

THE LAW OFFICE OF
BRUCE MARKOWITZ, Esq.
PO BOX 59344 POTOMAC, MD 20859
Phone (202) 365-5405
bmarkowitz222@gmail.com

March 29, 2022

Proposed Car Wash on Central Avenue in Gaithersburg, Maryland

Jasmine.Forbes@gaithersburgmd.gov

Dear Ms. Forbes:

I am a resident of Montgomery County and I have been living in the Potomac/Rockville/Gaithersburg area for over 45 years. I am a frequent traveler on Rockville Pike, Frederick Avenue and Hungerford Drive. I am often frustrated by the level of traffic congestion in those areas. As such, I must raise my voice in opposition to a proposed car wash construction near Central Avenue and Route 355.

The proposed area is already congested and I believe that another heavy traffic commercial enterprise at the subject site will be dangerous and inherently unsafe. There is no need for any additional car washes as several already exist within a short driving distance from the proposed site.

I call upon you to deny the application based on the density of the area, the traffic congestion already present in the area and the dangerous traffic and pedestrian conditions that will certainly arise if the construction is allowed to move forward. Thanks for your consideration.

Sincerely yours,

/s/

Bruce Markowitz, Esq.

SITE ACCESS EVALUATION

FOR

**WHIP CLEAN
GAITHERSBURG**

Prepared by:

LENHART TRAFFIC CONSULTING, INC.

TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

March 31, 2022



Table of Contents		Page
Section 1	Introduction.....	4
	1.1 Project Description	
	1.2 Scope of Study	
Section 2	Existing Conditions.....	6
	2.1 Description of Roadway Network	
	2.2 Existing Lane Configurations	
	2.3 Existing Traffic Counts	
Section 3	Projected Conditions with Site.....	12
	3.1 Site Trip Generation	
	3.2 Site Trip Distribution & Trip Assignment	
	3.3 Total Traffic Volumes	
	3.4 Projected Level of Service	
Section 4	Conclusions / Recommendations.....	19
	4.1 Results of Analyses	

Appendices

- A Supplemental Information, Turning Movement Counts
- B CLV and HCM Worksheets

List of Exhibits		Page
Exhibit 1	Site Location Map	5
Exhibit 2	Lane Use & Traffic Control Devices	8
Exhibit 3a	Existing Peak Hour Volumes	9
Exhibit 3b	Diversion of WB Left-turns at MD 355 & Central	10
Exhibit 3c	Existing Peak Hour Volumes with Diversions	11
Exhibit 4	Trip Generation for Site	13
Exhibit 5a	Primary Trip Assignment for Site	14
Exhibit 5b	Pass-by Trip Assignment for Site	15
Exhibit 6	Total Peak Hour Volumes	16
Exhibit 7a	Results of CLV Level-of-Service Analyses	17
Exhibit 7b	Results of HCM Level-of-Service Analyses	18

Section 1 Introduction

1.1 Project Description

This Site Access Evaluation was prepared for the development of the Whip Clean Car Wash located on the southeast corner of the intersection of MD 355 and Central Avenue, as shown on **Exhibit 1**. The property is proposed to be developed with a single tunnel car wash.

The site will be accessed with a full movement access along Central Avenue. A site plan has been included in Appendix A.

1.2 Scope of Study

At this stage of the development process, a Traffic Impact Analysis is not required. This evaluation was prepared in order to gain an understanding of the future operations of the site access point and surrounding intersections.

A Traffic Impact Study will be required along with the future submittal of a Preliminary Plan. Again, at this point a full Traffic Impact Study is not required and this evaluation is provided for informational purposes only.



- Study Intersections:**
1. MD 355 & Fairbanks Drive
 2. MD 355 & Deer Park Drive
 3. MD 355 & Central Avenue
 4. Central Avenue & Site Access
-  - Site Location

Site Access Evaluation

Site Location Map

Exhibit 1

 **LENHART TRAFFIC CONSULTING, INC.**
 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
 SEVERNA PARK, MD 21146
www.lenharttraffic.com

Section 2 Existing Conditions

2.1 Description of Roadway Network

The key road in the study area is MD 355. MD 355 is a major highway as classified by Montgomery County with three lanes in each direction and a north-south orientation. The posted speed limit is 35 MPH within the vicinity of the site.

2.2 Existing Lane Configurations

The Lane Use & Traffic Control Devices are shown on **Exhibit 2**.

2.3 Existing Traffic Counts

Morning and evening peak hour traffic counts were conducted and the results are shown on **Exhibit 3a**.

A previous evaluation of the intersection of MD 355 & Central Avenue by the Maryland Department of Transportation – State Highway Administration (MDOT-SHA) led to the installation of a sign prohibiting left turns out of Central Avenue. However, the peak hour traffic counts revealed that a number of vehicles continue to make this movement under existing conditions at the intersection.

In order to alleviate the existing non-compliant turning vehicles, it is recommended that either: A) physical restrictions be imposed to prohibit left turns, as described below, or B) a traffic signal be installed to allow the left turns, if warranted and approved by SHA.

With respect to option A, physically restricting left turns, this could be accomplished either through physical channelization along Central Avenue to force vehicles to turn right, or via construction of a median ‘Z’ treatment to allow left turns from both directions of the MD 355 mainline while preventing vehicles leaving Central Avenue from crossing the median to make a left turn. Either option would provide physical restrictions on existing vehicles turning left out of Central Avenue. The images below provide examples of the two types of potential physical restrictions for left-turns:



Flex Posts provide channelization to enforce right-turn only.

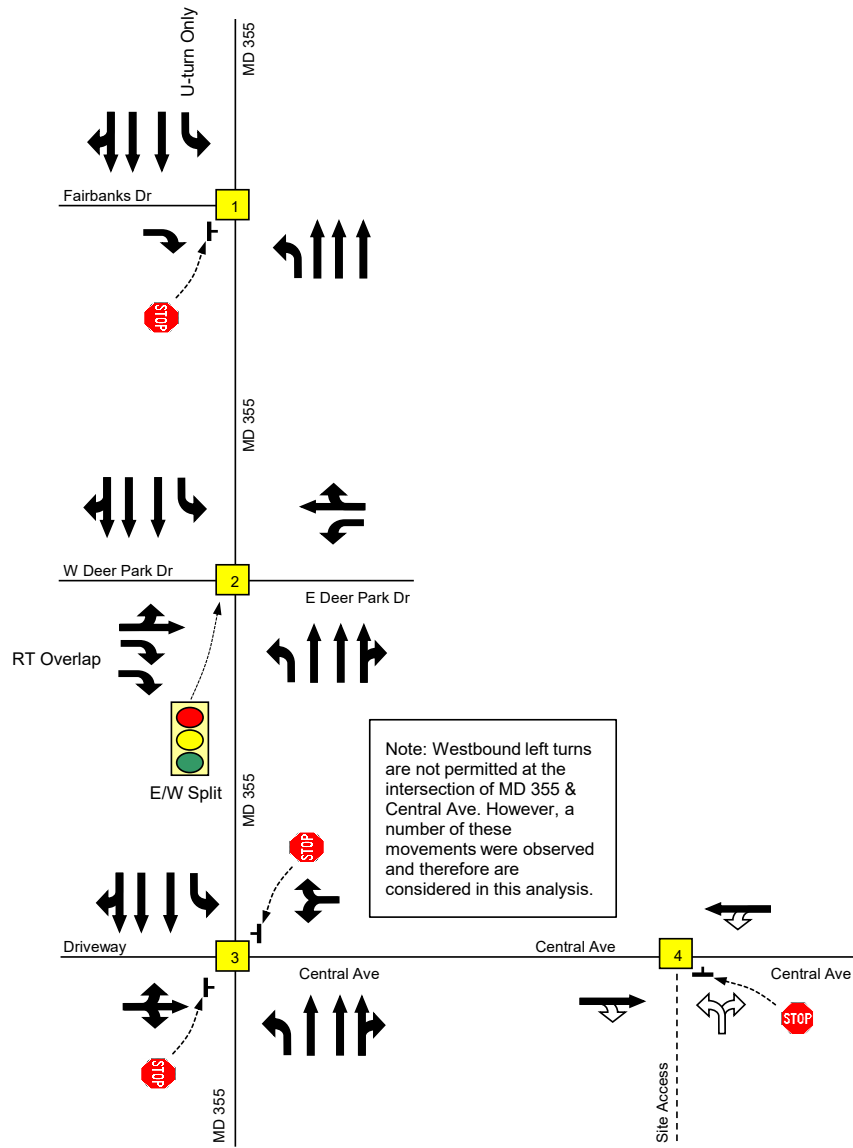


Median 'Z' treatment to enforce right-turn only.

With respect to option B, installation of a traffic signal, in order for a signal to be installed one of the nine traffic signal warrants contained in the Maryland-Manual on Uniform Traffic Control Devices (MD-MUTCD) must be met *and* MDOT-SHA must agree to allow installation of the traffic signal since MD 355 is an MDOT-SHA controlled roadway. Installation of a traffic signal would allow the prohibition on left turns out of Central Avenue to be removed.

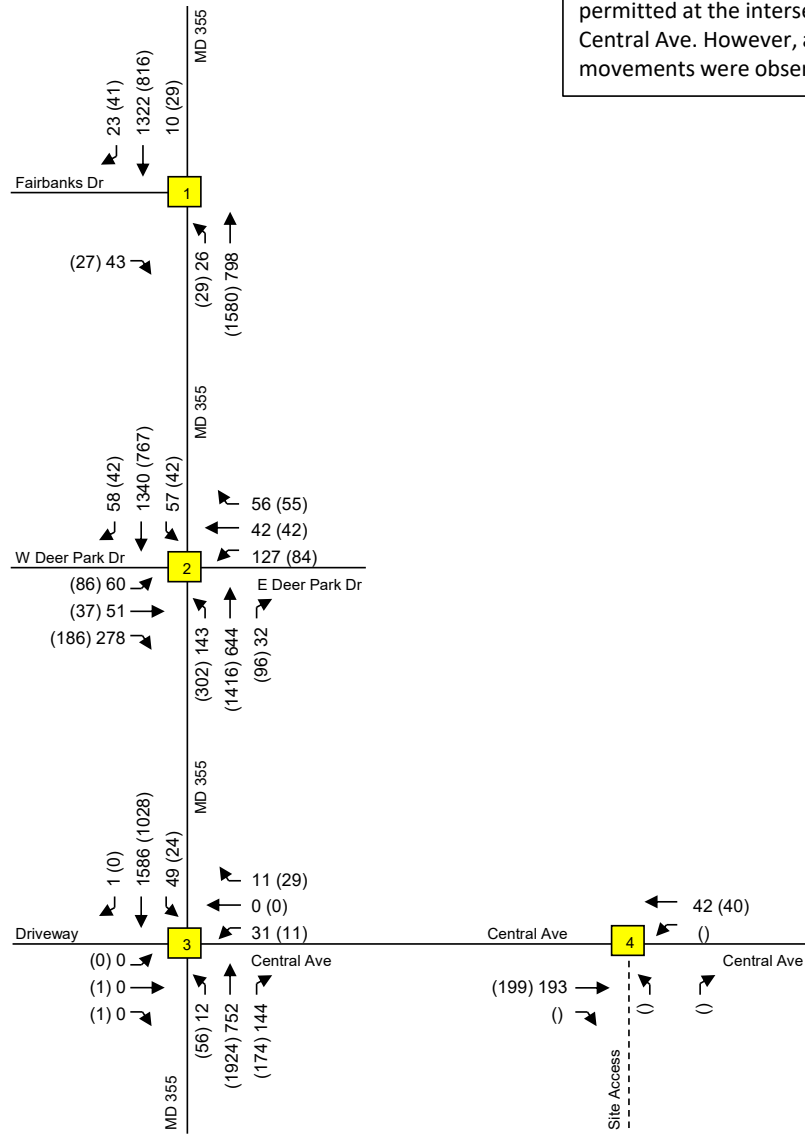
Because option A can be installed quickly as either an interim or permanent measure, whereas option B requires substantial additional evaluation and approvals, for the purposes of this study it was assumed that option A, a physical restriction of left turns from Central Avenue, would be installed. Therefore, the existing left-turning vehicles emanating from within the neighborhood, documented on Exhibit 3a, were diverted so that the restricted movement is no longer utilized. These diversions are shown on **Exhibit 3b**.

Exhibit 3c shows the Existing Peak Hour Volumes with the diversion of the westbound left-turns at MD 355 & Central Avenue.



Site Access Evaluation	<h2>Existing Peak Hour Volumes</h2>	<h1>Exhibit 3</h1>
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

Note: Westbound left turns are not permitted at the intersection of MD 355 & Central Ave. However, a number of these movements were observed.



Site Access Evaluation

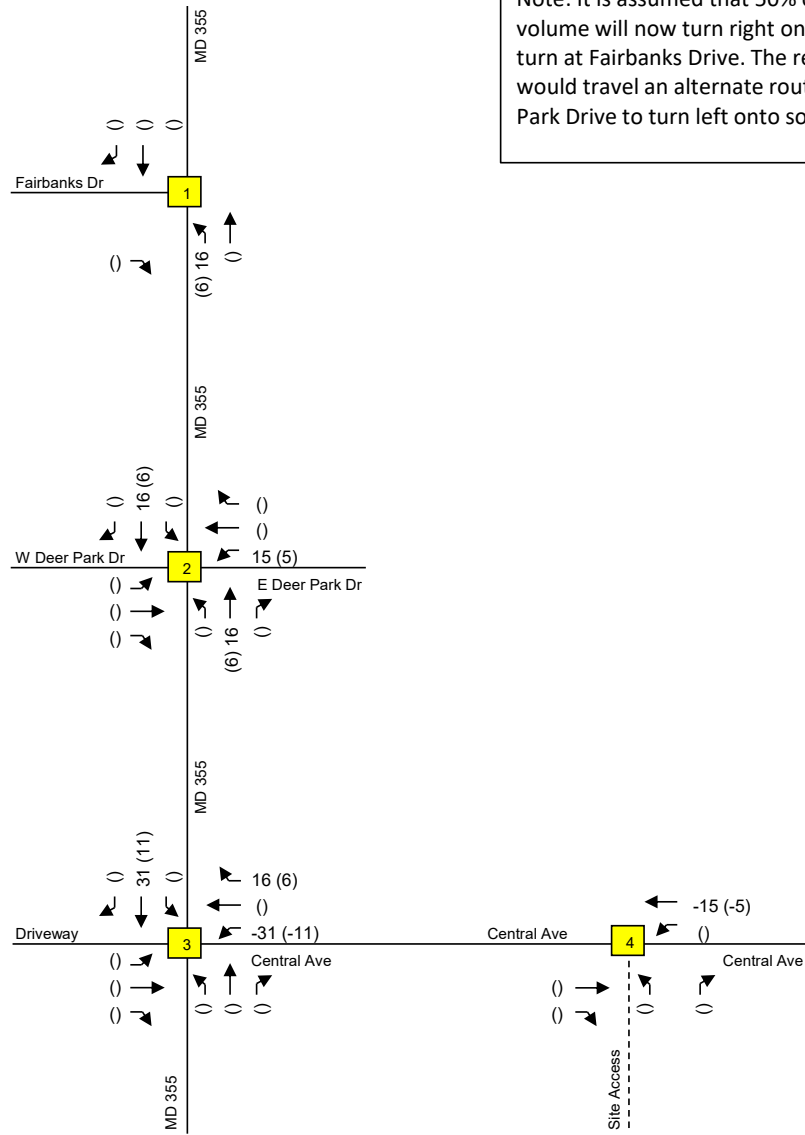
Lenhart Traffic Consulting, Inc.
 Traffic Engineering & Transportation Planning

