanes in each direction divided by a grass/concrete median. The posted speed limit in this vicinity is 55 mph.

MD 7 traverses Harford County from the Baltimore County Line to the intersection at US 40. In the vicinity of the subject site, MD 7 is classified as a Minor Arterial on the state secondary system. The posted speed limit for MD 7 at this location is 40 mph. The road features two travel lanes in each direction divided by a double yellow line. MD 7 features a wide shoulder on both sides of the roadway. Prior to its southbound approach to US 40, the road widens to provide a separate right turn lane and two double left turn lanes onto US 40.

MD 7 terminates at US 40 where the road continues as Old Philadelphia Road. The posted speed limit at this location is 35 mph. The road is divided by a double yellow line and there are no shoulders available on either side of the road. Prior to its northbound approach to US 40, Old Philadelphia Road does widen to provide a separate right turn lane for approximately 450 feet. This segment is classified as a Minor Arterial on the state secondary system.

At the roundabout, approximately 1,750 feet south of US 40, MD 159 continues southerly with post speed limit 45 mph. South of the roundabout, MD 159 is classified as a Major Collector on the state secondary system. The road is divided by a double yellow line and there are shoulders available on both sides of the road.

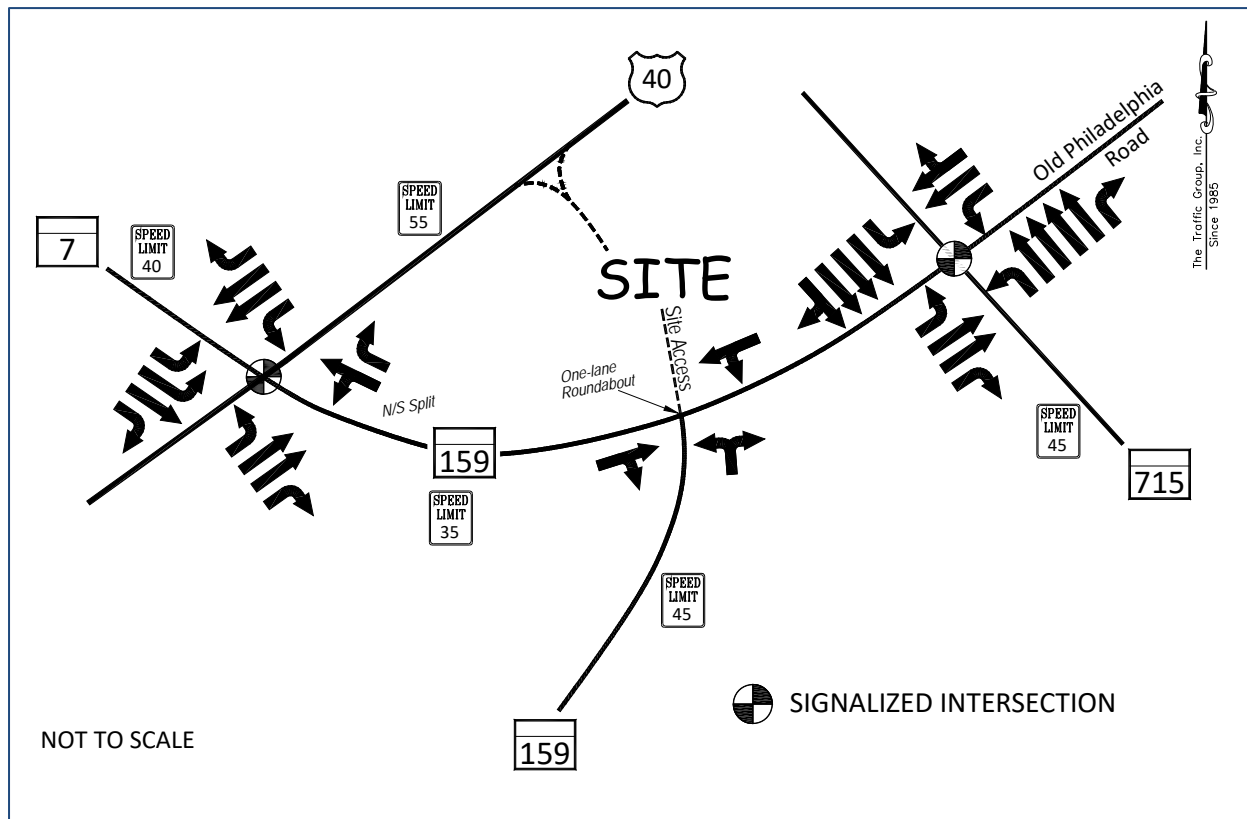
Old Philadelphia Road features one travel lane in each direction extending from the roundabout easterly to a terminus at US 40. The posted speed limit for Old Philadelphia Road is 35 mph. Old Philadelphia Road is classified as a Major Collector on the state secondary system. The road is divided by a double yellow line and there are no shoulders available on either side of the road. Prior to its eastbound approach to MD 715, the road does widen to provide a separate left turn lane, second thru lane, and a separate right turn lane for approximately 225 feet, 350 feet, and 350 feet, respectively.

MD 715 is a multiple lane divided highway extending from US 40 southeasterly to MD 22. The posted speed limit for MD 715 is 45 mph. MD 715 is classified as a Minor Arterial on the state secondary system.

There are no crosswalks at the signalized intersections of US 40 @ MD 7/Old National Pike and MD 715 @ Old Philadelphia Road. Similarly, there are no pedestrian push buttons or indications.

Figure 2 has been prepared to detail the existing lane use and traffic control devices at each of the study intersections. Aerial photographs are contained in Appendix A to show further detail of the studied intersections.

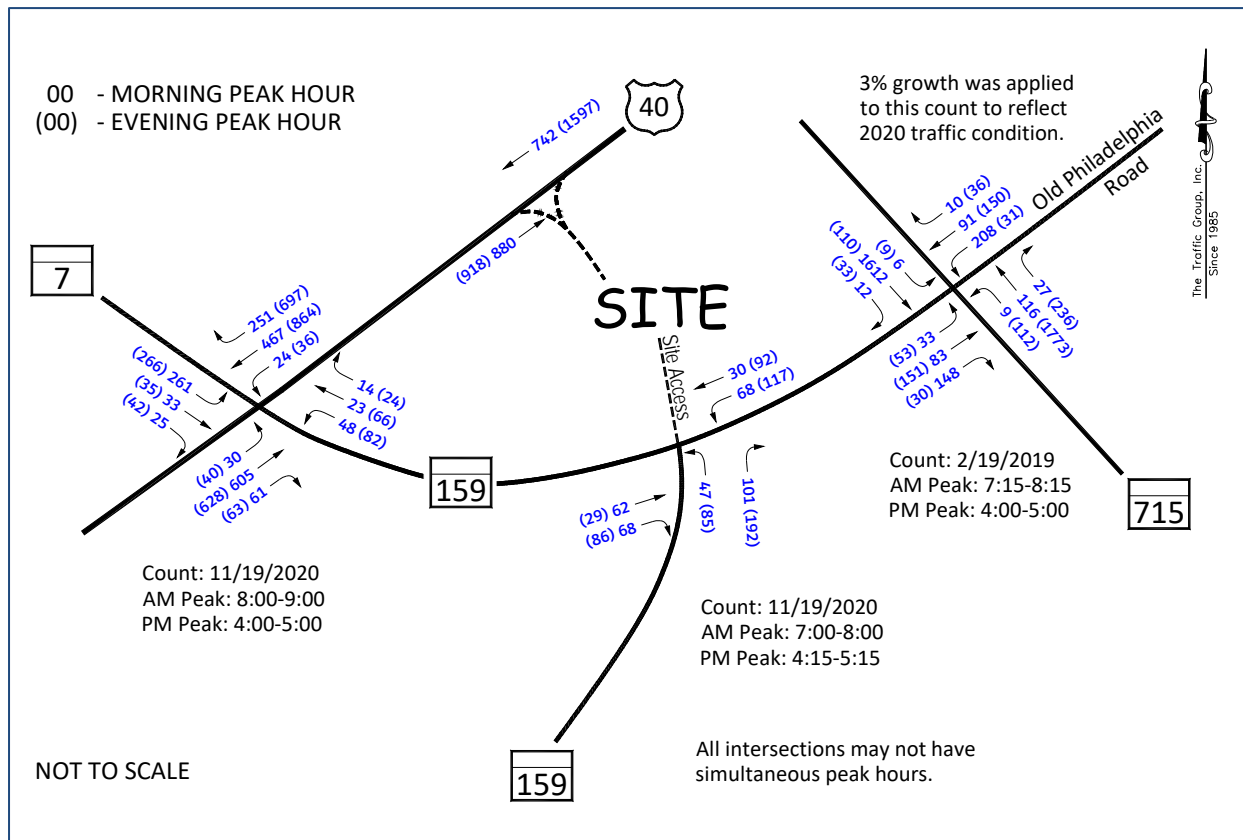
Figure 2. Existing Lane Use



Traffic Volumes

Intersection turning movement counts were collected November 19, 2020, at the intersections of US 40 @ MD 7/Old National Pike and MD 159 @ Old Philadelphia Road from 7 to 9 AM and 4 to 6 PM. Unfortunately, new counts needed to be collected since the traffic counts at these locations were more than 5 years old. In addition, turning movement counts at the intersection of MD 715 @ Old Philadelphia Road were obtained from MDOT SHA which were collected in February of 2019. To be conservative, a 3% growth was applied to this intersection to reflect the 2020 traffic conditions. Figure 3 contains a summary of the existing peak hour traffic volumes. Full details on the turning movement counts can be found in Appendix A.

Figure 3. Existing Peak Hour Traffic Volume



Analysis of Existing Traffic Conditions

Intersection capacity analysis was undertaken for each of the study intersections based on existing traffic conditions using Critical Lane Volume (CLV), Highway Capacity Manual (HCM), and Sidra Methodologies as appropriate. The CLV, HCM, and Sidra results are summarized in Table 2, Table 3, and Table 4, respectively. Complete capacity worksheets can be found in Appendix B. A review of Table 2 shows that each intersection operates at Level of Service “A” during the morning and evening peak periods using CLV.

The HCM results, as shown in Table 3, detail that all intersections operate at Level of Service “C” or better conditions during the AM and PM peak periods.

The Sidra results, as shown in Table 4, detail that all approaches operate at Level of Service “A” condition with v/c ratios less than 0.31 during the AM and PM peak periods.

HCM queuing results are summarized in Table 5 for all signalized intersections. As shown, the 95th percentile queue can be accommodated within existing storage bay lengths for all study intersections.

BACKGROUND TRAFFIC CONDITIONS

Design Year

It is anticipated that full build out of Rutter’s Store #103 will be completed within 3 years (2023). There are not any approved but unconstructed developments in this area, so background traffic conditions are based on regional traffic growth.

To be conservative, an annual growth rate of 3% for all intersections was utilized to reflect future conditions. Figure 4 shows the regional traffic growth for 3 years. Adding the regional growth to the 2020 existing peak hour traffic volumes results in the 2023 background peak hour traffic volumes as shown in Figure 5.

Figure 4. Regional Traffic Growth

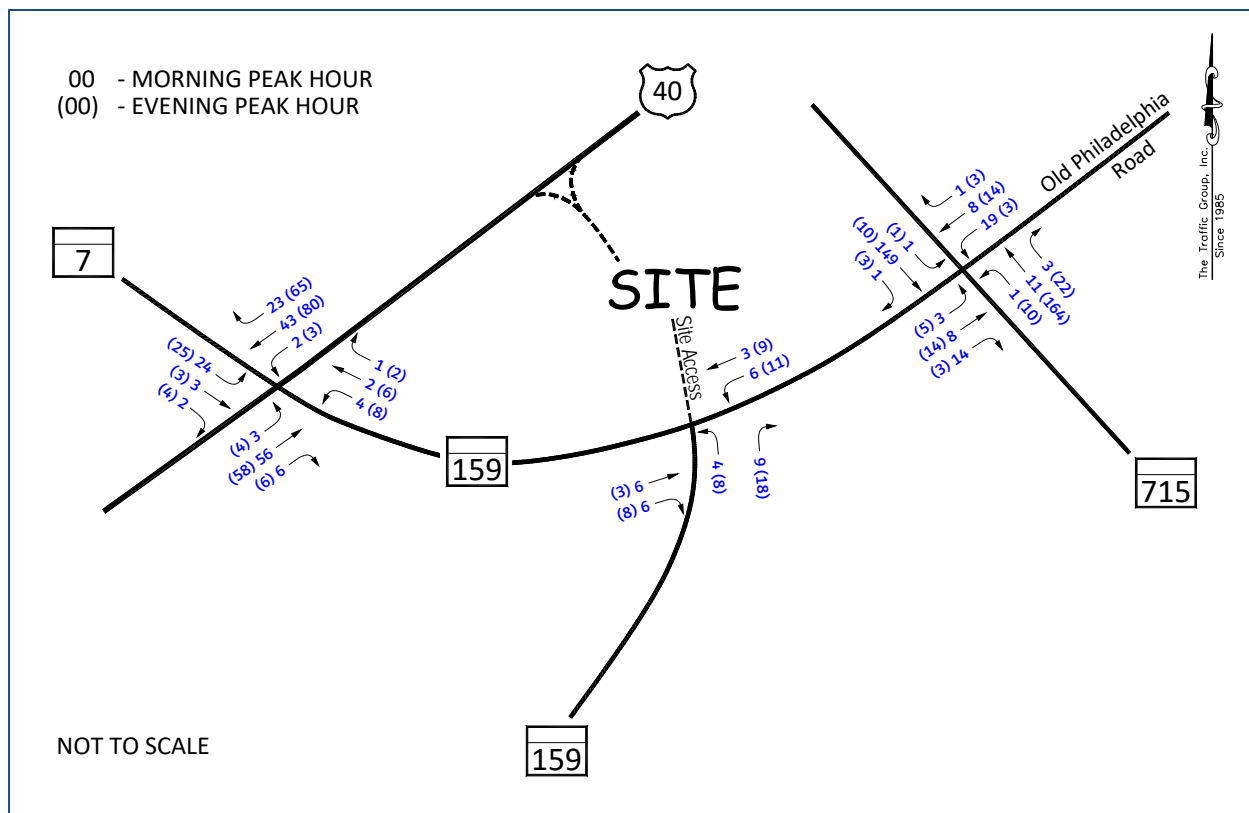
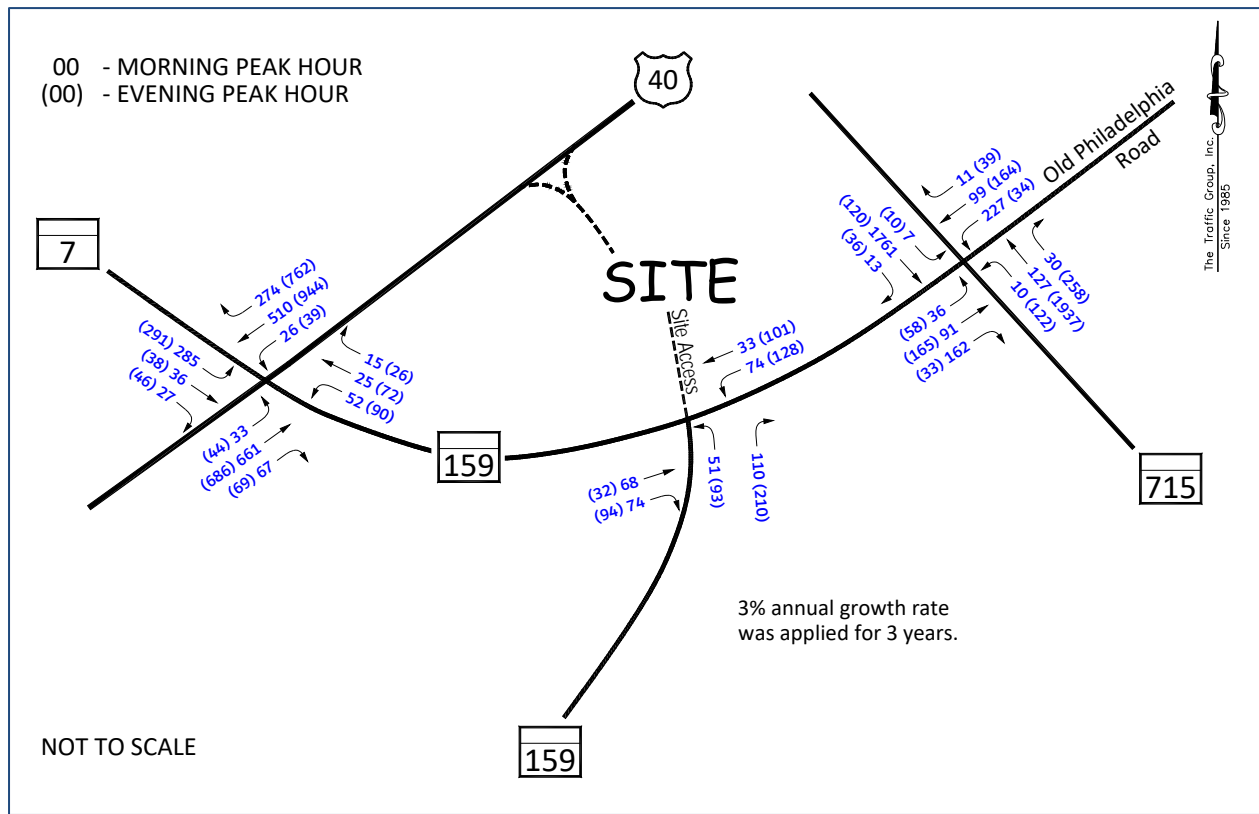


Figure 5. 2023 Background Peak Hour Traffic Volumes



Analysis of Background Traffic Conditions

Intersection capacity analysis was undertaken for each of the study intersections based on background traffic conditions using Critical Lane Volume (CLV), Highway Capacity Manual (HCM), and Sidra Methodologies as appropriate. The CLV, HCM, and Sidra results are summarized in Table 2, Table 3, and Table 4, respectively. Complete capacity worksheets can be found in Appendix B.

A review of Table 2 shows that each intersection is projected to operate at Level of Service “A” during the morning and evening peak periods using CLV.

The HCM results, as shown in Table 3, detail that all intersections are projected to operate at Level of Service “C” or better conditions during the AM and PM peak periods.

The Sidra results, as shown in Table 4, detail that all approaches are projected to operate at Level of Service “A” condition with v/c ratios less than 0.34 during the AM and PM peak periods.

HCM queuing results are summarized in Table 5 for all signalized intersections. As shown, the 95th percentile queue can be accommodated within existing storage bay lengths for all study intersections.

TOTAL TRAFFIC CONDITIONS

Site Information

The proposed Rutter's Store #103 is located along the south side of US 40 and the north side of Old Philadelphia Road, generally between MD 7 and MD 715 in the City of Aberdeen, Harford County, Maryland. The proposed development will consist of a 10,257 SF convenience store with 12 vehicle fueling positions and 5 high speed diesel bays.

Access to the property is proposed via one right-in/right-out along US 40 and one full movement access point along the north leg of the roundabout with Old Philadelphia Road and MD 159 (Perryman Road). Each access point would operate under stop/yield control. Full buildout of the property is expected within 3years.

Trip Generation/Distribution

ITE's Trip Generation (10th Edition) was initially consulted to quantify trips expected to be generated by this development during each of the peak periods. The resulting trips are shown in Table 1A for informational purpose only. Based on ITE, this Super Convenience Market with Gas would be expected to generate 1,175 AM and 820 PM Peak Hour Trips. These trips are unreasonably high and unrealistic for this development especially since 880 AM and 918 PM Peak Hour vehicles are presently traveling past the site in the eastbound direction of the proposed Right In Access as shown in Figure 3. Also, for this Land Use Code in ITE, the square footages of the Super Convenience Market with Gas are much less than the proposed 10,257 SF. Also, please note that most of the projected users for this site would be traffic along US 40.

The Traffic Group, Inc. has conducted a trip generation study for Rutter's and the study can be found in Appendix A. Based on the study of four existing Rutter's convenience stores, the average trip generation rates are 25.03/ksf and 25.63/ksf for AM and PM peak hour periods, respectively. This generates a more realistic 257 AM and 263 PM Peak Hour Trips. Table 1 shows the trip generation rates and totals for this subject site, which are used for this study.

All net new trips were distributed and assigned to the road network based on current traffic counts and anticipated future demand. Figure 6 includes a summary of the net new trip assignment for Rutter's Store #103 - Aberdeen. Figure 6A shows the pass-by trip assignment. Adding the trips projected to be generated by the site with the 2023 background peak hour traffic volumes results in the 2023 total peak hour traffic volumes as shown in Figure 7.

Table 1. Trip Generation Rates and Totals for Subject Site (Local Rates)

TRIP GENERATION RATES

<u>LAND USE</u>	<u>FORMULA</u>	<u>IN/OUT</u>
<i>Super Convenience Market w/Gas (GFA, Local Rates)</i>		
	Morning Trips = 25.03 x KFA	52/48
	Evening Trips = 25.63 x (KFA)	50/50

TRIP GENERATION TOTALS

MORNING PEAK HOUR			EVENING PEAK HOUR		
IN	OUT	TOTAL	IN	OUT	TOTAL

Rutter's Store - Aberdeen, MD

GFA

10,257	Super Conv. Market w/Gas	134	123	257	131	132	263
	<u>Pass-by Trips (76%)</u>	<u>-102</u>	<u>-93</u>	<u>-195</u>	<u>-100</u>	<u>-100</u>	<u>-200</u>
	New Trips	32	30	62	31	32	63

Note: Trip rates derived from traffic counts for existing 4 Rutter's stores. See appendix A for details.
76% pass-by rate obtained from ITE publications errata.

Table 1A. Trip Generation Rates and Totals for Subject Site (ITE Rates, Informational Purpose)

TRIP GENERATION RATES

<u>LAND USE</u>	<u>FORMULA</u>	<u>IN/OUT</u>
<i>Super Convenience Market w/Gas (VFP & GFA, ITE-960)</i>		
	Morning Trips = 16.1 x (Fueling Position) + 135 x (KFA) - 483	50/50
	Evening Trips = 11.5 x (Fueling Position) + 82.9 x (KFA) - 226	50/50

TRIP GENERATION TOTALS

MORNING PEAK HOUR			EVENING PEAK HOUR		
IN	OUT	TOTAL	IN	OUT	TOTAL

Rutter's Store - Aberdeen, MD

<i>VFP *</i>	<i>GFA</i>		<i>(Trips for informational purpose only, not used for this study)</i>					
17	10,257	Super Conv. Market w/Gas	587	588	1175	410	410	820
		<u>Pass-by Trips (76%)</u>	<u>-446</u>	<u>-447</u>	<u>-893</u>	<u>-312</u>	<u>-312</u>	<u>-624</u>
		New Trips	141	141	282	98	98	196

Note: Trip rates derived from ITE Trip Generation Manual, 10th Edition.
76% pass-by rate obtained from ITE publications errata.

* Fueling:

Standard: 6 Pumps (12 positions)

High Speed Diesel: 5 Bays

Figure 6. New Trip Assignment for Subject Site

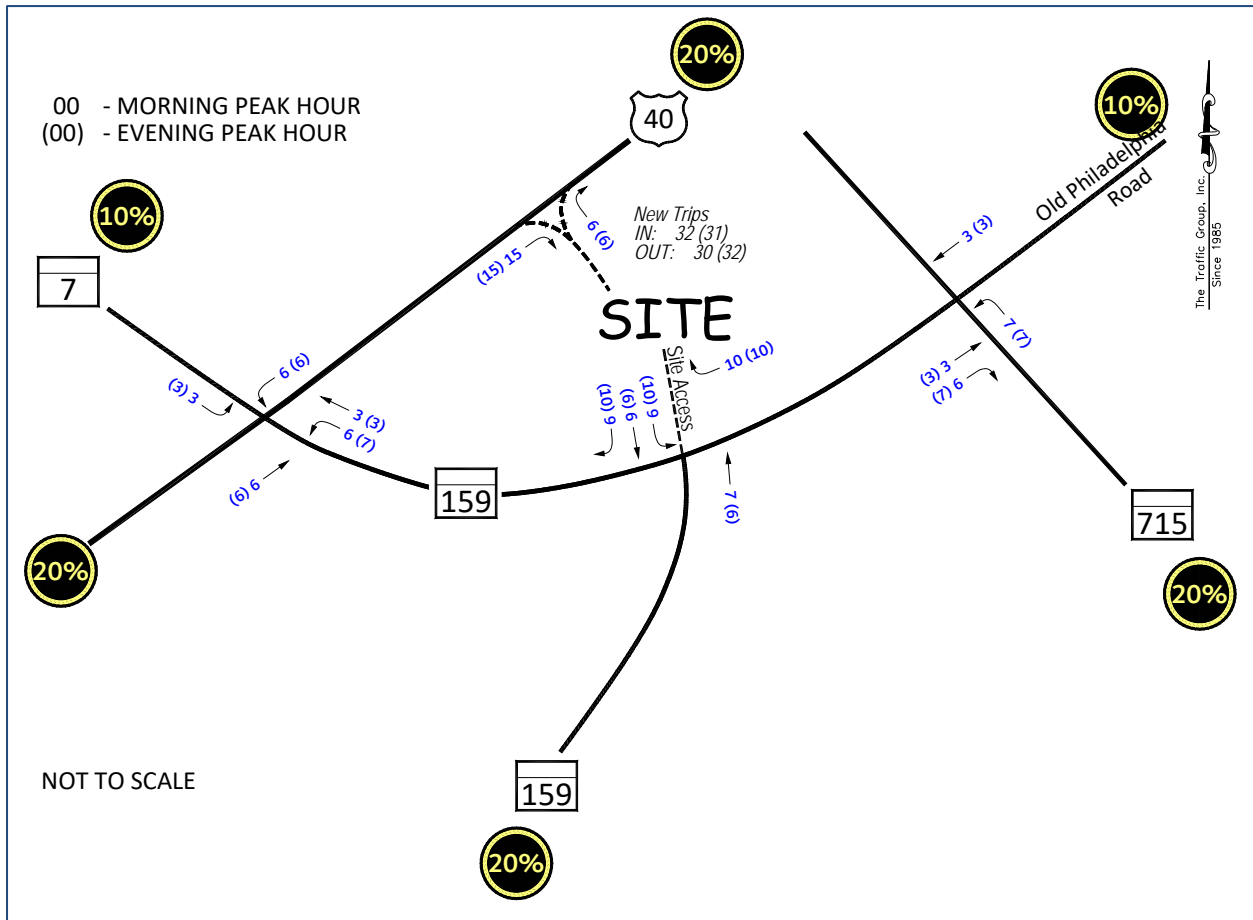


Figure 6A. Pass-by Trip Assignment for Subject Site

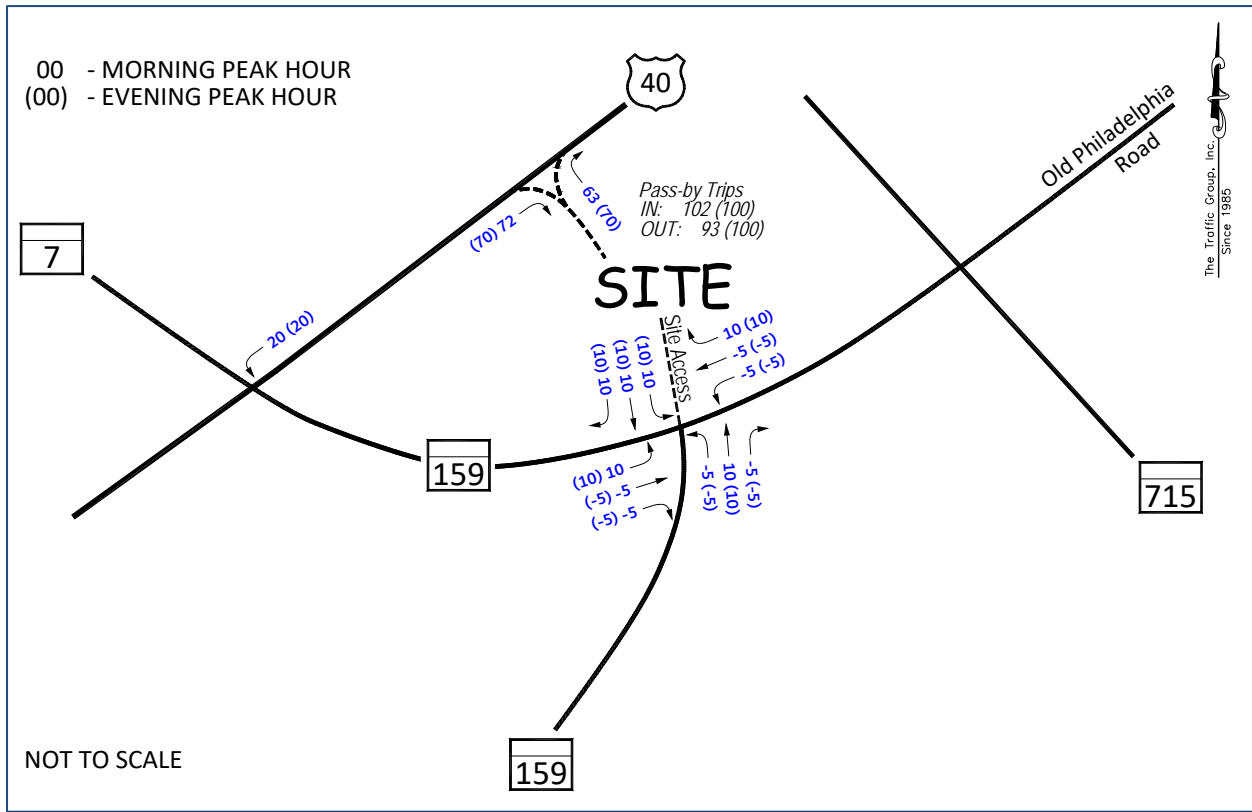
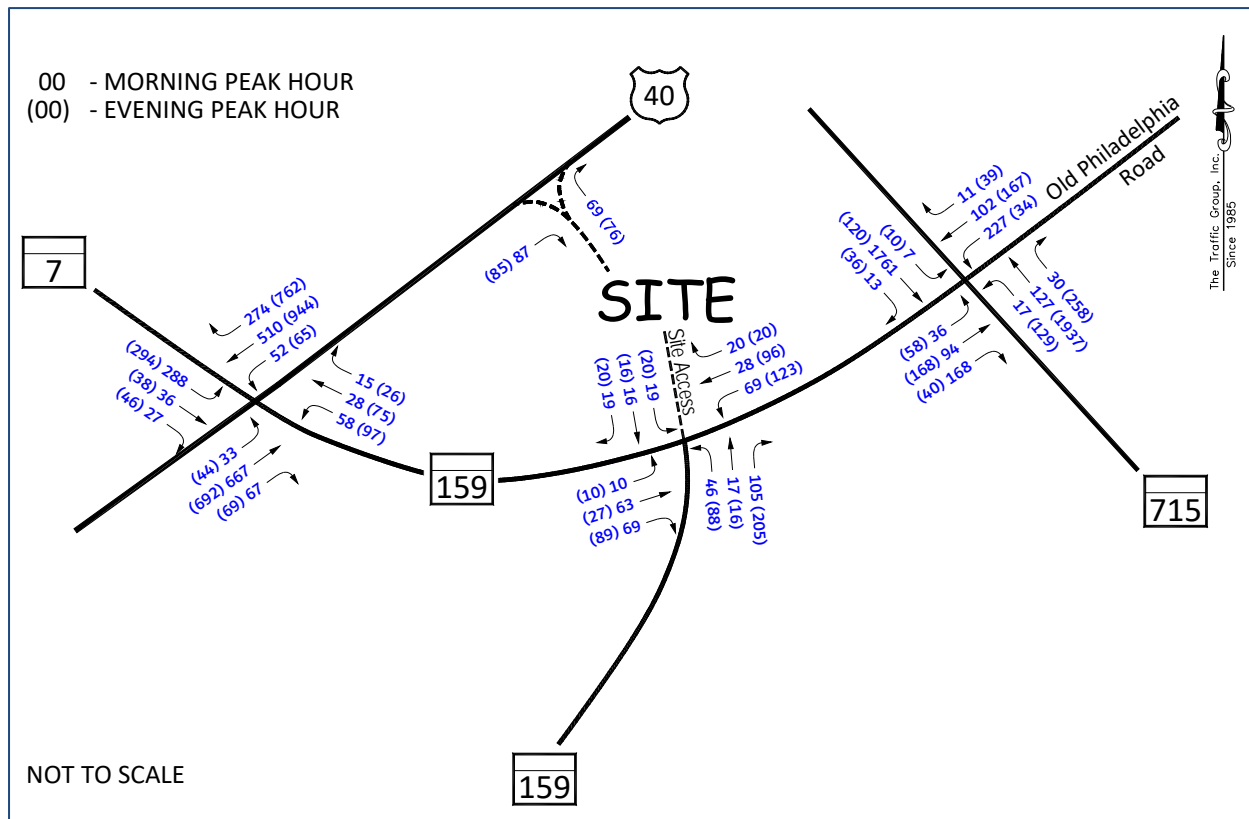


Figure 7. 2023 Total Peak Hour Traffic Volumes



Analysis of Total Traffic Conditions

Intersection capacity analysis was undertaken for each of the study intersections based on total traffic conditions using Critical Lane Volume (CLV), Highway Capacity Manual (HCM), and Sidra Methodologies as appropriate. The CLV, HCM, and Sidra results are summarized in Table 2, Table 3, and Table 4, respectively. Complete capacity worksheets can be found in Appendix B.

A review of Table 2 shows that each intersection is projected to operate at Level of Service “A” during the morning and evening peak periods using CLV.

The HCM results, as shown in Table 3, detail that all intersections are projected to operate at Level of Service “C” or better conditions during the AM and PM peak periods.

The Sidra results, as shown in Table 4, detail that all approaches are projected to operate at Level of Service “A” condition with v/c ratios less than 0.36 during the AM and PM peak periods.

HCM queuing results are summarized in Table 5 for all signalized intersections. As shown, the 95th percentile queue can be accommodated within existing storage bay lengths for all study intersections.

Table 2. Results of Intersection Capacity Analyses (CLV)

<i>CLV Methodology</i>	Existing Traffic	Background Traffic	Total Traffic
Morning Peak Hour Traffic	LOS / CLV	LOS / CLV	LOS / CLV
1. US 40 @ MD 7	A / 585	A / 638	A / 678
2. MD 715 @ Old Philadelphia Rd	A / 843	A / 921	A / 927
Evening Peak Hour Traffic			
1. US 40 @ MD 7	A / 885	A / 968	A / 978
2. MD 715 @ Old Philadelphia Rd	A / 696	A / 761	A / 762

Table 3. Results of Intersection Capacity Analyses (HCM)

<i>HCM</i>		Existing Traffic	Background Traffic	Total Traffic
Morning Peak Hour Traffic	Type of Control	LOS / Delay (sec)		
1. US 40 @ MD 7	Signal	B/20.0	C/20.8	C/22.3
2. MD 715 @ Old Philadelphia Rd	Signal	B/13.7	B/14.5	B/15.5
Evening Peak Hour Traffic	Type of Control			
1. US 40 @ MD 7	Signal	C/23.9	C/26.9	C/28.3
2. MD 715 @ Old Philadelphia Rd	Signal	B/11.1	B/11.7	B/11.9

Table 4. Results of Intersection Capacity Analyses (SIDRA)

<i>Sidra Method (Single-Lane Roundabout)</i>	Existing Traffic			Background Traffic			Total Traffic		
	LOS / v/c	Delay (sec.)	95th Percentile Queue Length (ft.)	LOS / v/c	Delay (sec.)	95th Percentile Queue Length (ft.)	LOS / v/c	Delay (sec.)	95th Percentile Queue Length (ft.)
Morning Peak Hour Traffic									
3. MD 159 @ Old Philadelphia Rd	A / 0.17	4.8		A / 0.19	5.0		A / 0.20	5.2	
EB MD 159:	A / 0.15	4.9	<25	A / 0.17	5.1	<25	A / 0.17	5.3	<25
WB Old Philadelphia Rd:	A / 0.11	4.4	<25	A / 0.12	4.5	<25	A / 0.14	4.8	<25
NB MD 159:	A / 0.17	5.1	<25	A / 0.19	5.3	<25	A / 0.20	5.5	<25
SB Site Access:							A / 0.17	4.5	<25
Evening Peak Hour Traffic									
3. MD 159 @ Old Philadelphia Rd	A / 0.31	6.0		A / 0.34	6.4		A / 0.36	6.6	
EB MD 159:	A / 0.14	5.1	<25	A / 0.16	5.3	<25	A / 0.16	5.5	<25
WB Old Philadelphia Rd:	A / 0.25	6.0	27	A / 0.28	6.4	30	A / 0.30	6.8	33
NB MD 159:	A / 0.31	6.4	37	A / 0.34	6.8	42	A / 0.36	7.2	44
SB Site Access:							A / 0.09	5.6	<25

Table 5. Results of Intersection Queuing Analyses (HCM)

<i>HCM</i>		Existing Traffic	Background Traffic	Total Traffic	Available Storage Length (ft.)
Morning Peak Hour Traffic	Type of Control	95th percentile queue (ft.)			
1. US 40 @ MD 7 / MD 159	Signal				
EB (US 40) left turn:		34	37	37	350
EB (US 40) thru:		118	139	161	1000+
EB (US 40) right turn:		<25	<25	<25	500+
WB (US 40) left turn:		28	30	57	500+
WB (US 40) thru:		91	107	109	1000+
WB (US 40) right turn:		<25	<25	<25	500+
NB (MD 159) left/thru:		80	88	98	1000+
NB (MD 159) right turn:		<25	<25	<25	450
SB (MD 7) left turn:		148	163	165	500+
SB (MD 7) thru:		34	36	36	1000+
SB (MD 7) right turn:		<25	<25	<25	500+
2. MD 715 @ Old Philadelphia Rd	Signal				
EB (Old Philadelphia Rd) left turn:		30	32	32	225
EB (Old Philadelphia Rd) thru:		35	38	39	1000+
EB (Old Philadelphia Rd) right turn:		132	142	148	350
WB (Old Philadelphia Rd) left turn:		222	241	242	300
WB (Old Philadelphia Rd) thru/right:		41	43	45	1000+
NB (MD 715) left turn:		<25	<25	<25	275
NB (MD 715) thru:		<25	<25	<25	1000+
NB (MD 715) right turn:		<25	<25	<25	250
SB (MD 715) left turn:		<25	<25	<25	125
SB (MD 715) thru/right:		120	147	163	1000+

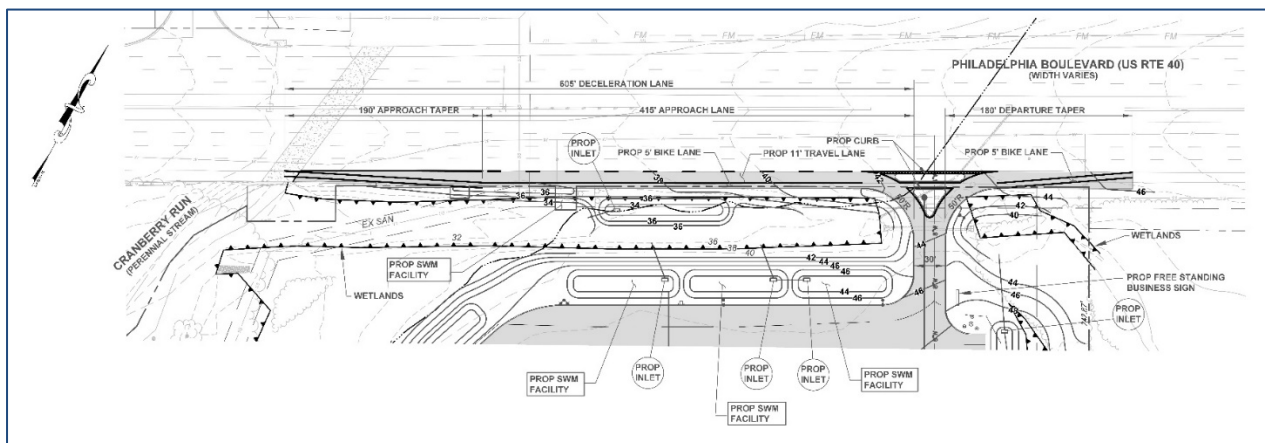
Table 5. Results of Intersection Queuing Analyses (HCM), Continued

<i>HCM</i>		Existing Traffic	Background Traffic	Total Traffic	Available Storage Length (ft.)
Evening Peak Hour Traffic	Type of Control	95th percentile queue (ft.)			
1. US 40 @ MD 7 / MD 159	Signal				
EB (US 40) left turn:		44	48	48	350
EB (US 40) thru:		151	183	202	1000+
EB (US 40) right turn:		<25	<25	<25	500+
WB (US 40) left turn:		40	43	71	500+
WB (US 40) thru:		222	264	272	1000+
WB (US 40) right turn:		323	392	402	500+
NB (MD 159) left/thru:		183	197	206	1000+
NB (MD 159) right turn:		<25	<25	<25	450
SB (MD 7) left turn:		146	159	160	500+
SB (MD 7) thru:		35	38	38	1000+
SB (MD 7) right turn:		<25	<25	<25	500+
2. MD 715 @ Old Philadelphia Rd	Signal				
EB (Old Philadelphia Rd) left turn:		58	63	63	225
EB (Old Philadelphia Rd) thru:		74	80	81	1000+
EB (Old Philadelphia Rd) right turn:		<25	<25	<25	350
WB (Old Philadelphia Rd) left turn:		32	35	35	300
WB (Old Philadelphia Rd) thru/right:		91	98	100	1000+
NB (MD 715) left turn:		121	133	143	275
NB (MD 715) thru:		72	91	93	1000+
NB (MD 715) right turn:		76	91	92	250
SB (MD 715) left turn:		<25	<25	<25	125
SB (MD 715) thru/right:		<25	<25	<25	1000+

US 40 Access

As discussed with MDOT SHA, a right in/right out would be permitted along US 40 east of MD 7 and the access is in the area of an open section of barrier wall separating eastbound and westbound traffic with a U-Turn in the eastbound direction. We prepared a concept plan that details a channelized island to prevent any left turns as shown on Figure 8. Also, there was a recently completed project along US 40 that included widening for the MD 715 ramp to Aberdeen to include two eastbound lanes and two ramp lanes in front of the site. Our goal with this design was to provide a deceleration lane without impacting the wetlands as much as possible and to not disturb the existing stream crossing/drainage structure to the west of the access. Therefore, we are proposing a 415-foot deceleration lane with a 190-foot taper for a total of 605 feet. For outbound traffic, we are proposing a 180-foot departure taper to the rightmost lane along US 40, which would give drivers about 1,000 feet to merge to the eastbound lanes of US 40. Providing a full acceleration lane would make the weave to the eastbound lanes of US 40 more challenging.

Figure 8. Proposed Right-In/Right-Out Access



RESULTS, RECOMMENDATIONS, AND CONCLUSIONS

Study Purpose

The Traffic Group, Inc. has prepared this Revised Traffic Impact Analysis to quantify the impact the proposed development of Rutter's Store #103 - Aberdeen will have on the surrounding road network in Harford County, Maryland.

The subject site is located along the south side of US 40, generally between MD 7 and MD 715, and along the north side Old Philadelphia Road with proposed access along the north leg of the roundabout with Perryman Road. The proposed development will consist of a 10,257 SF convenience store with 12 vehicle fueling positions and 5 high speed diesel bays.

Access to the property is proposed via one right-in/right-out along US 40 and one full movement access point along the north leg of the roundabout with Perryman Road. Each access point would operate under stop/yield control. Full build out of the property is expected within 3 years.

Study Criteria/Methodology

This study was conducted in accordance with the City of Aberdeen's Traffic Impact Analysis requirements. Intersection analyses were conducted using the CLV, HCM, and Sidra Analyses for all intersections as appropriate. Queuing analysis was also prepared using the HCM Methodology.

Summary of Findings and Recommendations

This Traffic Impact Analysis will demonstrate that all intersections currently operate with acceptable Levels of Service during the morning and evening peak periods. When considering the impact of regional growth and the development of the subject site, all intersections are projected to continue to operate at Level of Service "C" or better conditions during all studied time periods. In addition, queuing analysis reveals that all existing and projected future queue lengths can be accommodated within existing turn bay storage area.

Therefore, it is our opinion that this development meets the requirements for approval without off-site mitigation.

