

TRAFFIC IMPACT ANALYSIS

FOR

OAKS AT LAUREL

Prepared by:

LENHART TRAFFIC CONSULTING, INC.

TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

May 28, 2024



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Section 1 Introduction

1.1 Project Description

This Traffic Impact Analysis was prepared for the proposed Oaks at Laurel Development. The project is located along Park Center Drive near Van Dusen Road as is shown on **Exhibit 1**. The planned development consists of 82 townhouse units.

A concept plan is provided in Appendix A.

1.2 Scope of Study

The scope of this study was coordinated with the City of Laurel. Copies of the scoping correspondence and scoping exhibits are contained in Appendix A.

As detailed in the scoping correspondence, the study intersections are evaluated per the M-NCPPC methodology for analyzing intersections as is detailed in the following paragraphs.

Unsignalized Intersections: The procedure for unsignalized intersections is not a true test of adequacy but rather an indicator that further operational studies need to be conducted. For two-way stop-controlled intersections a three-step process is employed: (1) Vehicle delay is computed in all movements using the *Highway Capacity Manual* (Transportation Research Board) procedure. If no movement exceeds 50 seconds, the intersection is deemed to operate adequately, and the analysis is complete. (2) If delay exceeds 50 seconds and the minor street volumes on each approach are 100 or fewer, the intersection is deemed to operate adequately, and the analysis is complete. (3). If the delay exceeds 50 seconds and at least one approach volume exceeds 100, the critical lane volume is computed. If the critical lane volume is 1,150 or less, the intersection is deemed to operate adequately, and the analysis is complete. The three-step process is to be treated as pass-fail and a level of service will not be reported. In situations where an unsignalized intersection does not pass the three-step process, it is typical to include a condition of approval to require a signal warrant study, and if warranted and required by the operating agency, the signal would be bonded and permitted prior to the release of building permits.

For all-way stop-controlled intersections a two-part process is employed: (a) vehicle delay is computed in all movements using the *Highway Capacity Manual* (Transportation Research Board) procedure; (b) if delay exceeds 50 seconds, the critical lane volume is computed; and the same findings are applied as discussed above.

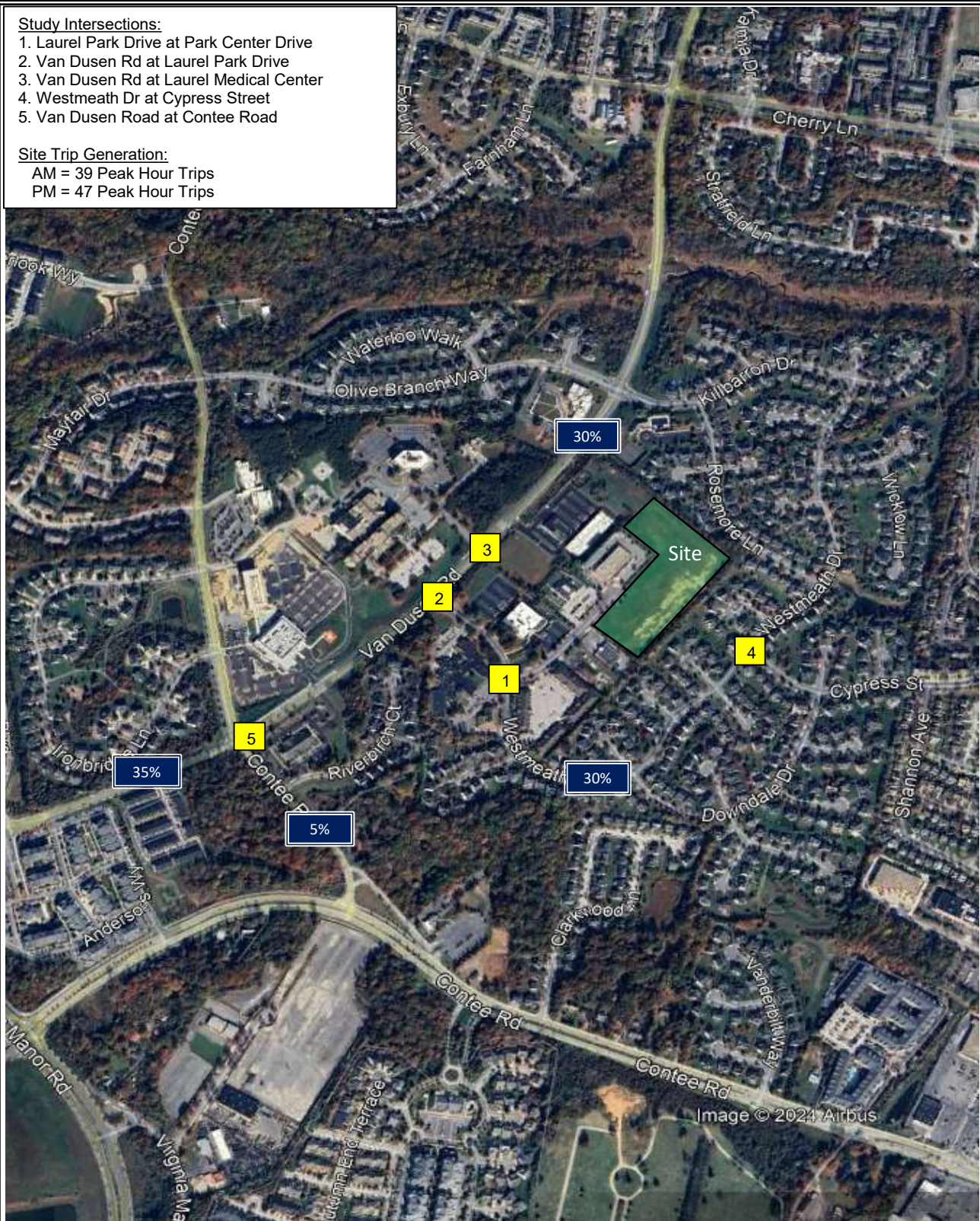
Signalized Intersections: The subject property is evaluated utilizing the Critical Lane Volume methodology and requires a level of service “D” ($CLV < 1,451$) or better for signalized intersections.

Study Intersections:

1. Laurel Park Drive at Park Center Drive
2. Van Dusen Rd at Laurel Park Drive
3. Van Dusen Rd at Laurel Medical Center
4. Westmeath Dr at Cypress Street
5. Van Dusen Road at Contee Road

Site Trip Generation:

AM = 39 Peak Hour Trips
PM = 47 Peak Hour Trips



Trip Generation Memo

Site Location
Map

Exhibit
1



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Section 2 Existing Conditions

2.1 Description of Road Network

The key roads in the study area are:

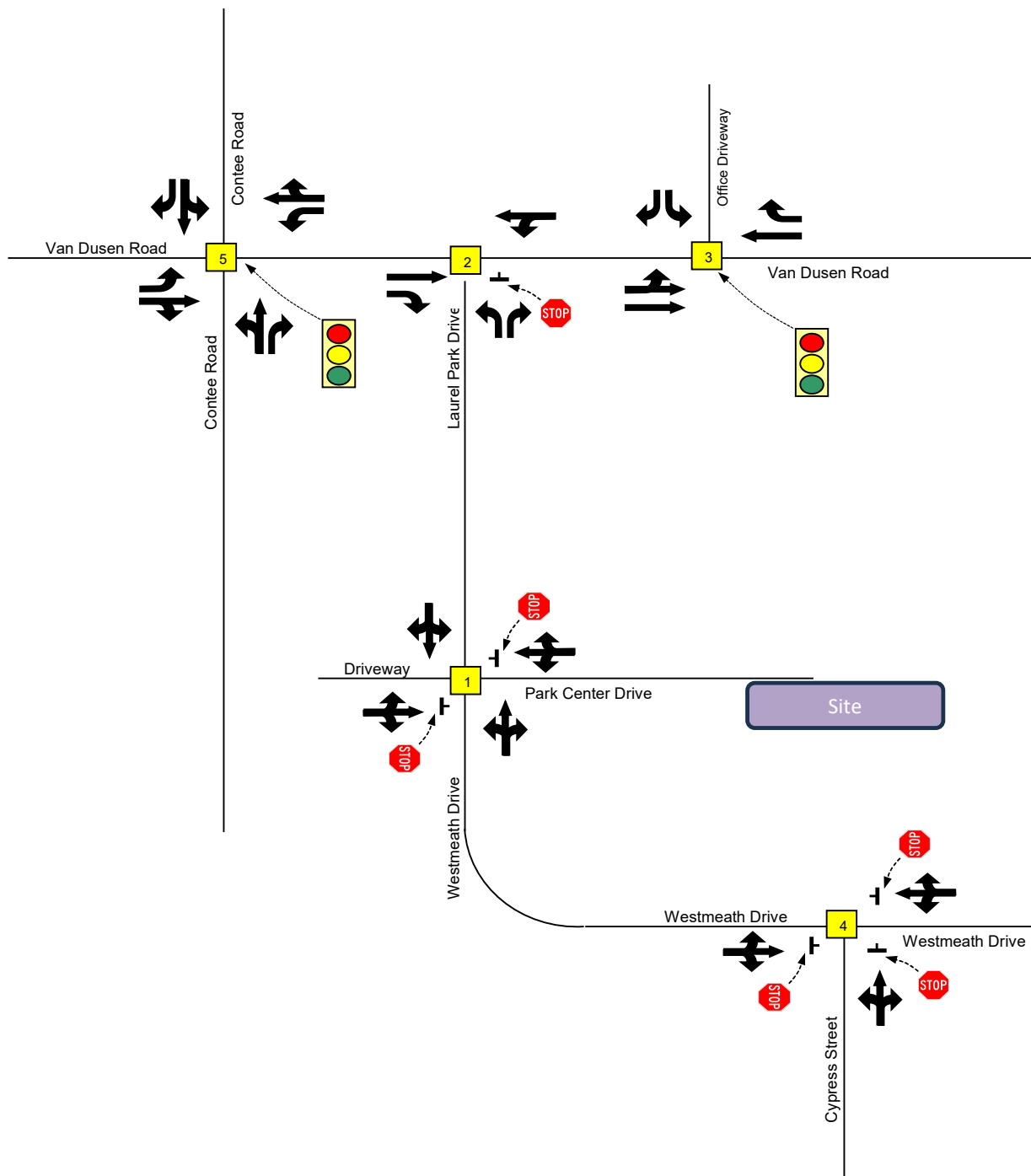
- Van Dusen Road is an existing two lane roadway (MC-102) with a posted speed of 30 MPH in the vicinity of the site.

2.2 Lane Configurations

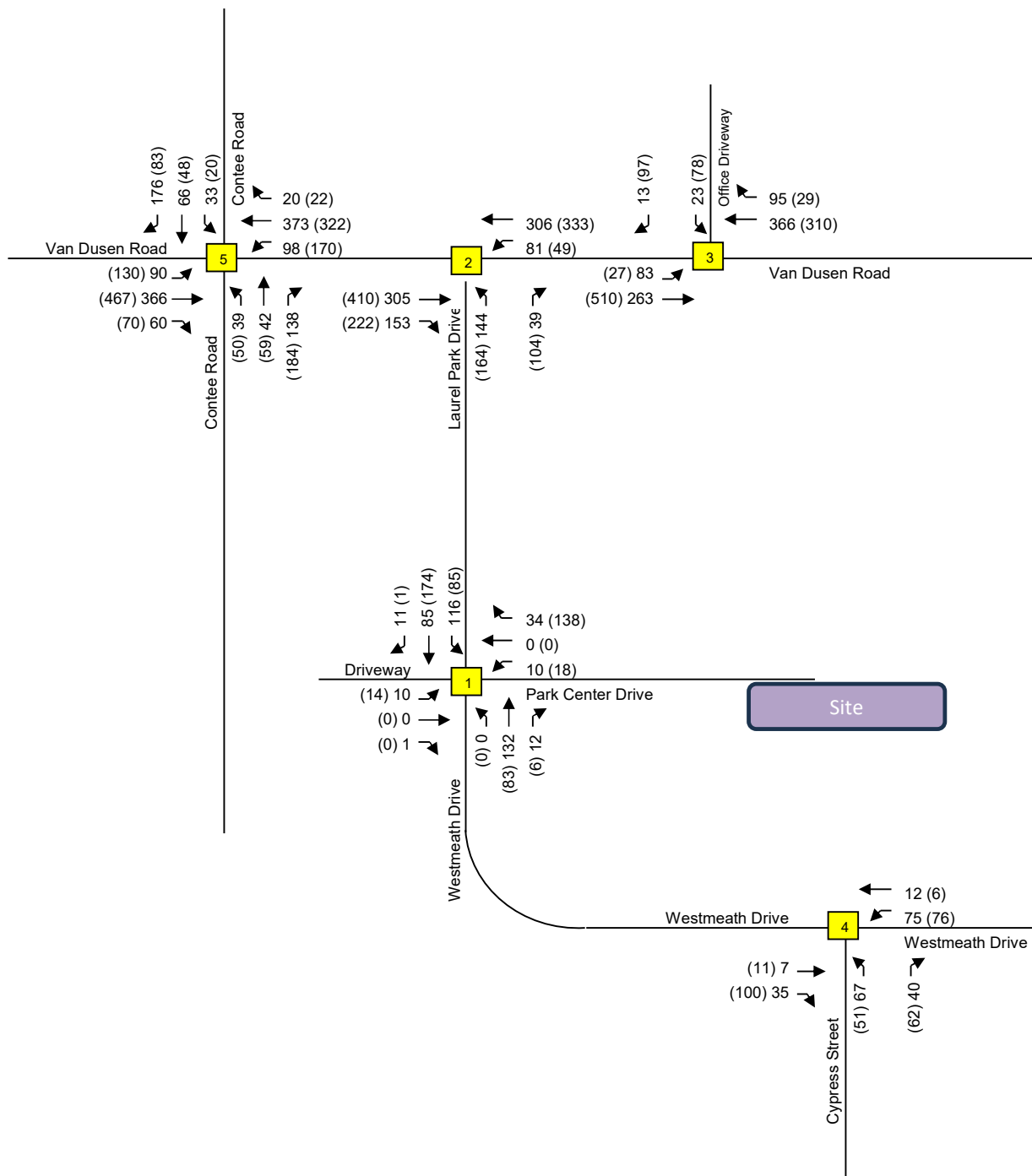
The Lane Use & Traffic Control Devices are shown on **Exhibit 2**.

2.3 Existing Traffic Counts

Peak Hour Traffic counts were conducted on Wednesday, April 24, 2024, and Thursday, May, 2, 2024, and the results are shown on Exhibit 3. The existing signalized intersections were evaluated using the CLV methodology and the results are shown on Exhibit 9. All of the signalized intersections satisfy M-NCPPC's TSA-2 requirements of 1,450 or better. All of the unsignalized intersections were evaluated using the three-step process for unsignalized intersections and are operating at adequate levels of service.



Traffic Impact Analysis	Lane Use & Traffic Control Devices	Exhibit 2
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		



Traffic Impact Analysis

Existing Peak Hour Volumes

**Exhibit
3**

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning

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

Section 3 Background Conditions

3.1 Annual Growth

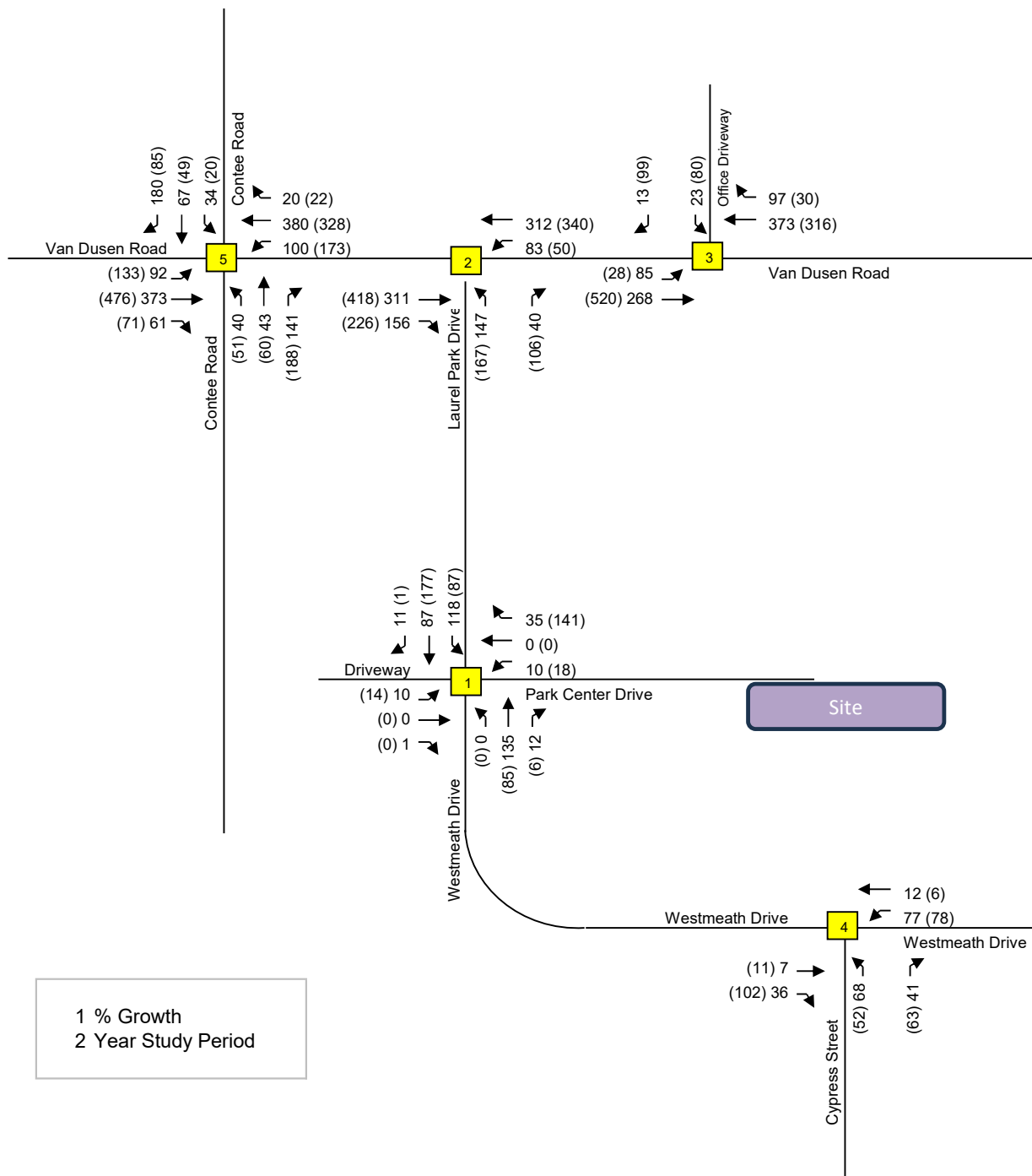
A two-year study period has been applied as directed by the Transportation Review Guidelines. The regional traffic growth has been estimated at 1% per year and the resulting base peak hour traffic volumes are shown on **Exhibit 4a**.

