

TRAFFIC IMPACT ANALYSIS

FOR

UNIVERSITY TOWN CENTER DSP-05084 (2)

Prepared for:

ECHO Real Estate Services
2176 Wisconsin Ave., NW – Suite 200
Washington, DC 20007

Prepared by:

LENHART TRAFFIC CONSULTING, INC.
TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

May 3, 2013

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Section 1 Introduction

1.1 Project Description

This Updated Traffic Impact Analysis was prepared to address SHA comments dated June 10, 2013. The project involves an amendment to the approved site plan (DSP-05084); and is located in the University Town Center along the north side of MD 410 between America Boulevard and Democracy Avenue as shown on Exhibit 1.

The site was previously approved as DSP-05084 in 2006. The approved Detailed Site Plan contained a total of 176 residential dwelling units, a 60,089 square foot supermarket, and 6,662 square feet of retail space. The Detailed Site Plan was amended as DSP-05084-01 in 2009 to include a pylon sign on the corner of MD 410 and America Boulevard.

The current application (DSP-05084-02) proposes to modify the land as follows:

- Eliminate the residential dwelling units,
- Reduce the supermarket from 60,089 square feet to 54,800 square feet,
- Increase the retail from 6,662 square feet to 13,300 square feet, and
- Include 13,600 square feet of office space.

1.2 Scope of Study

This Traffic Impact Study was prepared for the purpose of obtaining an access permit with the Maryland State Highway Administration (SHA) for the access to MD 410.

The study includes the following intersections:

1. Belcrest Road & Liberty Lane
2. Belcrest Road & Private Drive
3. MD 410 & Belcrest Road
4. MD 410 & America Boulevard
5. MD 410 & Democracy Avenue
6. MD 410 & MD 500 / Adelphi Road



Traffic Impact Analysis

Site Location
Map

**Exhibit
1**

Lenhart Traffic Consulting, Inc.

Traffic Engineering & Transportation Planning

Section 2 Existing Conditions

2.1 Description of Road Network

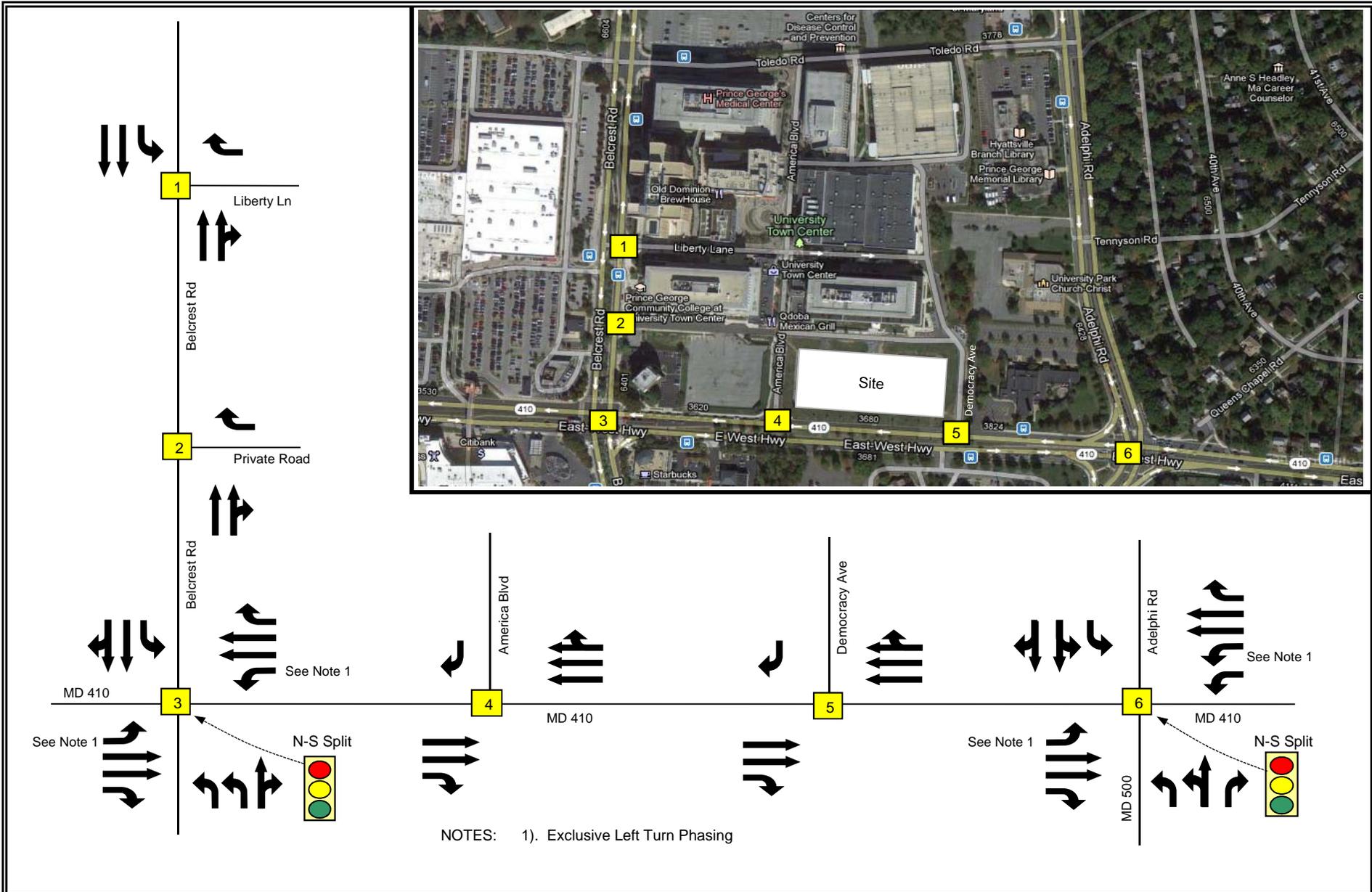
The key road in the study area is MD 410, a six lane divided roadway that is oriented in an east-west direction along the frontage of University Town Center.

2.2 Existing Lane Configurations

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

2.3 Existing Traffic Counts

Peak Hour Traffic counts were conducted, and the results are shown on Exhibit 3. The existing intersections were evaluated using the CLV methodology and the results are shown on Exhibit 13.

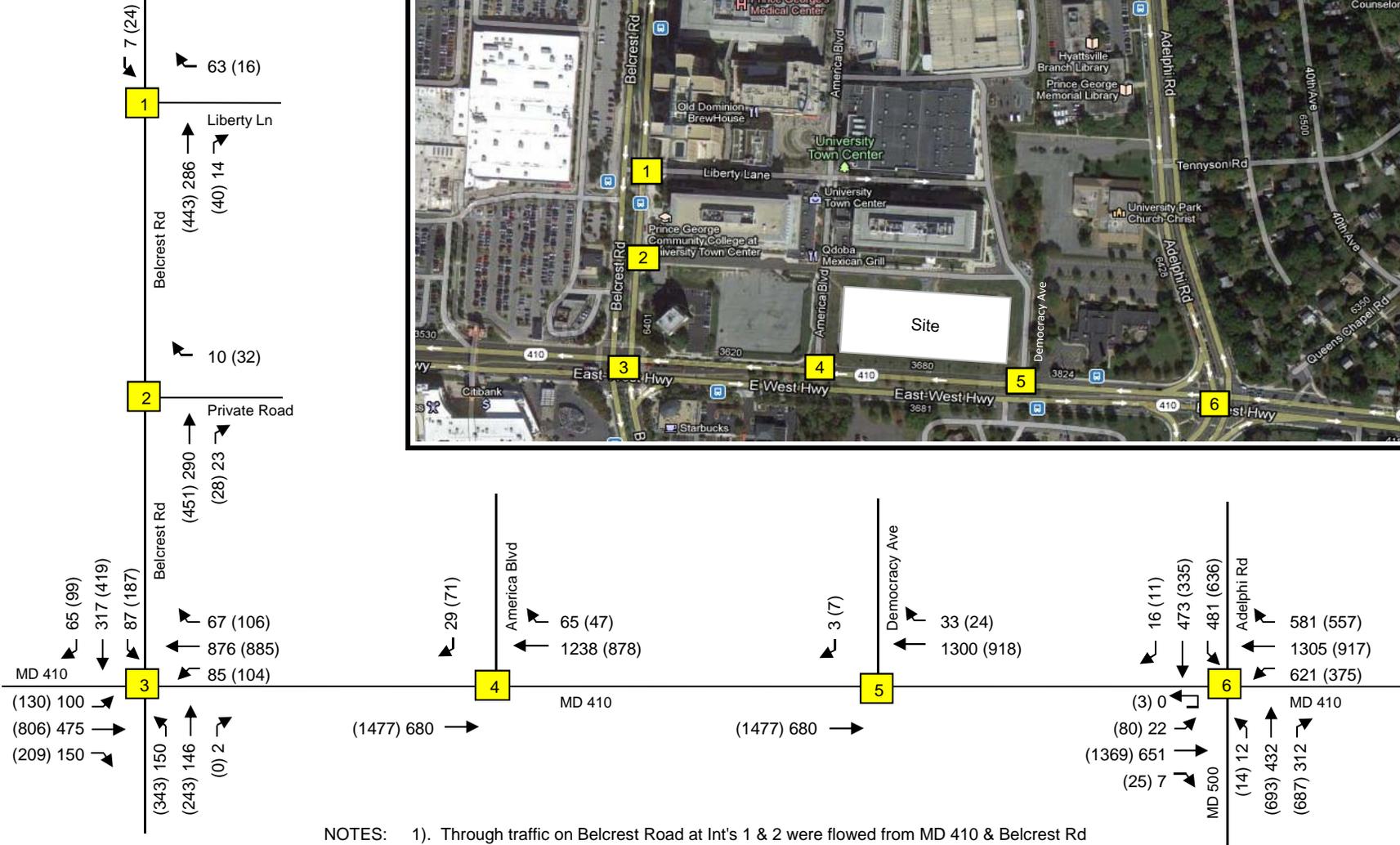


Traffic Impact Analysis

Lenhart Traffic Consulting, Inc.
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Existing Lane Use & Traffic Controls

Exhibit
2



NOTES: 1). Through traffic on Belcrest Road at Int's 1 & 2 were flowed from MD 410 & Belcrest Rd
 2). Through traffic on MD 410 at Int's 4 & 5 were flowed from MD 410 & Adelphi Rd

Traffic Impact Analysis	<h2 style="margin: 0;">Existing Peak Hour Volumes</h2> <p style="margin: 0;">Key: xx = AM Peak Vol's (xx) = PM Peak Vol's</p>	<h1 style="margin: 0;">Exhibit 3</h1>
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

Section 3 Background Conditions

3.1 Annual Growth

A ten (10) year historical analysis of the regional traffic growth has been conducted utilizing the State Highway Administration's Average Daily Traffic (ADT) Volume Maps. The historical traffic growth over the past ten (10) years is 0.5% as shown in Appendix A. The project is estimated to be completed by 2015. The regional traffic growth has been evaluated and increased at 0.5% per year for a total of three years. The base peak hour volume is shown on Exhibit 4.

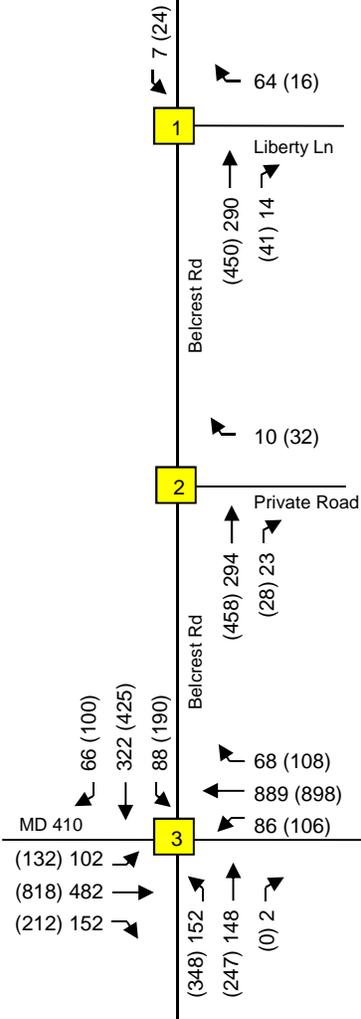
3.2 Approved Background Developments

The site was previously approved as DSP-05084 in 2006. The approved Detailed Site Plan contained a total of 176 residential dwelling units, a 60,089 square foot supermarket, and 6,662 square feet of retail space.

Exhibit 5 shows the trip generation for the currently approved development. Exhibits 6a and 6b show the primary and pass-by trip assignment for the currently approved project.

3.3 Base/Background Traffic Volumes

The background traffic volumes are shown on Exhibit 7, and were evaluated using the CLV methodology. The results are shown on Exhibit 13.



- NOTES: 1). 0.5% Regional growth applied to account for base/background.
 2). 2015 Year estimated build-out.
 3). Historical ADT's in Appendix A show less than 0.5% annual increase in traffic over past 10 years.

**Base
Peak Hour Volumes**

**Exhibit
4**

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

Trip Generaton Rates

Apartments (multi-family, Prince Georges County Rates)

Morning Trips = 0.52 x Units

Evening Trips = 0.60 x Units

Trip Distribution (In/Out)

20/80

65/35

Supermarket (ksf, ITE-850)

Morning Trips = 3.40 x ksf

Ln(Evening Trips) = 0.74 x Ln(ksf) + 3.25

Trip Distribution (In/Out)

62/38

51/49

Shopping Center (ksf, ITE-820)

Ln(Morning Trips) = 0.61 x Ln(ksf) + 2.24

Ln(Evening Trips) = 0.67 x Ln(ksf) + 3.31

Trip Distribution (In/Out)

62/38

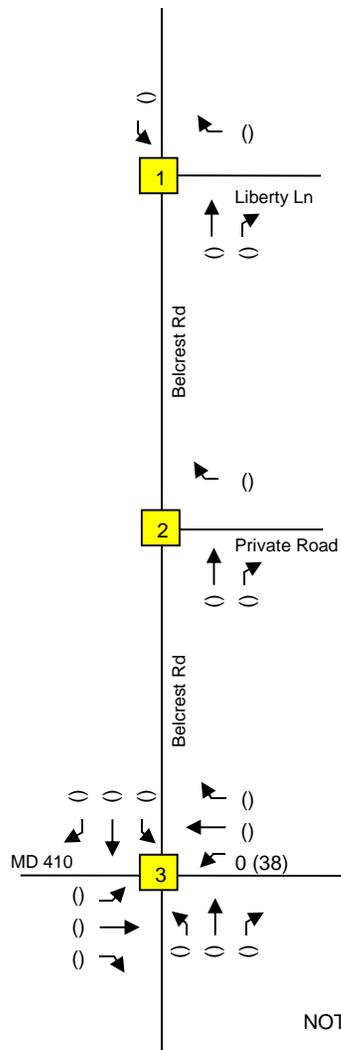
48/52

Trip Generaton Totals

			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
Local Rates	Apartments (multi-family, Prince Georges County Rates)	176 units	18	74	92	69	37	106
ITE LU Code 850	Supermarket (ksf, ITE-850)	60,089 sq.ft.	126	78	204	272	262	534
	Pass-by Rates = 36% PM (No AM Data)		0	0	0	-98	-94	-192
ITE LU Code 820	Retail (ksf, ITE-820)	6,662 sq.ft.	19	11	30	47	51	98
	Pass-by Rates = 34% PM (No AM Data)		0	0	0	-16	-17	-33
Total Primary Trips:			163	163	326	274	239	513
Total Pass-by Trips:			0	0	0	114	111	225

NOTES: Trip Generation Rates obtained from the ITE Trip Generation Manual, 9th Edition
 Pass-by rates obtained from ITE Trip Generation Handbook, 2nd Edition

Traffic Impact Analysis	Background Trip Generation for Approved DSP-05084 (01)	Exhibit 5
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		



NOTES:

- 66% of pass-by traffic is assumed to be from westbound MD 410
- 34% of pass-by traffic is assumed to be from eastbound MD 410

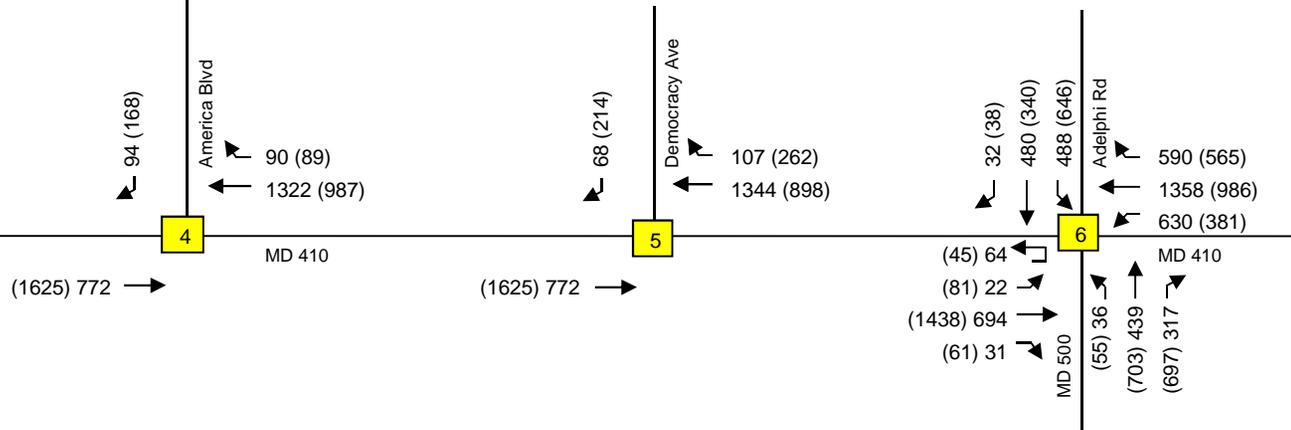
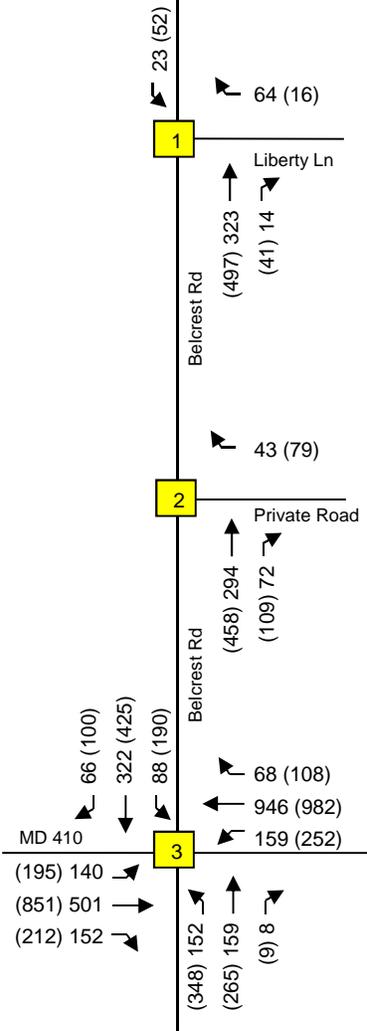


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Pass-by Trip Assignment for Approved DSP-05084 (01)

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

**Exhibit
6b**



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Background Peak Hour Volumes

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

Exhibit 7

Section 4 Projected Conditions with Site

4.1 Site Trip Generation

As discussed, the site was previously approved as DSP-05084 in 2006. The approved Detailed Site Plan contained a total of 176 residential dwelling units, a 60,089 square foot supermarket, and 6,662 square feet of retail space. The Detailed Site Plan was amended as DSP-05084-01 in 2009 to include a pylon sign on the corner of MD 410 and America Boulevard.

The current application (DSP-05084-02) proposes to modify the land as follows:

- Eliminate the residential dwelling units,
- Reduce the supermarket from 60,089 square feet to 54,800 square feet,
- Increase the retail from 6,662 square feet to 13,300 square feet, and
- Include 13,600 square feet of office space.

The trip generation for the current proposal is detailed on Exhibit 8. The trip generation rates were obtained from the Prince George's County *Transportation Review Guidelines* where available.

4.2 Site Trip Distribution & Trip Assignment

Exhibits 9a and 9b show the primary and pass-by trip assignment for the proposed project.

4.3 Total Traffic Volumes

The Total Peak Hour Volumes are shown on Exhibit 10. The applicant has expressed a desire to construct an eastbound left turn lane into the site along eastbound MD 410 at Democracy Boulevard. It is anticipated that the construction of this left turn lane would enhance traffic circulation in and around University Town Center, and would improve traffic operations at adjacent intersections along MD 410.

Exhibit 11 shows the diverted trips at the adjacent intersections if an eastbound left turn lane were constructed along eastbound MD 410 at Democracy Avenue.

Exhibit 12 shows the total peak hour traffic volumes including the eastbound left turn lane along MD 410 at Democracy Avenue.

