LOCAL AREA TRANSPORTATION REVIEW

FOR

16650 GEORGIA AVENUE

Exhibit 8
OZAH Case No: CU 25-04

Prepared by:

LENHART TRAFFIC CONSULTING, INC.

TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

September 16, 2024

Table of Contents Page

Appendices

List of Exhibits

Section 1 Introduction & Scope of Work

Section 1.1 – Project Description

This Local Area Transportation Review (LATR) is being prepared for the proposed redevelopment of the property located at 16650 Georgia Avenue, in Olney, MD. The property is currently developed with multiple uses, including warehousing and a variety of small retail spaces in the "Antique Village" main structure and outbuildings. The 5,929 square foot warehousing building will be razed along with a 658 square foot outbuilding and 431 square foot crab shack. A 12,000 square foot structure is proposed to be constructed to be utilized as a day care. The 8,400 square foot "Antique Village" structure and adjacent 2,152 square foot structure utilized by the small retail shops will be retained with the redevelopment. A site plan has been included in Appendix A.

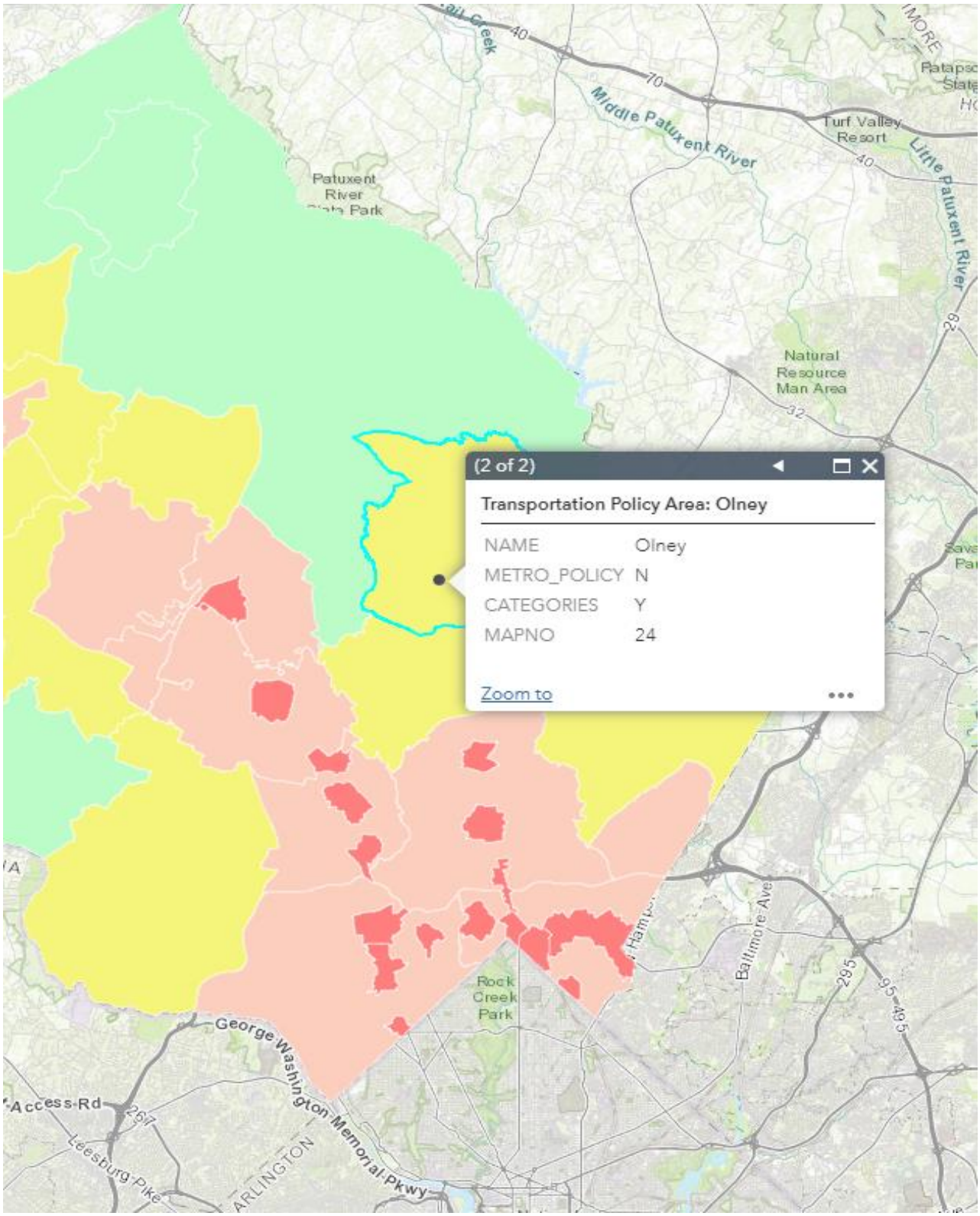
Note that the traffic analyses contained in this report assume the day care to have a maximum of 180 students. It is understood that the student count has since been reduced to 165 students, but this will not impact the findings of the study. The analysis of 180 students provides a conservative estimation of the impacts of the proposed development.

The site is located within the Olney Policy Area as shown on **Exhibit 1a**. This Area is designated as a Yellow Policy Area per the current 2020 – 2024 Growth and Infrastructure Policy. As shown on the trip generation tables provided on **Exhibit 1b**, the redevelopment of the site will result in an increase of more than 50 peak hour person trips and therefore the development is subject to the LATR system adequacy tests.

The June 2023 LATR Guidelines update provides a proportionality guide to ensure that off-site transportation system requirements are not out of proportion with a project's impact on the overall safety and functionality of the transportation system. Based on the LATR Proportionality Guide Rates and Adjustment Factors, a maximum cost of improvements of $4,752.00 should be established for this development.