3.2 Approved Background Developments

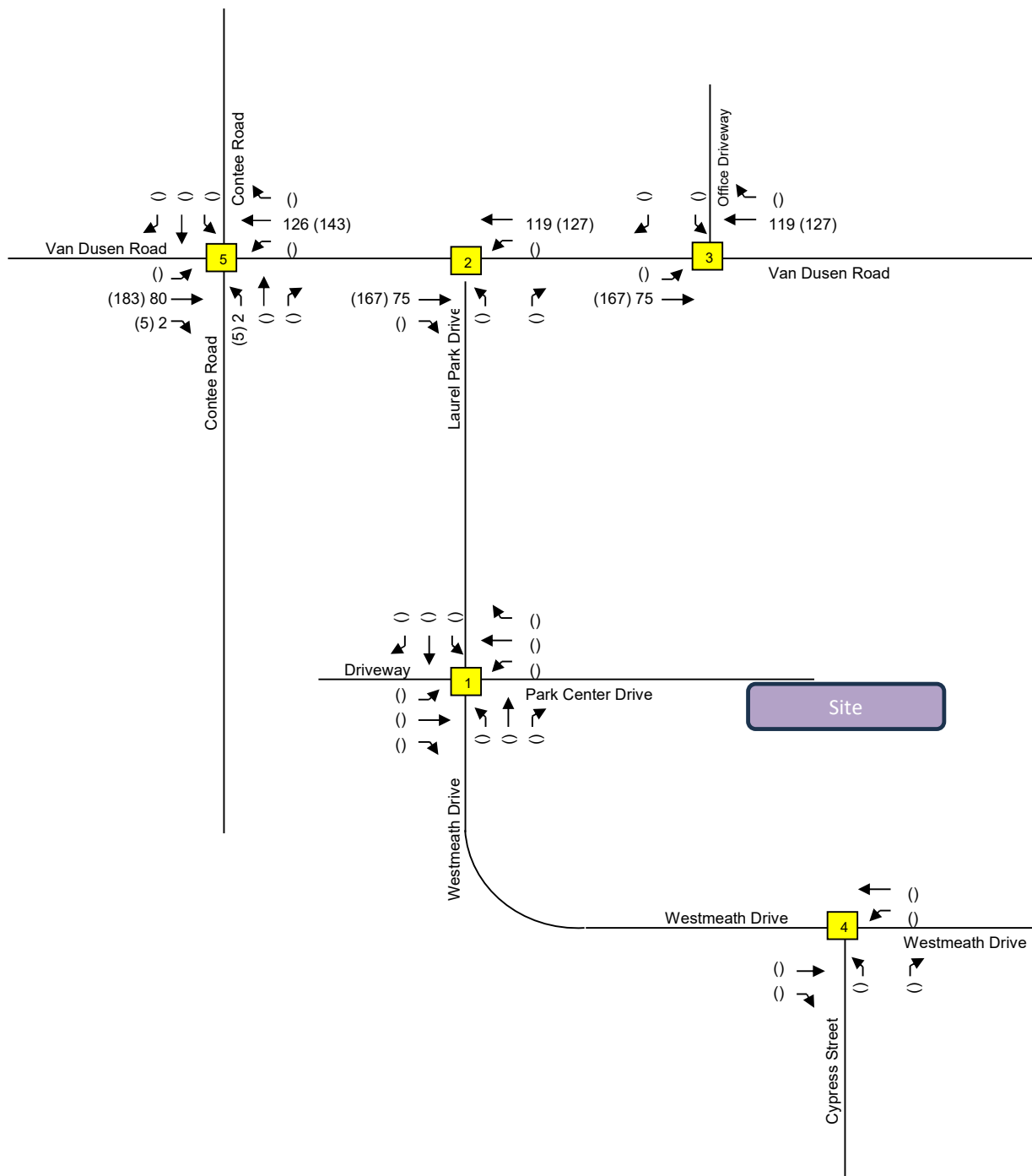
Background developments in the vicinity of the site were determined via a review of PGAtlas and the identified developments are detailed in Appendix C. The background development map is shown on Exhibit C-1 and the trip generation and assignment worksheets for the background developments are contained on Exhibits C-2 through C-7 in Appendix C. The combined trips generated by the approved background developments are shown on **Exhibit 4b**.

3.3 Background Peak Hour Volumes

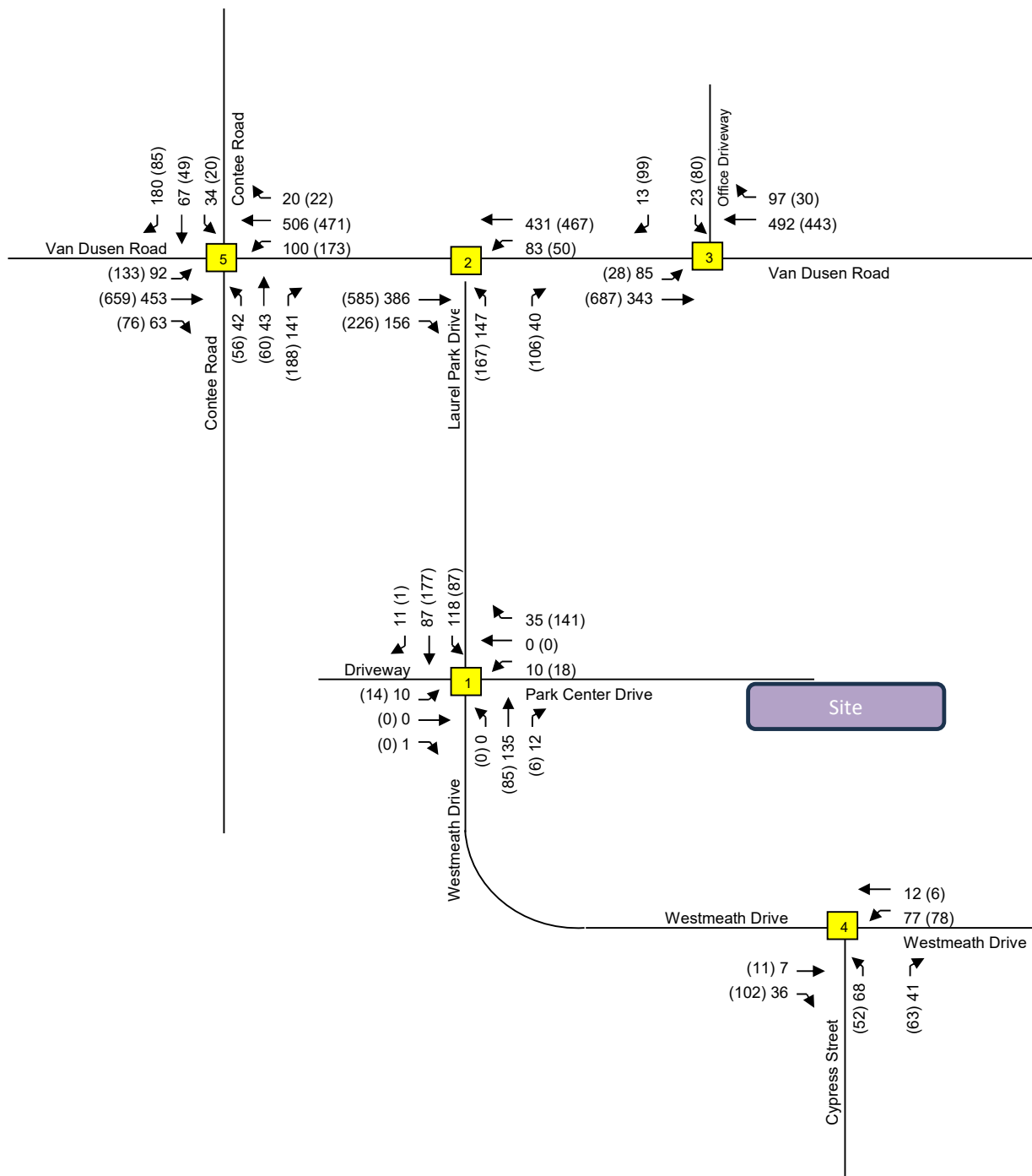
The resulting background peak hour volumes shown on **Exhibit 5** were evaluated as required for signalized and unsignalized intersections; and the results are shown on Exhibit 9. All intersections operate within acceptable parameters.



Traffic Impact Analysis	Base Peak Hour Volumes	Exhibit 4a
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	



Traffic Impact Analysis	Combined Trips from Background Developments Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit 4b
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		



Traffic Impact Analysis	Background Peak Hour Volumes Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit 5
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

Section 4 Projected Conditions with Site

4.1 Site Trip Generation

The planned development consists of 82 townhouse units.

The trip generation for the site is detailed on **Exhibit 6**. The trip generation rates and totals were obtained from the ITE Trip Generation Manual, 11th Edition.

4.2 Site Trip Distribution & Trip Assignment

The site trip assignment is shown on **Exhibit 7**.

4.3 Total Peak Hour Volumes

The Total Peak Hour Volumes are shown on **Exhibit 8**.

4.4 Projected Level of Service

The results of the level of service analyses are shown on **Exhibit 9**. All of the study intersections are projected to remain well within acceptable thresholds based on the analysis guidelines set forth in Prince George's County Guidelines.

The unsignalized intersections of Laurel Park Drive & Park Center Drive and Westmeath Drive & Cypress Street (Intersections 1 and 4) meet step 1 of the unsignalized intersection adequacy test with delays less than 50 seconds under total conditions thereby meeting adequacy standards.

The unsignalized intersection of Van Dusen Road & Laurel Park Drive (Intersection 2) meets step 3 of the unsignalized intersection adequacy test with $CLV < 1,150$ under total conditions thereby meeting adequacy standards.

The signalized intersections of Van Dusen Road & Laurel Medical Center and Van Dusen Road & Contee Road (Intersections 3 and 5) operate with $CLV < 1,450$ under total conditions thereby meeting adequacy standards.

Trip Generation Rates

Single-Family Attached Housing (ITE-215, Units)

Morning Trips = 0.48 x Units

Evening Trips = 0.57 x Units

Trip Distribution (In/Out)

31/69

57/43

Trip Generation Totals

			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
LU Code 215	Single-Family Attached Housing (ITE-215, Units)	82 units	12	27	39	27	20	47

NOTE: Trip Generation Rates obtained from the ITE Trip Generation Manual, 11th Edition

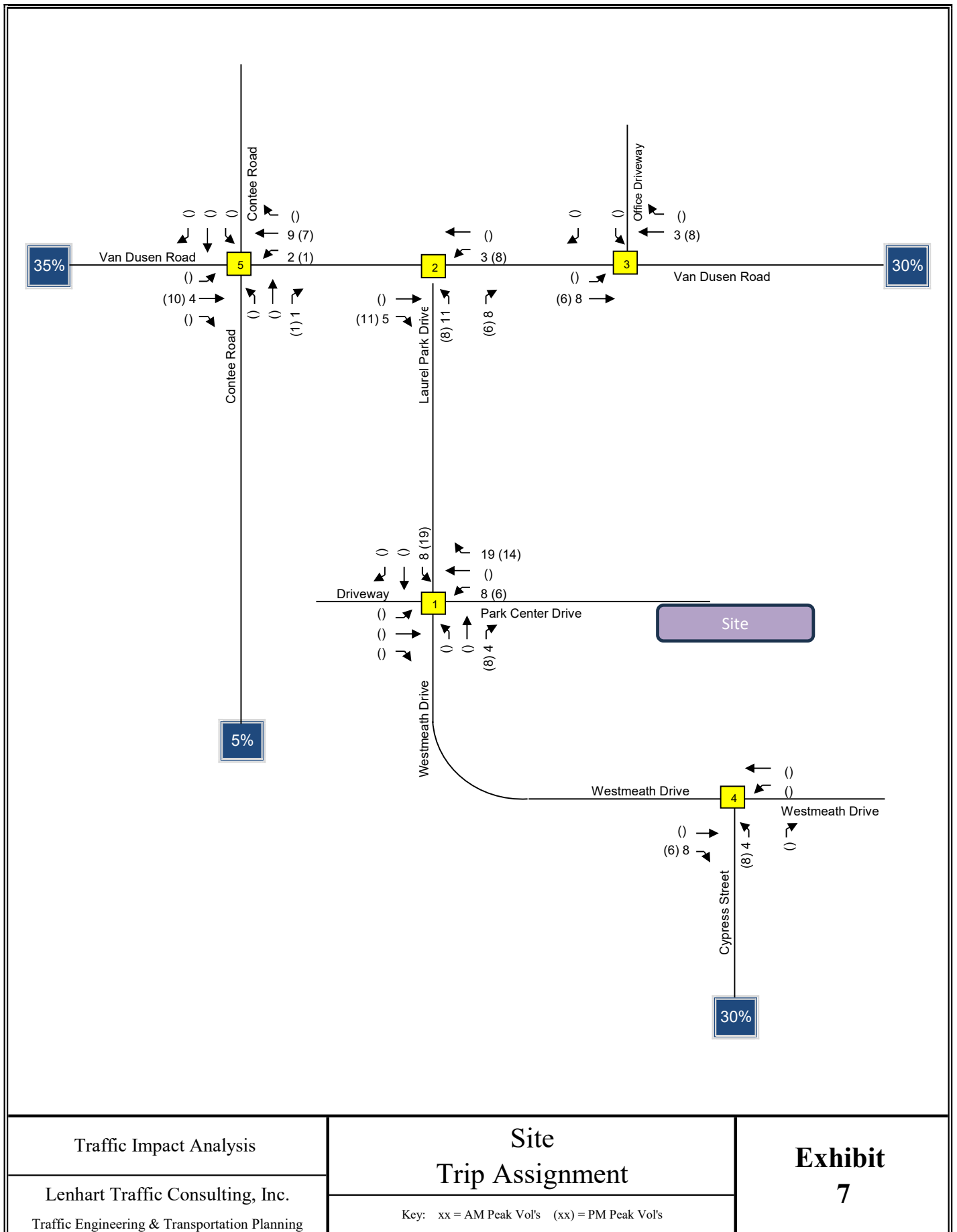
Traffic Impact Analysis



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Trip Generation for
Site

**Exhibit
6**



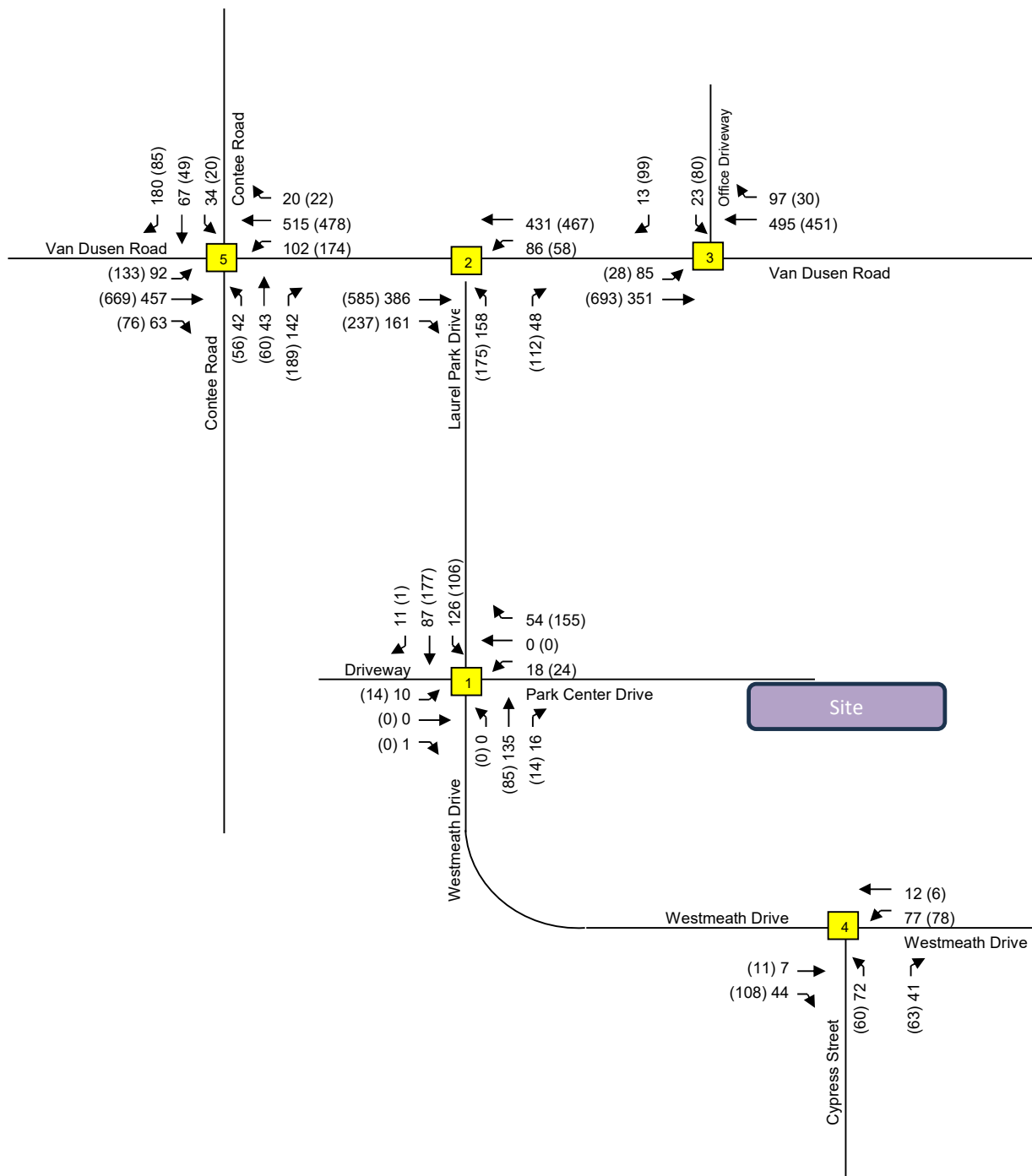
Traffic Impact Analysis

Site Trip Assignment

**Exhibit
7**

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning

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



Traffic Impact Analysis	Total Peak Hour Volumes Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	Exhibit 8
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