**Existing
 Peak Hour Volumes**

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
 3a**

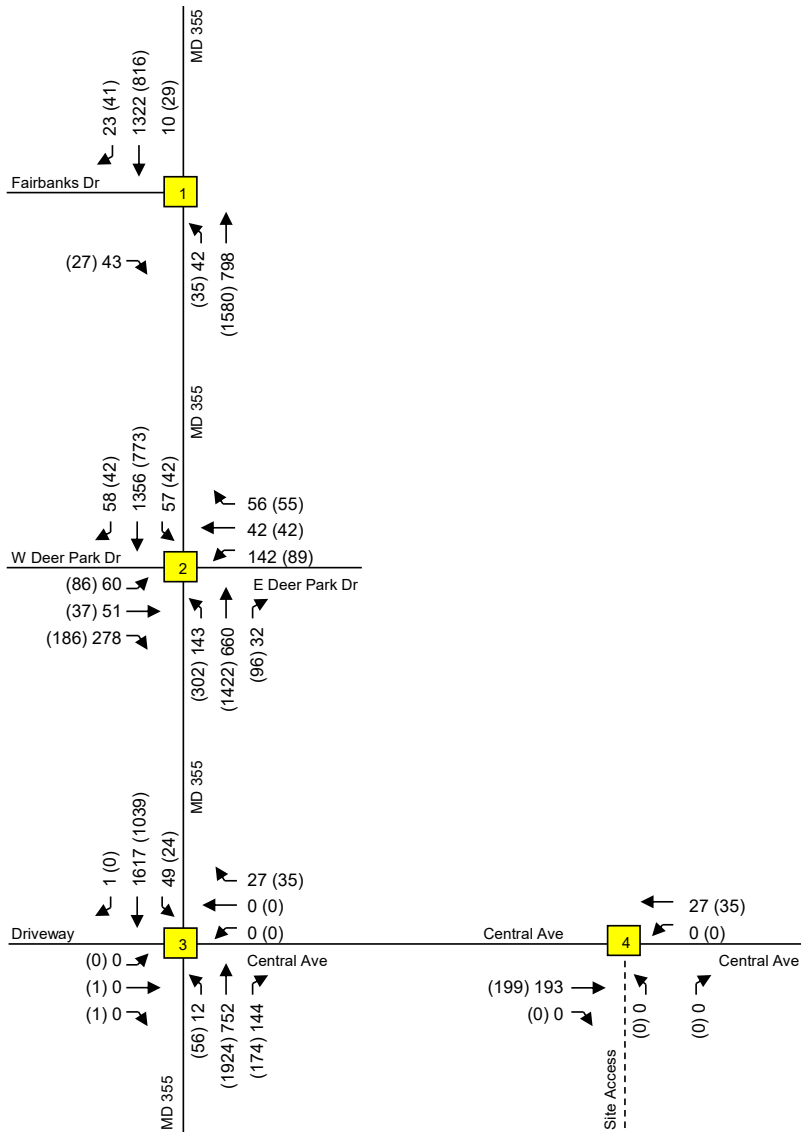
Note: It is assumed that 50% of the left-turning volume will now turn right onto MD 355 and U-turn at Fairbanks Drive. The remaining 50% would travel an alternate route to access E Deer Park Drive to turn left onto southbound MD 355.



Site Access Evaluation
 Lenhart Traffic Consulting, Inc.
 Traffic Engineering & Transportation Planning

**Diversion of Westbound
 Lefts at MD 355 & Central Ave**
 Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
 3b**



Site Access Evaluation

Lenhart Traffic Consulting, Inc.
 Traffic Engineering & Transportation Planning

**Existing Peak Hour Volumes
 with Diversion**

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

**Exhibit
 3c**

Section 3 Projected Conditions with Site

3.1 Site Trip Generation

The property is proposed to be developed with a single tunnel car wash.

Exhibit 4 shows the trip generation for the site. The trip generation rates were obtained from the ITE Trip Generation Manual, 10th Edition.

3.2 Site Trip Distribution & Trip Assignment

The primary trip assignment for the site is shown on **Exhibit 5a**. The pass-by trip assignment is shown on **Exhibit 5b**.

3.3 Total Traffic Volumes

The Total Peak Hour Volumes are shown on **Exhibit 6**.

3.4 Projected Level of Service

The results of the CLV analyses are included on **Exhibit 7a**.

The results of the HCM analyses are included on **Exhibit 7b**.

As shown, each study intersection operates with a LOS “A” or better during both morning and evening peak hours under total conditions when analyzed using the CLV methodology. The results of the HCM methodology indicate that any movements receiving additional traffic due to development of the site will continue to operate with acceptable LOS. Additionally, each movement at the site access point will operate with a LOS “B” or better.

SimTraffic Simulation Software was also used to analyze the 95th percentile queues of the study intersections. The SimTraffic queuing outputs are included in Appendix B. The results show that the site access point along Central Avenue and the intersection of MD 355 & Central Avenue will operate with minimal queuing; ingress/egress from the site works acceptably and will not be impacted by queuing.

Trip Generation Rates

Automated Car Wash (Car Wash Tunnels, ITE-948)

Morning Trips - See Notes, Below
 Evening Trips = 77.5 x Tunnels
 Saturday Trips = 41.00 x Tunnels

Trip Distribution (In/Out)

50/50
 46/54


Trip Generation Totals

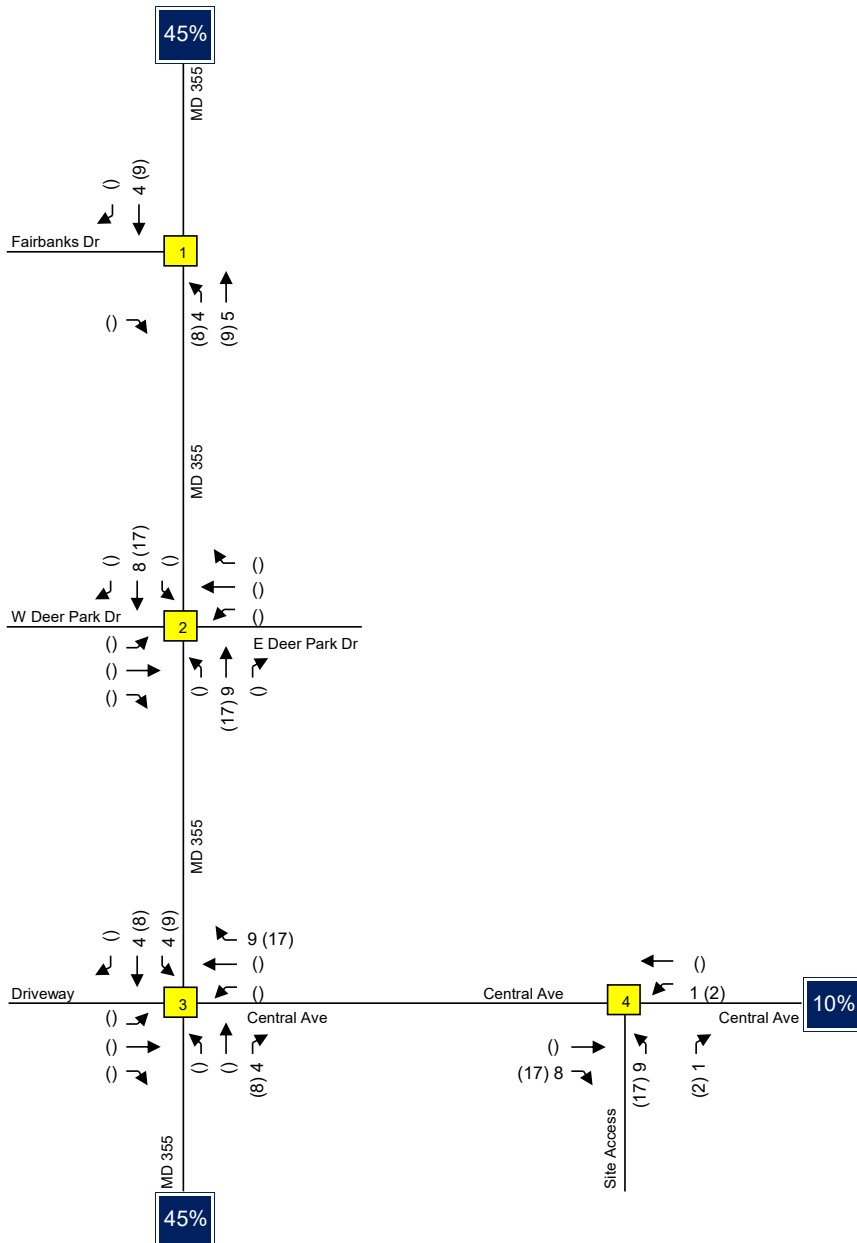
		AM Peak			PM Peak			Saturday Peak		
		In	Out	Total	In	Out	Total	In	Out	Total
Automated Car Wash (Car Wash Tunnels, ITE-948)	1 tunnel	19	20	39	39	39	78	19	22	41
- Pass-by (assumed to be 50%)		-10	-10	-20	-20	-20	-39	-10	-11	-21
Net New Trips:		9	10	19	19	19	39	9	11	20

NOTES: Trip Generation Rates obtained from the ITE Trip Generation Manual, 10th Edition

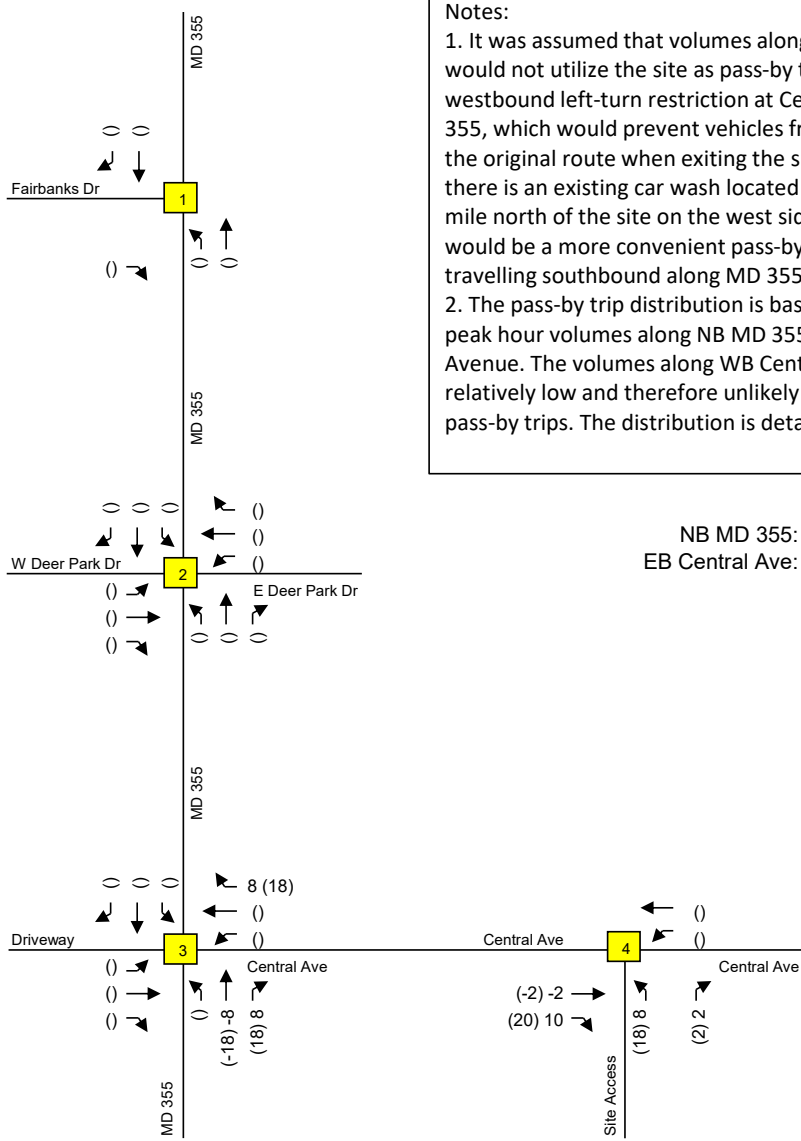
The ITE Trip Generation Manual does not provide a rate/equation for this use during the morning peak hour. This is likely because the use generates the vast majority of its trips during the afternoon and evening hours, and very few trips during the morning peak hour of adjacent street traffic. While it is likely that a negligible number of trips would be generated during the AM peak hour, in order to be conservative it was assumed that the AM trip generation rate was 50% of the PM trip rate with the same split.

The ITE Trip Generation Manual also does not provide a pass-by trip percentage for this use. A large percentage of trips would be pass-by trips, so a 50% pass-by rate was assumed for both the AM and PM peak hour.

Site Access Evaluation	Trip Generation for Site	Exhibit 4
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		



Site Access Evaluation	<h3 style="text-align: center;">Primary Trip Assignment for Site</h3>	<h2 style="margin: 0;">Exhibit 5a</h2>
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		



Notes:

1. It was assumed that volumes along SB MD 355 would not utilize the site as pass-by trips due to westbound left-turn restriction at Central Ave & MD 355, which would prevent vehicles from returning to the original route when exiting the site. Additionally, there is an existing car wash located approximately 1 mile north of the site on the west side of MD 355 that would be a more convenient pass-by trip for vehicles travelling southbound along MD 355.
2. The pass-by trip distribution is based on the existing peak hour volumes along NB MD 355 and EB Central Avenue. The volumes along WB Central Avenue are relatively low and therefore unlikely to generate any pass-by trips. The distribution is detailed below.