APPENDIX A

Intersection Turning Movement Counts and Aerial Photos



TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: US 40
and: MD 7 (Old Philadelphia Road)
Location: Harford County, Maryland

Counted by: VCU
Date: November 19, 2020
Weather: Sunny/Cool
Entered by: SN

Thursday
Star Rating: 4



TIME	TRAFFIC FROM NORTH on: MD 7 (Old Philadelphia Road)					TRAFFIC FROM SOUTH on: MD 7 (Old Philadelphia Road)					TRAFFIC FROM EAST on: US 40					TRAFFIC FROM WEST on: US 40					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	1	13	66	0	80	2	8	12	0	22	52	95	5	0	152	16	136	3	0	155	409
7:15 - 7:30	6	9	62	0	77	1	9	9	0	19	61	114	6	0	181	19	156	1	0	176	453
7:30 - 7:45	5	3	78	0	86	3	10	12	0	25	57	97	3	0	157	13	136	5	0	154	422
7:45 - 8:00	10	12	96	0	118	1	9	8	0	18	41	93	2	1	137	23	166	7	0	196	469
8:00 - 8:15	3	5	65	0	73	3	8	5	0	16	60	136	3	1	200	6	149	8	0	163	452
8:15 - 8:30	5	11	73	0	89	3	4	12	0	19	42	94	2	2	140	17	155	6	1	179	427
8:30 - 8:45	8	9	66	0	83	2	6	14	0	22	63	119	3	2	187	16	148	6	3	173	465
8:45 - 9:00	9	8	57	0	74	6	5	17	0	28	86	118	10	1	215	22	153	5	1	181	498
2 Hr Totals	47	70	563	0	680	21	59	89	0	169	462	866	34	7	1369	132	1199	41	5	1377	3595
1 Hr Totals																					
7:00 - 8:00	22	37	302	0	361	7	36	41	0	84	211	399	16	1	627	71	594	16	0	681	1753
7:15 - 8:15	24	29	301	0	354	8	36	34	0	78	219	440	14	2	675	61	607	21	0	689	1796
7:30 - 8:30	23	31	312	0	366	10	31	37	0	78	200	420	10	4	634	59	606	26	1	692	1770
7:45 - 8:45	26	37	300	0	363	9	27	39	0	75	206	442	10	6	664	62	618	27	4	711	1813
8:00 - 9:00	25	33	261	0	319	14	23	48	0	85	251	467	18	6	742	61	605	25	5	696	1842
PEAK HOUR	25	33	261	0	319	14	23	48	0	85	251	467	18	6	742	61	605	25	5	696	1842
PM																					
4:00 - 4:15	14	11	72	0	97	6	16	18	0	40	171	230	4	4	409	14	142	9	2	167	713
4:15 - 4:30	10	8	57	0	75	9	23	20	1	53	177	179	8	5	369	16	168	8	1	193	690
4:30 - 4:45	6	4	63	0	73	1	14	24	1	40	182	279	6	1	468	17	166	7	0	190	771
4:45 - 5:00	12	12	74	0	98	8	13	17	1	39	167	176	7	1	351	16	152	12	1	181	669
5:00 - 5:15	5	7	64	0	76	5	30	19	0	54	166	166	5	2	339	13	155	12	2	182	651
5:15 - 5:30	5	4	39	0	48	6	19	15	0	40	159	208	10	1	378	13	140	8	4	165	631
5:30 - 5:45	7	9	65	0	81	3	13	17	0	33	130	180	10	4	324	10	129	13	0	152	590
5:45 - 6:00	6	6	55	0	67	5	7	14	0	26	126	154	7	3	290	11	141	5	2	159	542
2 Hr Totals	65	61	489	0	615	43	135	144	3	325	1278	1572	57	21	2928	110	1193	74	12	1389	5257
1 Hr Totals																					
4:00 - 5:00	42	35	266	0	343	24	66	79	3	172	697	864	25	11	1597	63	628	36	4	731	2843
4:15 - 5:15	33	31	258	0	322	23	80	80	3	186	692	800	26	9	1527	62	641	39	4	746	2781
4:30 - 5:30	28	27	240	0	295	20	76	75	2	173	674	829	28	5	1536	59	613	39	7	718	2722
4:45 - 5:45	29	32	242	0	303	22	75	68	1	166	622	730	32	8	1392	52	576	45	7	680	2541
5:00 - 6:00	23	26	223	0	272	19	69	65	0	153	581	708	32	10	1331	47	565	38	8	658	2414
PEAK HOUR																					
4:00 - 5:00	42	35	266	0	343	24	66	79	3	172	697	864	25	11	1597	63	628	36	4	731	2843

US 40 & MD 7

Legend



Google Earth

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100 ft



Maryland Department of Transportation
 State Highway Administration
 Data Services Division
 Turning Movement Summary Report

Station ID: S2000120039

County: Harford

Comments:

Date: 2/19/2019 12:00:00 AM

Town: none

Location: MD 715 at Old Philadelphia Rd

Weather: Sunny/Cold

Interval: 15 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46

MD 715 From North MD 715 From South Old Philadelphia Rd From East Old Philadelphia Rd From West

Begin Hour	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Through	Right	TOTAL	GrandTotal
00:00	0	0	1	1	2	0	0	1	3	4	0	3	1	0	4	0	4	9	0	13	23
00:15	0	2	1	2	5	0	0	3	1	4	0	1	3	2	6	0	4	9	1	14	29
00:30	0	0	4	1	5	0	2	11	4	17	0	3	11	2	16	1	7	22	0	30	68
00:45	0	1	4	2	7	0	0	2	0	2	0	1	2	1	4	0	3	10	2	15	28
01:00	0	0	3	1	4	0	0	3	2	5	0	1	3	3	7	0	3	4	2	9	25
01:15	0	1	2	2	5	0	0	4	2	6	0	0	3	0	3	0	1	2	0	3	17
01:30	0	0	4	2	6	0	0	0	4	4	0	0	5	1	6	0	6	3	0	9	25
01:45	0	0	2	1	3	0	1	2	1	4	0	0	4	1	5	0	8	9	0	17	29
02:00	0	0	1	1	2	0	0	1	1	2	0	1	5	0	6	0	6	4	0	10	20
02:15	0	0	2	1	3	0	0	3	0	3	0	2	2	0	4	0	6	3	0	9	19
02:30	1	0	2	0	3	0	0	2	1	3	0	1	4	0	5	0	5	5	1	11	22
02:45	0	0	4	1	5	0	0	1	2	3	0	1	7	2	10	0	2	2	0	4	22
03:00	0	2	0	0	2	0	0	4	0	4	0	0	3	0	3	0	4	3	0	7	16
03:15	0	1	2	1	4	0	0	3	2	5	0	1	7	0	8	0	4	3	0	7	24
03:30	0	0	2	2	4	0	0	1	1	2	0	4	5	4	13	0	3	8	3	14	33
03:45	0	0	5	2	7	0	0	2	0	2	0	3	18	1	22	0	1	4	0	5	36
04:00	0	0	5	2	7	0	0	2	0	2	0	5	7	0	12	0	6	13	1	20	41
04:15	0	0	11	2	13	0	0	6	1	7	0	11	12	3	26	0	4	15	4	23	69
04:30	0	0	18	4	22	0	0	2	2	4	0	14	13	2	29	0	3	11	0	14	69
04:45	0	0	32	3	35	0	1	3	1	5	0	17	21	1	39	0	6	12	4	22	101
05:00	0	0	25	3	28	0	0	2	0	2	0	7	16	2	25	0	7	21	4	32	87
05:15	0	4	50	6	60	0	1	13	2	16	0	12	36	2	50	0	5	6	4	15	141
05:30	0	1	128	2	131	0	2	27	2	31	0	20	45	0	65	0	9	18	9	36	263
05:45	0	0	185	5	190	0	4	34	4	42	0	30	68	3	101	0	4	44	17	65	398
06:00	0	1	191	5	197	0	3	26	6	35	0	26	66	3	95	0	2	31	19	52	379
06:15	0	0	258	1	259	0	1	11	1	13	0	28	74	3	105	0	6	21	16	43	420
06:30	0	0	312	7	319	0	3	9	4	16	0	45	67	2	114	0	7	28	16	51	500



Maryland Department of Transportation
 State Highway Administration
 Data Services Division
 Turning Movement Summary Report

Station ID: S2000120039

County: Harford

Comments:

Date: 2/19/2019 12:00:00 AM

Town: none

Location: MD 715 at Old Philadelphia Rd

Weather: Sunny/Cold

Interval: 15 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46

MD 715

MD 715

Old Philadelphia Rd

Old Philadelphia Rd

From North

From South

From East

From West

06:45	0	1	421	8	430	0	1	15	4	20	0	58	61	2	121	0	6	28	39	73	644
07:00	0	2	343	2	347	0	2	13	5	20	0	59	16	1	76	0	6	31	25	62	505
07:15	0	0	392	3	395	0	3	19	7	29	0	55	21	3	79	0	7	11	46	64	567
07:30	0	3	372	1	376	0	4	28	4	36	0	51	26	1	78	0	5	34	36	75	565
07:45	0	3	434	0	437	0	1	31	8	40	0	59	24	4	87	0	7	21	39	67	631
08:00	0	0	367	8	375	0	1	35	7	43	0	37	17	2	56	0	13	15	23	51	525
08:15	0	1	288	7	296	0	0	46	11	57	0	31	28	6	65	0	15	24	23	62	480
08:30	0	0	258	4	262	0	2	40	4	46	0	28	15	1	44	0	6	19	23	48	400
08:45	0	1	231	4	236	0	3	40	5	48	0	19	19	4	42	0	8	17	18	43	369
09:00	0	0	145	6	151	1	2	35	4	42	0	17	25	3	45	0	14	19	13	46	284
09:15	0	2	107	4	113	0	0	21	3	24	0	13	25	0	38	0	8	16	12	36	211
09:30	0	0	113	4	117	1	1	35	7	44	0	16	19	7	42	0	12	13	9	34	237
09:45	0	1	79	4	84	1	1	33	7	42	0	7	16	6	29	0	12	18	6	36	191
10:00	0	3	63	6	72	0	1	45	8	54	0	9	17	2	28	0	3	21	4	28	182
10:15	2	1	49	6	58	2	6	42	10	60	0	10	24	6	40	0	5	17	8	30	188
10:30	0	1	47	4	52	0	3	41	5	49	0	12	15	6	33	0	9	26	7	42	176
10:45	0	1	48	9	58	0	3	51	12	66	0	14	24	7	45	0	5	27	4	36	205
11:00	0	2	47	5	54	1	3	104	23	131	0	10	22	10	42	0	17	17	9	43	270
11:15	0	2	76	6	84	0	1	80	27	108	0	17	30	9	56	0	9	22	6	37	285
11:30	1	0	70	4	75	0	3	119	45	167	0	20	30	10	60	0	16	19	7	42	344
11:45	1	3	65	10	79	0	6	105	37	148	0	29	29	5	63	0	13	22	5	40	330
12:00	0	2	85	7	94	0	5	85	36	126	0	38	15	3	56	0	14	29	10	53	329
12:15	0	4	86	9	99	0	1	78	15	94	0	39	30	8	77	0	14	33	5	52	322
12:30	1	1	95	11	108	0	2	57	20	79	0	35	21	8	64	0	11	21	7	39	290
12:45	0	1	86	6	93	0	5	58	13	76	0	40	28	6	74	0	14	28	7	49	292
13:00	0	4	80	6	90	0	6	55	11	72	0	28	27	9	64	0	11	20	5	36	262
13:15	0	2	44	4	50	0	3	62	11	76	0	18	28	10	56	0	10	31	8	49	231
13:30	0	3	51	6	60	0	2	85	12	99	0	9	25	4	38	0	13	24	7	44	241
13:45	0	2	35	9	46	0	3	71	11	85	0	9	22	6	37	0	16	29	3	48	216



Maryland Department of Transportation
 State Highway Administration
 Data Services Division
 Turning Movement Summary Report

Station ID: S2000120039

County: Harford

Comments:

Date: 2/19/2019 12:00:00 AM

Town: none

Location: MD 715 at Old Philadelphia Rd

Weather: Sunny/Cold

Interval: 15 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46

MD 715

MD 715

Old Philadelphia Rd

Old Philadelphia Rd

From North

From South

From East

From West

14:00	0	2	46	6	54	0	4	73	12	89	0	10	30	7	47	0	10	18	5	33	223
14:15	1	0	44	6	51	0	6	105	11	122	0	12	44	9	65	0	11	32	3	46	284
14:30	0	2	20	11	33	0	7	139	27	173	0	10	48	8	66	0	15	48	13	76	348
14:45	0	1	37	4	42	0	3	88	16	107	0	15	37	6	58	0	10	35	3	48	255
15:00	0	4	32	8	44	0	5	182	22	209	0	5	33	16	54	0	19	75	5	99	406
15:15	0	4	37	12	53	0	4	187	17	208	0	11	41	8	60	0	16	60	5	81	402
15:30	0	2	23	9	34	0	17	256	46	319	0	13	37	6	56	0	19	78	9	106	515
15:45	0	3	43	8	54	0	16	262	29	307	0	12	39	9	60	0	18	57	12	87	508
16:00	0	0	32	7	39	0	18	407	53	478	0	3	29	4	36	0	17	40	6	63	616
16:15	0	3	26	12	41	0	30	388	51	469	0	7	45	10	62	0	9	42	4	55	627
16:30	0	4	30	4	38	0	33	460	67	560	0	8	45	9	62	0	11	36	13	60	720
16:45	0	2	19	9	30	0	28	466	58	552	0	12	27	12	51	0	14	29	6	49	682
17:00	1	1	41	9	52	0	11	364	24	399	0	11	31	17	59	0	20	47	2	69	579
17:15	0	4	17	7	28	0	23	331	29	383	0	10	39	22	71	0	9	47	8	64	546
17:30	0	0	24	9	33	0	10	248	29	287	0	4	35	10	49	0	7	23	3	33	402
17:45	0	0	18	6	24	0	12	242	21	275	0	12	32	11	55	0	7	24	4	35	389
18:00	0	5	23	6	34	0	6	190	18	214	0	4	22	9	35	0	12	23	3	38	321
18:15	0	2	28	4	34	0	8	129	20	157	0	13	34	18	65	0	11	32	3	46	302
18:30	0	2	12	7	21	0	6	87	11	104	0	10	40	5	55	0	10	20	4	34	214
18:45	0	1	15	6	22	0	1	61	6	68	0	3	26	8	37	0	5	25	2	32	159
19:00	0	2	3	2	7	0	1	43	5	49	0	11	15	6	32	0	7	29	1	37	125
19:15	0	2	5	4	11	0	1	38	6	45	0	5	20	2	27	0	5	16	0	21	104
19:30	0	3	10	5	18	0	1	33	6	40	0	7	17	6	30	0	4	13	0	17	105
19:45	0	2	11	4	17	0	0	24	6	30	0	7	15	5	27	0	6	13	0	19	93
20:00	0	2	8	4	14	0	1	16	5	22	0	4	15	6	25	0	7	19	2	28	89
20:15	0	1	6	5	12	0	1	11	2	14	0	4	24	5	33	0	6	11	1	18	77
20:30	0	0	4	1	5	0	0	14	3	17	0	3	12	4	19	0	9	12	0	21	62
20:45	0	0	9	2	11	0	2	16	2	20	0	3	14	3	20	0	6	10	1	17	68
21:00	0	2	6	1	9	0	0	14	0	14	0	4	11	3	18	0	4	16	1	21	62



Maryland Department of Transportation
 State Highway Administration
 Data Services Division
 Turning Movement Summary Report

Station ID: S2000120039 County: Harford Comments:
 Date: 2/19/2019 12:00:00 AM Town: none
 Location: MD 715 at Old Philadelphia Rd Weather: Sunny/Cold
 Interval: 15 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46

MD 715 From North MD 715 From South Old Philadelphia Rd From East Old Philadelphia Rd From West

21:15	0	2	5	8	15	0	0	9	2	11	0	2	19	2	23	0	5	10	0	15	64
21:30	0	1	9	1	11	0	2	6	8	16	0	2	18	2	22	0	7	7	2	16	65
21:45	0	1	2	3	6	0	0	4	1	5	0	4	15	4	23	0	3	10	0	13	47
22:00	0	0	3	1	4	0	0	7	1	8	0	5	15	2	22	0	3	6	1	10	44
22:15	0	1	3	1	5	0	1	5	3	9	0	3	13	1	17	0	5	11	0	16	47
22:30	1	0	4	3	8	0	1	2	2	5	0	2	15	5	22	0	3	7	0	10	45
22:45	0	0	3	0	3	0	0	4	2	6	0	2	7	2	11	0	4	18	3	25	45
23:00	0	0	1	1	2	0	0	3	2	5	0	2	11	3	16	0	4	13	0	17	40
23:15	0	1	4	2	7	0	1	4	0	5	0	1	10	2	13	0	6	14	2	22	47
23:30	0	0	2	2	4	0	0	6	3	9	0	2	7	1	10	0	6	27	0	33	56
23:45	0	1	6	0	7	0	1	5	4	10	0	1	9	2	12	0	2	12	1	15	44
TOTAL	9	122	6502	423	7056	6	353	6636	1049	8044	0	1283	2203	457	3943	1	777	2037	645	3460	22503
AMPEAK	0	6	1565	12	1583	0	9	113	26	148	0	202	88	10	300	0	32	81	144	257	2288
PMPEAK	0	9	107	32	148	0	109	1721	229	2059	0	30	146	35	211	0	51	147	29	227	2645



Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report

Station ID: S2000120039

County: Harford

Comments:

Date: 2/19/2019 12:00:00 AM

Town: none

Location: MD 715 at Old Philadelphia Rd

Weather: Sunny/Cold

Interval: 15 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46

MD 715
 From North

MD 715
 From South

Old Philadelphia Rd
 From East

Old Philadelphia Rd
 From West

Begin Hour	School Children	Pedestrians	Bicycles	School Childer	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
00:00	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
 State Highway Administration
 Data Services Division
 Turning Movement Summary Report

Station ID: S2000120039
 Date: 2/19/2019 12:00:00 AM
 Location: MD 715 at Old Philadelphia Rd
 Interval: 15 Min

County: Harford
 Town: none
 Weather: Sunny/Cold
 Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46



Begin Hour	School Children	Pedestrians	Bicycles	School Childer	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
06:45	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
 State Highway Administration
 Data Services Division
 Turning Movement Summary Report

Station ID: S2000120039
 Date: 2/19/2019 12:00:00 AM
 Location: MD 715 at Old Philadelphia Rd
 Interval: 15 Min

County: Harford
 Town: none
 Weather: Sunny/Cold
 Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46



Begin Hour	School Children	Pedestrians	Bicycles	School Childer	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
13:30	0	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0	0	0	0	0
19:30	0	0	0	0	0	0	0	0	0	0	0	0
19:45	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0



Maryland Department of Transportation
 State Highway Administration
 Data Services Division
 Turning Movement Summary Report

Station ID: S2000120039

County: Harford

Comments:

Date: 2/19/2019 12:00:00 AM

Town: none

Location: MD 715 at Old Philadelphia Rd

Weather: Sunny/Cold

Interval: 15 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46

MD 715
From North

MD 715
From South

Old Philadelphia Rd
From East

Old Philadelphia Rd
From West

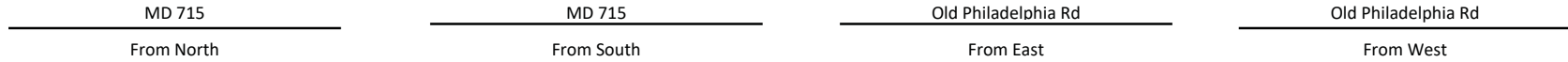
Begin Hour	School Children	Pedestrians	Bicycles	School Childer	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
20:15	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
AMPEAK	0	0	0	0	0	0	0	0	0	0	0	0
PMPEAK	0	0	0	0	0	0	0	0	0	0	0	0



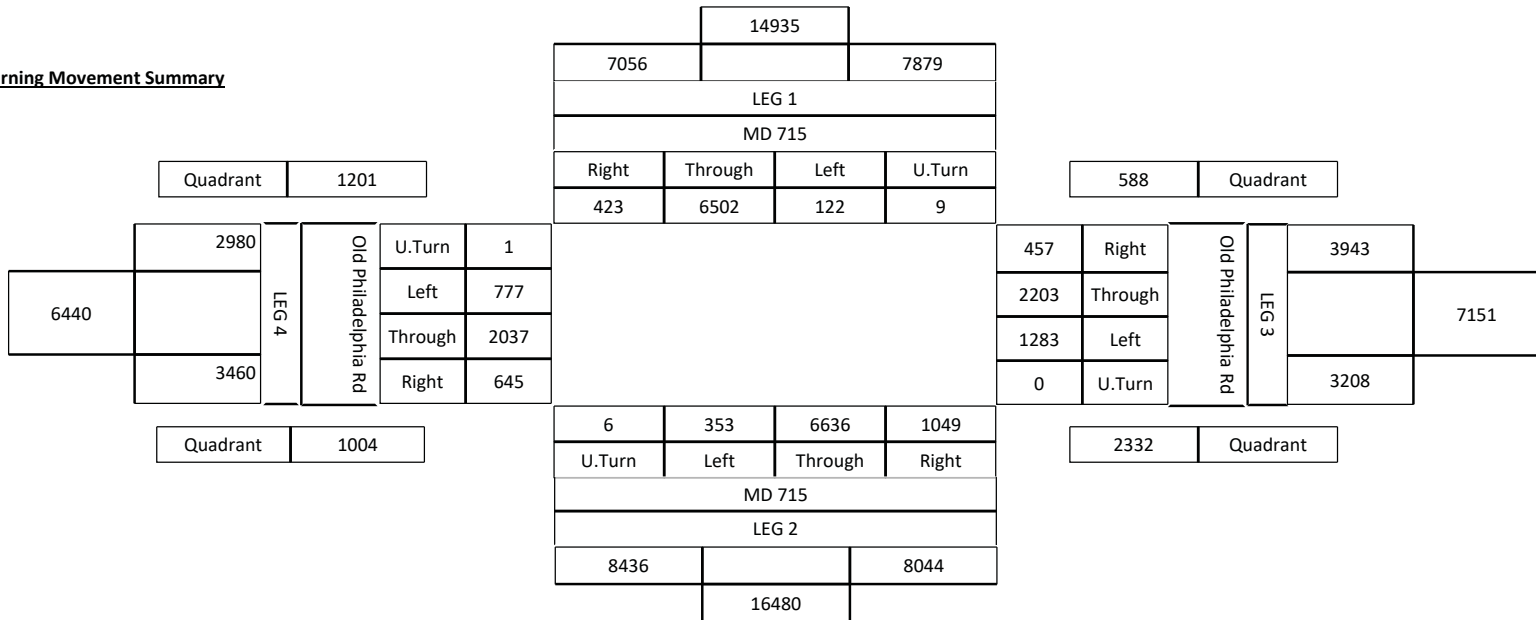
Maryland Department of Transportation
 State Highway Administration
 Data Services Division
 Turning Movement Summary Report

Station ID: S2000120039 County: Harford Comments:
 Date: 2/19/2019 12:00:00 AM Town: none
 Location: MD 715 at Old Philadelphia Rd Weather: Sunny/Cold
 Interval: 15 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46



Turning Movement Summary





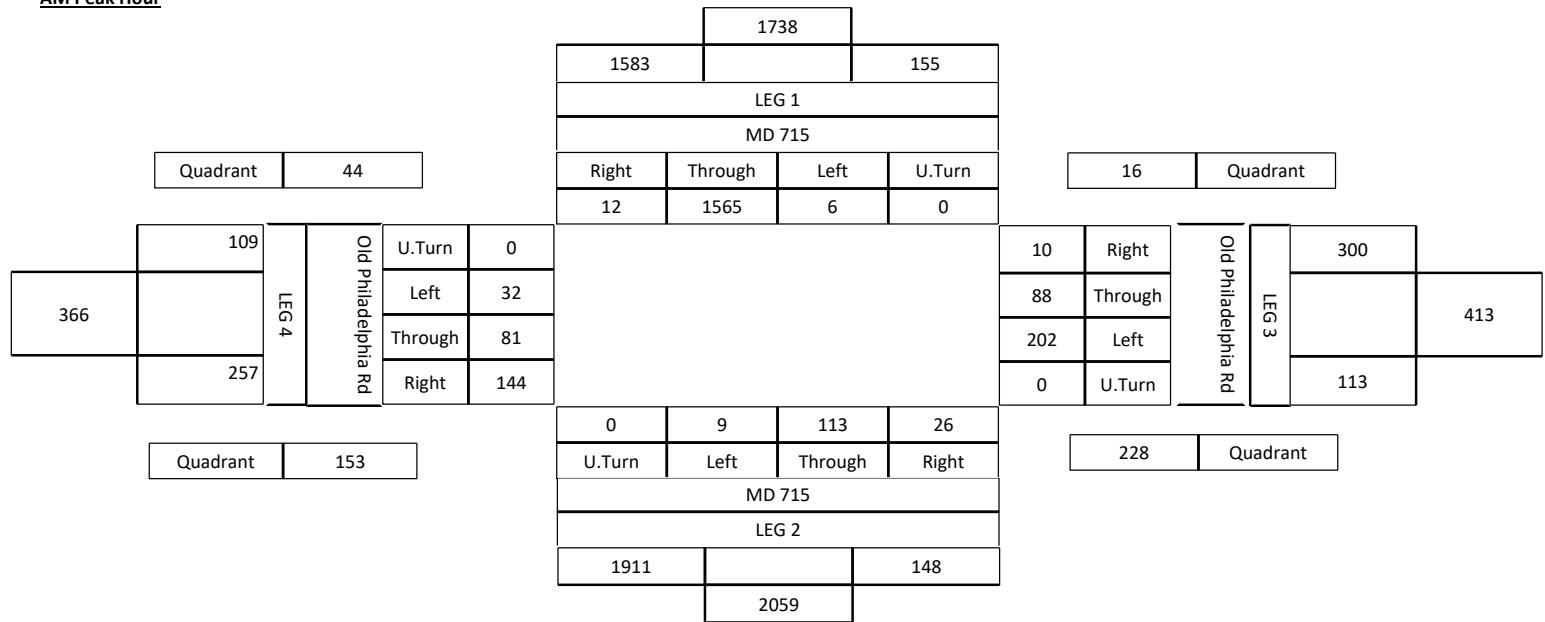
**Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report**

Station ID: S2000120039 County: Harford Comments:
 Date: 2/19/2019 12:00:00 AM Town: none
 Location: MD 715 at Old Philadelphia Rd Weather: Sunny/Cold
 Interval: 15 Min

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46



AM Peak Hour



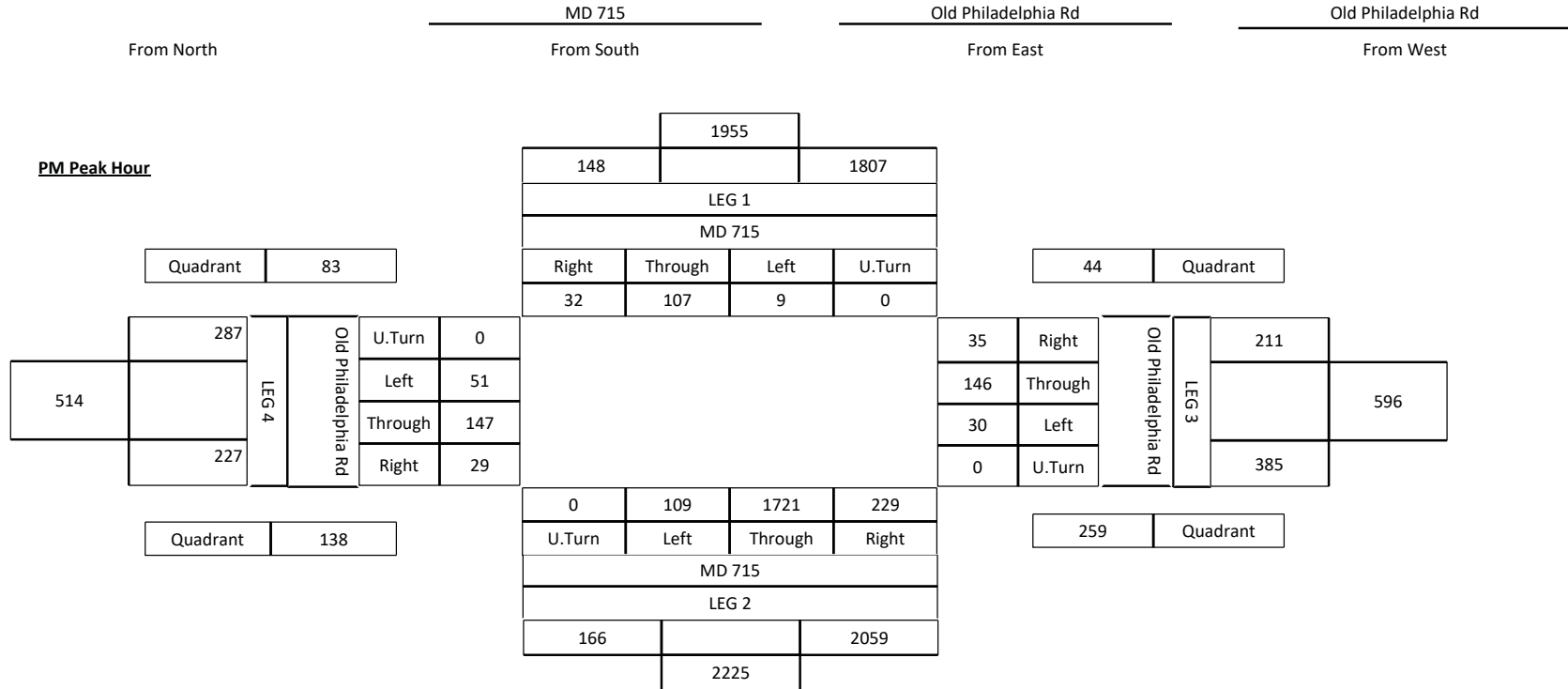


**Maryland Department of Transportation
State Highway Administration
Data Services Division
Turning Movement Summary Report**

Station ID: S2000120039
 Date: 2/19/2019 12:00:00 AM
 Location: MD 715 at Old Philadelphia Rd
 Interval: 15 Min

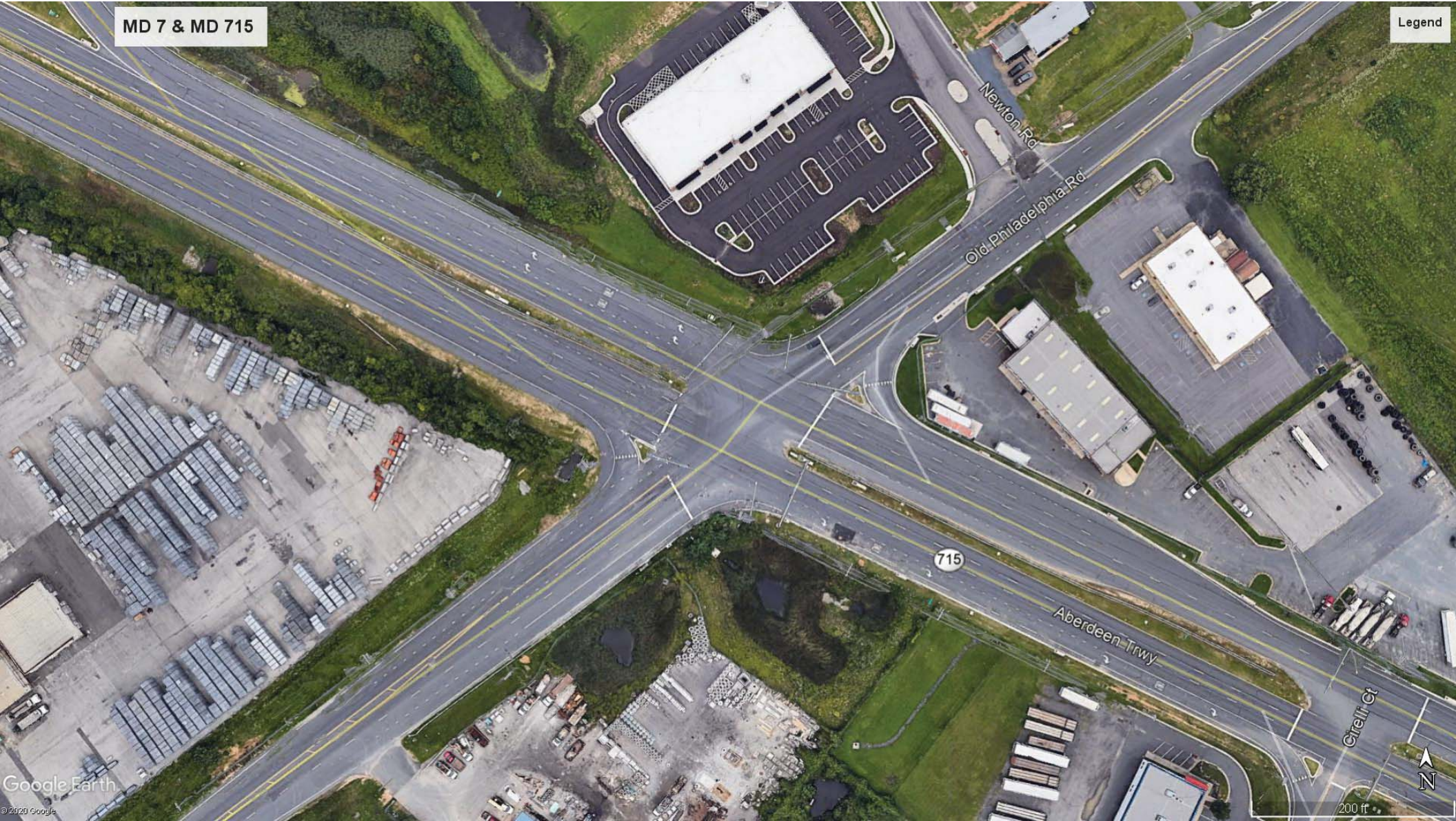
County: Harford
 Town: none
 Weather: Sunny/Cold
 Comments:

PEAK	AM PERIOD	Start	End	Volume	LOS	V/C	PM PERIOD	Start	End	Volume	LOS	V/C
Hours	6:00AM-12:00PM	07:15	08:00	2288	B	0.64	12:00PM-19:00PM	16:00	16:45	2645	A	0.46



MD 7 & MD 715

Legend



Google Earth
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TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 7 (Old Philadelphia Road)
and: MD 159 (Perryman Road)
Location: Harford County, Maryland

Counted by: VCU
Date: November 19, 2020
Weather: Sunny/Cool
Entered by: SN

Thursday

Star Rating: 4



TIME	TRAFFIC FROM NORTH					TRAFFIC FROM SOUTH MD 159 (Perryman Road)					TRAFFIC FROM EAST MD 7 (Old Philadelphia Road)					TRAFFIC FROM WEST MD 7 (Old Philadelphia Road)					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	0	0	0	35	0	14	0	49	0	10	14	0	24	14	23	0	0	37	110
7:15 - 7:30	0	0	0	0	0	24	0	9	0	33	0	6	16	0	22	19	17	0	0	36	91
7:30 - 7:45	0	0	0	0	0	15	0	12	0	27	0	7	22	0	29	8	8	0	0	16	72
7:45 - 8:00	0	0	0	0	0	27	0	12	0	39	0	7	16	0	23	27	14	0	0	41	103
8:00 - 8:15	0	0	0	0	0	33	0	11	0	44	0	5	20	0	25	8	8	0	0	16	85
8:15 - 8:30	0	0	0	0	0	17	0	13	0	30	0	4	17	0	21	11	20	0	0	31	82
8:30 - 8:45	0	0	0	0	0	28	0	14	0	42	0	11	18	0	29	18	12	0	0	30	101
8:45 - 9:00	0	0	0	0	0	15	0	22	0	37	0	7	14	0	21	23	15	0	0	38	96
2 Hr Totals	0	0	0	0	0	194	0	107	0	301	0	57	137	0	194	128	117	0	0	245	740
1 Hr Totals																					
7:00 - 8:00	0	0	0	0	0	101	0	47	0	148	0	30	68	0	98	68	62	0	0	130	376
7:15 - 8:15	0	0	0	0	0	99	0	44	0	143	0	25	74	0	99	62	47	0	0	109	351
7:30 - 8:30	0	0	0	0	0	92	0	48	0	140	0	23	75	0	98	54	50	0	0	104	342
7:45 - 8:45	0	0	0	0	0	105	0	50	0	155	0	27	71	0	98	64	54	0	0	118	371
8:00 - 9:00	0	0	0	0	0	93	0	60	0	153	0	27	69	0	96	60	55	0	0	115	364
PEAK HOUR																					
7:00 - 8:00	0	0	0	0	0	101	0	47	0	148	0	30	68	0	98	68	62	0	0	130	376
PM																					
4:00 - 4:15	0	0	0	0	0	57	0	18	0	75	0	23	29	0	52	20	4	0	0	24	151
4:15 - 4:30	0	0	0	0	0	46	0	21	0	67	0	28	29	1	58	22	4	0	0	26	151
4:30 - 4:45	0	0	0	0	0	39	0	16	0	55	0	20	41	0	61	22	5	0	0	27	143
4:45 - 5:00	0	0	0	0	0	38	0	20	0	58	0	18	23	0	41	22	8	0	0	30	129
5:00 - 5:15	0	0	0	0	0	69	0	28	0	97	0	26	23	0	49	20	12	0	0	32	178
5:15 - 5:30	0	0	0	0	0	46	0	24	0	70	0	6	41	0	47	21	3	0	2	26	143
5:30 - 5:45	0	0	0	0	0	29	0	18	0	47	0	14	42	0	56	20	8	0	0	28	131
5:45 - 6:00	0	0	0	0	0	31	0	16	0	47	0	6	38	0	44	13	11	0	0	24	115
2 Hr Totals	0	0	0	0	0	355	0	161	0	516	0	141	266	1	408	160	55	0	2	217	1141
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	180	0	75	0	255	0	89	122	1	212	86	21	0	0	107	574
4:15 - 5:15	0	0	0	0	0	192	0	85	0	277	0	92	116	1	209	86	29	0	0	115	601
4:30 - 5:30	0	0	0	0	0	192	0	88	0	280	0	70	128	0	198	85	28	0	2	115	593
4:45 - 5:45	0	0	0	0	0	182	0	90	0	272	0	64	129	0	193	83	31	0	2	116	581
5:00 - 6:00	0	0	0	0	0	175	0	86	0	261	0	52	144	0	196	74	34	0	2	110	567
PEAK HOUR																					
4:15 - 5:15	0	0	0	0	0	192	0	85	0	277	0	92	116	1	209	86	29	0	0	115	601

MD 7 & MD 159

Legend



Google Earth
© 2020 Google

4.87 ft



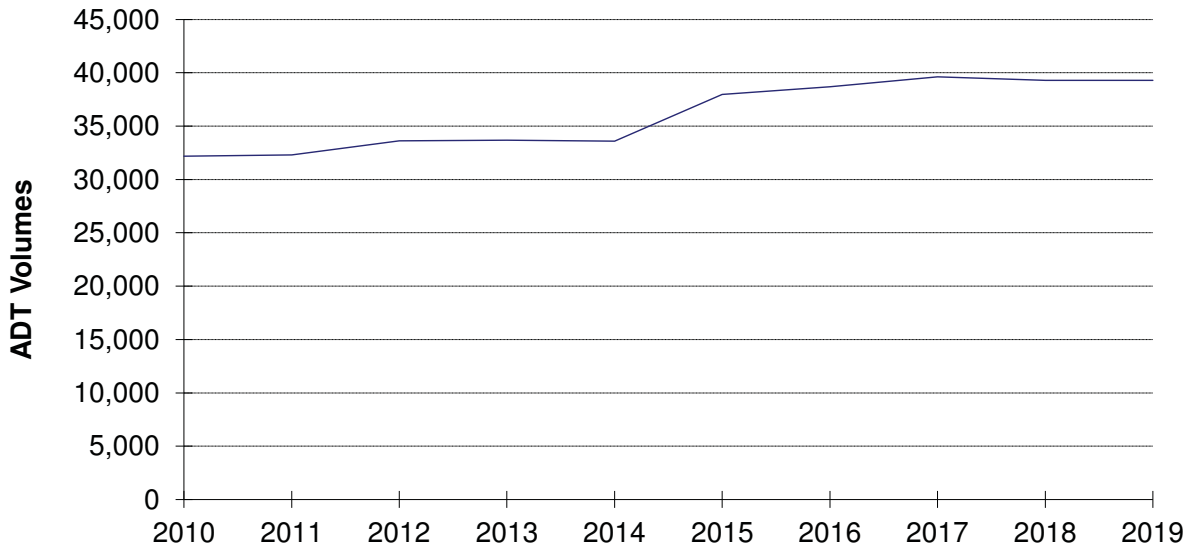
TRAFFIC GROWTH PROJECTION

LOCATION: US 40; North of MD 7

REPORT DATE: 03-Dec-20

AVERAGE GROWTH:	2.32%
MATHEMATICAL GROWTH:	2.24%

Year	ADT Volume	Vol. increase	% increase	Average %
2010	32,181			
2011	32,312	131	0.41%	0.41%
2012	33,610	1,298	4.02%	2.21%
2013	33,681	71	0.21%	1.55%
2014	33,582	-99	-0.29%	1.09%
2015	37,980	4,398	13.10%	3.49%
2016	38,701	721	1.90%	3.22%
2017	39,632	931	2.41%	3.11%
2018	39,283	-349	-0.88%	2.61%
2019	39,284	1	0.00%	2.32%



TRAFFIC GROWTH
US 40; NORTH OF MD 7

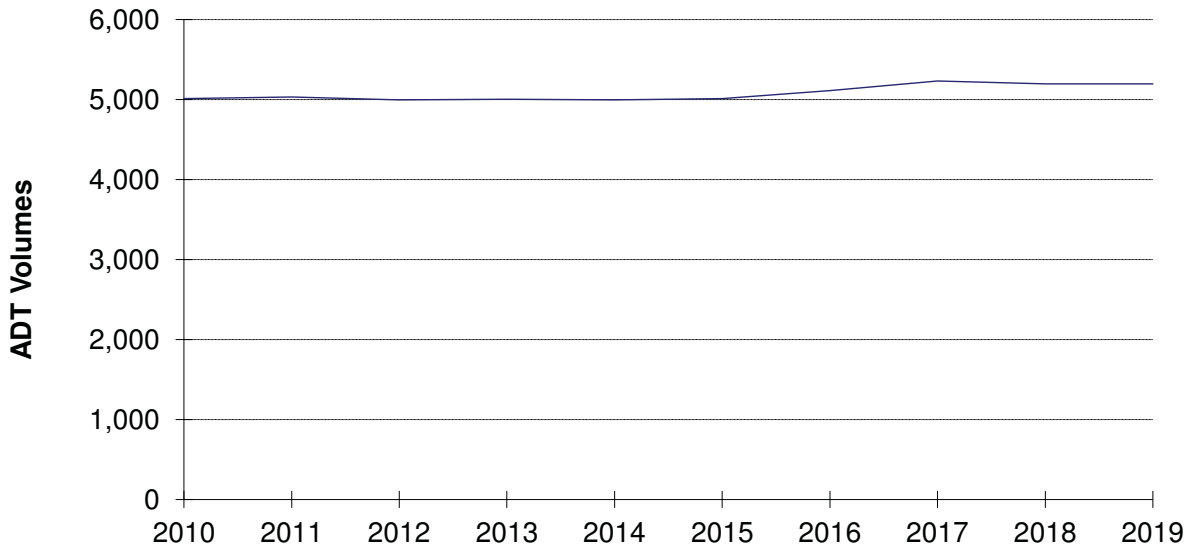
TRAFFIC GROWTH PROJECTION

LOCATION: MD 7; East of US 40

REPORT DATE: 03-Dec-20

AVERAGE GROWTH:	0.40%
MATHEMATICAL GROWTH:	0.40%

Year	ADT Volume	Vol. increase	% increase	Average %
2010	5,011			
2011	5,032	21	0.42%	0.42%
2012	4,993	-39	-0.78%	-0.18%
2013	5,004	11	0.22%	-0.05%
2014	4,995	-9	-0.18%	-0.08%
2015	5,010	15	0.30%	0.00%
2016	5,111	101	2.02%	0.33%
2017	5,232	121	2.37%	0.62%
2018	5,193	-39	-0.75%	0.45%
2019	5,194	1	0.02%	0.40%



TRAFFIC GROWTH
MD 7; EAST OF US 40

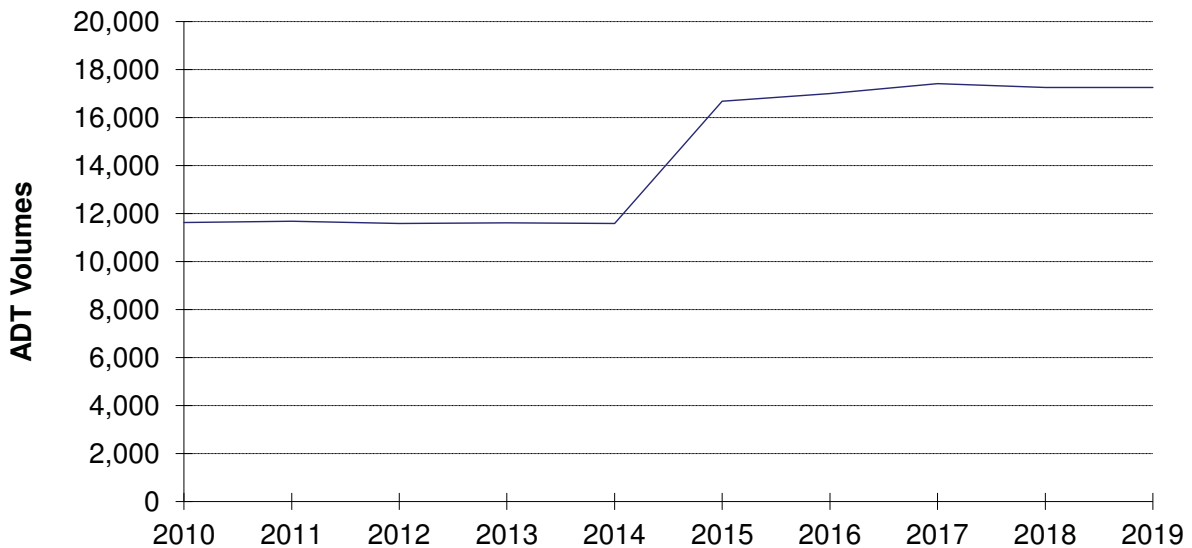
TRAFFIC GROWTH PROJECTION

LOCATION: MD 715; East of MD 7

REPORT DATE: 03-Dec-20

AVERAGE GROWTH:	5.23%
MATHEMATICAL GROWTH:	4.49%

Year	ADT Volume	Vol. increase	% increase	Average %
2010	11,621			
2011	11,672	51	0.44%	0.44%
2012	11,583	-89	-0.76%	-0.16%
2013	11,614	31	0.27%	-0.02%
2014	11,585	-29	-0.25%	-0.08%
2015	16,670	5,085	43.89%	8.72%
2016	16,991	321	1.93%	7.59%
2017	17,402	411	2.42%	6.85%
2018	17,253	-149	-0.86%	5.88%
2019	17,254	1	0.01%	5.23%



TRAFFIC GROWTH
MD 715; EAST OF MD 7



A SERVICE DISABLED
VETERAN-OWNED
SMALL BUSINESS

CORPORATE OFFICE
Baltimore, MD

Suite H
9900 Franklin Square Drive
Baltimore, Maryland 21236
410.931.6600
fax: 410.931.6601
1.800.583.8411

DELMARVA OFFICE
443.290.4060

FIELD LOCATIONS

Arkansas
Georgia
Maryland
New York
North Carolina
Ohio
Pennsylvania
South Carolina
Texas
Utah
Virginia
West Virginia

May 1, 2019

Mr. Ron Burns
Transportation Engineering Manager
Planning & Permitting Division
Frederick County Government
30 North Market Street
Frederick, Maryland 21701

Mr. Cherian Eapen, PTP
Manager- Traffic Engineering
City of Frederick, Engineering Department
140 West Patrick Street
Frederick, Maryland 21701

Mr. D. Scott Newill
MDOT – SHA
Regional Engineer
District 7 Access Management
5111 Buckeystown Pike
Frederick, Maryland 21704

RE: Rutter's Convenience Stores
TRIP GENERATION ANALYSIS
City of Frederick
Frederick County, Maryland
Our Job No.: 2000-0108D

Dear Gentlemen:

As requested by Rutter's and as discussed with Mr. Ron Burns with Frederick County Government, we have updated an existing trip generation study for Rutter's with an additional study from the new Rutter's in Walkersville, Frederick County, Maryland. Based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, we believe the two Convenience Market and Super Convenience Market with Gas ITE Codes are not reasonable categories for Rutter's. Rutter's has larger stores than the ones tested within ITE and they generate less trips than the other "Super" Convenience Markets with Gas. The other three (3) studies were conducted at stores in Pennsylvania and due to propriety reasons, the locations are unnamed. These three (3) Rutter's in Pennsylvania are located along Arterials and in close proximity to Major Arterials/Highways. The study from Pennsylvania is located in the Appendix for reference.

For the 7,450 SF Rutter's in Walkersville, we conducted intersection turning movement counts at access points along both MD 194 and Sandstone Drive on Wednesday, April 24, 2019. Utilizing these counts, we determined the appropriate trip generation rates per 1,000 SF of Convenience Store. During the morning peak

hour, the Peak Hour of the Generator and the Peak Hour of Adjacent Street was the same with 135 total trips which is a rate of 18.12 trips/1,000 SF. During the evening peak hour, the Peak Hour of the Generator was 156 total trips which is a rate of 20.94 trips/1,000 SF while the Peak Hour of Adjacent Street was 144 total trips which is a rate of 19.33 trips/1,000 SF. These results can be found on Exhibits 1 and 1A and the traffic counts can be found in the Appendix.

Exhibit 2 details the Average Trip Rates/1,000 SF based on the Peak Hour of the Generator for all four (4) Rutter's. As shown on this Exhibit, the morning peak hour has an Average Rate of 25.03 Total Trips/1,000 SF and the evening peak hour has an average Rate of 25.63. These rates are significantly lower than the rates in ITE and we are suggesting to use these rates for the existing and future projects in this area (City of Frederick, Emmitsburg, and New Market).

Please review and let me know if you agree or if you would like to meet to discuss. Thank you.