4.4 Projected Level of Service

The results of the level of service analyses are shown on Exhibit 13.

Trip Generation Rates

General Office (0.4 FAR, Prince Georges County Rates)

Morning Trips = 2.0 x ksf
 Evening Trips = 1.85 x ksf

Trip Distribution (In/Out)

90/10
 19/81

Supermarket (ksf, ITE-850)

Morning Trips = 3.40 x ksf
 Ln(Evening Trips) = 0.74 x Ln(ksf) + 3.25

Trip Distribution (In/Out)

62/38
 51/49

Shopping Center (ksf, ITE-820)

Ln(Morning Trips) = 0.61 x Ln(ksf) + 2.24
 Ln(Evening Trips) = 0.67 x Ln(ksf) + 3.31

Trip Distribution (In/Out)

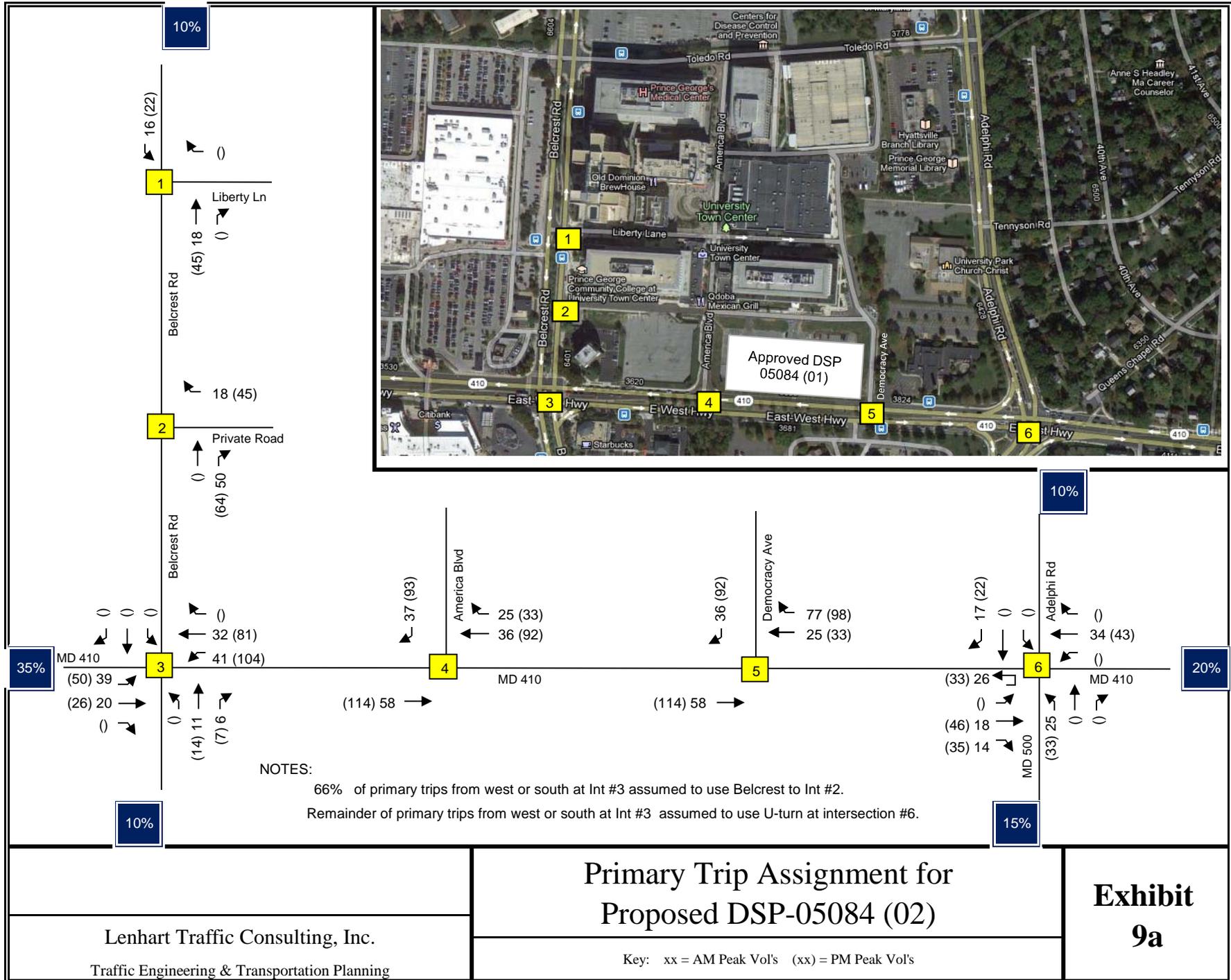
62/38
 48/52

Trip Generation Totals

			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total
Local Rates	General Office (0.4 FAR, Prince Georges County Rates)	13,600 sq.ft.	24	3	27	5	20	25
ITE LU Code 850	Supermarket (ksf, ITE-850)	54,800 sq.ft.	115	71	186	254	245	499
	Pass-by Rates = 36% PM (No AM Data)		0	0	0	-91	-88	-180
ITE LU Code 820	Retail (ksf, ITE-820)	13,300 sq.ft.	29	17	46	74	81	155
	Pass-by Rates = 34% PM (No AM Data)		0	0	0	-25	-28	-53
Total Primary Trips:			168	91	259	217	230	446
Total Pass-by Trips:			0	0	0	116	116	233

NOTES: Trip Generation Rates obtained from the ITE Trip Generation Manual, 9th Edition
 Pass-by rates obtained from ITE Trip Generation Handbook, 2nd Edition

Traffic Impact Analysis	Site Trip Generation for Proposed DSP-05084 (02)	Exhibit 8
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

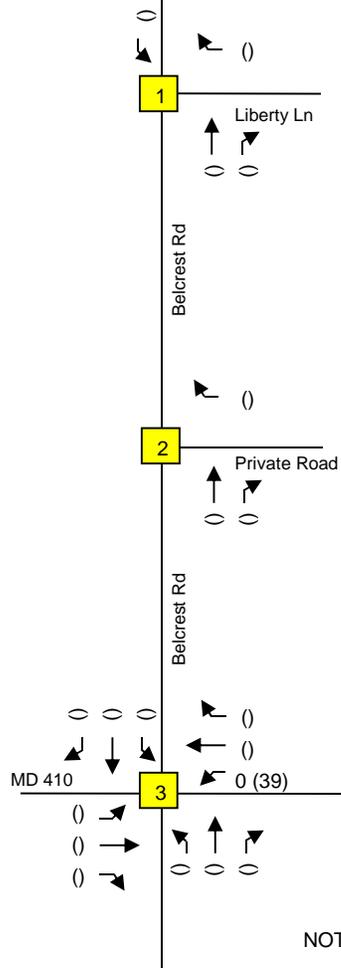


Primary Trip Assignment for Proposed DSP-05084 (02)

Exhibit 9a

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



NOTES:

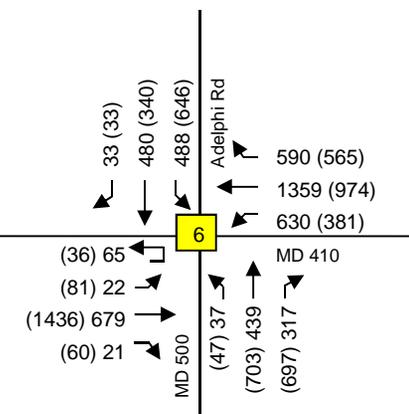
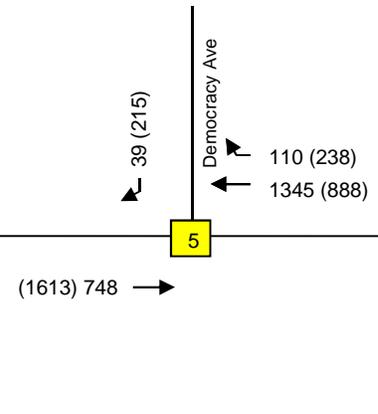
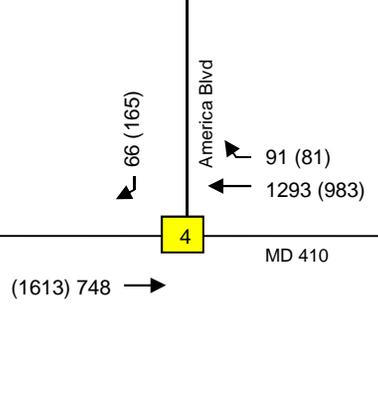
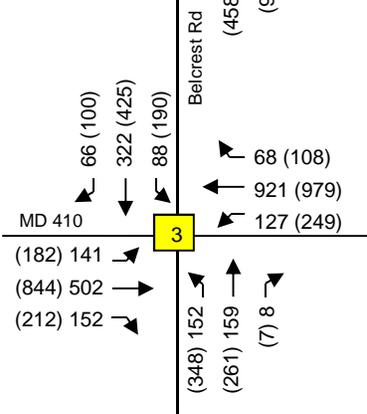
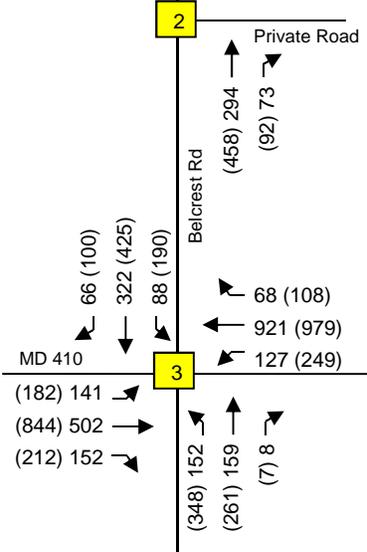
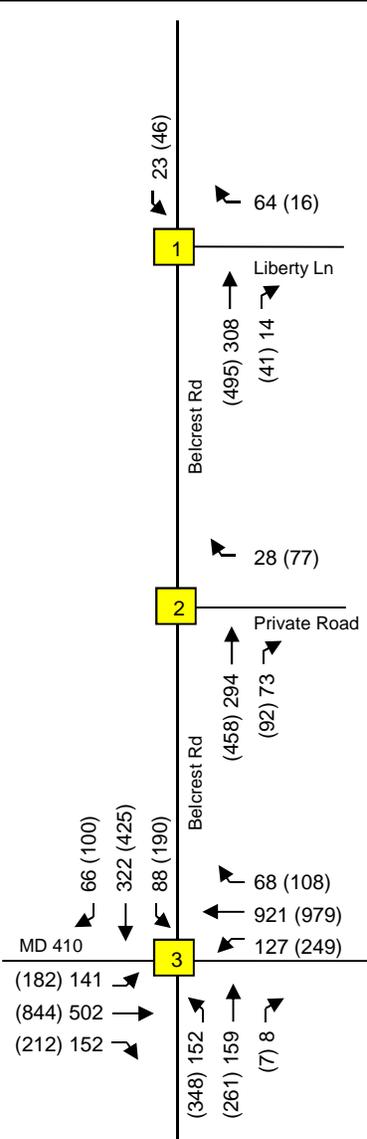
- 66% of pass-by traffic is assumed to be from westbound MD 410
- 34% of pass-by traffic is assumed to be from eastbound MD 410

Pass-by Trip Assignment for Proposed DSP-05084 (02)

Exhibit 9b

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning

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

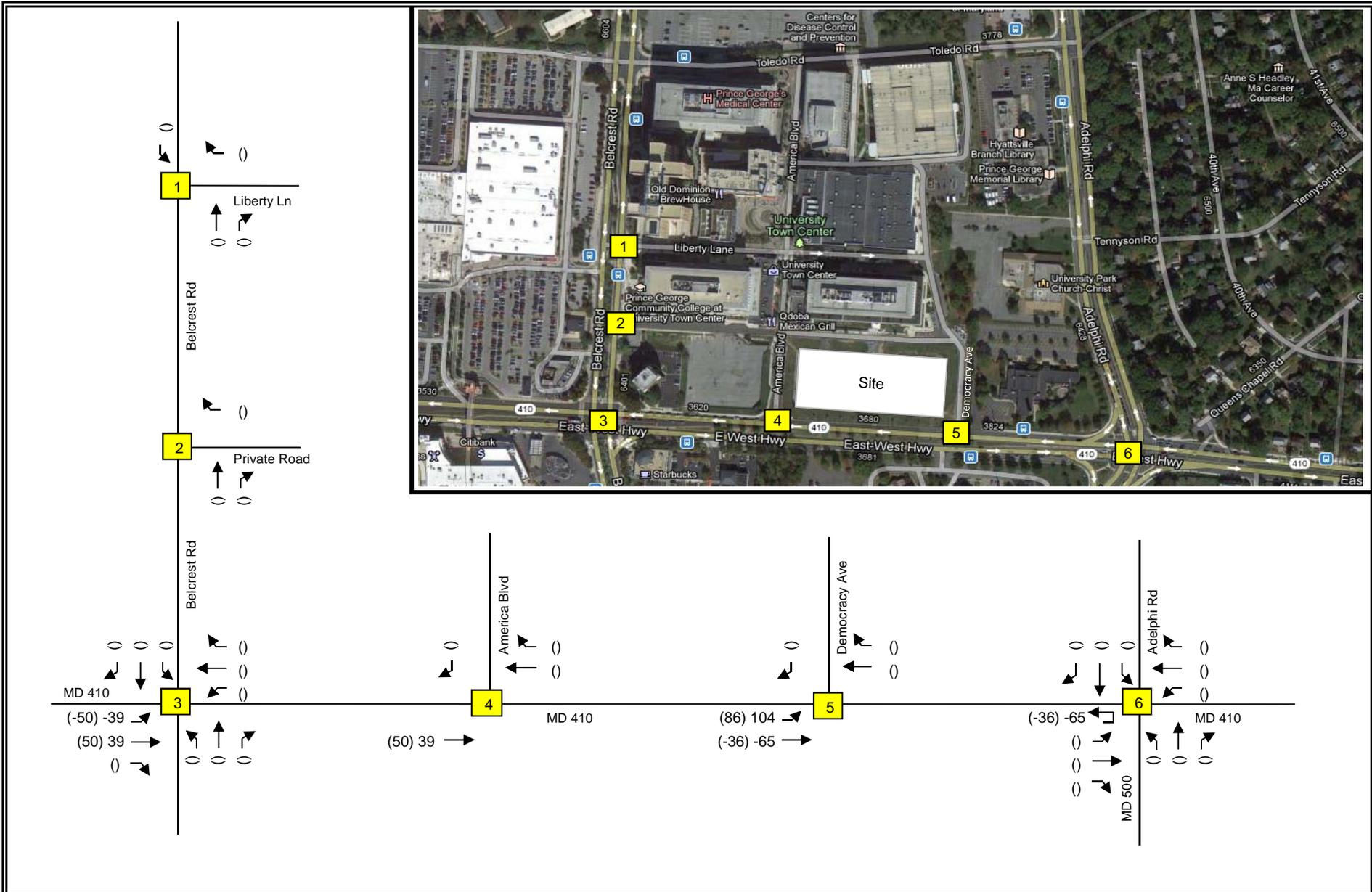


Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning

**Total
Peak Hour Volumes**

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

**Exhibit
10**

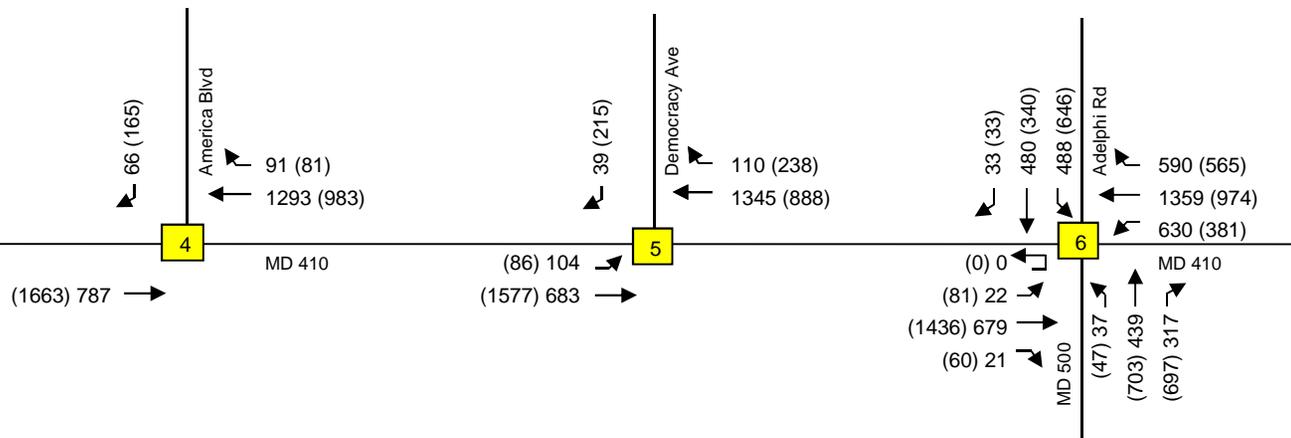
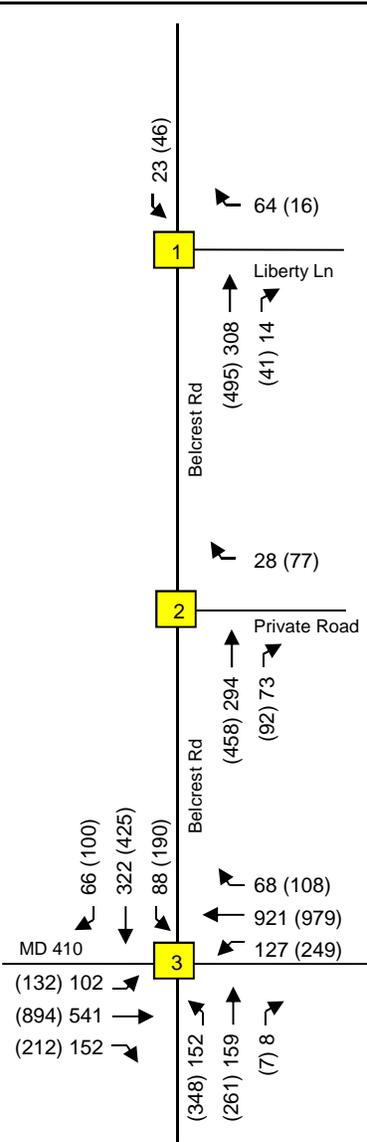
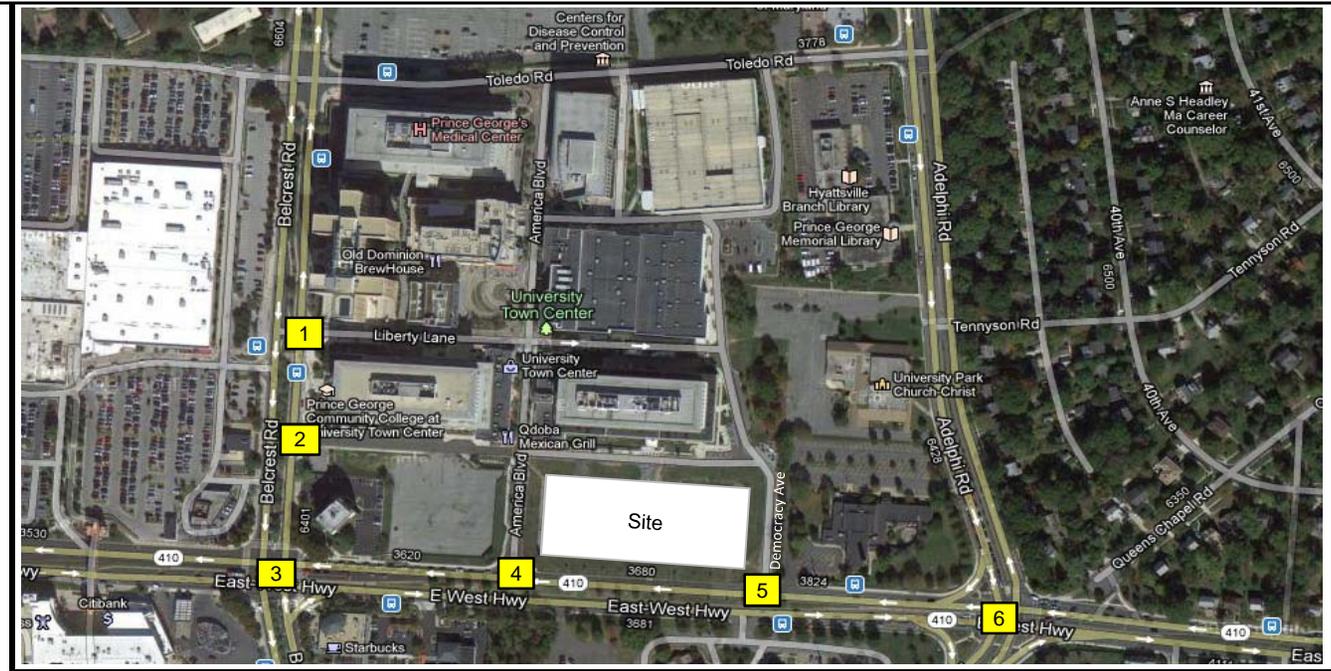


Diverted Traffic Volumes due to Addition of Eastbound Left Turn Lane at Int #5

**Exhibit
11**

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning

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



Diverted Total Peak Hour Volumes With Eastbound Left-in at Democracy Ave

**Exhibit
12**

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning

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

Section 5 Conclusions / Recommendations

5.1 Results of Analysis

This Traffic Impact Analysis was prepared for an amendment to the approved site plan (DSP-05084). The project is located in the University Town Center along the north side of MD 410 between America Boulevard and Democracy Avenue as shown on Exhibit 1.