Level-of-Service Results

Morning Peak Hour	Existing LOS	Background LOS	Total LOS	Meets Standard?
1). Laurel Park Drive & Park Center Drive <i>Step 1 - HCM Delay Test</i>				Y
EB Driveway	13.7 sec.	13.9 sec.	14.7 sec.	Y
WB Park Center Drive	10.3 sec.	10.3 sec.	10.8 sec.	Y
NB Laurel Park Drive	0.0 sec.	0.0 sec.	0.0 sec.	Y
SB Laurel Park Drive	4.6 sec.	4.6 sec.	4.7 sec.	Y
2). Van Dusen Road & Laurel Park Drive <i>Step 1 - HCM Delay Test</i>				Y
WB Van Dusen Road	2.5 sec.	2.4 sec.	2.5 sec.	Y
NB Laurel Park Drive	24.6 sec.	44.7 sec.	54.4 sec.	N
<i>Step 2 - Minor Street Volume (veh.)</i>		> 100 veh.	> 100 veh.	N
<i>Step 3 - CLV Test</i>		A / 744	A / 761	Y
3). Van Dusen Road & Laurel Medical Center	A / 472	A / 600	A / 603	Y
4). Westmeath Drive & Cypress Street <i>Step 1 - HCM Delay Test</i>				Y
EB Westmeath Drive	7.0 sec.	7.0 sec.	7.0 sec.	Y
WB Westmeath Drive	8.0 sec.	8.0 sec.	8.0 sec.	Y
NB Cypress Street	7.8 sec.	7.8 sec.	7.9 sec.	Y
5). Van Dusen Road & Contee Road	A / 677	A / 779	A / 788	Y
Evening Peak Hour	Existing LOS	Background LOS	Total LOS	Meets Standard?
1). Laurel Park Drive & Park Center Drive <i>Step 1 - HCM Delay Test</i>				Y
EB Driveway	16.7 sec.	17.0 sec.	18.7 sec.	Y
WB Park Center Drive	10.2 sec.	10.2 sec.	10.7 sec.	Y
NB Laurel Park Drive	0.0 sec.	0.0 sec.	0.0 sec.	Y
SB Laurel Park Drive	2.8 sec.	2.9 sec.	3.3 sec.	Y
2). Van Dusen Road & Laurel Park Drive <i>Step 1 - HCM Delay Test</i>				Y
WB Van Dusen Road	1.8 sec.	1.9 sec.	2.2 sec.	Y
NB Laurel Park Drive	27.0 sec.	151.0 sec.	192.4 sec.	N
<i>Step 2 - Minor Street Volume (veh.)</i>		> 100 veh.	> 100 veh.	N
<i>Step 3 - CLV Test</i>		A / 834	A / 874	Y
3). Van Dusen Road & Laurel Medical Center	A / 415	A / 551	A / 559	Y
4). Westmeath Drive & Cypress Street <i>Step 1 - HCM Delay Test</i>				Y
EB Westmeath Drive	7.3 sec.	7.3 sec.	7.4 sec.	Y
WB Westmeath Drive	8.1 sec.	8.1 sec.	8.1 sec.	Y
NB Cypress Street	7.8 sec.	7.8 sec.	8.0 sec.	Y
5). Van Dusen Road & Contee Road	A / 845	B / 1053	B / 1064	Y

NOTES:

1. All intersections satisfy MNCPPC Guidelines for signalized and unsignalized intersections.

Traffic Impact Analysis



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Results of
Level-of-Service Analyses

**Exhibit
9**

Section 5 Conclusions / Recommendations

5.1 Results of Analysis

This Traffic Impact Analysis was prepared for the proposed Oaks at Laurel Development. The project is located along Park Center Drive near Van Dusen Road as is shown on **Exhibit 1**. The planned development consists of 82 townhouse units.

Based on the analyses contained in this report:

- All of the signalized study intersections (Intersections 3 and 5) operate within the CLV threshold of 1,450 for Transportation Service Area 2 in the existing, background, and total traffic conditions.
- The unsignalized intersections of Laurel Park Drive & Park Center Drive and Westmeath Drive & Cypress Street (Intersections 1 and 4) meet step 1 of the unsignalized intersection adequacy test with delays less than 50 seconds under total conditions thereby meeting adequacy standards.
- The unsignalized intersection of Van Dusen Road & Laurel Park Drive (Intersection 2) meets step 3 of the unsignalized intersection adequacy test with $CLV < 1,150$ under total conditions thereby meeting adequacy standards.

In light of the results of this study and the recommendations noted above, this project will satisfy the APFO requirements of Prince George's County and therefore meets the requirements of the approved scoping correspondence with the City of Laurel and should be approved.

Appendix A

Supplemental Information
Condition Diagrams
Turning Movement Counts

Dylan McAndrew

From: mlenhart
Sent: Monday, April 29, 2024 11:58 AM
To: Robert Love; Emily Cline-Gibson
Cc: Nick Driban; Ryan Wingate; Dylan McAndrew; mlenhart
Subject: RE: Oaks at Laurel - TIA Scoping Package

Will do.

Thanks!

Mike Lenhart, P.E., PTOE
President

Office: [\(410\) 216-3333](tel:4102163333) (Ext. 1)
Mobile: [\(410\) 980-2367](tel:4109802367)



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From: Robert Love <rlove@laurel.md.us>
Sent: Monday, April 29, 2024 11:57 AM
To: mlenhart <mlenhart@LENHARTTRAFFIC.COM>; Emily Cline-Gibson <Ecline-gibson@laurel.md.us>
Cc: Nick Driban <ndriban@LENHARTTRAFFIC.COM>; Ryan Wingate <rwingate@LENHARTTRAFFIC.COM>; Dylan McAndrew <DMcAndrew@LENHARTTRAFFIC.COM>
Subject: RE: Oaks at Laurel - TIA Scoping Package

Mike,

Please add the intersection of Contee and VanDusen to be included in the scoping.

Thank You,

Robert Love, CPM
Director

City of Laurel

Department of Economic and Community Development

Joseph R. Robison- Laurel Municipal Center

8103 Sandy Spring Road, Laurel, MD 20707

Office: 301-725-5300 x2313

Fax: 301-490-5068

rlove@laurel.md.us

www.cityoflaurel.org



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From: mlenhart <mlenhart@LENHARTTRAFFIC.COM>

Sent: Monday, April 29, 2024 11:15 AM

To: Robert Love <rlove@laurel.md.us>; Emily Cline-Gibson <Ecline-gibson@laurel.md.us>

Cc: Nick Driban <ndriban@LENHARTTRAFFIC.COM>; Ryan Wingate <rwingate@LENHARTTRAFFIC.COM>; Dylan McAndrew <DMcAndrew@LENHARTTRAFFIC.COM>; mlenhart <mlenhart@LENHARTTRAFFIC.COM>

Subject: RE: Oaks at Laurel - TIA Scoping Package

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Hi Rob,

Any word on this scoping feedback? Is it ok if we move forward with this scope?

Thanks,

Mike

Mike Lenhart, P.E., PTOE

President

Office: [\(410\) 216-3333](tel:(410)216-3333) (Ext. 1)

Mobile: [\(410\) 980-2367](tel:(410)980-2367)



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Sent: Tuesday, April 23, 2024 4:22 PM
To: Robert Love <rlove@laurel.md.us>; Emily Cline-Gibson <Ecline-gibson@laurel.md.us>
Cc: Nick Driban <ndriban@LENHARTTRAFFIC.COM>; Ryan Wingate <rwingate@LENHARTTRAFFIC.COM>; Dylan McAndrew <DMcAndrew@LENHARTTRAFFIC.COM>; mlenhart <mlenhart@LENHARTTRAFFIC.COM>
Subject: RE: Oaks at Laurel - TIA Scoping Package

Thanks Rob!

Thanks,
Mike

Mike Lenhart, P.E., PTOE
President

Office: [\(410\) 216-3333](tel:(410)216-3333) (Ext. 1)
Mobile: [\(410\) 980-2367](tel:(410)980-2367)



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From: Robert Love <rlove@laurel.md.us>
Sent: Tuesday, April 23, 2024 3:10 PM
To: mlenhart <mlenhart@LENHARTTRAFFIC.COM>; Emily Cline-Gibson <Ecline-gibson@laurel.md.us>
Cc: Nick Driban <ndriban@LENHARTTRAFFIC.COM>; Ryan Wingate <rwingate@LENHARTTRAFFIC.COM>; Dylan McAndrew <DMcAndrew@LENHARTTRAFFIC.COM>
Subject: RE: Oaks at Laurel - TIA Scoping Package

Mike,

We will let you know when we hear back from DPW in case they have any edits.

Thank You,

Robert Love, CPM
Director

City of Laurel

Department of Economic and Community Development
Joseph R. Robison- Laurel Municipal Center
8103 Sandy Spring Road, Laurel, MD 20707
Office: 301-725-5300 x2313
Fax: 301-490-5068
rlove@laurel.md.us
www.cityoflaurel.org



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From: mlenhart <mlenhart@LENHARTTRAFFIC.COM>
Sent: Tuesday, April 23, 2024 2:03 PM
To: Robert Love <rlove@laurel.md.us>; Emily Cline-Gibson <ecline-gibson@laurel.md.us>
Cc: Nick Driban <ndriban@LENHARTTRAFFIC.COM>; Ryan Wingate <rwingate@LENHARTTRAFFIC.COM>; Dylan McAndrew <DMcAndrew@LENHARTTRAFFIC.COM>; mlenhart <mlenhart@LENHARTTRAFFIC.COM>
Subject: RE: Oaks at Laurel - TIA Scoping Package

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Hi Rob and Emily,

I don't recall seeing a reply to this. Can you confirm this scope is acceptable.

The project will generate just under 50 peak hour trips so a full blown TIA shouldn't be required. This should be sufficient to examine the adjacent intersections in each direction of the site as discussed below.

Thanks,
Mike

Mike Lenhart, P.E., PTOE

President

Office: [\(410\) 216-3333](tel:(410)216-3333) (Ext. 1)

Mobile: [\(410\) 980-2367](tel:(410)980-2367)



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From: mlenhart <mlenhart@LENHARTTRAFFIC.COM>

Sent: Monday, April 8, 2024 6:35 PM

To: rlove@laurel.md.us; ecline-gibson@laurel.md.us

Cc: mlenhart <mlenhart@LENHARTTRAFFIC.COM>; Nick Driban <ndriban@LENHARTTRAFFIC.COM>; Ryan Wingate <rwingate@LENHARTTRAFFIC.COM>; Dylan McAndrew <DMcAndrew@LENHARTTRAFFIC.COM>

Subject: Oaks at Laurel - TIA Scoping Package

Hi Rob and Emily,

I've attached the following:

1. Concept site plan from the Special Exception
2. Scoping Materials for the TIA:
 - a. Site Location Map and Proposed Study Intersections and Trip Assignment
 - b. Trip Generation Exhibit

It should be noted that the site generates just under 50 peak hour trips so it's right on the threshold of requiring a traffic study. With that in mind, we've identified the nearest intersections in each direction from the site including the intersection at Westmeath Drive and Cypress Street since we would anticipate that community to have questions about traffic impacts.

You mentioned when we met last week that there have been some community requests for a signal at Van Dusen Road & Laurel Park Drive, therefore we will include a warrant analysis at that location so we will have information related to that issue.

Please review internally with your DPWT and provide feedback and/or approval of the approved scope.

We would propose to use the M-NCPPC methodology for analyzing intersections:

1. CLV for signalized intersections
 2. Three-step process for unsignalized intersections
 - a. HCS with delays < 50 seconds per vehicle is deemed adequate, or
 - b. Minor street volumes < 100 veh/hour is deemed adequate, or
 - c. CLV < 1,150 is deemed adequate.
- NOTE: If none of these three steps pass, then signal warrant study is prepared.

Thanks,
Mike

Mike Lenhart, P.E., PTOE
President

Office: [\(410\) 216-3333](tel:4102163333) (Ext. 1)
Mobile: [\(410\) 980-2367](tel:4109802367)



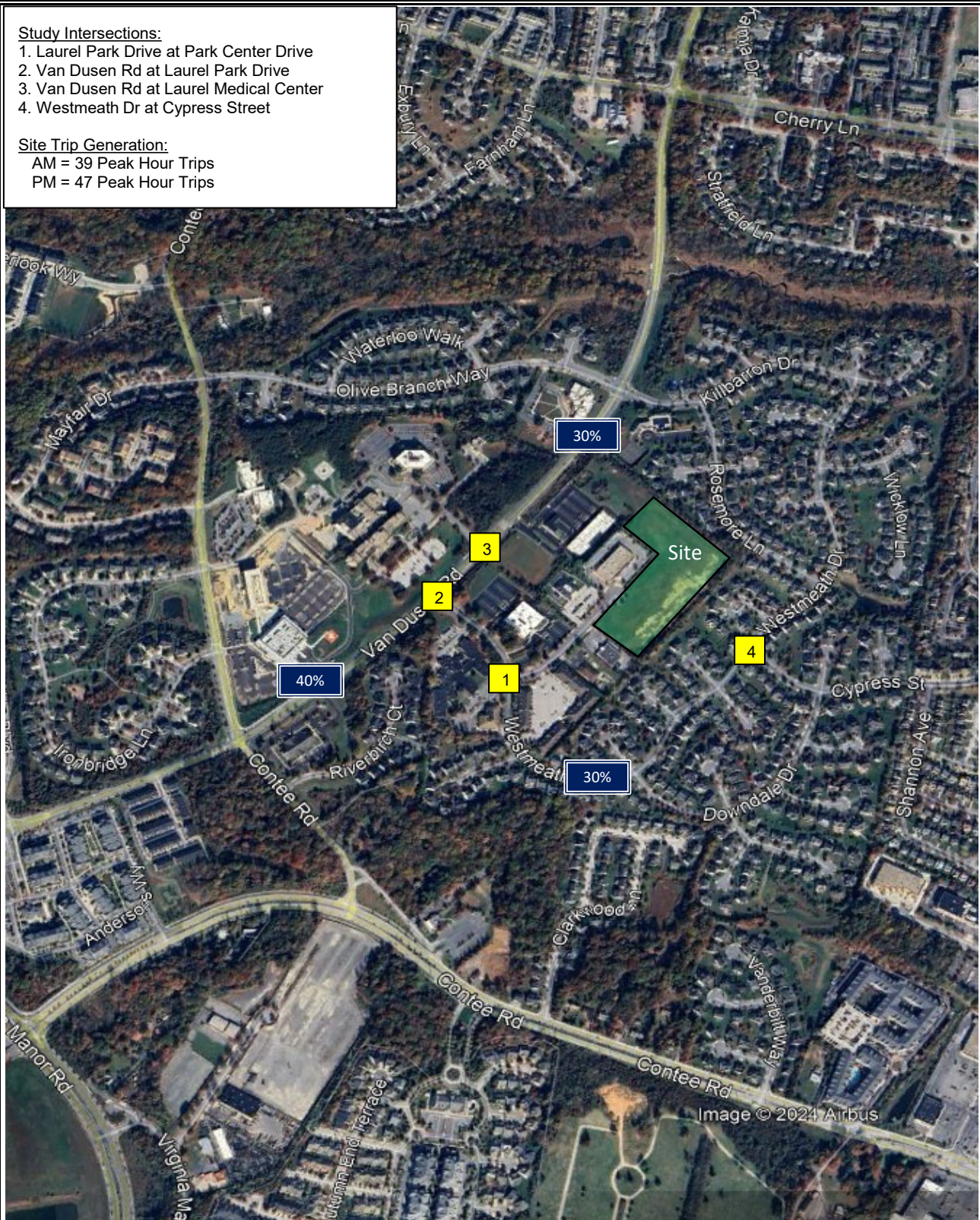
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2. Van Dusen Rd at Laurel Park Drive
3. Van Dusen Rd at Laurel Medical Center
4. Westmeath Dr at Cypress Street