Sincerely,

A handwritten signature in black ink that reads "Joseph C. Caloggero". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Joseph C. Caloggero, P.E., PTOE, PTP
Vice President

JJC:mlj

(F:\2000\2000-0108\2000-0108D\Ltr_Trip Generation Analysis_Newill.Eapen.Burns (002).docx)

TRIP GENERATION FOR SUBJECT SITE (PEAK HOUR OF GENERATOR)

MORNING PEAK HOUR (7:00 - 8:00)			EVENING PEAK HOUR (4:15 - 5:15)		
IN	OUT	TOTAL	IN	OUT	TOTAL

Rutter's Walkersville

7,450 sq. ft. Convenience Store with Gas Pumps	70	65	135	77	79	156
<i>Trip Rate: Trips / ksf</i>	9.40	8.72	18.12	10.34	10.60	20.94

Notes: 1. Traffic count was conducted at access points of Rutter's #75 on 4/24/2019.

2. Peak hour was determined based on in/out site traffic volumes.



EXHIBIT 1
TRIP GENERATION
FOR SUBJECT SITE

TRIP GENERATION FOR SUBJECT SITE (PEAK HOUR OF ADJACENT STREET)

MORNING PEAK HOUR (7:00 - 8:00)			EVENING PEAK HOUR (4:45 - 5:45)		
IN	OUT	TOTAL	IN	OUT	TOTAL

Rutter's Walkersville

7,450 sq. ft. Convenience Store with Gas Pumps	70	65	135	70	74	144
<i>Trip Rate: Trips / ksf</i>	9.40	8.72	18.12	9.40	9.93	19.33

Notes: 1. Traffic count was conducted at access points of Rutter's #75 on 4/24/2019.

2. Peak hour was determined based on MD 194 traffic volumes.



**EXHIBIT 1A
TRIP GENERATION
FOR SUBJECT SITE**

TRIP GENERATION FOR RUTTER'S CONVENIENCE STORE (PEAK HOUR OF GENERATOR)

MORNING PEAK HOUR			EVENING PEAK HOUR		
IN	OUT	TOTAL	IN	OUT	TOTAL

Rutter's A (Count Date: 8/9/18)

7,868 sq. ft. Convenience Store with Gas Pumps	89	83	172	110	117	227
<i>Trip Rate: Trips / ksf</i>	11.31	10.55	21.86	13.98	14.87	28.85

Rutter's B (Count Date: 8/9/18)

9,195 sq. ft. Convenience Store with Gas Pumps	155	135	290	122	125	247
<i>Trip Rate: Trips / ksf</i>	16.86	14.68	31.54	13.27	13.59	26.86

Rutter's C (Count Date: 8/9/18)

9,195 sq. ft. Convenience Store with Gas Pumps	134	129	263	126	112	238
<i>Trip Rate: Trips / ksf</i>	14.57	14.03	28.60	13.70	12.18	25.88

Rutter's D (Walkersville, Count Date: 4/24/19)

7,450 sq. ft. Convenience Store with Gas Pumps	70	65	135	77	79	156
<i>Trip Rate: Trips / ksf</i>	9.40	8.72	18.12	10.34	10.60	20.94

Average Trip Rate: Trips / ksf	13.04	12.00	25.03	12.82	12.81	25.63
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EXHIBIT 2
AVERAGE TRIP GENERATION RATES
FOR SUBJECT SITE

APPENDIX



CARS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 194
and: Rutter's #75 - Glade Boulevard
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday

Star Rating: 4



TIME	TRAFFIC FROM NORTH on: Rutter's #75					TRAFFIC FROM SOUTH on: Glade Boulevard					TRAFFIC FROM EAST on: MD 194					TRAFFIC FROM WEST on: MD 194					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	8	2	2	0	12	1	1	23	0	25	13	200	2	0	215	11	40	2	0	53	305
7:15 - 7:30	13	2	2	0	17	4	0	31	0	35	9	199	3	0	211	2	57	2	0	61	324
7:30 - 7:45	6	1	3	0	10	6	1	21	0	28	5	187	7	0	199	9	59	2	0	70	307
7:45 - 8:00	5	2	1	0	8	4	0	26	0	30	7	168	5	0	180	13	70	2	0	85	303
8:00 - 8:15	11	0	1	0	12	7	1	14	0	22	10	134	1	0	145	10	61	1	0	72	251
8:15 - 8:30	10	0	5	0	15	3	1	15	0	19	3	111	6	0	120	8	45	4	0	57	211
8:30 - 8:45	5	1	8	0	14	5	1	20	0	26	5	129	9	0	143	12	50	5	0	67	250
8:45 - 9:00	3	0	3	0	6	6	1	17	0	24	3	149	11	0	163	11	59	3	0	73	266
2 Hr Totals	61	8	25	0	94	36	6	167	0	209	55	1277	44	0	1376	76	441	21	0	538	2217
1 Hr Totals																					
7:00 - 8:00	32	7	8	0	47	15	2	101	0	118	34	754	17	0	805	35	226	8	0	269	1239
7:15 - 8:15	35	5	7	0	47	21	2	92	0	115	31	688	16	0	735	34	247	7	0	288	1185
7:30 - 8:30	32	3	10	0	45	20	3	76	0	99	25	600	19	0	644	40	235	9	0	284	1072
7:45 - 8:45	31	3	15	0	49	19	3	75	0	97	25	542	21	0	588	43	226	12	0	281	1015
8:00 - 9:00	29	1	17	0	47	21	4	66	0	91	21	523	27	0	571	41	215	13	0	269	978
PEAK HOUR																					
7:00 - 8:00	32	7	8	0	47	15	2	101	0	118	34	754	17	0	805	35	226	8	0	269	1239
PM																					
4:00 - 4:15	1	3	9	0	13	33	3	29	0	65	2	92	14	0	108	35	148	4	0	187	373
4:15 - 4:30	4	6	9	0	19	20	1	21	0	42	7	98	13	0	118	27	178	7	0	212	391
4:30 - 4:45	1	4	6	0	11	20	6	26	0	52	4	100	15	0	119	31	178	4	0	213	395
4:45 - 5:00	3	1	6	0	10	24	5	24	0	53	5	103	13	0	121	42	154	3	0	199	383
5:00 - 5:15	4	3	10	0	17	16	2	24	0	42	4	84	19	0	107	29	183	6	0	218	384
5:15 - 5:30	5	4	4	0	13	22	1	22	0	45	4	106	18	0	128	30	180	5	0	215	401
5:30 - 5:45	2	4	5	0	11	30	9	24	0	63	5	106	17	0	128	45	170	6	0	221	423
5:45 - 6:00	4	5	6	0	15	23	3	24	0	50	8	99	19	0	126	31	146	2	0	179	370
2 Hr Totals	24	30	55	0	109	188	30	194	0	412	39	788	128	0	955	270	1337	37	0	1644	3120
1 Hr Totals																					
4:00 - 5:00	9	14	30	0	53	97	15	100	0	212	18	393	55	0	466	135	658	18	0	811	1542
4:15 - 5:15	12	14	31	0	57	80	14	95	0	189	20	385	60	0	465	129	693	20	0	842	1553
4:30 - 5:30	13	12	26	0	51	82	14	96	0	192	17	393	65	0	475	132	695	18	0	845	1563
4:45 - 5:45	14	12	25	0	51	92	17	94	0	203	18	399	67	0	484	146	687	20	0	853	1591
5:00 - 6:00	15	16	25	0	56	91	15	94	0	200	21	395	73	0	489	135	679	19	0	833	1578
PEAK HOUR																					
4:45 - 5:45	14	12	25	0	51	92	17	94	0	203	18	399	67	0	484	146	687	20	0	853	1591

MEDIUMS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 194
and: Rutter's #75 - Glade Boulevard
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday

Star Rating: 4



TIME	TRAFFIC FROM NORTH on: Rutter's #75					TRAFFIC FROM SOUTH on: Glade Boulevard					TRAFFIC FROM EAST on: MD 194					TRAFFIC FROM WEST on: MD 194					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	1	0	1	0	0	1	0	1	1	20	0	0	21	1	7	0	0	8	31
7:15 - 7:30	1	0	0	0	1	0	0	0	0	0	3	9	0	0	12	0	5	2	0	7	20
7:30 - 7:45	3	0	2	0	5	1	0	2	0	3	0	14	0	0	14	2	3	1	0	6	28
7:45 - 8:00	1	0	1	0	2	0	0	3	0	3	0	9	0	0	9	0	14	0	0	14	28
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	6	0	0	6	21
8:15 - 8:30	0	0	0	0	0	0	0	2	0	2	1	10	0	0	11	2	10	0	0	12	25
8:30 - 8:45	0	0	0	0	0	0	0	1	0	1	0	7	1	0	8	0	7	0	0	7	16
8:45 - 9:00	0	0	0	0	0	1	0	1	0	2	0	8	0	0	8	2	11	0	0	13	23
2 Hr Totals	5	0	4	0	9	2	0	10	0	12	5	92	1	0	98	7	63	3	0	73	192
1 Hr Totals																					
7:00 - 8:00	5	0	4	0	9	1	0	6	0	7	4	52	0	0	56	3	29	3	0	35	107
7:15 - 8:15	5	0	3	0	8	1	0	5	0	6	3	47	0	0	50	2	28	3	0	33	97
7:30 - 8:30	4	0	3	0	7	1	0	7	0	8	1	48	0	0	49	4	33	1	0	38	102
7:45 - 8:45	1	0	1	0	2	0	0	6	0	6	1	41	1	0	43	2	37	0	0	39	90
8:00 - 9:00	0	0	0	0	0	1	0	4	0	5	1	40	1	0	42	4	34	0	0	38	85
PEAK HOUR																					
7:00 - 8:00	5	0	4	0	9	1	0	6	0	7	4	52	0	0	56	3	29	3	0	35	107
PM																					
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	9	0	0	9	13
4:15 - 4:30	0	0	0	0	0	2	0	1	0	3	0	6	1	0	7	0	7	0	0	7	17
4:30 - 4:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	3	0	0	4	6
4:45 - 5:00	2	0	1	0	3	1	0	1	0	2	0	2	0	0	2	2	8	1	0	11	18
5:00 - 5:15	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	3	0	0	3	7
5:15 - 5:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
5:30 - 5:45	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	2	2	0	0	4	7
5:45 - 6:00	0	0	0	0	0	1	0	1	0	2	0	2	0	0	2	0	2	0	0	2	6
2 Hr Totals	3	0	1	0	4	4	0	3	0	7	0	24	1	0	25	5	37	1	0	43	79
1 Hr Totals																					
4:00 - 5:00	2	0	1	0	3	3	0	2	0	5	0	14	1	0	15	3	27	1	0	31	54
4:15 - 5:15	2	0	1	0	3	3	0	2	0	5	0	14	1	0	15	3	21	1	0	25	48
4:30 - 5:30	2	0	1	0	3	1	0	1	0	2	0	10	0	0	10	3	17	1	0	21	36
4:45 - 5:45	3	0	1	0	4	1	0	1	0	2	0	10	0	0	10	4	16	1	0	21	37
5:00 - 6:00	1	0	0	0	1	1	0	1	0	2	0	10	0	0	10	2	10	0	0	12	25
PEAK HOUR																					
4:45 - 5:45	3	0	1	0	4	1	0	1	0	2	0	10	0	0	10	4	16	1	0	21	37

HEAVY TRUCKS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 194
and: Rutter's #75 - Glade Boulevard
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday

Star Rating: 4



TIME	TRAFFIC FROM NORTH on: Rutter's #75					TRAFFIC FROM SOUTH on: Glade Boulevard					TRAFFIC FROM EAST on: MD 194					TRAFFIC FROM WEST on: MD 194					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	1	1	0	2	4
7:15 - 7:30	1	0	2	0	3	0	0	0	0	0	0	7	0	0	7	1	2	0	0	3	13
7:30 - 7:45	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	3	0	0	3	6
7:45 - 8:00	0	0	0	0	0	1	0	0	0	1	4	3	0	0	7	0	2	0	0	2	10
8:00 - 8:15	2	0	0	0	2	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	6
8:15 - 8:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
8:30 - 8:45	0	0	1	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5
8:45 - 9:00	1	0	0	0	1	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	7
2 Hr Totals	4	0	5	0	9	1	0	1	0	2	6	24	0	0	30	1	12	1	0	14	55
1 Hr Totals																					
7:00 - 8:00	1	0	3	0	4	1	0	1	0	2	5	12	0	0	17	1	8	1	0	10	33
7:15 - 8:15	3	0	2	0	5	1	0	1	0	2	4	15	0	0	19	1	8	0	0	9	35
7:30 - 8:30	2	0	1	0	3	1	0	1	0	2	4	8	0	0	12	0	9	0	0	9	26
7:45 - 8:45	2	0	2	0	4	1	0	0	0	1	4	10	0	0	14	0	6	0	0	6	25
8:00 - 9:00	3	0	2	0	5	0	0	0	0	0	1	12	0	0	13	0	4	0	0	4	22
PEAK HOUR																					
7:00 - 8:00	1	0	3	0	4	1	0	1	0	2	5	12	0	0	17	1	8	1	0	10	33
PM																					
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:15 - 4:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:30 - 4:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
4:45 - 5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 - 5:15	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
5:15 - 5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 - 5:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	4
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Hr Totals	0	0	0	0	0	0	0	0	0	0	1	4	0	0	5	0	5	0	0	5	10
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4
4:15 - 5:15	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	5
4:30 - 5:30	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	4
4:45 - 5:45	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	3	0	0	3	6
5:00 - 6:00	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	3	0	0	3	6
PEAK HOUR																					
4:45 - 5:45	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	3	0	0	3	6

BICYCLES TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 194
and: Rutter's #75 - Glade Boulevard
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday

Star Rating: 4



TIME	TRAFFIC FROM NORTH on: Rutter's #75					TRAFFIC FROM SOUTH on: Glade Boulevard					TRAFFIC FROM EAST on: MD 194					TRAFFIC FROM WEST on: MD 194					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Hr Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 Hr Totals																					
7:00 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HOUR																					
7:00 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM																					
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 - 4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 - 5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 - 5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 - 5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 - 5:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Hr Totals	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 - 5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 - 5:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:00 - 6:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
PEAK HOUR																					
4:45 - 5:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1

PEDESTRIAN AND BICYCLE OBSERVATIONS - SUMMARY

Intersection of: MD 194
and: Rutter's #75 - Glade Boulevard
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday
Star Rating: 4



TIME	NORTH LEG Rutter's #75		SOUTH LEG Glade Boulevard	
	Pedestrians	Bicycles	Pedestrians	Bicycles
AM				
7:00 - 7:15	0	0	0	0
7:15 - 7:30	0	0	0	0
7:30 - 7:45	0	0	0	0
7:45 - 8:00	0	0	0	0
8:00 - 8:15	0	0	0	0
8:15 - 8:30	0	0	0	0
8:30 - 8:45	0	0	0	0
8:45 - 9:00	0	0	0	0
TOTALS	0	0	0	0
PM				
4:00 - 4:15	0	0	0	0
4:15 - 4:30	0	0	0	0
4:30 - 4:45	0	0	1	0
4:45 - 5:00	0	0	0	0
5:00 - 5:15	0	0	0	0
5:15 - 5:30	0	0	0	0
5:30 - 5:45	0	0	0	0
5:45 - 6:00	0	0	0	0
TOTALS	0	0	1	0

	EAST LEG MD 194		WEST LEG MD 194	
	Pedestrians	Bicycles	Pedestrians	Bicycles
AM				
7:00 - 7:15	0	0	0	0
7:15 - 7:30	0	0	0	0
7:30 - 7:45	0	0	0	0
7:45 - 8:00	0	0	0	0
8:00 - 8:15	0	0	0	0
8:15 - 8:30	0	0	0	0
8:30 - 8:45	0	0	0	0
8:45 - 9:00	0	0	0	0
TOTALS	0	0	0	0
PM				
4:00 - 4:15	0	0	3	2
4:15 - 4:30	0	0	0	0
4:30 - 4:45	0	0	1	0
4:45 - 5:00	0	0	1	0
5:00 - 5:15	0	0	3	0
5:15 - 5:30	0	0	0	1
5:30 - 5:45	0	0	0	1
5:45 - 6:00	0	0	0	0
TOTALS	0	0	8	4

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 194
and: Rutter's #75 - Glade Boulevard
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday

Star Rating: 4



TIME	TRAFFIC FROM NORTH on: Rutter's #75					TRAFFIC FROM SOUTH on: Glade Boulevard					TRAFFIC FROM EAST on: MD 194					TRAFFIC FROM WEST on: MD 194					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	8	2	4	0	14	1	1	24	0	26	15	220	2	0	237	12	48	3	0	63	340
7:15 - 7:30	15	2	4	0	21	4	0	31	0	35	12	215	3	0	230	3	64	4	0	71	357
7:30 - 7:45	9	1	5	0	15	7	1	24	0	32	5	203	7	0	215	11	65	3	0	79	341
7:45 - 8:00	6	2	2	0	10	5	0	29	0	34	11	180	5	0	196	13	86	2	0	101	341
8:00 - 8:15	13	0	1	0	14	7	1	14	0	22	10	152	1	0	163	10	68	1	0	79	278
8:15 - 8:30	10	0	6	0	16	3	1	17	0	21	4	121	6	0	131	10	58	4	0	72	240
8:30 - 8:45	5	1	9	0	15	5	1	21	0	27	5	140	10	0	155	12	57	5	0	74	271
8:45 - 9:00	4	0	3	0	7	7	1	18	0	26	4	162	11	0	177	13	70	3	0	86	296
2 Hr Totals	70	8	34	0	112	39	6	178	0	223	66	1393	45	0	1504	84	516	25	0	625	2464
1 Hr Totals																					
7:00 - 8:00	38	7	15	0	60	17	2	108	0	127	43	818	17	0	878	39	263	12	0	314	1379
7:15 - 8:15	43	5	12	0	60	23	2	98	0	123	38	750	16	0	804	37	283	10	0	330	1317
7:30 - 8:30	38	3	14	0	55	22	3	84	0	109	30	656	19	0	705	44	277	10	0	331	1200
7:45 - 8:45	34	3	18	0	55	20	3	81	0	104	30	593	22	0	645	45	269	12	0	326	1130
8:00 - 9:00	32	1	19	0	52	22	4	70	0	96	23	575	28	0	626	45	253	13	0	311	1085
PEAK HOUR																					
7:00 - 8:00	38	7	15	0	60	17	2	108	0	127	43	818	17	0	878	39	263	12	0	314	1379
PM																					
4:00 - 4:15	1	3	9	0	13	33	3	29	0	65	2	96	14	0	112	35	158	4	0	197	387
4:15 - 4:30	4	6	9	0	19	22	1	22	0	45	7	105	14	0	126	27	185	7	0	219	409
4:30 - 4:45	1	4	6	0	11	20	6	26	0	52	4	103	15	0	122	32	182	4	0	218	403
4:45 - 5:00	5	1	7	0	13	25	5	25	0	55	5	105	13	0	123	44	162	4	0	210	401
5:00 - 5:15	4	3	10	0	17	16	2	24	0	42	4	90	19	0	113	29	186	6	0	221	393
5:15 - 5:30	5	4	4	0	13	22	1	22	0	45	4	108	18	0	130	30	183	5	0	218	406
5:30 - 5:45	3	4	5	0	12	30	9	24	0	63	6	108	17	0	131	47	175	6	0	228	434
5:45 - 6:00	4	5	6	0	15	24	3	25	0	52	8	101	19	0	128	31	148	2	0	181	376
2 Hr Totals	27	30	56	0	113	192	30	197	0	419	40	816	129	0	985	275	1379	38	0	1692	3209
1 Hr Totals																					
4:00 - 5:00	11	14	31	0	56	100	15	102	0	217	18	409	56	0	483	138	687	19	0	844	1600
4:15 - 5:15	14	14	32	0	60	83	14	97	0	194	20	403	61	0	484	132	715	21	0	868	1606
4:30 - 5:30	15	12	27	0	54	83	14	97	0	194	17	406	65	0	488	135	713	19	0	867	1603
4:45 - 5:45	17	12	26	0	55	93	17	95	0	205	19	411	67	0	497	150	706	21	0	877	1634
5:00 - 6:00	16	16	25	0	57	92	15	95	0	202	22	407	73	0	502	137	692	19	0	848	1609
PEAK HOUR																					
4:45 - 5:45	17	12	26	0	55	93	17	95	0	205	19	411	67	0	497	150	706	21	0	877	1634

CARS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Sandstone Drive
and: Rutter's #75 - Victoria Park
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday

Star Rating: 5



TIME	TRAFFIC FROM NORTH on: Sandstone Drive					TRAFFIC FROM SOUTH on: Sandstone Drive					TRAFFIC FROM EAST on: Rutter's #75					TRAFFIC FROM WEST on: Victoria Park					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	24	1	0	25	0	4	2	0	6	1	0	0	0	1	5	0	0	0	5	37
7:15 - 7:30	1	28	2	0	31	1	8	1	0	10	0	0	0	0	0	0	0	0	0	0	41
7:30 - 7:45	0	16	2	1	19	1	9	1	0	11	3	0	0	0	3	2	1	0	0	3	36
7:45 - 8:00	1	17	0	0	18	2	9	3	0	14	0	0	0	0	0	1	0	0	0	1	33
8:00 - 8:15	1	21	0	0	22	2	7	1	0	10	1	0	1	0	2	1	0	0	0	1	35
8:15 - 8:30	0	14	2	0	16	3	5	1	0	9	0	0	4	0	4	3	1	1	0	5	34
8:30 - 8:45	0	16	1	0	17	0	2	3	0	5	2	0	1	0	3	1	0	2	0	3	28
8:45 - 9:00	0	17	0	0	17	1	12	2	0	15	0	0	2	0	2	4	0	0	0	4	38
2 Hr Totals	3	153	8	1	165	10	56	14	0	80	7	0	8	0	15	17	2	3	0	22	282
1 Hr Totals																					
7:00 - 8:00	2	85	5	1	93	4	30	7	0	41	4	0	0	0	4	8	1	0	0	9	147
7:15 - 8:15	3	82	4	1	90	6	33	6	0	45	4	0	1	0	5	4	1	0	0	5	145
7:30 - 8:30	2	68	4	1	75	8	30	6	0	44	4	0	5	0	9	7	2	1	0	10	138
7:45 - 8:45	2	68	3	0	73	7	23	8	0	38	3	0	6	0	9	6	1	3	0	10	130
8:00 - 9:00	1	68	3	0	72	6	26	7	0	39	3	0	8	0	11	9	1	3	0	13	135
PEAK HOUR																					
7:00 - 8:00	2	85	5	1	93	4	30	7	0	41	4	0	0	0	4	8	1	0	0	9	147
PM																					
4:00 - 4:15	0	21	4	0	25	3	27	2	0	32	4	0	1	0	5	1	0	0	0	1	63
4:15 - 4:30	0	17	3	0	20	5	30	0	0	35	4	0	1	0	5	1	1	0	0	2	62
4:30 - 4:45	0	23	2	0	25	2	30	0	0	32	4	0	4	0	8	0	0	0	0	0	65
4:45 - 5:00	0	22	1	0	23	2	20	0	0	22	3	0	0	0	3	2	0	1	0	3	51
5:00 - 5:15	0	23	4	0	27	2	34	4	0	40	3	0	0	0	3	1	0	0	0	1	71
5:15 - 5:30	1	22	1	0	24	1	22	0	0	23	5	0	5	0	10	2	0	0	0	2	59
5:30 - 5:45	0	19	0	0	19	2	25	2	0	29	3	0	0	0	3	4	0	0	0	4	55
5:45 - 6:00	0	18	1	0	19	3	32	2	0	37	1	0	1	0	2	1	1	0	0	2	60
2 Hr Totals	1	165	16	0	182	20	220	10	0	250	27	0	12	0	39	12	2	1	0	15	486
1 Hr Totals																					
4:00 - 5:00	0	83	10	0	93	12	107	2	0	121	15	0	6	0	21	4	1	1	0	6	241
4:15 - 5:15	0	85	10	0	95	11	114	4	0	129	14	0	5	0	19	4	1	1	0	6	249
4:30 - 5:30	1	90	8	0	99	7	106	4	0	117	15	0	9	0	24	5	0	1	0	6	246
4:45 - 5:45	1	86	6	0	93	7	101	6	0	114	14	0	5	0	19	9	0	1	0	10	236
5:00 - 6:00	1	82	6	0	89	8	113	8	0	129	12	0	6	0	18	8	1	0	0	9	245
PEAK HOUR																					
4:15 - 5:15	0	85	10	0	95	11	114	4	0	129	14	0	5	0	19	4	1	1	0	6	249

MEDIUMS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Sandstone Drive
and: Rutter's #75 - Victoria Park
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday

Star Rating: 5



TIME	TRAFFIC FROM NORTH on: Sandstone Drive					TRAFFIC FROM SOUTH on: Sandstone Drive					TRAFFIC FROM EAST on: Rutter's #75					TRAFFIC FROM WEST on: Victoria Park					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	2
7:15 - 7:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 - 7:45	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2
8:15 - 8:30	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:30 - 8:45	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 - 9:00	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2 Hr Totals	0	4	1	0	5	2	2	0	0	4	0	1	1	0	2	1	0	0	0	1	12
1 Hr Totals																					
7:00 - 8:00	0	1	1	0	2	1	1	0	0	2	0	0	1	0	1	0	0	0	0	0	5
7:15 - 8:15	0	1	1	0	2	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	5
7:30 - 8:30	0	2	1	0	3	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	6
7:45 - 8:45	0	1	0	0	1	1	1	0	0	2	0	1	0	0	1	1	0	0	0	1	5
8:00 - 9:00	0	3	0	0	3	1	1	0	0	2	0	1	0	0	1	1	0	0	0	1	7
PEAK HOUR																					
7:00 - 8:00	0	1	1	0	2	1	1	0	0	2	0	0	1	0	1	0	0	0	0	0	5
PM																					
4:00 - 4:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	2
4:15 - 4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 - 4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 - 5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 - 5:15	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
5:15 - 5:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2
5:30 - 5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Hr Totals	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	2	0	1	0	3	7
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	2
4:15 - 5:15	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
4:30 - 5:30	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	1	0	0	0	1	4
4:45 - 5:45	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	2	0	0	0	2	5
5:00 - 6:00	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	2	0	0	0	2	5
PEAK HOUR																					
4:15 - 5:15	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2

HEAVY TRUCKS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Sandstone Drive
and: Rutter's #75 - Victoria Park
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday
Star Rating: 5



TIME	TRAFFIC FROM NORTH on: Sandstone Drive					TRAFFIC FROM SOUTH on: Sandstone Drive					TRAFFIC FROM EAST on: Rutter's #75					TRAFFIC FROM WEST on: Victoria Park					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Hr Totals	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1 Hr Totals																					
7:00 - 8:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 - 8:15	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:30 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HOUR																					
7:00 - 8:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PM																					
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 - 4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 - 5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 - 5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 - 5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 - 5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Hr Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 - 5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 - 5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HOUR																					
4:15 - 5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BICYCLES TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Sandstone Drive
and: Rutter's #75 - Victoria Park
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday

Star Rating: 5



TIME	TRAFFIC FROM NORTH on: Sandstone Drive					TRAFFIC FROM SOUTH on: Sandstone Drive					TRAFFIC FROM EAST on: Rutter's #75					TRAFFIC FROM WEST on: Victoria Park					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Hr Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 Hr Totals																					
7:00 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HOUR																					
7:00 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM																					
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:15 - 4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 - 4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 - 5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 - 5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 - 5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 - 5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 Hr Totals	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:15 - 5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 - 5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 - 5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HOUR																					
4:15 - 5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PEDESTRIAN AND BICYCLE OBSERVATIONS - SUMMARY

Intersection of: Sandstone Drive
and: Rutter's #75 - Victoria Park
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday
Star Rating: 5



TIME	NORTH LEG Sandstone Drive		SOUTH LEG Sandstone Drive	
	Pedestrians	Bicycles	Pedestrians	Bicycles
AM				
7:00 - 7:15	0	0	0	0
7:15 - 7:30	0	0	0	0
7:30 - 7:45	0	0	0	0
7:45 - 8:00	0	0	0	0
8:00 - 8:15	0	0	0	0
8:15 - 8:30	2	0	0	0
8:30 - 8:45	0	0	0	0
8:45 - 9:00	0	0	0	0
TOTALS	2	0	0	0
PM				
4:00 - 4:15	1	0	0	0
4:15 - 4:30	0	0	0	0
4:30 - 4:45	2	0	0	0
4:45 - 5:00	0	0	0	0
5:00 - 5:15	0	0	0	0
5:15 - 5:30	0	0	5	0
5:30 - 5:45	2	0	1	0
5:45 - 6:00	0	0	0	0
TOTALS	5	0	6	0
	EAST LEG Rutter's #75		WEST LEG Victoria Park	
	Pedestrians	Bicycles	Pedestrians	Bicycles
AM				
7:00 - 7:15	2	0	0	0
7:15 - 7:30	1	0	0	0
7:30 - 7:45	1	0	1	0
7:45 - 8:00	0	0	0	0
8:00 - 8:15	0	0	0	0
8:15 - 8:30	1	0	2	0
8:30 - 8:45	0	0	0	0
8:45 - 9:00	0	0	0	0
TOTALS	5	0	3	0
PM				
4:00 - 4:15	10	0	0	0
4:15 - 4:30	0	0	0	0
4:30 - 4:45	0	0	3	0
4:45 - 5:00	1	0	0	0
5:00 - 5:15	2	0	2	0
5:15 - 5:30	1	0	0	0
5:30 - 5:45	0	0	3	0
5:45 - 6:00	1	0	5	0
TOTALS	15	0	13	0

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Sandstone Drive
and: Rutter's #75 - Victoria Park
Location: Frederick County, Maryland

Counted by: VCU
Date: April 24, 2019
Weather: Sunny/Warm
Entered by: SN

Wednesday

Star Rating: 5



TIME	TRAFFIC FROM NORTH on: Sandstone Drive					TRAFFIC FROM SOUTH on: Sandstone Drive					TRAFFIC FROM EAST on: Rutter's #75					TRAFFIC FROM WEST on: Victoria Park					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
7:00 - 7:15	0	24	1	0	25	1	4	2	0	7	1	0	1	0	2	5	0	0	0	5	39
7:15 - 7:30	1	28	2	0	31	2	9	1	0	12	0	0	0	0	0	0	0	0	0	0	43
7:30 - 7:45	0	17	3	1	21	1	9	1	0	11	3	0	0	0	3	2	1	0	0	3	38
7:45 - 8:00	1	17	0	0	18	2	9	3	0	14	0	0	0	0	0	1	0	0	0	1	33
8:00 - 8:15	1	21	0	0	22	2	7	1	0	10	1	1	1	0	3	2	0	0	0	2	37
8:15 - 8:30	0	15	2	0	17	3	6	1	0	10	0	0	4	0	4	3	1	1	0	5	36
8:30 - 8:45	0	16	1	0	17	1	2	3	0	6	2	0	1	0	3	1	0	2	0	3	29
8:45 - 9:00	0	19	0	0	19	1	12	2	0	15	0	0	2	0	2	4	0	0	0	4	40
2 Hr Totals	3	157	9	1	170	13	58	14	0	85	7	1	9	0	17	18	2	3	0	23	295
1 Hr Totals																					
7:00 - 8:00	2	86	6	1	95	6	31	7	0	44	4	0	1	0	5	8	1	0	0	9	153
7:15 - 8:15	3	83	5	1	92	7	34	6	0	47	4	1	1	0	6	5	1	0	0	6	151
7:30 - 8:30	2	70	5	1	78	8	31	6	0	45	4	1	5	0	10	8	2	1	0	11	144
7:45 - 8:45	2	69	3	0	74	8	24	8	0	40	3	1	6	0	10	7	1	3	0	11	135
8:00 - 9:00	1	71	3	0	75	7	27	7	0	41	3	1	8	0	12	10	1	3	0	14	142
PEAK HOUR																					
7:00 - 8:00	2	86	6	1	95	6	31	7	0	44	4	0	1	0	5	8	1	0	0	9	153
PM																					
4:00 - 4:15	0	21	4	0	25	3	27	3	0	33	4	0	1	0	5	1	0	1	0	2	65
4:15 - 4:30	0	17	3	0	20	5	30	0	0	35	4	0	1	0	5	1	1	0	0	2	62
4:30 - 4:45	0	23	2	0	25	2	30	0	0	32	4	0	4	0	8	0	0	0	0	0	65
4:45 - 5:00	0	22	1	0	23	2	20	0	0	22	3	0	0	0	3	2	0	1	0	3	51
5:00 - 5:15	0	23	4	0	27	2	34	6	0	42	3	0	0	0	3	1	0	0	0	1	73
5:15 - 5:30	1	22	1	0	24	1	23	0	0	24	5	0	5	0	10	3	0	0	0	3	61
5:30 - 5:45	0	19	0	0	19	2	25	2	0	29	3	0	0	0	3	5	0	0	0	5	56
5:45 - 6:00	0	18	1	0	19	3	32	2	0	37	1	0	1	0	2	1	1	0	0	2	60
2 Hr Totals	1	165	16	0	182	20	221	13	0	254	27	0	12	0	39	14	2	2	0	18	493
1 Hr Totals																					
4:00 - 5:00	0	83	10	0	93	12	107	3	0	122	15	0	6	0	21	4	1	2	0	7	243
4:15 - 5:15	0	85	10	0	95	11	114	6	0	131	14	0	5	0	19	4	1	1	0	6	251
4:30 - 5:30	1	90	8	0	99	7	107	6	0	120	15	0	9	0	24	6	0	1	0	7	250
4:45 - 5:45	1	86	6	0	93	7	102	8	0	117	14	0	5	0	19	11	0	1	0	12	241
5:00 - 6:00	1	82	6	0	89	8	114	10	0	132	12	0	6	0	18	10	1	0	0	11	250
PEAK HOUR																					
4:15 - 5:15	0	85	10	0	95	11	114	6	0	131	14	0	5	0	19	4	1	1	0	6	251



PA Office
 2 East Market Street
 Suite 2
 York, PA 17401-1206
 T: (717) 846-4660

Consulting Engineers and Planners
 www.consulttrg.com

MD Office
 901 Dulaney Valley Road
 Suite 805
 Towson, MD 21204-2624
 T: (443) 275-2344

TECHNICAL MEMO

CONFIDENTIAL

TO: Tim Bieber, Rutter’s
 David Martineau, Rutter’s

FROM: Daniel J. Thornton, P.E.

SUBJECT: Proposed Rutter’s Store #87
 Local Trip Generation Study Submission to Benner Township
 Benner Township, Centre County
 TRG Project No. 263.062.18

DATE: August 23, 2018

As discussed at the July 26th meeting with Benner Township, TRG conducted a local trip generation study for the proposed Rutter’s Store #87 located on the southeast corner of the Benner Pike (S.R.0150)/Rishel Hill Road intersection in Benner Township, Centre County. It was agreed at the meeting that a local trip generation study is justified based on the difference between the ITE Super Convenience Store land use and the proposed Rutter’s Store, particularly the store size which exceeds the store size of the sites sampled for the ITE data. The local trip generation analysis was conducted in accordance with the procedures outlined in ITE Trip Generation Handbook (3rd Ed September 2017). The following summarizes the local trip generation rate study:

Selection of Rutter’s Stores

As agreed upon at the July 26th meeting, the following three (3) Rutter’s Stores will be utilized in determining the local trip generation rate:

Store	Size	Fueling Positions		
		Passenger Vehicle	Trucks	Total
Rutter’s A	7,868 sf	16	4	20
Rutter’s B	9,195 sf	14	7	21
Rutter’s C	9,195 SF	14	4	18

For confidentiality purposes, the actual names and locations of the stores were omitted for this study.

Traffic Counts

Traffic counts were conducted at the site access intersections for the subject three (3) Rutter’s stores to determine the amount of traffic entering and exiting. The traffic counts were conducted by Tri-State Traffic Data, Inc. in August 2018. The traffic counts were conducted using video technology and were for a full 24-hours during a weekday recorded in 15-minute increments. The traffic entering and exiting each of the Rutter’s stores are summarized in the attached tables. This information was utilized to determine the peak hour site trips for each store. The trip generation rate analysis focused on the morning peak hours between 6:00 AM to 9:00 AM and the afternoon peak hour between 3:00 PM and 6:00 PM. The weekday daily traffic volumes were also obtained. The following peak hours were found for the stores:

- Rutter’s A – AM Peak (6:30 to 7:30 AM) and PM Peak (4:00 to 5:00 PM)
- Rutter’s B – AM Peak (6:45 to 7:45 AM) and PM Peak (4:00 to 5:00 PM)
- Rutter’s C – AM Peak (6:00 to 7:00 AM) and PM Peak (3:15 to 4:15 PM)

Details of the traffic count summaries and the total site trips entering and exiting are attached.

Trip Generation Rate Calculation

Per ITE Trip Generation Handbook, it states that local data should be collected and used to estimate trip generation if local circumstances indicate a study site may have different trip making characteristics than the baseline sites for which data were collected and reported in the Trip Generation Manual. Based on the ITE Trip Generation Manual, Land Use Code 960 produces unrealistically high site trips based on Rutter’s experience and therefore, a local trip generation analysis was conducted.

The peak hour and average weekday site trips for the three (3) existing stores were used to calculate a weighted average rate for Rutter’s stores using the procedures in ITE Trip Generation Handbook. ITE Trip Generation Handbook states that the weighted average rate is appropriate for use as a stand-alone local estimator for trip generation if the weighted average rate for the local counted sites is at least 15 percent higher or lower than the comparative Manual rate and if the local trip generation data provides results that satisfy the Chapter 4 criteria that demonstrate the validity of the data in a statistical sense (an acceptable weighted average trip generation rate requires at least three data points with a computed standard deviation that is no more than 55 percent of the weighted average rate).

Based on the three (3) Rutter’s counted, the actual site trips for the Rutter’s are greater than 15 percent lower than the trip generation for the ITE Trip Generation Manual. Copies of the ITE rates are attached for reference. A weighted average trip generation rate was calculated for the AM and PM peak hours as well as the average weekday with the number of fueling positions (FP) and square footage (SF) as the independent variable. The analysis and findings of the local trip generation study are attached and the total (passenger vehicles and trucks combined) weighted average trip generation rates are as follows:

- Total Weighted Average Rates
 - AM Peak - 12.29 (FP) 27.61 (SF)
 - PM Peak - 12.07 (FP) 27.12 (SF)
 - Weekday - 181.12 (FP) 406.96 (SF)

The weighted standard deviation was calculated based on procedures in the ITE Trip Generation Handbook and found that all the total (passenger vehicles and trucks combined) weighted standard deviations are less than 55 percent of the weighted average rate, which meets ITE guidelines for utilizing local trip rates.

The weighted average trip generation rates were then calculated for passenger vehicles and trucks separately to be utilized to determine the amount of site trips associated with passenger vehicles and trucks. Details of the passenger vehicle and truck weighted average rates are attached. It should be noted that weighted standard deviations were calculated for passenger vehicles and trucks and that all the weighted standard deviations are less than 55 percent of the weighted average rate with one exception. The weekday weighted standard deviation for trucks is slightly higher than 55 percent of the weighted average rate with square footage as the independent variable, however the total (passenger vehicles and trucks) is significantly below the 55 percent.

Site Trip Distribution

Based on the actual traffic counts for the three (3) Rutter’s, a distribution (enter vs. exit) was calculated. The enter/exit distribution was calculated for all three (3) stores and then averaged to obtain the enter/exit distribution during the peak hours. The following summarizes the peak hour enter and exit distribution:

- AM Peak – 52% Enter / 48% Exit
- PM Peak – 50% Enter / 50% Exit

Trip Generation for Rutter’s Store #87

The weighted local trip generation rates were then applied to the proposed Rutter’s Store #87 to determine the amount of site traffic that will be generated. As agreed to at the meeting, a comparison was conducted of the trip generation using square footage and the number of fueling positions as the independent variable and the more conservative trip estimates between the two trip generations will be utilized. Rutter’s #87 is proposed to be 10,200 square feet with a total of 19 fueling positions. Table 1 attached shows the comparison of the trip generation using square footage and the number of fueling positions as the independent variable. As Table 1 shows, the square footage independent variable estimates are the more conservative approach.

Table 2 (attached) shows the break-down of passenger vehicles and trucks based on the independent variable of square footage.

Conclusion

In conclusion, the findings of the local trip generation study are valid per the ITE Trip Generation Handbook. Therefore, the local trip generation rates should be utilized as part of the proposed Rutter’s Store #87 in Benner Township.

Table 1 Estimated Trip Generation Comparison Fueling Positions vs. Square Footage Proposed Rutter's Store #87									
Land Use (Code)	Type	AM Peak Hour			PM Peak Hour			ADT	
		Enter	Exit	Total	Enter	Exit	Total		
Local Trip Generation	Rutter's 19 Fueling Positions	Total	122	112	234	115	114	229	3,441
		Pass-By	93	85	178	87	87	174	
		New	29	27	56	28	27	55	
	Rutter's 10,200 SF	Total	146	135	281	139	138	277	4,151
		Pass-By	111	103	214	106	105	211	
		New	35	32	67	33	33	66	

Table 2 Estimated Trip Generation Square Footage Proposed Rutter's Store #87									
Land Use (Code)	Type	AM Peak Hour			PM Peak Hour			ADT	
		Enter	Exit	Total	Enter	Exit	Total		
Local Trip Generation for Square Footage	Rutter's Passenger Vehicles	Total	122	113	235	128	128	256	3,626
		Pass-By	93	86	179	97	97	194	
		New	29	27	56	31	31	62	
	Rutter's Heavy Vehicles	Total	24	22	48	11	10	21	525
		Pass-By	18	17	35	8	8	16	
		New	6	5	11	3	2	5	

8/22/2018

Super Convenience Market/Gas Station (960)

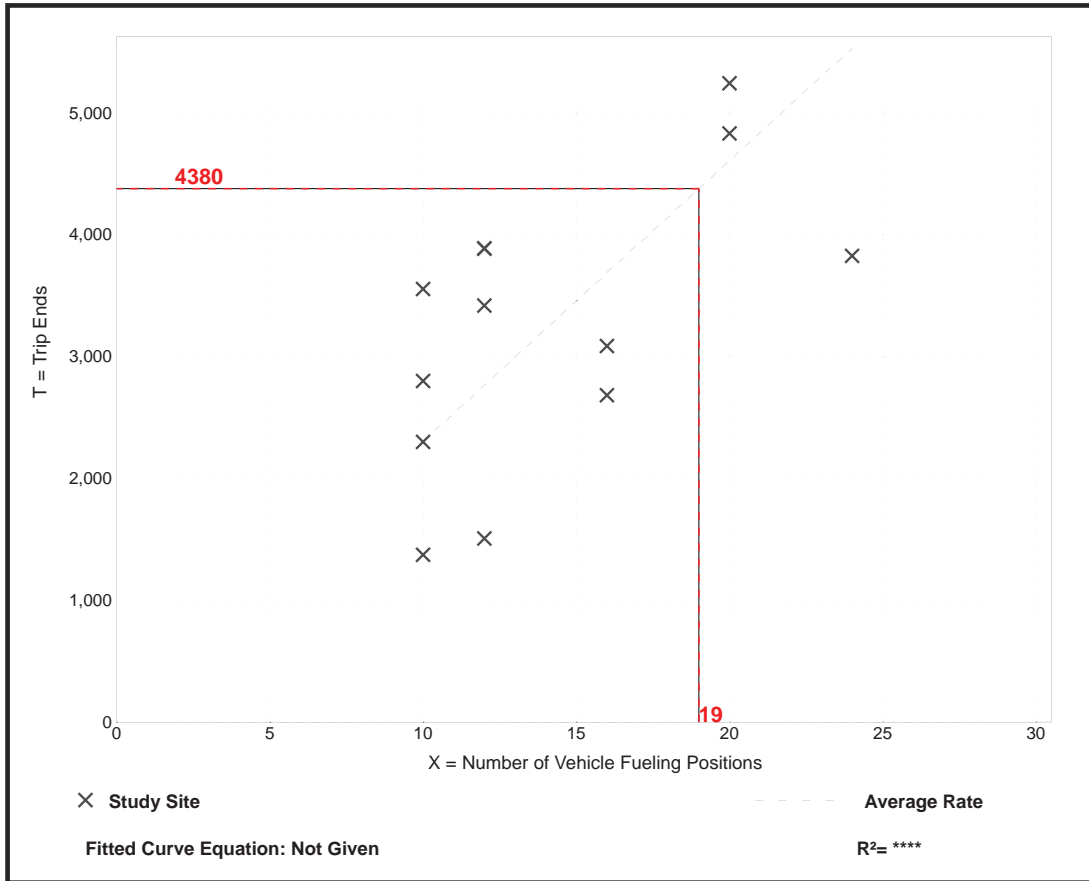
Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 13
Avg. Num. of Vehicle Fueling Positions: 14
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
230.52	125.67 - 355.60	71.75

Data Plot and Equation



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Super Convenience Market/Gas Station (960)

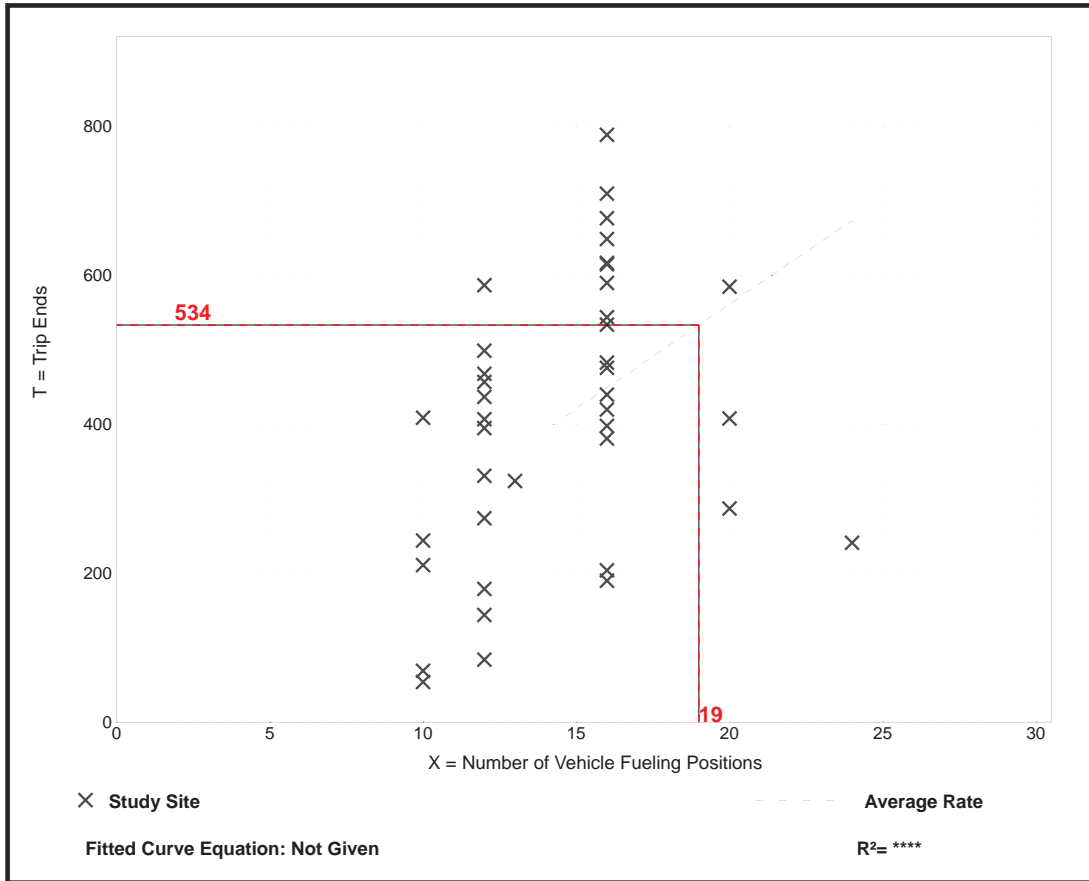
Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban

Number of Studies: 39
 Avg. Num. of Vehicle Fueling Positions: 14
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
28.08	5.40 - 49.31	11.98

Data Plot and Equation



Super Convenience Market/Gas Station (960)

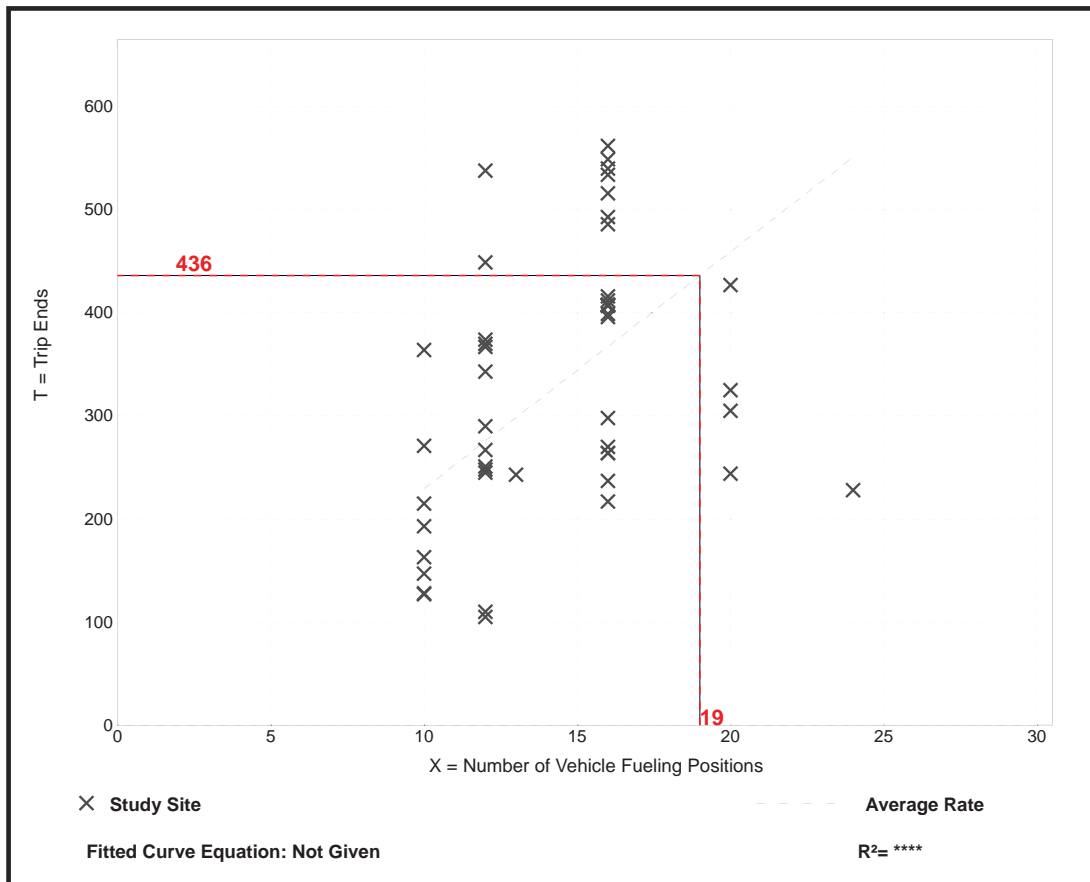
Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban

Number of Studies: 48
 Avg. Num. of Vehicle Fueling Positions: 14
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
22.96	8.75 - 44.83	8.34

Data Plot and Equation



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Super Convenience Market/Gas Station (960)

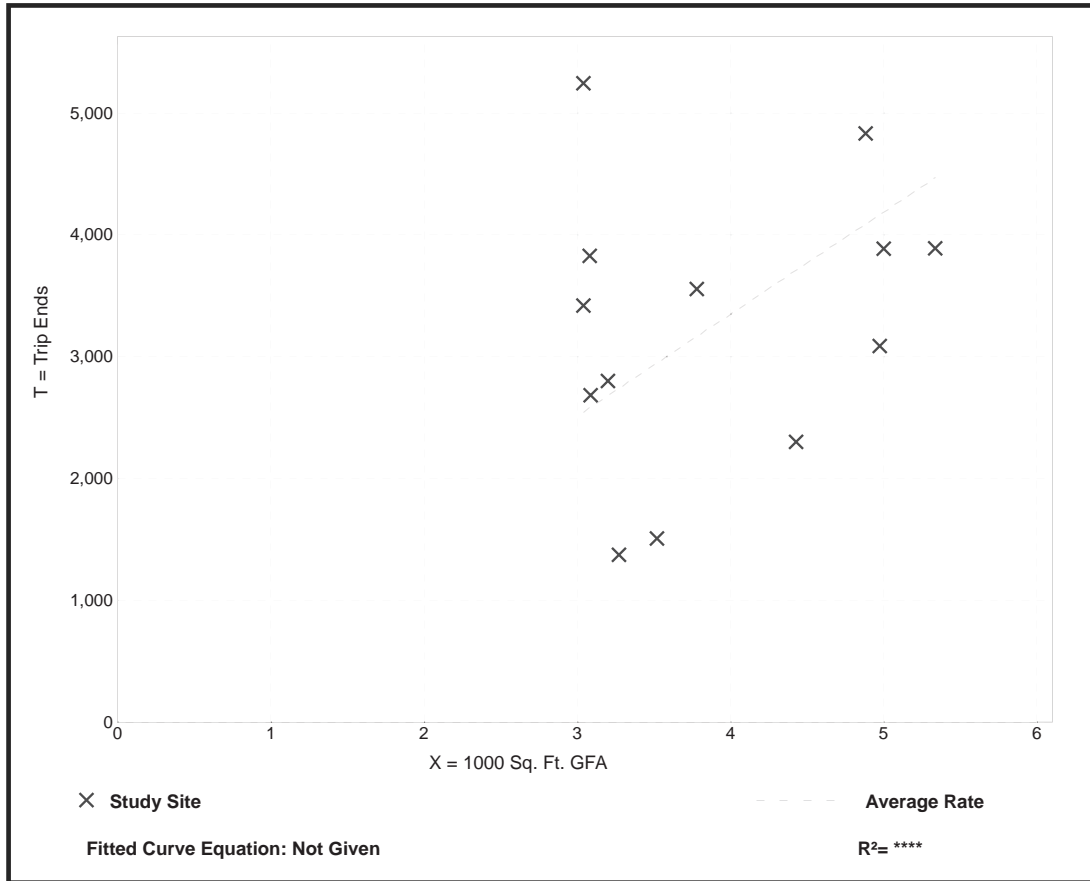
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 13
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
837.58	419.93 - 1725.33	334.67

Data Plot and Equation



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ADT = 8,543 trips

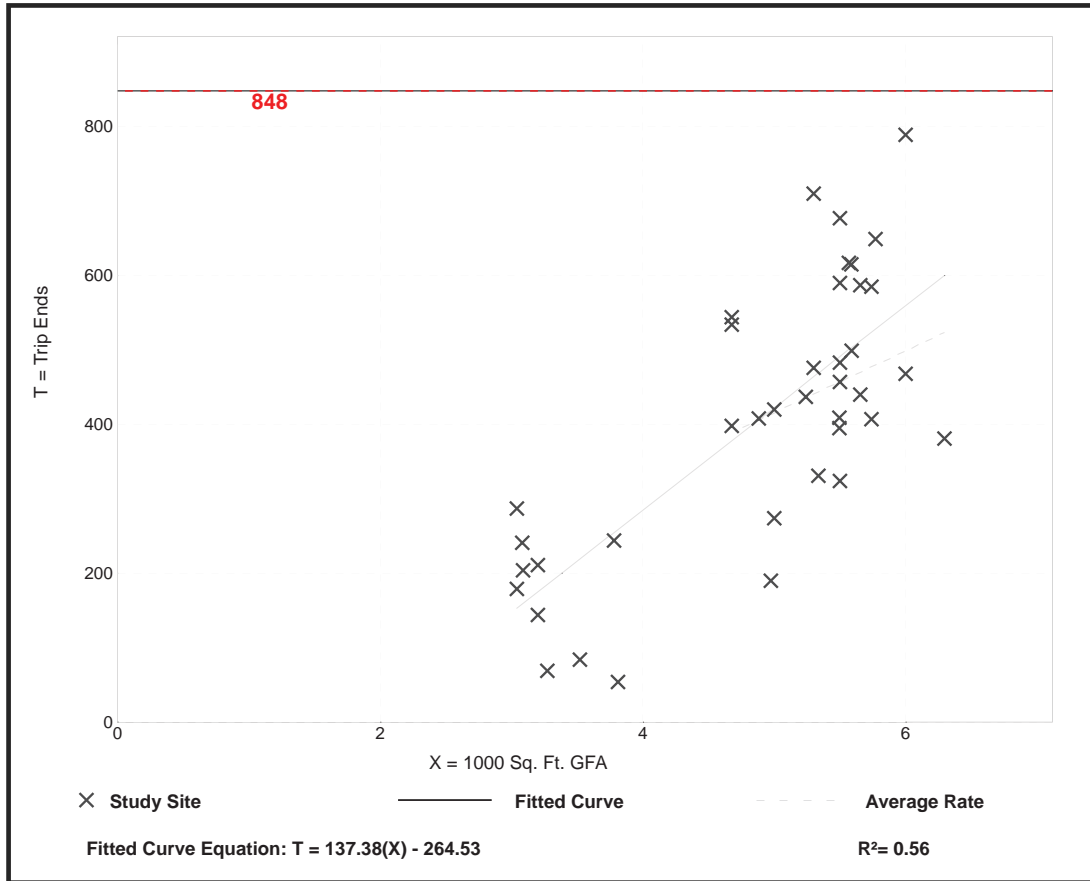
Super Convenience Market/Gas Station (960)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 39
 Avg. 1000 Sq. Ft. GFA: 5
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
83.14	14.17 - 133.96	28.07

Data Plot and Equation



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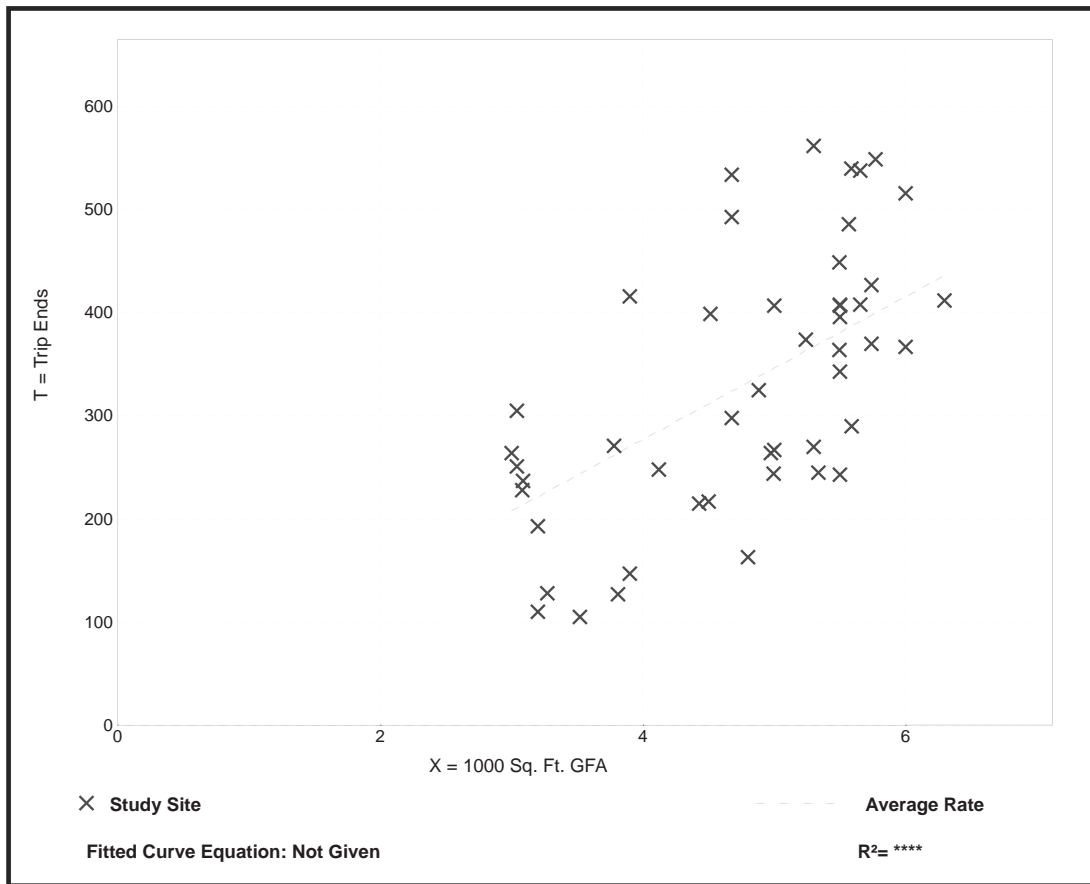
Super Convenience Market/Gas Station (960)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 48
 Avg. 1000 Sq. Ft. GFA: 5
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
69.28	29.83 - 114.20	21.07

Data Plot and Equation



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PM Peak = 707 trips

**Weighted Average Rate and Weighted Standard Deviation
Passenger Vehicles and Heavy Vehicles**

AM Peak (Square Footage)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H	
	SITE	Independent Variable (SF)	Number of AM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G	
					Value	Value Squared			
	Site A	7868	172	21.86	-5.75	33.06	0.30	9.91	
	Site B	9195	290	31.54	3.93	15.43	0.35	5.40	
	Site C	9195	263	28.60	0.99	0.98	0.35	0.34	
	Total	26258	725	27.61			Variance	15.65	
								Factor (3/2)	1.50
								Weighted Sample Variance	23.48
								Weighted Standard Deviation	4.85

Percent of the weighted average rate
17.55%

PM Peak (Square Footage)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H	
	SITE	Independent Variable (SF)	Number of PM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G	
					Value	Value Squared			
	Site A	7868	227	28.85	1.74	3.01	0.30	0.90	
	Site B	9195	247	26.86	-0.25	0.06	0.35	0.02	
	Site C	9195	238	25.88	-1.23	1.52	0.35	0.53	
	Total	26258	712	27.12			Variance	1.46	
								Factor (3/2)	1.50
								Weighted Sample Variance	2.18
								Weighted Standard Deviation	1.48

Percent of the weighted average rate
5.45%

ADT (Square Footage)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H	
	SITE	Independent Variable (SF)	Number of Daily Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G	
					Value	Value Squared			
	Site A	7868	3130	397.81	-9.15	83.68	0.30	25.07	
	Site B	9195	3863	420.12	13.16	173.13	0.35	60.63	
	Site C	9195	3693	401.63	-5.33	28.41	0.35	9.95	
	Total	26258	10686	406.96			Variance	95.65	
								Factor (3/2)	1.50
								Weighted Sample Variance	143.48
								Weighted Standard Deviation	11.98

Percent of the weighted average rate
2.94%

**Weighted Average Rate and Weighted Standard Deviation
Passenger Vehicles and Heavy Vehicles**

Total Fueling Positions	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H	
	SITE	Independent Variable (SF)	Number of AM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G	
					Value	Value Squared			
AM Peak	Site A	20	172	8.60	-3.69	13.60	0.34	4.61	
	Site B	21	290	13.81	1.52	2.31	0.36	0.82	
	Site C	18	263	14.61	2.32	5.40	0.31	1.65	
	Total	59	725	12.29					
								Variance	7.08
								Factor (3/2)	1.50
								Weighted Sample Variance	10.62
							Weighted Standard Deviation	3.26	

Percent of the weighted average rate
26.52%

Total Fueling Positions	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H	
	SITE	Independent Variable (SF)	Number of PM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G	
					Value	Value Squared			
PM Peak	Site A	20	227	11.35	-0.72	0.52	0.34	0.17	
	Site B	21	247	11.76	-0.31	0.09	0.36	0.03	
	Site C	18	238	13.22	1.15	1.33	0.31	0.41	
	Total	59	712	12.07					
								Variance	0.61
								Factor (3/2)	1.50
								Weighted Sample Variance	0.92
							Weighted Standard Deviation	0.96	

Percent of the weighted average rate
7.96%

Total Fueling Positions	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H	
	SITE	Independent Variable (SF)	Number of Daily Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G	
					Value	Value Squared			
ADT	Site A	20	3130	156.50	-24.62	606.08	0.34	205.45	
	Site B	21	3863	183.95	2.83	8.03	0.36	2.86	
	Site C	18	3693	205.17	24.05	578.31	0.31	176.43	
	Total	59	10686	181.12					
								Variance	384.74
								Factor (3/2)	1.50
								Weighted Sample Variance	577.11
							Weighted Standard Deviation	24.02	

Percent of the weighted average rate
13.26%

**Weighted Average Rate and Weighted Standard Deviation
Passenger Vehicles only**

AM Peak (PV Fueling Positions)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H	
	SITE	Independent Variable (SF)	Number of AM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G	
					Value	Value Squared			
	Site A	16	154	9.63	-4.15	17.20	0.36	6.26	
	Site B	14	231	16.50	2.73	7.44	0.32	2.37	
	Site C	14	221	15.79	2.01	4.05	0.32	1.29	
	Total	44	606	13.77			Variance	9.91	
								Factor (3/2)	1.50
								Weighted Sample Variance	14.87
								Weighted Standard Deviation	3.86

Percent of the weighted average rate
28.00%

PM Peak (PV Fueling Positions)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H	
	SITE	Independent Variable (SF)	Number of PM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G	
					Value	Value Squared			
	Site A	16	213	13.31	-1.64	2.70	0.36	0.98	
	Site B	14	226	16.14	1.19	1.41	0.32	0.45	
	Site C	14	219	15.64	0.69	0.47	0.32	0.15	
	Total	44	658	14.95			Variance	1.58	
								Factor (3/2)	1.50
								Weighted Sample Variance	2.37
								Weighted Standard Deviation	1.54

Percent of the weighted average rate
10.30%

ADT (PV Fueling Positions)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H	
	SITE	Independent Variable (SF)	Number of Daily Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G	
					Value	Value Squared			
	Site A	16	2911	181.94	-30.20	911.97	0.36	331.63	
	Site B	14	3097	221.21	9.08	82.41	0.32	26.22	
	Site C	14	3326	237.57	25.44	646.94	0.32	205.85	
	Total	44	9334	212.14			Variance	563.69	
								Factor (3/2)	1.50
								Weighted Sample Variance	845.54
								Weighted Standard Deviation	29.08

Percent of the weighted average rate
13.71%

**Weighted Average Rate and Weighted Standard Deviation
Heavy Vehicles only**

AM Peak (HV Fueling Positions)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H
	SITE	Independent Variable (SF)	Number of AM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G
					Value	Value Squared		
	Site A	4	18	4.50	-3.43	11.79	0.27	3.14
	Site B	7	59	8.43	0.50	0.25	0.47	0.11
	Site C	4	42	10.50	2.57	6.59	0.27	1.76
	Total	15	119	7.93			Variance	5.01
							Factor (3/2)	1.50
							Weighted Sample Variance	7.52
							Weighted Standard Deviation	2.74

Percent of the weighted average rate
34.57%

PM Peak (HV Fueling Positions)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H
	SITE	Independent Variable (SF)	Number of PM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G
					Value	Value Squared		
	Site A	4	14	3.50	-0.10	0.01	0.27	0.00
	Site B	7	21	3.00	-0.60	0.36	0.47	0.17
	Site C	4	19	4.75	1.15	1.32	0.27	0.35
	Total	15	54	3.60			Variance	0.52
							Factor (3/2)	1.50
							Weighted Sample Variance	0.79
							Weighted Standard Deviation	0.89

Percent of the weighted average rate
24.61%

ADT (HV Fueling Positions)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H
	SITE	Independent Variable (SF)	Number of Daily Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G
					Value	Value Squared		
	Site A	4	219	54.75	-35.38	1251.98	0.27	333.86
	Site B	7	766	109.43	19.30	372.31	0.47	173.74
	Site C	4	367	91.75	1.62	2.61	0.27	0.70
	Total	15	1352	90.13			Variance	508.30
							Factor (3/2)	1.50
							Weighted Sample Variance	762.45
							Weighted Standard Deviation	27.61

Percent of the weighted average rate
30.64%

**Weighted Average Rate and Weighted Standard Deviation
Passenger Vehicles only**

AM Peak (Square Footage)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H
	SITE	Independent Variable (SF)	Number of AM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G
					Value	Value Squared		
	Site A	7868	154	19.57	-3.51	12.29	0.30	3.68
	Site B	9195	231	25.12	2.04	4.18	0.35	1.46
	Site C	9195	221	24.03	0.96	0.91	0.35	0.32
	Total	26258	606	23.08			Variance	5.47
							Factor (3/2)	1.50
							Weighted Sample Variance	8.20
							Weighted Standard Deviation	2.86

Percent of the weighted average rate
12.41%

PM Peak (Square Footage)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H
	SITE	Independent Variable (SF)	Number of PM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G
					Value	Value Squared		
	Site A	7868	213	27.07	2.01	4.05	0.30	1.21
	Site B	9195	226	24.58	-0.48	0.23	0.35	0.08
	Site C	9195	219	23.82	-1.24	1.54	0.35	0.54
	Total	26258	658	25.06			Variance	1.83
							Factor (3/2)	1.50
							Weighted Sample Variance	2.75
							Weighted Standard Deviation	1.66

Percent of the weighted average rate
6.62%

ADT (Square Footage)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H
	SITE	Independent Variable (SF)	Number of Daily Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G
					Value	Value Squared		
	Site A	7868	2911	369.98	14.51	210.45	0.30	63.06
	Site B	9195	3097	336.81	-18.66	348.16	0.35	121.92
	Site C	9195	3326	361.72	6.25	39.01	0.35	13.66
	Total	26258	9334	355.47			Variance	198.64
							Factor (3/2)	1.50
							Weighted Sample Variance	297.96
							Weighted Standard Deviation	17.26

Percent of the weighted average rate
4.86%

**Weighted Average Rate and Weighted Standard Deviation
Heavy Vehicles only**

AM Peak (Square Footage)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H
	SITE	Independent Variable (SF)	Number of AM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G
					Value	Value Squared		
	Site A	7868	18	2.29	-2.24	5.04	0.30	1.51
	Site B	9195	59	6.42	1.88	3.55	0.35	1.24
	Site C	9195	42	4.57	0.04	0.00	0.35	0.00
	Total	26258	119	4.53			Variance	2.75
							Factor (3/2)	1.50
							Weighted Sample Variance	4.13
							Weighted Standard Deviation	2.03

Percent of the weighted average rate
44.84%

PM Peak (Square Footage)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H
	SITE	Independent Variable (SF)	Number of PM Peak Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G
					Value	Value Squared		
	Site A	7868	14	1.78	-0.28	0.08	0.30	0.02
	Site B	9195	21	2.28	0.23	0.05	0.35	0.02
	Site C	9195	19	2.07	0.01	0.00	0.35	0.00
	Total	26258	54	2.06			Variance	0.04
							Factor (3/2)	1.50
							Weighted Sample Variance	0.06
							Weighted Standard Deviation	0.25

Percent of the weighted average rate
12.08%

ADT (Square Footage)	Col. A	Col. B	Col. C	Col. D	Columns E & F		Col. G	Col. H
	SITE	Independent Variable (SF)	Number of Daily Site Trips	Trip Rate	Site Trip Rate minus Weighted Average Rate		Weight	Col F times Col G
					Value	Value Squared		
	Site A	7868	219	27.83	-23.65	559.55	0.30	167.66
	Site B	9195	766	83.31	31.82	1012.33	0.35	354.50
	Site C	9195	367	39.91	-11.58	134.01	0.35	46.93
	Total	26258	1352	51.49			Variance	569.09
							Factor (3/2)	1.50
							Weighted Sample Variance	853.63
							Weighted Standard Deviation	29.22

Percent of the weighted average rate
56.74%

Rutter's Site A
Thursday 8/9/18

Time	Access #1		Access #2		Total			Peak Hour Total
	Enter	Exit	Enter	Exit	Enter	Exit	Total	
12:00 AM	0	1	0	0	0	1	1	
12:15 AM	0	2	2	0	2	2	4	
12:30 AM	2	2	3	0	5	2	7	
12:45 AM	0	2	2	2	2	4	6	18
1:00 AM	0	3	4	1	4	4	8	25
1:15 AM	0	2	1	1	1	3	4	25
1:30 AM	1	1	0	1	1	2	3	21
1:45 AM	0	0	1	1	1	1	2	17
2:00 AM	4	2	0	0	4	2	6	15
2:15 AM	0	1	0	0	0	1	1	12
2:30 AM	3	4	5	0	8	4	12	21
2:45 AM	2	1	1	0	3	1	4	23
3:00 AM	0	6	1	0	1	6	7	24
3:15 AM	1	1	1	0	2	1	3	26
3:30 AM	2	3	0	0	2	3	5	19
3:45 AM	2	1	0	0	2	1	3	18
4:00 AM	2	2	4	1	6	3	9	20
4:15 AM	1	0	0	4	1	4	5	22
4:30 AM	4	4	1	0	5	4	9	26
4:45 AM	9	8	0	2	9	10	19	42
5:00 AM	3	3	5	2	8	5	13	46
5:15 AM	6	8	2	6	8	14	22	63
5:30 AM	3	3	3	2	6	5	11	65
5:45 AM	9	5	5	2	14	7	21	67
6:00 AM	7	9	6	1	13	10	23	77
6:15 AM	10	11	7	3	17	14	31	86
6:30 AM	18	18	10	8	28	26	54	129
6:45 AM	6	11	8	6	14	17	31	139
7:00 AM	14	11	6	4	20	15	35	151
7:15 AM	16	17	11	8	27	25	52	172
7:30 AM	6	10	10	12	16	22	38	156
7:45 AM	10	11	11	9	21	20	41	166
8:00 AM	14	8	7	10	21	18	39	170
8:15 AM	10	11	8	8	18	19	37	155
8:30 AM	6	11	9	8	15	19	34	151
8:45 AM	4	10	5	1	9	11	20	130
9:00 AM	12	8	10	5	22	13	35	126
9:15 AM	9	11	7	6	16	17	33	122
9:30 AM	11	12	9	9	20	21	41	129
9:45 AM	12	15	7	10	19	25	44	153
10:00 AM	13	9	7	7	20	16	36	154
10:15 AM	6	12	9	8	15	20	35	156
10:30 AM	9	11	21	6	30	17	47	162
10:45 AM	11	13	9	9	20	22	42	160
11:00 AM	12	20	13	8	25	28	53	177
11:15 AM	7	8	11	8	18	16	34	176
11:30 AM	14	17	8	8	22	25	47	176
11:45 AM	11	14	10	5	21	19	40	174

12:00 PM	17	13	16	13	33	26	59	180
12:15 PM	14	18	22	19	36	37	73	219
12:30 PM	12	17	13	13	25	30	55	227
12:45 PM	17	21	15	10	32	31	63	250
1:00 PM	14	15	13	15	27	30	57	248
1:15 PM	12	11	13	8	25	19	44	219
1:30 PM	16	17	19	19	35	36	71	235
1:45 PM	12	8	11	13	23	21	44	216
2:00 PM	19	28	26	20	45	48	93	252
2:15 PM	11	19	13	13	24	32	56	264
2:30 PM	9	14	10	6	19	20	39	232
2:45 PM	8	14	15	9	23	23	46	234
3:00 PM	8	17	10	9	18	26	44	185
3:15 PM	12	10	13	10	25	20	45	174
3:30 PM	17	9	4	10	21	19	40	175
3:45 PM	12	19	21	8	33	27	60	189
4:00 PM	12	20	15	13	27	33	60	205
4:15 PM	12	7	7	12	19	19	38	198
4:30 PM	13	22	18	13	31	35	66	224
4:45 PM	14	18	19	12	33	30	63	227
5:00 PM	11	13	8	10	19	23	42	209
5:15 PM	18	15	8	6	26	21	47	218
5:30 PM	14	15	13	10	27	25	52	204
5:45 PM	15	18	14	12	29	30	59	200
6:00 PM	13	18	7	13	20	31	51	209
6:15 PM	11	10	10	7	21	17	38	200
6:30 PM	10	7	6	13	16	20	36	184
6:45 PM	10	14	10	5	20	19	39	164
7:00 PM	12	12	9	6	21	18	39	152
7:15 PM	9	17	17	8	26	25	51	165
7:30 PM	3	6	4	2	7	8	15	144
7:45 PM	6	11	9	3	15	14	29	134
8:00 PM	9	9	6	8	15	17	32	127
8:15 PM	11	13	12	6	23	19	42	118
8:30 PM	8	9	3	4	11	13	24	127
8:45 PM	7	10	9	5	16	15	31	129
9:00 PM	4	11	10	1	14	12	26	123
9:15 PM	6	10	12	7	18	17	35	116
9:30 PM	6	9	9	7	15	16	31	123
9:45 PM	11	8	6	2	17	10	27	119
10:00 PM	6	11	5	4	11	15	26	119
10:15 PM	3	12	11	6	14	18	32	116
10:30 PM	2	6	6	2	8	8	16	101
10:45 PM	9	8	5	4	14	12	26	100
11:00 PM	5	10	4	2	9	12	21	95
11:15 PM	4	7	6	2	10	9	19	82
11:30 PM	2	6	3	3	5	9	14	80
11:45 PM	3	4	0	0	3	4	7	61
Total	791	969	775	595	1566	1564	3130	

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site A Driveway # 1

Day: Thursday

Counter: TRI-STATE

File Name : Site A Driveway # 1

Site Code :

Start Date : 8/9/2018

Page No : 1

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Rutter's Driveway # 1 Eastbound		Main Road Northbound		Main Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
00:00	1	0	0	9	11	0	21
00:15	0	2	0	3	10	0	15
00:30	1	1	2	7	3	0	14
00:45	2	0	0	2	6	0	10
Total	4	3	2	21	30	0	60
01:00	3	0	0	7	2	0	12
01:15	2	0	0	4	6	0	12
01:30	1	0	0	9	7	1	18
01:45	0	0	0	1	4	0	5
Total	6	0	0	21	19	1	47
02:00	2	0	2	5	5	2	16
02:15	0	1	0	4	2	0	7
02:30	1	3	2	10	3	1	20
02:45	1	0	2	3	2	0	8
Total	4	4	6	22	12	3	51
03:00	5	1	0	2	5	0	13
03:15	0	1	1	4	5	0	11
03:30	0	3	2	6	4	0	15
03:45	0	1	2	10	8	0	21
Total	5	6	5	22	22	0	60
04:00	1	1	1	5	2	1	11
04:15	0	0	1	10	9	0	20
04:30	1	3	3	15	9	1	32
04:45	3	5	5	5	8	4	30
Total	5	9	10	35	28	6	93
05:00	2	1	2	15	11	1	32
05:15	1	7	4	21	14	2	49
05:30	0	3	2	34	26	1	66
05:45	0	5	7	32	26	2	72
Total	3	16	15	102	77	6	219
06:00	3	6	5	39	23	2	78
06:15	3	8	10	59	41	0	121
06:30	7	11	13	67	50	5	153
06:45	4	7	4	84	61	2	162
Total	17	32	32	249	175	9	514
07:00	5	6	11	77	53	3	155
07:15	11	6	11	76	59	5	168
07:30	2	8	4	109	47	2	172
07:45	3	8	7	127	82	3	230
Total	21	28	33	389	241	13	725
08:00	4	4	11	84	59	3	165
08:15	4	7	6	91	59	4	171
08:30	3	8	4	97	56	2	170
08:45	2	8	3	112	64	1	190
Total	13	27	24	384	238	10	696
09:00	2	6	11	97	69	1	186
09:15	1	10	8	93	54	1	167

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site A Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 2

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Rutter's Driveway # 1 Eastbound		Main Road Northbound		Main Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
09:30	4	8	9	91	78	2	192
09:45	6	9	10	97	87	2	211
Total	13	33	38	378	288	6	756
10:00	4	5	12	100	74	1	196
10:15	4	8	2	104	85	4	207
10:30	1	10	8	105	81	1	206
10:45	5	8	8	99	90	3	213
Total	14	31	30	408	330	9	822
11:00	3	17	8	97	89	4	218
11:15	4	4	5	93	99	2	207
11:30	3	14	7	107	88	7	226
11:45	3	11	7	120	116	4	261
Total	13	46	27	417	392	17	912
12:00	3	10	12	138	117	5	285
12:15	3	15	8	115	111	6	258
12:30	3	14	10	131	117	2	277
12:45	5	16	10	135	121	7	294
Total	14	55	40	519	466	20	1114
13:00	3	12	12	86	130	2	245
13:15	4	7	6	98	104	6	225
13:30	3	14	11	96	115	5	244
13:45	1	7	9	125	111	3	256
Total	11	40	38	405	460	16	970
14:00	6	22	15	95	106	4	248
14:15	7	12	7	106	134	4	270
14:30	5	9	5	120	93	4	236
14:45	6	8	6	107	103	2	232
Total	24	51	33	428	436	14	986
15:00	2	15	4	116	141	4	282
15:15	2	8	10	100	117	2	239
15:30	2	7	10	98	118	7	242
15:45	4	15	9	107	122	3	260
Total	10	45	33	421	498	16	1023
16:00	4	16	9	129	155	3	316
16:15	1	6	7	123	133	5	275
16:30	11	11	10	133	128	3	296
16:45	3	15	10	135	138	4	305
Total	19	48	36	520	554	15	1192
17:00	5	8	10	142	123	1	289
17:15	8	7	13	122	126	5	281
17:30	2	13	9	125	134	5	288
17:45	8	10	12	120	115	3	268
Total	23	38	44	509	498	14	1126
18:00	7	11	9	92	127	4	250
18:15	5	5	9	107	93	2	221
18:30	3	4	8	80	121	2	218
18:45	1	13	6	85	96	4	205
Total	16	33	32	364	437	12	894
19:00	6	6	11	67	81	1	172

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site A Driveway # 1
Day: Thursday
Counter: TRI-STATE

File Name : Site A Driveway # 1
Site Code :
Start Date : 8/9/2018
Page No : 3

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Rutter's Driveway # 1 Eastbound		Main Road Northbound		Main Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
19:15	2	15	7	63	110	2	199
19:30	4	2	2	72	104	1	185
19:45	4	7	5	65	94	1	176
Total	16	30	25	267	389	5	732
20:00	3	6	3	47	95	6	160
20:15	3	10	8	55	107	3	186
20:30	2	7	8	50	84	0	151
20:45	1	9	3	50	99	4	166
Total	9	32	22	202	385	13	663
21:00	3	8	3	47	100	1	162
21:15	3	7	4	33	94	2	143
21:30	5	4	2	24	66	4	105
21:45	6	2	10	27	42	1	88
Total	17	21	19	131	302	8	498
22:00	3	8	5	24	43	1	84
22:15	4	8	2	22	24	1	61
22:30	2	4	1	29	26	1	63
22:45	2	6	6	18	21	3	56
Total	11	26	14	93	114	6	264
23:00	5	5	3	10	33	2	58
23:15	4	3	4	15	18	0	44
23:30	2	4	0	7	22	2	37
23:45	2	2	0	7	16	3	30
Total	13	14	7	39	89	7	169
Grand Total	301	668	565	6346	6480	226	14586
Apprch %	31.1	68.9	8.2	91.8	96.6	3.4	
Total %	2.1	4.6	3.9	43.5	44.4	1.5	
Passenger Vehicles	287	639	530	6108	6275	198	14037
% Passenger Vehicles	95.3	95.7	93.8	96.2	96.8	87.6	96.2
Buses	0	2	4	20	16	3	45
% Buses	0	0.3	0.7	0.3	0.2	1.3	0.3
Trucks	14	27	31	218	189	25	504
% Trucks	4.7	4	5.5	3.4	2.9	11.1	3.5

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site A Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 1

Groups Printed- Buses - Trucks

Start Time	Rutter's Driveway # 1 Eastbound		Main Road Northbound		Main Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
00:00	0	0	0	1	1	0	2
00:15	0	0	0	1	0	0	1
00:30	0	0	1	0	0	0	1
Total	0	0	1	2	1	0	4
01:00	0	0	0	2	0	0	2
01:15	0	0	0	2	0	0	2
01:30	0	0	0	0	1	1	2
Total	0	0	0	4	1	1	6
02:00	0	0	0	2	1	1	4
02:30	0	0	0	1	0	0	1
02:45	0	0	0	1	1	0	2
Total	0	0	0	4	2	1	7
03:00	0	0	0	0	1	0	1
03:15	0	0	0	1	0	0	1
03:30	0	0	0	3	0	0	3
03:45	0	0	0	3	1	0	4
Total	0	0	0	7	2	0	9
04:00	0	0	0	1	1	0	2
04:15	0	0	0	3	2	0	5
04:30	0	0	0	2	2	0	4
04:45	1	1	0	1	1	1	5
Total	1	1	0	7	6	1	16
05:00	0	0	0	1	0	0	1
05:15	0	2	0	2	3	0	7
05:30	0	0	0	2	4	1	7
05:45	0	1	0	1	1	0	3
Total	0	3	0	6	8	1	18
06:00	1	0	0	3	1	0	5
06:15	0	1	1	5	3	0	10
06:30	0	0	0	2	4	0	6
06:45	0	0	0	2	2	0	4
Total	1	1	1	12	10	0	25
07:00	0	0	2	1	3	1	7
07:15	2	0	1	1	2	2	8
07:30	0	1	0	1	4	0	6
07:45	0	1	0	4	3	0	8
Total	2	2	3	7	12	3	29
08:00	2	0	1	2	3	1	9
08:15	2	0	0	4	3	1	10
08:30	0	1	0	6	4	1	12
08:45	0	2	0	2	0	1	5
Total	4	3	1	14	10	4	36
09:00	1	0	1	11	4	0	17
09:15	0	0	1	1	3	0	5

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site A Driveway # 1
Day: Thursday
Counter: TRI-STATE

File Name : Site A Driveway # 1
Site Code :
Start Date : 8/9/2018
Page No : 2

Groups Printed- Buses - Trucks

Start Time	Rutter's Driveway # 1 Eastbound		Main Road Northbound		Main Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
09:30	1	3	2	3	8	0	17
09:45	0	1	0	6	6	0	13
Total	2	4	4	21	21	0	52
10:00	1	0	1	2	3	0	7
10:15	0	0	0	3	4	0	7
10:30	0	0	1	9	3	1	14
10:45	0	2	2	4	3	0	11
Total	1	2	4	18	13	1	39
11:00	0	1	0	3	3	1	8
11:15	1	0	2	2	2	1	8
11:30	1	0	1	0	0	0	2
11:45	0	0	1	6	5	0	12
Total	2	1	4	11	10	2	30
12:00	0	1	2	5	4	1	13
12:15	0	1	1	5	3	1	11
12:30	0	0	1	10	7	1	19
12:45	0	1	1	6	2	2	12
Total	0	3	5	26	16	5	55
13:00	0	2	0	4	6	0	12
13:15	0	0	0	1	0	0	1
13:30	0	1	0	4	5	1	11
13:45	0	0	1	6	1	1	9
Total	0	3	1	15	12	2	33
14:00	0	0	0	6	3	0	9
14:15	1	1	0	6	11	0	19
14:30	0	1	0	5	7	2	15
14:45	0	0	2	5	5	0	12
Total	1	2	2	22	26	2	55
15:00	0	1	2	3	2	0	8
15:15	0	0	0	3	2	0	5
15:30	0	0	0	6	2	0	8
15:45	0	0	1	3	3	0	7
Total	0	1	3	15	9	0	28
16:00	0	1	1	5	5	1	13
16:15	0	0	1	3	2	1	7
16:30	0	1	0	4	3	0	8
16:45	0	0	0	2	1	0	3
Total	0	2	2	14	11	2	31
17:00	0	0	1	5	1	0	7
17:15	0	0	0	2	7	1	10
17:30	0	1	0	2	3	0	6
17:45	0	0	0	6	2	0	8
Total	0	1	1	15	13	1	31
18:00	0	0	0	1	2	0	3
18:15	0	0	0	4	1	1	6
18:30	0	0	0	1	2	0	3
18:45	0	0	0	1	1	0	2
Total	0	0	0	7	6	1	14
19:00	0	0	0	0	1	0	1

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site A Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 3

Groups Printed- Buses - Trucks

Start Time	Rutter's Driveway # 1 Eastbound		Main Road Northbound		Main Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
19:15	0	0	0	1	0	0	1
19:30	0	0	0	0	2	0	2
19:45	0	0	0	0	1	0	1
Total	0	0	0	1	4	0	5
20:00	0	0	0	2	1	0	3
20:15	0	0	0	1	3	0	4
20:30	0	0	1	0	2	0	3
Total	0	0	1	3	6	0	10
21:00	0	0	1	0	0	0	1
21:15	0	0	0	0	1	0	1
21:45	0	0	1	1	0	0	2
Total	0	0	2	1	1	0	4
22:00	0	0	0	1	1	0	2
22:15	0	0	0	1	0	0	1
22:30	0	0	0	1	0	0	1
22:45	0	0	0	1	0	1	2
Total	0	0	0	4	1	1	6
23:00	0	0	0	1	3	0	4
23:30	0	0	0	0	1	0	1
23:45	0	0	0	1	0	0	1
Total	0	0	0	2	4	0	6
Grand Total	14	29	35	238	205	28	549
Apprch %	32.6	67.4	12.8	87.2	88	12	
Total %	2.6	5.3	6.4	43.4	37.3	5.1	
Buses	0	2	4	20	16	3	45
% Buses	0	6.9	11.4	8.4	7.8	10.7	8.2
Trucks	14	27	31	218	189	25	504
% Trucks	100	93.1	88.6	91.6	92.2	89.3	91.8

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 1

Day: Thursday

Counter: TRI-STATE

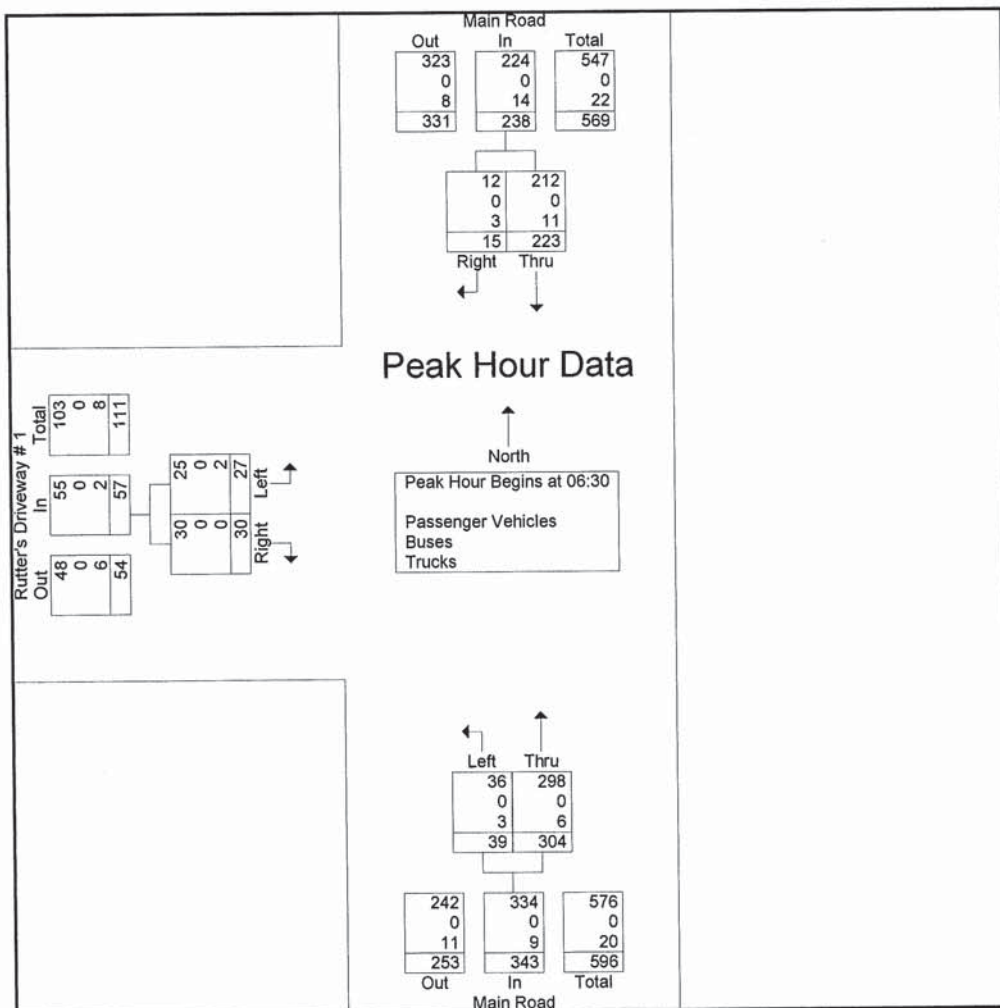
File Name : Site A Driveway # 1

Site Code :

Start Date : 8/9/2018

Page No : 4

Start Time	Rutter's Driveway # 1 Eastbound			Main Road Northbound			Main Road Southbound			Int. Total
	Left	Right	App. Total	Left	Thru	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 to 07:15 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 06:30										
06:30	7	11	18	13	67	80	50	5	55	153
06:45	4	7	11	4	84	88	61	2	63	162
07:00	5	6	11	11	77	88	53	3	56	155
07:15	11	6	17	11	76	87	59	5	64	168
Total Volume	27	30	57	39	304	343	223	15	238	638
% App. Total	47.4	52.6		11.4	88.6		93.7	6.3		
PHF	.614	.682	.792	.750	.905	.974	.914	.750	.930	.949
Passenger Vehicles	25	30	55	36	298	334	212	12	224	613
% Passenger Vehicles	92.6	100	96.5	92.3	98.0	97.4	95.1	80.0	94.1	96.1
Buses	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0
Trucks	2	0	2	3	6	9	11	3	14	25
% Trucks	7.4	0	3.5	7.7	2.0	2.6	4.9	20.0	5.9	3.9



TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site A Driveway # 1

Day: Thursday

Counter: TRI-STATE

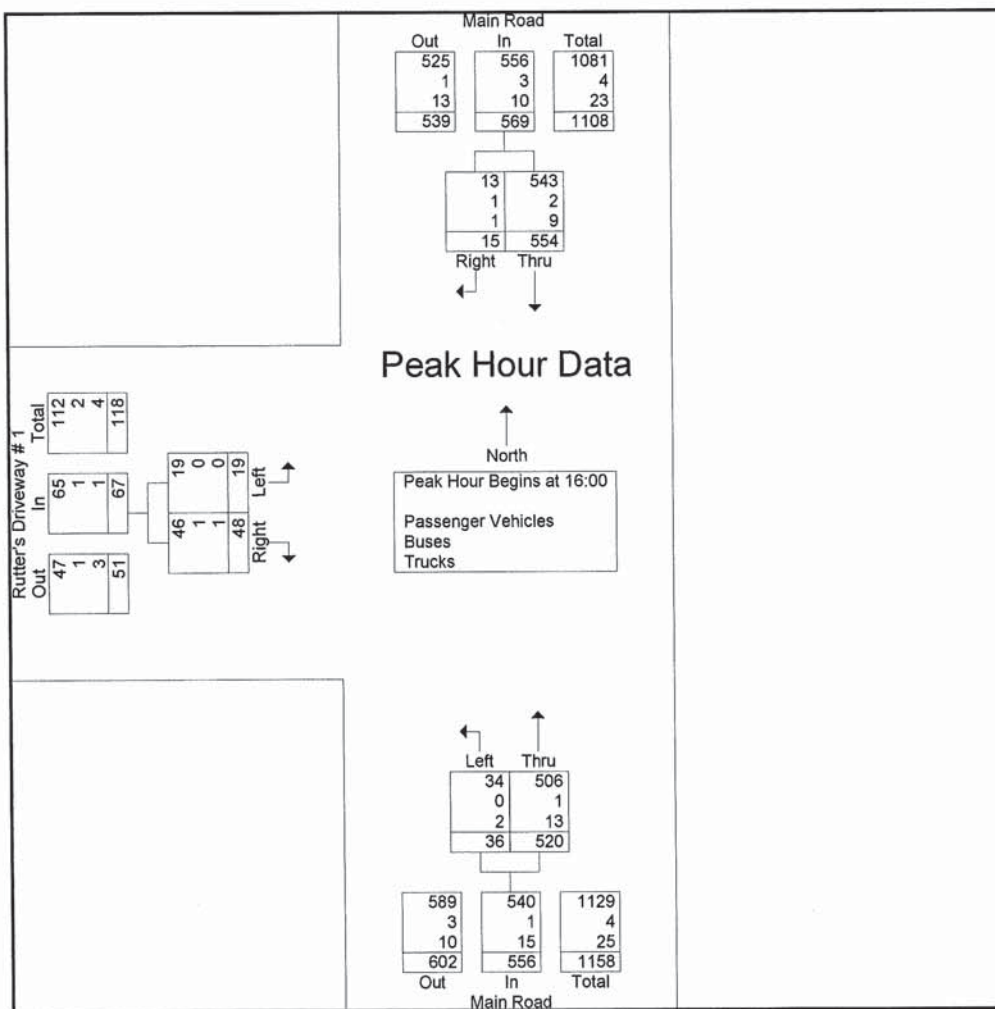
File Name : Site A Driveway # 1

Site Code :