The site was previously approved as DSP-05084 in 2006. The approved Detailed Site Plan contained a total of 176 residential dwelling units, a 60,089 square foot supermarket, and 6,662 square feet of retail space. The Detailed Site Plan was amended as DSP-05084-01 in 2009 to include a pylon sign on the corner of MD 410 and America Boulevard.

The current application (DSP-05084-02) proposes to modify the land as follows:

- Eliminate the residential dwelling units,
- Reduce the supermarket from 60,089 square feet to 54,800 square feet,
- Increase the retail from 6,662 square feet to 13,300 square feet, and
- Include 13,600 square feet of office space.

Based on the analyses and information contained in this report:

- DSP-05084-01 is currently approved and contains a total of 176 residential dwelling units, a 60,089 square foot supermarket, and 6,662 square feet of retail space. The approved plan will generate a total of 326 AM and 738 PM peak hour trips as shown on Exhibit 5.
- The current application (DSP-05084-02) proposes to reduce the land use totals as detailed above. The project as currently proposed will generate a total of 258 AM and 679 PM peak hour trips as shown on Exhibit 8.
- The proposed modification to the land uses will improve the levels of service at the adjacent study intersections as shown on Exhibit 13.
- All of the study intersections will operate at acceptable levels of service with the exception of MD 410 & MD 500. However, the proposed modifications to the land uses will improve the levels of service at this intersection.

- While not required in the current approvals, the construction of an eastbound left turn lane into the site along eastbound MD 410 at Democracy Avenue will improve the morning peak hour levels of service at MD 410 & MD 500 from a LOS “E” to a LOS “D”.
- A queuing analysis has also been included on Exhibit 15. The queuing analysis specifically evaluates the eastbound left turn lanes along MD 410 at Belcrest Road and at Adelphi Road. The findings of the queuing analysis are as follows:
 - The eastbound left turn lane along MD 410 at Belcrest Road contains approximately 250 feet of storage area for a single left turn lane. There is an existing westbound left turn lane along MD 410 into the Prince George’s Plaza Metro Center that precludes the possibility of lengthening the eastbound MD 410 left turn lane at Belcrest Road.
 - The eastbound left turn lane along MD 410 at Belcrest Road does not have enough storage area for the background and total traffic conditions. However, the provision of an eastbound left turn lane at Democracy Boulevard will divert traffic from Belcrest Road. As a result, the reduced traffic volumes at eastbound MD 410 & Belcrest Road will reduce the queues to within the available storage area.
 - The eastbound left turn lane along MD 410 at Adelphi Road contains approximately 225 feet of storage area for a single left turn lane.
 - The queues are approaching the available storage area in the background and total traffic conditions.
 - The provision of an eastbound left turn lane at Democracy Boulevard will remove U-turning traffic from eastbound MD 410 at Adelphi Road.
 - The resulting reduction in left/U-turns will reduce the queues to within the available storage area.

In summary, based on the findings of this Traffic Impact Study, the proposed amendment to DSP-05084-02 will reduce the amount of trips generated by the development, and will not have a negative impact on the study intersections. A concept plan for the proposed eastbound left turn lane is shown on Exhibit 16.

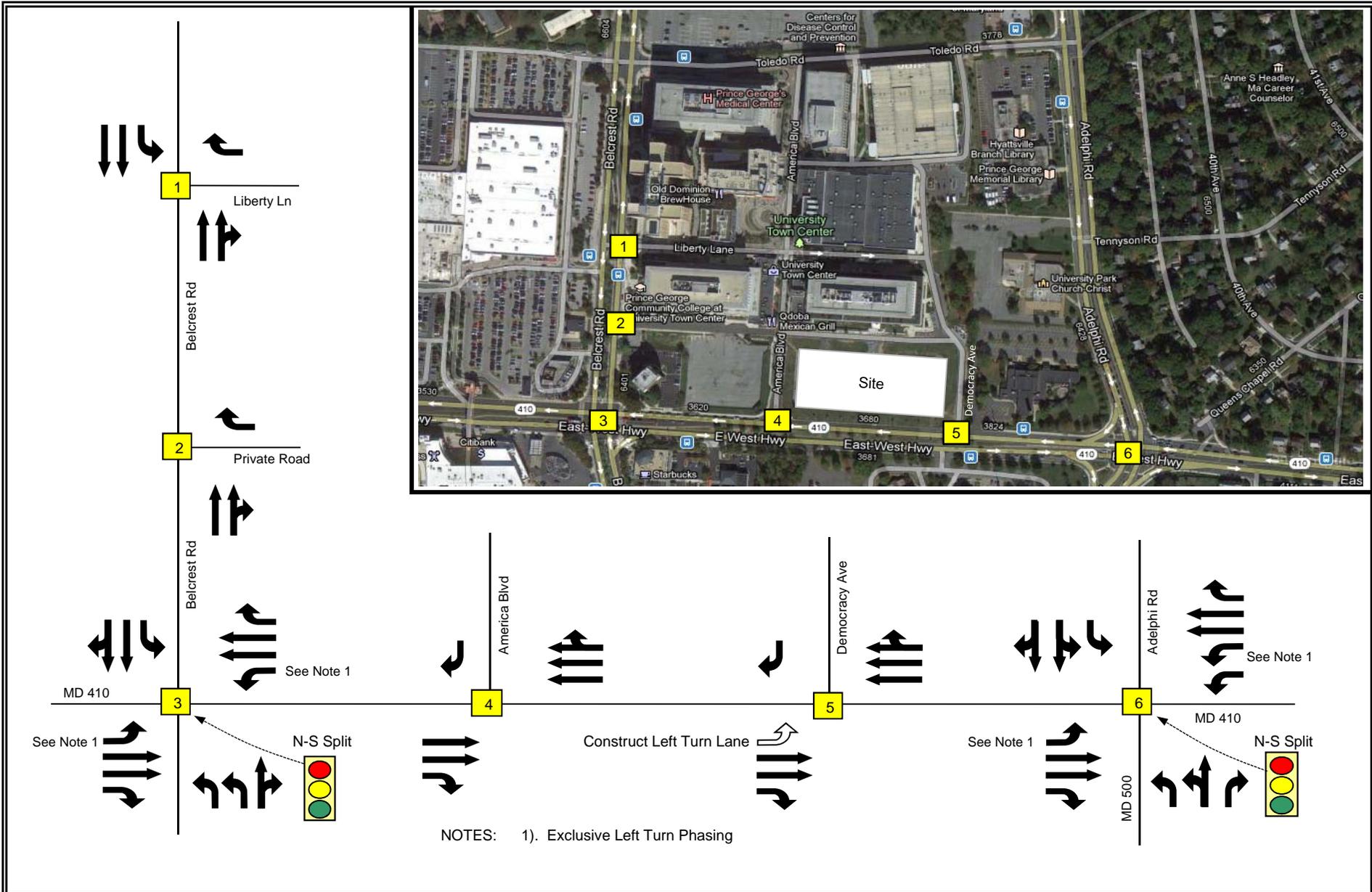
Level-of-Service Results

Morning Peak Hour	Existing Traffic	Background Traffic	Total Traffic	Total Diverted Traffic
1). Belcrest Rd & Liberty Ln	A / 228	A / 249	A / 241	A / 241
2). Belcrest Rd & Private Drive	A / 182	A / 244	A / 230	A / 230
3). MD 410 & Belcrest Rd	A / 940	B / 1040	B / 1028	A / 989
4). MD 410 & America Blvd	A / 550	A / 659	A / 620	A / 620
5). MD 410 & Democracy Ave	A / 536	A / 648	A / 621	A / 725
6). MD 410 & MD 500 / Adelphi Rd	D / 1372	E / 1494	E / 1496	D / 1431
Evening Peak Hour	Existing Traffic	Background Traffic	Total Traffic	Total Diverted Traffic
1). Belcrest Rd & Liberty Ln	A / 290	A / 348	A / 341	A / 341
2). Belcrest Rd & Private Drive	A / 295	A / 391	A / 380	A / 380
3). MD 410 & Belcrest Rd	B / 1145	C / 1298	C / 1277	C / 1298
4). MD 410 & America Blvd	A / 441	A / 598	A / 591	A / 591
5). MD 410 & Democracy Ave	A / 384	A / 678	A / 665	A / 751
6). MD 410 & MD 500 / Adelphi Rd	F / 1760	F / 1847	F / 1840	F / 1840

NOTES:

1. DSP-05084 (01) is an approved development included in the Background Traffic conditions.
2. DSP-05084 (02) is a proposed amendment to the approved development that is reflected in the Total Traffic conditions.
3. The proposed amendment reflected in the Total Traffic Conditions will slightly improve the CLV's for the majority of intersections.
4. The proposed eastbound left turn lane on MD 410 at Democracy Avenue will improve the CLV at MD 410 & MD 500 in the AM peak hour (which exceeds 1,450).

Traffic Impact Analysis	Results of Level-of-Service Analyses	Exhibit 13
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		



Traffic Impact Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning

Existing Lane Use & Traffic Controls

**Exhibit
14**

Maryland State Highway Administration Queuing Analysis Formula

<u>MD 410 & Belcrest Road</u>			<u>Available Queue</u>	<u>Maximum Queue (ft)</u>	<u>Veh / Hour</u>	<u>Lane Use Factor</u>	<u>Cycle Length (seconds)</u>	<u>Seconds / Hour</u>	<u>Feet / Vehicle</u>	<u>Surge Factor</u>
Existing	Eastbound MD 410 Left Turn:	250'	228	130	1	180	3600	25	1.4	
Background	Eastbound MD 410 Left Turn:	250'	341	195	1	180	3600	25	1.4	
Total	Eastbound MD 410 Left Turn:	250'	319	182	1	180	3600	25	1.4	
Total with EB Left at Democracy	Eastbound MD 410 Left Turn:	250'	231	132	1	180	3600	25	1.4	

<u>MD 410 & MD 500 / Adelphi Rd</u>			<u>Available Queue</u>	<u>Maximum Queue (ft)</u>	<u>Veh / Hour</u>	<u>Lane Use Factor</u>	<u>Cycle Length (seconds)</u>	<u>Seconds / Hour</u>	<u>Feet / Vehicle</u>	<u>Surge Factor</u>
Existing	Eastbound MD 410 Left Turn:	225'	145	83	1	180	3600	25	1.4	
Background	Eastbound MD 410 Left Turn:	225'	221	126	1	180	3600	25	1.4	
Total	Eastbound MD 410 Left Turn:	225'	205	117	1	180	3600	25	1.4	
Total with EB Left at Democracy	Eastbound MD 410 Left Turn:	225'	142	81	1	180	3600	25	1.4	

<u>MD 410 & Democracy Avenue</u>			<u>Available Queue</u>	<u>Maximum Queue (ft)</u>	<u>Veh / Hour</u>	<u>Lane Use Factor</u>	<u>Cycle Length (unsignalized)</u>	<u>Seconds / Hour</u>	<u>Feet / Vehicle</u>	<u>Surge Factor</u>
Total with EB Left at Democracy	<u>New</u> Eastbound Left Turn:	--	182	104	1	180	3600	25	1.4	

NOTES:

1. Lane Use Factor applied as follows: 1 indicates single turn lane, 0.6 indicates a double left turn lane.
2. Available queues were measured in field and does not include available taper area that may be used for storage.
3. Maximum Queue (Ft) =
$$\frac{\text{Turning Volume (veh per hour)} \times \text{Lane Use Factor} \times \text{Cycle Length (S)} \times 25 \text{ Feet/Vehicle} \times 1.4 \text{ Surge Factor}}{3600 \text{ (Seconds per hour)}}$$

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning

MD SHA QUEUING ANALYSIS
FOR LEFT TURN LANES

EXHIBIT
15



NOTE: The speed limit on MD 410 is posted at 40 MPH. According to Chapter 13 of the SHA's Access Permit Manual, a full deceleration lane for a 40 MPH roadway is a total distance of 535 feet (435 feet full width plus 100 foot taper).

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning

CONCEPT PLAN FOR NEW
EASTBOUND MD 410 LEFT TURN LANE

EXHIBIT
16

Appendix A

Supplemental Information
Traffic Signal Plans
Turning Movement Counts

Martin O'Malley, *Governor*
Anthony G. Brown, *Lt. Governor*



Darrell B. Mobley, *Acting Secretary*
Melinda B. Peters, *Administrator*

MARYLAND DEPARTMENT OF TRANSPORTATION

June 10, 2013

RE: Prince George's County
MD 410 – Mile Point 2.65
University Town Center
SHA Tracking No. 13APPG019
Traffic Impact Study

Mr. Tom Masog
MNCPPC
14741 Governor Oden Bowie Drive
Upper Marlboro, Maryland 20772

Dear Mr. Masog,

Thank you for the opportunity to review the Traffic Impact Study prepared by Lenhart Traffic Consulting, Inc., dated May 3, 2013, for the University Town Center mixed-use development in Prince George's County, Maryland. The major report findings and the Maryland State Highway Administration (SHA) comments and conclusions are as follows:

- Access to the 54,800 square foot supermarket, 13,300 square feet of retail, and 13,600 square feet of office is proposed via two existing intersections along MD 410 at Democracy Avenue and at America Boulevard as well as via one existing intersection along Belcrest Road (a County Road) at a private road north of MD 410. Other than at the two existing intersections, no direct access is proposed from the site to MD 410. The development was previously analyzed with 176 residential dwelling units, a 60,089 square foot supermarket, and 6,662 square feet of retail space.
- The study analyzed the following intersections under existing, background and future conditions:
 - MD 410 & MD 500
 - MD 410 & Democracy Avenue
 - MD 410 & America Boulevard
 - MD 410 & Belcrest Road
 - Belcrest Road & private road north of MD 410 (County intersection)
 - Belcrest Road & Liberty Lane (County intersection)
- The report concludes that all of the study intersctions will operate at acceptable levels of service with the exception of MD 410 & MD 500. The developer proposes to construct an eastbound left-turn lane into the site at along eastbound MD 410 at Democracy Avenue. Construction of this left-turn lane will improve Total Future Traffic operations to better than Background Traffic operations.

My telephone number/toll-free number is _____

Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free

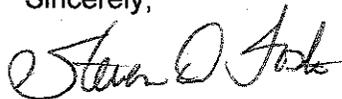
Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone 410.545.0300 • www.roads.maryland.gov

Based on the information provided, the SHA offers the following comments:

1. The study recommends that a left-turn lane be built at the intersection of MD 410 (East-West Highway & Democracy Avenue) for the eastbound to northbound movement. This turn lane would eliminate the u-turn movements added to the MD 410 & MD 500/Adelphi Road intersection. However, the study does not identify the length of turn lane proposed, only the maximum queue expected. The turn lane needs to be long enough to ensure vehicles will not queue back to the thru lanes, taking into account that it is an unsignalized location and vehicles will have to wait for a gap in traffic. In addition, the turn lane is in close proximity to the existing eastbound left-turn lane along MD 410 at MD 500 which may complicate the design. Please provide details on the proposed turn lane, including a concept level sketch.
2. The only background development cited in this report is the previous redevelopment of the same site. Please provide a copy of the scoping letter approved by the local agency which includes the list of approved background developments.
3. The queuing analysis on Page 27 shows 'unsignalized' under the cycle length for the MD 410 & MD 500/Adelphi Road intersection, but this intersection is signalized and should list 'seconds' instead.

The SHA concurs with the overall report findings. However, additional detail is needed regarding the proposed left-turn lane at the intersection of MD 410 & Democracy Avenue, as described in Comment 1. SHA will require the submission of two (2) hard copies and one (1) electronic revised traffic impact study and point-by-point response, as well as a concept level sketch of the proposed left-turn lane. Please send this information to the SHA Access Management Division addressed to Mr. Steven D. Foster to the attention of Mr. Nick Driban and reference the SHA Tracking Number on the submission. Unless specifically indicated in the SHA response on this report, the comments contained herewith do not supersede previous comments made on this development application. Please keep in mind that you can view the reviewer and project status via the SHA Access Management Division's web page at (<http://www.roads.maryland.gov/pages/amd.aspx>). If you have any questions regarding the enclosed traffic report comments, please contact Mr. Nick Driban at 410-545-0398 or via email at cdriban@sha.state.md.us.

Sincerely,



Steven D. Foster, Chief/Development Manager
Access Management Division

SDF/cnd

cc: Mr. Pranoy Choudhury, SHA Access Management Division
Ms. Rola Daher, SHA Data Services Engineering Division
Ms. Mary Deitz, SHA Regional Intermodal Planning Division
Mr. Nick Driban, SHA Access Management Division
Mr. Bob French, SHA Capital Programs Division

Mr. Joseph Katzenberger, SHA Access Management Division
Mr. Keith Kucharek, SHA Regional Intermodal Planning Division
Mr. Mike Lenhart (mленhart@lenharttraffic.com), Lenhart Traffic Consulting, Inc.
Mr. Vaughn Lewis, SHA Regional Intermodal Planning Division
Mr. Subrat Mahapatra, SHA Data Services Engineering Division
Mr. Venu Nemani, SHA District 3
Ms. Shaneka Owens, SHA District 3
Mr. Johnson Owusu-Amoako, SHA Capital Programs Division
Mr. Saed Rahwanji, SHA Traffic Development & Support Division
Mr. Erica Rigby, SHA Access Management Division
Mr. David Rodgers, SHA Regional Intermodal Planning Division
Mr. Errol Stoute, SHA Traffic Development & Support Division
Mr. Morteza Tadayon, SHA Data Services Engineering Division

TRAFFIC GROWTH PROJECTION

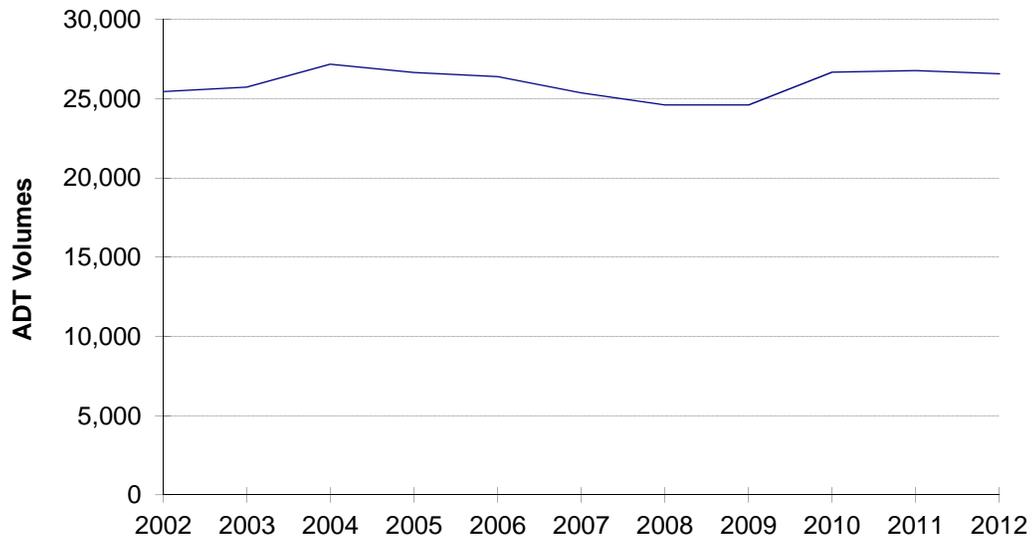
LOCATION: MD 410 between Belcrest Rd & Adelphi Rd

REPORT DATE: 02-May-13

AVERAGE GROWTH: 0.49%

MATHEMATICAL GROWTH: 0.43%

Year	ADT Volume	Vol. increase	% increase	Average %
2002	25,450			
2003	25,725	275	1.08%	1.08%
2004	27,175	1,450	5.64%	3.36%
2005	26,650	-525	-1.93%	1.60%
2006	26,382	-268	-1.01%	0.94%
2007	25,360	-1,022	-3.87%	-0.02%
2008	24,601	-759	-2.99%	-0.51%
2009	24,602	1	0.00%	-0.44%
2010	26,660	2,058	8.37%	0.66%
2011	26,771	111	0.42%	0.63%
2012	26,562	-209	-0.78%	0.49%