	AM	PM
NB MD 355:	80%	91%
EB Central Ave:	20%	9%

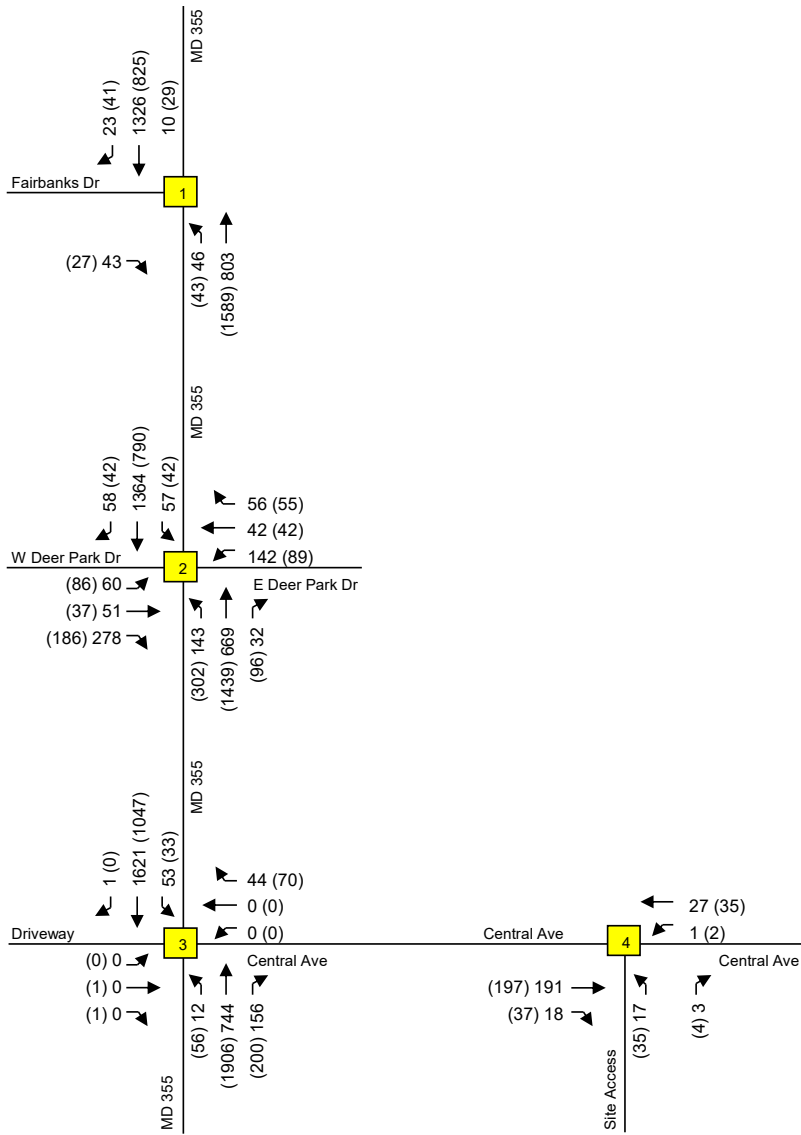
Site Access Evaluation

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning

Pass-by Trip Assignment
for Site

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

Exhibit
5b



Site Access Evaluation

Lenhart Traffic Consulting, Inc.
 Traffic Engineering & Transportation Planning

Total
 Peak Hour Volumes

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

Exhibit
 6

CLV Level-of-Service Results

Morning Peak Hour	Existing CLV	Total CLV	LOS D or better?
1). MD 355 & Fairbanks Drive	A / 581	A / 586	Y
2). MD 355 & Deer Park Drive	A / 889	A / 965	Y
3). MD 355 & Central Avenue	A / 692	A / 705	Y
4). Central Ave & Site Access	N/A	A / 230	
Evening Peak Hour	Existing CLV	Total CLV	LOS D or better?
1). MD 355 & Fairbanks Drive	A / 661	A / 665	Y
2). MD 355 & Deer Park Drive	A / 830	A / 876	Y
3). MD 355 & Central Avenue	A / 904	A / 945	Y
4). Central Ave & Site Access	N/A	A / 275	

NOTES:

1. All intersections satisfy City of Gaithersburg Guidelines of LOS "D" or better.

Site Access Evaluation

**Results of CLV
Level-of-Service Analyses**

**Exhibit
7a**



HCM Level-of-Service Results

Morning Peak Hour	Existing Delay	Total Delay	LOS D or better?
1). MD 355 & Fairbanks Drive <i>Northbound Left/U-Turn</i>	A / 0.3 B / 12.8	A / 0.3 B / 12.8	Y
2). MD 355 & Deer Park Drive <i>Northbound Thru</i>	C / 28.0	C / 28.0	Y
<i>Southbound Thru</i>	B / 17.6 C / 20.2	B / 17.7 C / 20.2	
3). MD 355 & Central Avenue <i>Southbound Left</i>	A / 0.4	A / 0.5	Y
<i>Westbound Right</i>	B / 10.5 B / 10.8	B / 10.6 B / 11.1	
4). Central Ave & Site Access <i>Northbound Left/Right</i>	N/A	A / 0.8	Y
<i>Eastbound Thru/Right</i>	N/A	A / 9.9	
<i>Westbound Left/Thru</i>	N/A	A / 0.0 A / 0.3	
Evening Peak Hour	Existing Delay	Total Delay	LOS D or better?
1). MD 355 & Fairbanks Drive <i>Northbound Left/U-Turn</i>	A / 0.2 A / 9.9	A / 0.2 A / 10.0	Y
2). MD 355 & Deer Park Drive <i>Northbound Thru</i>	C / 27.8	C / 25.4	Y
<i>Southbound Thru</i>	C / 23.0 C / 21.6	B / 19.0 C / 20.2	
3). MD 355 & Central Avenue <i>Southbound Left</i>	A / 0.8	A / 1.1	Y
<i>Westbound Right</i>	C / 23.6 C / 17.2	C / 24.8 C / 19.2	
4). Central Ave & Site Access <i>Northbound Left/Right</i>	N/A	A / 1.3	Y
<i>Eastbound Thru/Right</i>	N/A	B / 10.3	
<i>Westbound Left/Thru</i>	N/A	A / 0.0 A / 0.4	

Site Access Evaluation

Results of HCM
Level-of-Service Analyses

**Exhibit
7b**

 **LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Section 4 Conclusions / Recommendations

4.1 Results of Analyses

This Site Access Evaluation was prepared for the development of the Whip Clean Car Wash located on the southeast corner of the intersection of MD 355 and Central Avenue. The property is proposed to be developed with a single tunnel car wash.

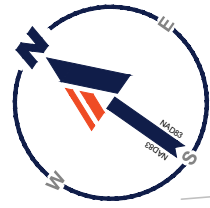
As previously discussed, a Traffic Impact Study is not required by the City of Gaithersburg at this time, and this evaluation has been conducted for informational purposes only. A Traffic Impact Study will be required along with the future submittal of a Preliminary Plan.

Based on the analyses contained in this report, all of the study intersections meet the City of Gaithersburg's Guidelines of CLVs less than 1,450 in all conditions. Additionally, the results of the HCM analyses show that any movement receiving additional volumes from the development of the site will continue to operate with adequate level of service. Lastly, based on the SimTraffic queuing evaluation, ingress and egress to the site will operate well without queuing impacts from the site to Central Avenue or vice versa.

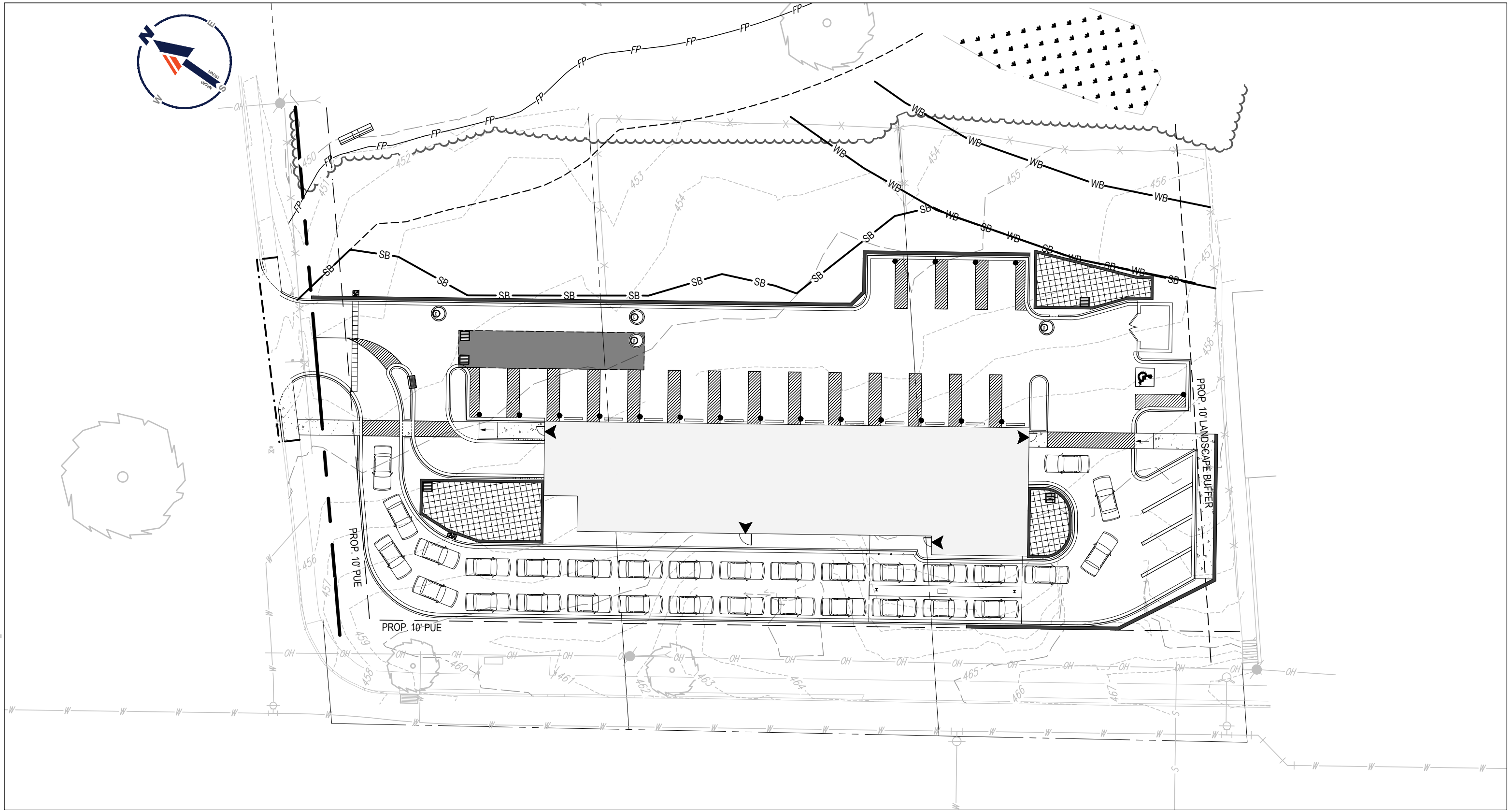
While all intersections included in this analysis are shown to operate well within required adequacy thresholds, as noted in Section 2, it is recommended that the intersection of MD 355 & Central Avenue be improved with either: A) physical restrictions to prohibit left turns out of Central Avenue, or B) installation of a traffic signal to allow the left turns, if warranted and approved by MDOT-SHA. The developer will work with the City of Gaithersburg and MDOT-SHA in order to determine which improvement can/should be implemented.

Appendix A

Supplemental Information
Turning Movement Counts



C:\PROGRAMDATA\BOHLER\C3D\2020\TEMP\AC\PUBLISH_28748\MB202177EX7 - STACKING EXHIBIT ->LAYOUT: 02 - STORM

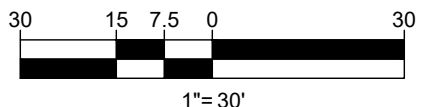


WHIP CLEAN LAYOUT

08/04/21 | MRH | MB202177 | Rev 0



16701 MELFORD BLVD , SUITE 310
BOWIE, MARYLAND 20715
Phone: (301) 809-4500
Fax: (301) 809-4501
MD@BohlerEng.com




Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	MD 355 Northbound					MD 355 Southbound					Fairbanks Dr Eastbound					N/A Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	5	2	82	0	0	3	0	176	3	0	0	0	0	9	0	0	0	0	0	0	280
6:45-7:00	2	1	92	0	0	2	0	202	3	0	0	0	0	10	0	0	0	0	0	0	312
7:00-7:15	5	0	132	0	1	3	0	227	4	0	0	1	0	11	0	0	0	0	0	1	383
7:15-7:30	4	1	189	0	0	4	0	291	2	1	0	0	0	13	3	0	0	0	0	8	504
7:30-7:45	8	0	220	0	0	1	0	343	5	0	0	0	0	11	4	0	0	0	0	3	588
7:45-8:00	5	2	218	0	0	3	0	351	9	0	0	1	0	10	0	0	0	0	0	4	599
8:00-8:15	3	3	171	0	0	2	0	337	7	0	0	0	0	9	4	0	0	0	0	1	532
8:15-8:30	1	2	154	0	0	4	0	344	2	0	0	0	0	8	1	0	0	0	0	0	515
8:30-8:45	3	3	155	0	0	2	0	319	3	0	0	0	0	11	0	0	0	0	0	0	496
8:45-9:00	1	3	181	0	0	3	0	320	10	0	0	1	0	15	1	0	0	0	0	1	534
9:00-9:15	4	3	192	0	0	6	0	238	2	0	0	0	0	8	1	0	0	0	0	4	453
9:15-9:30	2	4	184	0	0	4	0	206	4	1	0	0	0	6	0	0	0	0	0	0	410

Hourly Totals																					
Time	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
6:30-7:30	16	4	495	0	1	12	0	896	12	1	0	1	0	43	3	0	0	0	0	9	1493
6:45-7:45	19	2	633	0	1	10	0	1063	14	1	0	1	0	45	7	0	0	0	0	12	1808
7:00-8:00	22	3	759	0	1	11	0	1212	20	1	0	2	0	45	7	0	0	0	0	16	2099
7:15-8:15	20	6	798	0	0	10	0	1322	23	1	0	1	0	43	11	0	0	0	0	16	2251
7:30-8:30	17	7	763	0	0	10	0	1375	23	0	0	1	0	38	9	0	0	0	0	8	2251
7:45-8:45	12	10	698	0	0	11	0	1351	21	0	0	1	0	38	5	0	0	0	0	5	2152
8:00-9:00	8	11	661	0	0	11	0	1320	22	0	0	1	0	43	6	0	0	0	0	2	2085
8:15-9:15	9	11	682	0	0	15	0	1221	17	0	0	1	0	42	3	0	0	0	0	5	2006
8:30-9:30	10	13	712	0	0	15	0	1083	19	1	0	1	0	40	2	0	0	0	0	5	1901
AM Peak Hour	Northbound					Southbound					Eastbound					Westbound					Total
7:15-8:15	20	6	798	0	0	10	0	1322	23	1	0	1	0	43	11	0	0	0	0	16	2251

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	MD 355 Northbound					MD 355 Southbound					Fairbanks Dr Eastbound					N/A Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	5	4	339	0	0	4	0	228	11	0	0	0	0	3	3	0	0	0	0	6	594
4:15-4:30	3	7	384	0	0	2	0	192	6	1	0	0	0	6	1	0	0	0	0	3	600
4:30-4:45	6	5	377	0	1	8	0	201	6	0	0	0	0	3	2	0	0	0	0	2	606
4:45-5:00	1	6	388	0	0	10	0	201	12	0	0	0	0	5	0	0	0	0	0	3	623
5:00-5:15	2	9	378	0	0	8	0	211	8	0	0	0	0	8	7	0	0	0	0	5	624
5:15-5:30	0	5	423	0	0	5	0	177	13	0	0	0	0	9	2	0	0	0	0	5	632
5:30-5:45	1	5	391	0	0	6	0	227	8	0	0	0	0	5	3	0	0	0	0	0	643
5:45-6:00	0	4	352	0	1	3	0	194	7	0	0	0	0	7	3	0	0	0	0	2	567
6:00-6:15	1	13	372	0	0	4	0	199	13	0	0	1	0	4	3	0	0	0	0	4	607
6:15-6:30	6	5	303	0	0	5	0	198	8	0	0	0	0	7	2	0	0	0	0	1	532
6:30-6:45	4	3	302	0	0	4	0	166	10	0	0	0	0	6	3	0	0	0	0	0	495
6:45-7:00	5	3	227	0	0	3	0	180	7	0	0	0	0	5	1	0	0	0	0	2	430