Site Trip Generation:

AM = 39 Peak Hour Trips
PM = 47 Peak Hour Trips



Trip Generation Memo

Site Location
Map

Exhibit
1



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SEVERNA PARK, MD 21146
www.lenharttraffic.com

Trip Generation Rates

Single-Family Attached Housing (ITE-215, Units)

Morning Trips = 0.48 x Units
Evening Trips = 0.57 x Units

Trip Distribution (In/Out)

31/69
57/43

Trip Generation Totals

			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
LU Code 215	Single-Family Attached Housing (ITE-215, Units)	82 units	12	27	39	27	20	47

NOTE: Trip Generation Rates obtained from the ITE Trip Generation Manual, 11th Edition

Traffic Impact Analysis	Trip Generation for Site	Exhibit 2
 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)																				
	Laurel Park Drive Northbound					Laurel Park Drive Southbound					Driveway Eastbound					Park Center Drive Westbound					
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
6:30-6:45	0	0	12	1	0	0	9	5	0	0	0	0	0	0	0	0	0	0	6	4	33
6:45-7:00	0	2	15	3	0	0	6	7	1	0	0	1	0	0	0	0	0	0	7	1	42
7:00-7:15	0	1	32	1	0	0	19	20	7	0	0	4	0	0	0	0	0	0	6	2	90
7:15-7:30	0	0	24	1	0	0	15	28	2	1	0	1	0	0	0	0	1	0	12	0	84
7:30-7:45	0	0	44	4	0	0	24	15	0	0	0	2	0	0	0	0	1	0	5	2	95
7:45-8:00	0	0	37	4	2	0	27	18	5	0	0	1	0	1	0	0	5	0	5	0	103
8:00-8:15	0	0	22	0	0	0	23	27	2	0	0	3	0	0	0	0	2	0	12	0	91
8:15-8:30	0	0	29	4	0	0	42	25	4	0	0	4	0	0	0	0	2	0	12	0	122
8:30-8:45	0	0	16	0	0	0	34	20	2	0	0	0	0	0	0	0	1	0	13	0	86
8:45-9:00	0	0	18	0	0	0	32	18	2	0	0	0	0	0	0	0	0	0	11	0	81
9:00-9:15	0	0	20	1	0	0	18	18	1	0	0	1	0	0	0	0	2	0	19	0	80
9:15-9:30	0	0	24	3	0	0	25	15	1	0	0	0	0	0	0	0	0	0	10	0	78

Hourly Totals																					
6:30-7:30	0	3	83	6	0	0	49	60	10	1	0	6	0	0	0	0	1	0	31	7	257
6:45-7:45	0	3	115	9	0	0	64	70	10	1	0	8	0	0	0	0	2	0	30	5	317
7:00-8:00	0	1	137	10	2	0	85	81	14	1	0	8	0	1	0	0	7	0	28	4	379
7:15-8:15	0	0	127	9	2	0	89	88	9	1	0	7	0	1	0	0	9	0	34	2	378
7:30-8:30	0	0	132	12	2	0	116	85	11	0	0	10	0	1	0	0	10	0	34	2	415
7:45-8:45	0	0	104	8	2	0	126	90	13	0	0	8	0	1	0	0	10	0	42	0	404
8:00-9:00	0	0	85	4	0	0	131	90	10	0	0	7	0	0	0	0	5	0	48	0	380
8:15-9:15	0	0	83	5	0	0	126	81	9	0	0	5	0	0	0	0	5	0	55	0	369
8:30-9:30	0	0	78	4	0	0	109	71	6	0	0	1	0	0	0	0	3	0	53	0	325
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	0	132	12	2	0	116	85	11	0	0	10	0	1	0	0	10	0	34	2	415

Time:	Weekday Evening Peak Hour (4 pm - 7 pm)																			Total	
	Laurel Park Drive Northbound					Laurel Park Drive Southbound					Driveway Eastbound					Park Center Drive Westbound					
	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	0	27	1	0	0	16	38	1	0	0	0	0	0	0	0	6	0	17	0	106
4:15-4:30	0	0	23	2	0	0	16	34	1	0	0	0	0	0	0	0	2	0	25	1	103
4:30-4:45	0	0	24	3	0	0	15	27	0	0	0	1	0	0	0	0	5	0	30	0	105
4:45-5:00	0	0	25	1	0	0	16	40	1	0	0	5	0	0	0	1	5	0	18	0	112
5:00-5:15	0	0	25	2	0	0	20	34	0	0	0	2	0	0	0	0	5	0	37	2	125
5:15-5:30	0	0	19	2	0	0	25	51	0	0	0	6	0	0	0	0	2	0	34	0	139
5:30-5:45	0	0	14	1	0	0	24	49	0	0	0	1	0	0	0	0	5	0	49	1	143
5:45-6:00	0	0	18	1	0	0	16	27	0	0	0	0	0	0	0	0	2	0	19	2	83
6:00-6:15	0	0	20	0	0	0	14	40	0	0	0	0	0	0	0	0	5	0	33	0	112
6:15-6:30	0	0	18	1	0	0	6	41	0	0	0	0	0	0	0	0	1	0	15	0	82
6:30-6:45	0	0	18	0	0	0	4	29	0	0	0	0	0	0	0	0	1	0	22	0	74
6:45-7:00	0	0	20	1	0	0	6	34	0	0	0	1	0	0	0	0	0	0	6	0	68

Hourly Totals																					
4:00-5:00	0	0	99	7	0	0	63	139	3	0	0	6	0	0	0	1	18	0	90	1	427
4:15-5:15	0	0	97	8	0	0	67	135	2	0	0	8	0	0	0	1	17	0	110	3	448
4:30-5:30	0	0	93	8	0	0	76	152	1	0	0	14	0	0	0	1	17	0	119	2	483
4:45-5:45	0	0	83	6	0	0	85	174	1	0	0	14	0	0	0	1	17	0	138	3	522
5:00-6:00	0	0	76	6	0	0	85	161	0	0	0	9	0	0	0	0	14	0	139	5	495
5:15-6:15	0	0	71	4	0	0	79	167	0	0	0	7	0	0	0	0	14	0	135	3	480
5:30-6:30	0	0	70	3	0	0	60	157	0	0	0	1	0	0	0	0	13	0	116	3	423
5:45-6:45	0	0	74	2	0	0	40	137	0	0	0	0	0	0	0	0	9	0	89	2	353
6:00-7:00	0	0	76	2	0	0	30	144	0	0	0	1	0	0	0	0	7	0	76	0	336
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	0	0	83	6	0	0	85	174	1	0	0	14	0	0	0	1	17	0	138	3	522

Peak Hour
Turning Movement Count



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

Intersection: Laurel Park Drive & Park Center Drive
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Wednesday, April 17, 2024
Jurisdiction: Prince George's County

Time:	Weekday Morning Peak Hour (6:30 am - 9:30 am)																				
	Laurel Park Drive Northbound					N/A Southbound					Van Dusen Road Eastbound					Van Dusen Road 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	14		3	2					0	0		15	14	0	0	5	37		0	88
6:45-7:00	0	19		6	1					0	0		38	15	0	0	12	45		0	135
7:00-7:15	0	35		6	1					0	0		51	38	0	0	11	49		0	190
7:15-7:30	0	27		13	0					0	0		80	34	0	0	12	62		0	228
7:30-7:45	0	45		6	0					0	0		79	28	0	0	13	90		0	261
7:45-8:00	0	38		10	0					0	0		89	30	0	0	22	85		0	274
8:00-8:15	0	27		11	0					0	0		69	44	0	0	18	78		0	247
8:15-8:30	0	34		12	2					0	0		68	51	0	0	28	53		0	246
8:30-8:45	0	21		10	0					0	0		50	48	0	0	18	63		0	210
8:45-9:00	0	25		9	3					0	0		75	42	0	0	27	48		0	226
9:00-9:15	0	25		16	0					0	0		88	38	0	0	13	68		0	248
9:15-9:30	0	28		14	0					0	0		79	37	0	0	15	69		0	242

Hourly Totals														
6:30-7:30	0	95	28	4	0	0	184	101	0	0	40	193	0	645
6:45-7:45	0	126	31	2	0	0	248	115	0	0	48	246	0	816
7:00-8:00	0	145	35	1	0	0	299	130	0	0	58	286	0	954
7:15-8:15	0	137	40	0	0	0	317	136	0	0	65	315	0	1010
7:30-8:30	0	144	39	2	0	0	305	153	0	0	81	306	0	1030
7:45-8:45	0	120	43	2	0	0	276	173	0	0	86	279	0	979
8:00-9:00	0	107	42	5	0	0	262	185	0	0	91	242	0	934
8:15-9:15	0	105	47	5	0	0	281	179	0	0	86	232	0	935
8:30-9:30	0	99	49	3	0	0	292	165	0	0	73	248	0	929

AM	Northbound					Southbound					Eastbound					Westbound				
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	144		39	2					0	0		305	153	0	0	81	306		0
																				1030

Time:	Weekday Evening Peak Hour (4 pm - 7 pm)																			Total	
	Laurel Park Drive Northbound					N/A Southbound					Van Dusen Road Eastbound					Van Dusen Road Westbound					
	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	33		30	1					0	0		97	45	0	0	20	75		0	300
4:15-4:30	1	32		29	0					0	0		114	44	0	0	11	103		0	334
4:30-4:45	0	34		24	0					0	0		103	40	0	0	8	89		1	298
4:45-5:00	0	33		20	0					0	0		119	49	0	0	14	84		0	319
5:00-5:15	0	52		28	1					0	0		103	45	0	0	13	80		0	321
5:15-5:30	0	34		27	1					0	0		87	65	0	0	14	88		0	315
5:30-5:45	0	45		29	0					0	0		101	63	0	0	8	81		0	327
5:45-6:00	0	27		16	0					0	0		107	38	0	0	8	67		0	263
6:00-6:15	0	37		18	1					0	0		119	48	0	0	8	76		0	306
6:15-6:30	0	26		11	0					0	0		98	42	0	0	9	79		0	265
6:30-6:45	0	28		14	3					0	0		91	28	0	0	5	55		0	221
6:45-7:00	0	22		10	0					0	0		77	37	0	0	5	66		0	217

Hourly Totals														
4:00-5:00	1	132	103	1	0	0	433	178	0	0	53	351	1	1253
4:15-5:15	1	151	101	1	0	0	439	178	0	0	46	356	1	1274
4:30-5:30	0	153	99	2	0	0	412	199	0	0	49	341	1	1256
4:45-5:45	0	164	104	2	0	0	410	222	0	0	49	333	0	1284
5:00-6:00	0	158	100	2	0	0	398	211	0	0	43	316	0	1228
5:15-6:15	0	143	90	2	0	0	414	214	0	0	38	312	0	1213
5:30-6:30	0	135	74	1	0	0	425	191	0	0	33	303	0	1162
5:45-6:45	0	118	59	4	0	0	415	156	0	0	30	277	0	1059
6:00-7:00	0	113	53	4	0	0	385	155	0	0	27	276	0	1013

PM	Northbound					Southbound					Eastbound					Westbound				
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	0	164		104	2					0	0		410	222	0	0	49	333		0
																				1284

Peak Hour
Turning Movement Count



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

Intersection: Van Dusen Road & Laurel Park Drive
Weather: Clear
Count by: Count Cam
Count Day/Date: Wednesday, April 24, 2024
Jurisdiction: Laurel, MD

Weekday Morning Peak Hour (6:30 am - 9:30 am)																				
Time:	N/A Northbound					Laurel Medical Center Southbound					Van Dusen Road Eastbound					Van Dusen Road Westbound				
	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	0	1		0	0	0	2	17		1	0		41	4	0
6:45-7:00					0	0	2		1	0	0	11	32		0	0		57	9	0
7:00-7:15					0	0	3		1	0	0	9	49		0	0		57	10	0
7:15-7:30					0	0	1		1	0	0	14	78		0	0		73	13	0
7:30-7:45					0	0	2		0	0	0	17	64		0	0		103	16	0
7:45-8:00					0	0	3		3	0	1	35	64		0	0		101	29	1
8:00-8:15					0	0	6		5	0	0	16	67		1	0		88	24	0
8:15-8:30					0	0	12		5	0	0	14	68		0	0		74	26	0
8:30-8:45					0	0	8		9	0	0	13	47		0	0		69	18	0
8:45-9:00					0	0	7		6	2	0	20	64		0	0		69	20	0
9:00-9:15					0	0	11		6	0	0	21	81		0	0		87	17	0
9:15-9:30					0	0	14		15	0	0	19	75		0	0		64	16	0

Hourly Totals																				
6:30-7:30					0	0	7		3	0	0	36	176		1	0		228	36	0
6:45-7:45					0	0	8		3	0	0	51	223		0	0		290	48	0
7:00-8:00					0	0	9		5	0	1	75	255		0	0		334	68	1
7:15-8:15					0	0	12		9	0	1	82	273		1	0		365	82	1
7:30-8:30					0	0	23		13	0	1	82	263		1	0		366	95	1
7:45-8:45					0	0	29		22	0	1	78	246		1	0		332	97	1
8:00-9:00					0	0	33		25	2	0	63	246		1	0		300	88	0
8:15-9:15					0	0	38		26	2	0	68	260		0	0		299	81	0
8:30-9:30					0	0	40		36	2	0	73	267		0	0		289	71	0
AM Peak Hour	Northbound					Southbound					Eastbound					Westbound				
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
					0	0	23		13	0	1	82	263		1	0		366	95	1
					0	0	23		13	0	1	82	263		1	0		366	95	1

Weekday Evening Peak Hour (4 pm - 7 pm)																				
Time:	N/A Northbound					Laurel Medical Center Southbound					Van Dusen Road Eastbound					Van Dusen Road Westbound				
	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	0	24		25	0	0	6	121		0	0		74	7	0
4:15-4:30					0	0	20		27	0	0	11	132		0	0		85	9	0
4:30-4:45					0	0	19		29	0	0	5	123		0	0		69	8	0
4:45-5:00					0	0	15		16	0	0	5	134		0	0		82	5	0
5:00-5:15					0	0	22		13	0	0	2	129		0	0		81	5	0
5:15-5:30					0	0	11		7	0	0	3	110		0	0		89	2	0
5:30-5:45					0	0	10		6	0	0	3	128		0	0		84	5	0
5:45-6:00					0	0	5		3	0	0	1	123		0	0		73	5	0
6:00-6:15					0	0	4		6	0	0	4	133		1	0		79	2	0
6:15-6:30					0	0	5		9	0	0	0	109		1	0		80	5	0
6:30-6:45					0	0	6		1	0	0	1	105		0	0		59	1	0
6:45-7:00					0	0	2		1	0	0	0	85		0	0		68	1	0

Hourly Totals																				
4:00-5:00					0	0	78		97	0	0	27	510		0	0		310	29	0
4:15-5:15					0	0	76		85	0	0	23	518		0	0		317	27	0
4:30-5:30					0	0	67		65	0	0	15	496		0	0		321	20	0
4:45-5:45					0	0	58		42	0	0	13	501		0	0		336	17	0
5:00-6:00					0	0	48		29	0	0	9	490		0	0		327	17	0
5:15-6:15					0	0	30		22	0	0	11	494		1	0		325	14	0
5:30-6:30					0	0	24		24	0	0	8	493		2	0		316	17	0
5:45-6:45					0	0	20		19	0	0	6	470		2	0		291	13	0
6:00-7:00					0	0	17		17	0	0	5	432		2	0		286	9	0
PM Peak Hour	Northbound					Southbound					Eastbound					Westbound				
4:00-5:00	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds
					0	0	78		97	0	0	27	510		0	0		310	29	0
					0	0	78		97	0	0	27	510		0	0		310	29	0

Peak Hour
Turning Movement Count



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

Intersection: Van Dusen Road & Laurel Medical Center
Weather: Clear
Count by: Count Cam
Count Day/Date: Wednesday, April 24, 2024
Jurisdiction: Laurel, MD