TRAFFIC GROWTH
MD 410 between Belcrest Rd & Adelphi Rd

Weekday Morning Peak Hour (6:30 am - 9:30 am)													
Time:	Belcrest Rd Northbound			Belcrest Rd Southbound			Eastbound			Liberty Ln Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:30-6:45			3	1								3	7
6:45-7:00			4	3								2	9
7:00-7:15			5	1								3	9
7:15-7:30			2	2								7	11
7:30-7:45			3	3								5	11
7:45-8:00			9	2								9	20
8:00-8:15			5	2								4	11
8:15-8:30			2	1								2	5
8:30-8:45			4	5								6	15
8:45-9:00			9	4								7	20
9:00-9:15			6	4								9	19
9:15-9:30			6	6								6	18

Hourly Totals													
6:30-7:30	0	0	14	7	0	0	0	0	0	0	0	63	84
6:45-7:45	0	0	14	9	0	0	0	0	0	0	0	17	40
7:00-8:00	0	0	19	8	0	0	0	0	0	0	0	24	51
7:15-8:15	0	0	19	9	0	0	0	0	0	0	0	25	53
7:30-8:30	0	0	19	8	0	0	0	0	0	0	0	20	47
7:45-8:45	0	0	20	10	0	0	0	0	0	0	0	21	51
8:00-9:00	0	0	20	12	0	0	0	0	0	0	0	19	51
8:15-9:15	0	0	21	14	0	0	0	0	0	0	0	24	59
8:30-9:30	0	0	25	19	0	0	0	0	0	0	0	28	72

AM Peak Hour	Northbound			Southbound			Eastbound			Westbound			Total
6:30-7:30	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	84
6:30-7:30	0	0	14	7	0	0	0	0	0	0	0	63	84

NOTE: Thru traffic flowed from MD 410 & Belcrest Rd

Weekday Evening Peak Hour (4 pm - 7 pm)													
Time:	Belcrest Rd Northbound			Belcrest Rd Southbound			Eastbound			Liberty Ln Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00-4:15			8	5								6	19
4:15-4:30			11	8								2	21
4:30-4:45			14	4								5	23
4:45-5:00			7	7								3	17
5:00-5:15			5	6								4	15
5:15-5:30			13	3								4	20
5:30-5:45			9	5								6	20
5:45-6:00			3	2								5	10
6:00-6:15			6	8								5	19
6:15-6:30			11	6								1	18
6:30-6:45			6	5								3	14
6:45-7:00			7	8								4	19

Hourly Totals													
4:00-5:00	0	0	40	24	0	0	0	0	0	0	0	16	80
4:15-5:15	0	0	37	25	0	0	0	0	0	0	0	14	76
4:30-5:30	0	0	39	20	0	0	0	0	0	0	0	16	75
4:45-5:45	0	0	34	21	0	0	0	0	0	0	0	17	72
5:00-6:00	0	0	30	16	0	0	0	0	0	0	0	19	65
5:15-6:15	0	0	31	18	0	0	0	0	0	0	0	20	69
5:30-6:30	0	0	29	21	0	0	0	0	0	0	0	17	67
5:45-6:45	0	0	26	21	0	0	0	0	0	0	0	14	61
6:00-7:00	0	0	30	27	0	0	0	0	0	0	0	13	70

PM Peak Hour	Northbound			Southbound			Eastbound			Westbound			Total
4:00-5:00	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	80
4:00-5:00	0	0	40	24	0	0	0	0	0	0	0	16	80

NOTE: Thru traffic flowed from MD 410 & Belcrest Rd

Peak Hour Turning Movement Count	Intersection: Belcrest Rd & Liberty Ln
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	Count by: tl Count Day/Date: Thursday, April 25, 2013 County: Prince George's

Weekday Morning Peak Hour (6:30 am - 9:30 am)													
Time:	Belcrest Rd Northbound			Southbound			Eastbound			Private Drive Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:30-6:45			3									3	6
6:45-7:00			2									2	4
7:00-7:15			3									2	5
7:15-7:30			1									4	5
7:30-7:45			4									3	7
7:45-8:00			1									3	4
8:00-8:15			5									2	7
8:15-8:30			5									2	7
8:30-8:45			8									3	11
8:45-9:00			6									1	7
9:00-9:15			4									4	8
9:15-9:30			4									2	6

Hourly Totals													
6:30-7:30	0	0	9	0	0	0	0	0	0	0	0	11	20
6:45-7:45	0	0	10	0	0	0	0	0	0	0	0	11	21
7:00-8:00	0	0	9	0	0	0	0	0	0	0	0	12	21
7:15-8:15	0	0	11	0	0	0	0	0	0	0	0	12	23
7:30-8:30	0	0	15	0	0	0	0	0	0	0	0	10	25
7:45-8:45	0	0	19	0	0	0	0	0	0	0	0	10	29
8:00-9:00	0	0	24	0	0	0	0	0	0	0	0	8	32
8:15-9:15	0	0	23	0	0	0	0	0	0	0	0	10	33
8:30-9:30	0	0	22	0	0	0	0	0	0	0	0	10	32

AM Peak Hour	Northbound			Southbound			Eastbound			Westbound			Total
8:15-9:15	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	33
	0	0	23	0	0	0	0	0	0	0	0	10	

NOTE: Thru traffic flowed from MD 410 & Belcrest Rd

Weekday Evening Peak Hour (4 pm - 7 pm)													
Time:	Belcrest Rd Northbound			Southbound			Eastbound			Private Drive Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00-4:15			11									9	20
4:15-4:30			5									5	10
4:30-4:45			8									7	15
4:45-5:00			4									11	15
5:00-5:15			7									6	13
5:15-5:30			2									4	6
5:30-5:45			10									5	15
5:45-6:00			9									4	13
6:00-6:15			12									5	17
6:15-6:30			8									2	10
6:30-6:45			4									4	8
6:45-7:00			5									3	8

Hourly Totals													
4:00-5:00	0	0	28	0	0	0	0	0	0	0	0	32	60
4:15-5:15	0	0	24	0	0	0	0	0	0	0	0	29	53
4:30-5:30	0	0	21	0	0	0	0	0	0	0	0	28	49
4:45-5:45	0	0	23	0	0	0	0	0	0	0	0	26	49
5:00-6:00	0	0	28	0	0	0	0	0	0	0	0	19	47
5:15-6:15	0	0	33	0	0	0	0	0	0	0	0	18	51
5:30-6:30	0	0	39	0	0	0	0	0	0	0	0	16	55
5:45-6:45	0	0	33	0	0	0	0	0	0	0	0	15	48
6:00-7:00	0	0	29	0	0	0	0	0	0	0	0	14	43

PM Peak Hour	Northbound			Southbound			Eastbound			Westbound			Total
4:00-5:00	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	60
	0	0	28	0	0	0	0	0	0	0	0	32	

NOTE: Thru traffic flowed from MD 410 & Belcrest Rd

Peak Hour Turning Movement Count Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	Intersection: Belcrest Rd & Private Drive S. of Liberty Ln Count by: tl Count Day/Date: Thursday, April 25, 2013 County: Prince George's
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Weekday Morning Peak Hour (6:30 am - 9:30 am)													
Time:	Belcrest Rd Northbound			Belcrest Rd Southbound			MD 410 Eastbound			MD 410 Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:30-6:45	14	12	0	16	40	7	12	79	13	8	129	8	338
6:45-7:00	22	11	0	11	51	8	12	88	18	8	171	9	409
7:00-7:15	16	12	0	10	56	12	14	92	20	18	188	10	448
7:15-7:30	14	10	1	27	71	16	16	105	30	12	240	12	554
7:30-7:45	31	27	0	19	98	9	20	118	41	14	229	15	621
7:45-8:00	37	39	0	14	73	8	22	126	35	14	230	19	617
8:00-8:15	25	25	0	21	82	18	18	110	32	23	217	18	589
8:15-8:30	35	19	0	14	76	17	24	115	33	17	242	15	607
8:30-8:45	41	30	0	18	92	18	22	116	43	15	249	14	658
8:45-9:00	34	50	0	31	74	16	24	123	38	32	198	20	640
9:00-9:15	40	47	2	24	75	14	30	121	36	21	187	18	615
9:15-9:30	37	32	0	27	65	19	23	132	32	16	162	24	569

Hourly Totals													
6:30-7:30	66	45	1	64	218	43	54	364	81	46	728	39	1749
6:45-7:45	83	60	1	67	276	45	62	403	109	52	828	46	2032
7:00-8:00	98	88	1	70	298	45	72	441	126	58	887	56	2240
7:15-8:15	107	101	1	81	324	51	76	459	138	63	916	64	2381
7:30-8:30	128	110	0	68	329	52	84	469	141	68	918	67	2434
7:45-8:45	138	113	0	67	323	61	86	467	143	69	938	66	2471
8:00-9:00	135	124	0	84	324	69	88	464	146	87	906	67	2494
8:15-9:15	150	146	2	87	317	65	100	475	150	85	876	67	2520
8:30-9:30	152	159	2	100	306	67	99	492	149	84	796	76	2482

AM	Northbound			Southbound			Eastbound			Westbound			Total
Peak Hour	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8:15-9:15	150	146	2	87	317	65	100	475	150	85	876	67	2520

Weekday Evening Peak Hour (4 pm - 7 pm)													
Time:	Belcrest Rd Northbound			Belcrest Rd Southbound			MD 410 Eastbound			MD 410 Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00-4:15	67	55	0	45	85	21	27	199	54	22	137	30	742
4:15-4:30	87	53	1	46	108	18	24	211	60	25	178	22	833
4:30-4:45	87	55	2	69	105	16	22	234	57	24	166	34	871
4:45-5:00	63	57	1	57	94	20	34	225	65	27	181	25	849
5:00-5:15	78	54	1	53	107	25	28	211	67	23	184	34	865
5:15-5:30	83	66	0	51	98	24	35	209	53	28	228	24	899
5:30-5:45	91	60	0	40	122	20	32	203	53	20	214	34	889
5:45-6:00	84	68	0	42	95	26	28	199	53	32	209	21	857
6:00-6:15	85	49	0	54	104	29	35	195	50	24	234	27	886
6:15-6:30	96	77	0	46	82	14	30	193	47	21	202	19	827
6:30-6:45	64	45	1	41	102	16	38	186	45	23	225	23	809
6:45-7:00	95	34	0	44	100	19	41	175	43	21	170	26	768

Hourly Totals													
4:00-5:00	304	220	4	217	392	75	107	869	236	98	662	111	3295
4:15-5:15	315	219	5	225	414	79	108	881	249	99	709	115	3418
4:30-5:30	311	232	4	230	404	85	119	879	242	102	759	117	3484
4:45-5:45	315	237	2	201	421	89	129	848	238	98	807	117	3502
5:00-6:00	336	248	1	186	422	95	123	822	226	103	835	113	3510
5:15-6:15	343	243	0	187	419	99	130	806	209	104	885	106	3531
5:30-6:30	356	254	0	182	403	89	125	790	203	97	859	101	3459
5:45-6:45	329	239	1	183	383	85	131	773	195	100	870	90	3379
6:00-7:00	340	205	1	185	388	78	144	749	185	89	831	95	3290

PM	Northbound			Southbound			Eastbound			Westbound			Total
Peak Hour	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5:15-6:15	343	243	0	187	419	99	130	806	209	104	885	106	3531

Peak Hour Turning Movement Count	Intersection: MD 410 & Belcrest RD
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	Count by: sha Count Day/Date: Wednesday, April 11, 2012 County: Prince George's

Weekday Morning Peak Hour (6:30 am - 9:30 am)													
Time:	Northbound			America Blvd Southbound			MD 410 Eastbound			MD 410 Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:30-6:45						7						13	20
6:45-7:00						4						15	19
7:00-7:15						8						11	19
7:15-7:30						8						21	29
7:30-7:45						6						18	24
7:45-8:00						7						15	22
8:00-8:15						5						8	13
8:15-8:30						6						13	19
8:30-8:45						6						14	20
8:45-9:00						4						18	22
9:00-9:15						3						10	13
9:15-9:30						5						11	16

Hourly Totals													
6:30-7:30	0	0	0	0	0	27	0	0	0	0	0	60	87
6:45-7:45	0	0	0	0	0	26	0	0	0	0	0	65	91
7:00-8:00	0	0	0	0	0	29	0	0	0	0	0	65	94
7:15-8:15	0	0	0	0	0	26	0	0	0	0	0	62	88
7:30-8:30	0	0	0	0	0	24	0	0	0	0	0	54	78
7:45-8:45	0	0	0	0	0	24	0	0	0	0	0	50	74
8:00-9:00	0	0	0	0	0	21	0	0	0	0	0	53	74
8:15-9:15	0	0	0	0	0	19	0	0	0	0	0	55	74
8:30-9:30	0	0	0	0	0	18	0	0	0	0	0	53	71

AM Peak Hour	Northbound			Southbound			Eastbound			Westbound			Total
7:00-8:00	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	94
	0	0	0	0	0	29	0	0	0	0	0	65	

Weekday Evening Peak Hour (4 pm - 7 pm)													
Time:	Northbound			America Blvd Southbound			MD 410 Eastbound			MD 410 Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00-4:15						18						9	27
4:15-4:30						11						11	22
4:30-4:45						19						8	27
4:45-5:00						21						15	36
5:00-5:15						14						13	27
5:15-5:30						17						11	28
5:30-5:45						12						6	18
5:45-6:00						15						9	24
6:00-6:15						16						10	26
6:15-6:30						11						13	24
6:30-6:45						8						7	15
6:45-7:00						12						8	20

Hourly Totals													
4:00-5:00	0	0	0	0	0	69	0	0	0	0	0	43	112
4:15-5:15	0	0	0	0	0	65	0	0	0	0	0	47	112
4:30-5:30	0	0	0	0	0	71	0	0	0	0	0	47	118
4:45-5:45	0	0	0	0	0	64	0	0	0	0	0	45	109
5:00-6:00	0	0	0	0	0	58	0	0	0	0	0	39	97
5:15-6:15	0	0	0	0	0	60	0	0	0	0	0	36	96
5:30-6:30	0	0	0	0	0	54	0	0	0	0	0	38	92
5:45-6:45	0	0	0	0	0	50	0	0	0	0	0	39	89
6:00-7:00	0	0	0	0	0	47	0	0	0	0	0	38	85

PM Peak Hour	Northbound			Southbound			Eastbound			Westbound			Total
4:30-5:30	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	118
	0	0	0	0	0	71	0	0	0	0	0	47	

Peak Hour Turning Movement Count	Intersection: MD 410 & America Blvd
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	Count by: ml Count Day/Date: Thursday, April 25, 2013 County: Prince George's

Weekday Morning Peak Hour (6:30 am - 9:30 am)													
Time:	Northbound			Access E of America Southbound			MD 410 Eastbound			MD 410 Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:30-6:45						0						6	6
6:45-7:00						0						11	11
7:00-7:15						2						4	6
7:15-7:30						1						10	11
7:30-7:45						0						8	8
7:45-8:00						3						7	10
8:00-8:15						0						7	7
8:15-8:30						2						6	8
8:30-8:45						1						5	6
8:45-9:00						2						9	11
9:00-9:15						0						4	4
9:15-9:30						1						8	9

Hourly Totals													
6:30-7:30	0	0	0	0	0	3	0	0	0	0	0	31	34
6:45-7:45	0	0	0	0	0	3	0	0	0	0	0	33	36
7:00-8:00	0	0	0	0	0	6	0	0	0	0	0	29	35
7:15-8:15	0	0	0	0	0	4	0	0	0	0	0	32	36
7:30-8:30	0	0	0	0	0	5	0	0	0	0	0	28	33
7:45-8:45	0	0	0	0	0	6	0	0	0	0	0	25	31
8:00-9:00	0	0	0	0	0	5	0	0	0	0	0	27	32
8:15-9:15	0	0	0	0	0	5	0	0	0	0	0	24	29
8:30-9:30	0	0	0	0	0	4	0	0	0	0	0	26	30

AM	Northbound			Southbound			Eastbound			Westbound			Total
Peak Hour	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6:45-7:45	0	0	0	0	0	3	0	0	0	0	0	33	36

Weekday Evening Peak Hour (4 pm - 7 pm)													
Time:	Northbound			Access E of America Southbound			MD 410 Eastbound			MD 410 Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00-4:15						1						4	5
4:15-4:30						3						8	11
4:30-4:45						0						3	3
4:45-5:00						2						7	9
5:00-5:15						2						6	8
5:15-5:30						1						5	6
5:30-5:45						0						3	3
5:45-6:00						2						4	6
6:00-6:15						2						3	5
6:15-6:30						1						1	2
6:30-6:45						0						3	3
6:45-7:00						1						2	3

Hourly Totals													
4:00-5:00	0	0	0	0	0	6	0	0	0	0	0	22	28
4:15-5:15	0	0	0	0	0	7	0	0	0	0	0	24	31
4:30-5:30	0	0	0	0	0	5	0	0	0	0	0	21	26
4:45-5:45	0	0	0	0	0	5	0	0	0	0	0	21	26
5:00-6:00	0	0	0	0	0	5	0	0	0	0	0	18	23
5:15-6:15	0	0	0	0	0	5	0	0	0	0	0	15	20
5:30-6:30	0	0	0	0	0	5	0	0	0	0	0	11	16
5:45-6:45	0	0	0	0	0	5	0	0	0	0	0	11	16
6:00-7:00	0	0	0	0	0	4	0	0	0	0	0	9	13

PM	Northbound			Southbound			Eastbound			Westbound			Total
Peak Hour	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:15-5:15	0	0	0	0	0	7	0	0	0	0	0	24	31

Peak Hour Turning Movement Count	Intersection: MD 410 & Access E. of America Blvd
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	Count by: ml Count Day/Date: Thursday, April 25, 2013 County: Prince George's

Weekday Morning Peak Hour (6:30 am - 9:30 am)														
Time:	MD 500 Northbound			Adelphi Southbound			MD 410 Eastbound				MD 410 Westbound			Total
	Left	Thru	Right	Left	Thru	Right	U-turn	Left	Thru	Right	Left	Thru	Right	
6:30-6:45	3	47	48	63	68	8	0	4	98	2	83	252	45	721
6:45-7:00	6	113	46	121	115	5	0	11	165	1	148	301	119	1151
7:00-7:15	5	112	82	137	121	3	0	3	179	1	138	335	121	1237
7:15-7:30	3	101	75	112	115	3	0	1	165	3	155	315	164	1212
7:30-7:45	3	120	82	137	138	5	0	10	166	2	168	330	145	1306
7:45-8:00	1	99	73	95	99	5	0	8	141	1	160	325	151	1158
8:00-8:15	4	79	75	85	91	9	0	7	132	5	155	319	123	1084
8:15-8:30	1	81	72	81	95	2	0	5	132	1	131	325	143	1069
8:30-8:45	4	81	75	78	84	7	0	4	115	2	157	320	121	1048
8:45-9:00	8	77	81	75	67	6	2	4	121	5	124	317	128	1015
9:00-9:15	3	99	57	79	52	2	0	1	131	2	123	300	130	979
9:15-9:30	7	75	75	58	61	5	1	6	123	3	119	291	139	963

Hourly Totals	Left	Thru	Right	Left	Thru	Right	U-turn	Left	Thru	Right	Left	Thru	Right	Total
6:30-7:30	17	373	251	433	419	19	0	19	607	7	524	1203	449	4321
6:45-7:45	17	446	285	507	489	16	0	25	675	7	609	1281	549	4906
7:00-8:00	12	432	312	481	473	16	0	22	651	7	621	1305	581	4913
7:15-8:15	11	399	305	429	443	22	0	26	604	11	638	1289	583	4760
7:30-8:30	9	379	302	398	423	21	0	30	571	9	614	1299	562	4617
7:45-8:45	10	340	295	339	369	23	0	24	520	9	603	1289	538	4359
8:00-9:00	17	318	303	319	337	24	2	20	500	13	567	1281	515	4216
8:15-9:15	16	338	285	313	298	17	2	14	499	10	535	1262	522	4111
8:30-9:30	22	332	288	290	264	20	3	15	490	12	523	1228	518	4005

AM Peak Hour	Northbound			Southbound			U-turn	Eastbound			Westbound			Total
7:00-8:00	Left	Thru	Right	Left	Thru	Right	0	Left	Thru	Right	Left	Thru	Right	4913
	12	432	312	481	473	16		22	651	7	621	1305	581	4913