Start Date : 8/9/2018

Page No : 5

Start Time	Rutter's Driveway # 1 Eastbound			Main Road Northbound			Main Road Southbound			Int. Total
	Left	Right	App. Total	Left	Thru	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 16:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:00										
16:00	4	16	20	9	129	138	155	3	158	316
16:15	1	6	7	7	123	130	133	5	138	275
16:30	11	11	22	10	133	143	128	3	131	296
16:45	3	15	18	10	135	145	138	4	142	305
Total Volume	19	48	67	36	520	556	554	15	569	1192
% App. Total	28.4	71.6		6.5	93.5		97.4	2.6		
PHF	.432	.750	.761	.900	.963	.959	.894	.750	.900	.943
Passenger Vehicles	19	46	65	34	506	540	543	13	556	1161
% Passenger Vehicles	100	95.8	97.0	94.4	97.3	97.1	98.0	86.7	97.7	97.4
Buses	0	1	1	0	1	1	2	1	3	5
% Buses	0	2.1	1.5	0	0.2	0.2	0.4	6.7	0.5	0.4
Trucks	0	1	1	2	13	15	9	1	10	26
% Trucks	0	2.1	1.5	5.6	2.5	2.7	1.6	6.7	1.8	2.2



TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site A Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 1

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Minor Road Eastbound		Minor Road Westbound		Rutter's Driveway # 2 Northbound		Int. Total
	Thru	Right	Left	Thru	Left	Right	
00:15	0	0	2	0	0	0	2
00:30	0	0	3	0	0	0	3
00:45	0	0	2	0	0	2	4
Total	0	0	7	0	0	2	9
01:00	0	0	4	0	0	1	5
01:15	1	0	1	1	0	1	4
01:30	0	0	0	0	0	1	1
01:45	0	0	1	0	0	1	2
Total	1	0	6	1	0	4	12
02:30	0	0	5	0	0	0	5
02:45	0	0	1	0	0	0	1
Total	0	0	6	0	0	0	6
03:00	0	0	1	0	0	0	1
03:15	0	0	1	0	0	0	1
Total	0	0	2	0	0	0	2
04:00	0	1	3	0	0	1	5
04:15	0	0	0	0	1	3	4
04:30	3	0	1	4	0	0	8
04:45	3	0	0	1	0	2	6
Total	6	1	4	5	1	6	23
05:00	0	0	5	0	0	2	7
05:15	1	0	2	1	2	4	10
05:30	3	0	3	1	1	1	9
05:45	1	0	5	1	1	1	9
Total	5	0	15	3	4	8	35
06:00	0	0	6	0	0	1	7
06:15	0	0	7	0	0	3	10
06:30	0	0	10	2	0	8	20
06:45	2	0	8	5	1	5	21
Total	2	0	31	7	1	17	58
07:00	3	0	6	3	1	3	16
07:15	5	0	11	2	0	8	26
07:30	3	0	10	5	0	12	30
07:45	0	0	11	3	0	9	23
Total	11	0	38	13	1	32	95
08:00	4	0	7	2	0	10	23
08:15	0	0	8	1	0	8	17
08:30	2	1	8	2	2	6	21
08:45	0	0	5	3	0	1	9
Total	6	1	28	8	2	25	70
09:00	2	0	10	3	0	5	20
09:15	1	0	7	0	0	6	14
09:30	3	0	9	2	1	8	23
09:45	2	0	7	4	0	10	23
Total	8	0	33	9	1	29	80

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site A Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 2

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Minor Road Eastbound		Minor Road Westbound		Rutter's Driveway # 2 Northbound		Int. Total
	Thru	Right	Left	Thru	Left	Right	
10:00	3	0	7	4	1	6	21
10:15	3	0	9	2	0	8	22
10:30	4	1	20	2	0	6	33
10:45	4	1	8	5	1	8	27
Total	14	2	44	13	2	28	103
11:00	3	0	13	1	2	6	25
11:15	3	1	10	2	0	8	24
11:30	2	0	8	2	0	8	20
11:45	4	1	9	5	0	5	24
Total	12	2	40	10	2	27	93
12:00	2	1	15	2	0	13	33
12:15	3	0	22	4	1	18	48
12:30	4	0	13	3	0	13	33
12:45	2	0	15	4	1	9	31
Total	11	1	65	13	2	53	145
13:00	3	0	13	2	0	15	33
13:15	3	0	13	2	0	8	26
13:30	2	1	18	1	1	18	41
13:45	2	0	11	3	0	13	29
Total	10	1	55	8	1	54	129
14:00	3	1	25	0	1	19	49
14:15	1	0	13	0	0	13	27
14:30	1	0	10	4	0	6	21
14:45	4	2	13	0	0	9	28
Total	9	3	61	4	1	47	125
15:00	1	0	10	1	0	9	21
15:15	3	0	13	4	1	9	30
15:30	4	0	4	2	0	10	20
15:45	0	1	20	2	0	8	31
Total	8	1	47	9	1	36	102
16:00	3	0	15	4	0	13	35
16:15	1	0	7	1	1	11	21
16:30	3	0	18	3	0	13	37
16:45	2	1	18	2	0	12	35
Total	9	1	58	10	1	49	128
17:00	1	1	7	0	0	10	19
17:15	0	0	8	0	0	6	14
17:30	2	1	12	2	1	9	27
17:45	1	1	13	1	0	12	28
Total	4	3	40	3	1	37	88
18:00	3	1	6	0	2	11	23
18:15	1	0	10	0	1	6	18
18:30	0	0	6	0	0	13	19
18:45	0	0	10	1	0	5	16
Total	4	1	32	1	3	35	76
19:00	1	0	9	0	0	6	16
19:15	1	0	17	1	0	8	27
19:30	0	0	4	0	0	2	6
19:45	0	0	9	0	0	3	12
Total	2	0	39	1	0	19	61

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site A Driveway # 2

Day: Thursday

Counter: TRI-STATE

File Name : Site A Driveway # 2

Site Code :

Start Date : 8/9/2018

Page No : 3

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Minor Road Eastbound		Minor Road Westbound		Rutter's Driveway # 2 Northbound		Int. Total
	Thru	Right	Left	Thru	Left	Right	
20:00	0	1	5	0	0	8	14
20:15	1	0	12	0	0	6	19
20:30	3	0	3	2	1	3	12
20:45	0	1	8	1	0	5	15
Total	4	2	28	3	1	22	60
21:00	0	0	10	0	0	1	11
21:15	0	0	12	0	0	7	19
21:30	0	0	9	0	0	7	16
21:45	1	0	6	0	0	2	9
Total	1	0	37	0	0	17	55
22:00	0	0	5	0	0	4	9
22:15	0	0	11	1	0	6	18
22:30	0	0	6	0	0	2	8
22:45	0	0	5	0	0	4	9
Total	0	0	27	1	0	16	44
23:00	0	0	4	0	0	2	6
23:15	0	0	6	0	0	2	8
23:30	0	0	3	0	0	3	6
Total	0	0	13	0	0	7	20
Grand Total	127	19	756	122	25	570	1619
Apprch %	87	13	86.1	13.9	4.2	95.8	
Total %	7.8	1.2	46.7	7.5	1.5	35.2	
Passenger Vehicles	103	17	710	107	16	514	1467
% Passenger Vehicles	81.1	89.5	93.9	87.7	64	90.2	90.6
Buses	1	0	3	0	1	6	11
% Buses	0.8	0	0.4	0	4	1.1	0.7
Trucks	23	2	43	15	8	50	141
% Trucks	18.1	10.5	5.7	12.3	32	8.8	8.7

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site A Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 1

Groups Printed- Buses - Trucks

Start Time	Minor Road Eastbound		Minor Road Westbound		Rutter's Driveway # 2 Northbound		Int. Total
	Thru	Right	Left	Thru	Left	Right	
00:30	0	0	1	0	0	0	1
00:45	0	0	1	0	0	2	3
Total	0	0	2	0	0	2	4
01:00	0	0	1	0	0	0	1
01:15	1	0	0	0	0	1	2
01:30	0	0	0	0	0	1	1
Total	1	0	1	0	0	2	4
02:45	0	0	1	0	0	0	1
Total	0	0	1	0	0	0	1
04:00	0	1	0	0	0	1	2
04:15	0	0	0	0	1	1	2
04:30	3	0	0	1	0	0	4
04:45	3	0	0	0	0	1	4
Total	6	1	0	1	1	3	12
05:00	0	0	3	0	0	1	4
05:15	1	0	0	0	0	1	2
05:30	2	0	1	0	0	0	3
Total	3	0	4	0	0	2	9
06:00	0	0	1	0	0	0	1
06:15	0	0	2	0	0	0	2
06:30	0	0	1	0	0	3	4
06:45	0	0	1	0	0	0	1
Total	0	0	5	0	0	3	8
07:00	0	0	1	0	1	1	3
07:15	0	0	0	0	0	2	2
07:30	0	0	3	0	0	3	6
07:45	0	0	1	0	0	1	2
Total	0	0	5	0	1	7	13
08:00	0	0	0	1	0	0	1
08:15	0	0	1	1	0	2	4
08:30	1	0	1	0	1	1	4
08:45	0	0	1	0	0	0	1
Total	1	0	3	2	1	3	10
09:00	0	0	2	0	0	0	2
09:15	0	0	1	0	0	0	1
09:30	0	0	0	1	0	0	1
09:45	1	0	0	2	0	1	4
Total	1	0	3	3	0	1	8
10:00	1	0	0	1	1	0	3
10:15	1	0	0	0	0	0	1
10:30	0	0	1	1	0	0	2

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site A Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 2

Groups Printed- Buses - Trucks

Start Time	Minor Road Eastbound		Minor Road Westbound		Rutter's Driveway # 2 Northbound		Int. Total
	Thru	Right	Left	Thru	Left	Right	
10:45	2	0	0	0	0	1	3
Total	4	0	1	2	1	1	9
11:15	0	0	0	0	0	2	2
11:30	0	0	0	0	0	1	1
11:45	0	0	0	0	0	1	1
Total	0	0	0	0	0	4	4
12:00	0	0	1	0	0	1	2
12:15	0	0	0	2	1	0	3
12:30	1	0	1	1	0	1	4
12:45	1	0	0	0	0	1	2
Total	2	0	2	3	1	3	11
13:00	1	0	1	0	0	1	3
13:15	0	0	1	1	0	0	2
13:30	1	1	1	0	0	1	4
13:45	0	0	2	0	0	3	5
Total	2	1	5	1	0	5	14
14:00	0	0	3	0	0	2	5
14:15	0	0	0	0	0	3	3
14:30	0	0	3	0	0	1	4
14:45	1	0	0	0	0	0	1
Total	1	0	6	0	0	6	13
15:00	0	0	0	0	0	2	2
15:15	2	0	2	0	1	1	6
15:30	0	0	0	1	0	1	2
Total	2	0	2	1	1	4	10
16:00	0	0	0	0	0	1	1
16:15	0	0	1	0	0	3	4
16:30	0	0	1	0	0	0	1
16:45	1	0	0	0	0	2	3
Total	1	0	2	0	0	6	9
17:00	0	0	0	0	0	1	1
17:30	0	0	0	1	0	0	1
17:45	0	0	2	1	0	1	4
Total	0	0	2	2	0	2	6
18:00	0	0	1	0	1	0	2
18:15	0	0	0	0	1	1	2
Total	0	0	1	0	2	1	4
20:30	0	0	0	0	1	0	1
Total	0	0	0	0	1	0	1
21:00	0	0	1	0	0	0	1
21:15	0	0	0	0	0	1	1

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site A Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 3

Groups Printed- Buses - Trucks

Start Time	Minor Road Eastbound		Minor Road Westbound		Rutter's Driveway # 2 Northbound		Int. Total
	Thru	Right	Left	Thru	Left	Right	
Total	0	0	1	0	0	1	2
Grand Total	24	2	46	15	9	56	152
Apprch %	92.3	7.7	75.4	24.6	13.8	86.2	
Total %	15.8	1.3	30.3	9.9	5.9	36.8	
Buses	1	0	3	0	1	6	11
% Buses	4.2	0	6.5	0	11.1	10.7	7.2
Trucks	23	2	43	15	8	50	141
% Trucks	95.8	100	93.5	100	88.9	89.3	92.8

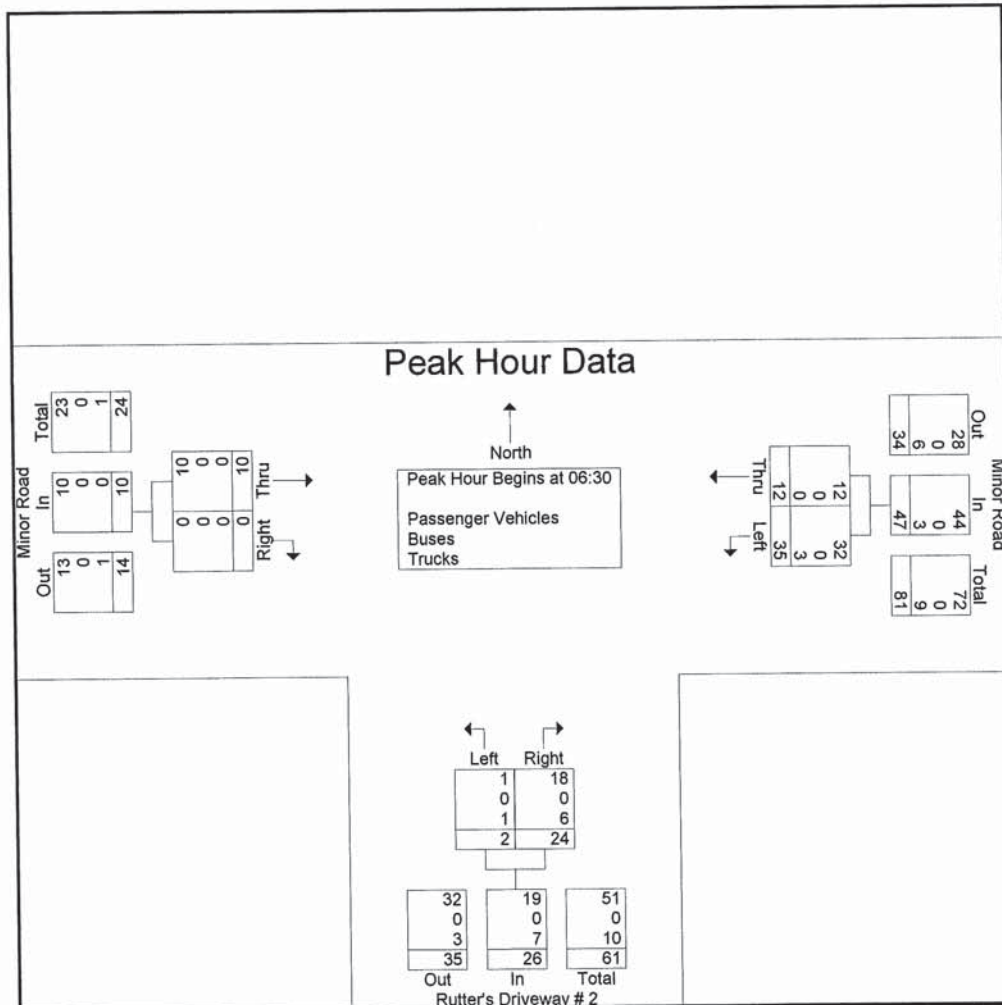
TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site A Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 4

Start Time	Minor Road Eastbound			Minor Road Westbound			Rutter's Driveway # 2 Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 06:30 to 07:15 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 06:30										
06:30	0	0	0	10	2	12	0	8	8	20
06:45	2	0	2	8	5	13	1	5	6	21
07:00	3	0	3	6	3	9	1	3	4	16
07:15	5	0	5	11	2	13	0	8	8	26
Total Volume	10	0	10	35	12	47	2	24	26	83
% App. Total	100	0	100	74.5	25.5	100	7.7	92.3	100	100
PHF	.500	.000	.500	.795	.600	.904	.500	.750	.813	.798
Passenger Vehicles	10	0	10	32	12	44	1	18	19	73
% Passenger Vehicles	100	0	100	91.4	100	93.6	50.0	75.0	73.1	88.0
Buses	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0
Trucks	0	0	0	3	0	3	1	6	7	10
% Trucks	0	0	0	8.6	0	6.4	50.0	25.0	26.9	12.0



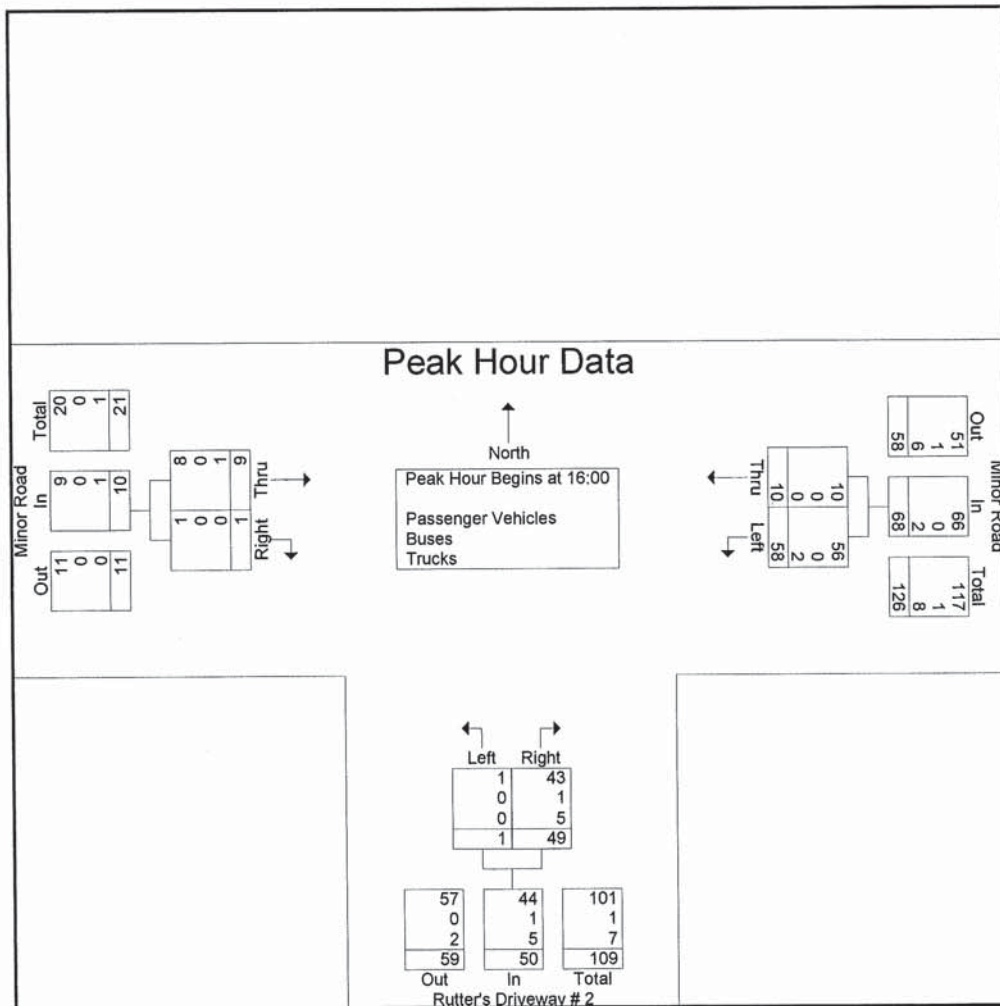
TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site A Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site A Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 5

Start Time	Minor Road Eastbound			Minor Road Westbound			Rutter's Driveway # 2 Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 16:00 to 16:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:00										
16:00	3	0	3	15	4	19	0	13	13	35
16:15	1	0	1	7	1	8	1	11	12	21
16:30	3	0	3	18	3	21	0	13	13	37
16:45	2	1	3	18	2	20	0	12	12	35
Total Volume	9	1	10	58	10	68	1	49	50	128
% App. Total	90	10		85.3	14.7		2	98		
PHF	.750	.250	.833	.806	.625	.810	.250	.942	.962	.865
Passenger Vehicles	8	1	9	56	10	66	1	43	44	119
% Passenger Vehicles	88.9	100	90.0	96.6	100	97.1	100	87.8	88.0	93.0
Buses	0	0	0	0	0	0	0	1	1	1
% Buses	0	0	0	0	0	0	0	2.0	2.0	0.8
Trucks	1	0	1	2	0	2	0	5	5	8
% Trucks	11.1	0	10.0	3.4	0	2.9	0	10.2	10.0	6.3



Rutter's Site B				
Thursday 8/9/18				
Time	Access #1			Peak Hour Total
	Enter	Exit	Total	
12:00 AM	7	4	11	
12:15 AM	2	4	6	
12:30 AM	0	2	2	
12:45 AM	2	4	6	25
1:00 AM	4	2	6	20
1:15 AM	8	6	14	28
1:30 AM	3	7	10	36
1:45 AM	4	3	7	37
2:00 AM	8	3	11	42
2:15 AM	4	7	11	39
2:30 AM	3	5	8	37
2:45 AM	3	4	7	37
3:00 AM	4	6	10	36
3:15 AM	7	3	10	35
3:30 AM	3	10	13	40
3:45 AM	2	3	5	38
4:00 AM	12	4	16	44
4:15 AM	9	10	19	53
4:30 AM	10	15	25	65
4:45 AM	18	8	26	86
5:00 AM	22	23	45	115
5:15 AM	23	17	40	136
5:30 AM	32	28	60	171
5:45 AM	22	27	49	194
6:00 AM	29	20	49	198
6:15 AM	24	30	54	212
6:30 AM	27	29	56	208
6:45 AM	36	35	71	230
7:00 AM	33	27	60	241
7:15 AM	41	37	78	265
7:30 AM	45	36	81	290
7:45 AM	28	38	66	285
8:00 AM	25	25	50	275
8:15 AM	40	35	75	272
8:30 AM	29	39	68	259
8:45 AM	29	29	58	251
9:00 AM	35	30	65	266
9:15 AM	20	31	51	242
9:30 AM	19	20	39	213
9:45 AM	19	22	41	196
10:00 AM	23	20	43	174
10:15 AM	22	22	44	167
10:30 AM	27	28	55	183
10:45 AM	17	22	39	181
11:00 AM	25	12	37	175
11:15 AM	34	26	60	191
11:30 AM	30	28	58	194
11:45 AM	39	34	73	228

12:00 PM	29	39	68	259
12:15 PM	30	30	60	259
12:30 PM	22	35	57	258
12:45 PM	34	25	59	244
1:00 PM	27	27	54	230
1:15 PM	35	34	69	239
1:30 PM	37	41	78	260
1:45 PM	25	33	58	259
2:00 PM	29	23	52	257
2:15 PM	29	30	59	247
2:30 PM	28	30	58	227
2:45 PM	24	24	48	217
3:00 PM	30	26	56	221
3:15 PM	32	36	68	230
3:30 PM	18	25	43	215
3:45 PM	24	22	46	213
4:00 PM	33	29	62	219
4:15 PM	30	36	66	217
4:30 PM	34	31	65	239
4:45 PM	25	29	54	247
5:00 PM	28	29	57	242
5:15 PM	34	28	62	238
5:30 PM	32	39	71	244
5:45 PM	17	25	42	232
6:00 PM	21	20	41	216
6:15 PM	13	17	30	184
6:30 PM	18	18	36	149
6:45 PM	26	13	39	146
7:00 PM	14	20	34	139
7:15 PM	26	20	46	155
7:30 PM	18	25	43	162
7:45 PM	25	16	41	164
8:00 PM	20	28	48	178
8:15 PM	17	15	32	164
8:30 PM	14	14	28	149
8:45 PM	16	14	30	138
9:00 PM	11	14	25	115
9:15 PM	12	13	25	108
9:30 PM	8	7	15	95
9:45 PM	8	3	11	76
10:00 PM	10	13	23	74
10:15 PM	14	13	27	76
10:30 PM	10	15	25	86
10:45 PM	12	8	20	95
11:00 PM	3	7	10	82
11:15 PM	7	8	15	70
11:30 PM	3	6	9	54
11:45 PM	5	5	10	44
Total	1925	1938	3863	

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site B Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site B Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 1

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Main Road Eastbound		Main Road Westbound		Rutter's Driveway # 1 Southbound		Int. Total
	Left	Thru	Thru	Right	Left	Right	
00:00	2	4	3	5	3	1	18
00:15	1	2	5	1	3	1	13
00:30	0	3	7	0	1	1	12
00:45	1	0	3	1	1	3	9
Total	4	9	18	7	8	6	52
01:00	0	5	3	4	2	0	14
01:15	2	4	6	6	6	0	24
01:30	0	0	6	3	5	2	16
01:45	0	2	1	4	2	1	10
Total	2	11	16	17	15	3	64
02:00	2	3	2	6	3	0	16
02:15	1	2	2	3	7	0	15
02:30	0	1	2	3	3	2	11
02:45	1	1	6	2	4	0	14
Total	4	7	12	14	17	2	56
03:00	1	4	4	3	5	1	18
03:15	3	8	5	4	2	1	23
03:30	2	8	3	1	8	2	24
03:45	0	12	4	2	2	1	21
Total	6	32	16	10	17	5	86
04:00	3	6	4	9	2	2	26
04:15	6	21	9	3	9	1	49
04:30	5	10	3	5	12	3	38
04:45	6	28	11	12	8	0	65
Total	20	65	27	29	31	6	178
05:00	10	29	16	12	15	8	90
05:15	13	35	25	10	9	8	100
05:30	11	44	33	21	20	8	137
05:45	13	42	28	9	23	4	119
Total	47	150	102	52	67	28	446
06:00	17	58	20	12	16	4	127
06:15	14	75	37	10	24	6	166
06:30	12	80	32	15	21	8	168
06:45	11	73	35	25	23	12	179
Total	54	286	124	62	84	30	640
07:00	14	67	39	19	23	4	166
07:15	18	77	44	23	25	12	199
07:30	16	81	46	29	24	12	208
07:45	10	77	41	18	30	8	184
Total	58	302	170	89	102	36	757
08:00	11	52	34	14	20	5	136
08:15	16	47	36	24	28	7	158
08:30	11	35	41	18	28	11	144
08:45	10	45	35	19	17	12	138
Total	48	179	146	75	93	35	576
09:00	14	53	38	21	18	12	156
09:15	5	46	36	15	22	9	133

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site B Driveway # 1
Day: Thursday
Counter: TRI-STATE

File Name : Site B Driveway # 1
Site Code :
Start Date : 8/9/2018
Page No : 2

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Main Road Eastbound		Main Road Westbound		Rutter's Driveway # 1 Southbound		Int. Total
	Left	Thru	Thru	Right	Left	Right	
09:30	8	43	29	11	13	7	111
09:45	9	34	33	10	14	8	108
Total	36	176	136	57	67	36	508
10:00	8	36	51	15	15	5	130
10:15	9	50	47	13	15	6	140
10:30	9	42	46	18	17	11	143
10:45	4	29	37	13	15	7	105
Total	30	157	181	59	62	29	518
11:00	7	42	44	18	8	4	123
11:15	15	47	40	19	22	4	147
11:30	4	38	33	26	21	7	129
11:45	19	45	33	20	24	10	151
Total	45	172	150	83	75	25	550
12:00	7	43	38	22	26	13	149
12:15	6	36	46	24	26	4	142
12:30	8	51	59	14	27	8	167
12:45	12	41	26	22	18	7	126
Total	33	171	169	82	97	32	584
13:00	10	46	38	17	17	10	138
13:15	10	41	41	25	21	13	151
13:30	12	33	40	25	32	9	151
13:45	8	45	39	17	20	13	142
Total	40	165	158	84	90	45	582
14:00	14	47	41	15	17	6	140
14:15	8	40	47	21	22	8	146
14:30	13	51	55	15	18	12	164
14:45	6	40	52	18	13	11	140
Total	41	178	195	69	70	37	590
15:00	14	49	69	16	14	12	174
15:15	9	63	68	23	23	13	199
15:30	8	56	87	10	16	9	186
15:45	10	58	92	14	13	9	196
Total	41	226	316	63	66	43	755
16:00	10	59	66	23	15	14	187
16:15	11	56	86	19	23	13	208
16:30	12	70	95	22	17	14	230
16:45	3	60	93	22	11	18	207
Total	36	245	340	86	66	59	832
17:00	11	68	60	17	13	16	185
17:15	14	72	86	20	18	10	220
17:30	11	50	90	21	21	18	211
17:45	6	48	80	11	11	14	170
Total	42	238	316	69	63	58	786
18:00	7	50	64	14	11	9	155
18:15	6	49	57	7	13	4	136
18:30	8	34	37	10	9	9	107
18:45	10	26	46	16	4	9	111
Total	31	159	204	47	37	31	509
19:00	7	30	48	7	9	11	112

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site B Driveway # 1
Day: Thursday
Counter: TRI-STATE

File Name : Site B Driveway # 1
Site Code :
Start Date : 8/9/2018
Page No : 3

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Main Road Eastbound		Main Road Westbound		Rutter's Driveway # 1 Southbound		Int. Total
	Left	Thru	Thru	Right	Left	Right	
19:15	14	19	28	12	7	13	93
19:30	7	26	34	11	13	12	103
19:45	6	17	34	19	8	8	92
Total	34	92	144	49	37	44	400
20:00	7	21	30	13	14	14	99
20:15	8	23	25	9	10	5	80
20:30	3	15	38	11	9	5	81
20:45	4	19	37	12	9	5	86
Total	22	78	130	45	42	29	346
21:00	5	16	21	6	8	6	62
21:15	7	21	24	5	9	4	70
21:30	5	16	27	3	3	4	58
21:45	1	12	20	7	2	1	43
Total	18	65	92	21	22	15	233
22:00	4	16	18	6	6	7	57
22:15	3	13	15	11	5	8	55
22:30	2	6	14	8	8	7	45
22:45	5	7	10	7	5	3	37
Total	14	42	57	32	24	25	194
23:00	0	5	9	3	3	4	24
23:15	4	5	13	3	4	4	33
23:30	0	6	10	3	2	4	25
23:45	1	3	4	4	3	2	17
Total	5	19	36	13	12	14	99
Grand Total	711	3224	3255	1214	1264	673	10341
Apprch %	18.1	81.9	72.8	27.2	65.3	34.7	
Total %	6.9	31.2	31.5	11.7	12.2	6.5	
Passenger Vehicles	643	2849	2880	905	931	617	8825
% Passenger Vehicles	90.4	88.4	88.5	74.5	73.7	91.7	85.3
Buses	1	9	11	4	3	0	28
% Buses	0.1	0.3	0.3	0.3	0.2	0	0.3
Trucks	67	366	364	305	330	56	1488
% Trucks	9.4	11.4	11.2	25.1	26.1	8.3	14.4

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site B Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site B Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 1

Groups Printed- Buses - Trucks

Start Time	Main Road Eastbound		Main Road Westbound		Rutter's Driveway # 1 Southbound		Int. Total
	Left	Thru	Thru	Right	Left	Right	
00:00	1	0	0	3	1	0	5
00:15	0	1	1	1	1	0	4
00:30	0	1	3	0	1	0	5
00:45	0	0	0	0	1	0	1
Total	1	2	4	4	4	0	15
01:00	0	3	2	3	0	0	8
01:15	0	0	0	4	4	0	8
01:30	0	0	2	1	4	0	7
01:45	0	1	0	3	0	0	4
Total	0	4	4	11	8	0	27
02:00	1	0	0	4	1	0	6
02:15	0	1	1	2	6	0	10
02:30	0	0	1	2	2	1	6
02:45	0	0	0	1	4	0	5
Total	1	1	2	9	13	1	27
03:00	0	1	1	1	1	0	4
03:15	2	1	1	2	0	1	7
03:30	1	1	1	0	7	0	10
03:45	0	2	1	1	1	0	5
Total	3	5	4	4	9	1	26
04:00	0	1	2	7	2	0	12
04:15	0	5	5	0	1	1	12
04:30	0	1	0	2	4	0	7
04:45	0	3	0	4	1	0	8
Total	0	10	7	13	8	1	39
05:00	1	4	1	2	5	3	16
05:15	0	3	6	2	0	0	11
05:30	2	5	6	5	4	0	22
05:45	0	5	3	2	7	0	17
Total	3	17	16	11	16	3	66
06:00	1	0	1	5	3	1	11
06:15	1	5	5	4	9	0	24
06:30	0	7	4	2	4	0	17
06:45	0	3	3	7	2	2	17
Total	2	15	13	18	18	3	69
07:00	0	2	9	5	6	0	22
07:15	4	4	11	7	8	1	35
07:30	3	6	8	5	8	1	31
07:45	2	12	6	6	7	0	33
Total	9	24	34	23	29	2	121
08:00	0	3	7	4	8	1	23
08:15	1	8	6	6	6	1	28
08:30	1	9	4	5	5	2	26
08:45	3	12	6	5	6	3	35
Total	5	32	23	20	25	7	112
09:00	1	7	8	6	8	0	30
09:15	0	8	7	7	9	3	34

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site B Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site B Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 2

Groups Printed- Buses - Trucks

Start Time	Main Road Eastbound		Main Road Westbound		Rutter's Driveway # 1 Southbound		Int. Total
	Left	Thru	Thru	Right	Left	Right	
09:30	2	3	6	4	5	2	22
09:45	2	3	7	3	4	3	22
Total	5	21	28	20	26	8	108
10:00	0	6	9	6	3	1	25
10:15	0	4	7	4	4	0	19
10:30	3	9	7	4	4	3	30
10:45	0	4	9	3	2	2	20
Total	3	23	32	17	13	6	94
11:00	1	5	8	5	3	0	22
11:15	5	10	9	6	4	0	34
11:30	2	10	4	10	9	0	35
11:45	1	9	11	7	6	0	34
Total	9	34	32	28	22	0	125
12:00	2	7	5	4	8	1	27
12:15	0	6	8	7	10	1	32
12:30	0	5	11	1	7	0	24
12:45	1	8	4	11	5	1	30
Total	3	26	28	23	30	3	113
13:00	2	4	5	2	6	1	20
13:15	1	8	2	6	4	1	22
13:30	3	9	6	7	10	0	35
13:45	1	5	8	6	5	3	28
Total	7	26	21	21	25	5	105
14:00	1	6	13	3	4	1	28
14:15	0	8	5	6	3	1	23
14:30	1	11	6	5	5	0	28
14:45	0	5	10	6	3	1	25
Total	2	30	34	20	15	3	104
15:00	0	6	10	3	4	1	24
15:15	3	9	5	6	6	0	29
15:30	2	10	2	1	3	4	22
15:45	1	7	6	2	1	0	17
Total	6	32	23	12	14	5	92
16:00	1	6	7	1	2	3	20
16:15	1	5	4	4	5	0	19
16:30	0	5	4	0	2	2	13
16:45	0	6	5	0	0	0	11
Total	2	22	20	5	9	5	63
17:00	0	6	4	1	2	0	13
17:15	0	6	2	1	1	0	10
17:30	1	2	7	2	1	0	13
17:45	0	2	3	1	1	0	7
Total	1	16	16	5	5	0	43
18:00	1	1	5	1	2	0	10
18:15	0	5	1	2	2	0	10
18:30	0	5	4	2	1	1	13
18:45	1	1	2	3	1	0	8
Total	2	12	12	8	6	1	41
19:00	0	3	4	3	3	0	13

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site B Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site B Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 3

Groups Printed- Buses - Trucks

Start Time	Main Road Eastbound		Main Road Westbound		Rutter's Driveway # 1 Southbound		Int. Total
	Left	Thru	Thru	Right	Left	Right	
19:15	1	1	3	3	2	0	10
19:30	0	3	1	0	2	0	6
19:45	0	2	3	4	1	0	10
Total	1	9	11	10	8	0	39
20:00	0	4	1	1	3	0	9
20:15	0	2	1	1	2	0	6
20:30	1	1	3	4	2	0	11
20:45	0	1	2	4	3	0	10
Total	1	8	7	10	10	0	36
21:00	0	1	0	1	2	0	4
21:15	0	1	0	2	2	0	5
21:30	0	3	1	0	0	0	4
21:45	0	0	0	4	0	0	4
Total	0	5	1	7	4	0	17
22:00	0	0	1	2	2	0	5
22:15	0	0	0	1	3	0	4
22:30	0	0	0	3	3	0	6
22:45	1	0	0	1	4	0	6
Total	1	0	1	7	12	0	21
23:00	0	0	1	1	1	0	3
23:15	1	0	0	0	1	1	3
23:30	0	1	1	2	1	1	6
23:45	0	0	0	0	1	0	1
Total	1	1	2	3	4	2	13
Grand Total	68	375	375	309	333	56	1516
Apprch %	15.3	84.7	54.8	45.2	85.6	14.4	
Total %	4.5	24.7	24.7	20.4	22	3.7	
Buses	1	9	11	4	3	0	28
% Buses	1.5	2.4	2.9	1.3	0.9	0	1.8
Trucks	67	366	364	305	330	56	1488
% Trucks	98.5	97.6	97.1	98.7	99.1	100	98.2

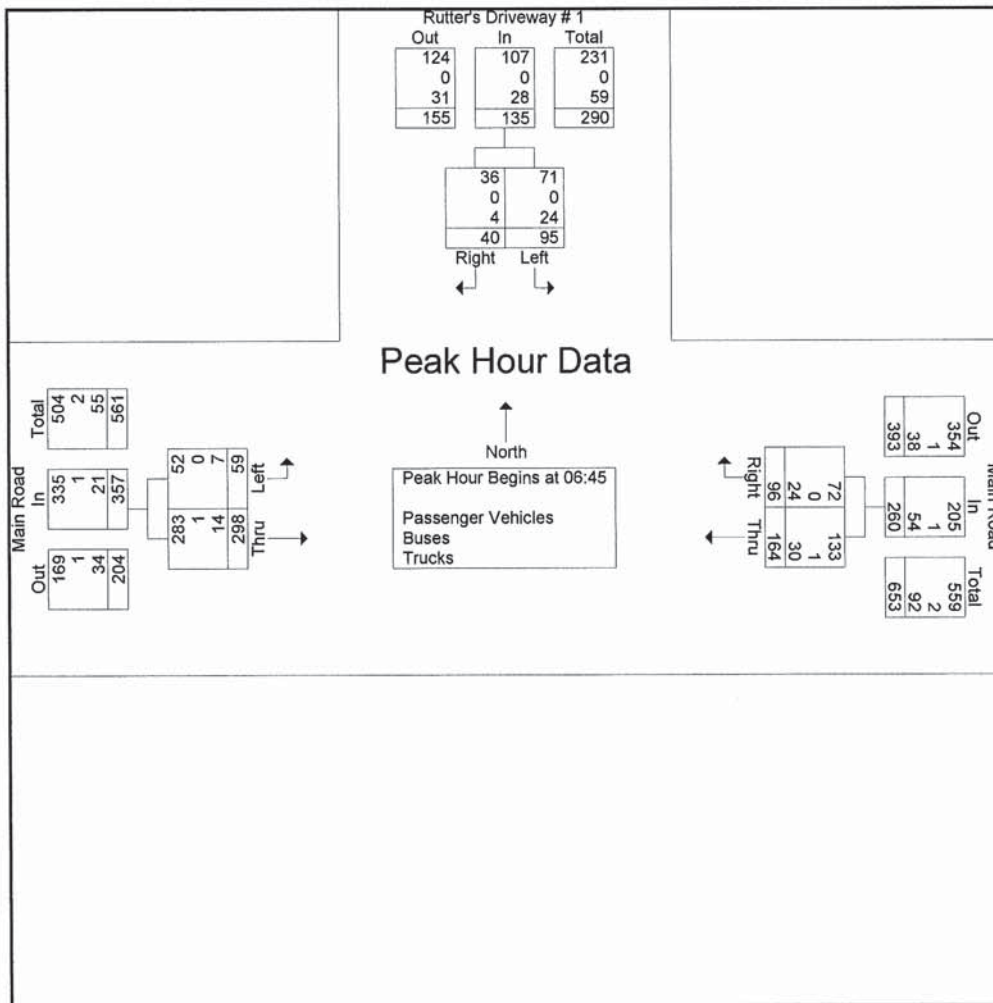
TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site B Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site B Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 4

Start Time	Main Road Eastbound			Main Road Westbound			Rutter's Driveway # 1 Southbound			Int. Total
	Left	Thru	App. Total	Thru	Right	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 06:45 to 07:30 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 06:45										
06:45	11	73	84	35	25	60	23	12	35	179
07:00	14	67	81	39	19	58	23	4	27	166
07:15	18	77	95	44	23	67	25	12	37	199
07:30	16	81	97	46	29	75	24	12	36	208
Total Volume	59	298	357	164	96	260	95	40	135	752
% App. Total	16.5	83.5		63.1	36.9		70.4	29.6		
PHF	.819	.920	.920	.891	.828	.867	.950	.833	.912	.904
Passenger Vehicles	52	283	335	133	72	205	71	36	107	647
% Passenger Vehicles	88.1	95.0	93.8	81.1	75.0	78.8	74.7	90.0	79.3	86.0
Buses	0	1	1	1	0	1	0	0	0	2
% Buses	0	0.3	0.3	0.6	0	0.4	0	0	0	0.3
Trucks	7	14	21	30	24	54	24	4	28	103
% Trucks	11.9	4.7	5.9	18.3	25.0	20.8	25.3	10.0	20.7	13.7



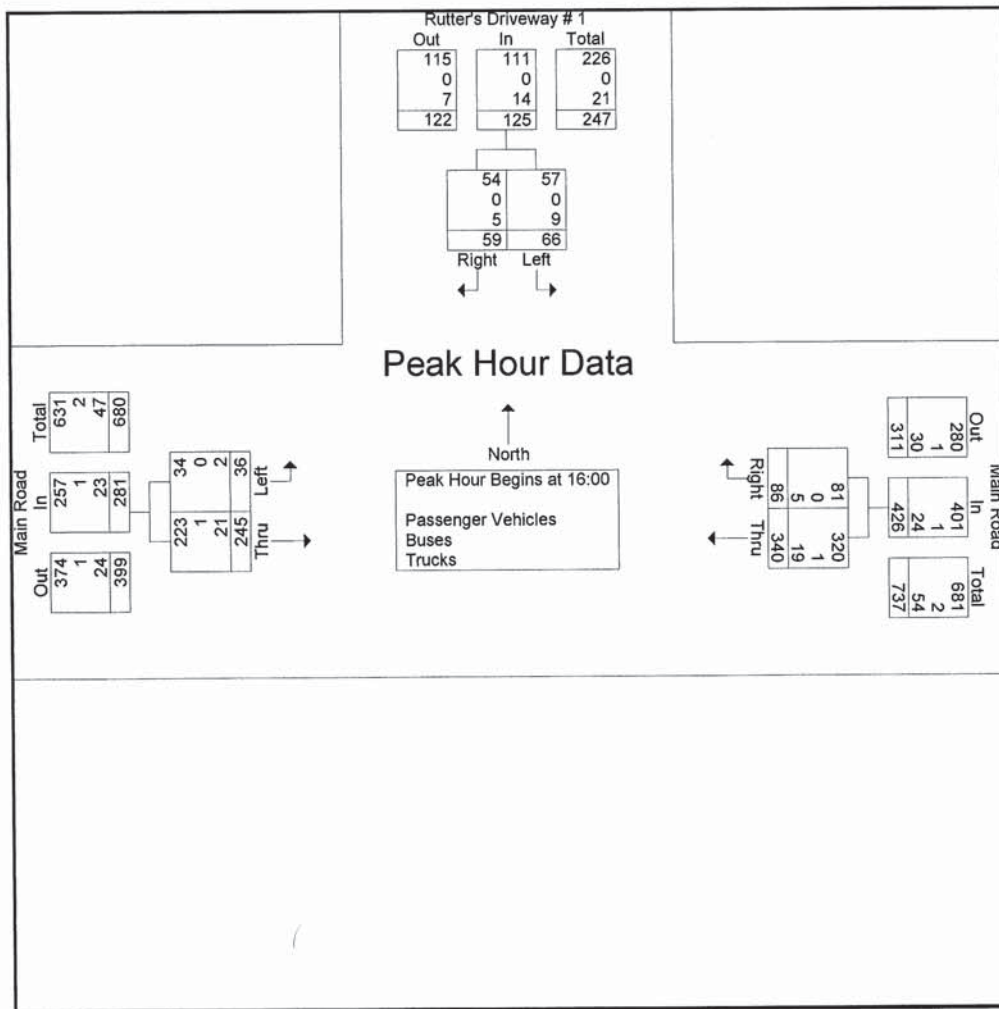
TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site B Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site B Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 5

Start Time	Main Road Eastbound			Main Road Westbound			Rutter's Driveway # 1 Southbound			Int. Total
	Left	Thru	App. Total	Thru	Right	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 16:00 to 16:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 16:00										
16:00	10	59	69	66	23	89	15	14	29	187
16:15	11	56	67	86	19	105	23	13	36	208
16:30	12	70	82	95	22	117	17	14	31	230
16:45	3	60	63	93	22	115	11	18	29	207
Total Volume	36	245	281	340	86	426	66	59	125	832
% App. Total	12.8	87.2		79.8	20.2		52.8	47.2		
PHF	.750	.875	.857	.895	.935	.910	.717	.819	.868	.904
Passenger Vehicles	34	223	257	320	81	401	57	54	111	769
% Passenger Vehicles	94.4	91.0	91.5	94.1	94.2	94.1	86.4	91.5	88.8	92.4
Buses	0	1	1	1	0	1	0	0	0	2
% Buses	0	0.4	0.4	0.3	0	0.2	0	0	0	0.2
Trucks	2	21	23	19	5	24	9	5	14	61
% Trucks	5.6	8.6	8.2	5.6	5.8	5.6	13.6	8.5	11.2	7.3