Hourly Totals																					
Time	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:00-5:00	15	22	1488	0	1	24	0	822	35	1	0	0	0	17	6	0	0	0	0	14	2445
4:15-5:15	12	27	1527	0	1	28	0	805	32	1	0	0	0	22	10	0	0	0	0	13	2478
4:30-5:30	9	25	1566	0	1	31	0	790	39	0	0	0	0	25	11	0	0	0	0	15	2512
4:45-5:45	4	25	1580	0	0	29	0	816	41	0	0	0	0	27	12	0	0	0	0	13	2547
5:00-6:00	3	23	1544	0	1	22	0	809	36	0	0	0	0	29	15	0	0	0	0	12	2494
5:15-6:15	2	27	1538	0	1	18	0	797	41	0	0	1	0	25	11	0	0	0	0	11	2472
5:30-6:30	8	27	1418	0	1	18	0	818	36	0	0	1	0	23	11	0	0	0	0	7	2368
5:45-6:45	11	25	1329	0	1	16	0	757	38	0	0	1	0	24	11	0	0	0	0	7	2220
6:00-7:00	16	24	1204	0	0	16	0	743	38	0	0	1	0	22	9	0	0	0	0	7	2080
PM Peak Hour	Northbound					Southbound					Eastbound					Westbound					Total
4:45-5:45	4	25	1580	0	0	29	0	816	41	0	0	0	0	27	12	0	0	0	0	13	2547

Peak Hour
Turning Movement Count



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Intersection: MD 355 & Fairbanks Drive
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Wednesday, March 2, 2022
Jurisdiction: City of Gaithersburg

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
Time:	MD 355 Northbound					MD 355 Southbound					W Deer Park Rd Eastbound					E Deer Park Rd Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	0	9	70	7	0	2	6	179	2	0	0	8	5	53	0	0	25	6	6	0	378
6:45-7:00	1	15	72	7	0	0	3	209	3	1	0	11	9	64	0	0	17	3	3	0	417
7:00-7:15	0	14	119	10	0	0	10	224	7	1	0	11	7	68	0	0	31	5	13	0	519
7:15-7:30	0	29	151	3	0	0	10	277	11	2	0	21	7	57	0	0	29	7	22	1	624
7:30-7:45	0	29	165	6	0	0	17	326	19	2	0	23	9	71	1	0	30	10	28	4	733
7:45-8:00	0	26	184	9	0	0	22	339	16	0	0	15	17	84	0	0	32	8	15	2	767
8:00-8:15	0	47	155	8	0	0	11	336	13	0	0	9	14	56	0	0	32	10	8	0	699
8:15-8:30	0	41	140	9	0	0	7	339	10	1	0	13	11	67	1	0	33	14	5	0	689
8:30-8:45	0	34	140	8	0	1	7	313	14	0	0	11	6	64	0	0	36	8	9	0	651
8:45-9:00	1	42	162	16	0	2	10	307	20	1	0	20	13	76	1	0	34	14	2	0	719
9:00-9:15	0	31	171	7	0	0	10	233	8	0	0	12	6	74	1	0	24	8	9	0	593
9:15-9:30	0	32	171	14	0	0	2	208	10	3	0	10	9	37	0	0	19	2	3	0	517


Hourly Totals																					
Time:	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
6:30-7:30	1	67	412	27	0	2	29	889	23	4	0	51	28	242	0	0	102	21	44	1	1943
6:45-7:45	1	87	507	26	0	0	40	1036	40	6	0	66	32	260	1	0	107	25	66	5	2305
7:00-8:00	0	98	619	28	0	0	59	1166	53	5	0	70	40	280	1	0	122	30	78	7	2656
7:15-8:15	0	131	655	26	0	0	60	1278	59	4	0	68	47	268	1	0	123	35	73	7	2835
7:30-8:30	0	143	644	32	0	0	57	1340	58	3	0	60	51	278	2	0	127	42	56	6	2899
7:45-8:45	0	148	619	34	0	1	47	1327	53	1	0	48	48	271	1	0	133	40	37	2	2810
8:00-9:00	1	164	597	41	0	3	35	1295	57	2	0	53	44	263	2	0	135	46	24	0	2762
8:15-9:15	1	148	613	40	0	3	34	1192	52	2	0	56	36	281	3	0	127	44	25	0	2657
8:30-9:30	1	139	644	45	0	3	29	1061	52	4	0	53	34	251	2	0	113	32	23	0	2486

AM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
7:30-8:30	0	143	644	32	0	0	57	1340	58	3	0	60	51	278	2	0	127	42	56	6	2899

Weekday Evening Peak Hour (4 pm - 7 pm)																					
Time:	MD 355 Northbound					MD 355 Southbound					W Deer Park Rd Eastbound					E Deer Park Rd Westbound					Total
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	0	56	298	24	0	0	9	213	9	2	0	18	9	46	0	0	22	9	22	0	735
4:15-4:30	0	53	356	20	0	1	4	183	16	0	0	17	12	45	1	0	22	11	14	0	754
4:30-4:45	1	76	337	29	2	1	5	188	13	1	0	28	10	56	2	0	29	10	10	0	793
4:45-5:00	1	64	346	19	0	0	5	181	10	4	0	18	8	40	1	0	16	12	16	1	736
5:00-5:15	0	78	329	32	0	1	17	210	9	4	0	28	15	56	1	0	23	7	13	2	818
5:15-5:30	0	94	384	21	0	0	8	170	13	1	0	17	3	45	1	0	26	14	13	2	808
5:30-5:45	0	65	357	24	0	1	10	206	10	5	0	23	11	45	1	0	19	9	13	6	793
5:45-6:00	1	76	312	16	0	1	12	179	13	4	0	15	11	49	0	0	24	9	5	0	723
6:00-6:15	0	64	337	22	0	1	12	166	15	3	0	23	16	39	1	1	19	7	11	1	733
6:15-6:30	0	60	252	17	0	0	15	189	12	2	0	19	10	52	2	0	13	12	9	0	660
6:30-6:45	0	59	278	14	0	0	7	157	17	4	0	11	12	48	0	0	20	6	9	0	638
6:45-7:00	1	72	205	12	0	0	6	162	20	3	0	19	8	40	0	0	23	14	6	3	588

Hourly Totals																					
Time:	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	Total
4:00-5:00	2	249	1337	92	2	2	23	765	48	7	0	81	39	187	4	0	89	42	62	1	3032
4:15-5:15	2	271	1368	100	2	3	31	762	48	9	0	91	45	197	5	0	90	40	53	3	3120
4:30-5:30	2	312	1396	101	2	2	35	749	45	10	0	91	36	197	5	0	94	43	52	5	3177
4:45-5:45	1	301	1416	96	0	2	40	767	42	14	0	86	37	186	4	0	84	42	55	11	3184
5:00-6:00	1	313	1382	93	0	3	47	765	45	14	0	83	40	195	3	0	92	39	44	10	3169
5:15-6:15	1	299	1390	83	0	3	42	721	51	13	0	78	41	178	3	1	88	39	42	9	3082
5:30-6:30	1	265	1258	79	0	3	49	740	50	14	0	80	48	185	4	1	75	37	38	7	2934
5:45-6:45	1	259	1179	69	0	2	46	691	57	13	0	68	49	188	3	1	76	34	34	1	2771
6:00-7:00	1	255	1072	65	0	1	40	674	64	12	0	72	46	179	3	1	75	39	35	4	2638

PM	Northbound					Southbound					Eastbound					Westbound					Total
Peak Hour	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:45-5:45	1	301	1416	96	0	2	40	767	42	14	0	86	37	186	4	0	84	42	55	11	3184


Peak Hour Turning Movement Count	Intersection: MD 355 & Deer Park Road Weather: Clear Count by: Count Cam DSS Count Day/Date: Wednesday, March 2, 2022 Jurisdiction: City of Gaithersburg
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	

Weekday Morning Peak Hour (6:30 am - 9:30 am)																					
MD 355 Northbound					MD 355 Southbound					Driveway Eastbound					Central Ave Westbound					Total	
Time:	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-6:45	1	0	79	8	0	0	3	264	0	0	0	0	0	0	0	0	6	0	2	0	363
6:45-7:00	3	0	86	9	0	0	7	251	0	0	0	0	0	0	1	0	6	0	4	0	366
7:00-7:15	1	0	128	18	0	0	8	268	0	0	0	0	0	0	1	0	6	0	1	0	430
7:15-7:30	4	0	166	13	0	0	9	346	0	0	0	0	0	0	3	0	9	0	3	1	550
7:30-7:45	1	0	168	27	0	0	15	384	0	0	0	0	0	0	2	0	9	0	3	0	607
7:45-8:00	4	0	202	57	0	0	14	433	1	0	0	0	0	0	0	0	7	0	2	0	720
8:00-8:15	2	0	196	35	0	0	13	367	0	0	0	0	0	0	1	0	8	0	3	0	624
8:15-8:30	5	0	186	25	0	0	7	402	0	0	0	0	0	0	1	0	7	0	3	0	635
8:30-8:45	5	0	178	29	0	0	9	346	0	0	0	0	0	0	1	0	7	0	7	0	581
8:45-9:00	15	1	215	33	0	1	10	413	1	0	0	1	0	0	0	6	0	5	0	701	
9:00-9:15	10	1	222	21	0	1	16	295	0	0	0	6	2	1	0	0	8	2	6	0	591
9:15-9:30	4	0	208	20	0	2	10	255	1	0	0	0	1	0	0	0	4	1	8	0	514

Hourly Totals																					
AM Peak Hour	Northbound					Southbound					Eastbound					Westbound					Total
7:30-8:30	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
6:30-7:30	9	0	459	48	0	0	27	1129	0	0	0	0	0	0	5	0	27	0	10	1	1715
6:45-7:45	9	0	548	67	0	0	39	1249	0	0	0	0	0	0	7	0	30	0	11	1	1961
7:00-8:00	10	0	664	115	0	0	46	1431	1	0	0	0	0	0	6	0	31	0	9	1	2314
7:15-8:15	11	0	732	132	0	0	51	1530	1	0	0	0	0	0	6	0	33	0	11	1	2508
7:30-8:30	12	0	752	144	0	0	49	1586	1	0	0	0	0	0	4	0	31	0	11	0	2590
7:45-8:45	16	0	762	146	0	0	43	1548	1	0	0	0	0	0	3	0	29	0	15	0	2563
8:00-9:00	27	1	775	122	0	1	39	1528	1	0	0	1	0	0	3	0	28	0	18	0	2544
8:15-9:15	35	2	801	108	0	2	42	1456	1	0	0	7	2	1	2	0	28	2	21	0	2510
8:30-9:30	34	2	823	103	0	4	45	1309	2	0	0	7	3	1	1	0	25	3	26	0	2388
7:30-8:30	12	0	752	144	0	0	49	1586	1	0	0	0	0	0	4	0	31	0	11	0	2590

Weekday Evening Peak Hour (4 pm - 7 pm)																					
MD 355 Northbound					MD 355 Southbound					Driveway Eastbound					Central Ave Westbound					Total	
Time:	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-4:15	12	1	400	60	0	1	8	256	1	0	0	0	0	0	0	0	1	0	14	1	754
4:15-4:30	11	1	380	54	0	1	4	260	1	0	0	1	0	0	2	0	3	0	20	1	736
4:30-4:45	9	0	463	51	0	0	5	281	0	0	0	0	0	0	0	0	2	0	4	0	815
4:45-5:00	19	0	453	47	0	1	2	272	1	0	0	0	0	1	1	0	3	0	9	1	808
5:00-5:15	10	1	390	48	0	2	8	270	0	0	0	1	0	0	2	0	0	0	6	1	736
5:15-5:30	12	1	480	39	0	1	3	267	0	0	0	0	0	0	1	0	2	0	11	1	816
5:30-5:45	11	1	486	48	0	1	4	264	0	0	0	0	0	0	1	0	0	0	5	4	820
5:45-6:00	14	1	487	48	0	2	9	263	0	0	0	0	0	0	0	0	6	0	9	0	839
6:00-6:15	16	0	471	39	0	1	3	234	0	0	0	0	1	1	1	0	3	0	4	4	773
6:15-6:30	10	3	386	47	0	1	7	236	0	0	0	0	0	0	0	0	4	0	6	1	700
6:30-6:45	11	1	364	35	0	2	4	222	1	0	0	0	0	0	0	0	1	0	12	1	653
6:45-7:00	11	0	334	32	0	0	3	194	0	0	0	0	0	0	0	0	2	0	2	1	578

Hourly Totals																					
PM Peak Hour	Northbound					Southbound					Eastbound					Westbound					Total
5:15-6:15	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	
4:00-5:00	51	2	1696	212	0	3	19	1069	3	0	0	1	0	1	3	0	9	0	47	3	3119
4:15-5:15	49	2	1686	200	0	4	19	1083	2	0	0	2	0	1	5	0	8	0	39	3	3103
4:30-5:30	50	2	1786	185	0	4	18	1090	1	0	0	1	0	1	4	0	7	0	30	3	3182
4:45-5:45	52	3	1809	182	0	5	17	1073	1	0	0	1	0	1	5	0	5	0	31	7	3192
5:00-6:00	47	4	1843	183	0	6	24	1064	0	0	0	1	0	0	4	0	8	0	31	6	3221
5:15-6:15	53	3	1924	174	0	5	19	1028	0	0	0	0	1	1	3	0	11	0	29	9	3260
5:30-6:30	51	5	1830	182	0	5	23	997	0	0	0	0	1	1	2	0	13	0	24	9	3143
5:45-6:45	51	5	1708	169	0	6	23	955	1	0	0	0	1	1	1	0	14	0	31	6	2972
6:00-7:00	48	4	1555	153	0	4	17	886	1	0	0	0	1	1	1	0	10	0	24	7	2712
5:15-6:15	53	3	1924	174	0	5	19	1028	0	0	0	0	1	1	3	0	11	0	29	9	3260

Peak Hour Turning Movement Count	Intersection: MD 355 & Central Avenue Weather: Clear Count by: Count Cam DSS Count Day/Date: Wednesday, October 13, 2021 Jurisdiction: City of Gaithersburg
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com	