Weekday Evening Peak Hour (4 pm - 7 pm)														
Time:	MD 500 Northbound			Adelphi Southbound			MD 410 Eastbound				MD 410 Westbound			Total
	Left	Thru	Right	Left	Thru	Right	U-turn	Left	Thru	Right	Left	Thru	Right	
4:00-4:15	4	144	144	105	55	4	1	11	276	2	83	160	82	1071
4:15-4:30	5	148	149	113	61	9	1	10	265	2	79	157	94	1093
4:30-4:45	8	155	158	125	59	7	0	12	268	7	83	175	115	1172
4:45-5:00	8	168	165	125	60	4	2	14	315	4	85	211	137	1298
5:00-5:15	0	175	178	131	77	2	0	17	335	1	91	217	135	1359
5:15-5:30	9	174	175	152	89	2	2	20	341	6	85	235	144	1434
5:30-5:45	5	179	169	175	81	5	1	19	342	9	101	242	149	1477
5:45-6:00	0	165	165	178	88	2	0	24	351	9	98	223	129	1432
6:00-6:15	8	151	157	131	75	1	0	15	304	2	91	201	131	1267
6:15-6:30	2	152	141	124	74	2	1	20	315	6	85	185	126	1233
6:30-6:45	5	132	118	81	44	1	0	21	303	6	72	174	107	1064
6:45-7:00	0	109	95	84	75	3	2	18	310	6	64	165	81	1012

Hourly Totals	Left	Thru	Right	Left	Thru	Right	U-turn	Left	Thru	Right	Left	Thru	Right	Total
4:00-5:00	25	615	616	468	235	24	4	47	1124	15	330	703	428	4634
4:15-5:15	21	646	650	494	257	22	3	53	1183	14	338	760	481	4922
4:30-5:30	25	672	676	533	285	15	4	63	1259	18	344	838	531	5263
4:45-5:45	22	696	687	583	307	13	5	70	1333	20	362	905	565	5568
5:00-6:00	14	693	687	636	335	11	3	80	1369	25	375	917	557	5702
5:15-6:15	22	669	666	636	333	10	3	78	1338	26	375	901	553	5610
5:30-6:30	15	647	632	608	318	10	2	78	1312	26	375	851	535	5409
5:45-6:45	15	600	581	514	281	6	1	80	1273	23	346	783	493	4996
6:00-7:00	15	544	511	420	268	7	3	74	1232	20	312	725	445	4576

PM Peak Hour	Northbound			Southbound			U-turn	Eastbound			Westbound			Total
5:00-6:00	Left	Thru	Right	Left	Thru	Right	3	Left	Thru	Right	Left	Thru	Right	5702
	14	693	687	636	335	11		80	1369	25	375	917	557	5702

Peak Hour Turning Movement Count	Intersection: MD 410 & MD 500 / Adelphi Rd
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	Count by: sha Count Day/Date: Tuesday, March 13, 2012 County: Prince George's

Appendix B

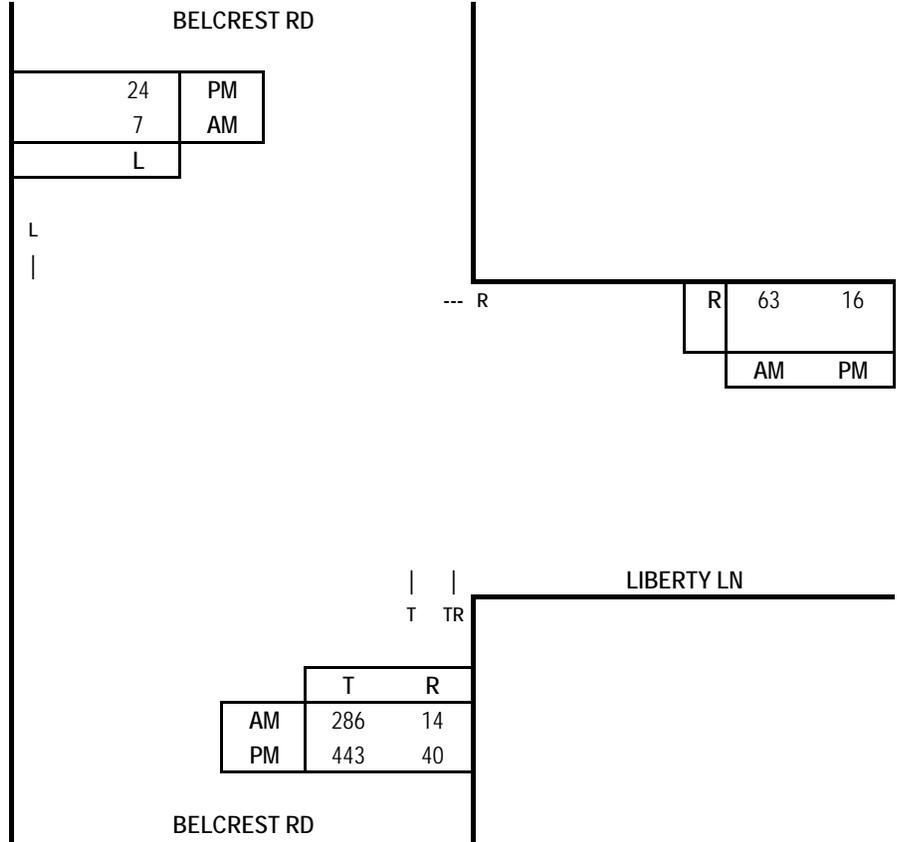
Critical Lane Volume (LOS) Worksheets

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Intersection of: Belcrest Rd
and: Liberty Ln
Conditions: Existing Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	56	1.00	56				56
NB	300	0.55	165	7	1.00	7	172
SB							
CLV TOTAL=							228
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	16	0.00	0				0
NB	483	0.55	266	24	1.00	24	290
SB							
CLV TOTAL=							290
Level of Service (LOS)=							A

<p style="text-align: center;">Critical Lane Volume Analysis</p> <hr/> <p>Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning</p>		<p>Belcrest Rd & Liberty Ln (Existing Traffic)</p>	<p>Intersection 1</p>
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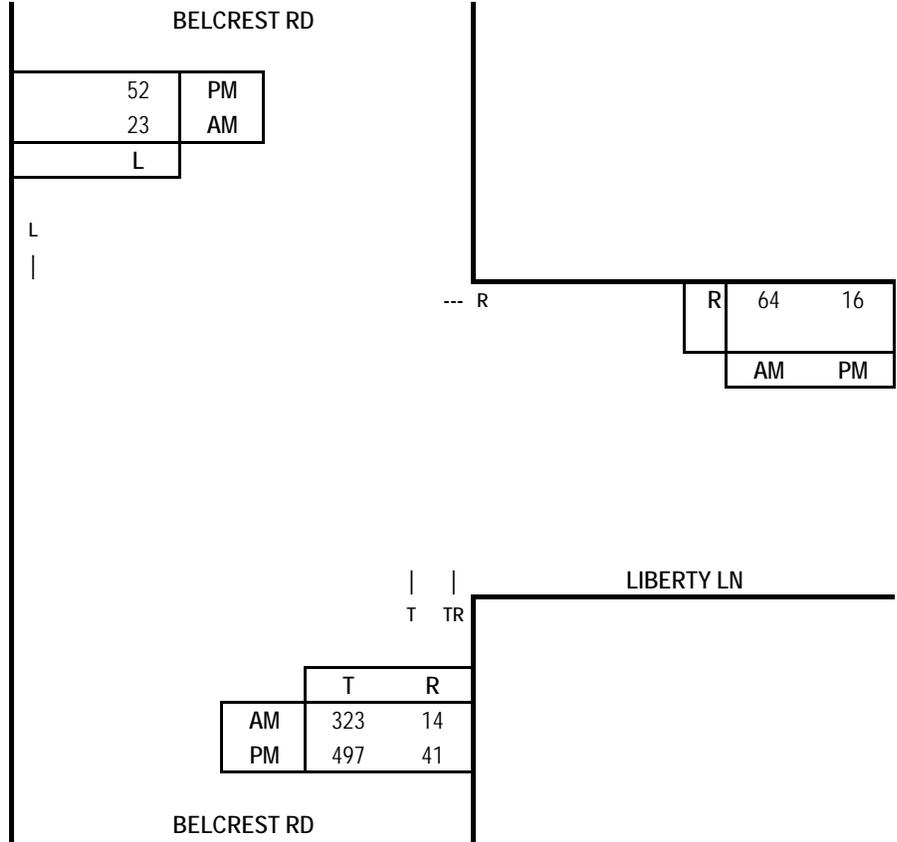
CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Intersection of: Belcrest Rd
and: Liberty Ln

Conditions: Background Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	41	1.00	41				41
NB	337	0.55	185	23	1.00	23	208
SB							
CLV TOTAL=							249
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	16	0.00	0				0
NB	538	0.55	296	52	1.00	52	348
SB							
CLV TOTAL=							348
Level of Service (LOS)=							A

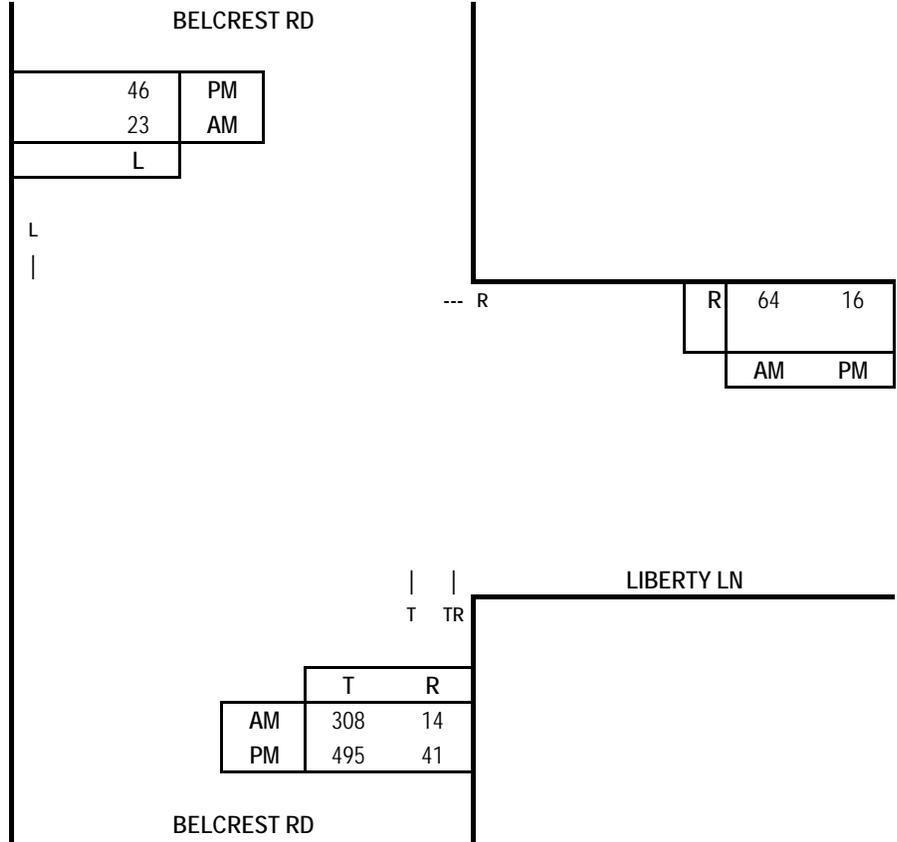
<p style="text-align: center;">Critical Lane Volume Analysis</p> <hr/> <p>Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning</p>		<p>Belcrest Rd & Liberty Ln (Background Traffic)</p>	<p>Intersection 1</p>
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CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Intersection of: Belcrest Rd
and: Liberty Ln
Conditions: Total Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	41	1.00	41				41
NB	322	0.55	177	23	1.00	23	200
SB							
CLV TOTAL=							241
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	16	0.00	0				0
NB	536	0.55	295	46	1.00	46	341
SB							
CLV TOTAL=							341
Level of Service (LOS)=							A

<p style="text-align: center;">Critical Lane Volume Analysis</p> <hr/> <p>Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning</p>		<p>Belcrest Rd & Liberty Ln (Total Traffic)</p>	<p>Intersection 1</p>
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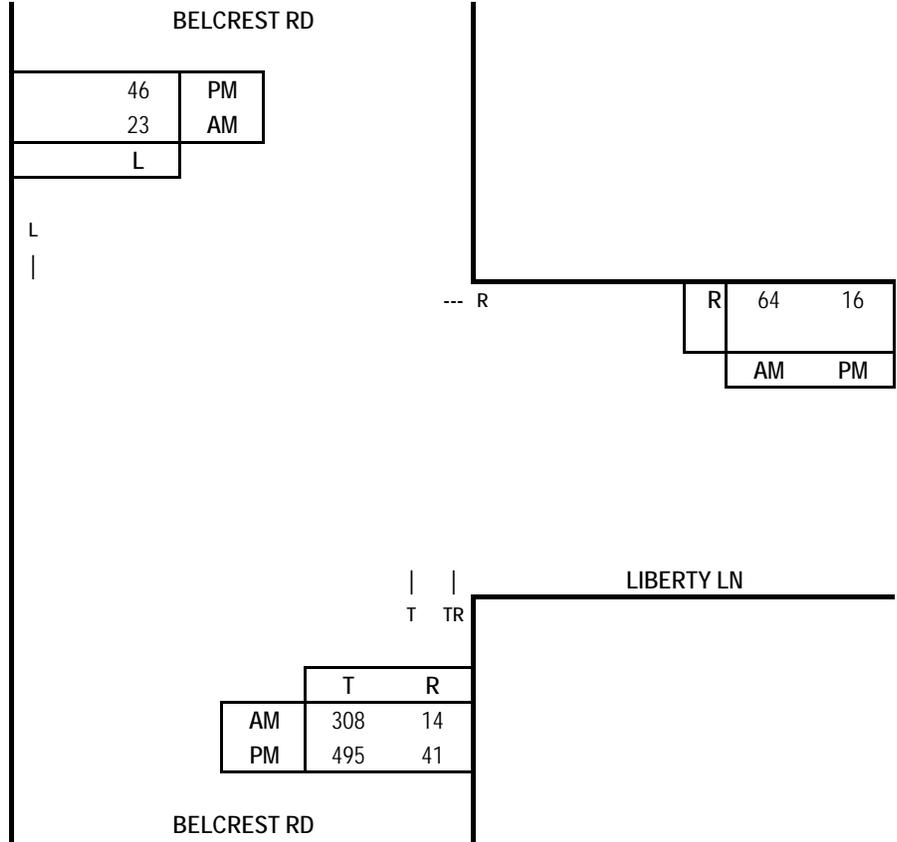
CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Intersection of: Belcrest Rd
and: Liberty Ln

Conditions: Total Diverted Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	41	1.00	41				41
NB	322	0.55	177	23	1.00	23	200
SB							
CLV TOTAL=							241
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	16	0.00	0				0
NB	536	0.55	295	46	1.00	46	341
SB							
CLV TOTAL=							341
Level of Service (LOS)=							A

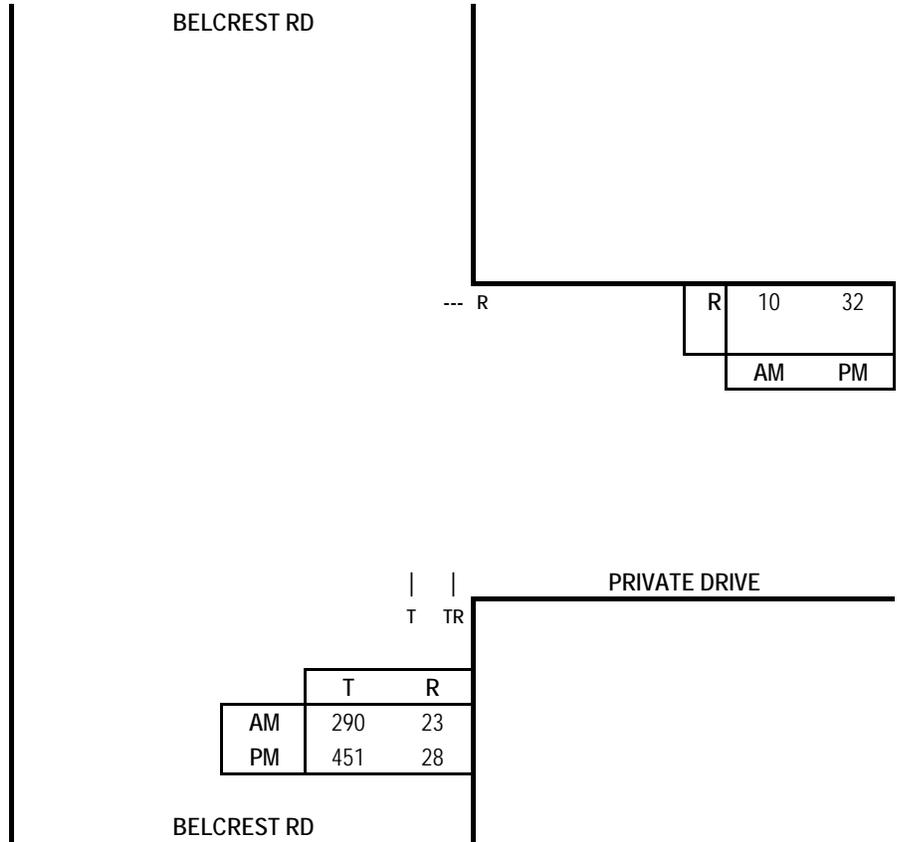
<p style="text-align: center;">Critical Lane Volume Analysis</p> <hr/> <p>Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning</p>		<p>Belcrest Rd & Liberty Ln (Total Diverted Traffic)</p>	<p>Intersection 1</p>
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CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Intersection of: Belcrest Rd
and: Private Drive
Conditions: Existing Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	10	1.00	10				10
NB	313	0.55	172				172
SB							
CLV TOTAL=							182
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	32	1.00	32				32
NB	479	0.55	263				263
SB							
CLV TOTAL=							295
Level of Service (LOS)=							A

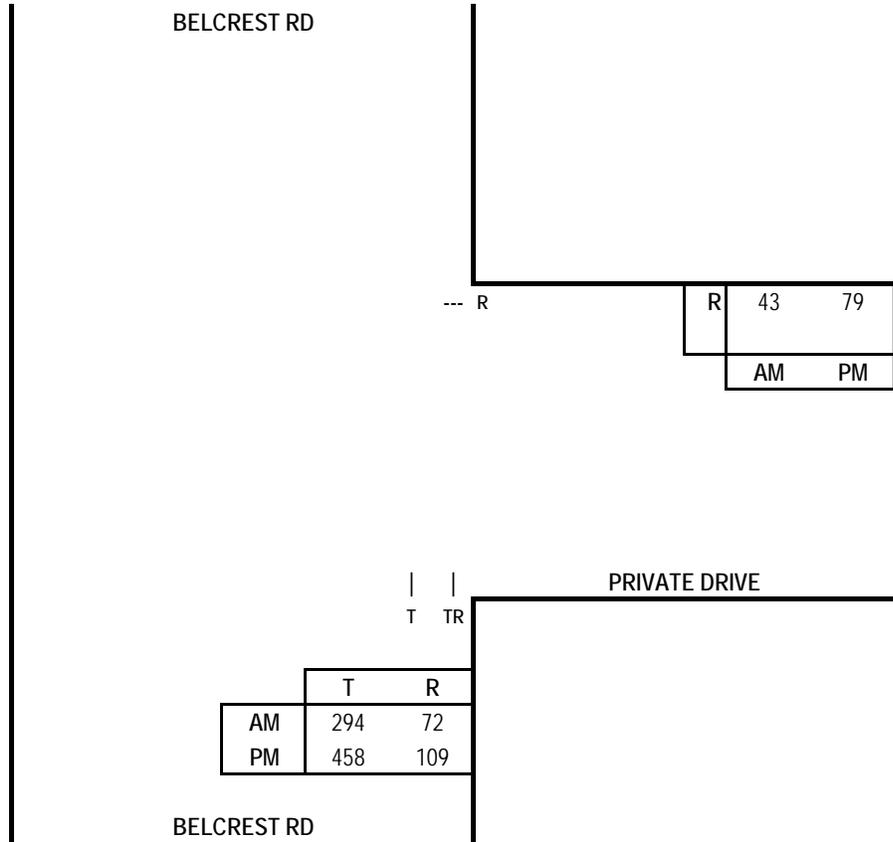
<p style="text-align: center;">Critical Lane Volume Analysis</p> <hr/> <p>Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning</p>		<p>Belcrest Rd & Private Drive (Existing Traffic)</p>	<p>Intersection 2</p>
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CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Intersection of: Belcrest Rd
and: Private Drive
Conditions: Background Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	43	1.00	43				43
NB	366	0.55	201				201
SB							
CLV TOTAL=							244
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	79	1.00	79				79
NB	567	0.55	312				312
SB							
CLV TOTAL=							391
Level of Service (LOS)=							A