	Weekday Morning Peak Hour (6:30 am - 9:30 am)																				
	Cypress Street Northbound					N/A Southbound					Westmeath Drive Eastbound					Westmeath Drive Westbound					
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
6:30-6:45	0	4		6	0					0	0		0	4	0	0	6	1		0	21
6:45-7:00	0		8	9	5					0	0		0	2	0	0	3	1		0	23
7:00-7:15	0		11		6	3				0	0		0	7	0	0	13	3		0	40
7:15-7:30	0		9		12	0				0	0		2	10	0	0	7	0		0	40
7:30-7:45	0		14		11	0				0	0		4	8	0	0	17	3		0	57
7:45-8:00	0		21		6	0				0	0		1	11	0	0	20	6		0	65
8:00-8:15	0		18		9	0				0	0		1	10	0	0	20	1		0	59
8:15-8:30	1		13		14	0				0	0		1	6	0	0	18	2		0	55
8:30-8:45	0		7		11	0				0	0		4	8	0	0	13	3		0	46
8:45-9:00	0		10		12	0				0	0		2	8	0	0	13	2		0	47
9:00-9:15	0		4		8	1				0	0		0	11	0	0	12	0		0	35
9:15-9:30	0		17		6	0				0	0		2	5	0	0	15	3		0	48

Hourly Totals														
6:30-7:30	0	32	33	8	0	0	2	23	0	0	29	5	0	132
6:45-7:45	0	42	38	8	0	0	6	27	0	0	40	7	0	168
7:00-8:00	0	55	35	3	0	0	7	36	0	0	57	12	0	205
7:15-8:15	0	62	38	0	0	0	8	39	0	0	64	10	0	221
7:30-8:30	1	66	40	0	0	0	7	35	0	0	75	12	0	236
7:45-8:45	1	59	40	0	0	0	7	35	0	0	71	12	0	225
8:00-9:00	1	48	46	0	0	0	8	32	0	0	64	8	0	207
8:15-9:15	1	34	45	1	0	0	7	33	0	0	56	7	0	184
8:30-9:30	0	38	37	1	0	0	8	32	0	0	53	8	0	177

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	1	66		40	0					0	0		7	35	0	0	75	12		0	236

Time:	Weekday Evening Peak Hour (4 pm - 7 pm)																				Total
	Cypress Street Northbound					N/A Southbound					Westmeath Drive Eastbound					Westmeath Drive Westbound					
	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	18		10	0					0	0		5	23	0	0	24	2		0	82
4:15-4:30	0	14		18	0					0	0		4	19	0	0	18	0		1	73
4:30-4:45	0	18		15	0					0	0		1	21	0	0	14	3		0	72
4:45-5:00	0	11		14	0					0	0		4	13	0	0	30	2		0	74
5:00-5:15	0	14		8	2					0	0		1	26	0	0	14	0		0	63
5:15-5:30	0	12		23	0					0	0		1	26	0	0	12	1		0	75
5:30-5:45	0	11		13	1					0	0		0	29	0	0	17	0		0	70
5:45-6:00	0	14		14	1					0	0		4	15	0	0	24	1		0	72
6:00-6:15	0	10		15	3					0	0		5	29	0	0	20	3		0	82
6:15-6:30	0	16		20	0					0	0		2	27	0	0	15	2		0	82
6:30-6:45	0	8		20	2					0	0		1	13	0	0	18	4		1	64
6:45-7:00	0	9		22	0					0	0		2	20	0	1	14	3		0	71

Hourly Totals														
4:00-5:00	0	61	57	0	0	0	14	76	0	0	86	7	1	302
4:15-5:15	0	57	55	2	0	0	10	79	0	0	76	5	1	285
4:30-5:30	0	55	60	2	0	0	7	86	0	0	70	6	0	286
4:45-5:45	0	48	58	3	0	0	6	94	0	0	73	3	0	285
5:00-6:00	0	51	58	4	0	0	6	96	0	0	67	2	0	284
5:15-6:15	0	47	65	5	0	0	10	99	0	0	73	5	0	304
5:30-6:30	0	51	62	5	0	0	11	100	0	0	76	6	0	311
5:45-6:45	0	48	69	6	0	0	12	84	0	0	77	10	1	307
6:00-7:00	0	43	77	5	0	0	10	89	0	1	67	12	1	305

PM	Northbound					Southbound					Eastbound					Westbound					
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	Total
5:30-6:30	0	51		62	5					0	0		11	100	0	0	76	6		0	311

Peak Hour	Turning Movement Count
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Intersection: Cypress Street & Westmeath Drive

Weather: Clear

Count by: Count Cam

Count Day/Date: Thursday, April 25, 2024

Jurisdiction: Laurel, MD

	Weekday Morning Peak Hour (6:30 am - 9:30 am)																				
	Contee Road Northbound					Contee Road Southbound					Van Dusen Road Eastbound					Van Dusen Road Westbound					
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
6:30-6:45	0	6	5	13	0	0	6	4	30	0	0	17	35	4	0	0	7	48	1	0	176
6:45-7:00	0	5	8	25	1	0	4	2	23	0	0	7	42	9	1	0	13	50	6	0	194
7:00-7:15	0	6	10	29	1	0	6	11	38	0	0	15	50	15	0	0	19	54	5	0	258
7:15-7:30	0	7	7	24	3	0	6	12	34	1	0	24	81	12	0	0	14	68	9	1	298
7:30-7:45	0	12	11	24	2	0	11	17	49	0	0	15	86	7	0	0	19	90	3	0	344
7:45-8:00	0	11	10	34	1	0	8	18	50	0	0	22	112	18	1	0	29	117	7	0	436
8:00-8:15	0	5	11	37	2	0	8	19	26	0	0	26	81	15	0	0	24	95	7	0	354
8:15-8:30	0	11	10	43	2	0	6	12	51	0	0	27	87	20	0	0	26	71	3	0	367
8:30-8:45	0	11	8	27	1	0	12	5	34	0	0	22	85	9	1	0	24	71	5	0	313
8:45-9:00	0	8	12	36	2	0	6	11	21	0	0	27	89	12	0	0	22	55	7	0	306
9:00-9:15	0	6	9	47	0	0	8	10	24	0	0	18	70	10	0	0	26	54	7	0	289
9:15-9:30	0	4	7	34	0	0	5	6	24	0	0	17	71	7	0	0	23	69	3	0	270

Hourly Totals																					
6:30-7:30	0	24	30	91	5	0	22	29	125	1	0	63	208	40	1	0	53	220	21	1	934
6:45-7:45	0	30	36	102	7	0	27	42	144	1	0	61	259	43	1	0	65	262	23	1	1104
7:00-8:00	0	36	38	111	7	0	31	58	171	1	0	76	329	52	1	0	81	329	24	1	1346
7:15-8:15	0	35	39	119	8	0	33	66	159	1	0	87	360	52	1	0	86	370	26	1	1443
7:30-8:30	0	39	42	138	7	0	33	66	176	0	0	90	366	60	1	0	98	373	20	0	1509
7:45-8:45	0	38	39	141	6	0	34	54	161	0	0	97	365	62	2	0	103	354	22	0	1478
8:00-9:00	0	35	41	143	7	0	32	47	132	0	0	102	342	56	1	0	96	292	22	0	1348
8:15-9:15	0	36	39	153	5	0	32	38	130	0	0	94	331	51	1	0	98	251	22	0	1281
8:30-9:30	0	29	36	144	3	0	31	32	103	0	0	84	315	38	1	0	95	249	22	0	1182

AM	Northbound					Southbound					Eastbound					Westbound				
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	39	42	138	7	0	33	66	176	0	0	90	366	60	1	0	98	373	20	0

Time:	Weekday Evening Peak Hour (4 pm - 7 pm)																			Total	
	Contee Road Northbound					Contee Road Southbound					Van Dusen Road Eastbound					Van Dusen Road Westbound					
	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	12	6	39	0	0	5	5	18	0	0	30	97	13	0	0	30	71	10	0	336
4:15-4:30	0	10	6	39	2	0	4	6	15	0	0	36	93	12	0	0	28	50	11	0	310
4:30-4:45	0	11	8	43	2	0	6	10	14	0	0	22	90	14	0	0	42	80	4	0	344
4:45-5:00	0	10	19	32	0	0	4	9	21	0	0	33	117	15	0	0	43	80	8	0	391
5:00-5:15	0	10	28	49	0	0	4	11	27	0	0	29	116	20	0	0	34	82	4	0	414
5:15-5:30	0	13	9	48	0	0	4	10	14	0	0	22	116	16	0	0	39	77	6	0	374
5:30-5:45	0	16	11	38	2	0	7	13	18	0	0	33	123	18	0	0	49	83	8	0	417
5:45-6:00	0	11	11	49	1	0	5	14	24	0	0	46	112	16	1	0	48	80	4	0	420
6:00-6:15	0	11	13	42	2	0	11	23	25	0	0	32	113	14	0	0	41	64	4	0	393
6:15-6:30	0	14	14	41	2	0	15	14	27	0	0	26	108	18	0	0	28	76	7	0	388
6:30-6:45	0	11	13	46	1	0	8	7	22	0	0	31	89	21	0	0	28	82	4	1	362
6:45-7:00	0	10	12	45	3	0	4	7	24	0	0	28	90	17	0	0	30	71	6	0	344

Hourly Totals																					
4:00-5:00	0	43	39	153	4	0	19	30	68	0	0	121	397	54	0	0	143	281	33	0	1385
4:15-5:15	0	41	61	163	4	0	18	36	77	0	0	120	416	61	0	0	147	292	27	0	1463
4:30-5:30	0	44	64	172	2	0	18	40	76	0	0	106	439	65	0	0	158	319	22	0	1525
4:45-5:45	0	49	67	167	2	0	19	43	80	0	0	117	472	69	0	0	165	322	26	0	1598
5:00-6:00	0	50	59	184	3	0	20	48	83	0	0	130	467	70	1	0	170	322	22	0	1629
5:15-6:15	0	51	44	177	5	0	27	60	81	0	0	133	464	64	1	0	177	304	22	0	1610
5:30-6:30	0	52	49	170	7	0	38	64	94	0	0	137	456	66	1	0	166	303	23	0	1626
5:45-6:45	0	47	51	178	6	0	39	58	98	0	0	135	422	69	1	0	145	302	19	1	1571
6:00-7:00	0	46	52	174	8	0	38	51	98	0	0	117	400	70	0	0	127	293	21	1	1496

PM	Northbound					Southbound					Eastbound					Westbound				
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
5:00-6:00	0	50	59	184	3	0	20	48	83	0	0	130	467	70	1	0	170	322	22	0

Peak Hour
Turning Movement Count



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Intersection: Contee Road & Van Dusen Road
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Thursday, May 2, 2024
Jurisdiction: Laurel, MD

Appendix B

Level of Service (CLV & Synchro) Worksheets

Critical Lane Volume (CLV) Methodology for Prince Georges County

Main Line: Van Dusen Road
Minor Street: Laurel Park Drive
Study Period: Total Traffic

Analyst: Lenhart Traffic Consulting

VAN DUSEN ROAD

--- TL

	AM	PM
T	431	467
L	86	58

adjusted lefts 172 232

PM	AM	
585	386	T
237	161	R

T ---

R ---

VAN DUSEN ROAD

| |
L R

Laurel Park Drive

	L	R
AM	158	48
PM	175	112

Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	158	1.00	158			
EB	386	1.00	386	86	1.00	86
WB	603	1.00	603			
CLV TOTAL=						761
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	175	1.00	175			
EB	585	1.00	585	58	1.00	58
WB	699	1.00	699			
CLV TOTAL=						874
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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Van Dusen Road &
 Laurel Park Drive
 (Total Traffic)

**Intersection
2**

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

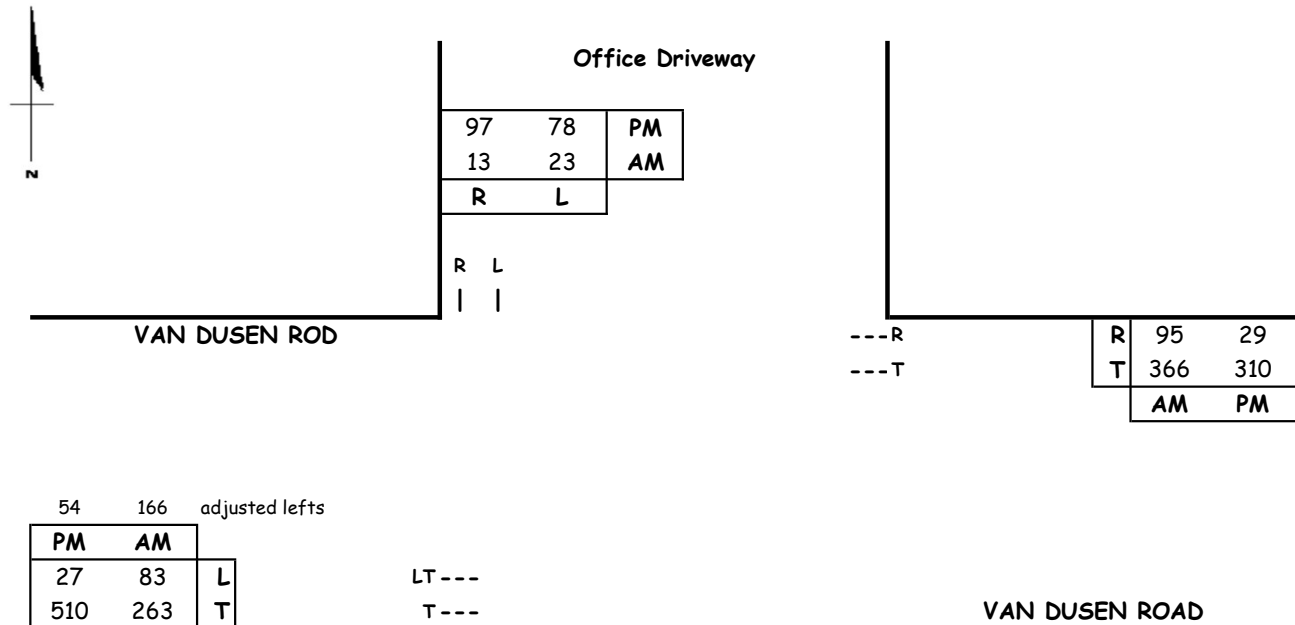
Intersection of: Office Driveway

Analyst: Lenhart Traffic

and: Van Dusen Rod

Conditions: Existing Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	23	1.00	23			
EB	429	0.55	236			
WB	366	1.00	366	83	1.00	83
CLV TOTAL=						472
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	78	1.00	78			
EB	564	0.55	310			
WB	310	1.00	310	27	1.00	27
CLV TOTAL=						415
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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Office Driveway &
Van Dusen Rod
(Existing Traffic)

**Intersection
3**

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

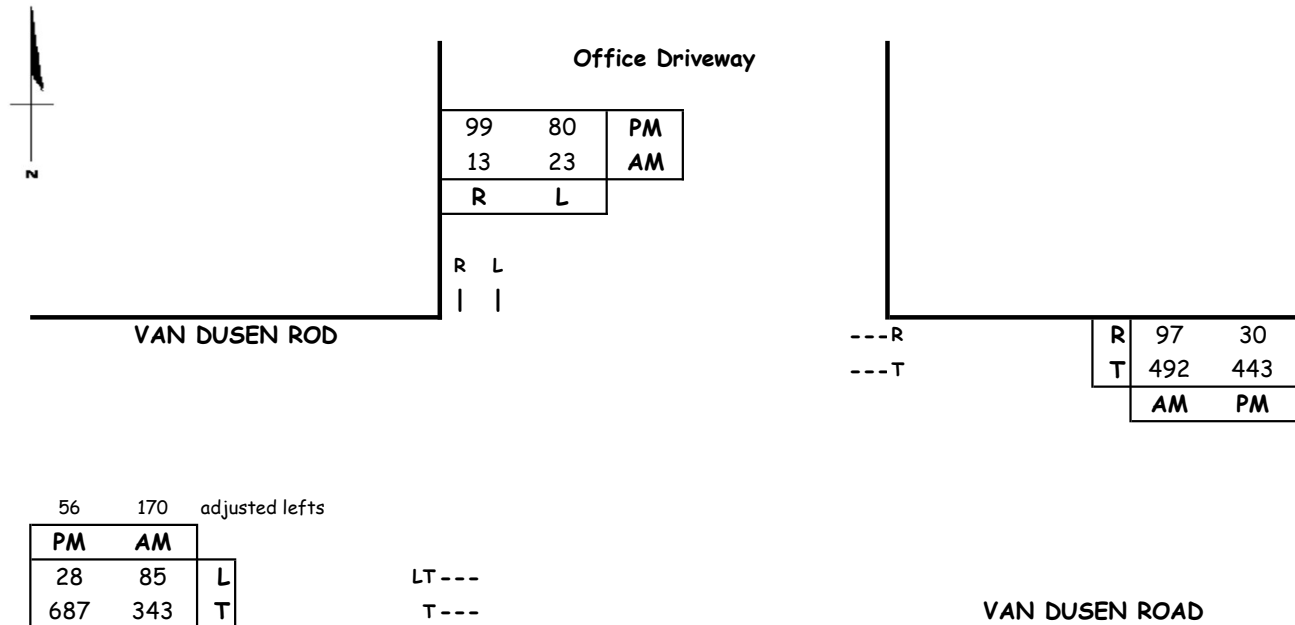
Intersection of: Office Driveway

Analyst: Lenhart Traffic

and: Van Dusen Rod

Conditions: Background Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	23	1.00	23			
EB	513	0.55	282			
WB	492	1.00	492	85	1.00	85
CLV TOTAL=						600
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	80	1.00	80			
EB	743	0.55	409			
WB	443	1.00	443	28	1.00	28
CLV TOTAL=						551
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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Office Driveway &
Van Dusen Rod
(Background Traffic)