Appendix B

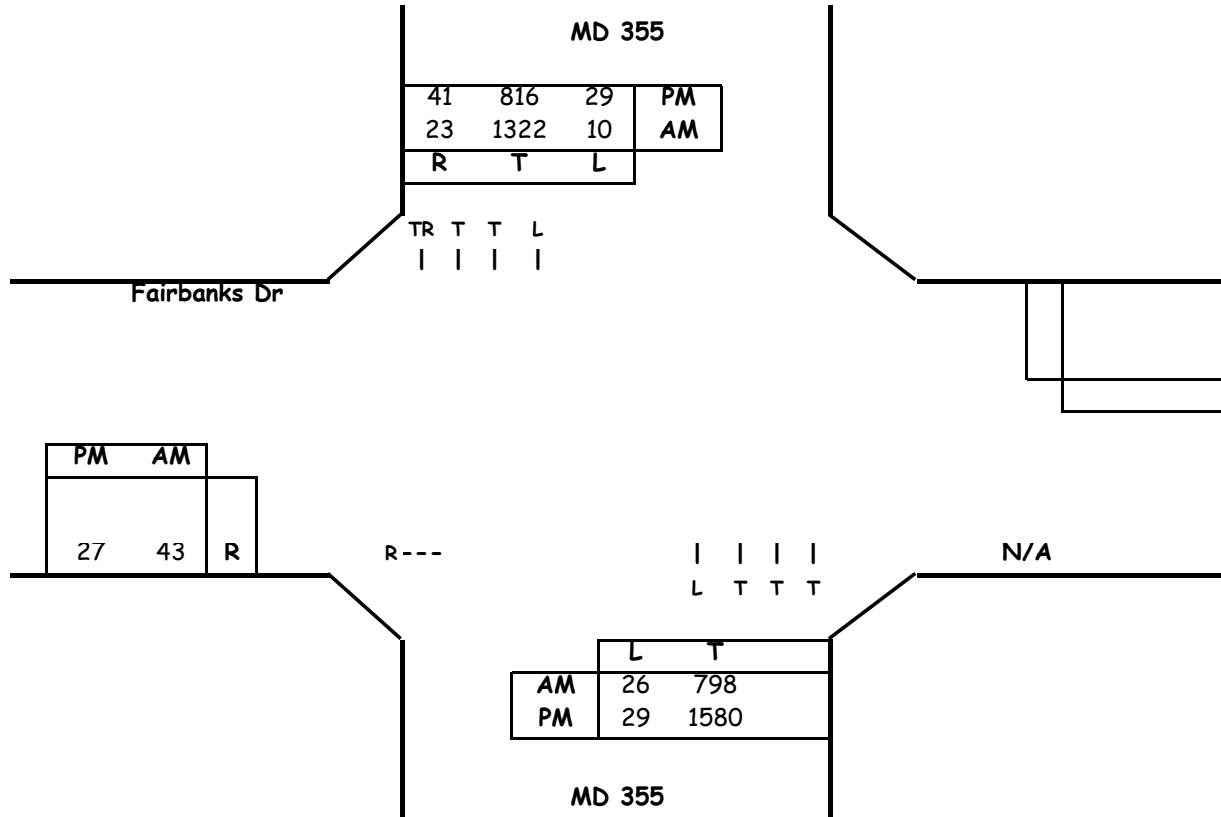
Level of Service (LOS) Worksheets

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Main Line: MD 355
Minor Street: Fairbanks Dr
Study Period: Existing Traffic

Analyst: Lenhart Traffic Consulting

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	798	0.40	319	10	1	10	564
SB	1345	0.40	538	26	1	26	
EB	17	1	17	0	0	0	17
WB	0	0	0	1	0	0	
CLV TOTAL=							581
Level of Service (LOS)=-							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	1580	0.40	632	29	1	29	661
SB	857	0.40	343	29	1	29	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							661
Level of Service (LOS)=-							A

Critical Lane Volume Analysis



LENHART TRAFFIC CONSULTING, INC.
 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
 SEVERNA PARK, MD 21146
 www.lenharttraffic.com

**MD 355 &
 Fairbanks Dr
 (Existing Traffic)**

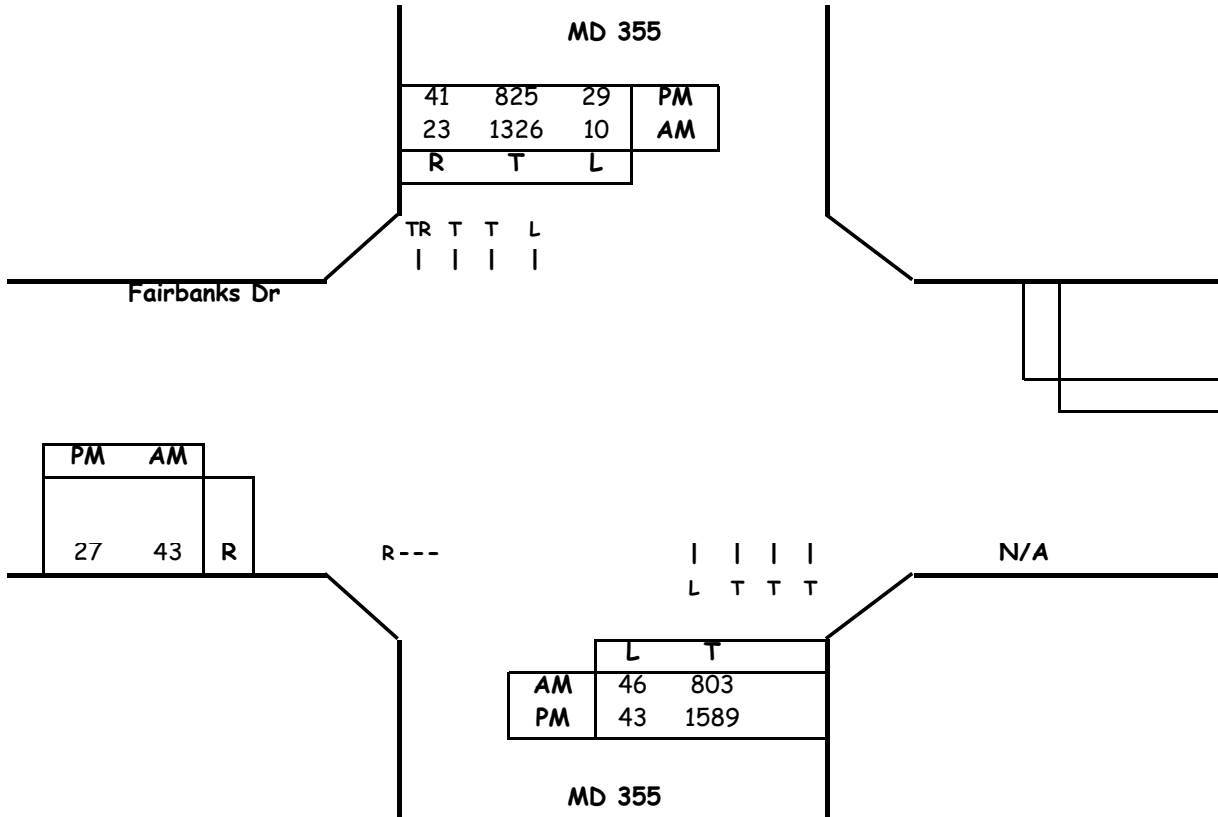
Intersection
1

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Main Line: MD 355
Minor Street: Fairbanks Dr
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	803	0.40	321	10	1	10	586
SB	1349	0.40	540	46	1	46	
EB	0	0	0	0	0	0	0
WB	0	0	0	1	0	0	
CLV TOTAL=							586
Level of Service (LOS)=-							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	1589	0.40	636	29	1	29	665
SB	866	0.40	346	43	1	43	
EB	0	0	0	0	0	0	0
WB	0	0	0	0	0	0	
CLV TOTAL=							665
Level of Service (LOS)=-							A

Critical Lane Volume Analysis



LENHART TRAFFIC CONSULTING, INC.
 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
 SEVERNA PARK, MD 21146
 www.lenharttraffic.com

**MD 355 &
 Fairbanks Dr
 (Total Traffic)**

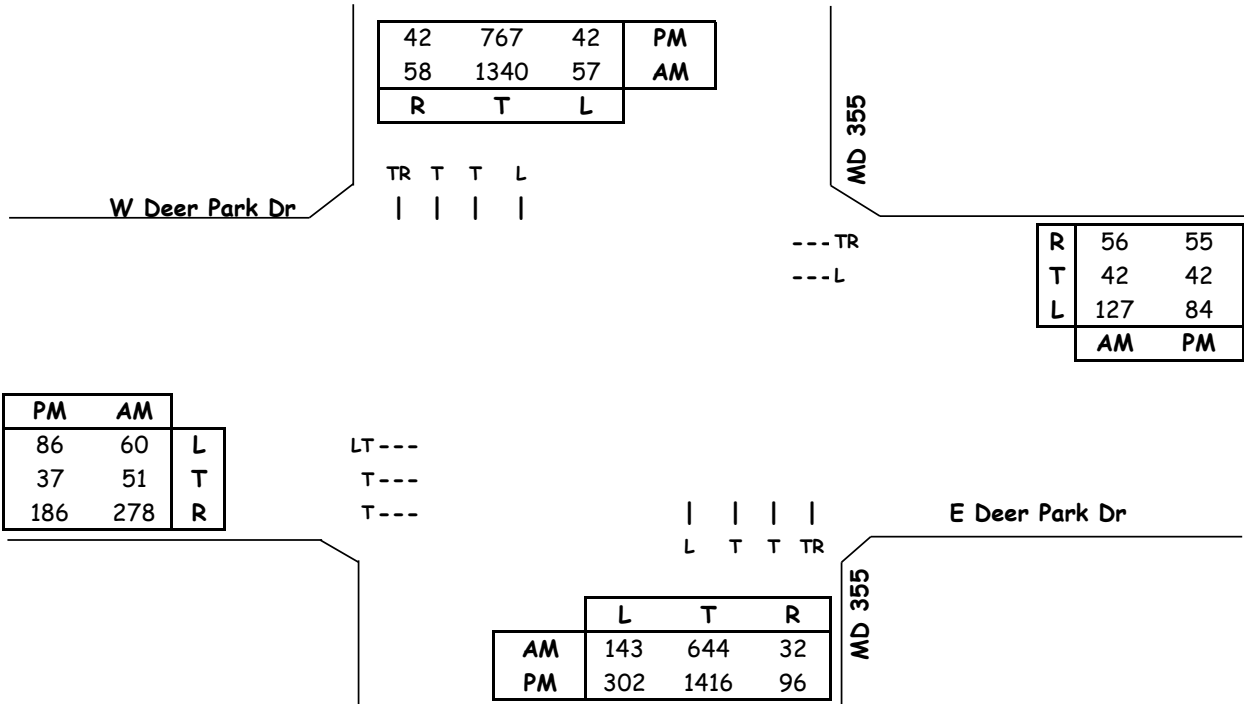
Intersection
1

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: MD 355
Minor Street: Deer Park Dr
Study Period: Existing Traffic

Analyst: Lenhart Traffic Consulting

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour							
Dir	Through Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
EB	60	1.00	60				60
WB	127	1.00	127				127
NB	676	0.40	270	57	1.00	57	702
SB	1398	0.40	559	143	1.00	143	
CLV TOTAL=							889
Level of Service (LOS)=							A

PM Peak Hour							
Dir	Through Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
EB	86	1.00	86				86
WB	97	1.00	97				97
NB	1512	0.40	605	42	1.00	42	647
SB	809	0.40	324	302	1.00	302	
CLV TOTAL=							830
Level of Service (LOS)=							A

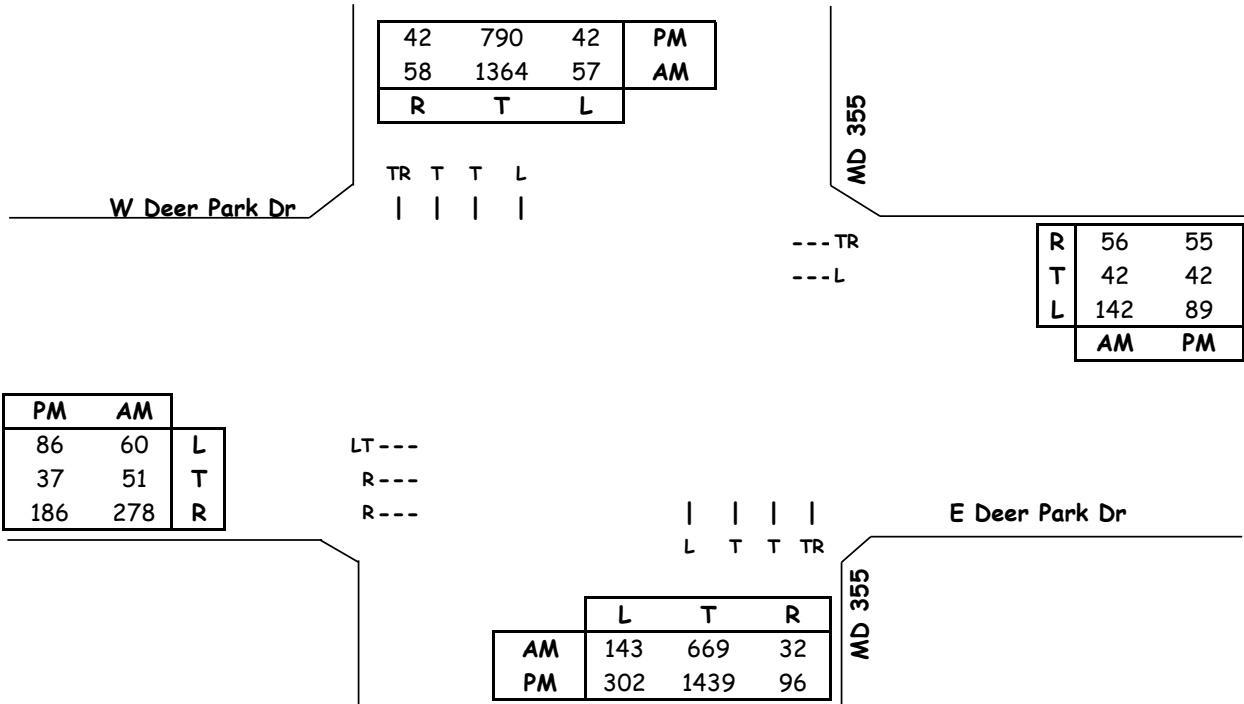
Critical Lane Volume Analysis			
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		MD 355 & E Deer Park Dr (Existing Traffic)	Intersection 2

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: MD 355
Minor Street: Deer Park Dr
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour							
Dir	Through Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
EB	111	1.00	111				111
WB	142	1.00	142				142
NB	701	0.40	280	57	1.00	57	712
SB	1422	0.40	569	143	1.00	143	
CLV TOTAL=							965
Level of Service (LOS)=							A

PM Peak Hour							
Dir	Through Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
EB	123	1.00	123				123
WB	97	1.00	97				97
NB	1535	0.40	614	42	1.00	42	656
SB	832	0.40	333	302	1.00	302	
CLV TOTAL=							876
Level of Service (LOS)=							A