Rutter's Site C
Thursday 8/9/18

Time	Access #1		Access #2		Total			Peak Hour Total
	Enter	Exit	Enter	Exit	Enter	Exit	Total	
12:00 AM	2	3	2	3	4	6	10	
12:15 AM	1	2	1	1	2	3	5	
12:30 AM	2	2	2	1	4	3	7	
12:45 AM	3	2	3	5	6	7	13	35
1:00 AM	2	3	0	1	2	4	6	31
1:15 AM	2	1	0	0	2	1	3	29
1:30 AM	1	3	3	2	4	5	9	31
1:45 AM	2	2	0	0	2	2	4	22
2:00 AM	1	1	3	3	4	4	8	24
2:15 AM	4	4	0	0	4	4	8	29
2:30 AM	1	1	0	0	1	1	2	22
2:45 AM	1	3	7	3	8	6	14	32
3:00 AM	5	2	4	2	9	4	13	37
3:15 AM	2	5	5	4	7	9	16	45
3:30 AM	5	5	6	4	11	9	20	63
3:45 AM	5	5	4	2	9	7	16	65
4:00 AM	4	5	4	6	8	11	19	71
4:15 AM	9	6	4	3	13	9	22	77
4:30 AM	9	10	5	5	14	15	29	86
4:45 AM	14	9	4	6	18	15	33	103
5:00 AM	13	11	8	4	21	15	36	120
5:15 AM	10	17	5	7	15	24	39	137
5:30 AM	13	11	11	5	24	16	40	148
5:45 AM	17	12	11	13	28	25	53	168
6:00 AM	17	24	23	9	40	33	73	205
6:15 AM	16	22	12	15	28	37	65	231
6:30 AM	20	17	20	11	40	28	68	259
6:45 AM	14	18	12	13	26	31	57	263
7:00 AM	9	20	10	10	19	30	49	239
7:15 AM	9	11	9	7	18	18	36	210
7:30 AM	14	13	18	12	32	25	57	199
7:45 AM	14	11	12	15	26	26	52	194
8:00 AM	8	13	9	7	17	20	37	182
8:15 AM	9	9	9	7	18	16	34	180
8:30 AM	5	6	11	9	16	15	31	154
8:45 AM	10	10	7	6	17	16	33	135
9:00 AM	11	14	6	6	17	20	37	135
9:15 AM	12	18	11	4	23	22	45	146
9:30 AM	10	5	7	13	17	18	35	150
9:45 AM	19	14	13	6	32	20	52	169
10:00 AM	11	16	7	8	18	24	42	174
10:15 AM	17	15	12	12	29	27	56	185
10:30 AM	10	14	10	13	20	27	47	197
10:45 AM	18	17	8	5	26	22	48	193
11:00 AM	13	15	13	6	26	21	47	198
11:15 AM	15	14	16	16	31	30	61	203
11:30 AM	11	17	8	2	19	19	38	194
11:45 AM	17	14	16	11	33	25	58	204

12:00 PM	18	23	13	7	31	30	61	218
12:15 PM	20	26	8	10	28	36	64	221
12:30 PM	14	9	15	11	29	20	49	232
12:45 PM	15	22	16	15	31	37	68	242
1:00 PM	14	14	10	11	24	25	49	230
1:15 PM	15	23	15	14	30	37	67	233
1:30 PM	21	15	18	14	39	29	68	252
1:45 PM	12	16	10	16	22	32	54	238
2:00 PM	7	17	12	6	19	23	42	231
2:15 PM	13	14	10	7	23	21	44	208
2:30 PM	13	14	12	12	25	26	51	191
2:45 PM	13	8	5	11	18	19	37	174
3:00 PM	9	12	10	13	19	25	44	176
3:15 PM	20	17	12	10	32	27	59	191
3:30 PM	20	24	13	7	33	31	64	204
3:45 PM	12	17	18	15	30	32	62	229
4:00 PM	17	14	14	8	31	22	53	238
4:15 PM	12	15	12	13	24	28	52	231
4:30 PM	18	27	10	4	28	31	59	226
4:45 PM	14	13	5	11	19	24	43	207
5:00 PM	16	17	13	11	29	28	57	211
5:15 PM	14	21	17	7	31	28	59	218
5:30 PM	20	17	14	16	34	33	67	226
5:45 PM	12	15	11	10	23	25	48	231
6:00 PM	11	16	14	6	25	22	47	221
6:15 PM	12	13	9	4	21	17	38	200
6:30 PM	12	16	7	7	19	23	42	175
6:45 PM	8	11	8	10	16	21	37	164
7:00 PM	12	15	7	8	19	23	42	159
7:15 PM	8	8	11	6	19	14	33	154
7:30 PM	15	8	8	8	23	16	39	151
7:45 PM	10	13	11	7	21	20	41	155
8:00 PM	16	17	6	8	22	25	47	160
8:15 PM	11	14	13	9	24	23	47	174
8:30 PM	8	7	7	4	15	11	26	161
8:45 PM	12	17	7	7	19	24	43	163
9:00 PM	7	11	9	6	16	17	33	149
9:15 PM	11	11	13	10	24	21	45	147
9:30 PM	8	9	10	10	18	19	37	158
9:45 PM	8	7	10	5	18	12	30	145
10:00 PM	5	11	3	8	8	19	27	139
10:15 PM	4	6	6	7	10	13	23	117
10:30 PM	4	10	5	1	9	11	20	100
10:45 PM	7	7	7	5	14	12	26	96
11:00 PM	3	10	1	6	4	16	20	89
11:15 PM	3	1	2	0	5	1	6	72
11:30 PM	5	6	6	2	11	8	19	71
11:45 PM	7	8	2	4	9	12	21	66
Total	1003	1134	846	710	1849	1844	3693	

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site C Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site C Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 1

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Main Road Eastbound			Main Road Westbound			Commercial Driveway Northbound			Rutter's Driveway # 1 Southbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
00:00	1	0	0	0	2	1	0	0	0	0	0	3	7
00:15	0	5	0	0	4	1	0	0	0	2	0	0	12
00:30	1	3	0	0	3	1	0	0	0	1	0	1	10
00:45	0	3	0	0	3	3	0	0	0	0	0	2	11
Total	2	11	0	0	12	6	0	0	0	3	0	6	40
01:00	1	0	0	0	4	1	0	0	0	0	0	3	9
01:15	2	0	0	0	2	0	0	0	0	1	0	0	5
01:30	0	4	0	0	4	1	0	0	0	1	0	2	12
01:45	1	3	0	0	2	1	0	0	0	1	0	1	9
Total	4	7	0	0	12	3	0	0	0	3	0	6	35
02:00	1	1	0	0	1	0	0	0	0	1	0	0	4
02:15	4	5	0	0	4	0	0	0	0	1	0	3	17
02:30	1	3	0	0	1	0	0	0	0	0	0	1	6
02:45	1	1	0	0	1	0	0	0	0	2	0	1	6
Total	7	10	0	0	7	0	0	0	0	4	0	5	33
03:00	2	5	0	0	6	3	0	0	0	2	0	0	18
03:15	1	0	0	0	1	1	0	0	0	3	0	2	8
03:30	5	8	0	0	1	0	0	0	0	4	0	1	19
03:45	4	8	0	0	1	1	0	0	0	4	0	1	19
Total	12	21	0	0	9	5	0	0	0	13	0	4	64
04:00	3	9	0	0	3	1	0	0	0	4	0	1	21
04:15	8	12	0	0	6	1	0	0	0	5	0	1	33
04:30	3	16	0	0	4	6	0	0	0	8	0	2	39
04:45	9	21	0	0	10	5	0	0	0	6	0	3	54
Total	23	58	0	0	23	13	0	0	0	23	0	7	147
05:00	5	25	0	0	8	8	0	0	0	9	0	2	57
05:15	9	32	0	0	7	1	0	0	0	12	0	5	66
05:30	8	52	0	0	9	5	0	0	0	9	0	2	85
05:45	10	31	0	0	16	7	0	0	0	8	0	4	76
Total	32	140	0	0	40	21	0	0	0	38	0	13	284
06:00	12	39	0	0	11	5	0	0	0	18	0	6	91
06:15	13	54	0	0	29	3	0	0	0	16	0	6	121
06:30	15	45	0	0	36	5	0	0	0	12	0	5	118
06:45	10	68	0	0	35	4	0	0	0	16	0	2	135
Total	50	206	0	0	111	17	0	0	0	62	0	19	465
07:00	8	48	0	0	16	1	0	0	0	16	0	4	93
07:15	1	66	0	0	36	8	0	0	0	6	0	5	122
07:30	8	75	0	1	31	6	0	0	0	11	0	2	134
07:45	8	62	0	0	47	6	0	0	0	5	0	6	134
Total	25	251	0	1	130	21	0	0	0	38	0	17	483
08:00	5	54	0	1	37	3	0	0	0	9	0	4	113
08:15	4	56	0	1	34	5	0	0	1	3	0	6	110
08:30	4	58	1	2	40	1	0	0	0	3	0	3	112
08:45	4	44	1	4	46	6	2	0	3	4	0	6	120
Total	17	212	2	8	157	15	2	0	4	19	0	19	455
09:00	6	38	1	3	31	5	1	0	1	7	0	7	100
09:15	5	50	0	1	41	7	3	0	4	11	1	6	129

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site C Driveway # 1
Day: Thursday
Counter: TRI-STATE

File Name : Site C Driveway # 1
Site Code :
Start Date : 8/9/2018
Page No : 2

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Main Road Eastbound			Main Road Westbound			Commercial Driveway Northbound			Rutter's Driveway # 1 Southbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
09:30	6	60	2	2	46	4	0	0	1	2	0	3	126
09:45	8	57	0	9	45	11	5	0	1	6	2	6	150
Total	25	205	3	15	163	27	9	0	7	26	3	22	505
10:00	3	51	0	2	48	8	3	0	3	6	1	9	134
10:15	8	43	4	0	48	6	4	3	2	7	1	7	133
10:30	5	75	1	1	40	5	0	0	2	7	0	7	143
10:45	11	60	0	3	32	7	0	0	3	10	0	7	133
Total	27	229	5	6	168	26	7	3	10	30	2	30	543
11:00	6	50	3	2	52	5	0	2	1	7	0	8	136
11:15	6	51	2	4	53	8	2	1	2	4	0	10	143
11:30	4	65	1	7	51	7	0	0	3	7	0	10	155
11:45	11	45	7	5	56	6	5	0	5	8	0	6	154
Total	27	211	13	18	212	26	7	3	11	26	0	34	588
12:00	8	58	0	3	56	10	2	0	5	12	2	9	165
12:15	7	50	1	4	65	13	2	0	2	16	0	10	170
12:30	8	52	0	3	47	6	2	0	1	3	0	6	128
12:45	11	51	2	6	46	3	3	1	2	10	0	12	147
Total	34	211	3	16	214	32	9	1	10	41	2	37	610
13:00	10	63	2	0	43	4	1	0	6	10	0	4	143
13:15	9	46	1	5	57	6	0	0	4	10	0	13	151
13:30	9	66	1	3	42	12	0	0	4	5	0	10	152
13:45	8	59	2	2	44	4	2	0	3	8	0	8	140
Total	36	234	6	10	186	26	3	0	17	33	0	35	586
14:00	4	57	1	4	46	3	2	0	2	8	0	9	136
14:15	6	52	3	5	54	7	5	0	2	7	0	7	148
14:30	6	49	2	4	66	6	3	1	4	13	0	1	155
14:45	4	53	0	3	55	9	3	0	5	3	0	5	140
Total	20	211	6	16	221	25	13	1	13	31	0	22	579
15:00	4	48	2	5	65	4	3	1	2	6	0	6	146
15:15	7	45	4	3	62	11	2	2	4	7	0	10	157
15:30	8	72	2	2	72	10	1	2	2	9	2	13	195
15:45	4	47	1	7	65	8	1	0	4	7	0	10	154
Total	23	212	9	17	264	33	7	5	12	29	2	39	652
16:00	14	60	1	5	80	3	4	0	4	8	0	6	185
16:15	3	58	2	5	80	9	1	0	4	9	0	6	177
16:30	6	49	0	2	99	11	2	1	2	15	0	12	199
16:45	6	57	2	3	90	8	1	0	3	5	1	7	183
Total	29	224	5	15	349	31	8	1	13	37	1	31	744
17:00	6	54	0	3	68	10	3	0	3	7	1	9	164
17:15	8	45	0	6	65	6	1	0	5	12	2	7	157
17:30	7	59	2	4	65	13	4	0	4	8	1	8	175
17:45	9	66	0	3	67	3	1	0	2	7	0	8	166
Total	30	224	2	16	265	32	9	0	14	34	4	32	662
18:00	3	55	2	6	62	8	3	0	5	9	0	7	160
18:15	7	46	1	6	47	5	5	0	2	8	0	5	132
18:30	5	40	1	2	58	6	2	1	2	11	0	5	133
18:45	7	39	2	1	42	1	3	0	1	4	1	6	107
Total	22	180	6	15	209	20	13	1	10	32	1	23	532
19:00	3	35	1	4	58	8	1	1	4	6	1	8	130

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site C Driveway # 1
Day: Thursday
Counter: TRI-STATE

File Name : Site C Driveway # 1
Site Code :
Start Date : 8/9/2018
Page No : 3

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Main Road Eastbound			Main Road Westbound			Commercial Driveway Northbound			Rutter's Driveway # 1 Southbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19:15	6	34	2	1	50	2	1	0	3	0	1	7	107
19:30	6	19	4	2	46	9	0	0	3	3	0	5	97
19:45	3	32	0	2	53	4	3	3	1	5	1	7	114
Total	18	120	7	9	207	23	5	4	11	14	3	27	448
20:00	9	45	4	1	56	7	1	0	1	7	0	10	141
20:15	6	26	2	3	58	5	2	0	3	7	0	7	119
20:30	4	17	3	2	32	4	1	0	4	6	0	1	74
20:45	7	18	0	0	26	5	2	0	3	7	1	9	78
Total	26	106	9	6	172	21	6	0	11	27	1	27	412
21:00	4	11	0	1	21	3	0	0	0	4	0	7	51
21:15	5	22	3	0	30	5	1	1	0	5	0	6	78
21:30	4	16	1	3	22	4	1	0	3	6	0	3	63
21:45	1	6	1	0	28	6	2	1	1	1	1	5	53
Total	14	55	5	4	101	18	4	2	4	16	1	21	245
22:00	2	9	0	0	24	3	0	0	0	8	0	3	49
22:15	2	4	1	0	17	2	2	0	0	4	0	2	34
22:30	3	4	0	0	16	1	0	0	0	3	0	7	34
22:45	4	4	0	0	6	3	0	0	0	2	0	5	24
Total	11	21	1	0	63	9	2	0	0	17	0	17	141
23:00	1	5	0	0	6	2	0	0	0	4	0	6	24
23:15	1	3	0	0	15	2	0	0	0	0	0	1	22
23:30	3	6	0	0	10	2	0	0	0	2	0	4	27
23:45	3	1	0	0	7	4	0	0	0	2	0	6	23
Total	8	15	0	0	38	10	0	0	0	8	0	17	96
Grand Total	522	3374	82	172	3333	460	104	21	147	604	20	510	9349
Apprch %	13.1	84.8	2.1	4.3	84.1	11.6	38.2	7.7	54	53.3	1.8	45	
Total %	5.6	36.1	0.9	1.8	35.7	4.9	1.1	0.2	1.6	6.5	0.2	5.5	
Passenger Vehicles	479	3101	81	169	3062	429	103	21	144	503	20	470	8582
% Passenger Vehicles	91.8	91.9	98.8	98.3	91.9	93.3	99	100	98	83.3	100	92.2	91.8
Buses	0	5	0	0	8	0	0	0	0	0	0	0	13
% Buses	0	0.1	0	0	0.2	0	0	0	0	0	0	0	0.1
Trucks	43	268	1	3	263	31	1	0	3	101	0	40	754
% Trucks	8.2	7.9	1.2	1.7	7.9	6.7	1	0	2	16.7	0	7.8	8.1

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site C Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site C Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 1

Groups Printed- Buses - Trucks

Start Time	Main Road Eastbound			Main Road Westbound			Commercial Driveway Northbound			Rutter's Driveway # 1 Southbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
00:00	0	0	0	0	0	0	0	0	0	0	0	1	1
00:15	0	0	0	0	0	0	0	0	0	1	0	0	1
00:30	0	0	0	0	1	0	0	0	0	1	0	0	2
00:45	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	1	0	0	0	0	2	0	2	5
01:45	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	1	0	0	2
02:15	0	2	0	0	0	0	0	0	0	1	0	0	3
02:30	0	0	0	0	1	0	0	0	0	0	0	0	1
02:45	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	3	0	0	1	0	0	0	0	2	0	0	7
03:00	1	0	0	0	1	1	0	0	0	2	0	0	5
03:15	0	0	0	0	1	0	0	0	0	0	0	0	1
03:30	0	1	0	0	1	0	0	0	0	1	0	0	3
03:45	1	1	0	0	0	1	0	0	0	1	0	0	4
Total	2	2	0	0	3	2	0	0	0	4	0	0	13
04:00	0	1	0	0	1	0	0	0	0	1	0	0	3
04:15	1	2	0	0	2	0	0	0	0	1	0	0	6
04:30	0	1	0	0	1	1	0	0	0	1	0	0	4
04:45	0	2	0	0	2	0	0	0	0	0	0	0	4
Total	1	6	0	0	6	1	0	0	0	3	0	0	17
05:00	0	2	0	0	1	0	0	0	0	0	0	1	4
05:15	0	4	0	0	3	0	0	0	0	0	0	0	7
05:30	0	1	0	0	2	0	0	0	0	0	0	0	3
05:45	0	2	0	0	2	0	0	0	0	1	0	0	5
Total	0	9	0	0	8	0	0	0	0	1	0	1	19
06:00	2	4	0	0	1	1	0	0	0	8	0	0	16
06:15	0	6	0	0	7	0	0	0	0	1	0	1	15
06:30	2	1	0	0	10	1	0	0	0	3	0	0	17
06:45	1	7	0	0	6	0	0	0	0	3	0	0	17
Total	5	18	0	0	24	2	0	0	0	15	0	1	65
07:00	1	4	0	0	0	0	0	0	0	5	0	1	11
07:15	0	3	0	0	8	1	0	0	0	2	0	0	14
07:30	1	9	0	0	4	2	0	0	0	3	0	1	20
07:45	1	4	0	0	7	0	0	0	0	1	0	1	14
Total	3	20	0	0	19	3	0	0	0	11	0	3	59
08:00	0	3	0	0	5	1	0	0	0	3	0	1	13
08:15	0	6	0	0	7	2	0	0	0	1	0	1	17
08:30	2	4	0	0	3	0	0	0	0	1	0	1	11
08:45	1	0	0	0	5	0	0	0	0	0	0	3	9
Total	3	13	0	0	20	3	0	0	0	5	0	6	50
09:00	0	5	0	0	2	1	0	0	0	2	0	1	11
09:15	2	3	0	0	7	1	0	0	0	3	0	0	16
09:30	1	2	0	0	7	1	0	0	0	0	0	0	11
09:45	1	4	0	0	5	3	0	0	0	1	0	0	14
Total	4	14	0	0	21	6	0	0	0	6	0	1	52

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site C Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site C Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 2

Groups Printed- Buses - Trucks

Start Time	Main Road Eastbound			Main Road Westbound			Commercial Driveway Northbound			Rutter's Driveway # 1 Southbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10:00	1	6	0	0	6	0	0	0	0	1	0	1	15
10:15	1	3	0	0	6	0	0	0	0	3	0	3	16
10:30	0	9	0	0	7	0	0	0	0	0	0	0	16
10:45	3	12	0	0	5	1	0	0	0	2	0	0	23
Total	5	30	0	0	24	1	0	0	0	6	0	4	70
11:00	0	7	1	0	6	1	0	0	0	0	0	2	17
11:15	3	3	0	0	8	0	0	0	0	0	0	1	15
11:30	0	9	0	2	6	0	0	0	0	4	0	2	23
11:45	1	9	0	0	11	1	0	0	1	4	0	0	27
Total	4	28	1	2	31	2	0	0	1	8	0	5	82
12:00	1	5	0	0	5	2	0	0	0	1	0	4	18
12:15	1	2	0	0	10	0	1	0	0	2	0	2	18
12:30	1	10	0	0	4	0	0	0	0	1	0	0	16
12:45	3	9	0	0	3	0	0	0	0	3	0	1	19
Total	6	26	0	0	22	2	1	0	0	7	0	7	71
13:00	1	11	0	0	3	0	0	0	1	1	0	1	18
13:15	2	7	0	0	6	0	0	0	0	3	0	0	18
13:30	2	10	0	0	3	1	0	0	0	1	0	1	18
13:45	0	4	0	0	7	0	0	0	0	1	0	0	12
Total	5	32	0	0	19	1	0	0	1	6	0	2	66
14:00	0	3	0	0	5	0	0	0	0	0	0	1	9
14:15	0	4	0	0	4	0	0	0	0	1	0	1	10
14:30	0	5	0	0	8	0	0	0	0	1	0	0	14
14:45	0	9	0	0	1	0	0	0	0	2	0	0	12
Total	0	21	0	0	18	0	0	0	0	4	0	2	45
15:00	0	4	0	0	4	0	0	0	0	0	0	0	8
15:15	0	4	0	0	3	0	0	0	0	1	0	0	8
15:30	1	3	0	0	5	1	0	0	0	2	0	1	13
15:45	0	7	0	1	7	1	0	0	1	2	0	1	20
Total	1	18	0	1	19	2	0	0	1	5	0	2	49
16:00	1	4	0	0	2	1	0	0	0	0	0	0	8
16:15	0	3	0	0	3	0	0	0	0	0	0	0	6
16:30	0	1	0	0	3	2	0	0	0	3	0	0	9
16:45	0	2	0	0	0	0	0	0	0	0	0	2	4
Total	1	10	0	0	8	3	0	0	0	3	0	2	27
17:00	0	1	0	0	2	0	0	0	0	0	0	0	3
17:15	0	1	0	0	1	0	0	0	0	1	0	0	3
17:30	1	3	0	0	1	0	0	0	0	0	0	0	5
17:45	0	1	0	0	1	0	0	0	0	0	0	0	2
Total	1	6	0	0	5	0	0	0	0	1	0	0	13
18:00	0	0	0	0	2	0	0	0	0	0	0	0	2
18:15	0	1	0	0	2	0	0	0	0	1	0	0	4
18:30	0	2	0	0	1	0	0	0	0	1	0	0	4
18:45	0	2	0	0	1	0	0	0	0	1	0	0	4
Total	0	5	0	0	6	0	0	0	0	3	0	0	14
19:00	0	1	0	0	3	0	0	0	0	1	0	0	5
19:15	0	0	0	0	2	1	0	0	0	0	0	0	3
19:30	0	1	0	0	0	0	0	0	0	0	0	0	1
19:45	0	2	0	0	4	0	0	0	0	2	0	1	9
Total	0	4	0	0	9	1	0	0	0	3	0	1	18

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site C Driveway # 1
Day: Thursday
Counter: TRI-STATE

File Name : Site C Driveway # 1
Site Code :
Start Date : 8/9/2018
Page No : 3

Groups Printed- Buses - Trucks

Start Time	Main Road Eastbound			Main Road Westbound			Commercial Driveway Northbound			Rutter's Driveway # 1 Southbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20:00	0	1	0	0	0	0	0	0	0	1	0	0	2
20:15	0	1	0	0	2	0	0	0	0	0	0	0	3
20:30	0	1	0	0	1	0	0	0	0	0	0	0	2
20:45	1	2	0	0	0	0	0	0	0	1	0	0	4
Total	1	5	0	0	3	0	0	0	0	2	0	0	11
21:00	0	0	0	0	0	0	0	0	0	1	0	0	1
21:15	0	0	0	0	1	1	0	0	0	0	0	0	2
21:30	0	0	0	0	0	0	0	0	0	2	0	0	2
21:45	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	0	0	0	0	3	1	0	0	0	3	0	0	7
22:15	0	2	0	0	1	0	0	0	0	0	0	1	4
22:45	0	0	0	0	0	1	0	0	0	1	0	0	2
Total	0	2	0	0	1	1	0	0	0	1	0	1	6
Grand Total	43	273	1	3	271	31	1	0	3	101	0	40	767
Apprch %	13.6	86.1	0.3	1	88.9	10.2	25	0	75	71.6	0	28.4	
Total %	5.6	35.6	0.1	0.4	35.3	4	0.1	0	0.4	13.2	0	5.2	
Buses	0	5	0	0	8	0	0	0	0	0	0	0	13
% Buses	0	1.8	0	0	3	0	0	0	0	0	0	0	1.7
Trucks	43	268	1	3	263	31	1	0	3	101	0	40	754
% Trucks	100	98.2	100	100	97	100	100	0	100	100	0	100	98.3

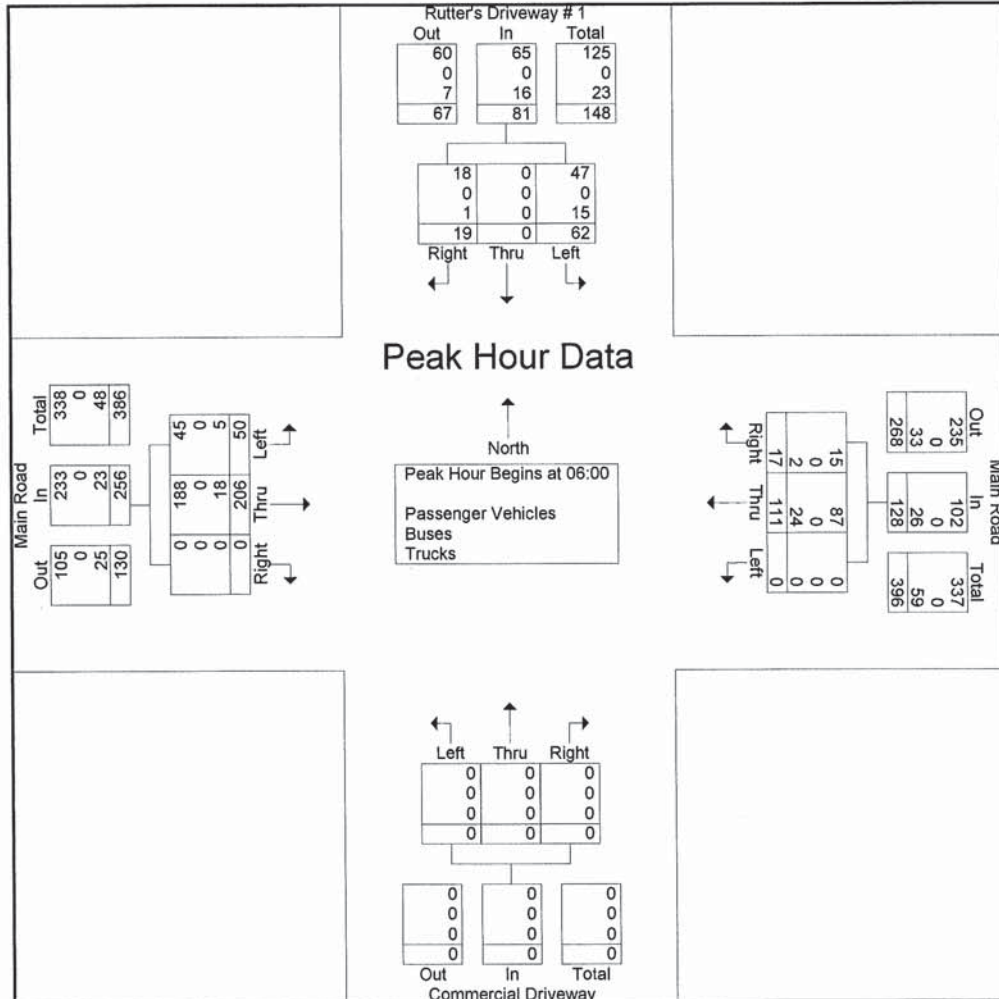
TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site C Driveway # 1
Day: Thursday
Counter: TRI-STATE

File Name : Site C Driveway # 1
Site Code :
Start Date : 8/9/2018
Page No : 4

Start Time	Main Road Eastbound				Main Road Westbound				Commercial Driveway Northbound				Rutter's Driveway # 1 Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 06:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00																	
06:00	12	39	0	51	0	11	5	16	0	0	0	0	18	0	6	24	91
06:15	13	54	0	67	0	29	3	32	0	0	0	0	16	0	6	22	121
06:30	15	45	0	60	0	36	5	41	0	0	0	0	12	0	5	17	118
06:45	10	68	0	78	0	35	4	39	0	0	0	0	16	0	2	18	135
Total Volume	50	206	0	256	0	111	17	128	0	0	0	0	62	0	19	81	465
% App. Total	19.5	80.5	0		0	86.7	13.3		0	0	0		76.5	0	23.5		
PHF	.833	.757	.000	.821	.000	.771	.850	.780	.000	.000	.000	.000	.861	.000	.792	.844	.861
Passenger Vehicles	45	188	0	233	0	87	15	102	0	0	0	0	47	0	18	65	400
% Passenger Vehicles																	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	5	18	0	23	0	24	2	26	0	0	0	0	15	0	1	16	65
% Trucks	10.0	8.7	0	9.0	0	21.6	11.8	20.3	0	0	0	0	24.2	0	5.3	19.8	14.0



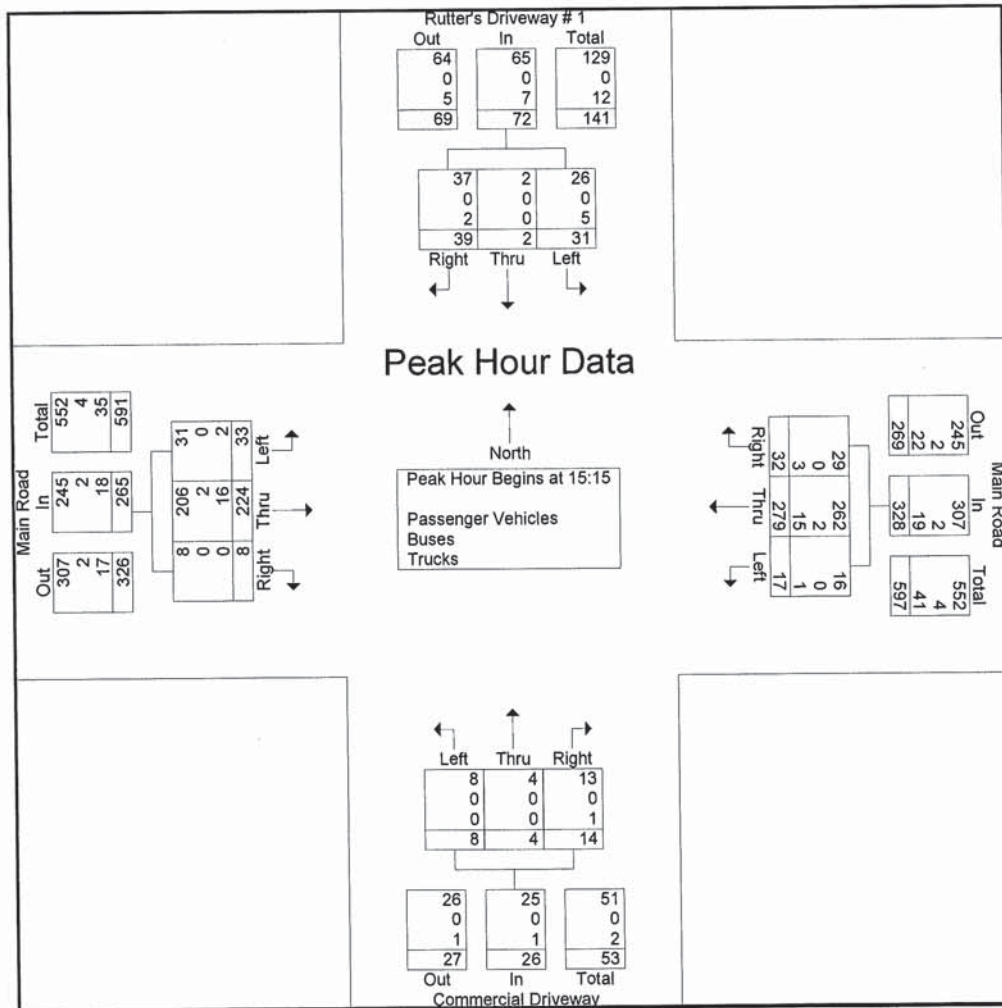
TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site C Driveway # 1
 Day: Thursday
 Counter: TRI-STATE

File Name : Site C Driveway # 1
 Site Code :
 Start Date : 8/9/2018
 Page No : 5

Start Time	Main Road Eastbound				Main Road Westbound				Commercial Driveway Northbound				Rutter's Driveway # 1 Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 15:15 to 16:00 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 15:15																	
15:15	7	45	4	56	3	62	11	76	2	2	4	8	7	0	10	17	157
15:30	8	72	2	82	2	72	10	84	1	2	2	5	9	2	13	24	195
15:45	4	47	1	52	7	65	8	80	1	0	4	5	7	0	10	17	154
16:00	14	60	1	75	5	80	3	88	4	0	4	8	8	0	6	14	185
Total Volume	33	224	8	265	17	279	32	328	8	4	14	26	31	2	39	72	691
% App. Total	12.5	84.5	3		5.2	85.1	9.8		30.8	15.4	53.8		43.1	2.8	54.2		
PHF	.589	.778	.500	.808	.607	.872	.727	.932	.500	.500	.875	.813	.861	.250	.750	.750	.886
Passenger Vehicles	31	206	8	245	16	262	29	307	8	4	13	25	26	2	37	65	642
% Passenger Vehicles																	
Buses	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
% Buses	0	0.9	0	0.8	0	0.7	0	0.6	0	0	0	0	0	0	0	0	0.6
Trucks	2	16	0	18	1	15	3	19	0	0	1	1	5	0	2	7	45
% Trucks	6.1	7.1	0	6.8	5.9	5.4	9.4	5.8	0	0	7.1	3.8	16.1	0	5.1	9.7	6.5



TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site C Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site C Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 1

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Rutter's Driveway # 2 Eastbound		Minor Road Northbound		Minor Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
00:00	1	2	2	3	0	0	8
00:15	1	0	1	3	2	0	7
00:30	1	0	2	3	3	0	9
00:45	2	3	2	4	2	1	14
Total	5	5	7	13	7	1	38
01:00	0	1	0	2	0	0	3
01:15	0	0	0	0	1	0	1
01:30	1	1	2	5	1	1	11
01:45	0	0	0	2	1	0	3
Total	1	2	2	9	3	1	18
02:00	0	3	2	1	1	1	8
02:15	0	0	0	2	0	0	2
02:30	0	0	0	4	0	0	4
02:45	1	2	1	0	1	6	11
Total	1	5	3	7	2	7	25
03:00	0	2	2	9	3	2	18
03:15	3	1	3	4	2	2	15
03:30	1	3	2	3	3	4	16
03:45	1	1	2	4	2	2	12
Total	5	7	9	20	10	10	61
04:00	1	5	2	6	3	2	19
04:15	0	3	2	8	5	2	20
04:30	1	4	1	3	15	4	28
04:45	2	4	1	4	18	3	32
Total	4	16	6	21	41	11	99
05:00	1	3	4	5	16	4	33
05:15	0	7	2	5	9	3	26
05:30	0	5	7	15	27	4	58
05:45	5	8	3	10	29	8	63
Total	6	23	16	35	81	19	180
06:00	4	5	17	10	18	6	60
06:15	2	13	5	13	33	7	73
06:30	6	5	15	18	31	5	80
06:45	2	11	7	26	26	5	77
Total	14	34	44	67	108	23	290
07:00	3	7	8	21	25	2	66
07:15	3	4	5	25	18	4	59
07:30	5	7	10	31	31	8	92
07:45	6	9	8	41	23	4	91
Total	17	27	31	118	97	18	308
08:00	2	5	5	26	36	4	78
08:15	4	3	6	34	34	3	84
08:30	1	8	5	37	34	6	91
08:45	1	5	4	41	30	3	84
Total	8	21	20	138	134	16	337
09:00	2	4	4	29	35	2	76
09:15	1	3	8	31	29	3	75

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site C Driveway # 2
Day: Thursday
Counter: TRI-STATE

File Name : Site C Driveway # 2
Site Code :
Start Date : 8/9/2018
Page No : 2

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Rutter's Driveway # 2 Eastbound		Minor Road Northbound		Minor Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
09:30	6	7	5	33	33	2	86
09:45	2	4	7	29	45	6	93
Total	11	18	24	122	142	13	330
10:00	3	5	2	32	39	5	86
10:15	6	6	9	35	28	3	87
10:30	7	6	5	45	36	5	104
10:45	1	4	1	44	30	7	87
Total	17	21	17	156	133	20	364
11:00	3	3	4	47	31	9	97
11:15	5	11	9	43	43	7	118
11:30	1	1	7	39	46	1	95
11:45	7	4	10	37	35	6	99
Total	16	19	30	166	155	23	409
12:00	0	7	8	37	60	5	117
12:15	6	4	7	40	47	1	105
12:30	4	7	10	36	35	5	97
12:45	6	9	9	41	54	7	126
Total	16	27	34	154	196	18	445
13:00	1	10	6	34	37	4	92
13:15	7	7	8	36	36	7	101
13:30	6	8	11	50	40	7	122
13:45	3	13	4	44	43	6	113
Total	17	38	29	164	156	24	428
14:00	5	1	9	49	40	3	107
14:15	5	2	6	46	49	4	112
14:30	5	7	6	35	53	6	112
14:45	1	10	4	49	41	1	106
Total	16	20	25	179	183	14	437
15:00	9	4	4	38	39	6	100
15:15	4	6	7	53	56	5	131
15:30	3	4	8	60	50	5	130
15:45	3	12	14	36	46	4	115
Total	19	26	33	187	191	20	476
16:00	4	4	7	47	61	7	130
16:15	6	7	7	72	49	5	146
16:30	2	2	7	84	58	3	156
16:45	4	7	5	55	56	0	127
Total	16	20	26	258	224	15	559
17:00	6	5	9	70	60	4	154
17:15	1	6	8	51	53	9	128
17:30	5	11	8	59	46	6	135
17:45	0	10	7	48	35	4	104
Total	12	32	32	228	194	23	521
18:00	5	1	8	57	53	6	130
18:15	1	3	4	35	54	5	102
18:30	2	5	3	44	38	4	96
18:45	6	4	5	42	33	3	93
Total	14	13	20	178	178	18	421
19:00	5	3	5	32	34	2	81

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site C Driveway # 2
Day: Thursday
Counter: TRI-STATE

File Name : Site C Driveway # 2
Site Code :
Start Date : 8/9/2018
Page No : 3

Groups Printed- Passenger Vehicles - Buses - Trucks

Start Time	Rutter's Driveway # 2 Eastbound		Minor Road Northbound		Minor Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
19:15	4	2	8	38	33	3	88
19:30	2	6	6	36	29	2	81
19:45	2	5	4	24	33	7	75
Total	13	16	23	130	129	14	325
20:00	5	3	2	47	41	4	102
20:15	4	5	7	26	33	6	81
20:30	2	2	1	21	23	6	55
20:45	2	5	3	26	21	4	61
Total	13	15	13	120	118	20	299
21:00	2	4	1	20	24	8	59
21:15	5	5	8	17	16	5	56
21:30	4	6	6	21	17	4	58
21:45	5	0	6	9	10	4	34
Total	16	15	21	67	67	21	207
22:00	5	3	1	9	9	2	29
22:15	2	5	4	3	8	2	24
22:30	1	0	1	6	6	4	18
22:45	4	1	3	6	4	4	22
Total	12	9	9	24	27	12	93
23:00	3	3	0	6	8	1	21
23:15	0	0	2	2	8	0	12
23:30	1	1	3	5	3	3	16
23:45	1	3	0	4	3	2	13
Total	5	7	5	17	22	6	62
Grand Total	274	436	479	2578	2598	367	6732
Apprch %	38.6	61.4	15.7	84.3	87.6	12.4	
Total %	4.1	6.5	7.1	38.3	38.6	5.5	
Passenger Vehicles	262	409	390	2459	2488	343	6351
% Passenger Vehicles	95.6	93.8	81.4	95.4	95.8	93.5	94.3
Buses	0	0	0	1	1	0	2
% Buses	0	0	0	0	0	0	0
Trucks	12	27	89	118	109	24	379
% Trucks	4.4	6.2	18.6	4.6	4.2	6.5	5.6

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site C Driveway # 2

Day: Thursday

Counter: TRI-STATE

File Name : Site C Driveway # 2

Site Code :

Start Date : 8/9/2018

Page No : 1

Groups Printed- Buses - Trucks

Start Time	Rutter's Driveway # 2 Eastbound		Minor Road Northbound		Minor Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
00:00	0	0	1	0	0	0	1
00:15	0	0	1	0	0	0	1
00:30	0	0	1	0	2	0	3
00:45	0	0	0	1	1	0	2
Total	0	0	3	1	3	0	7
01:00	0	0	0	1	0	0	1
01:30	0	0	0	1	0	0	1
01:45	0	0	0	0	1	0	1
Total	0	0	0	2	1	0	3
02:00	0	0	1	1	1	1	4
02:15	0	0	0	1	0	0	1
02:30	0	0	0	1	0	0	1
02:45	0	1	1	0	1	1	4
Total	0	1	2	3	2	2	10
03:00	0	2	0	0	0	1	3
03:15	0	0	1	0	1	0	2
03:30	0	0	0	1	0	1	2
03:45	0	0	1	0	0	0	1
Total	0	2	2	1	1	2	8
04:00	0	1	0	2	1	0	4
04:15	0	0	2	1	0	0	3
04:30	0	1	0	2	2	0	5
04:45	0	0	0	0	1	0	1
Total	0	2	2	5	4	0	13
05:00	0	0	0	1	2	0	3
05:15	0	0	0	1	0	0	1
05:30	0	0	2	0	1	1	4
Total	0	0	2	2	3	1	8
06:00	0	0	7	0	1	0	8
06:15	0	1	0	0	1	1	3
06:30	1	0	4	0	2	0	7
06:45	0	3	2	1	1	0	7
Total	1	4	13	1	5	1	25
07:00	0	0	2	0	1	0	3
07:15	1	0	2	1	2	1	7
07:30	1	0	1	2	4	1	9
07:45	0	0	0	1	1	0	2
Total	2	0	5	4	8	2	21
08:00	0	0	0	3	1	0	4
08:15	0	0	2	2	4	0	8
08:30	0	1	1	1	4	2	9
08:45	0	1	2	0	3	1	7
Total	0	2	5	6	12	3	28
09:00	0	1	0	2	1	2	6
09:15	0	1	2	0	2	0	5

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
York, PA, 17401
(717)846-4660

Location: Rutter's Site C Driveway # 2
Day: Thursday
Counter: TRI-STATE

File Name : Site C Driveway # 2
Site Code :
Start Date : 8/9/2018
Page No : 2

Groups Printed- Buses - Trucks

Start Time	Rutter's Driveway # 2 Eastbound		Minor Road Northbound		Minor Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
09:30	1	1	3	2	3	0	10
09:45	1	1	0	4	2	0	8
Total	2	4	5	8	8	2	29
10:00	0	1	1	3	2	0	7
10:15	0	0	0	1	0	1	2
10:30	0	0	1	3	5	0	9
10:45	0	1	1	2	0	1	5
Total	0	2	3	9	7	2	23
11:00	0	0	1	4	3	2	10
11:15	1	3	2	1	4	0	11
11:30	0	0	1	6	2	0	9
11:45	0	1	4	3	2	0	10
Total	1	4	8	14	11	2	40
12:00	0	0	2	0	5	0	7
12:15	1	0	2	1	3	0	7
12:30	0	1	5	1	0	0	7
12:45	0	0	0	3	1	1	5
Total	1	1	9	5	9	1	26
13:00	0	1	0	2	0	0	3
13:15	1	0	2	4	4	0	11
13:30	0	1	0	4	2	0	7
13:45	0	1	1	1	0	0	3
Total	1	3	3	11	6	0	24
14:00	0	0	3	0	2	0	5
14:15	1	0	1	7	2	0	11
14:30	0	0	0	2	3	0	5
14:45	0	0	0	6	0	0	6
Total	1	0	4	15	7	0	27
15:00	0	0	1	1	1	0	3
15:15	1	0	1	0	3	1	6
15:30	0	0	2	0	0	0	2
15:45	0	1	1	2	2	0	6
Total	1	1	5	3	6	1	17
16:00	0	0	0	1	0	0	1
16:15	0	0	1	4	1	0	6
16:30	0	0	1	0	1	0	2
16:45	1	0	1	1	1	0	4
Total	1	0	3	6	3	0	13
17:00	0	0	0	2	1	0	3
17:15	0	0	2	1	1	0	4
17:30	0	0	1	1	1	0	3
17:45	0	0	0	1	0	0	1
Total	0	0	3	5	3	0	11
18:15	0	0	1	1	1	0	3
18:30	0	0	1	3	2	0	6
18:45	0	0	1	1	2	0	4
Total	0	0	3	5	5	0	13
19:00	0	0	0	1	0	0	1

TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site C Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site C Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 3

Groups Printed- Buses - Trucks

Start Time	Rutter's Driveway # 2 Eastbound		Minor Road Northbound		Minor Road Southbound		Int. Total
	Left	Right	Left	Thru	Thru	Right	
19:15	0	0	0	2	0	0	2
19:30	0	0	1	0	0	1	2
19:45	0	0	2	0	0	0	2
Total	0	0	3	3	0	1	7
20:00	0	0	0	3	0	0	3
20:15	0	0	2	1	2	0	5
20:30	0	0	0	0	1	1	2
20:45	0	0	0	1	0	1	2
Total	0	0	2	5	3	2	12
21:00	0	1	0	1	1	0	3
21:30	0	0	1	0	0	0	1
21:45	0	0	0	1	0	0	1
Total	0	1	1	2	1	0	5
22:00	0	0	1	0	0	0	1
22:15	0	0	0	0	1	0	1
22:30	0	0	1	1	0	1	3
Total	0	0	2	1	1	1	5
23:00	0	0	0	1	0	0	1
23:15	0	0	0	1	0	0	1
23:30	0	0	1	0	1	0	2
23:45	1	0	0	0	0	1	2
Total	1	0	1	2	1	1	6
Grand Total	12	27	89	119	110	24	381
Apprch %	30.8	69.2	42.8	57.2	82.1	17.9	
Total %	3.1	7.1	23.4	31.2	28.9	6.3	
Buses	0	0	0	1	1	0	2
% Buses	0	0	0	0.8	0.9	0	0.5
Trucks	12	27	89	118	109	24	379
% Trucks	100	100	100	99.2	99.1	100	99.5

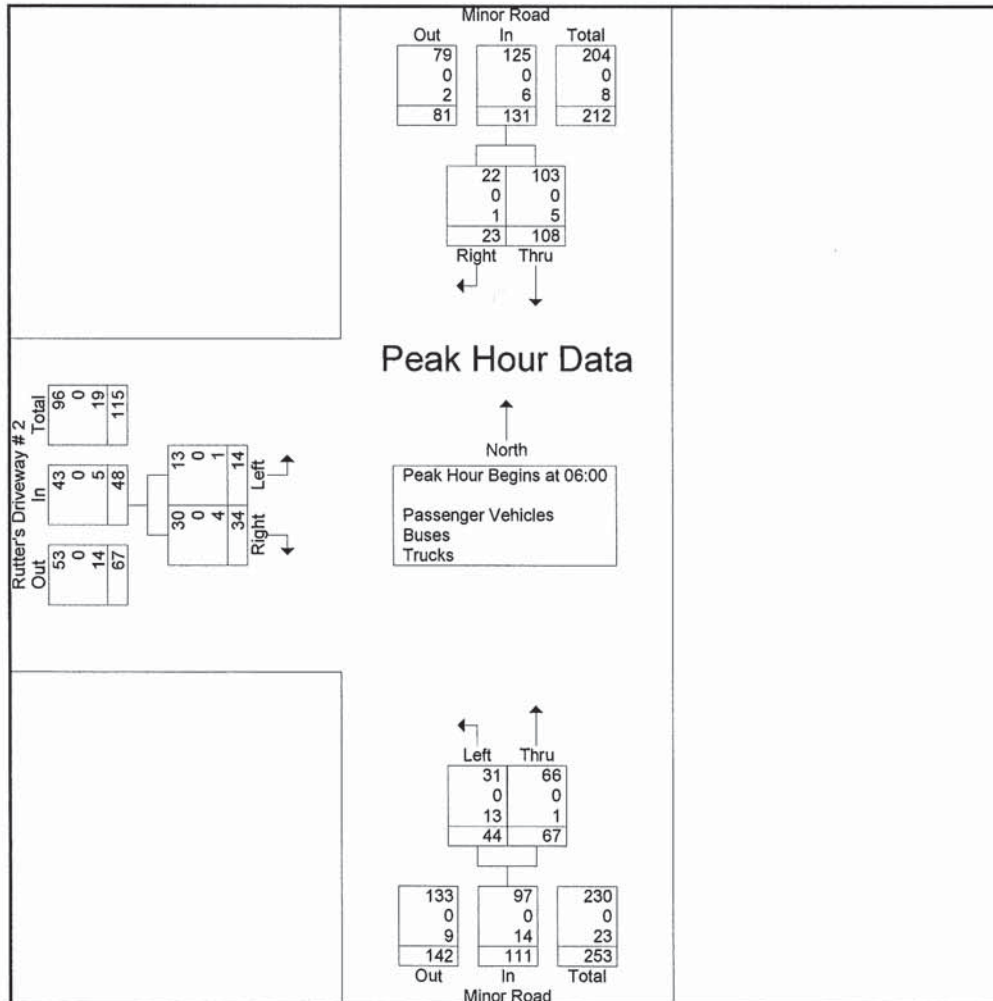
TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site C Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site C Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 4

Start Time	Rutter's Driveway # 2 Eastbound			Minor Road Northbound			Minor Road Southbound			Int. Total
	Left	Right	App. Total	Left	Thru	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 06:45 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 06:00										
06:00	4	5	9	17	10	27	18	6	24	60
06:15	2	13	15	5	13	18	33	7	40	73
06:30	6	5	11	15	18	33	31	5	36	80
06:45	2	11	13	7	26	33	26	5	31	77
Total Volume	14	34	48	44	67	111	108	23	131	290
% App. Total	29.2	70.8		39.6	60.4		82.4	17.6		
PHF	.583	.654	.800	.647	.644	.841	.818	.821	.819	.906
Passenger Vehicles	13	30	43	31	66	97	103	22	125	265
% Passenger Vehicles	92.9	88.2	89.6	70.5	98.5	87.4	95.4	95.7	95.4	91.4
Buses	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0
Trucks	1	4	5	13	1	14	5	1	6	25
% Trucks	7.1	11.8	10.4	29.5	1.5	12.6	4.6	4.3	4.6	8.6



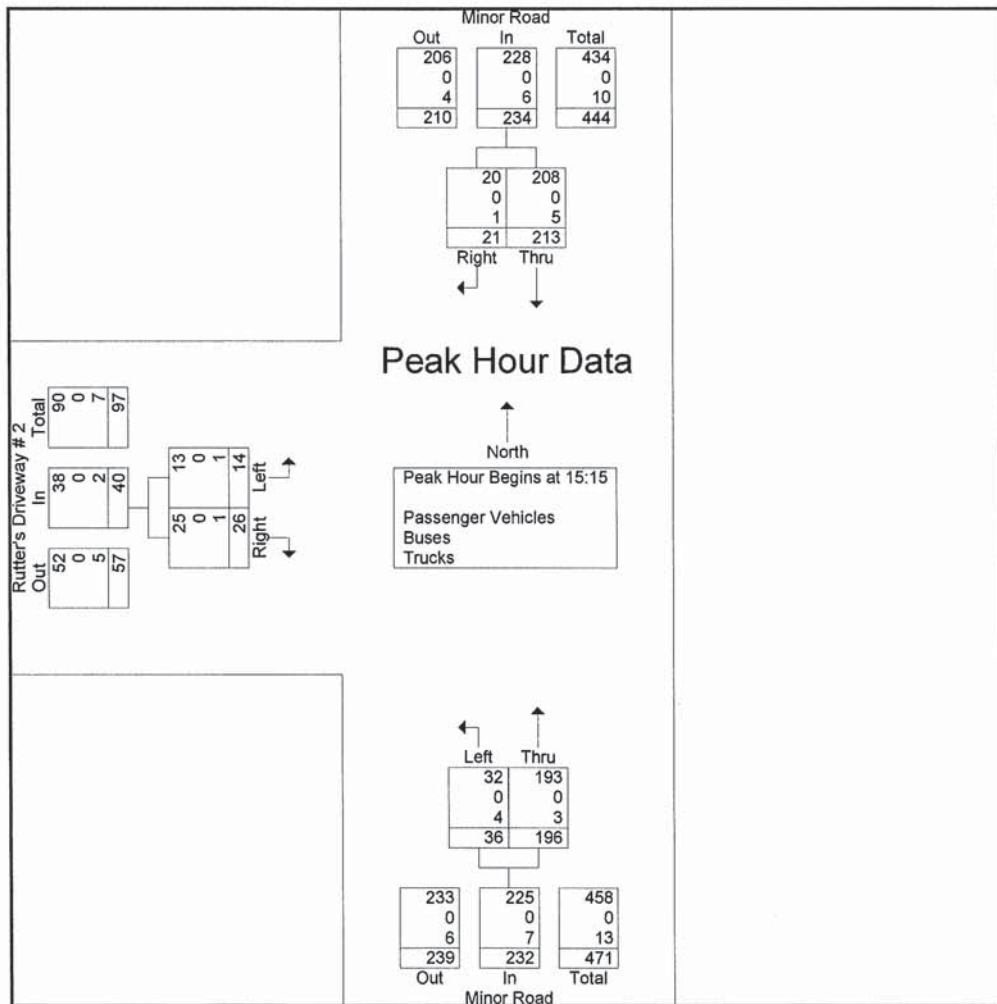
TRANSPORTATION RESOURCE GROUP, INC.