**Intersection
3**

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

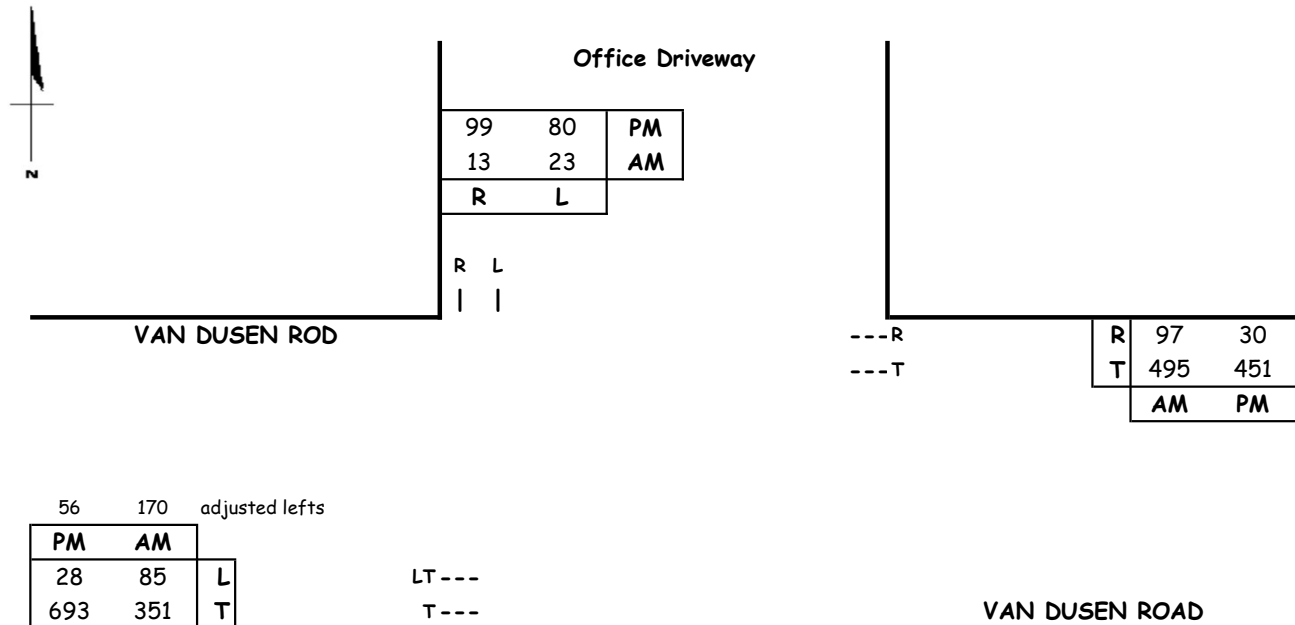
Intersection of: Office Driveway

Analyst: Lenhart Traffic

and: Van Dusen Rod

Conditions: Total Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	23	1.00	23			
EB	521	0.55	287			
WB	495	1.00	495	85	1.00	85
CLV TOTAL=						603
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
SB	80	1.00	80			
EB	749	0.55	412			
WB	451	1.00	451	28	1.00	28
CLV TOTAL=						559
Level of Service (LOS)=						A

Critical Lane Volume Analysis



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Office Driveway &
Van Dusen Rod
(Total Traffic)

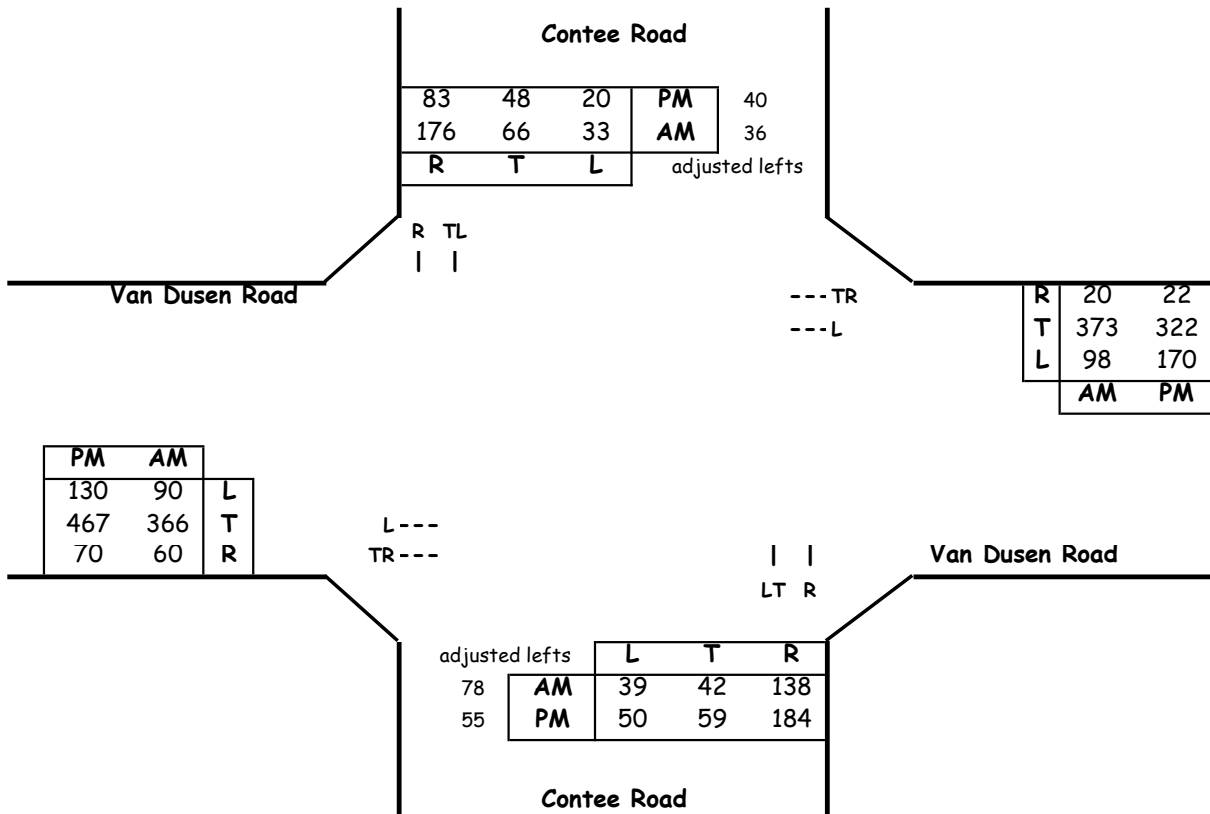
Intersection
3

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: Contee Road
Minor Street: Van Dusen Road
Study Period: Existing Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	120	1.00	120	33	1	33
SB	102	1.00	102	39	1	39
EB	426	1	426	98	1	98
WB	393	1	393	90	1	90
CLV TOTAL=						677
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	114	1.00	114	20	1	20
SB	88	1.00	88	50	1	50
EB	537	1	537	170	1	170
WB	344	1	344	130	1	130
CLV TOTAL=						845
Level of Service (LOS) =						A

Critical Lane Volume Analysis



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**Contee Road &
 Van Dusen Road**
 (Existing Traffic)

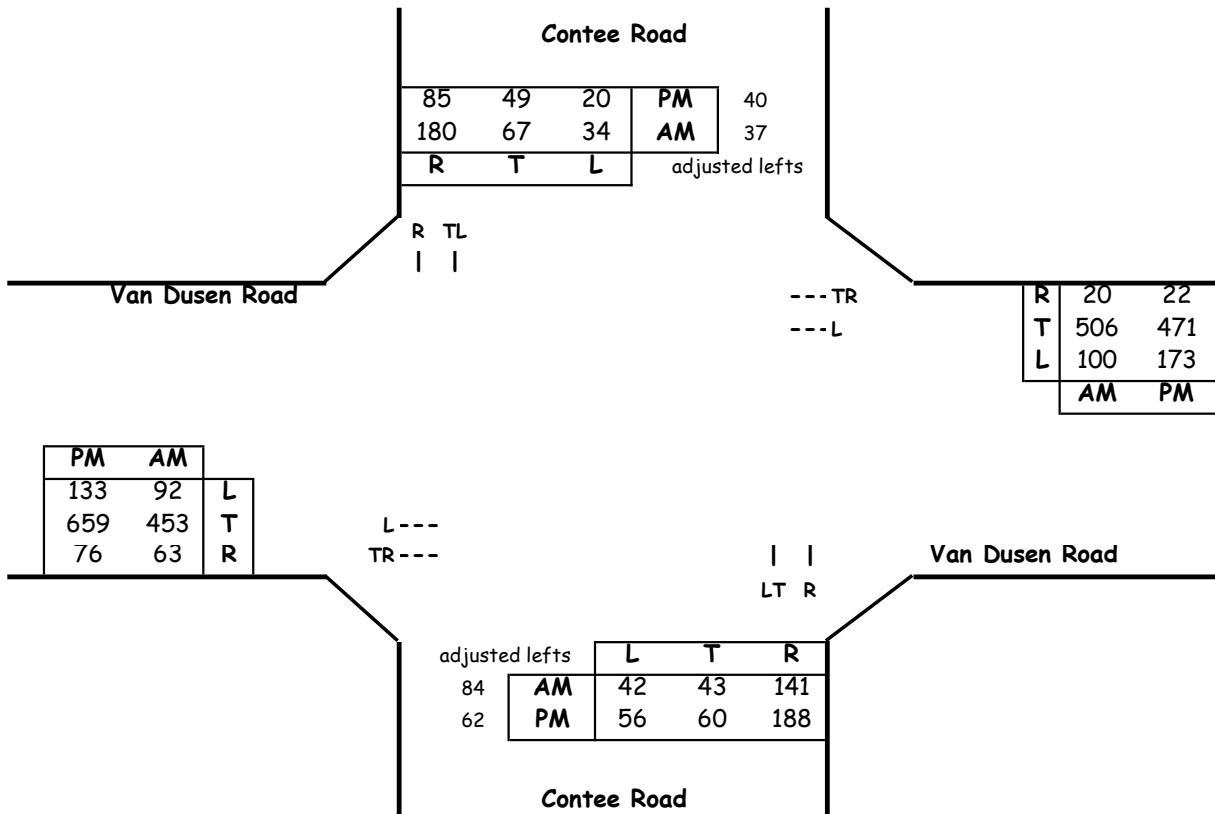
**Intersection
 5**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: Contee Road
Minor Street: Van Dusen Road
Study Period: Background Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	127	1.00	127	34	1	34
SB	104	1.00	104	42	1	42
EB	516	1	516	100	1	100
WB	526	1	526	92	1	92
CLV TOTAL=						779
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	122	1.00	122	20	1	20
SB	89	1.00	89	56	1	56
EB	735	1	735	173	1	173
WB	493	1	493	133	1	133
CLV TOTAL=						1053
Level of Service (LOS) =						B

Critical Lane Volume Analysis



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**Contee Road &
 Van Dusen Road**
 (Background Traffic)

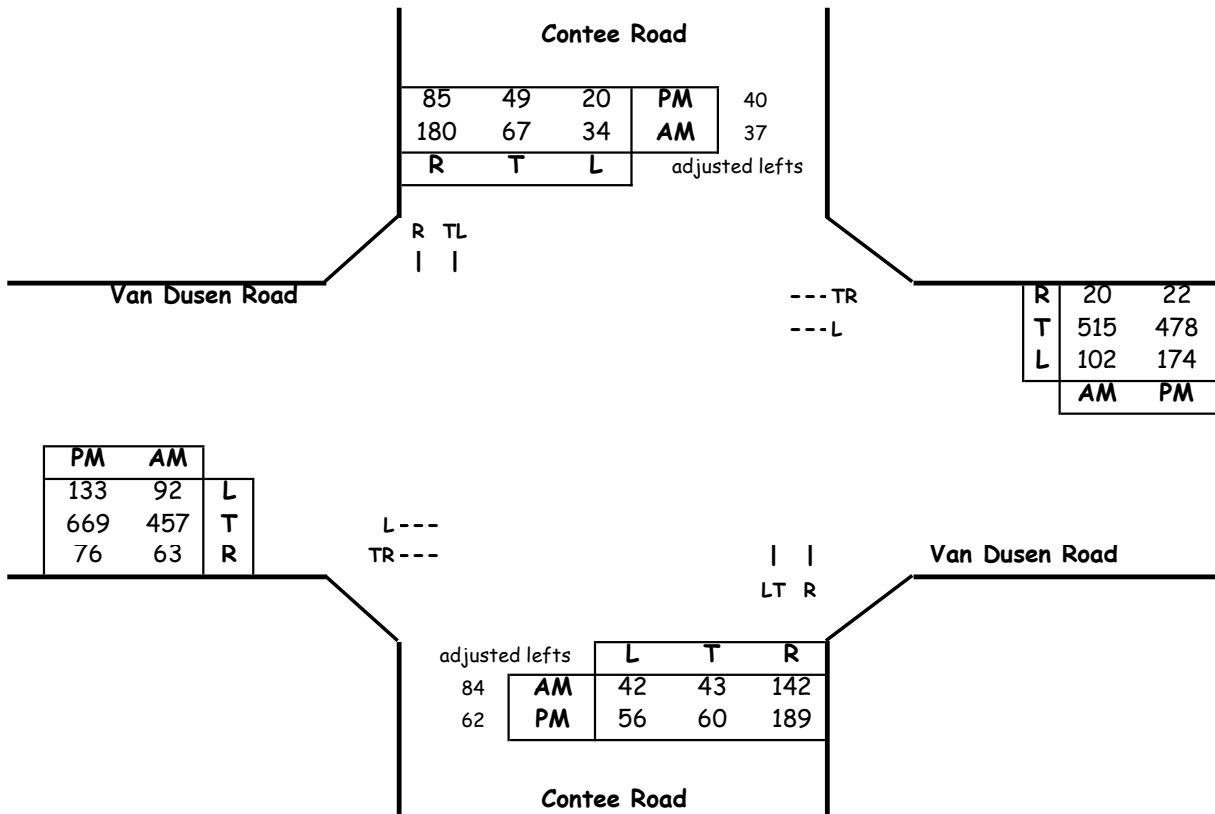
**Intersection
 5**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: Contee Road
Minor Street: Van Dusen Road
Study Period: Total Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	127	1.00	127	34	1	34
SB	104	1.00	104	42	1	42
EB	520	1	520	102	1	102
WB	535	1	535	92	1	92
CLV TOTAL=						788
Level of Service (LOS) =						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		
	VOL	x LUF	= Total	VOL	x LUF	= Total
NB	122	1.00	122	20	1	20
SB	89	1.00	89	56	1	56
EB	745	1	745	174	1	174
WB	500	1	500	133	1	133
CLV TOTAL=						1064
Level of Service (LOS) =						B

Critical Lane Volume Analysis



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**Contee Road &
 Van Dusen Road**
 (Total Traffic)

**Intersection
 5**

HCM Unsignalized Intersection Capacity Analysis

1: Laurel Park Drive & Driveway/Park Center Drive

Oaks at Laurel
AM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	1	10	0	34	0	132	12	116	85	11
Future Volume (Veh/h)	10	0	1	10	0	34	0	132	12	116	85	11
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)	11	0	1	11	0	37	0	143	13	126	92	12
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	536	506	98	500	506	150	104				156	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	536	506	98	500	506	150	104				156	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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 %	97	100	100	98	100	96	100				91	
cM capacity (veh/h)	407	428	958	448	428	897	1488				1424	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	12	48	156	230								
Volume Left	11	11	0	126								
Volume Right	1	37	13	12								
cSH	427	729	1488	1424								
Volume to Capacity	0.03	0.07	0.00	0.09								
Queue Length 95th (ft)	2	5	0	7								
Control Delay (s)	13.7	10.3	0.0	4.6								
Lane LOS	B	B		A								
Approach Delay (s)	13.7	10.3	0.0	4.6								
Approach LOS	B	B										
Intersection Summary												
Average Delay				3.8								
Intersection Capacity Utilization				32.6%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

2: Laurel Park Drive & Van Dusen Road

Oaks at Laurel
AM Existing

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↗	↗
Traffic Volume (veh/h)	305	153	81	306	144	39
Future Volume (Veh/h)	305	153	81	306	144	39
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)	332	166	88	333	157	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type	None		None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			498		841	332
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			498		841	332
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		49	94
cM capacity (veh/h)			1066		307	710
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	332	166	421	199		
Volume Left	0	0	88	157		
Volume Right	0	166	0	42		
cSH	1700	1700	1066	389		
Volume to Capacity	0.20	0.10	0.08	0.51		
Queue Length 95th (ft)	0	0	7	70		
Control Delay (s)	0.0	0.0	2.5	24.6		
Lane LOS			A	C		
Approach Delay (s)	0.0		2.5	24.6		
Approach LOS				C		
Intersection Summary						
Average Delay			5.3			
Intersection Capacity Utilization			54.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: Cypress Street & Westmeath Drive

Oaks at Laurel
AM Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	7	35	75	12	67	40
Future Volume (vph)	7	35	75	12	67	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	38	82	13	73	43
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	46	95	116			
Volume Left (vph)	0	82	73			
Volume Right (vph)	38	0	43			
Hadj (s)	-0.46	0.21	-0.06			
Departure Headway (s)	3.8	4.4	4.1			
Degree Utilization, x	0.05	0.12	0.13			
Capacity (veh/h)	911	792	834			
Control Delay (s)	7.0	8.0	7.8			
Approach Delay (s)	7.0	8.0	7.8			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.7			
Level of Service			A			
Intersection Capacity Utilization			24.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: Laurel Park Drive & Driveway/Park Center Drive