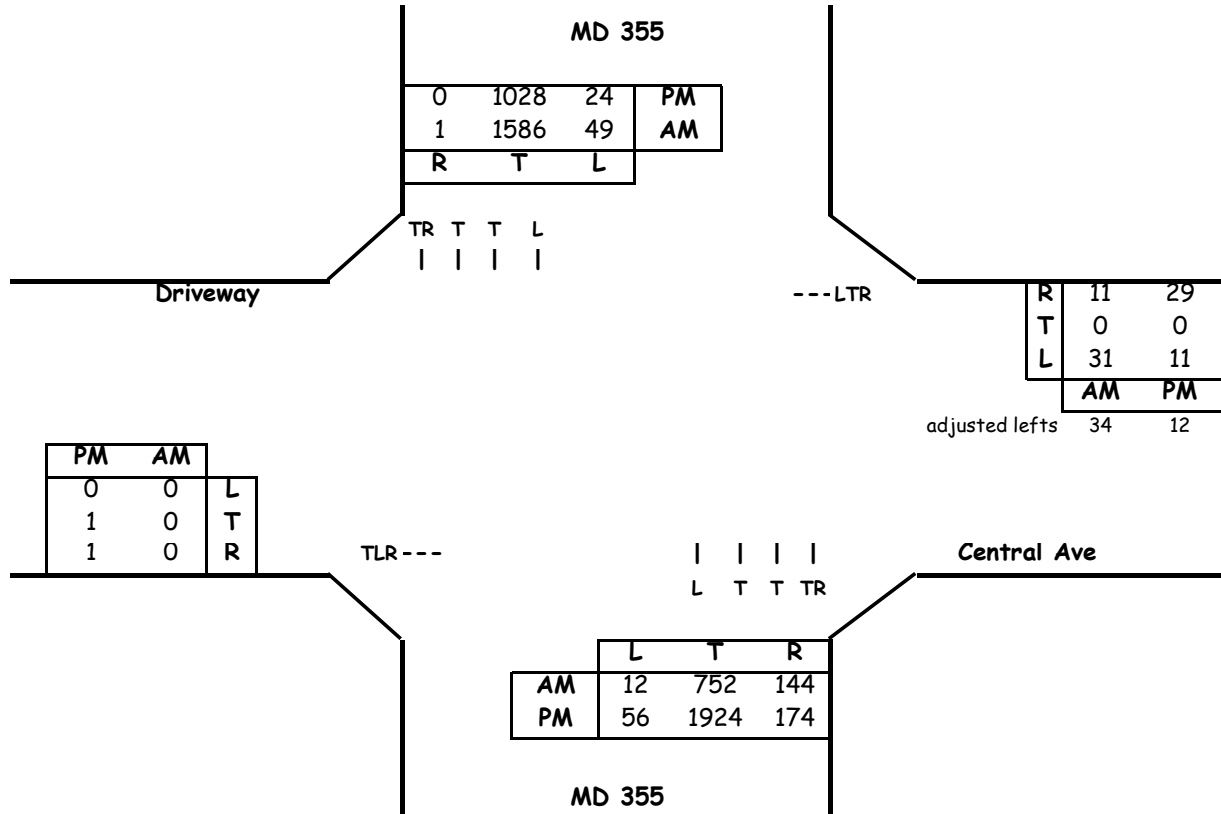
Critical Lane Volume Analysis Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	MD 355 & E Deer Park Dr (Total Traffic)	Intersection 2
--	---	--------------------------

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: MD 355
Minor Street: Central Ave
Study Period: Existing Traffic

Analyst: Lenhart Traffic Consulting

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	896	0.40	358	49	1	49	647
SB	1587	0.40	635	12	1	12	
EB	0	0	0	31	1	31	45
WB	45	1	45	0	0	0	
CLV TOTAL=							692
Level of Service (LOS)=-							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	2098	0.40	839	24	1	24	863
SB	1028	0.40	411	56	1	56	
EB	1	0	0	11	1	11	41
WB	41	1	41	0	0	0	
CLV TOTAL=							904
Level of Service (LOS)=-							A

Critical Lane Volume Analysis



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

**MD 355 &
Central Ave**
(Existing Traffic)

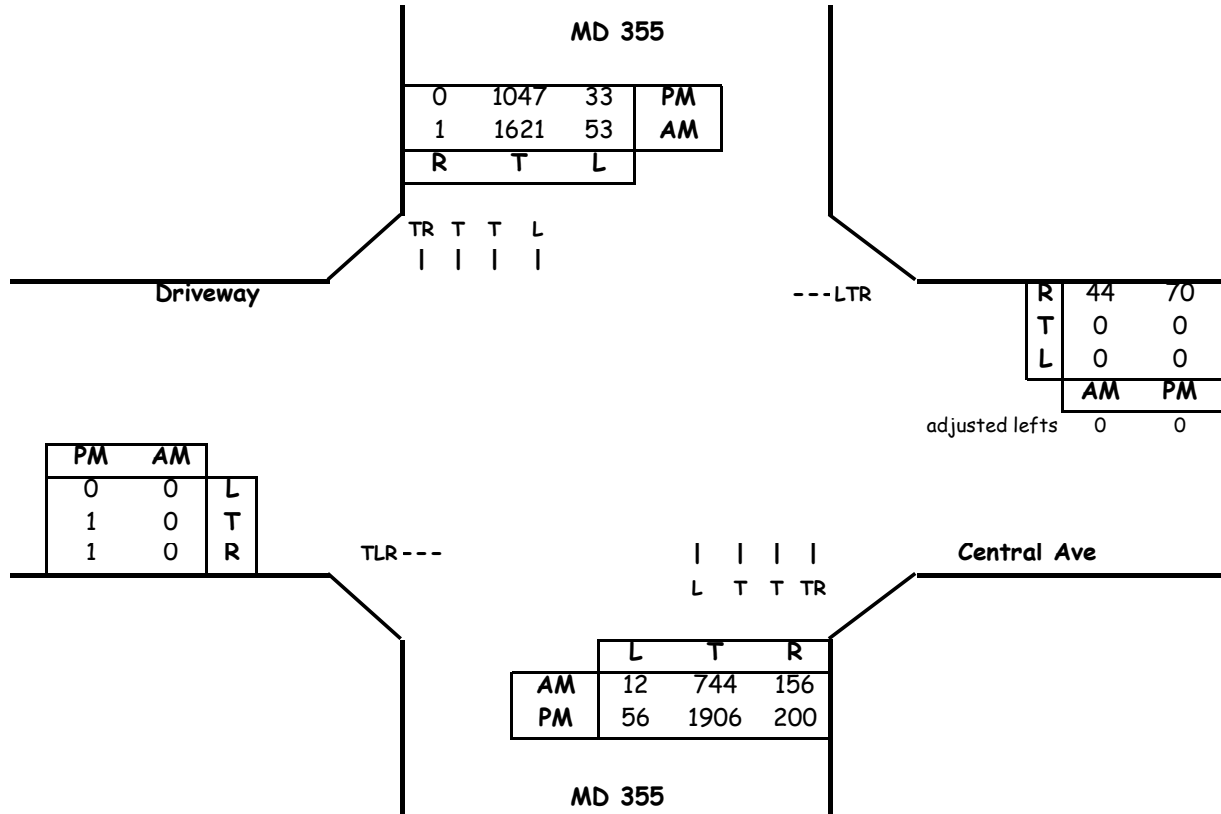
Intersection
3

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Main Line: MD 355
Minor Street: Central Ave
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	900	0.40	360	53	1	53	661
SB	1622	0.40	649	12	1	12	
EB	0	0	0	0	1	0	44
WB	44	1	44	0	0	0	
CLV TOTAL=							705
Level of Service (LOS)=-							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	2106	0.40	842	33	1	33	875
SB	1047	0.40	419	56	1	56	
EB	1	0	0	0	1	0	70
WB	70	1	70	0	0	0	
CLV TOTAL=							945
Level of Service (LOS)=-							A

Critical Lane Volume Analysis



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

**MD 355 &
Central Ave**
(Total Traffic)

Intersection
3

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: Central Ave
Minor Street: Site Access
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting

CENTRAL AVE

--- TL

	AM	PM
T	27	35
L	1	2

adjusted lefts 2 4

PM	AM	
197	191	T
37	18	R

TR ---

CENTRAL AVE

Site Access

I
LR

	L	R
AM	17	3
PM	35	4

Critical Lane Volume Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	20	1.00	20				20
EB	209	1.00	209	1	1.00	1	210
WB	29	1.00	29				
CLV TOTAL=							230
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	39	1.00	39				39
EB	234	1.00	234	2	1.00	2	236
WB	39	1.00	39				
CLV TOTAL=							275
Level of Service (LOS) =							A

Critical Lane Volume Analysis





















LENHART TRAFFIC CONSULTING, INC.
 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
 SEVERNA PARK, MD. 21146
 www.lenharttraffic.com

**Central Ave &
 Site Access
 (Total Traffic)**

Intersection
4

HCM Unsignalized Intersection Capacity Analysis
1: MD 355 & Fairbanks Dr

Whip Clean Gaithersburg
AM Existing

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	
Lane Configurations									  				
Traffic Volume (veh/h)	0	0	43	0	0	0	36	6	798	0	10	0	
Future Volume (Veh/h)	0	0	43	0	0	0	36	6	798	0	10	0	
Sign Control	Stop			Stop			Free						
Grade	0%			0%			0%						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	0	0	47	0	0	0	0	7	867	0	0	0	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type	None												
Median storage (veh)													
Upstream signal (ft)	666												
pX, platoon unblocked	0.95	0.95		0.95	0.95	0.95	0.00				0.00	0.95	
vC, conflicting volume	1752	2330	492	1360	2318	289	0	1437			0	867	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1593	2204	492	1177	2191	44	0	1437			0	656	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	0.0	4.1			0.0	4.1	
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	0.0	2.2			0.0	2.2	
p0 queue free %	100	100	91	100	100	100	0	99			0	100	
cM capacity (veh/h)	67	41	523	124	42	961	0	468			0	877	
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4				
Volume Total	47	7	289	289	289	575	575	312	0				
Volume Left	0	7	0	0	0	0	0	0	0				
Volume Right	47	0	0	0	0	0	0	25	0				
cSH	523	468	1700	1700	1700	1700	1700	1700	1700				
Volume to Capacity	0.09	0.01	0.17	0.17	0.17	0.34	0.34	0.18	0.00				
Queue Length 95th (ft)	7	1	0	0	0	0	0	0	0				
Control Delay (s)	12.6	12.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	B	B											
Approach Delay (s)	12.6	0.1					0.0						
Approach LOS	B												
Intersection Summary													
Average Delay			0.3										
Intersection Capacity Utilization			42.7%	ICU Level of Service					A				
Analysis Period (min)			15										



Movement	SBT	SBR
Lane Configurations	↑↑↑	
Traffic Volume (veh/h)	1322	23
Future Volume (Veh/h)	1322	23
Sign Control	Free	
Grade	0%	
Peak Hour Factor	0.92	0.92
Hourly flow rate (vph)	1437	25
Pedestrians		
Lane Width (ft)		
Walking Speed (ft/s)		
Percent Blockage		
Right turn flare (veh)		
Median type	None	
Median storage veh)		
Upstream signal (ft)		
pX, platoon unblocked		
vC, conflicting volume		
vC1, stage 1 conf vol		
vC2, stage 2 conf vol		
vCu, unblocked vol		
tC, single (s)		
tC, 2 stage (s)		
tF (s)		
p0 queue free %		
cM capacity (veh/h)		
Direction, Lane #		

HCM Signalized Intersection Capacity Analysis
2: MD 355 & W Deer Park Rd/E Deer Park Rd

Whip Clean Gaithersburg
AM Existing



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗		↖	↑↑↑		↖	↑↑↑	
Traffic Volume (vph)	60	51	278	142	42	56	143	660	32	57	1356	58
Future Volume (vph)	60	51	278	142	42	56	143	660	32	57	1356	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.88	1.00	1.00		1.00	0.91		1.00	0.91	
Frt		1.00	0.85	1.00	0.91		1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1814	2787	1770	1703		1770	5050		1770	5054	
Flt Permitted		0.77	1.00	0.95	1.00		0.09	1.00		0.35	1.00	
Satd. Flow (perm)		1440	2787	1770	1703		167	5050		660	5054	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	55	302	154	46	61	155	717	35	62	1474	63
RTOR Reduction (vph)	0	0	148	0	33	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	120	154	154	74	0	155	749	0	62	1534	0
Turn Type	Perm	NA	pm+ov	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8	5	4	4		5	2		1	6	
Permitted Phases	8		8				2			6		
Actuated Green, G (s)		14.6	26.7	17.3	17.3		78.6	78.6		76.9	76.9	
Effective Green, g (s)		14.6	26.7	17.3	17.3		78.6	78.6		76.9	76.9	
Actuated g/C Ratio		0.11	0.19	0.12	0.12		0.57	0.57		0.55	0.55	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		151	626	220	212		234	2857		448	2798	
v/s Ratio Prot			0.02	c0.09	0.04		c0.06	0.15		0.01	c0.30	
v/s Ratio Perm		c0.08	0.03				c0.32			0.07		
v/c Ratio		0.79	0.25	0.70	0.35		0.66	0.26		0.14	0.55	
Uniform Delay, d1		60.7	47.6	58.3	55.6		20.5	15.4		15.3	19.9	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		0.99	0.99	
Incremental Delay, d2		24.3	0.2	9.4	1.0		6.9	0.2		0.1	0.8	
Delay (s)		85.0	47.8	67.7	56.6		27.4	15.6		15.3	20.4	
Level of Service		F	D	E	E		C	B		B	C	
Approach Delay (s)		58.4			63.1			17.6			20.2	
Approach LOS		E			E			B			C	




















Intersection Summary

HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	138.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group


















HCM Unsignalized Intersection Capacity Analysis
3: MD 355 & Driveway/Central Ave

Whip Clean Gaithersburg
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	27	12	752	144	49	1617	1
Future Volume (Veh/h)	0	0	0	0	0	27	12	752	144	49	1617	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	29	13	817	157	53	1758	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											853	
pX, platoon unblocked	0.83	0.83	0.83	0.83	0.83		0.83					
vC, conflicting volume	2192	2864	586	1614	2786	351	1759			974		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1706	2520	0	1005	2425	351	1181			974		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	96	97			92		
cM capacity (veh/h)	43	20	896	149	24	645	485			704		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	0	29	13	327	327	320	53	703	703	353		
Volume Left	0	0	13	0	0	0	53	0	0	0		
Volume Right	0	29	0	0	0	157	0	0	0	1		
cSH	1700	645	485	1700	1700	1700	704	1700	1700	1700		
Volume to Capacity	0.00	0.04	0.03	0.19	0.19	0.19	0.08	0.41	0.41	0.21		
Queue Length 95th (ft)	0	4	2	0	0	0	6	0	0	0		
Control Delay (s)	0.0	10.8	12.6	0.0	0.0	0.0	10.5	0.0	0.0	0.0		
Lane LOS	A	B	B				B					
Approach Delay (s)	0.0	10.8	0.2				0.3					
Approach LOS	A	B										
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			47.9%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
1: MD 355 & Fairbanks Dr

Whip Clean Car Wash
PM Existing



































													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	
Lane Configurations													
Traffic Volume (veh/h)	0	0	27	0	0	0	10	25	1580	0	29	0	
Future Volume (Veh/h)	0	0	27	0	0	0	10	25	1580	0	29	0	
Sign Control	Stop			Stop					Free				
Grade	0%			0%					0%				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	0	0	29	0	0	0	0	27	1717	0	0	0	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type	None												
Median storage (veh)													
Upstream signal (ft)	666												
pX, platoon unblocked	0.79	0.79		0.79	0.79	0.79	0.00				0.00	0.79	
vC, conflicting volume	1536	2680	318	2067	2658	572	0	887			0	1717	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	735	2189	318	1409	2160	0	0	887			0	965	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	0.0	4.1			0.0	4.1	
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	0.0	2.2			0.0	2.2	
p0 queue free %	100	100	96	100	100	100	0	96			0	100	
cM capacity (veh/h)	236	34	678	72	36	854	0	759			0	558	
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4				
Volume Total	29	27	572	572	572	355	355	222	0				
Volume Left	0	27	0	0	0	0	0	0	0				
Volume Right	29	0	0	0	0	0	0	45	0				
cSH	678	759	1700	1700	1700	1700	1700	1700	1700				
Volume to Capacity	0.04	0.04	0.34	0.34	0.34	0.21	0.21	0.13	0.00				
Queue Length 95th (ft)	3	3	0	0	0	0	0	0	0				
Control Delay (s)	10.6	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	B	A											
Approach Delay (s)	10.6	0.2				0.0							
Approach LOS	B												
Intersection Summary													
Average Delay			0.2										
Intersection Capacity Utilization			33.9%	ICU Level of Service					A				
Analysis Period (min)			15										