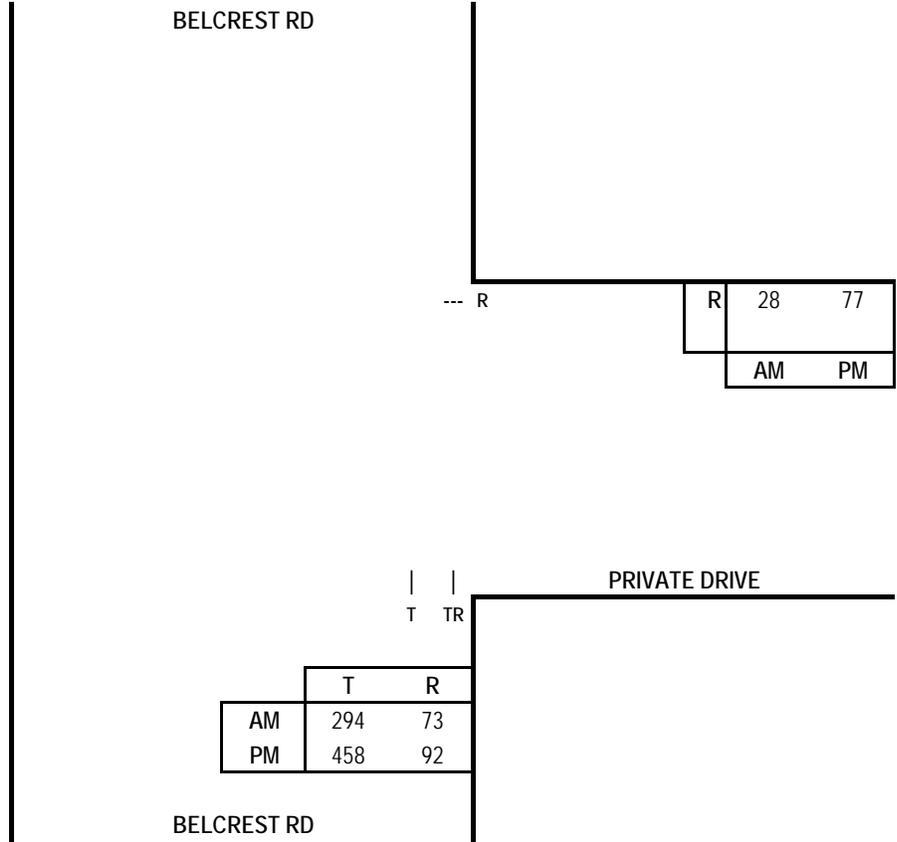
<p style="text-align: center;">Critical Lane Volume Analysis</p> <hr/> <p>Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning</p>		<p>Belcrest Rd & Private Drive (Background Traffic)</p>	<p>Intersection 2</p>
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CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Intersection of: Belcrest Rd
and: Private Drive
Conditions: Total Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	28	1.00	28				28
NB	367	0.55	202				202
SB							
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	
WB	77	1.00	77				77
NB	550	0.55	303				303
SB							
CLV TOTAL =							380
Level of Service (LOS) =							A

<p style="text-align: center;">Critical Lane Volume Analysis</p> <hr/> <p>Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning</p>		<p>Belcrest Rd & Private Drive (Total Traffic)</p>	<p>Intersection 2</p>
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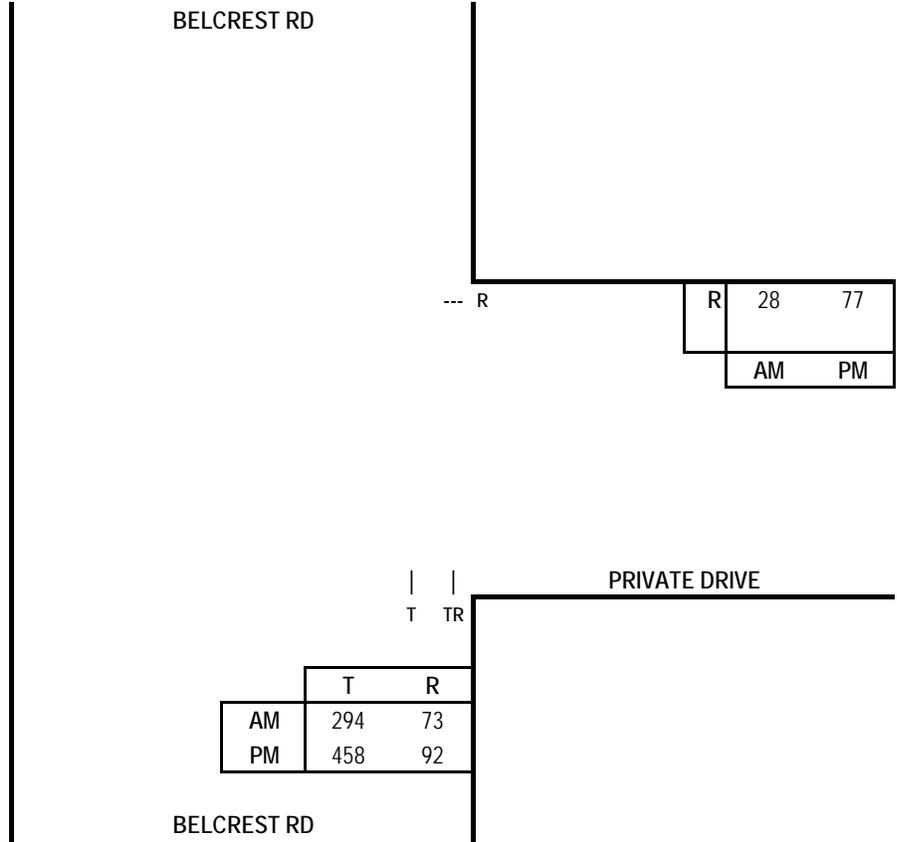
CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Intersection of: Belcrest Rd
and: Private Drive

Conditions: Total Diverted Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
WB	28	1.00	28				28
NB	367	0.55	202				202
SB							
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	
WB	77	1.00	77				77
NB	550	0.55	303				303
SB							
CLV TOTAL=							380
Level of Service (LOS)=							A

<p style="text-align: center;">Critical Lane Volume Analysis</p> <hr/> <p>Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning</p>		<p>Belcrest Rd & Private Drive (Total Diverted Traffic)</p>	<p>Intersection 2</p>
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CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

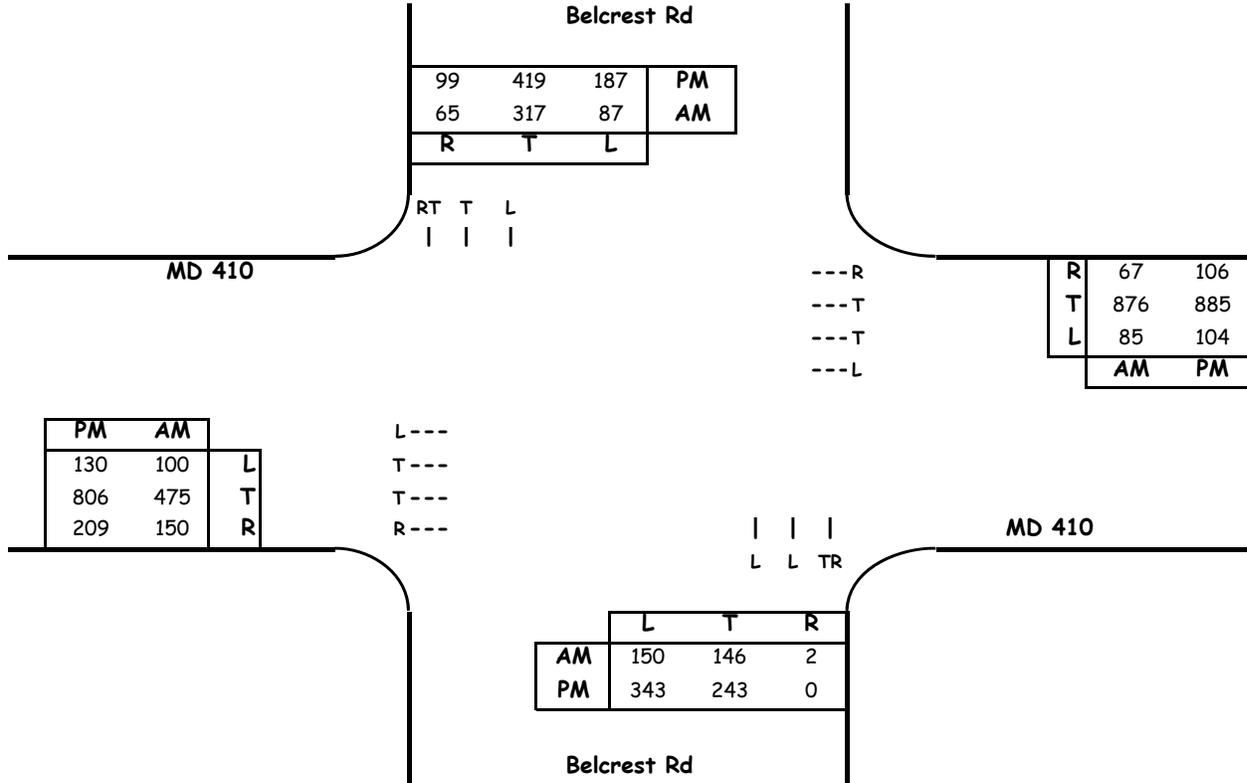
Intersection of: MD 410

and: Belcrest Rd

Conditions: EXISTING TRAFFIC

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	148	1	148				148
SB	382	0.55	210				210
EB	475	0.55	261	85	1	85	582
WB	876	0.55	482	100	1	100	
CLV TOTAL=							940
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	243	1	243				243
SB	518	0.55	285				285
EB	806	0.55	443	104	1	104	617
WB	885	0.55	487	130	1	130	
CLV TOTAL=							1145
Level of Service (LOS) =							B

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 410 &
Belcrest Rd
(EXISTING TRAFFIC)

**Intersection
3**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

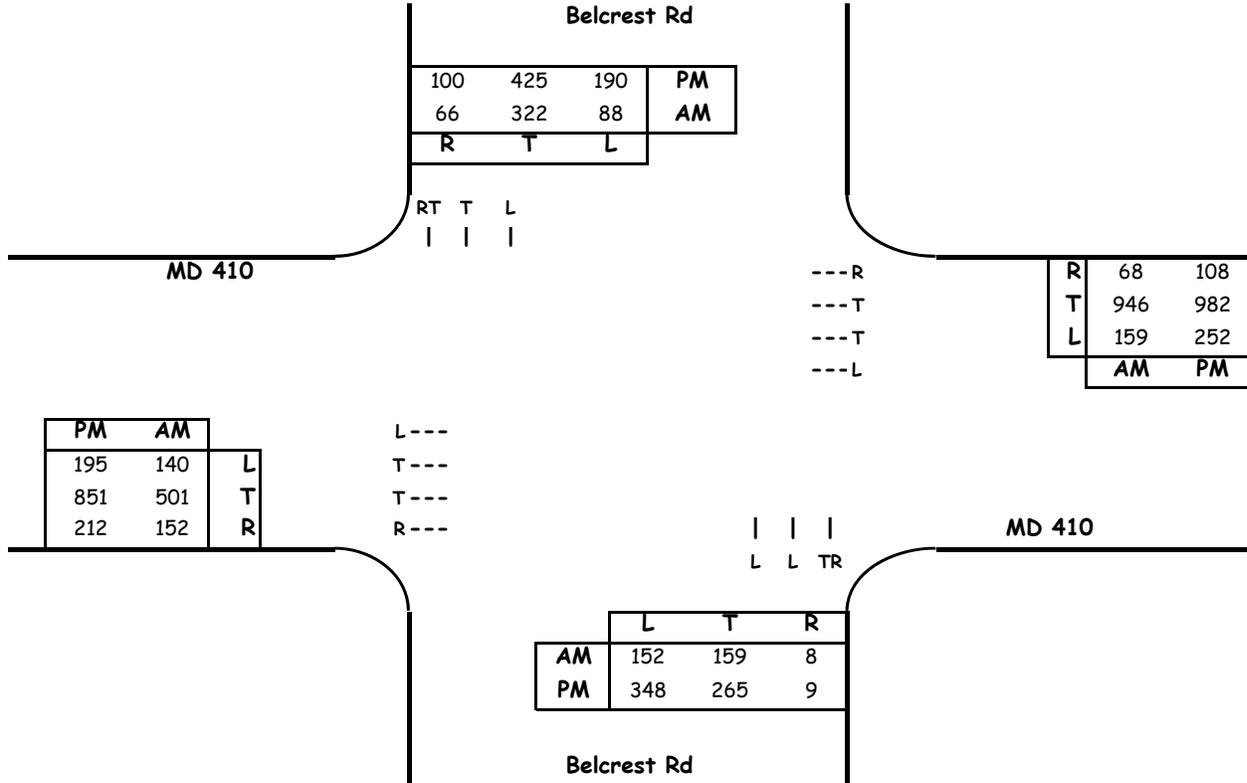
Intersection of: MD 410

and: Belcrest Rd

Conditions: BACKGROUND TRAFFIC

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	167	1	167				167
SB	388	0.55	213				213
EB	501	0.55	276	159	1	159	660
WB	946	0.55	520	140	1	140	
CLV TOTAL=							1040
Level of Service (LOS) =							B

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	274	1	274				274
SB	525	0.55	289				289
EB	851	0.55	468	252	1	252	735
WB	982	0.55	540	195	1	195	
CLV TOTAL=							1298
Level of Service (LOS) =							C

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 410 &
Belcrest Rd
(BACKGROUND TRAFFIC)

**Intersection
3**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

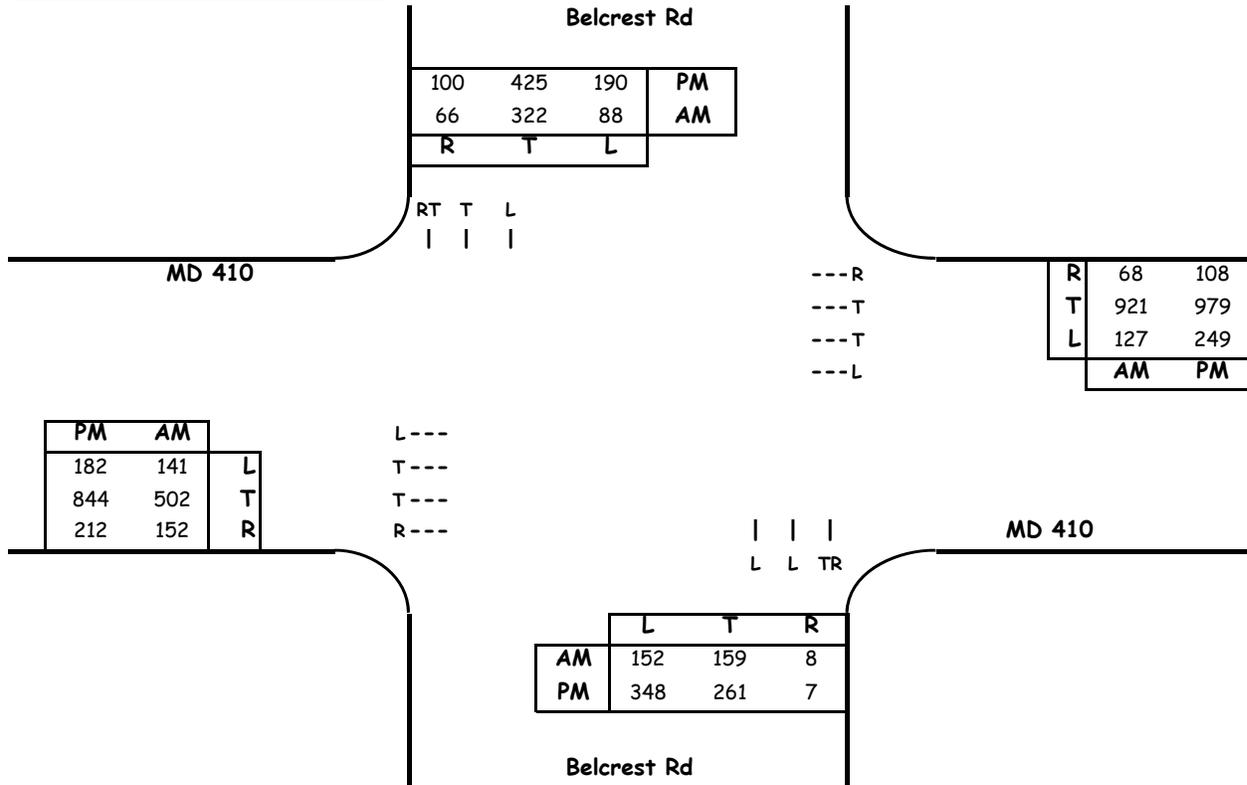
Intersection of: MD 410

and: Belcrest Rd

Conditions: TOTAL TRAFFIC

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	167	1	167				167
SB	388	0.55	213				213
EB	502	0.55	276	127	1	127	648
WB	921	0.55	507	141	1	141	
CLV TOTAL=							1028
Level of Service (LOS) =							B

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	268	1	268				268
SB	525	0.55	289				289
EB	844	0.55	464	249	1	249	720
WB	979	0.55	538	182	1	182	
CLV TOTAL=							1277
Level of Service (LOS) =							C

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 410 &
Belcrest Rd
(TOTAL TRAFFIC)

**Intersection
3**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

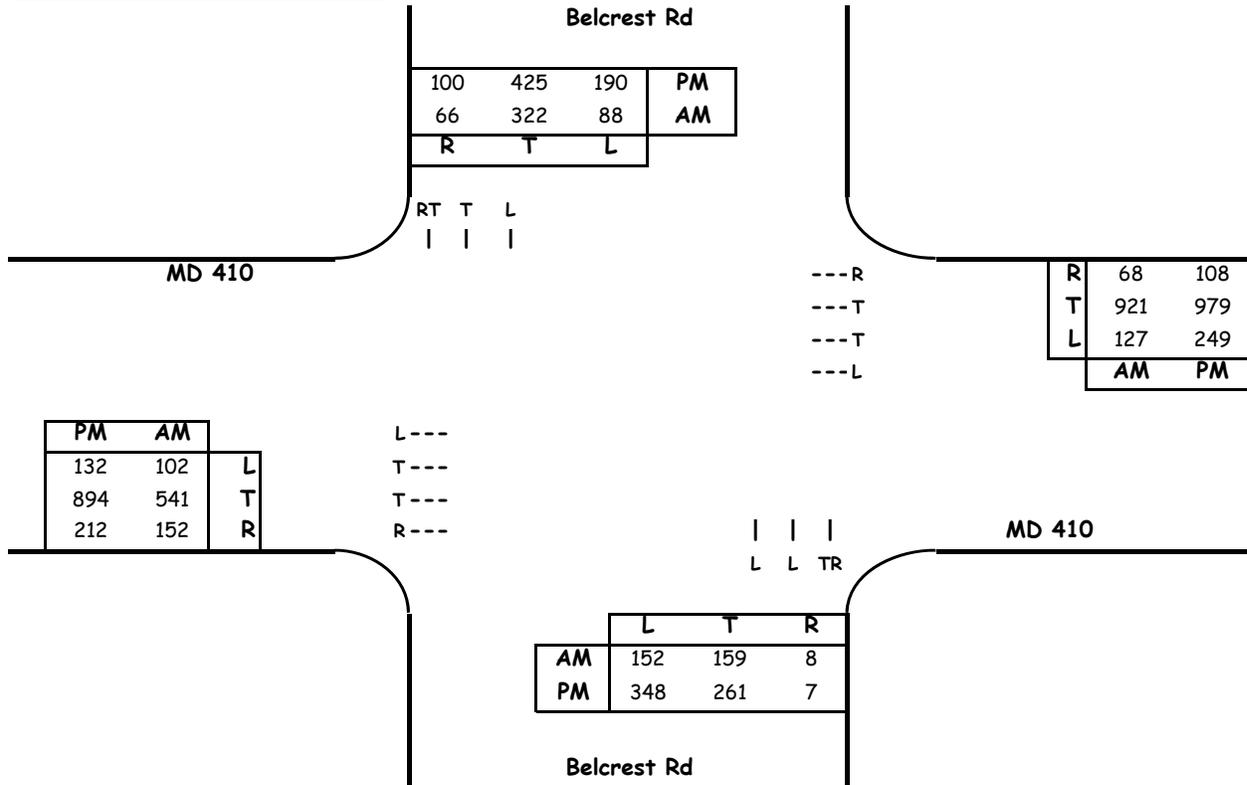
Intersection of: MD 410

and: Belcrest Rd

Conditions: TOTAL DIVERTED TRAFFIC

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	167	1	167				167
SB	388	0.55	213				213
EB	541	0.55	298	127	1	127	609
WB	921	0.55	507	102	1	102	
CLV TOTAL=							989
Level of Service (LOS) =							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	268	1	268				268
SB	525	0.55	289				289
EB	894	0.55	492	249	1	249	741
WB	979	0.55	538	132	1	132	
CLV TOTAL=							1298
Level of Service (LOS) =							C