2 East Market Street Suite 2
 York, PA, 17401
 (717)846-4660

Location: Rutter's Site C Driveway # 2
 Day: Thursday
 Counter: TRI-STATE

File Name : Site C Driveway # 2
 Site Code :
 Start Date : 8/9/2018
 Page No : 5

Start Time	Rutter's Driveway # 2 Eastbound			Minor Road Northbound			Minor Road Southbound			Int. Total
	Left	Right	App. Total	Left	Thru	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 15:15 to 16:00 - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 15:15										
15:15	4	6	10	7	53	60	56	5	61	131
15:30	3	4	7	8	60	68	50	5	55	130
15:45	3	12	15	14	36	50	46	4	50	115
16:00	4	4	8	7	47	54	61	7	68	130
Total Volume	14	26	40	36	196	232	213	21	234	506
% App. Total	35	65		15.5	84.5		91	9		
PHF	.875	.542	.667	.643	.817	.853	.873	.750	.860	.966
Passenger Vehicles	13	25	38	32	193	225	208	20	228	491
% Passenger Vehicles	92.9	96.2	95.0	88.9	98.5	97.0	97.7	95.2	97.4	97.0
Buses	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0
Trucks	1	1	2	4	3	7	5	1	6	15
% Trucks	7.1	3.8	5.0	11.1	1.5	3.0	2.3	4.8	2.6	3.0



APPENDIX B

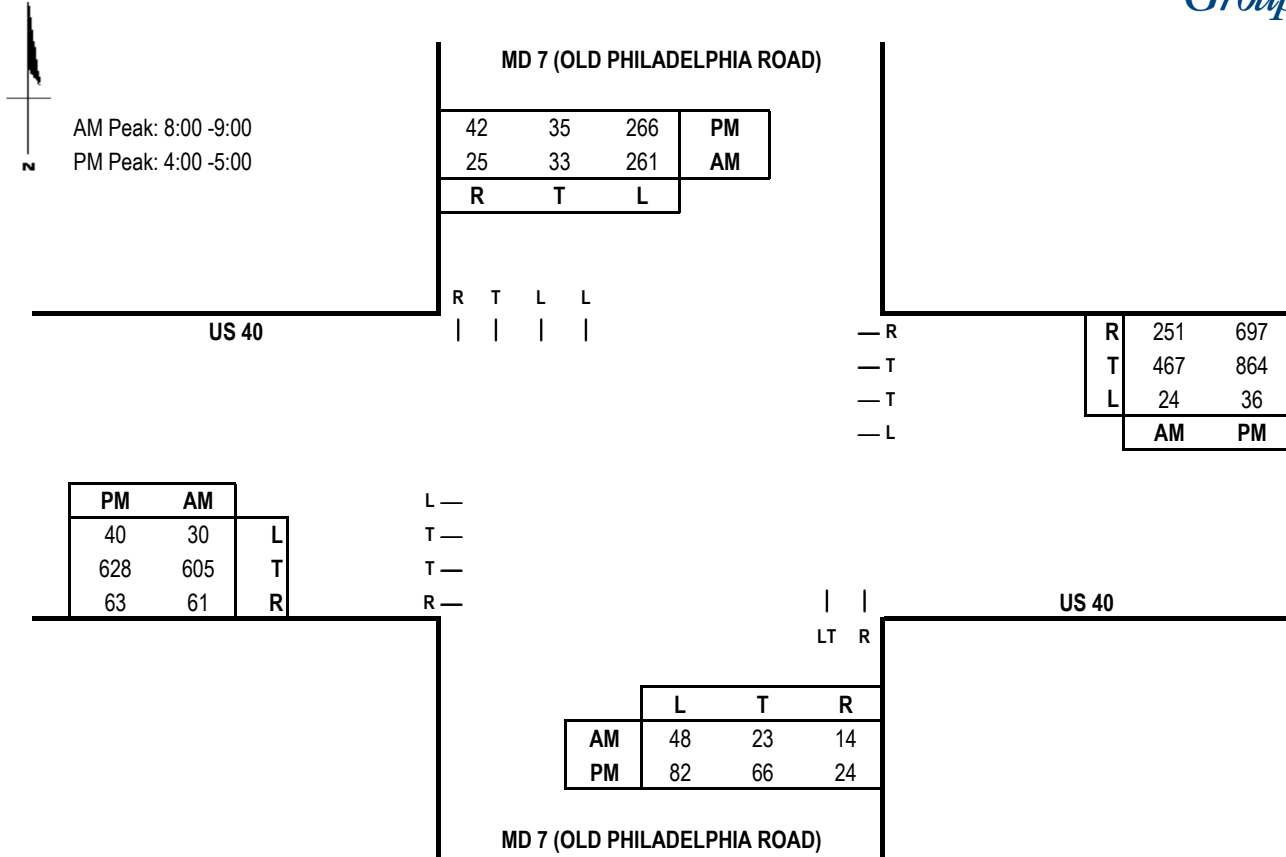
Intersection Capacity Analysis Worksheets



CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: US 40
N/S Road: MD 7 (Old Philadelphia Road)
Conditions: Existing Traffic

Date of Count: 11/19/2020
Day of Count: Thursday
Analyst: Qiang Tian



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	71	1.00	71				71
SB	261	0.60	157				157
EB	605	0.55	333	24	1.00	24	357
WB	467	0.55	257	30	1.00	30	
CLV TOTAL=							585
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	148	1.00	148				148
SB	266	0.60	160				160
EB	628	0.55	345	36	1.00	36	577
WB	537	1.00	537	40	1.00	40	
CLV TOTAL=							885
Level of Service (LOS)=							A

Scenario ID - EXIST1

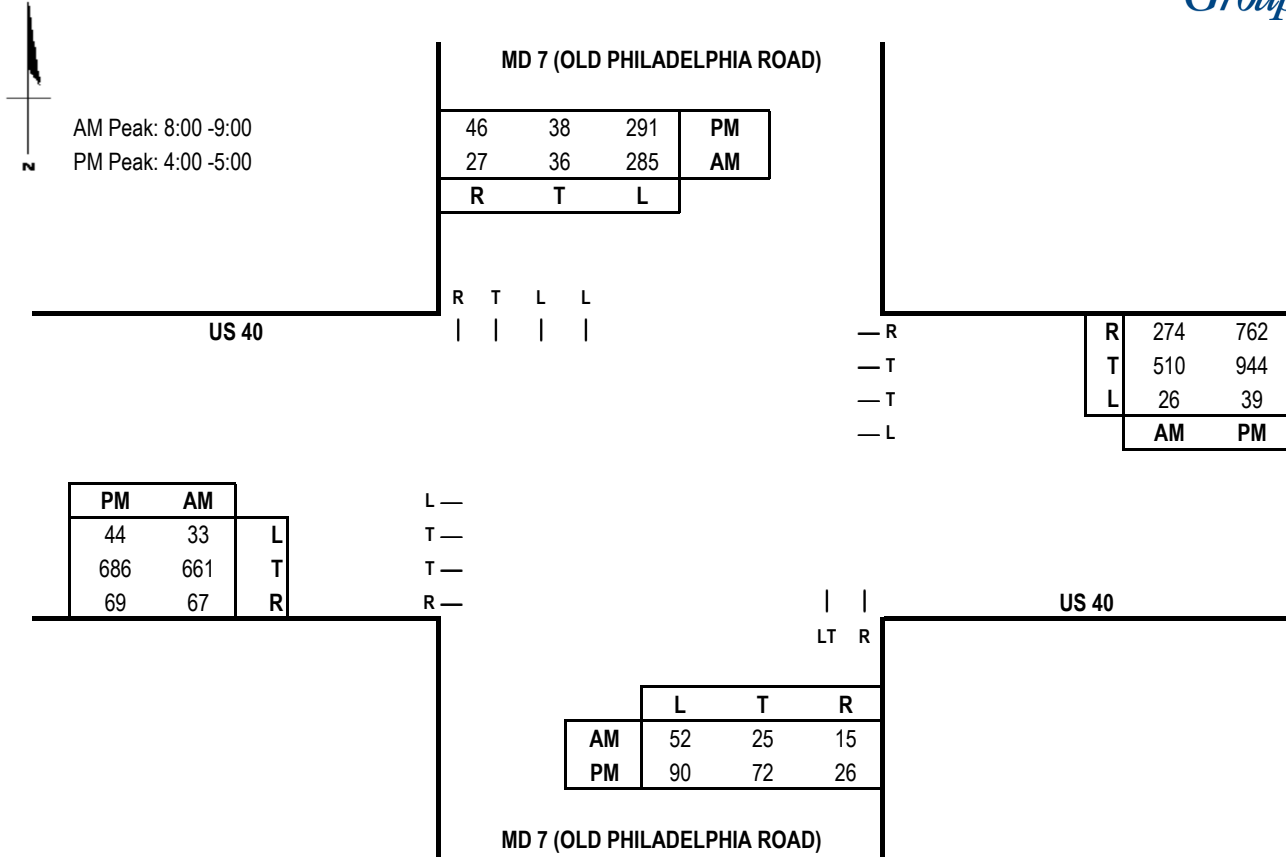
AM V/C = 0.37

PM V/C = 0.55

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: US 40
N/S Road: MD 7 (Old Philadelphia Road)
Conditions: Background Traffic

Date of Count: 11/19/2020
Day of Count: Thursday
Analyst: Qiang Tian



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	77	1.00	77				77
SB	285	0.60	171				171
EB	661	0.55	364	26	1.00	26	390
WB	510	0.55	281	33	1.00	33	
CLV TOTAL=							638
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	162	1.00	162				162
SB	291	0.60	175				175
EB	686	0.55	377	39	1.00	39	631
WB	587	1.00	587	44	1.00	44	
CLV TOTAL=							968
Level of Service (LOS)=							A

Scenario ID - BACK1

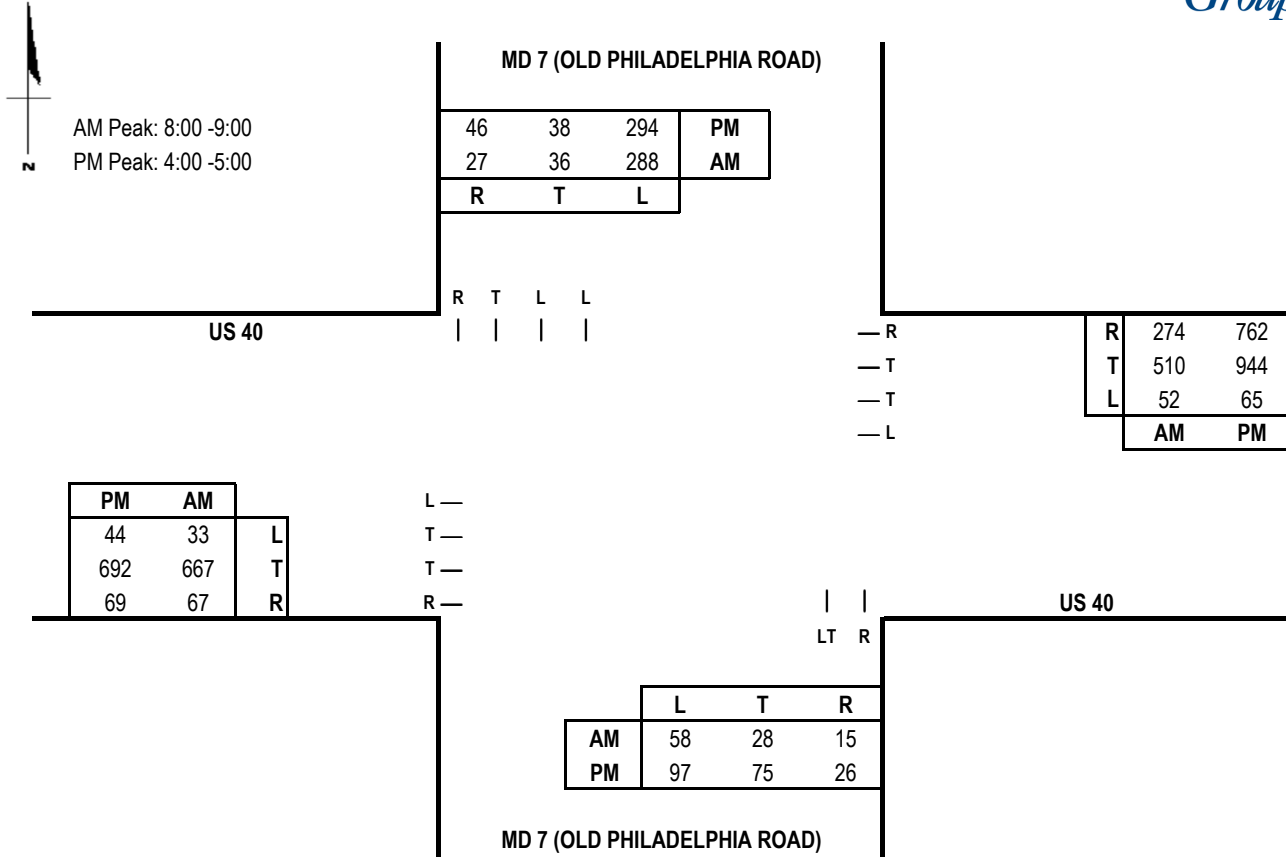
AM V/C = 0.4

PM V/C = 0.61

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: US 40
N/S Road: MD 7 (Old Philadelphia Road)
Conditions: Total Traffic

Date of Count: 11/19/2020
Day of Count: Thursday
Analyst: Qiang Tian



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	86	1.00	86				86
SB	288	0.60	173				173
EB	667	0.55	367	52	1.00	52	419
WB	510	0.55	281	33	1.00	33	
CLV TOTAL=							678
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	172	1.00	172				172
SB	294	0.60	176				176
EB	692	0.55	381	65	1.00	65	630
WB	586	1.00	586	44	1.00	44	
CLV TOTAL=							978
Level of Service (LOS)=							A

Scenario ID - TOT1

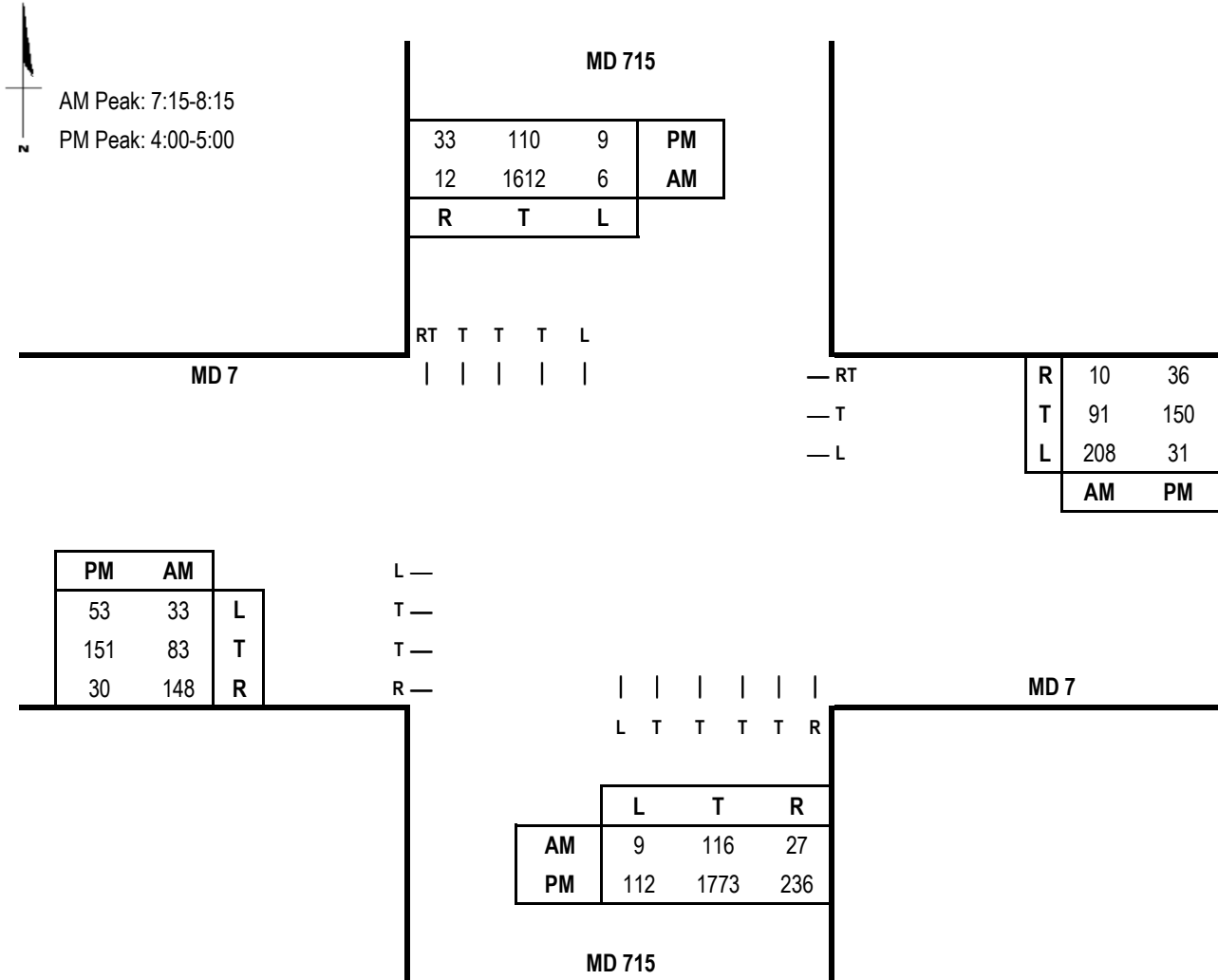
AM V/C = 0.42

PM V/C = 0.61

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: MD 7
N/S Road: MD 715
Conditions: Existing Traffic

Date of Count: 2/19/2019
Day of Count: Tuesday
Analyst: Qiang Tian



Capacity Analysis

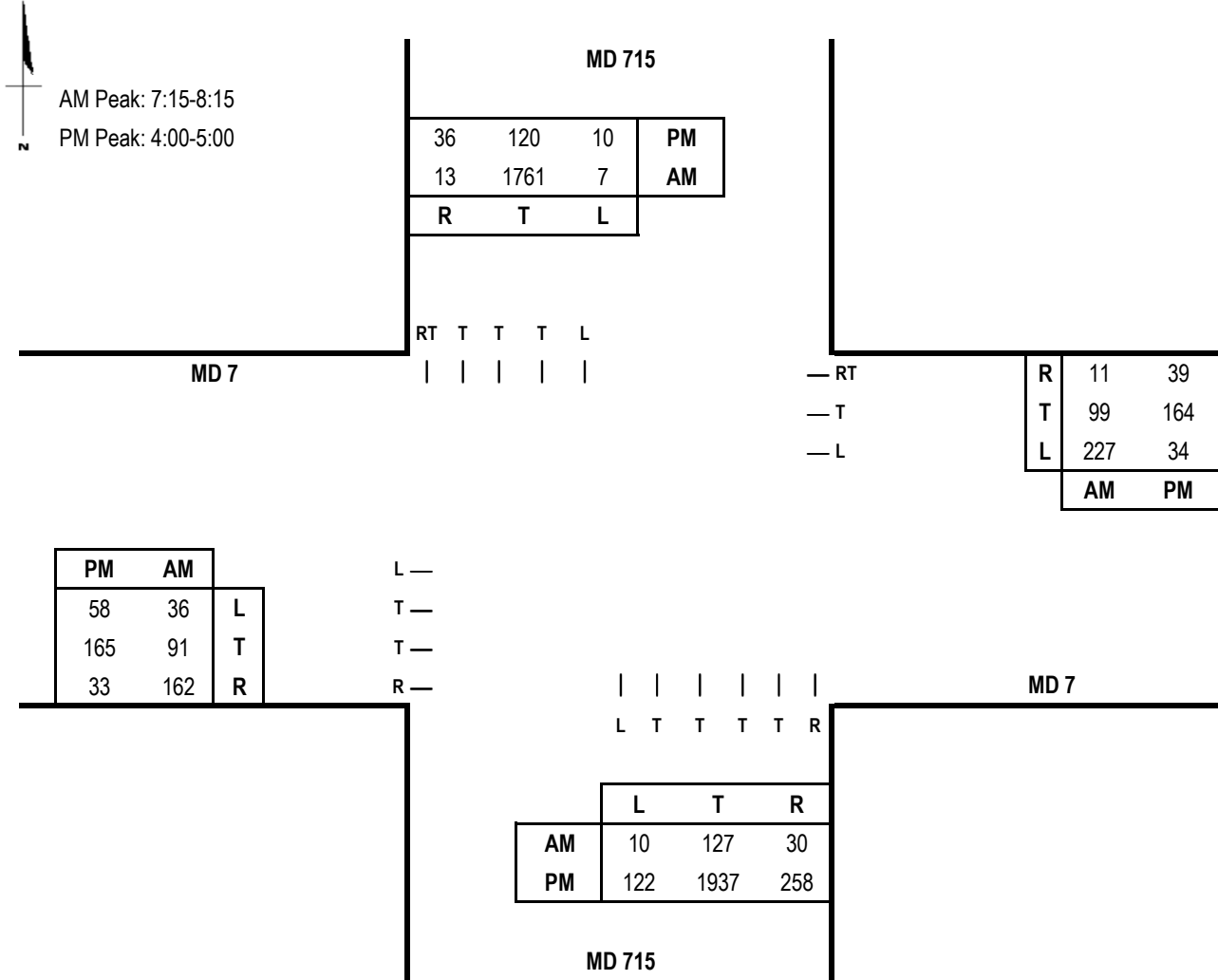
Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	116	0.30	35	6	1.00	6	496
SB	1624	0.30	487	9	1.00	9	
EB	139	1.00	139	208	1.00	208	347
WB	101	0.55	56	33	1.00	33	
CLV TOTAL=							843
Level of Service (LOS)=							A
AM V/C = 0.53							

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1773	0.30	532	9	1.00	9	541
SB	143	0.30	43	112	1.00	112	
EB	151	0.55	83	31	1.00	31	155
WB	186	0.55	102	53	1.00	53	
CLV TOTAL=							696
Level of Service (LOS)=							A
PM V/C = 0.44							

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: MD 7
N/S Road: MD 715
Conditions: Background Traffic

Date of Count: 2/19/2019
Day of Count: Tuesday
Analyst: Qiang Tian



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	127	0.30	38	7	1.00	7	542
SB	1774	0.30	532	10	1.00	10	
EB	152	1.00	152	227	1.00	227	379
WB	110	0.55	61	36	1.00	36	
CLV TOTAL=							921
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1937	0.30	581	10	1.00	10	591
SB	156	0.30	47	122	1.00	122	
EB	165	0.55	91	34	1.00	34	170
WB	203	0.55	112	58	1.00	58	
CLV TOTAL=							761
Level of Service (LOS)=							A

Scenario ID - BACK3

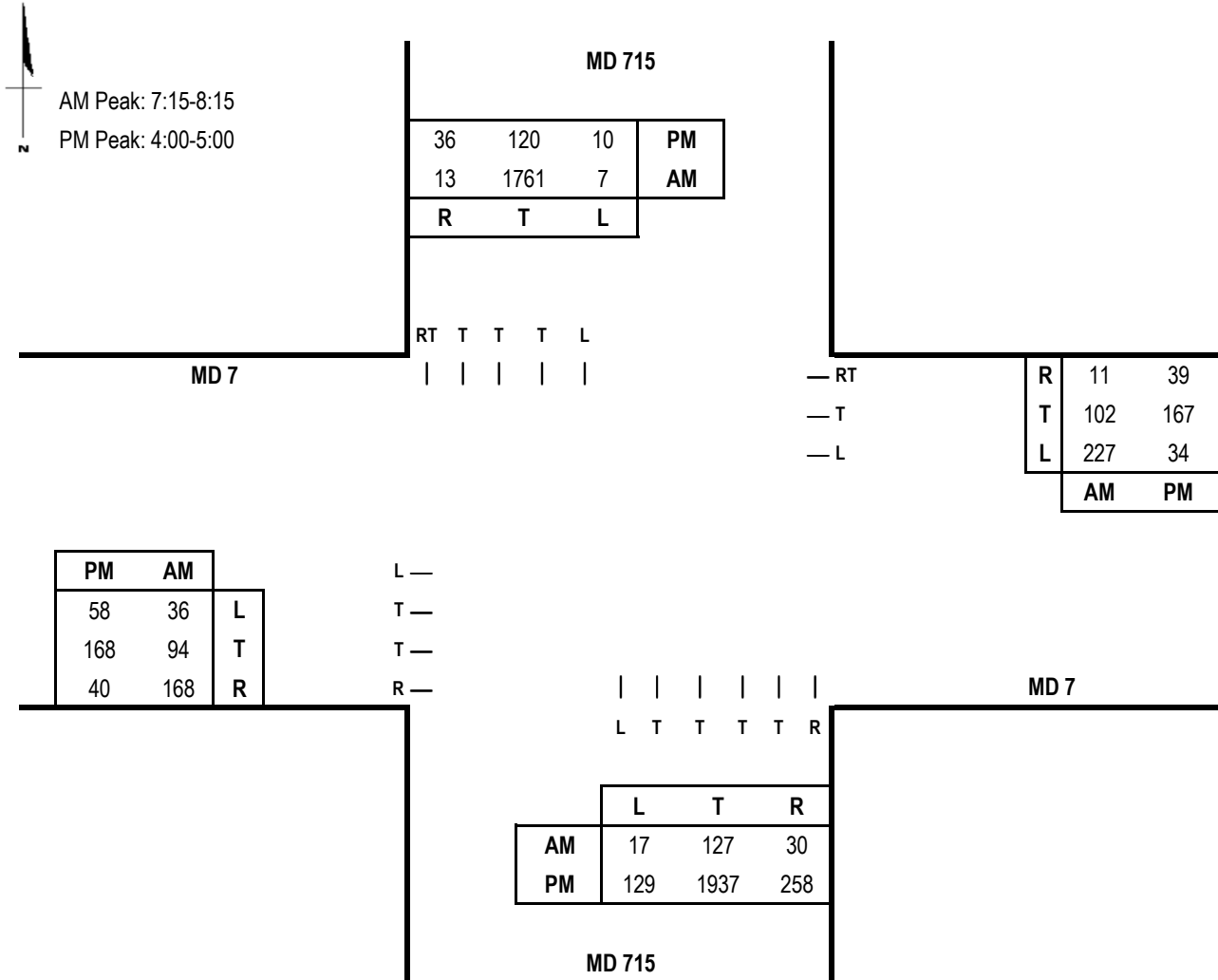
AM V/C = 0.58

PM V/C = 0.48

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

E/W Road: MD 7
N/S Road: MD 715
Conditions: Total Traffic

Date of Count: 2/19/2019
Day of Count: Tuesday
Analyst: Qiang Tian



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	127	0.30	38	7	1.00	7	549
SB	1774	0.30	532	17	1.00	17	
EB	151	1.00	151	227	1.00	227	378
WB	113	0.55	62	36	1.00	36	
CLV TOTAL=							927
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1937	0.30	581	10	1.00	10	591
SB	156	0.30	47	129	1.00	129	
EB	168	0.55	92	34	1.00	34	171
WB	206	0.55	113	58	1.00	58	
CLV TOTAL=							762
Level of Service (LOS)=							A

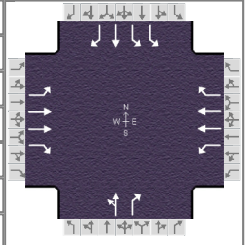
Scenario ID - TOT3

AM V/C = 0.58

PM V/C = 0.48

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	TTG, Inc.			Duration, h	0.250		
Analyst	QT	Analysis Date	Nov 13, 2020	Area Type	Other		
Jurisdiction	Harford, MD	Time Period	Existing AM	PHF	0.92		
Urban Street	US 40	Analysis Year	2020	Analysis Period	1 > 7:00		
Intersection	US 40 & MD 7		File Name	1EA.xus			
Project Description	Rutter's #103						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	30	605	61	24	467	251	48	23	14	261	33	25

Signal Information				Signal Phases							
Cycle, s	90.0	Reference Phase	2								
Offset, s	0	Reference Point	End	Green	4.8	0.8	41.7	10.1	8.5	0.0	
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.0	0.0	4.0	4.0	4.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	0.0	2.0	2.0	2.0	0.0	

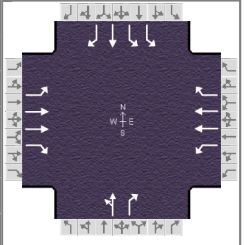
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	2.0	3.0	2.0	3.0		11.0		9.0
Phase Duration, s	11.6	48.5	10.8	47.7		14.5		16.1
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0		6.0		6.0
Max Allow Headway (MAH), s	5.9	0.0	5.9	0.0		6.1		6.1
Queue Clearance Time (g_s), s	3.6		3.3			5.6		9.1
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0		0.3		1.0
Phase Call Probability	0.56		0.48			0.85		1.00
Max Out Probability	0.00		0.00			0.02		1.00

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h	33	658	14	26	508	0	77	0	284	36	0	0
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585	1809	1585	1730	1870	1585	
Queue Service Time (g_s), s	1.6	8.2	0.4	1.3	6.0	0.0	3.6	0.0	7.1	1.6	0.0	
Cycle Queue Clearance Time (g_c), s	1.6	8.2	0.4	1.3	6.0	0.0	3.6	0.0	7.1	1.6	0.0	
Green Ratio (g/C)	0.06	0.47	0.47	0.05	0.46	0.46	0.09	0.09	0.11	0.11	0.11	
Capacity (c), veh/h	110	1682	749	95	1651	735	172	151	390	211	179	
Volume-to-Capacity Ratio (X)	0.296	0.391	0.019	0.275	0.307	0.000	0.449	0.000	0.728	0.170	0.000	
Back of Queue (Q), ft/ln (95 th percentile)	33.9	118.3	6.4	27.8	91.3	0	80.4	0	147.5	33.7	0	
Back of Queue (Q), veh/ln (95 th percentile)	1.3	4.7	0.3	1.1	3.6	0.0	3.2	0.0	5.8	1.3	0.0	
Queue Storage Ratio (RQ) (95 th percentile)	0.10	0.00	0.01	0.06	0.00	0.00	0.00	0.00	0.29	0.00	0.00	
Uniform Delay (d_1), s/veh	40.3	10.3	12.6	40.9	10.4	0.0	38.5	0.0	38.6	36.1	0.0	
Incremental Delay (d_2), s/veh	3.1	0.7	0.0	3.3	0.5	0.0	3.9	0.0	5.8	0.8	0.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh	43.5	11.0	12.7	44.2	10.8	0.0	42.4	0.0	44.4	36.9	0.0	
Level of Service (LOS)	D	B	B	D	B		D		D	D		
Approach Delay, s/veh / LOS	12.5	B		12.5	B		42.4	D	43.6	D		
Intersection Delay, s/veh / LOS	20.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	2.30	B	2.83	C	2.52	C
Bicycle LOS Score / LOS	1.07	A	0.93	A	0.61	A	1.01	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	TTG, Inc.			Duration, h	0.250		
Analyst	QT	Analysis Date	Nov 13, 2020	Area Type	Other		
Jurisdiction	Harford, MD	Time Period	Existing PM	PHF	0.92		
Urban Street	US 40	Analysis Year	2020	Analysis Period	1 > 7:00		
Intersection	US 40 & MD 7		File Name	1EP.xus			
Project Description	Rutter's #103						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	40	628	63	36	864	697	82	66	24	266	35	42

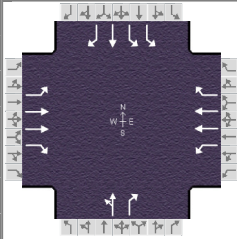
Signal Information				Phase Diagram									
Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
		Green		6.2	0.4	37.9	11.0	10.5	0.0				
		Yellow		4.0	0.0	4.0	4.0	4.0	0.0				
		Red		2.0	0.0	2.0	2.0	2.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	2.0	3.0	2.0	3.0		11.0		9.0
Phase Duration, s	12.6	44.3	12.2	43.9		16.5		17.0
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0		6.0		6.0
Max Allow Headway (MAH), s	5.9	0.0	5.9	0.0		6.1		6.1
Queue Clearance Time (g_s), s	4.1		3.9			9.7		9.2
Green Extension Time (g_e), s	0.2	0.0	0.2	0.0		1.0		1.8
Phase Call Probability	0.66		0.62			0.98		1.00
Max Out Probability	0.00		0.00			0.01		0.33

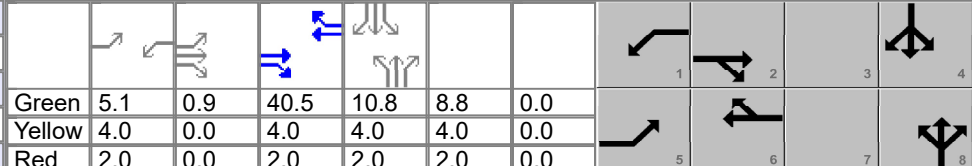
Movement Group Results	EB			WB			NB			SB			
	L	T	R	L	T	R	L	T	R	L	T	R	
Approach Movement													
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14	
Adjusted Flow Rate (v), veh/h	43	683	0	39	939	468		161	0	289	38	2	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585		1820	1585	1730	1870	1585	
Queue Service Time (g_s), s	2.1	10.0	0.0	1.9	16.0	21.9		7.7	0.0	7.2	1.6	0.1	
Cycle Queue Clearance Time (g_c), s	2.1	10.0	0.0	1.9	16.0	21.9		7.7	0.0	7.2	1.6	0.1	
Green Ratio (g/C)	0.07	0.43	0.43	0.07	0.42	0.42		0.12	0.12	0.12	0.12	0.12	
Capacity (c), veh/h	131	1516	675	124	1500	668		212	185	421	228	193	
Volume-to-Capacity Ratio (X)	0.331	0.450	0.000	0.317	0.626	0.702		0.758	0.000	0.686	0.167	0.011	
Back of Queue (Q), ft/ln (95 th percentile)	44.2	151	0	40.1	222.1	323.4		183.3	0	145.6	35.1	2	
Back of Queue (Q), veh/ln (95 th percentile)	1.7	5.9	0.0	1.6	8.7	12.7		7.2	0.0	5.7	1.4	0.1	
Queue Storage Ratio (RQ) (95 th percentile)	0.13	0.00	0.00	0.08	0.00	0.65		0.00	0.00	0.29	0.00	0.00	
Uniform Delay (d_1), s/veh	39.6	13.3	0.0	39.9	14.9	21.4		38.5	0.0	37.9	35.4	34.8	
Incremental Delay (d_2), s/veh	3.1	1.0	0.0	3.1	2.0	6.1		11.2	0.0	4.2	0.7	0.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh	42.7	14.3	0.0	42.9	16.9	27.5		49.7	0.0	42.1	36.2	34.8	
Level of Service (LOS)	D	B		D	B	C		D		D	D	C	
Approach Delay, s/veh / LOS	16.0		B	21.0		C		49.7		D	41.3		D
Intersection Delay, s/veh / LOS	23.9						C						

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	2.32	B	2.85	C	2.54	C
Bicycle LOS Score / LOS	1.09	A	1.68	B	0.75	A	1.03	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information		
Agency	TTG, Inc.			Duration, h	0.250	
Analyst	QT	Analysis Date	Nov 13, 2020	Area Type	Other	
Jurisdiction	Harford, MD	Time Period	Background AM	PHF	0.92	
Urban Street	US 40	Analysis Year	2023	Analysis Period	1 > 7:00	
Intersection	US 40 & MD 7	File Name	1BA.xus			
Project Description	Rutter's #103					

Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	33	661	67	26	510	274	52	25	15	285	36	27

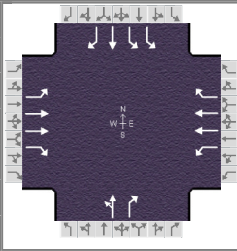
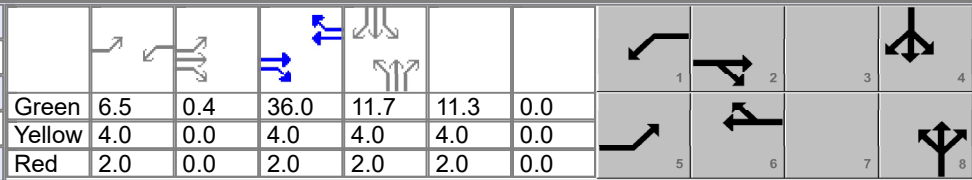
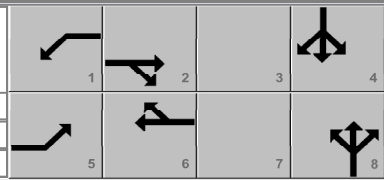
Signal Information													
Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	5.1	0.9	40.5	10.8	8.8	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	0.0	4.0	4.0	4.0	0.0			
				Red	2.0	0.0	2.0	2.0	2.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	2.0	3.0	2.0	3.0		11.0		9.0
Phase Duration, s	11.9	47.4	11.1	46.5		14.8		16.8
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0		6.0		6.0
Max Allow Headway (MAH), s	5.9	0.0	5.9	0.0		6.1		6.1
Queue Clearance Time (g_s), s	3.7		3.4			5.9		9.8
Green Extension Time (g_e), s	0.1	0.0	0.1	0.0		0.3		1.0
Phase Call Probability	0.59		0.51			0.88		1.00
Max Out Probability	0.00		0.00			0.04		1.00

Movement Group Results	EB			WB			NB			SB			
	L	T	R	L	T	R	L	T	R	L	T	R	
Approach Movement													
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14	
Adjusted Flow Rate (v), veh/h	36	718	16	28	554	0		84	0	310	39	0	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585		1809	1585	1730	1870	1585	
Queue Service Time (g_s), s	1.7	9.6	0.5	1.4	7.1	0.0		3.9	0.0	7.8	1.7	0.0	
Cycle Queue Clearance Time (g_c), s	1.7	9.6	0.5	1.4	7.1	0.0		3.9	0.0	7.8	1.7	0.0	
Green Ratio (g/C)	0.07	0.46	0.46	0.06	0.45	0.45		0.10	0.10	0.12	0.12	0.12	
Capacity (c), veh/h	117	1637	729	100	1604	714		176	154	414	224	190	
Volume-to-Capacity Ratio (X)	0.306	0.439	0.022	0.282	0.346	0.000		0.475	0.000	0.747	0.175	0.000	
Back of Queue (Q), ft/ln (95 th percentile)	37	139.3	7.7	29.8	106.8	0		87.5	0	162.8	36.4	0	
Back of Queue (Q), veh/ln (95 th percentile)	1.5	5.5	0.3	1.2	4.2	0.0		3.4	0.0	6.4	1.4	0.0	
Queue Storage Ratio (RQ) (95 th percentile)	0.11	0.00	0.02	0.06	0.00	0.00		0.00	0.00	0.33	0.00	0.00	
Uniform Delay (d_1), s/veh	40.1	11.3	13.3	40.7	11.3	0.0		38.4	0.0	38.3	35.6	0.0	
Incremental Delay (d_2), s/veh	3.1	0.9	0.1	3.2	0.6	0.0		4.2	0.0	6.6	0.8	0.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh	43.2	12.1	13.3	43.9	11.9	0.0		42.6	0.0	44.9	36.4	0.0	
Level of Service (LOS)	D	B	B	D	B			D		D	D		
Approach Delay, s/veh / LOS	13.6		B	13.4		B		42.6		D	43.9		D
Intersection Delay, s/veh / LOS	20.8						C						

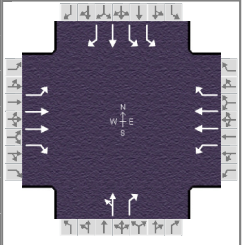
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	2.30	B	2.86	C	2.53	C
Bicycle LOS Score / LOS	1.12	A	0.97	A	0.63	A	1.06	A