Movement	SBT	SBR
Lane Configurations	↑↑↑	
Traffic Volume (veh/h)	816	41
Future Volume (Veh/h)	816	41
Sign Control	Free	
Grade	0%	
Peak Hour Factor	0.92	0.92
Hourly flow rate (vph)	887	45
Pedestrians		
Lane Width (ft)		
Walking Speed (ft/s)		
Percent Blockage		
Right turn flare (veh)		
Median type	None	
Median storage veh)		
Upstream signal (ft)		
pX, platoon unblocked		
vC, conflicting volume		
vC1, stage 1 conf vol		
vC2, stage 2 conf vol		
vCu, unblocked vol		
tC, single (s)		
tC, 2 stage (s)		
tF (s)		
p0 queue free %		
cM capacity (veh/h)		
Direction, Lane #		

HCM Signalized Intersection Capacity Analysis
2: MD 355 & W Deer Park Rd/E Deer Park Rd



















Whip Clean Car Wash
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			  	  	  		  	  		  	  	
Traffic Volume (vph)	86	37	186	89	42	55	302	1422	96	42	773	42
Future Volume (vph)	86	37	186	89	42	55	302	1422	96	42	773	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.88	1.00	1.00		1.00	0.91		1.00	0.91	
Frt		1.00	0.85	1.00	0.92		1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1800	2787	1770	1705		1770	5037		1770	5046	
Flt Permitted		0.73	1.00	0.95	1.00		0.22	1.00		0.14	1.00	
Satd. Flow (perm)		1352	2787	1770	1705		408	5037		252	5046	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	40	202	97	46	60	328	1546	104	46	840	46
RTOR Reduction (vph)	0	0	144	0	32	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	133	58	97	74	0	328	1646	0	46	882	0
Turn Type	Perm	NA	pm+ov	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8	5	4	4		5	2		1	6	
Permitted Phases	8		8				2			6		
Actuated Green, G (s)		17.4	39.0	12.3	12.3		74.0	74.0		67.2	67.2	
Effective Green, g (s)		17.4	39.0	12.3	12.3		74.0	74.0		67.2	67.2	
Actuated g/C Ratio		0.13	0.29	0.09	0.09		0.54	0.54		0.49	0.49	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		172	888	159	153		436	2730		288	2484	
v/s Ratio Prot			0.01	c0.05	0.04		c0.12	0.33		0.02	c0.17	
v/s Ratio Perm		c0.10	0.01				c0.29			0.06		
v/c Ratio		0.77	0.06	0.61	0.48		0.75	0.60		0.16	0.36	
Uniform Delay, d1		57.6	35.5	59.8	59.1		19.5	21.3		22.0	21.3	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.99	
Incremental Delay, d2		19.2	0.0	6.8	2.4		7.2	1.0		0.3	0.4	
Delay (s)		76.8	35.5	66.5	61.5		26.7	22.3		22.3	21.5	
Level of Service		E	D	E	E		C	C		C	C	
Approach Delay (s)		51.9			63.9			23.0			21.6	
Approach LOS		D			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			27.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			136.5				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			58.4%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group



















HCM Unsignalized Intersection Capacity Analysis
3: MD 355 & Driveway/Central Ave

Whip Clean Car Wash
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	1	0	0	35	56	1924	174	24	1039	0
Future Volume (Veh/h)	0	1	1	0	0	35	56	1924	174	24	1039	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	1	0	0	38	61	2091	189	26	1129	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												853
pX, platoon unblocked	0.91	0.91	0.91	0.91	0.91		0.91					
vC, conflicting volume	2038	3583	376	2737	3488	792	1129			2280		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1806	3496	0	2571	3393	792	811			2280		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	78	100	100	100	89	92			88		
cM capacity (veh/h)	34	5	991	8	5	332	741			219		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	2	38	61	836	836	607	26	452	452	226		
Volume Left	0	0	61	0	0	0	26	0	0	0		
Volume Right	1	38	0	0	0	189	0	0	0	0		
cSH	9	332	741	1700	1700	1700	219	1700	1700	1700		
Volume to Capacity	0.22	0.11	0.08	0.49	0.49	0.36	0.12	0.27	0.27	0.13		
Queue Length 95th (ft)	13	10	7	0	0	0	10	0	0	0		
Control Delay (s)	486.2	17.2	10.3	0.0	0.0	0.0	23.6	0.0	0.0	0.0		
Lane LOS	F	C	B				C					
Approach Delay (s)	486.2	17.2	0.3				0.5					
Approach LOS	F	C										
Intersection Summary												
Average Delay			0.8									
Intersection Capacity Utilization			56.5%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
1: MD 355 & Fairbanks Dr

Whip Clean Car Wash
AM Total


























													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	
Lane Configurations									  				
Traffic Volume (veh/h)	0	0	43	0	0	0	40	6	803	0	10	0	
Future Volume (Veh/h)	0	0	43	0	0	0	40	6	803	0	10	0	
Sign Control	Stop			Stop			Free						
Grade	0%			0%			0%						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	0	0	47	0	0	0	0	7	873	0	0	0	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type	None												
Median storage (veh)													
Upstream signal (ft)	666												
pX, platoon unblocked	0.94	0.94		0.94	0.94	0.94	0.00				0.00	0.94	
vC, conflicting volume	1758	2340	493	1367	2328	291	0	1441			0	873	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1596	2212	493	1181	2199	41	0	1441			0	658	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	0.0	4.1			0.0	4.1	
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	0.0	2.2			0.0	2.2	
p0 queue free %	100	100	91	100	100	100	0	99			0	100	
cM capacity (veh/h)	67	40	522	123	41	964	0	467			0	874	
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4				
Volume Total	47	7	291	291	291	576	576	313	0				
Volume Left	0	7	0	0	0	0	0	0	0				
Volume Right	47	0	0	0	0	0	0	25	0				
cSH	522	467	1700	1700	1700	1700	1700	1700	1700				
Volume to Capacity	0.09	0.01	0.17	0.17	0.17	0.34	0.34	0.18	0.00				
Queue Length 95th (ft)	7	1	0	0	0	0	0	0	0				
Control Delay (s)	12.6	12.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	B	B											
Approach Delay (s)	12.6	0.1					0.0						
Approach LOS	B												
Intersection Summary													
Average Delay			0.3										
Intersection Capacity Utilization			42.8%	ICU Level of Service					A				
Analysis Period (min)			15										



Movement	SBT	SBR
Lane Configurations	↑↑↑	
Traffic Volume (veh/h)	1326	23
Future Volume (Veh/h)	1326	23
Sign Control	Free	
Grade	0%	
Peak Hour Factor	0.92	0.92
Hourly flow rate (vph)	1441	25
Pedestrians		
Lane Width (ft)		
Walking Speed (ft/s)		
Percent Blockage		
Right turn flare (veh)		
Median type	None	
Median storage veh)		
Upstream signal (ft)		
pX, platoon unblocked		
vC, conflicting volume		
vC1, stage 1 conf vol		
vC2, stage 2 conf vol		
vCu, unblocked vol		
tC, single (s)		
tC, 2 stage (s)		
tF (s)		
p0 queue free %		
cM capacity (veh/h)		
Direction, Lane #		

HCM Signalized Intersection Capacity Analysis
2: MD 355 & W Deer Park Rd/E Deer Park Rd



















Whip Clean Car Wash
AM Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 					  			  	
Traffic Volume (vph)	60	51	278	142	42	56	143	669	32	57	1364	58
Future Volume (vph)	60	51	278	142	42	56	143	669	32	57	1364	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.88	1.00	1.00		1.00	0.91		1.00	0.91	
Frt		1.00	0.85	1.00	0.91		1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1814	2787	1770	1703		1770	5050		1770	5054	
Flt Permitted		0.77	1.00	0.95	1.00		0.09	1.00		0.35	1.00	
Satd. Flow (perm)		1440	2787	1770	1703		165	5050		654	5054	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	55	302	154	46	61	155	727	35	62	1483	63
RTOR Reduction (vph)	0	0	147	0	33	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	120	155	154	74	0	155	759	0	62	1543	0
Turn Type	Perm	NA	pm+ov	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8	5	4	4		5	2		1	6	
Permitted Phases	8		8				2			6		
Actuated Green, G (s)		14.6	26.7	17.3	17.3		78.6	78.6		76.9	76.9	
Effective Green, g (s)		14.6	26.7	17.3	17.3		78.6	78.6		76.9	76.9	
Actuated g/C Ratio		0.11	0.19	0.12	0.12		0.57	0.57		0.55	0.55	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		151	626	220	212		233	2857		445	2798	
v/s Ratio Prot			0.02	c0.09	0.04		c0.06	0.15		0.01	c0.31	
v/s Ratio Perm		c0.08	0.03				c0.32			0.07		
v/c Ratio		0.79	0.25	0.70	0.35		0.67	0.27		0.14	0.55	
Uniform Delay, d1		60.7	47.6	58.3	55.6		20.7	15.4		15.3	19.9	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		0.99	0.98	
Incremental Delay, d2		24.3	0.2	9.4	1.0		7.0	0.2		0.1	0.8	
Delay (s)		85.0	47.8	67.7	56.6		27.7	15.6		15.3	20.4	
Level of Service		F	D	E	E		C	B		B	C	
Approach Delay (s)		58.4			63.1			17.7			20.2	
Approach LOS		E			E			B			C	
Intersection Summary												
HCM 2000 Control Delay			28.0				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			138.9				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			61.4%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
3: MD 355 & Driveway/Central Ave

Whip Clean Car Wash
AM Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	44	12	744	156	53	1621	1
Future Volume (Veh/h)	0	0	0	0	0	44	12	744	156	53	1621	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	48	13	809	170	58	1762	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											853	
pX, platoon unblocked	0.82	0.82	0.82	0.82	0.82		0.82					
vC, conflicting volume	2222	2884	588	1623	2799	355	1763			979		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1738	2540	0	1011	2437	355	1181			979		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	93	97			92		
cM capacity (veh/h)	39	20	894	147	23	642	484			701		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4		
Volume Total	0	48	13	324	324	332	58	705	705	353		
Volume Left	0	0	13	0	0	0	58	0	0	0		
Volume Right	0	48	0	0	0	170	0	0	0	1		
cSH	1700	642	484	1700	1700	1700	701	1700	1700	1700		
Volume to Capacity	0.00	0.07	0.03	0.19	0.19	0.20	0.08	0.41	0.41	0.21		
Queue Length 95th (ft)	0	6	2	0	0	0	7	0	0	0		
Control Delay (s)	0.0	11.1	12.6	0.0	0.0	0.0	10.6	0.0	0.0	0.0		
Lane LOS	A	B	B				B					
Approach Delay (s)	0.0	11.1	0.2				0.3					
Approach LOS	A	B										
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			48.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

4: Site Access & Central Ave



















Whip Clean Car Wash
AM Total



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	191	18	1	27	17	3
Future Volume (Veh/h)	191	18	1	27	17	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	208	20	1	29	18	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			228		249	218
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			228		249	218
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1340		739	822
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	228	30	21			
Volume Left	0	1	18			
Volume Right	20	0	3			
cSH	1700	1340	750			
Volume to Capacity	0.13	0.00	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.3	9.9			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.3	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			21.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
1: MD 355 & Fairbanks Dr

Whip Clean Car Wash
PM Total




























													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	
Lane Configurations									  				
Traffic Volume (veh/h)	0	0	27	0	0	0	18	25	1589	0	29	0	
Future Volume (Veh/h)	0	0	27	0	0	0	18	25	1589	0	29	0	
Sign Control	Stop			Stop					Free				
Grade	0%			0%					0%				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	0	0	29	0	0	0	0	27	1727	0	0	0	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type	None												
Median storage (veh)													
Upstream signal (ft)	666												
pX, platoon unblocked	0.80	0.80		0.80	0.80	0.80	0.00				0.00	0.80	
vC, conflicting volume	1549	2700	322	2080	2678	576	0	897			0	1727	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	827	2260	322	1488	2232	0	0	897			0	1049	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	0.0	4.1			0.0	4.1	
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	0.0	2.2			0.0	2.2	
p0 queue free %	100	100	96	100	100	100	0	96			0	100	
cM capacity (veh/h)	206	31	674	64	33	871	0	753			0	530	
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4				
Volume Total	29	27	576	576	576	359	359	224	0				
Volume Left	0	27	0	0	0	0	0	0	0				
Volume Right	29	0	0	0	0	0	0	45	0				
cSH	674	753	1700	1700	1700	1700	1700	1700	1700				
Volume to Capacity	0.04	0.04	0.34	0.34	0.34	0.21	0.21	0.13	0.00				
Queue Length 95th (ft)	3	3	0	0	0	0	0	0	0				
Control Delay (s)	10.6	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Lane LOS	B	A											
Approach Delay (s)	10.6	0.2					0.0						
Approach LOS	B												
Intersection Summary													
Average Delay			0.2										
Intersection Capacity Utilization			39.1%	ICU Level of Service					A				
Analysis Period (min)			15										



Movement	SBT	SBR
Lane Configurations	↑↑↑	
Traffic Volume (veh/h)	825	41
Future Volume (Veh/h)	825	41
Sign Control	Free	
Grade	0%	
Peak Hour Factor	0.92	0.92
Hourly flow rate (vph)	897	45
Pedestrians		
Lane Width (ft)		
Walking Speed (ft/s)		
Percent Blockage		
Right turn flare (veh)		
Median type	None	
Median storage veh)		
Upstream signal (ft)		
pX, platoon unblocked		
vC, conflicting volume		
vC1, stage 1 conf vol		
vC2, stage 2 conf vol		
vCu, unblocked vol		
tC, single (s)		
tC, 2 stage (s)		
tF (s)		
p0 queue free %		
cM capacity (veh/h)		
Direction, Lane #		

HCM Signalized Intersection Capacity Analysis
2: MD 355 & W Deer Park Rd/E Deer Park Rd





