Oaks at Laurel
AM Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	1	10	0	35	0	135	12	118	87	11
Future Volume (Veh/h)	10	0	1	10	0	35	0	135	12	118	87	11
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)	11	0	1	11	0	38	0	147	13	128	95	12
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	548	517	101	512	516	154	107			160		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	548	517	101	512	516	154	107			160		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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 %	97	100	100	97	100	96	100			91		
cM capacity (veh/h)	398	421	954	440	421	892	1484			1419		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	12	49	160	235								
Volume Left	11	11	0	128								
Volume Right	1	38	13	12								
cSH	419	725	1484	1419								
Volume to Capacity	0.03	0.07	0.00	0.09								
Queue Length 95th (ft)	2	5	0	7								
Control Delay (s)	13.9	10.3	0.0	4.6								
Lane LOS	B	B		A								
Approach Delay (s)	13.9	10.3	0.0	4.6								
Approach LOS	B	B										
Intersection Summary												
Average Delay			3.8									
Intersection Capacity Utilization			32.9%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: Laurel Park Drive & Van Dusen Road

Oaks at Laurel
AM Background

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	386	156	83	431	147	40
Future Volume (Veh/h)	386	156	83	431	147	40
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)	420	170	90	468	160	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type	None		None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			590		1068	420
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			590		1068	420
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		28	93
cM capacity (veh/h)			985		223	633
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	420	170	558	203		
Volume Left	0	0	90	160		
Volume Right	0	170	0	43		
cSH	1700	1700	985	283		
Volume to Capacity	0.25	0.10	0.09	0.72		
Queue Length 95th (ft)	0	0	8	126		
Control Delay (s)	0.0	0.0	2.4	44.7		
Lane LOS			A	E		
Approach Delay (s)	0.0		2.4	44.7		
Approach LOS				E		
Intersection Summary						
Average Delay			7.7			
Intersection Capacity Utilization			65.7%	ICU Level of Service	C	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: Cypress Street & Westmeath Drive

Oaks at Laurel
AM Background

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	7	36	77	12	68	41
Future Volume (vph)	7	36	77	12	68	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	39	84	13	74	45
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	47	97	119			
Volume Left (vph)	0	84	74			
Volume Right (vph)	39	0	45			
Hadj (s)	-0.46	0.21	-0.07			
Departure Headway (s)	3.8	4.4	4.1			
Degree Utilization, x	0.05	0.12	0.14			
Capacity (veh/h)	908	790	834			
Control Delay (s)	7.0	8.0	7.8			
Approach Delay (s)	7.0	8.0	7.8			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.7			
Level of Service			A			
Intersection Capacity Utilization			24.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: Laurel Park Drive & Driveway/Park Center Drive

Oaks at Laurel
AM Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	1	18	0	54	0	135	16	126	87	11
Future Volume (Veh/h)	10	0	1	18	0	54	0	135	16	126	87	11
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)	11	0	1	20	0	59	0	147	17	137	95	12
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	590	539	101	532	536	156	107			164		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	590	539	101	532	536	156	107			164		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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 %	97	100	100	95	100	93	100			90		
cM capacity (veh/h)	363	406	954	424	407	890	1484			1414		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	12	79	164	244								
Volume Left	11	20	0	137								
Volume Right	1	59	17	12								
cSH	382	696	1484	1414								
Volume to Capacity	0.03	0.11	0.00	0.10								
Queue Length 95th (ft)	2	10	0	8								
Control Delay (s)	14.7	10.8	0.0	4.7								
Lane LOS	B	B		A								
Approach Delay (s)	14.7	10.8	0.0	4.7								
Approach LOS	B	B										
Intersection Summary												
Average Delay				4.4								
Intersection Capacity Utilization				34.3%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

2: Laurel Park Drive & Van Dusen Road

Oaks at Laurel
AM Total

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↗	↗
Traffic Volume (veh/h)	386	161	86	431	158	48
Future Volume (Veh/h)	386	161	86	431	158	48
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)	420	175	93	468	172	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			595		1074	420
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			595		1074	420
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		22	92
cM capacity (veh/h)			981		220	633
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	420	175	561	224		
Volume Left	0	0	93	172		
Volume Right	0	175	0	52		
cSH	1700	1700	981	280		
Volume to Capacity	0.25	0.10	0.09	0.80		
Queue Length 95th (ft)	0	0	8	158		
Control Delay (s)	0.0	0.0	2.5	54.4		
Lane LOS			A	F		
Approach Delay (s)	0.0		2.5	54.4		
Approach LOS				F		
Intersection Summary						
Average Delay			9.8			
Intersection Capacity Utilization			66.5%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis4: Cypress Street & Westmeath Drive

Oaks at Laurel
AM Total

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	7	44	77	12	72	41
Future Volume (vph)	7	44	77	12	72	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	48	84	13	78	45
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	56	97	123			
Volume Left (vph)	0	84	78			
Volume Right (vph)	48	0	45			
Hadj (s)	-0.48	0.21	-0.06			
Departure Headway (s)	3.8	4.4	4.2			
Degree Utilization, x	0.06	0.12	0.14			
Capacity (veh/h)	908	786	827			
Control Delay (s)	7.0	8.0	7.9			
Approach Delay (s)	7.0	8.0	7.9			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.8			
Level of Service			A			
Intersection Capacity Utilization			24.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: Laurel Park Drive & Driveway/Park Center Drive

Oaks at Laurel
PM Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	0	18	0	138	0	83	6	85	174	1
Future Volume (Veh/h)	14	0	0	18	0	138	0	83	6	85	174	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)	15	0	0	20	0	150	0	90	7	92	189	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)												
pX, platoon unblocked												
vC, conflicting volume	617	470	190	467	468	94	190			97		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	617	470	190	467	468	94	190			97		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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 %	95	100	100	96	100	84	100			94		
cM capacity (veh/h)	324	461	852	482	463	963	1384			1496		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	170	97	282								
Volume Left	15	20	0	92								
Volume Right	0	150	7	1								
cSH	324	862	1384	1496								
Volume to Capacity	0.05	0.20	0.00	0.06								
Queue Length 95th (ft)	4	18	0	5								
Control Delay (s)	16.7	10.2	0.0	2.8								
Lane LOS	C	B		A								
Approach Delay (s)	16.7	10.2	0.0	2.8								
Approach LOS	C	B										
Intersection Summary												
Average Delay			4.9									
Intersection Capacity Utilization			36.3%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: Laurel Park Drive & Van Dusen Road

Oaks at Laurel
PM Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	410	222	49	333	164	104
Future Volume (Veh/h)	410	222	49	333	164	104
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)	446	241	53	362	178	113
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type	None		None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			687		914	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			687		914	446
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		38	82
cM capacity (veh/h)			907		285	612
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	446	241	415	291		
Volume Left	0	0	53	178		
Volume Right	0	241	0	113		
cSH	1700	1700	907	467		
Volume to Capacity	0.26	0.14	0.06	0.62		
Queue Length 95th (ft)	0	0	5	104		
Control Delay (s)	0.0	0.0	1.8	27.0		
Lane LOS			A	D		
Approach Delay (s)	0.0		1.8	27.0		
Approach LOS				D		
Intersection Summary						
Average Delay			6.2			
Intersection Capacity Utilization			60.9%	ICU Level of Service	B	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

4: Cypress Street & Westmeath Drive

Oaks at Laurel
PM Existing

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	11	100	76	6	51	62
Future Volume (vph)	11	100	76	6	51	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	109	83	7	55	67
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	121	90	122			
Volume Left (vph)	0	83	55			
Volume Right (vph)	109	0	67			
Hadj (s)	-0.51	0.22	-0.21			
Departure Headway (s)	3.8	4.5	4.1			
Degree Utilization, x	0.13	0.11	0.14			
Capacity (veh/h)	921	763	824			
Control Delay (s)	7.3	8.1	7.8			
Approach Delay (s)	7.3	8.1	7.8			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.7			
Level of Service			A			
Intersection Capacity Utilization			24.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: Laurel Park Drive & Driveway/Park Center Drive

Oaks at Laurel
PM Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	0	18	0	141	0	85	6	87	177	1
Future Volume (Veh/h)	14	0	0	18	0	141	0	85	6	87	177	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)	15	0	0	20	0	153	0	92	7	95	192	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)												
pX, platoon unblocked												
vC, conflicting volume	631	482	192	478	478	96	193			99		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	631	482	192	478	478	96	193			99		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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 %	95	100	100	96	100	84	100			94		
cM capacity (veh/h)	315	453	849	473	455	961	1380			1494		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	173	99	288								
Volume Left	15	20	0	95								
Volume Right	0	153	7	1								
cSH	315	859	1380	1494								
Volume to Capacity	0.05	0.20	0.00	0.06								
Queue Length 95th (ft)	4	19	0	5								
Control Delay (s)	17.0	10.2	0.0	2.9								
Lane LOS	C	B		A								
Approach Delay (s)	17.0	10.2	0.0	2.9								
Approach LOS	C	B										
Intersection Summary												
Average Delay			5.0									
Intersection Capacity Utilization			36.8%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: Laurel Park Drive & Van Dusen Road

Oaks at Laurel
PM Background

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	↑
Traffic Volume (veh/h)	585	226	50	467	167	106
Future Volume (Veh/h)	585	226	50	467	167	106
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)	636	246	54	508	182	115
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			882		1252	636
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			882		1252	636
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		0	76
cM capacity (veh/h)			767		177	478
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	636	246	562	297		
Volume Left	0	0	54	182		
Volume Right	0	246	0	115		
cSH	1700	1700	767	254		
Volume to Capacity	0.37	0.14	0.07	1.17		
Queue Length 95th (ft)	0	0	6	339		
Control Delay (s)	0.0	0.0	1.9	151.0		
Lane LOS			A	F		
Approach Delay (s)	0.0		1.9	151.0		
Approach LOS				F		
Intersection Summary						
Average Delay			26.4			
Intersection Capacity Utilization			77.4%		ICU Level of Service	D
Analysis Period (min)			15			

Oaks at Laurel
PM Background

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↱	↘↙	
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	11	102	78	6	52	63
Future Volume (vph)	11	102	78	6	52	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	111	85	7	57	68
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	123	92	125			
Volume Left (vph)	0	85	57			
Volume Right (vph)	111	0	68			
Hadj (s)	-0.51	0.22	-0.20			
Departure Headway (s)	3.8	4.5	4.1			
Degree Utilization, x	0.13	0.12	0.14			
Capacity (veh/h)	918	761	821			
Control Delay (s)	7.3	8.1	7.8			
Approach Delay (s)	7.3	8.1	7.8			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.7			
Level of Service			A			
Intersection Capacity Utilization			24.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: Laurel Park Drive & Driveway/Park Center Drive

Oaks at Laurel
PM Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	0	24	0	155	0	85	14	106	177	1
Future Volume (Veh/h)	14	0	0	24	0	155	0	85	14	106	177	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)	15	0	0	26	0	168	0	92	15	115	192	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)												
pX, platoon unblocked												
vC, conflicting volume	690	530	192	522	522	100	193	107				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	690	530	192	522	522	100	193	107				
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	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 %	95	100	100	94	100	82	100	92				
cM capacity (veh/h)	279	420	849	438	423	956	1380	1484				
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	194	107	308								
Volume Left	15	26	0	115								
Volume Right	0	168	15	1								
cSH	279	825	1380	1484								
Volume to Capacity	0.05	0.24	0.00	0.08								
Queue Length 95th (ft)	4	23	0	6								
Control Delay (s)	18.7	10.7	0.0	3.3								
Lane LOS	C	B		A								
Approach Delay (s)	18.7	10.7	0.0	3.3								
Approach LOS	C	B										
Intersection Summary												
Average Delay	5.4											
Intersection Capacity Utilization	38.9%			ICU Level of Service					A			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

2: Laurel Park Drive & Van Dusen Road

Oaks at Laurel
PM Total

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↗	↗
Traffic Volume (veh/h)	585	237	58	467	175	112
Future Volume (Veh/h)	585	237	58	467	175	112
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)	636	258	63	508	190	122
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			894		1270	636
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			894		1270	636
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		0	74
cM capacity (veh/h)			759		170	478
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	636	258	571	312		
Volume Left	0	0	63	190		
Volume Right	0	258	0	122		
cSH	1700	1700	759	245		
Volume to Capacity	0.37	0.15	0.08	1.28		
Queue Length 95th (ft)	0	0	7	395		
Control Delay (s)	0.0	0.0	2.2	192.4		
Lane LOS			A	F		
Approach Delay (s)	0.0		2.2	192.4		
Approach LOS				F		
Intersection Summary						
Average Delay			34.5			
Intersection Capacity Utilization			78.3%	ICU Level of Service		D
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis4: Cypress Street & Westmeath Drive

Oaks at Laurel
PM Total

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	11	108	78	6	60	63
Future Volume (vph)	11	108	78	6	60	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	117	85	7	65	68
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	129	92	133			
Volume Left (vph)	0	85	65			
Volume Right (vph)	117	0	68			
Hadj (s)	-0.51	0.22	-0.18			
Departure Headway (s)	3.8	4.5	4.2			
Degree Utilization, x	0.14	0.12	0.15			
Capacity (veh/h)	911	755	814			
Control Delay (s)	7.4	8.1	8.0			
Approach Delay (s)	7.4	8.1	8.0			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.8			
Level of Service			A			
Intersection Capacity Utilization			25.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Appendix C

Background Developments



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

Background Development Location Map	

Exhibit C-1

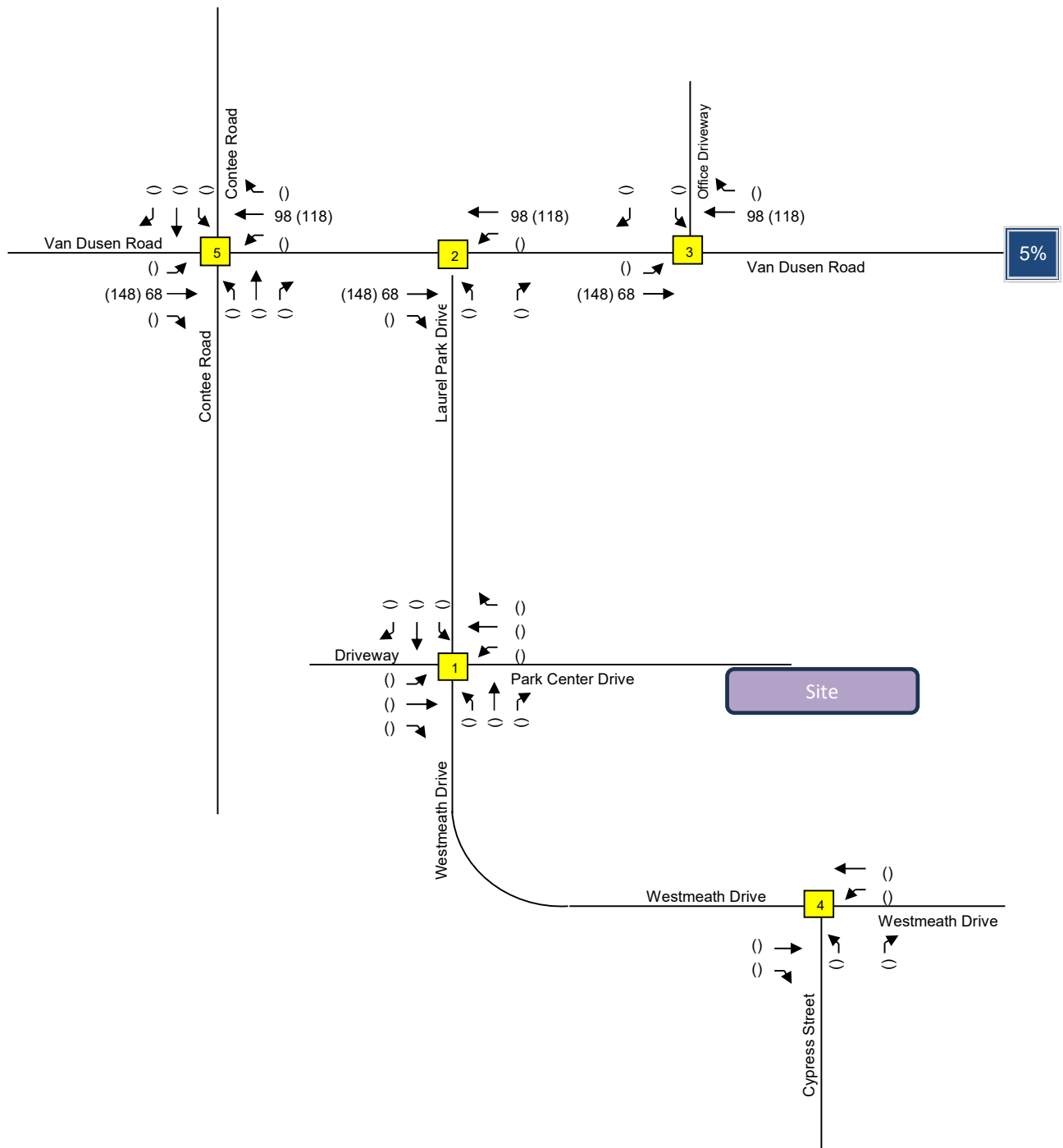
Trip Generation Totals

			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
1	Konterra Town Center East - Phase I	Primary Residential Trips	357	859	1216	834	497	1331
		Primary Office Trips	669	84	753	68	506	574
		Primary Retail Trips	383	233	616	1256	1300	2556
		External SHA Trips	551	178	729	207	663	870
		Net Trips:	1960	1354	3314	2365	2966	5331
2	Park Place	Net Trips:	107	16	123	23	94	117
3	Konterra Business Campus	Net Trips:	212	108	320	96	170	266
4	12808 Konterra Drive	High-Cube Fulfillment Center Warehouse (ksf, ITE-155)[Sort]						
		269,200 sq. ft.	190	44	234	126	197	323
5	Strip Retail Plaza (<40k) (ksf, ITE-822)	31,110 sq.ft.	37	24	61	87	87	174
		Passby Rates: 40%	-15	-9	-24	-35	-35	-70