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 410 &
Belcrest Rd
(TOTAL DIVERTED TRAFFIC)

**Intersection
3**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

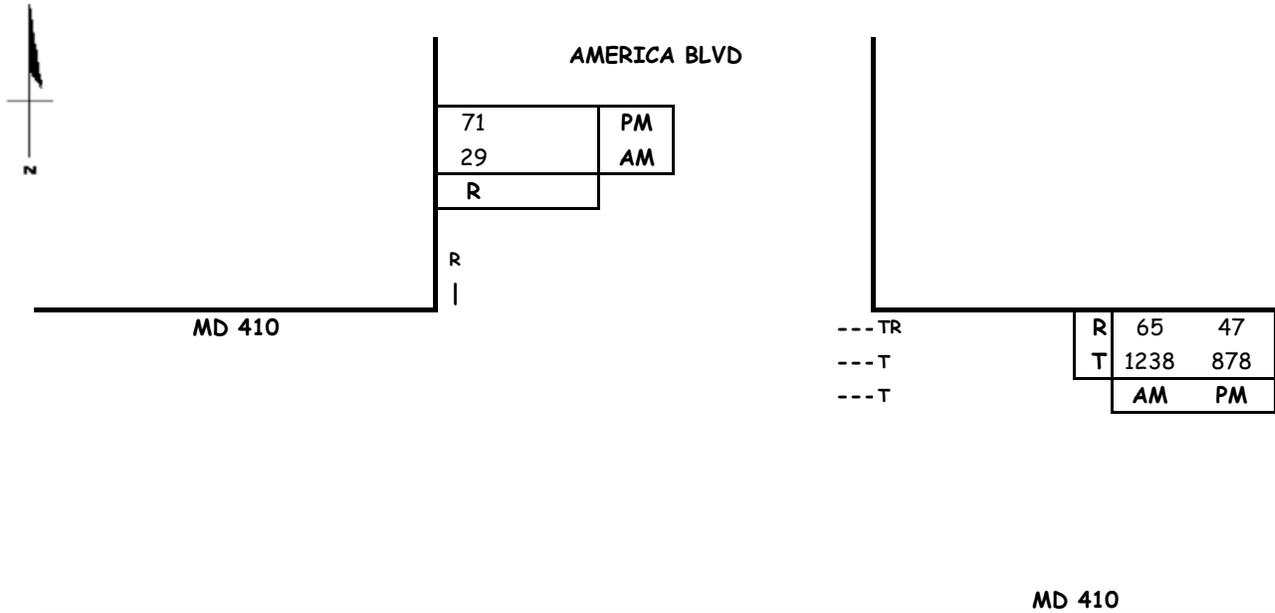
Intersection of: MD 410

and: America Blvd

Conditions: Existing Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	AM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	29	1.00	29		29
EB					521
WB	1303	0.40	521		
CLV TOTAL=					550
Level of Service (LOS)=					A

Evening Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	PM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	71	1.00	71		71
EB					370
WB	925	0.40	370		
CLV TOTAL=					441
Level of Service (LOS)=					A

Critical Lane Volume Analysis	MD 410 & America Blvd (Existing Traffic)	Intersection 4
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

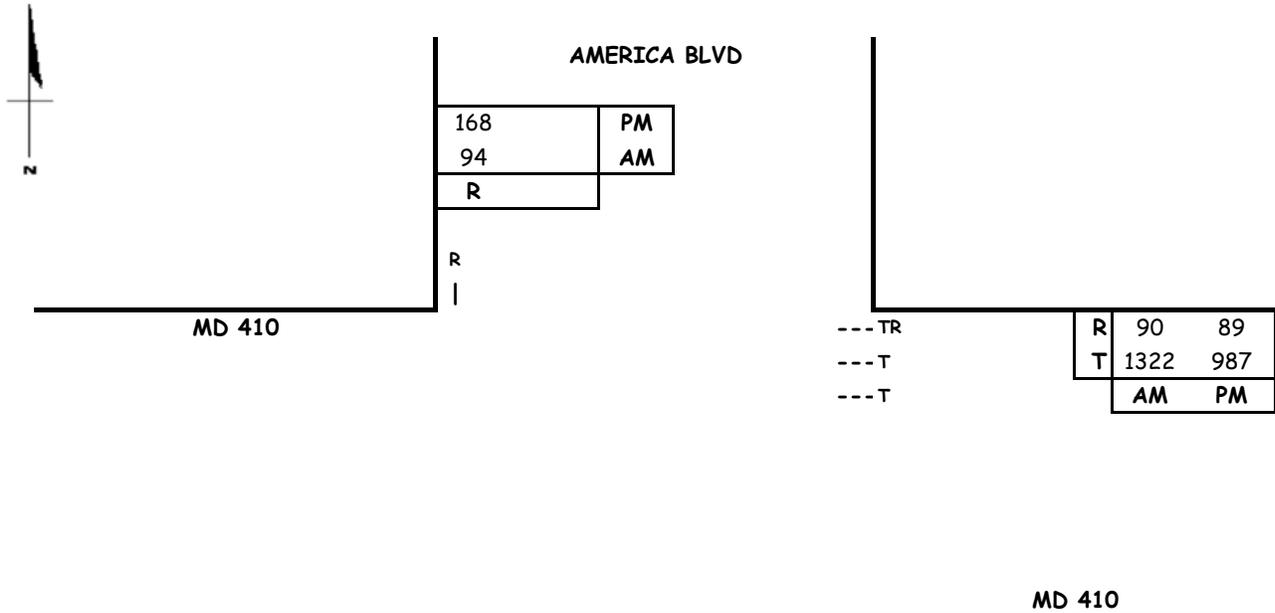
Intersection of: MD 410

and: America Blvd

Conditions: Background Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	AM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	94	1.00	94		94
EB					565
WB	1412	0.40	565		
CLV TOTAL=					659
Level of Service (LOS)=					A

Evening Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	PM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	168	1.00	168		168
EB					430
WB	1076	0.40	430		
CLV TOTAL=					598
Level of Service (LOS)=					A

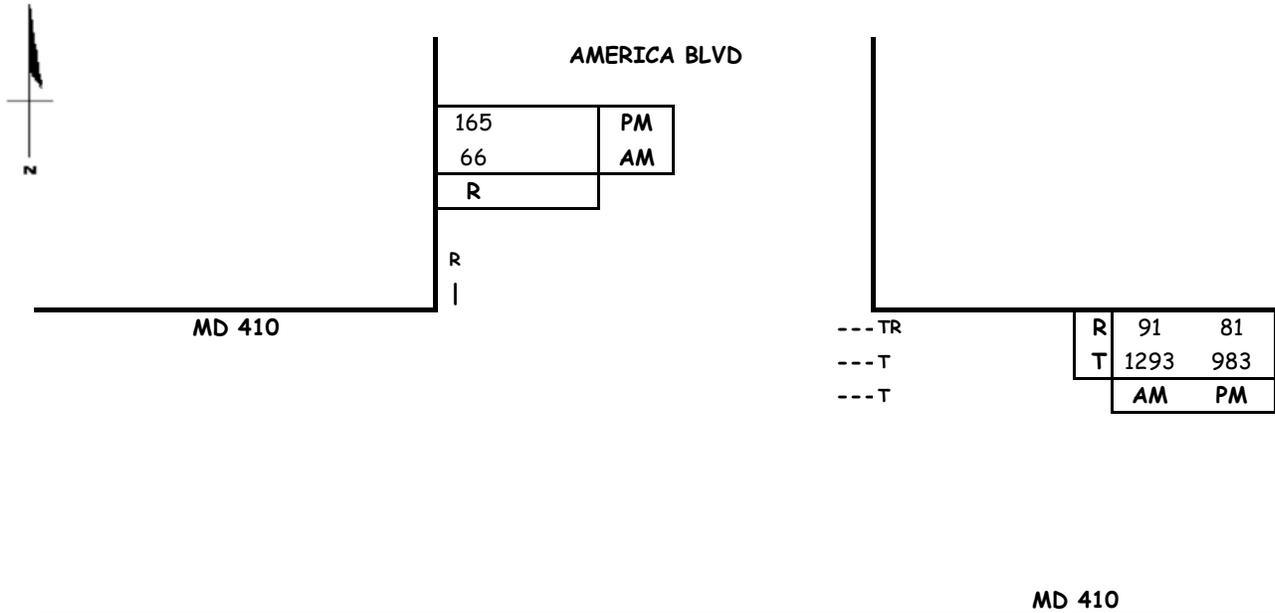
Critical Lane Volume Analysis	MD 410 & America Blvd (Background Traffic)	Intersection 4
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 410
and: America Blvd
Conditions: Total Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	AM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	66	1.00	66		66
EB					554
WB	1384	0.40	554		
CLV TOTAL=					620
Level of Service (LOS)=					A

Evening Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	PM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	165	1.00	165		165
EB					426
WB	1064	0.40	426		
CLV TOTAL=					591
Level of Service (LOS)=					A

Critical Lane Volume Analysis	MD 410 & America Blvd (Total Traffic)	Intersection 4
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

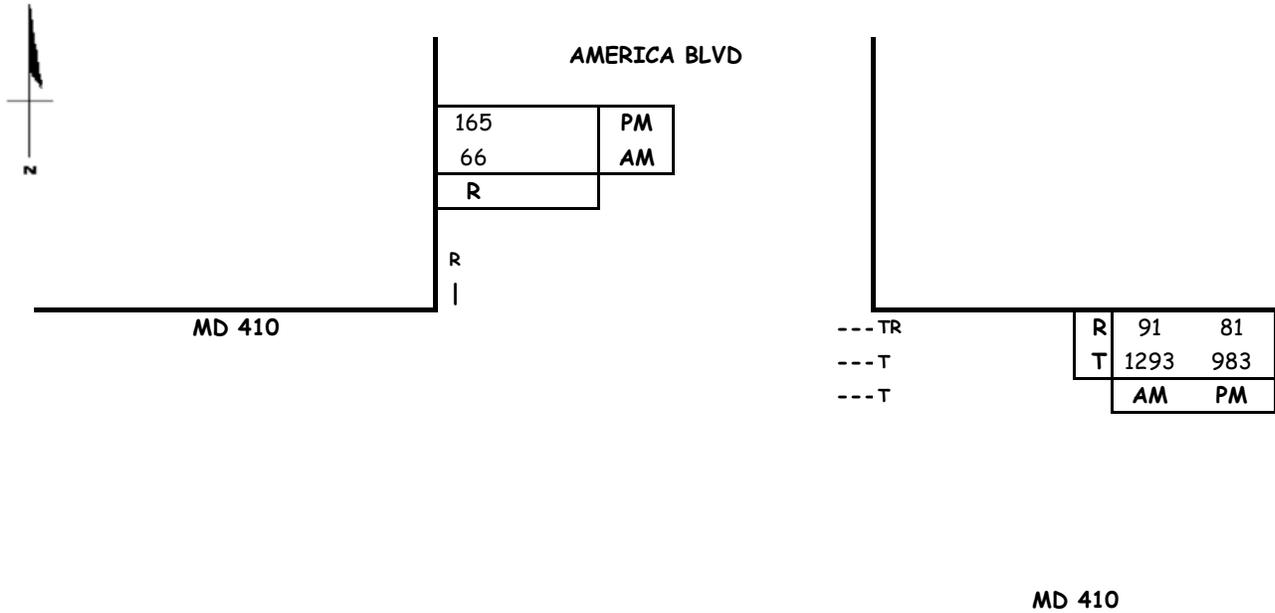
Intersection of: MD 410

and: America Blvd

Conditions: Total Diverted Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	AM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	66	1.00	66		66
EB					554
WB	1384	0.40	554		
CLV TOTAL=					620
Level of Service (LOS)=					A

Evening Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	PM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	165	1.00	165		165
EB					426
WB	1064	0.40	426		
CLV TOTAL=					591
Level of Service (LOS)=					A

Critical Lane Volume Analysis	MD 410 & America Blvd (Total Diverted Traffic)	Intersection 4
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

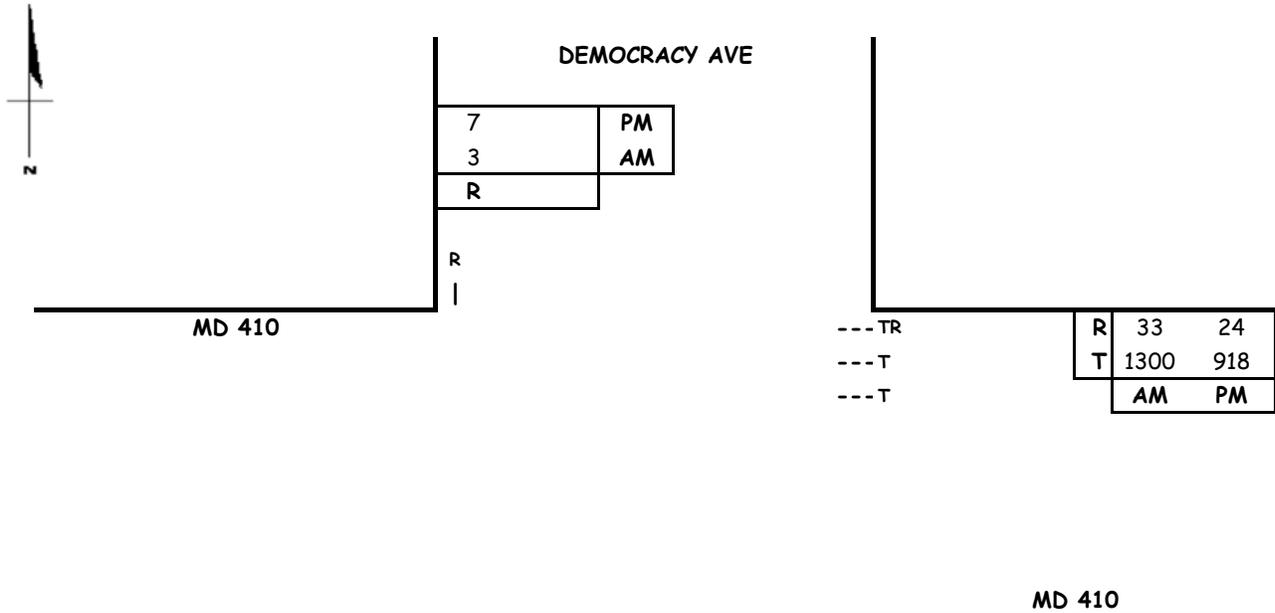
Intersection of: MD 410

and: Democracy Ave

Conditions: Existing Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	AM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	3	1.00	3		3
EB					533
WB	1333	0.40	533		
CLV TOTAL=					536
Level of Service (LOS)=					A

Evening Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	PM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	7	1.00	7		7
EB					377
WB	942	0.40	377		
CLV TOTAL=					384
Level of Service (LOS)=					A

Critical Lane Volume Analysis	MD 410 & Democracy Ave (Existing Traffic)	Intersection 5
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

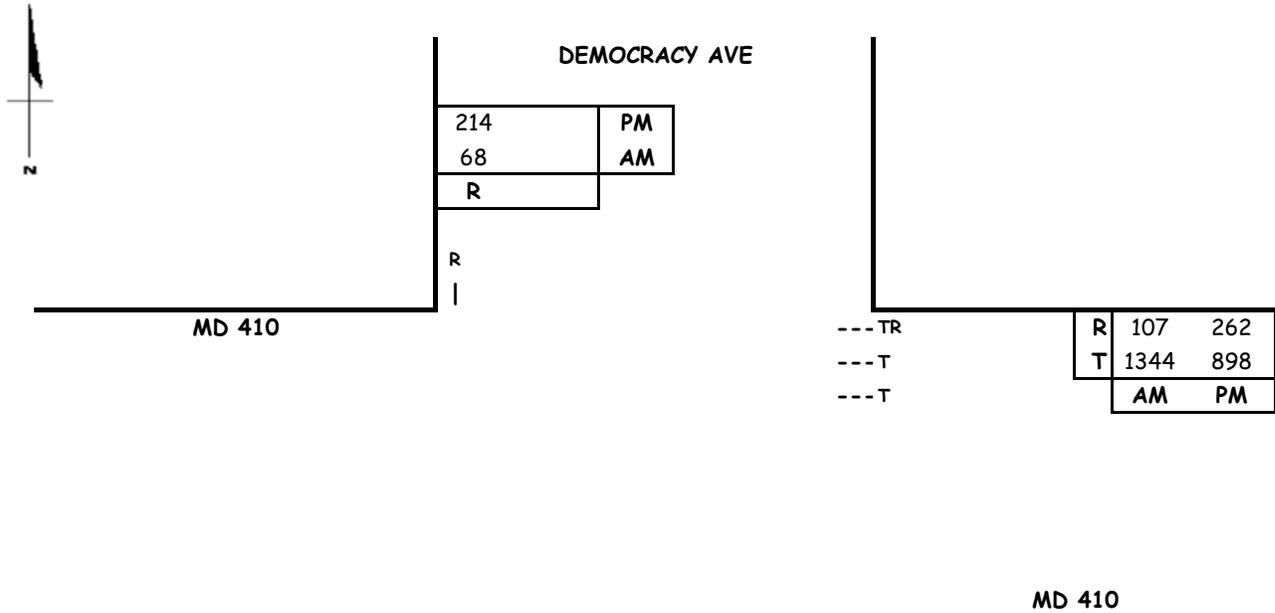
Intersection of: MD 410

and: Democracy Ave

Conditions: Background Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		AM CLV
	VOL	x LUF	= Total	VOL	x LUF = Total	
SB	68	1.00	68			68
EB						580
WB	1451	0.40	580			
CLV TOTAL=						648
Level of Service (LOS)=						A

Evening Peak Hour						
Dir	Thru Volumes			+ Opposing Lefts		PM CLV
	VOL	x LUF	= Total	VOL	x LUF = Total	
SB	214	1.00	214			214
EB						464
WB	1160	0.40	464			
CLV TOTAL=						678
Level of Service (LOS)=						A

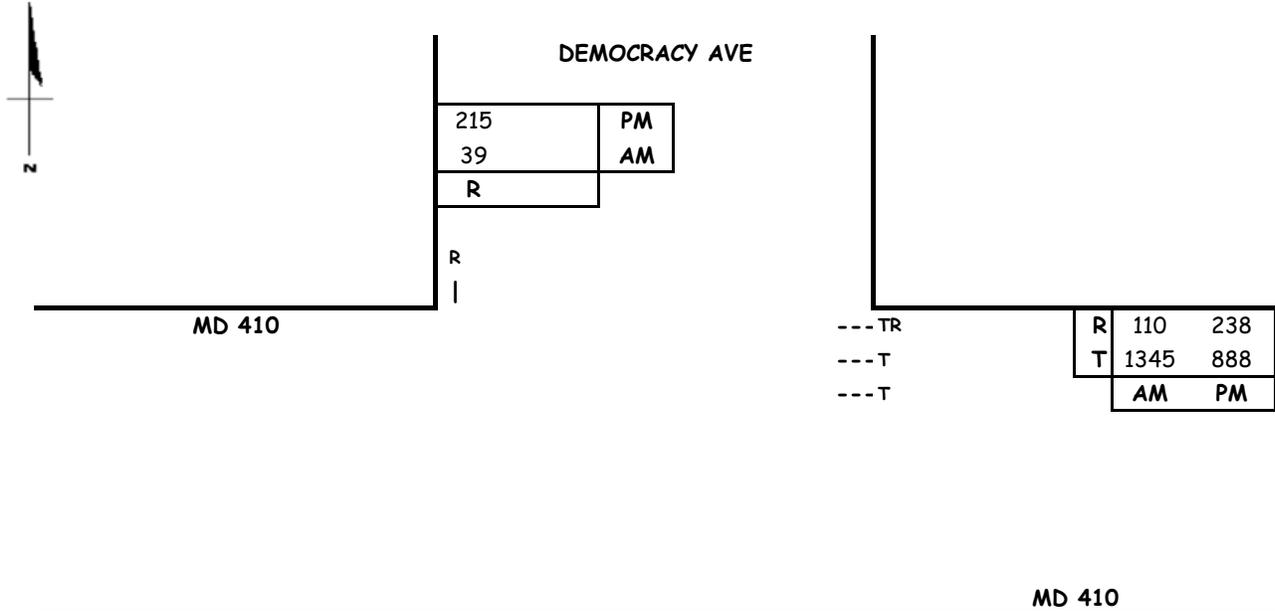
Critical Lane Volume Analysis	MD 410 & Democracy Ave (Background Traffic)	Intersection 5
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 410
and: Democracy Ave
Conditions: Total Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	AM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	39	1.00	39		39
EB					582
WB	1455	0.40	582		
CLV TOTAL=					621
Level of Service (LOS)=					A