Whip Clean Car Wash
PM Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			  		 			  			  	
Traffic Volume (vph)	86	37	186	89	42	55	302	1439	96	42	790	42
Future Volume (vph)	86	37	186	89	42	55	302	1439	96	42	790	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor		1.00	0.88	1.00	1.00		1.00	0.91		1.00	0.91	
Frt		1.00	0.85	1.00	0.92		1.00	0.99		1.00	0.99	
Flt Protected		0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1800	2787	1770	1705		1770	5038		1770	5047	
Flt Permitted		0.73	1.00	0.95	1.00		0.22	1.00		0.14	1.00	
Satd. Flow (perm)		1352	2787	1770	1705		417	5038		252	5047	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	40	202	97	46	60	328	1564	104	46	859	46
RTOR Reduction (vph)	0	0	148	0	33	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	133	54	97	73	0	328	1664	0	46	902	0
Turn Type	Perm	NA	pm+ov	Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8	5	4	4		5	2		1	6	
Permitted Phases	8		8				2			6		
Actuated Green, G (s)		15.6	35.6	12.7	12.7		77.4	77.4		66.9	66.9	
Effective Green, g (s)		15.6	35.6	12.7	12.7		77.4	77.4		66.9	66.9	
Actuated g/C Ratio		0.12	0.27	0.10	0.10		0.58	0.58		0.50	0.50	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		158	839	168	162		445	2927		234	2534	
v/s Ratio Prot			0.01	c0.05	0.04		c0.11	0.33		0.01	c0.18	
v/s Ratio Perm		c0.10	0.01				c0.32			0.08		
v/c Ratio		0.84	0.06	0.58	0.45		0.74	0.57		0.20	0.36	
Uniform Delay, d1		57.6	36.4	57.7	57.0		16.4	17.5		20.2	20.1	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		0.99	0.99	
Incremental Delay, d2		31.3	0.0	4.7	2.0		6.3	0.8		0.4	0.4	
Delay (s)		88.9	36.4	62.4	59.0		22.6	18.3		20.5	20.2	
Level of Service		F	D	E	E		C	B		C	C	
Approach Delay (s)		57.3			60.6			19.0			20.2	
Approach LOS		E			E			B			C	
Intersection Summary												
HCM 2000 Control Delay			25.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			133.2				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			58.7%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
3: MD 355 & Driveway/Central Ave










Whip Clean Car Wash
PM Total

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	0	1	1	0	0	70	56	1906	200	33	1047	0	
Future Volume (Veh/h)	0	1	1	0	0	70	56	1906	200	33	1047	0	
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	0	1	1	0	0	76	61	2072	217	36	1138	0	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type													
								None			None		
Median storage (veh)													
Upstream signal (ft)													
												853	
pX, platoon unblocked	0.91	0.91	0.91	0.91	0.91		0.91						
vC, conflicting volume	2099	3621	379	2755	3512	799	1138			2289			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1875	3539	0	2593	3420	799	824			2289			
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	100	75	100	100	100	77	92			83			
cM capacity (veh/h)	25	4	992	8	5	328	733			218			
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4			
Volume Total	2	76	61	829	829	631	36	455	455	228			
Volume Left	0	0	61	0	0	0	36	0	0	0			
Volume Right	1	76	0	0	0	217	0	0	0	0			
cSH	8	328	733	1700	1700	1700	218	1700	1700	1700			
Volume to Capacity	0.25	0.23	0.08	0.49	0.49	0.37	0.17	0.27	0.27	0.13			
Queue Length 95th (ft)	14	22	7	0	0	0	14	0	0	0			
Control Delay (s)	558.1	19.2	10.4	0.0	0.0	0.0	24.8	0.0	0.0	0.0			
Lane LOS	F	C	B				C						
Approach Delay (s)	558.1	19.2	0.3				0.8						
Approach LOS	F	C											
Intersection Summary													
Average Delay			1.1										
Intersection Capacity Utilization			57.5%	ICU Level of Service						B			
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis

4: Site Access & Central Ave

Whip Clean Car Wash
PM Total

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	197	37	2	35	35	4
Future Volume (Veh/h)	197	37	2	35	35	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	214	40	2	38	38	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			254		276	234
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			254		276	234
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	100
cM capacity (veh/h)			1311		713	805
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	254	40	42			
Volume Left	0	2	38			
Volume Right	40	0	4			
cSH	1700	1311	720			
Volume to Capacity	0.15	0.00	0.06			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.0	0.4	10.3			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.4	10.3			
Approach LOS			B			
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			22.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection: 1: MD 355 & Fairbanks Dr

Movement	EB	NB	SB
Directions Served	R	UL	U
Maximum Queue (ft)	20	86	29
Average Queue (ft)	1	29	4
95th Queue (ft)	10	67	19
Link Distance (ft)	402		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		230	230
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: MD 355 & W Deer Park Rd/E Deer Park Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	R	L	TR	L	T	T	TR	L	T	T
Maximum Queue (ft)	183	129	118	232	174	138	138	136	105	254	372	343
Average Queue (ft)	83	68	43	106	65	56	62	55	26	54	230	195
95th Queue (ft)	153	115	91	190	132	114	120	117	80	178	339	305
Link Distance (ft)	350	350	350	573	573		756	756	756		609	609
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)							375			230		
Storage Blk Time (%)											0	7
Queuing Penalty (veh)											0	4

Intersection: 2: MD 355 & W Deer Park Rd/E Deer Park Rd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	259
Average Queue (ft)	143
95th Queue (ft)	244
Link Distance (ft)	609
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: MD 355 & Driveway/Central Ave

Movement	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	L	T	TR	L	T	TR
Maximum Queue (ft)	57	42	4	28	60	10	10
Average Queue (ft)	25	8	0	2	22	0	0
95th Queue (ft)	49	30	3	13	47	7	7
Link Distance (ft)	60		952	952		756	756
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)		190			220		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 4: Site Access & Central Ave

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	30
Average Queue (ft)	0	16
95th Queue (ft)	4	41
Link Distance (ft)	238	189
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 4

Intersection: 1: MD 355 & Fairbanks Dr

Movement	EB	NB	SB	SB	SB
Directions Served	R	UL	U	T	TR
Maximum Queue (ft)	11	60	64	3	28
Average Queue (ft)	0	22	16	0	1
95th Queue (ft)	8	52	44	2	13
Link Distance (ft)	402			387	387
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		230	230		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: MD 355 & W Deer Park Rd/E Deer Park Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	R	L	TR	L	T	T	TR	L	T	T
Maximum Queue (ft)	208	82	69	156	153	264	237	239	238	179	290	254
Average Queue (ft)	97	40	24	71	63	116	120	131	120	36	164	132
95th Queue (ft)	171	67	55	135	118	218	204	217	216	107	251	211
Link Distance (ft)	350	350	350	573	573		756	756	756		609	609
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)						375				230		
Storage Blk Time (%)												2
Queuing Penalty (veh)												1

Intersection: 2: MD 355 & W Deer Park Rd/E Deer Park Rd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	173
Average Queue (ft)	80
95th Queue (ft)	152
Link Distance (ft)	609
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: MD 355 & Driveway/Central Ave

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	26	69	57	8	11	27	77	3	3	2
Average Queue (ft)	4	37	22	0	0	2	28	0	0	0
95th Queue (ft)	20	65	51	4	8	14	68	2	2	2
Link Distance (ft)	399	60		952	952	952		756	756	756
Upstream Blk Time (%)		4								
Queuing Penalty (veh)		2								
Storage Bay Dist (ft)			190				220			
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 4: Site Access & Central Ave

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	35	52
Average Queue (ft)	2	25
95th Queue (ft)	15	48
Link Distance (ft)	238	189
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 3

Jasmine Forbes

From: Tony <tdatallah@comcast.net>
Sent: Sunday, April 3, 2022 10:14 PM
To: Planning External Mailing
Subject: Oppose

This email is from an EXTERNAL source. Please use caution when opening attachments, clicking links, or responding.

Sent from my i phone

Hi everybody.

Just few words to say. My kids grown up on central avenue on paradise ct they used to love walking around their church playing next to the Creek. I was surprised to hear a Carwash coming to that quiet neighborhood. With the noise and the traffic will create. Our ct should be named different than paradise. Please consider this opposition and keep the Neighbors safe. Thanks for your consideration 🙏

Jasmine Forbes

From: Edberg, Laurie <Laurie.Edberg@montgomerycountymd.gov>
Sent: Friday, April 8, 2022 10:43 AM
To: Jud Ashman; Jasmine Forbes; John Schlichting; Tanisha Briley
Cc: Katz, Sidney; CityHall External Mail
Subject: From Sidney Katz's Office: Proposed Car Wash - Frederick Avenue at Central Avenue
Attachments: Exhibit #39- Email Correspondence from Rudy Porter 4-1-2021.pdf

This email is from an EXTERNAL source. Please use caution when opening attachments, clicking links, or responding.

Everyone,

I hope you had a nice week.

Our office understands that the City of Gaithersburg has been receiving correspondence regarding the Car Wash proposed on a parcel of land located at the corner of South Frederick Avenue and Central Avenue. Please see the email below. We wanted you to know that our office has been receiving the correspondence as well.

Kindly keep us informed regarding this issue.

Best,
Laurie

Laurie Mintzer Edberg, Esq.
Deputy Chief of Staff
Office of Councilmember Sidney Katz
240-777-7906 (office)
240-777-7845 (direct)
<https://www.montgomerycountymd.gov/Katz/>
[Subscribe to our Newsletter – Katz Corner](#)



From: Rudy Porter <rudyporter@hotmail.com>
Sent: Thursday, April 7, 2022 9:10 PM
To: Katz's Office, Councilmember <Councilmember.Katz@montgomerycountymd.gov>
Cc: Edberg, Laurie <Laurie.Edberg@montgomerycountymd.gov>; cwtoni@msn.com
Subject: Please oppose proposal for car wash on Frederick Road at Central Avenue

[EXTERNAL EMAIL]

Dear Councilmember Katz:

I am a Montgomery County resident living on Central Avenue. I am strongly opposed to the car wash proposed for a parcel at the corner of Frederick Road and Central Avenue. The car wash will add an estimated 100 additional cars per hour (by estimates of the developer) traveling through our neighborhood. It will also

create unbearable noise for our neighbors near the facility, will be an eyesore for our neighborhood, and will threaten the environment, including the stream bordering the property.

Please see attached the letter I submitted to the City of Gaithersburg for the record on this application.

I was among more than 25 families that opposed the car wash at the hearing before the City Council on March 21. I hope we can count on your support and influence to stop this terrible development proposal from blighting our neighborhood.

Sincerely

Rudy Porter
204 Central Avenue
Gaithersburg, MD 20877



For more helpful Cybersecurity Resources, visit: <https://www.cisa.gov/be-cyber-smart>

Jasmine Forbes

From: Jasmine Forbes
Sent: Friday, April 2, 2021 9:03 AM
To: 'Rudy Porter'
Subject: RE: Proposed Express Car Wash at 601-607 S. Frederic Avenue

Good Morning,

Thank you for your correspondence related to the proposed car wash at 601-607 South Frederick Avenue. Your email will be included into the record for this application. If you have any questions, please feel free to contact me.

Regards,
Jasmine Forbes



Jasmine Forbes, Planner II
Planning and Code Administration

City of Gaithersburg | 31 South Summit Avenue | Gaithersburg, MD, 20877
Direct: 240-805-1069 | Main: 301-258-6330 | www.gaithersburgmd.gov
Jasmine.Forbes@gaithersburgmd.gov

From: Rudy Porter <rudyporter@hotmail.com>
Sent: Thursday, April 1, 2021 9:50 PM
To: Jasmine Forbes <Jasmine.Forbes@gaithersburgmd.gov>; Planning External Mailing <Planning@gaithersburgmd.gov>
Subject: Proposed Express Car Wash at 601-607 S. Frederic Avenue

This email is from an EXTERNAL source. Please use caution when opening attachments, clicking links, or responding.

Dear Ms Forbes:

I received notice that a formal application has been submitted for an express car wash facility to be located at 601-607 S. Frederick Avenue. I would like to express my concerns and opposition regarding the proposed car wash. I live on Central Avenue, and believe my family will be directly impacted by this business, if the proposal is allowed to proceed.

I have two main concerns:

First, Central Avenue has proven to be a very dangerous roadway as currently designed. Adding this business, based specifically on moving many cars through the facility, will only make Central Avenue even more dangerous. Despite the speed bumps, motorists

frequently drive through Central Avenue at high speeds. The speed bumps are low, so many cars simply ignore them, and before/after crossing the speed bump in front of my house, motorists gun their cars to extremely high speeds.

On October 2, 2020, the most recent serious accident totaled two cars and sent three people to the hospital (see photos attached). In my 8 years living on Central Avenue, I've witnessed the aftermath of two other accidents within one block of our house in which cars ended up on their roofs. At least two other accidents resulted in cars veering off the road into adjacent ditches, requiring tow trucks to hoist them out. Another accident resulted in the total destruction of the guard rail across from 200 Central Avenue, which was replaced nearly two years later. Smaller accidents occur often, and near accidents are a daily occurrence.

The proposed entrance to the car wash from Central Avenue only will encourage more drivers to enter the facility using Central Avenue for access. Central Avenue will also become a frequent exit route from the facility. Already, the road traffic is beyond capacity and this facility will only make traffic levels worse. The entrance to Central Avenue from South Frederick Road is the main entrance to our neighborhood, especially since it is the main access as we come from Route I-370 or as we come north on S. Frederick Road. With additional traffic turning on Central Avenue to enter the car wash, those of us living here will now have to maneuver through the heavier flow just to get into our neighborhood. At the other end of Central Avenue, traffic backups on both sides of the humpback bridge are frequent and long. Encouraging more traffic on Central Avenue will increase these backups.

The increase in traffic will only add to the accidents which are already too frequent, making the roadways near our home significantly more dangerous. The proposed facility will have a strongly negative impact on the quality of life in our residential neighborhood.

Secondly, this car wash facility will be a major eyesore and noise producer. The applicant notes they plan 21 parking spaces for vacuums that customers will operate themselves. With 21 of these vacuums operating simultaneously, I dispute the resulting noise would be "white noise similar to road noise." The applicant notes that it operates a similar car wash in Bowie, MD. I attach a photo of the vacuuming section of that facility and note that the proposed number of vacuum bays in Gaithersburg is approximately 30% more than in Bowie. In addition, the four driers proposed for the facility will be extremely loud. Our neighbors close to the facility will never have another quiet day at their homes.

Eastern Gaithersburg is already suffering from a declining physical image that has only increased during the pandemic with an increasing number of vacant retail buildings. Adding a car wash to the entrance of our neighborhood will further damage the image of our neighborhood. The noise and pollution of a car wash will affect the value of my home

negatively, and there will be a severe impact on my neighbors located closer to the proposed site.

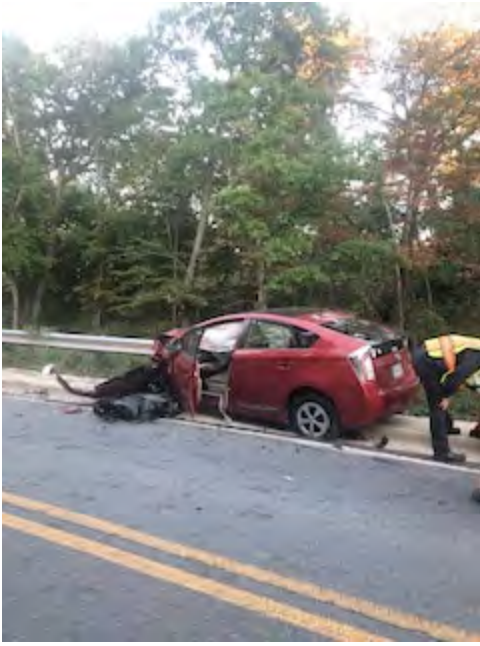
We already have a warehouse area on Oakmont Avenue at the back entrance of our neighborhood. Placing a car wash at the front entrance to the neighborhood would be a real insult to those of us who live here.

I strongly oppose locating a car wash at 601-607 S. Frederick Avenue and request rejection of the application.

Sincerely,

Rudy Porter
204 Central Avenue
Gaithersburg, MD









051610