HCS7 Signalized Intersection Results Summary

General Information					Intersection Information											
Agency	TTG, Inc.				Duration, h	0.250										
Analyst	QT	Analysis Date	Nov 13, 2020		Area Type	Other										
Jurisdiction	Harford, MD		Time Period	Background PM		PHF	0.92									
Urban Street	US 40		Analysis Year	2023		Analysis Period	1 > 7:00									
Intersection	US 40 & MD 7		File Name	1BP.xus												
Project Description	Rutter's #103															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					44	686	69	39	944	762	90	72	26	291	38	46
Signal Information																
Cycle, s	90.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	No	Simult. Gap E/W	On													
Force Mode	Fixed	Simult. Gap N/S	On		Green	6.5	0.4	36.0	11.7	11.3	0.0	0.0	0.0	0.0	0.0	
					Yellow	4.0	0.0	4.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	
					Red	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					5	2	1	6		8		4				
Case Number					2.0	3.0	2.0	3.0		11.0		9.0				
Phase Duration, s					13.0	42.4	12.5	42.0		17.3		17.7				
Change Period, (Y+R _c), s					6.0	6.0	6.0	6.0		6.0		6.0				
Max Allow Headway (MAH), s					5.9	0.0	5.9	0.0		6.1		6.1				
Queue Clearance Time (g _s), s					4.3		4.0			10.4		9.9				
Green Extension Time (g _e), s					0.2	0.0	0.2	0.0		1.0		1.9				
Phase Call Probability					0.70		0.65			0.99		1.00				
Max Out Probability					0.00		0.00			0.01		0.43				
Movement Group Results					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h					48	746	0	42	1026	512		176	0	316	41	2
Adjusted Saturation Flow Rate (s), veh/h/ln					1781	1781	1585	1781	1781	1585		1820	1585	1730	1870	1585
Queue Service Time (g _s), s					2.3	12.0	0.0	2.0	19.7	25.8		8.4	0.0	7.9	1.8	0.1
Cycle Queue Clearance Time (g _c), s					2.3	12.0	0.0	2.0	19.7	25.8		8.4	0.0	7.9	1.8	0.1
Green Ratio (g/C)					0.08	0.40	0.40	0.07	0.40	0.40		0.13	0.13	0.13	0.13	0.13
Capacity (c), veh/h					138	1440	641	129	1423	633		229	200	451	244	207
Volume-to-Capacity Ratio (X)					0.346	0.518	0.000	0.328	0.721	0.808		0.769	0.000	0.701	0.169	0.011
Back of Queue (Q), ft/ln (95 th percentile)					48.3	182.9	0	43.2	264.1	392		197.3	0	158.5	37.6	1.9
Back of Queue (Q), veh/ln (95 th percentile)					1.9	7.2	0.0	1.7	10.4	15.4		7.8	0.0	6.2	1.5	0.1
Queue Storage Ratio (RQ) (95 th percentile)					0.14	0.00	0.00	0.09	0.00	0.78		0.00	0.00	0.32	0.00	0.00
Uniform Delay (d ₁), s/veh					39.4	15.1	0.0	39.6	17.2	24.0		38.1	0.0	37.5	34.8	34.1
Incremental Delay (d ₂), s/veh					3.2	1.3	0.0	3.1	3.2	10.7		10.9	0.0	4.2	0.7	0.0
Initial Queue Delay (d ₃), s/veh					0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh					42.5	16.5	0.0	42.8	20.4	34.6		49.0	0.0	41.7	35.5	34.1
Level of Service (LOS)					D	B		D	C	C		D		D	D	C
Approach Delay, s/veh / LOS					18.0		B	25.6		C	49.0		D	40.9		D
Intersection Delay, s/veh / LOS					26.9					C						
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					1.95		B	2.33		B	2.88		C	2.55		C
Bicycle LOS Score / LOS					1.14		A	1.79		B	0.78		A	1.08		A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TTG, Inc.			Duration, h	0.250
Analyst	QT	Analysis Date	Nov 13, 2020	Area Type	Other
Jurisdiction	Harford, MD	Time Period	Total AM	PHF	0.92
Urban Street	US 40	Analysis Year	2023	Analysis Period	1 > 7:00
Intersection	US 40 & MD 7		File Name	1TA.xus	
Project Description	Rutter's #103				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	33	667	67	52	510	274	58	28	15	288	36	27

Signal Information				Signal Phases									
Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On										
Force Mode	Fixed	Simult. Gap N/S	On										
		Green		5.9	1.6	38.5	10.9	9.0	0.0				
		Yellow		4.0	0.0	4.0	4.0	4.0	0.0				
		Red		2.0	0.0	2.0	2.0	2.0	0.0				

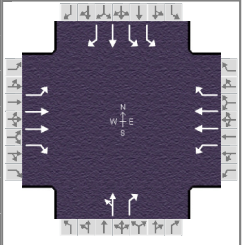
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	2.0	3.0	2.0	3.0		11.0		9.0
Phase Duration, s	11.9	44.5	13.6	46.2		15.0		16.9
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0		6.0		6.0
Max Allow Headway (MAH), s	5.9	0.0	5.9	0.0		6.1		6.1
Queue Clearance Time (g_s), s	3.7		4.7			6.4		9.9
Green Extension Time (g_e), s	0.1	0.0	0.2	0.0		0.3		1.0
Phase Call Probability	0.59		0.76			0.90		1.00
Max Out Probability	0.00		0.00			0.06		1.00

Movement Group Results	EB			WB			NB			SB			
	L	T	R	L	T	R	L	T	R	L	T	R	
Approach Movement													
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14	
Adjusted Flow Rate (v), veh/h	36	725	16	57	554	0		93	0	313	39	0	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585		1809	1585	1730	1870	1585	
Queue Service Time (g_s), s	1.7	10.8	0.5	2.7	7.2	0.0		4.4	0.0	7.9	1.7	0.0	
Cycle Queue Clearance Time (g_c), s	1.7	10.8	0.5	2.7	7.2	0.0		4.4	0.0	7.9	1.7	0.0	
Green Ratio (g/C)	0.07	0.43	0.43	0.08	0.45	0.45		0.10	0.10	0.12	0.12	0.12	
Capacity (c), veh/h	117	1525	679	150	1590	708		182	159	417	226	191	
Volume-to-Capacity Ratio (X)	0.306	0.475	0.024	0.377	0.349	0.000		0.515	0.000	0.750	0.173	0.000	
Back of Queue (Q), ft/ln (95 th percentile)	37	160.9	8.3	56.7	108.8	0		98.3	0	164.5	36.3	0	
Back of Queue (Q), veh/ln (95 th percentile)	1.5	6.3	0.3	2.2	4.3	0.0		3.9	0.0	6.5	1.4	0.0	
Queue Storage Ratio (RQ) (95 th percentile)	0.11	0.00	0.02	0.11	0.00	0.00		0.00	0.00	0.33	0.00	0.00	
Uniform Delay (d_1), s/veh	40.1	13.4	14.9	39.0	11.5	0.0		38.4	0.0	38.3	35.5	0.0	
Incremental Delay (d_2), s/veh	3.1	1.1	0.1	3.3	0.6	0.0		4.8	0.0	6.7	0.8	0.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh	43.2	14.4	14.9	42.3	12.1	0.0		43.2	0.0	45.0	36.3	0.0	
Level of Service (LOS)	D	B	B	D	B			D		D	D		
Approach Delay, s/veh / LOS	15.8		B	14.9		B		43.2		D	44.0		D
Intersection Delay, s/veh / LOS	22.3						C						

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	2.30	B	2.86	C	2.53	C
Bicycle LOS Score / LOS	1.13	A	0.99	A	0.64	A	1.07	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TTG, Inc.			Duration, h	0.250
Analyst	QT	Analysis Date	Nov 13, 2020	Area Type	Other
Jurisdiction	Harford, MD	Time Period	Total PM	PHF	0.92
Urban Street	US 40	Analysis Year	2023	Analysis Period	1 > 7:00
Intersection	US 40 & MD 7		File Name	1TP.xus	
Project Description	Rutter's #103				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	44	692	69	65	944	762	97	75	26	294	38	46

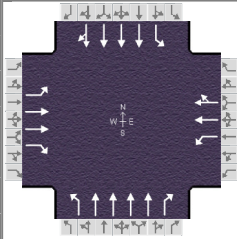
Signal Information				Signal Timing (s)								Signal Phases			
Cycle, s	90.0	Reference Phase	2												
Offset, s	0	Reference Point	End	Green	7.0	1.3	34.0	11.8	11.9	0.0					
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.0	0.0	4.0	4.0	4.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	0.0	2.0	2.0	2.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	2.0	3.0	2.0	3.0		11.0		9.0
Phase Duration, s	13.0	40.0	14.3	41.3		17.9		17.8
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0		6.0		6.0
Max Allow Headway (MAH), s	5.9	0.0	5.9	0.0		6.1		6.1
Queue Clearance Time (g_s), s	4.3		5.4			10.9		10.0
Green Extension Time (g_e), s	0.2	0.0	0.4	0.0		1.1		1.9
Phase Call Probability	0.70		0.83			0.99		1.00
Max Out Probability	0.00		0.00			0.02		0.44

Movement Group Results	EB			WB			NB			SB			
	L	T	R	L	T	R	L	T	R	L	T	R	
Approach Movement													
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14	
Adjusted Flow Rate (v), veh/h	48	752	0	71	1026	512		187	0	320	41	2	
Adjusted Saturation Flow Rate (s), veh/h/ln	1781	1781	1585	1781	1781	1585		1819	1585	1730	1870	1585	
Queue Service Time (g_s), s	2.3	13.2	0.0	3.4	20.1	26.1		8.9	0.0	8.0	1.8	0.1	
Cycle Queue Clearance Time (g_c), s	2.3	13.2	0.0	3.4	20.1	26.1		8.9	0.0	8.0	1.8	0.1	
Green Ratio (g/C)	0.08	0.38	0.38	0.09	0.39	0.39		0.13	0.13	0.13	0.13	0.13	
Capacity (c), veh/h	138	1343	598	164	1396	621		241	210	454	246	208	
Volume-to-Capacity Ratio (X)	0.346	0.560	0.000	0.431	0.735	0.824		0.775	0.000	0.703	0.168	0.010	
Back of Queue (Q), ft/ln (95 th percentile)	48.3	202.1	0	70.8	271.5	401.7		205.8	0	160.1	37.5	1.9	
Back of Queue (Q), veh/ln (95 th percentile)	1.9	8.0	0.0	2.8	10.7	15.8		8.1	0.0	6.3	1.5	0.1	
Queue Storage Ratio (RQ) (95 th percentile)	0.14	0.00	0.00	0.14	0.00	0.80		0.00	0.00	0.32	0.00	0.00	
Uniform Delay (d_1), s/veh	39.4	17.2	0.0	38.6	17.9	24.6		37.7	0.0	37.4	34.7	34.0	
Incremental Delay (d_2), s/veh	3.2	1.7	0.0	3.8	3.5	11.8		10.8	0.0	4.2	0.7	0.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Control Delay (d), s/veh	42.5	18.9	0.0	42.4	21.3	36.4		48.5	0.0	41.6	35.4	34.0	
Level of Service (LOS)	D	B		D	C	D		D		D	D	C	
Approach Delay, s/veh / LOS	20.3		C	27.1		C		48.5		D	40.9		D
Intersection Delay, s/veh / LOS	28.3						C						

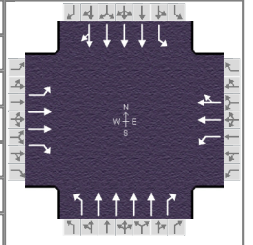
Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	2.33	B	2.88	C	2.55	C
Bicycle LOS Score / LOS	1.15	A	1.81	B	0.80	A	1.09	A

HCS7 Signalized Intersection Results Summary

General Information					Intersection Information											
Agency	TTG, Inc.				Duration, h	0.250										
Analyst	QT	Analysis Date	Nov 13, 2020		Area Type	Other										
Jurisdiction	Harford, MD		Time Period	Existing AM		PHF	0.91									
Urban Street	MD 715		Analysis Year	2020		Analysis Period	1 > 7:00									
Intersection	#2 MD 715 & MD 7		File Name	2EA.xus												
Project Description	Rutter's #103															
Demand Information					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h					33	83	148	208	91	10	9	116	27	6	1612	12
Signal Information																
Cycle, s	90.0	Reference Phase	2													
Offset, s	0	Reference Point	End													
Uncoordinated	No	Simult. Gap E/W	On		Green	1.8	0.8	48.4	20.9	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On		Yellow	4.0	0.0	4.0	4.0	0.0	0.0					
					Red	2.0	0.0	2.0	2.0	0.0	0.0					
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase						4		8	5	2	1	6				
Case Number						5.0		6.0	2.0	3.0	2.0	4.0				
Phase Duration, s						26.9		26.9	8.6	55.2	7.8	54.4				
Change Period, (Y+R _c), s						6.0		6.0	6.0	6.0	6.0	6.0				
Max Allow Headway (MAH), s						6.2		6.2	6.0	0.0	6.0	0.0				
Queue Clearance Time (g _s), s						9.4		18.9	2.5		2.3					
Green Extension Time (g _e), s						4.3		2.1	0.0	0.0	0.0	0.0				
Phase Call Probability						1.00		1.00	0.22		0.15					
Max Out Probability						0.27		1.00	0.00		0.00					
Movement Group Results					EB			WB			NB			SB		
Approach Movement					L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement					7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h					36	91	153	229	52	52	10	127	0	7	1771	0
Adjusted Saturation Flow Rate (s), veh/h/ln					1290	1781	1585	1305	1870	1842	1781	1698	1585	1781	1870	0
Queue Service Time (g _s), s					2.1	1.8	7.4	15.0	2.0	2.0	0.5	0.5	0.0	0.3	8.8	0.0
Cycle Queue Clearance Time (g _c), s					4.1	1.8	7.4	16.9	2.0	2.0	0.5	0.5	0.0	0.3	8.8	0.0
Green Ratio (g/C)					0.23	0.23	0.23	0.23	0.23	0.23	0.03	0.55	0.55	0.02	0.54	
Capacity (c), veh/h					351	829	369	358	435	429	52	3716	867	36	4025	
Volume-to-Capacity Ratio (X)					0.103	0.110	0.414	0.639	0.120	0.122	0.190	0.034	0.000	0.183	0.440	0.000
Back of Queue (Q), ft/ln (95 th percentile)					29.6	35.1	131.5	222	40.9	40.2	11.9	7	0	8.7	119.8	0
Back of Queue (Q), veh/ln (95 th percentile)					1.2	1.4	5.2	8.7	1.6	1.6	0.5	0.3	0.0	0.3	4.7	0.0
Queue Storage Ratio (RQ) (95 th percentile)					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh					28.9	27.2	29.3	33.8	27.3	27.3	42.6	5.6	0.0	43.4	7.1	
Incremental Delay (d ₂), s/veh					0.3	0.1	1.6	4.7	0.3	0.3	3.7	0.0	0.0	5.1	0.4	0.0
Initial Queue Delay (d ₃), s/veh					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh					29.1	27.3	30.9	38.5	27.5	27.5	46.4	5.6	0.0	48.4	7.5	
Level of Service (LOS)					C	C	C	D	C	C	D	A		D	A	
Approach Delay, s/veh / LOS					29.5	C		35.0	D		8.5	A		7.6	A	
Intersection Delay, s/veh / LOS					13.7					B						
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS					2.99	C		2.85	C		2.25	B		2.41	B	
Bicycle LOS Score / LOS					0.72	A		0.76	A		0.54	A		1.22	A	

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	TTG, Inc.			Duration, h	0.250		
Analyst	QT	Analysis Date	Nov 13, 2020	Area Type	Other		
Jurisdiction	Harford, MD	Time Period	Existing PM	PHF	0.92		
Urban Street	MD 715	Analysis Year	2020	Analysis Period	1 > 7:00		
Intersection	#2 MD 715 & MD 7		File Name	2EP.xus			
Project Description	Rutter's #103						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	53	151	30	31	150	36	112	1773	236	9	110	33

Signal Information													
Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	2.6	2.8	47.2	13.4	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	4.0	4.0	0.0	0.0			
				Red	2.0	2.0	2.0	2.0	0.0	0.0			

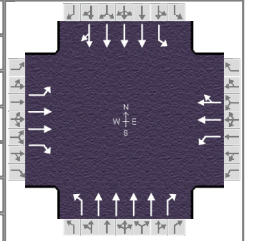
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		5.0		6.0	2.0	3.0	2.0	4.0
Phase Duration, s		19.4		19.4	17.4	62.0	8.6	53.2
Change Period, (Y+R _c), s		6.0		6.0	6.0	6.0	6.0	6.0
Max Allow Headway (MAH), s		6.1		6.1	6.0	0.0	6.0	0.0
Queue Clearance Time (g _s), s		10.4		7.9	7.8		2.5	
Green Extension Time (g _e), s		2.9		3.2	0.7	0.0	0.0	0.0
Phase Call Probability		1.00		1.00	0.95		0.22	
Max Out Probability		0.19		0.11	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	58	164	0	34	97	95	122	1927	223	10	120	0
Adjusted Saturation Flow Rate (s), veh/h/ln	1191	1781	1585	1222	1870	1772	1781	1698	1585	1781	1870	0
Queue Service Time (g _s), s	4.1	3.7	0.0	2.3	4.2	4.4	5.8	7.0	5.6	0.5	0.4	0.0
Cycle Queue Clearance Time (g _c), s	8.4	3.7	0.0	5.9	4.2	4.4	5.8	7.0	5.6	0.5	0.4	0.0
Green Ratio (g/C)	0.15	0.15	0.15	0.15	0.15	0.15	0.13	0.62	0.62	0.03	0.52	
Capacity (c), veh/h	200	530	236	212	278	264	226	4227	986	52	3922	
Volume-to-Capacity Ratio (X)	0.288	0.310	0.000	0.159	0.349	0.361	0.538	0.456	0.226	0.190	0.030	0.000
Back of Queue (Q), ft/ln (95 th percentile)	57.9	73.9	0	32.4	90.8	88.2	121.2	71.5	76	11.8	7.5	0
Back of Queue (Q), veh/ln (95 th percentile)	2.3	2.9	0.0	1.3	3.6	3.5	4.8	2.8	3.0	0.5	0.3	0.0
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh	38.2	34.2	0.0	36.8	34.4	34.5	36.8	3.5	7.5	42.7	6.5	
Incremental Delay (d ₂), s/veh	1.7	0.7	0.0	0.7	1.6	1.8	4.2	0.4	0.5	3.7	0.0	0.0
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.9	34.9	0.0	37.5	36.0	36.2	41.0	3.8	8.0	46.4	6.5	
Level of Service (LOS)	D	C		D	D	D	D	A	A	D	A	
Approach Delay, s/veh / LOS	36.2		D	36.3		D	6.2		A	9.5		A
Intersection Delay, s/veh / LOS	11.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.01	C	2.89	C	2.24	B	2.45	B
Bicycle LOS Score / LOS	0.67	A	0.67	A	1.42	A	0.54	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	TTG, Inc.			Duration, h	0.250		
Analyst	QT	Analysis Date	Nov 13, 2020	Area Type	Other		
Jurisdiction	Harford, MD	Time Period	Background AM	PHF	0.91		
Urban Street	MD 715	Analysis Year	2023	Analysis Period	1 > 7:00		
Intersection	#2 MD 715 & MD 7		File Name	2BA.xus			
Project Description	Rutter's #103						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	36	91	162	227	99	11	10	127	30	7	1761	13

Signal Information													
Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	2.1	0.8	46.9	22.2	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	0.0	4.0	4.0	0.0	0.0			
				Red	2.0	0.0	2.0	2.0	0.0	0.0			

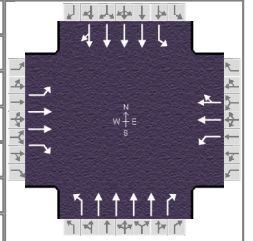
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		5.0		6.0	2.0	3.0	2.0	4.0
Phase Duration, s		28.2		28.2	8.9	53.7	8.1	52.9
Change Period, (Y+R _c), s		6.0		6.0	6.0	6.0	6.0	6.0
Max Allow Headway (MAH), s		6.2		6.2	6.0	0.0	6.0	0.0
Queue Clearance Time (g _s), s		10.0		20.6	2.5		2.4	
Green Extension Time (g _e), s		4.6		1.6	0.0	0.0	0.0	0.0
Phase Call Probability		1.00		1.00	0.24		0.17	
Max Out Probability		0.34		1.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	40	100	167	249	57	57	11	140	0	8	1935	0
Adjusted Saturation Flow Rate (s), veh/h/ln	1280	1781	1585	1295	1870	1845	1781	1698	1585	1781	1870	0
Queue Service Time (g _s), s	2.2	2.0	8.0	16.6	2.1	2.1	0.5	0.6	0.0	0.4	10.8	0.0
Cycle Queue Clearance Time (g _c), s	4.4	2.0	8.0	18.6	2.1	2.1	0.5	0.6	0.0	0.4	10.8	0.0
Green Ratio (g/C)	0.25	0.25	0.25	0.25	0.25	0.25	0.03	0.53	0.53	0.02	0.52	
Capacity (c), veh/h	365	879	391	371	461	455	57	3600	840	42	3900	
Volume-to-Capacity Ratio (X)	0.108	0.114	0.427	0.672	0.123	0.124	0.193	0.039	0.000	0.185	0.496	0.000
Back of Queue (Q), ft/ln (95 th percentile)	31.7	37.6	141.9	241.3	43.4	42.7	12.9	8.5	0	9.7	146.9	0
Back of Queue (Q), veh/ln (95 th percentile)	1.2	1.5	5.6	9.5	1.7	1.7	0.5	0.3	0.0	0.4	5.8	0.0
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d ₁), s/veh	28.0	26.3	28.5	33.5	26.3	26.3	42.4	6.3	0.0	43.1	8.2	
Incremental Delay (d ₂), s/veh	0.3	0.1	1.6	5.7	0.3	0.3	3.4	0.0	0.0	4.5	0.5	0.0
Initial Queue Delay (d ₃), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	28.3	26.4	30.1	39.2	26.6	26.6	45.9	6.3	0.0	47.6	8.7	
Level of Service (LOS)	C	C	C	D	C	C	D	A		D	A	
Approach Delay, s/veh / LOS	28.7	C		35.3	D		9.2	A		8.8	A	
Intersection Delay, s/veh / LOS	14.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.00	C	2.85	C	2.26	B	2.42	B
Bicycle LOS Score / LOS	0.74	A	0.79	A	0.55	A	1.29	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	TTG, Inc.			Duration, h	0.250		
Analyst	QT	Analysis Date	Nov 13, 2020	Area Type	Other		
Jurisdiction	Harford, MD	Time Period	Background PM	PHF	0.92		
Urban Street	MD 715	Analysis Year	2023	Analysis Period	1 > 7:00		
Intersection	#2 MD 715 & MD 7		File Name	2BP.xus			
Project Description	Rutter's #103						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	58	165	33	34	164	39	122	1937	258	10	120	36

Signal Information													
Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	2.9	2.7	46.0	14.4	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	4.0	4.0	0.0	0.0			
				Red	2.0	2.0	2.0	2.0	0.0	0.0			

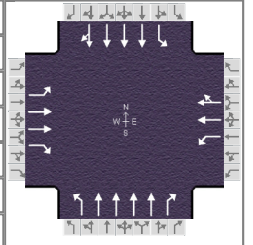
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		5.0		6.0	2.0	3.0	2.0	4.0
Phase Duration, s		20.4		20.4	17.6	60.7	8.9	52.0
Change Period, ($Y+R_c$), s		6.0		6.0	6.0	6.0	6.0	6.0
Max Allow Headway (MAH), s		6.2		6.2	6.0	0.0	6.0	0.0
Queue Clearance Time (g_s), s		11.3		8.5	8.3		2.5	
Green Extension Time (g_e), s		3.1		3.5	0.7	0.0	0.0	0.0
Phase Call Probability		1.00		1.00	0.96		0.24	
Max Out Probability		0.27		0.15	0.01		0.00	

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	63	179	3	37	107	104	133	2105	247	11	100	33
Adjusted Saturation Flow Rate (s), veh/h/ln	1171	1781	1585	1205	1870	1771	1781	1698	1585	1781	1870	1838
Queue Service Time (g_s), s	4.6	4.0	0.2	2.5	4.6	4.7	6.3	9.0	6.5	0.5	0.5	0.6
Cycle Queue Clearance Time (g_c), s	9.3	4.0	0.2	6.5	4.6	4.7	6.3	9.0	6.5	0.5	0.5	0.6
Green Ratio (g/C)	0.16	0.16	0.16	0.16	0.16	0.16	0.13	0.61	0.61	0.03	0.51	0.51
Capacity (c), veh/h	207	571	254	220	300	284	229	4129	964	57	2868	939
Volume-to-Capacity Ratio (X)	0.305	0.314	0.013	0.168	0.355	0.367	0.579	0.510	0.256	0.192	0.035	0.036
Back of Queue (Q), ft/ln (95 th percentile)	63.1	79.6	2.8	35.2	98.1	95.2	133.4	90.9	91.2	12.8	9	9.8
Back of Queue (Q), veh/ln (95 th percentile)	2.5	3.1	0.1	1.4	3.9	3.8	5.3	3.6	3.6	0.5	0.4	0.4
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	37.8	33.4	31.8	36.3	33.6	33.7	36.9	4.2	8.2	42.4	7.1	7.5
Incremental Delay (d_2), s/veh	1.8	0.7	0.0	0.8	1.5	1.7	4.9	0.5	0.6	3.5	0.0	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.6	34.1	31.8	37.0	35.2	35.4	41.8	4.6	8.8	45.9	7.1	7.5
Level of Service (LOS)	D	C	C	D	D	D	D	A	A	D	A	A
Approach Delay, s/veh / LOS	35.5		D	35.5		D	7.0		A	10.1		B
Intersection Delay, s/veh / LOS	11.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.01	C	2.89	C	2.25	B	2.45	B
Bicycle LOS Score / LOS	0.69	A	0.69	A	1.51	B	0.55	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information			
Agency	TTG, Inc.			Duration, h	0.250		
Analyst	QT	Analysis Date	Nov 13, 2020	Area Type	Other		
Jurisdiction	Harford, MD	Time Period	Total AM	PHF	0.91		
Urban Street	MD 715	Analysis Year	2023	Analysis Period	1 > 7:00		
Intersection	#2 MD 715 & MD 7		File Name	2TA.xus			
Project Description	Rutter's #103						



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	36	94	168	227	102	11	17	127	30	7	1761	13

Signal Information													
Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End										
Uncoordinated	No	Simult. Gap E/W	On	Green	2.1	2.4	45.2	22.3	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	0.0	4.0	4.0	0.0	0.0			
				Red	2.0	0.0	2.0	2.0	0.0	0.0			

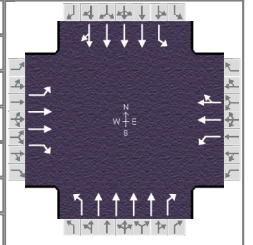
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		5.0		6.0	2.0	3.0	2.0	4.0
Phase Duration, s		28.3		28.3	10.5	53.6	8.1	51.2
Change Period, ($Y+R_c$), s		6.0		6.0	6.0	6.0	6.0	6.0
Max Allow Headway (MAH), s		6.2		6.2	6.0	0.0	6.0	0.0
Queue Clearance Time (g_s), s		10.3		20.7	2.9		2.4	
Green Extension Time (g_e), s		4.6		1.6	0.0	0.0	0.0	0.0
Phase Call Probability		1.00		1.00	0.37		0.17	
Max Out Probability		0.37		1.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	40	103	174	249	58	58	19	140	0	8	1935	0
Adjusted Saturation Flow Rate (s), veh/h/ln	1276	1781	1585	1291	1870	1845	1781	1698	1585	1781	1870	0
Queue Service Time (g_s), s	2.2	2.0	8.3	16.7	2.2	2.2	0.9	0.6	0.0	0.4	11.7	0.0
Cycle Queue Clearance Time (g_c), s	4.4	2.0	8.3	18.7	2.2	2.2	0.9	0.6	0.0	0.4	11.7	0.0
Green Ratio (g/C)	0.25	0.25	0.25	0.25	0.25	0.25	0.05	0.53	0.53	0.02	0.50	
Capacity (c), veh/h	365	882	393	371	463	457	89	3593	838	42	3759	
Volume-to-Capacity Ratio (X)	0.108	0.117	0.442	0.673	0.126	0.127	0.211	0.039	0.000	0.185	0.515	0.000
Back of Queue (Q), ft/ln (95 th percentile)	31.7	38.8	148.1	241.7	44.7	43.9	20.2	8.5	0	9.7	163	0
Back of Queue (Q), veh/ln (95 th percentile)	1.2	1.5	5.8	9.5	1.8	1.8	0.8	0.3	0.0	0.4	6.4	0.0
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	28.0	26.2	28.6	33.5	26.3	26.3	41.1	6.3	0.0	43.1	9.3	
Incremental Delay (d_2), s/veh	0.3	0.1	1.7	5.8	0.3	0.3	2.5	0.0	0.0	4.5	0.5	0.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	28.3	26.3	30.3	39.3	26.5	26.6	43.6	6.4	0.0	47.6	9.8	
Level of Service (LOS)	C	C	C	D	C	C	D	A		D	A	
Approach Delay, s/veh / LOS	28.7	C		35.2	D		10.7	B		10.0	A	
Intersection Delay, s/veh / LOS	15.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.00	C	2.85	C	2.26	B	2.42	B
Bicycle LOS Score / LOS	0.75	A	0.79	A	0.55	A	1.29	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	TTG, Inc.			Duration, h	0.250
Analyst	QT	Analysis Date	Nov 13, 2020	Area Type	Other
Jurisdiction	Harford, MD	Time Period	Total PM	PHF	0.92
Urban Street	MD 715	Analysis Year	2023	Analysis Period	1 > 7:00
Intersection	#2 MD 715 & MD 7		File Name	2TP.xus	
Project Description	Rutter's #103				



Demand Information	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Demand (v), veh/h	58	168	40	34	167	39	129	1937	258	10	120	36

Signal Information				Signal Phases									
Cycle, s	90.0	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	2.9	2.8	45.8	14.6	0.0	0.0			
Uncoordinated	No	Simult. Gap E/W	On	Yellow	4.0	4.0	4.0	4.0	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.0	2.0	2.0	2.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		5.0		6.0	2.0	3.0	2.0	4.0
Phase Duration, s		20.6		20.6	17.6	60.6	8.9	51.8
Change Period, ($Y+R_c$), s		6.0		6.0	6.0	6.0	6.0	6.0
Max Allow Headway (MAH), s		6.2		6.2	6.0	0.0	6.0	0.0
Queue Clearance Time (g_s), s		11.3		8.6	8.7		2.5	
Green Extension Time (g_e), s		3.2		3.6	0.7	0.0	0.0	0.0
Phase Call Probability		1.00		1.00	0.97		0.24	
Max Out Probability		0.28		0.16	0.01		0.00	

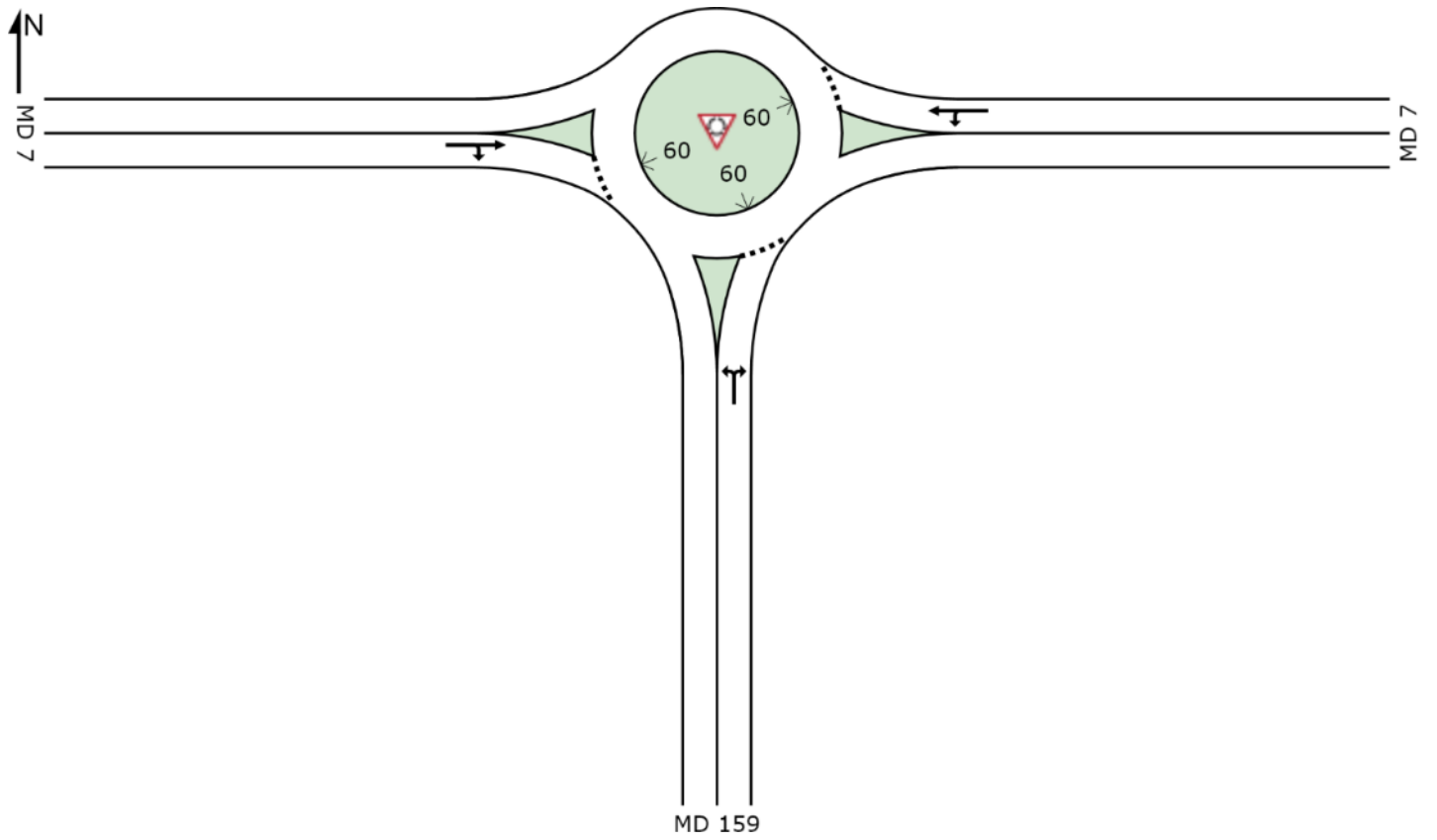
Movement Group Results	EB			WB			NB			SB		
	L	T	R	L	T	R	L	T	R	L	T	R
Approach Movement												
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	63	183	11	37	108	106	140	2105	247	11	100	33
Adjusted Saturation Flow Rate (s), veh/h/ln	1167	1781	1585	1201	1870	1772	1781	1698	1585	1781	1870	1838
Queue Service Time (g_s), s	4.6	4.1	0.5	2.5	4.6	4.8	6.7	9.1	6.5	0.5	0.5	0.6
Cycle Queue Clearance Time (g_c), s	9.3	4.1	0.5	6.6	4.6	4.8	6.7	9.1	6.5	0.5	0.5	0.6
Green Ratio (g/C)	0.16	0.16	0.16	0.16	0.16	0.16	0.13	0.61	0.61	0.03	0.51	0.51
Capacity (c), veh/h	208	577	257	221	303	287	230	4117	961	57	2853	935
Volume-to-Capacity Ratio (X)	0.304	0.316	0.042	0.167	0.357	0.369	0.609	0.511	0.257	0.192	0.035	0.036
Back of Queue (Q), ft/ln (95 th percentile)	63	80.9	9.4	35.2	99.6	96.5	142.6	92.6	91.9	12.8	9.1	9.9
Back of Queue (Q), veh/ln (95 th percentile)	2.5	3.2	0.4	1.4	3.9	3.9	5.6	3.6	3.6	0.5	0.4	0.4
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	37.7	33.3	31.8	36.2	33.5	33.6	37.0	4.3	8.3	42.4	7.2	7.6
Incremental Delay (d_2), s/veh	1.7	0.7	0.1	0.8	1.5	1.7	5.5	0.5	0.6	3.5	0.0	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.5	34.0	32.0	36.9	35.0	35.3	42.5	4.7	8.9	45.9	7.2	7.7
Level of Service (LOS)	D	C	C	D	D	D	D	A	A	D	A	A
Approach Delay, s/veh / LOS	35.2		D	35.4		D	7.3		A	10.2		B
Intersection Delay, s/veh / LOS	11.9						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	3.01	C	2.89	C	2.25	B	2.45	B
Bicycle LOS Score / LOS	0.70	A	0.69	A	1.52	B	0.55	A

SITE LAYOUT

 Site: EA

#3 MD 7 & MD 159
Roundabout



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MOVEMENT SUMMARY

 Site: EA

#3 MD 7 & MD 159
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: MD 159											
3	L2	55	2.0	0.169	5.1	LOS A	0.7	16.7	0.20	0.10	33.2
18	R2	119	2.0	0.169	5.1	LOS A	0.7	16.7	0.20	0.10	32.6
Approach		174	2.0	0.169	5.1	LOS A	0.7	16.7	0.20	0.10	32.8
East: MD 7											
1	L2	80	2.0	0.110	4.4	LOS A	0.4	10.3	0.16	0.07	32.7
6	T1	35	2.0	0.110	4.4	LOS A	0.4	10.3	0.16	0.07	32.9
Approach		115	2.0	0.110	4.4	LOS A	0.4	10.3	0.16	0.07	32.8
West: MD 7											
2	T1	73	2.0	0.150	4.9	LOS A	0.6	14.5	0.21	0.10	34.1
12	R2	80	2.0	0.150	4.9	LOS A	0.6	14.5	0.21	0.10	33.4
Approach		153	2.0	0.150	4.9	LOS A	0.6	14.5	0.21	0.10	33.7
All Vehicles		442	2.0	0.169	4.8	LOS A	0.7	16.7	0.19	0.09	33.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: EP

#3 MD 7 & MD 159
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: MD 159											
3	L2	101	2.0	0.308	6.4	LOS A	1.4	36.5	0.15	0.06	32.5
18	R2	229	2.0	0.308	6.4	LOS A	1.4	36.5	0.15	0.06	32.0
Approach		330	2.0	0.308	6.4	LOS A	1.4	36.5	0.15	0.06	32.2
East: MD 7											
1	L2	139	2.0	0.249	6.0	LOS A	1.0	26.6	0.26	0.15	32.2
6	T1	110	2.0	0.249	6.0	LOS A	1.0	26.6	0.26	0.15	32.4
Approach		249	2.0	0.249	6.0	LOS A	1.0	26.6	0.26	0.15	32.3
West: MD 7											
2	T1	35	2.0	0.142	5.1	LOS A	0.5	13.5	0.28	0.17	34.0
12	R2	102	2.0	0.142	5.1	LOS A	0.5	13.5	0.28	0.17	33.3
Approach		137	2.0	0.142	5.1	LOS A	0.5	13.5	0.28	0.17	33.5
All Vehicles		715	2.0	0.308	6.0	LOS A	1.4	36.5	0.21	0.11	32.5

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: BA

#3 MD 7 & MD 159
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: MD 159											
3	L2	60	2.0	0.186	5.3	LOS A	0.7	18.6	0.21	0.11	33.1
18	R2	129	2.0	0.186	5.3	LOS A	0.7	18.6	0.21	0.11	32.5
Approach		189	2.0	0.186	5.3	LOS A	0.7	18.6	0.21	0.11	32.7
East: MD 7											
1	L2	87	2.0	0.121	4.5	LOS A	0.4	11.4	0.17	0.07	32.7
6	T1	39	2.0	0.121	4.5	LOS A	0.4	11.4	0.17	0.07	32.8
Approach		126	2.0	0.121	4.5	LOS A	0.4	11.4	0.17	0.07	32.7
West: MD 7											
2	T1	80	2.0	0.165	5.1	LOS A	0.6	16.1	0.22	0.11	34.0
12	R2	87	2.0	0.165	5.1	LOS A	0.6	16.1	0.22	0.11	33.3
Approach		167	2.0	0.165	5.1	LOS A	0.6	16.1	0.22	0.11	33.6
All Vehicles		482	2.0	0.186	5.0	LOS A	0.7	18.6	0.20	0.10	33.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: BP

#3 MD 7 & MD 159
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: MD 159											
3	L2	111	2.0	0.339	6.8	LOS A	1.6	41.6	0.17	0.07	32.4
18	R2	250	2.0	0.339	6.8	LOS A	1.6	41.6	0.17	0.07	31.8
Approach		361	2.0	0.339	6.8	LOS A	1.6	41.6	0.17	0.07	32.0
East: MD 7											
1	L2	152	2.0	0.276	6.4	LOS A	1.2	30.3	0.28	0.17	32.1
6	T1	120	2.0	0.276	6.4	LOS A	1.2	30.3	0.28	0.17	32.2
Approach		273	2.0	0.276	6.4	LOS A	1.2	30.3	0.28	0.17	32.1
West: MD 7											
2	T1	38	2.0	0.158	5.3	LOS A	0.6	15.2	0.29	0.19	33.9
12	R2	112	2.0	0.158	5.3	LOS A	0.6	15.2	0.29	0.19	33.2
Approach		150	2.0	0.158	5.3	LOS A	0.6	15.2	0.29	0.19	33.4
All Vehicles		783	2.0	0.339	6.4	LOS A	1.6	41.6	0.23	0.12	32.3

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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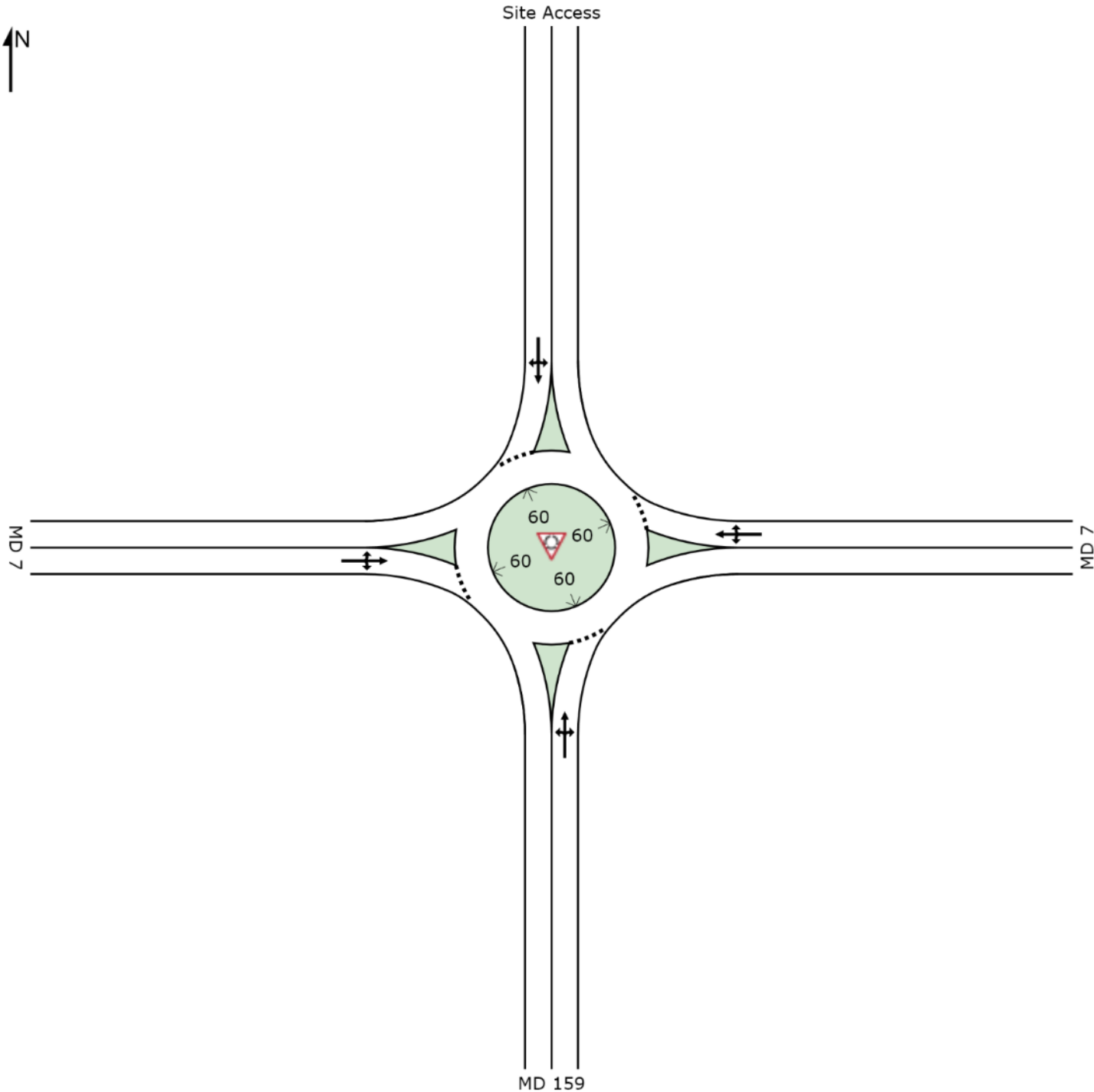
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SITE LAYOUT

 Site: TA

#3 MD 7 & MD 159
Roundabout



MOVEMENT SUMMARY

 Site: TA

#3 MD 7 & MD 159
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: MD 159											
3	L2	54	2.0	0.199	5.5	LOS A	0.8	20.1	0.26	0.14	33.1
8	T1	20	2.0	0.199	5.5	LOS A	0.8	20.1	0.26	0.14	33.2
18	R2	124	2.0	0.199	5.5	LOS A	0.8	20.1	0.26	0.14	32.5
Approach		198	2.0	0.199	5.5	LOS A	0.8	20.1	0.26	0.14	32.7
East: MD 7											
1	L2	81	2.0	0.136	4.8	LOS A	0.5	12.9	0.21	0.10	32.8
6	T1	33	2.0	0.136	4.8	LOS A	0.5	12.9	0.21	0.10	32.9
16	R2	24	2.0	0.136	4.8	LOS A	0.5	12.9	0.21	0.10	32.2
Approach		138	2.0	0.136	4.8	LOS A	0.5	12.9	0.21	0.10	32.7
North: Site Access											
7	L2	22	2.0	0.068	4.5	LOS A	0.2	6.0	0.29	0.17	33.4
4	T1	19	2.0	0.068	4.5	LOS A	0.2	6.0	0.29	0.17	33.6
14	R2	22	2.0	0.068	4.5	LOS A	0.2	6.0	0.29	0.17	32.9
Approach		64	2.0	0.068	4.5	LOS A	0.2	6.0	0.29	0.17	33.3
West: MD 7											
5	L2	12	2.0	0.171	5.3	LOS A	0.7	16.7	0.26	0.15	33.6
2	T1	74	2.0	0.171	5.3	LOS A	0.7	16.7	0.26	0.15	33.8
12	R2	81	2.0	0.171	5.3	LOS A	0.7	16.7	0.26	0.15	33.0
Approach		167	2.0	0.171	5.3	LOS A	0.7	16.7	0.26	0.15	33.4
All Vehicles		566	2.0	0.199	5.2	LOS A	0.8	20.1	0.25	0.14	33.0

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: TP

#3 MD 7 & MD 159
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: MD 159											
3	L2	105	2.0	0.356	7.2	LOS A	1.7	44.1	0.24	0.12	32.3
8	T1	19	2.0	0.356	7.2	LOS A	1.7	44.1	0.24	0.12	32.4
18	R2	244	2.0	0.356	7.2	LOS A	1.7	44.1	0.24	0.12	31.7
Approach		368	2.0	0.356	7.2	LOS A	1.7	44.1	0.24	0.12	31.9
East: MD 7											
1	L2	146	2.0	0.295	6.8	LOS A	1.3	32.8	0.32	0.21	32.0
6	T1	114	2.0	0.295	6.8	LOS A	1.3	32.8	0.32	0.21	32.2
16	R2	24	2.0	0.295	6.8	LOS A	1.3	32.8	0.32	0.21	31.5
Approach		285	2.0	0.295	6.8	LOS A	1.3	32.8	0.32	0.21	32.0
North: Site Access											
7	L2	24	2.0	0.087	5.6	LOS A	0.3	7.6	0.43	0.35	32.9
4	T1	19	2.0	0.087	5.6	LOS A	0.3	7.6	0.43	0.35	33.0
14	R2	24	2.0	0.087	5.6	LOS A	0.3	7.6	0.43	0.35	32.4
Approach		67	2.0	0.087	5.6	LOS A	0.3	7.6	0.43	0.35	32.7
West: MD 7											
5	L2	12	2.0	0.164	5.5	LOS A	0.6	15.7	0.33	0.23	33.5
2	T1	32	2.0	0.164	5.5	LOS A	0.6	15.7	0.33	0.23	33.6
12	R2	106	2.0	0.164	5.5	LOS A	0.6	15.7	0.33	0.23	32.9
Approach		150	2.0	0.164	5.5	LOS A	0.6	15.7	0.33	0.23	33.1
All Vehicles		869	2.0	0.356	6.6	LOS A	1.7	44.1	0.30	0.18	32.2

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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