Evening Peak Hour					
Dir	Thru Volumes			+ Opposing Lefts	PM CLV
	VOL	x LUF	= Total	VOL x LUF = Total	
SB	215	1.00	215		215
EB					450
WB	1126	0.40	450		
CLV TOTAL=					665
Level of Service (LOS)=					A

Critical Lane Volume Analysis	MD 410 & Democracy Ave (Total Traffic)	Intersection 5
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

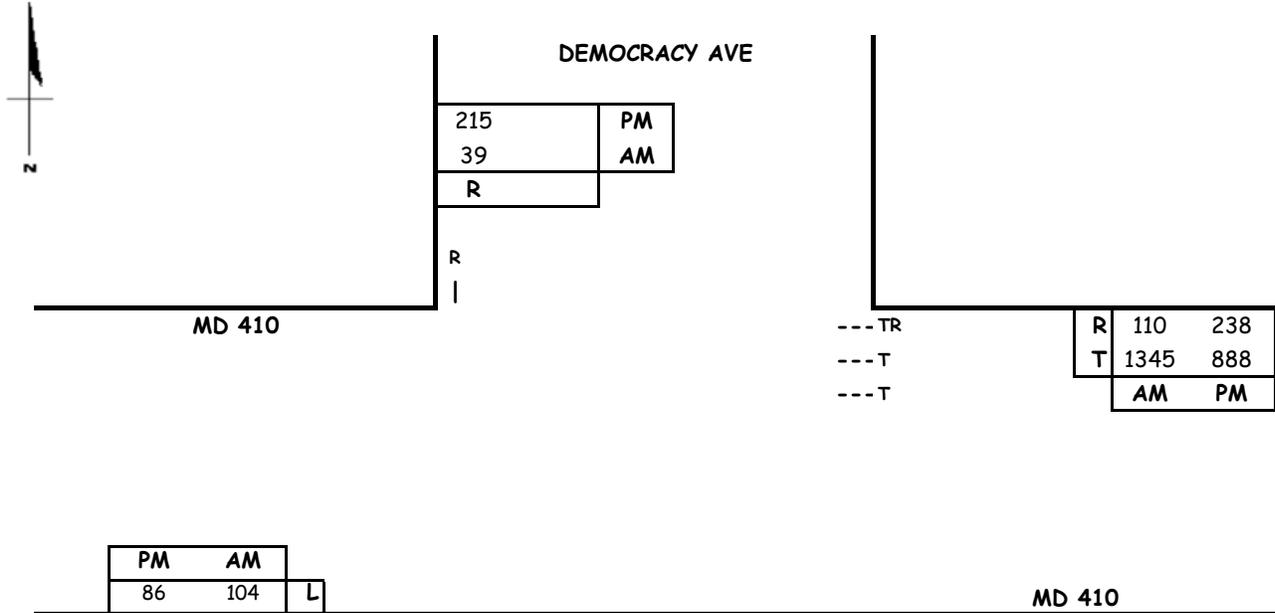
Intersection of: MD 410

and: Democracy Ave

Conditions: Total Diverted Traffic

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
SB	39	1.00	39				39
EB							686
WB	1455	0.40	582	104	1.00	104	
CLV TOTAL=							725
Level of Service (LOS)=							A

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
SB	215	1.00	215				215
EB							536
WB	1126	0.40	450	86	1.00	86	
CLV TOTAL=							751
Level of Service (LOS)=							A

Critical Lane Volume Analysis	MD 410 & Democracy Ave (Total Diverted Traffic)	Intersection 5
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	ml			Intersection	5			
Agency/Co.				Jurisdiction				
Date Performed	6/22/2013			Analysis Year	Total			
Analysis Time Period	AM							
Project Description								
East/West Street: MD 410				North/South Street: Democracy Ave				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	104	683			1345	110		
Peak-Hour Factor, PHF	0.94	0.94	1.00	1.00	0.94	0.94		
Hourly Flow Rate, HFR (veh/h)	110	726	0	0	1430	117		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	1	2	0	0	2	1		
Configuration	L	T			T	R		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)						39		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	0.94		
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	41		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)		0			0			
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	0	0	1		
Configuration						R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							R
v (veh/h)	110							41
C (m) (veh/h)	434							434
v/c	0.25							0.09
95% queue length	0.99							0.31
Control Delay (s/veh)	16.1							14.2
LOS	C							B
Approach Delay (s/veh)	--	--				14.2		
Approach LOS	--	--				B		

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	ml			Intersection	5			
Agency/Co.				Jurisdiction				
Date Performed	6/22/2013			Analysis Year	Total			
Analysis Time Period	PM							
Project Description								
East/West Street: MD 410				North/South Street: Democracy Ave				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	86	1577			888	238		
Peak-Hour Factor, PHF	0.94	0.94	1.00	1.00	0.94	0.94		
Hourly Flow Rate, HFR (veh/h)	91	1677	0	0	944	253		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	1	2	0	0	2	1		
Configuration	L	T			T	R		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)						215		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	0.94		
Hourly Flow Rate, HFR (veh/h)	0	0	0	0	0	228		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)		0			0			
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	0	0	0	0	1		
Configuration						R		
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L							R
v (veh/h)	91							228
C (m) (veh/h)	590							596
v/c	0.15							0.38
95% queue length	0.54							1.79
Control Delay (s/veh)	12.2							14.7
LOS	B							B
Approach Delay (s/veh)	--	--				14.7		
Approach LOS	--	--				B		

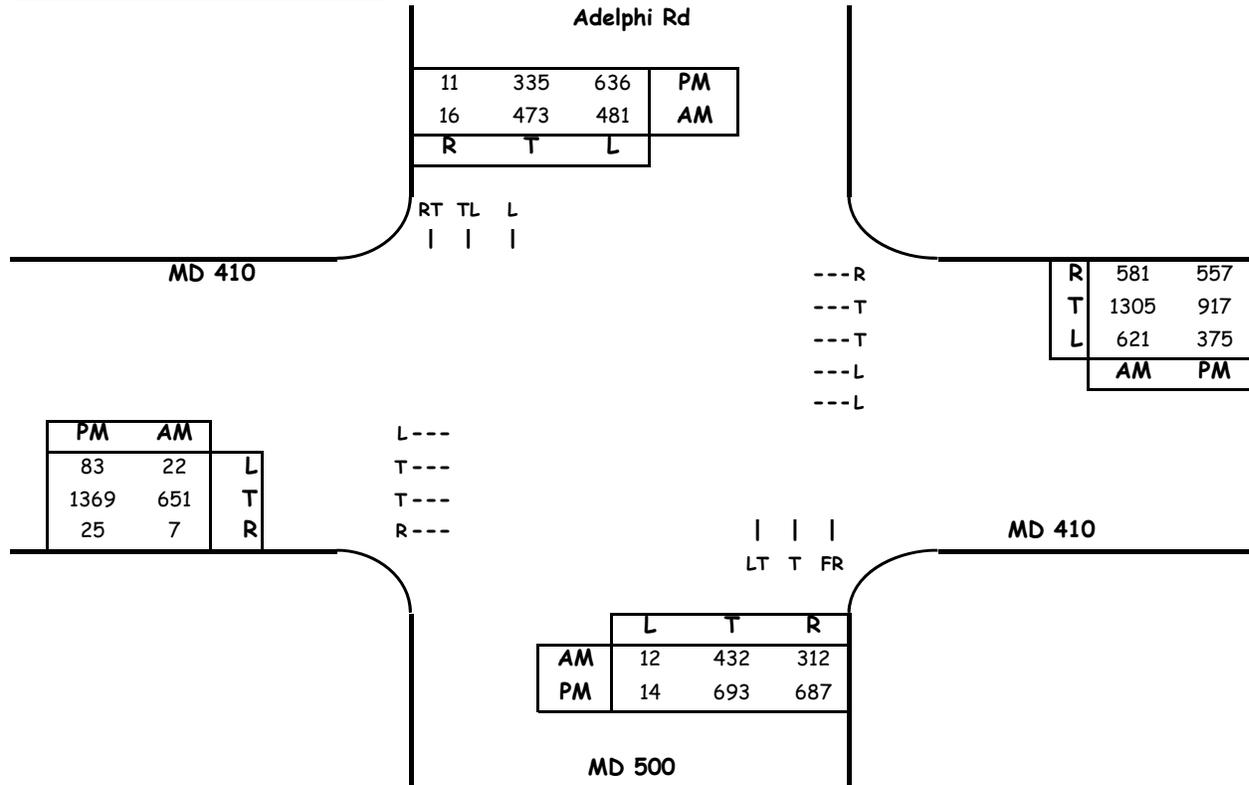
CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 410
and: MD 500

Conditions: EXISTING TRAFFIC

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	444	0.55	244				244
SB	970	0.4	388				388
EB	651	0.55	358	621	0.6	373	740
WB	1305	0.55	718	22	1	22	
CLV TOTAL=							1372
Level of Service (LOS) =							D

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	707	0.55	389				389
SB	982	0.4	393				393
EB	1369	0.55	753	375	0.6	225	978
WB	917	0.55	504	83	1	83	
CLV TOTAL=							1760
Level of Service (LOS) =							F

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 410 &
MD 500
(EXISTING TRAFFIC)

**Intersection
6**

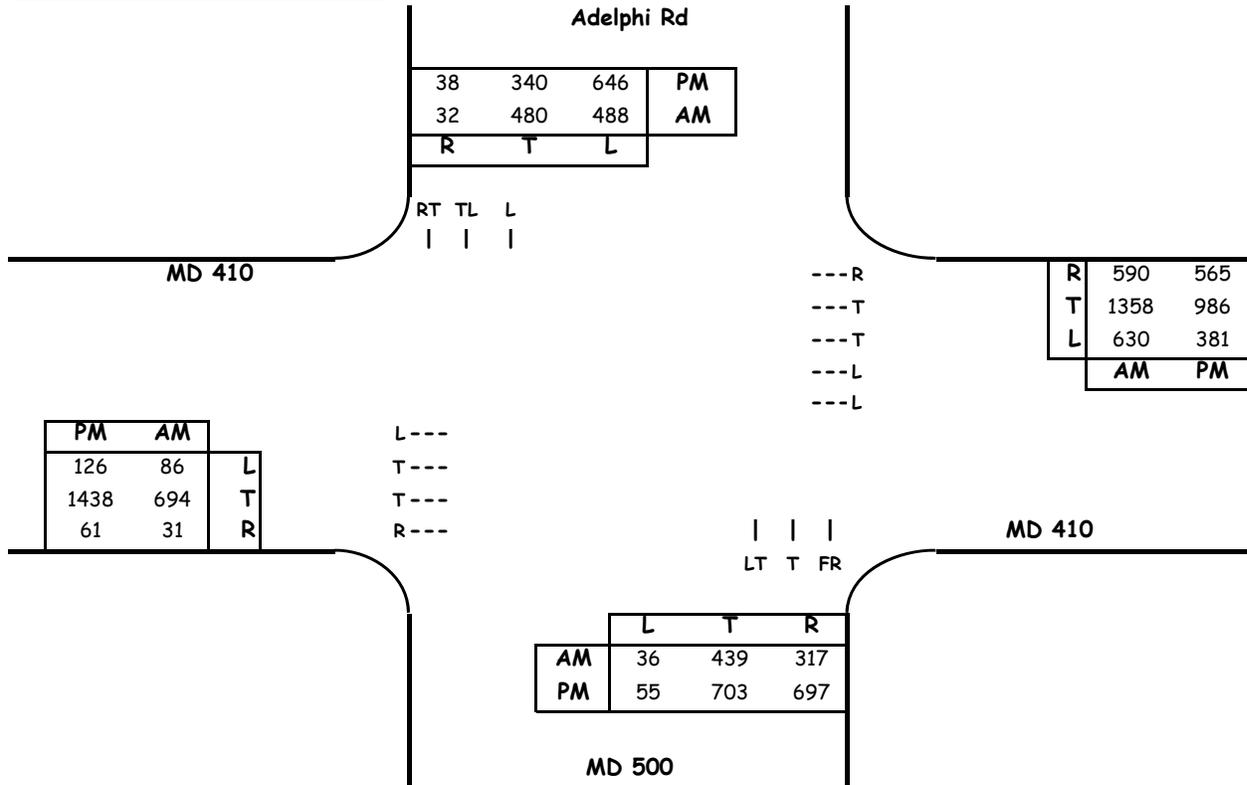
CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 410
and: MD 500

Conditions: BACKGROUND TRAFFIC

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	475	0.55	261				261
SB	1000	0.4	400				400
EB	694	0.55	382	630	0.6	378	833
WB	1358	0.55	747	86	1	86	
CLV TOTAL=							1494
Level of Service (LOS) =							E

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	758	0.55	417				417
SB	1024	0.4	410				410
EB	1438	0.55	791	381	0.6	229	1020
WB	986	0.55	542	126	1	126	
CLV TOTAL=							1847
Level of Service (LOS) =							F

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 410 &
MD 500
(BACKGROUND TRAFFIC)

**Intersection
6**

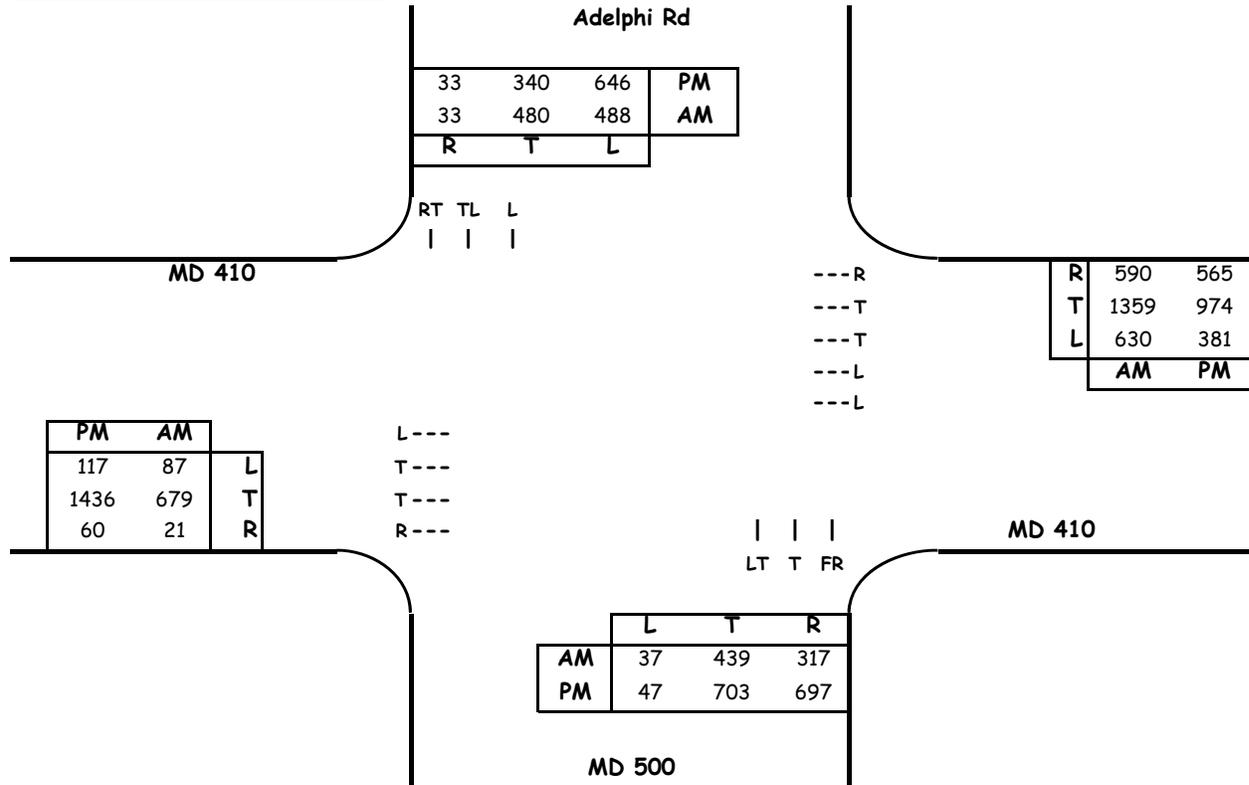
CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 410
and: MD 500

Conditions: TOTAL TRAFFIC

Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	476	0.55	262				262
SB	1001	0.4	400				400
EB	679	0.55	373	630	0.6	378	834
WB	1359	0.55	747	87	1	87	
CLV TOTAL=							1496
Level of Service (LOS) =							E

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	750	0.55	413				413
SB	1019	0.4	408				408
EB	1436	0.55	790	381	0.6	229	1019
WB	974	0.55	536	117	1	117	
CLV TOTAL=							1840
Level of Service (LOS) =							F

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 410 &
MD 500
(TOTAL TRAFFIC)

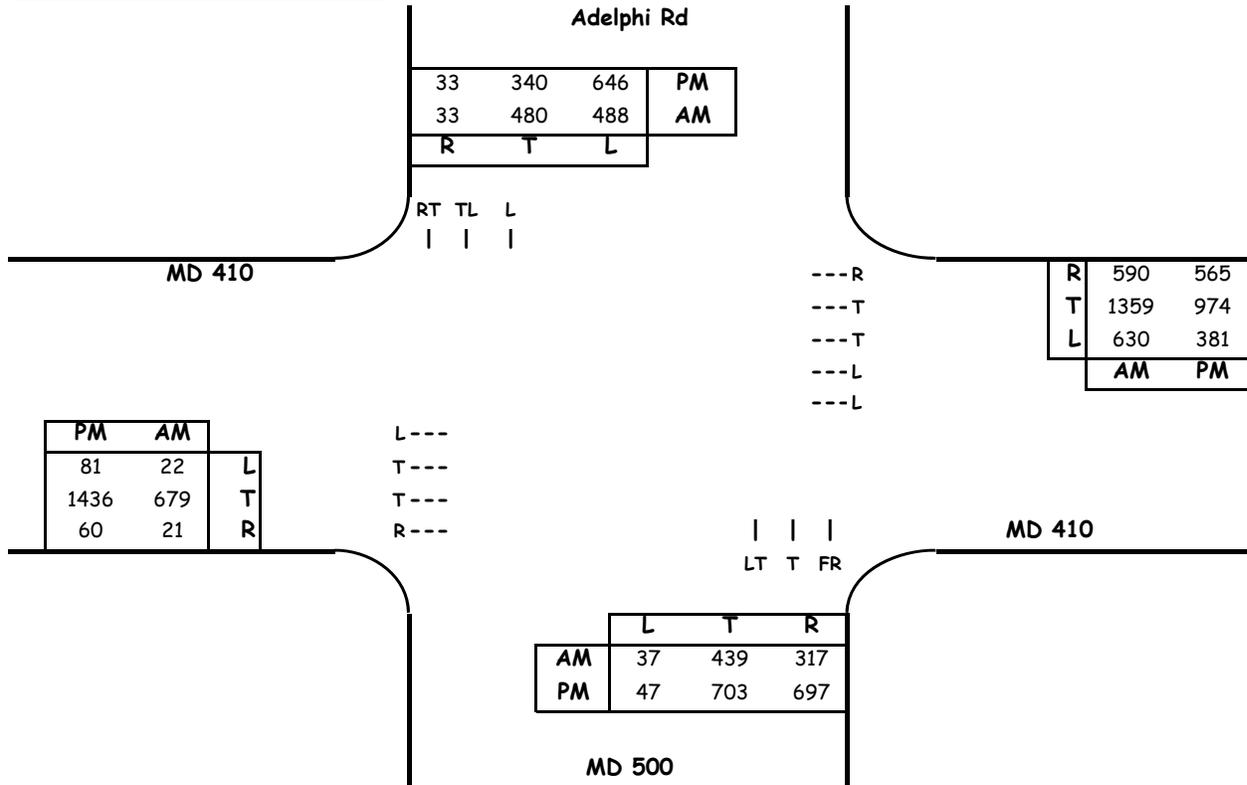
**Intersection
6**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for MSHA

Intersection of: MD 410
and: MD 500

Conditions: TOTAL DIVERTED TRAFFIC Analyst: ml

Lane Use + Traffic Volumes



Capacity Analysis - North/South Split

Morning Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			AM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	476	0.55	262				262
SB	1001	0.4	400				400
EB	679	0.55	373	630	0.6	378	769
WB	1359	0.55	747	22	1	22	
CLV TOTAL=							1431
Level of Service (LOS) =							D

Evening Peak Hour							
Dir	Thru Volumes			+ Opposing Lefts			PM
	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
NB	750	0.55	413				413
SB	1019	0.4	408				408
EB	1436	0.55	790	381	0.6	229	1019
WB	974	0.55	536	81	1	81	
CLV TOTAL=							1840
Level of Service (LOS) =							F

Critical Lane Volume Analysis

Lenhart Traffic Consulting, Inc.
Traffic Engineering & Transportation Planning



MD 410 &
MD 500
(TOTAL DIVERTED TRAFFIC)

**Intersection
6**