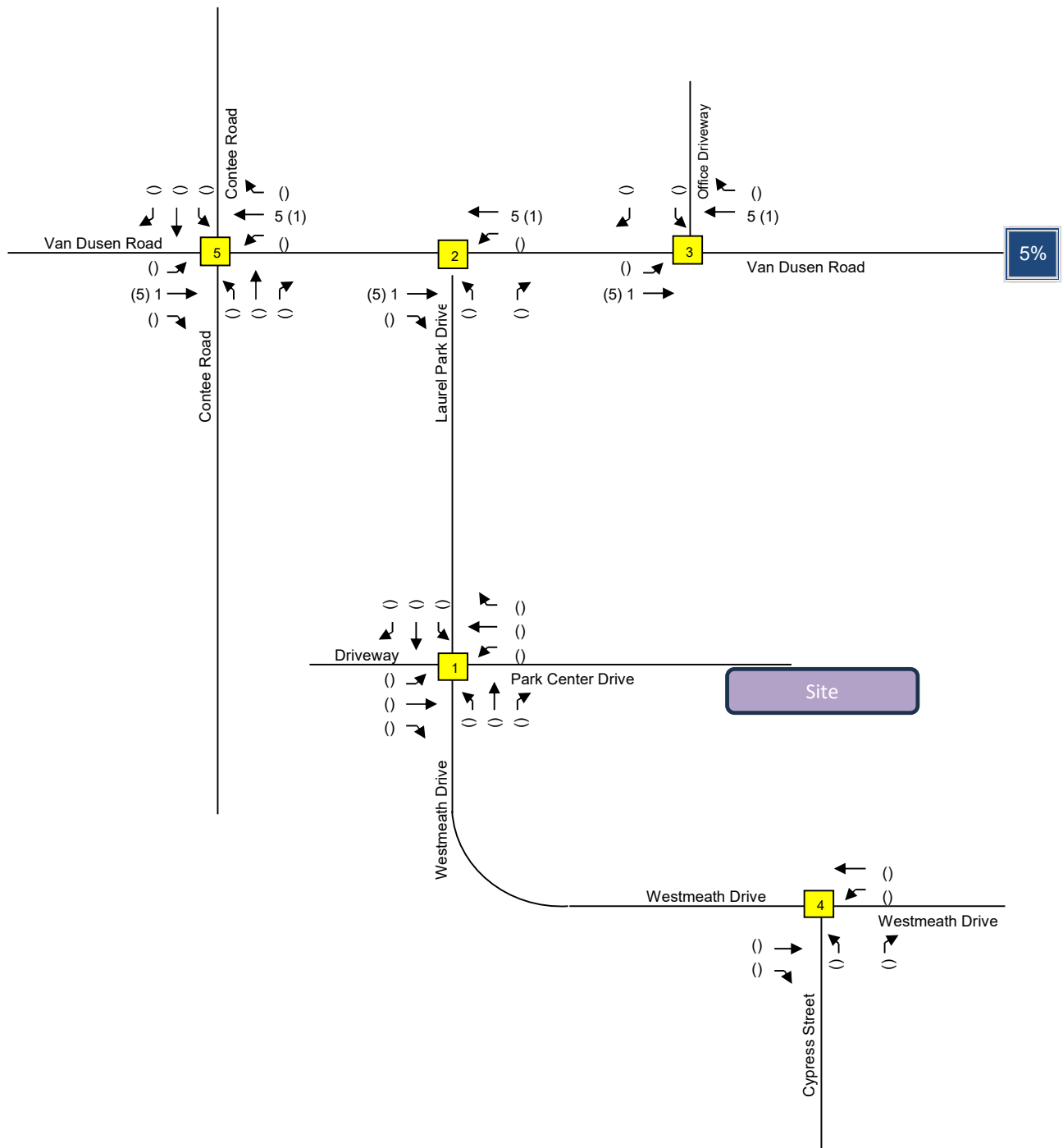
Notes:

1. Trip generation details for BDs 1-3 were determined from the Park Place TIA (August 2019). The relevant pages are provided with this report.
2. Trip generation for 12808 Konterra Drive obtained from the subject TIS.

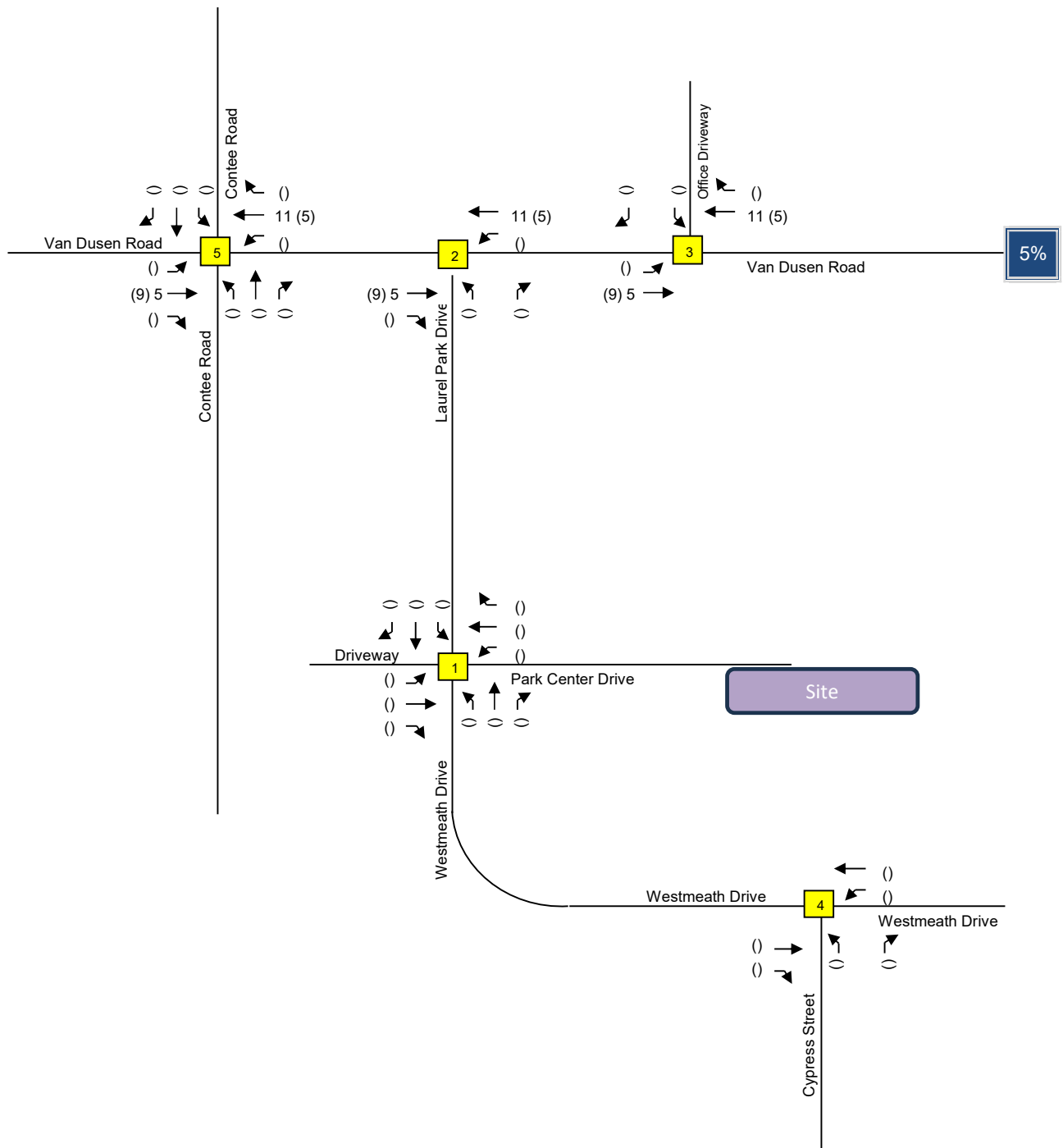
Traffic Impact Analysis	Background Development Trip Generation	Exhibit C-2
 LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		



Traffic Impact Analysis	Back. Dev 1 Trip Assignment	Exhibit C-3
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	



Traffic Impact Analysis	Back. Dev 2 Trip Assignment	Exhibit C-4
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		



Traffic Impact Analysis

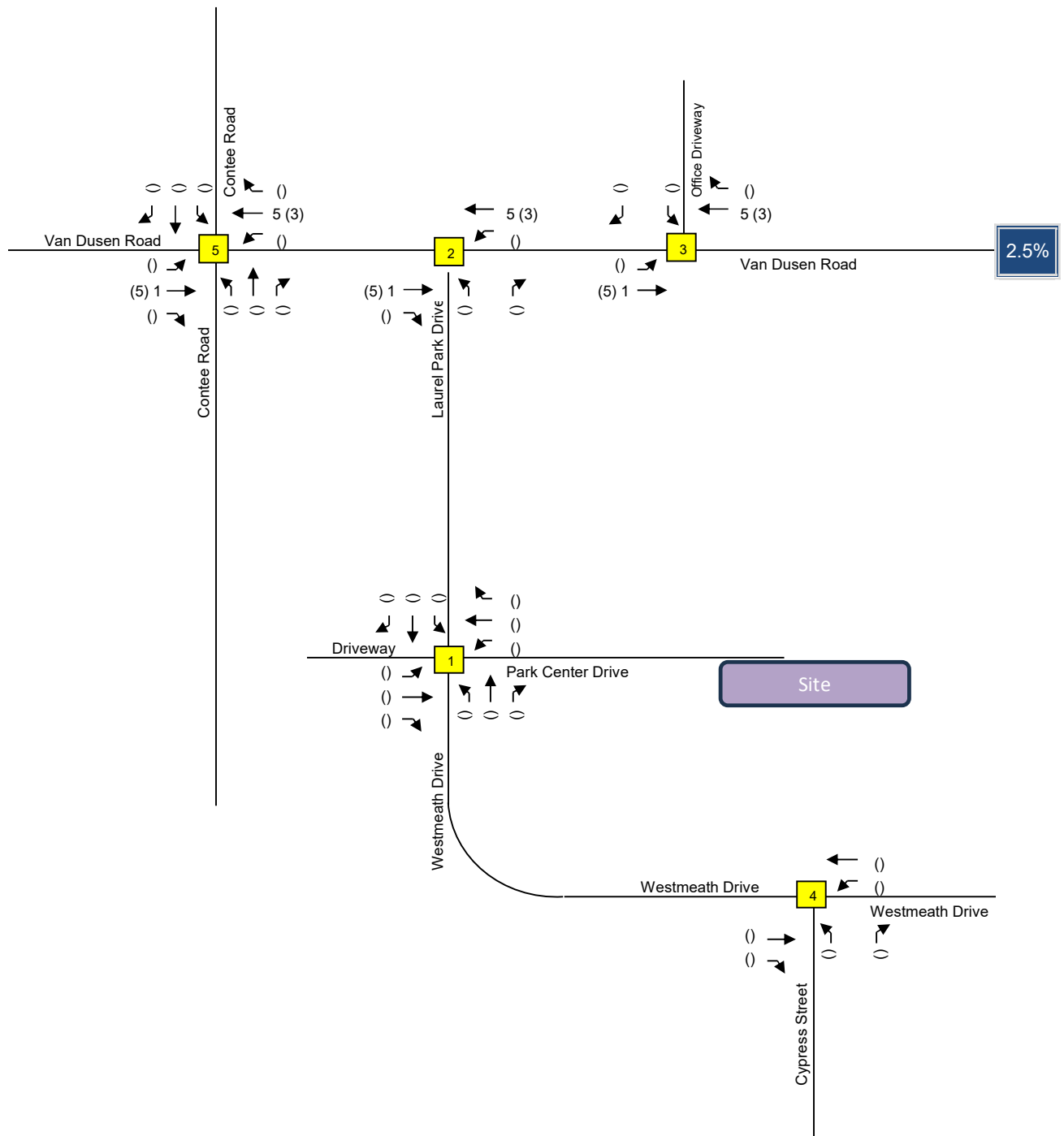
Lenhart Traffic Consulting, Inc.

Traffic Engineering & Transportation Planning

Back. Dev 3 Trip Assignment

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

**Exhibit
C-5**



Traffic Impact Analysis

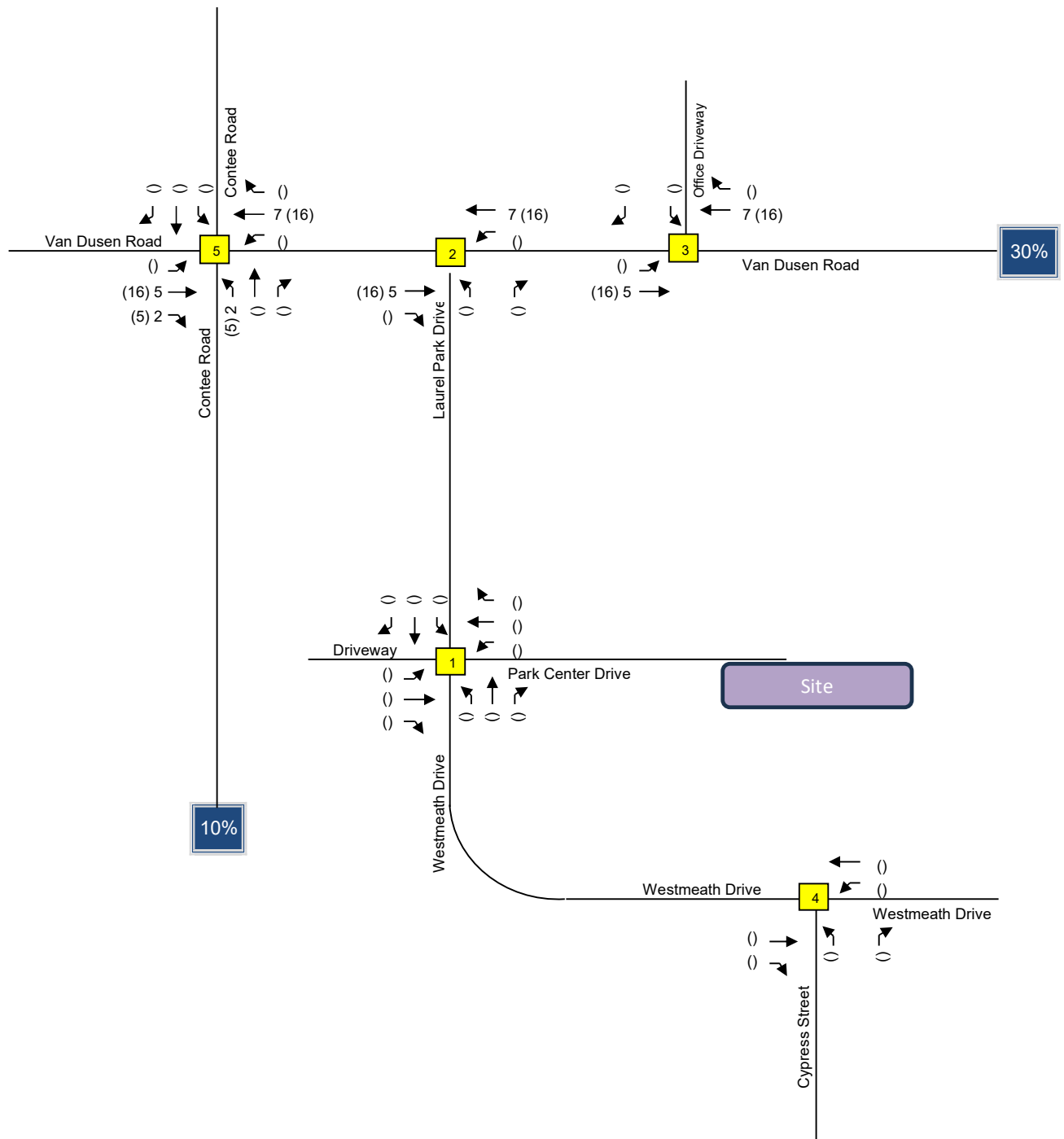
Lenhart Traffic Consulting, Inc.

Traffic Engineering & Transportation Planning

Back. Dev 3 Trip Assignment

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

**Exhibit
C-5**



Traffic Impact Analysis

Lenhart Traffic Consulting, Inc.

Traffic Engineering & Transportation Planning

Back. Dev 3 Trip Assignment

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

**Exhibit
C-5**