Section 1.2 – Scope of Study

The study was conducted to satisfy LATR requirements in accordance with the Maryland-National Capital Park and Planning Commission's (M-NCPPC) 2020 – 2024 Growth and Infrastructure Policy (GIP). Per the GIP guidelines, the following adequacy tests are required for the site: Motor Vehicle System, Pedestrian System, Bicycle System, and Bus Transit System. In addition, a Vison Zero Statement must be provided. The scope of this study was established in coordination with M-NCPPC and all relevant scoping documentation is provided in Appendix A.



Traffic Impact Analysis	Policy Area Map	**Exhibit 1a**
LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

Trip Generation Rates

Warehousing (ksf, ITE-150)	**Trip Distribution (In/Out)**
Morning Trips = 0.17 x ksf	77/23
Evening Trips = 0.18 x ksf	28/72
Strip Retail Plaza (<40k) (ksf, ITE-822)	**Trip Distribution (In/Out)**
Morning Trips = 2.36 x ksf	60/40
Evening Trips = 6.59 x ksf	50/50
Day Care Center (ksf, ITE-565)	**Trip Distribution (In/Out)**
Morning Trips = 11.00 x ksf	53/47
Evening Trips = 11.12 x ksf	47/53

Existing Uses Being Eliminated - Trip Generation Totals

				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
ITE-150	Warehousing (ksf, ITE-150)	5,929 sq.ft.		1	0	1	0	1	1
	Total Vehicular Trips per ITE Trip Generation Manual, 11th Edition:			1	0	1	0	1	1
	LATR Vehicle Trip Generation Rate Adjustment Factor (Olney):		100%						
	Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition (Auto Driver at 76.3%):			1	0	1	0	1	1
		Total Person Trips:		**1**	**0**	**1**	**0**	**1**	**1**
		Auto Driver:	76.3%	1	0	1	0	1	1
		Auto Passenger:	19.5%	0	0	0	0	0	0
		Transit:	0.7%	0	0	0	0	0	0
		Non-Motorized (Bicycle):	3.5%	0	0	0	0	0	0

				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
ITE-822	Strip Retail Plaza (<40k) (ksf, ITE-822)	658 sq.ft.		1	1	2	2	2	4
	Total Vehicular Trips per ITE Trip Generation Manual, 11th Edition:			1	1	2	2	2	4
	LATR Vehicle Trip Generation Rate Adjustment Factor (Olney):		99%						
	Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition (Auto Driver at 72.1%):			1	1	2	2	2	4
		Total Person Trips:		**2**	**1**	**3**	**3**	**3**	**6**
		Auto Driver:	72.1%	1	1	2	2	2	4
		Auto Passenger:	24.8%	1	0	1	1	1	2
		Transit:	0.5%	0	0	0	0	0	0
		Non-Motorized (Bicycle):	2.6%	0	0	0	0	0	0

Proposed Trip Generation Totals

				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
ITE-565	Day Care Center (Students, ITE-565)	180 students		67	60	127	57	65	122
	Total Vehicular Trips per ITE Trip Generation Manual, 11th Edition:			67	60	127	57	65	122
	LATR Vehicle Trip Generation Rate Adjustment Factor (Olney):		100%						
	Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition (Auto Driver at 76.3%):			67	60	127	57	65	122
		Total Person Trips:		**87**	**79**	**166**	**75**	**85**	**160**
		Auto Driver:	76.3%	67	60	127	57	65	122
		Auto Passenger:	19.5%	17	15	32	15	17	31
		Transit:	0.7%	0	1	1	0	0	1
		Non-Motorized (Bicycle):	3.5%	3	3	6	3	3	6

Net Trip Generation Totals

	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Existing Uses Being Eliminated Peak Hour Person Trips:	3	1	4	3	4	7
Proposed Peak Hour Person Trips:	87	79	166	75	85	160
Net New Peak Hour Person Trips:	**84**	**78**	**162**	**72**	**81**	**153**

Note: A 431 square foot crab shack will also be eliminated with the redevelopment of the site. It is not included in the existing trip generation totals as the crab shack does not operate regularly during the morning and evening peak hours.

Section 2 Motor Vehicle System Adequacy

Section 2.1 – Adequacy Requirements & Study Area

Study Area

The study intersections were determined as part of the scoping process with M-NCPPC, MCDOT, and MDOT SHA and are shown on **Exhibit 2**.

Adequacy Requirements

Each of the study intersections are located within the Olney Policy Area. Based on the requirements of the LATR for the Olney Transportation Policy Area, a Yellow Policy Area, each study intersection must be evaluated first using the Critical Lane Volume (CLV) Methodology. Under the Guidelines, intersections in the Olney Policy Area with CLV of 1,350 or less are considered adequate. Intersections that exceed the CLV threshold must be evaluated using the Highway Capacity Manual (HCM) methodology and are required to operate with an average vehicular delay of 55 seconds/vehicle.

Section 2.2 – Existing Conditions

Description of Roadway Network

The key roads in the study area are listed below:

- MD 97 (Georgia Avenue) is a four-lane (two in each direction) roadway with a north-south orientation. The posted speed limit is 45 MPH within the vicinity of the site.
- Georgia Avenue Service Road is a two-lane roadway running parallel to MD 97.

Lane Configurations

The Lane Use & Traffic Control Devices are shown on **Exhibit 3**.

Existing Traffic Counts

Peak hour turning movement counts were conducted on Thursday, September 5, 2024. The results of the turning movement counts are shown on **Exhibit 4** and

represent the Existing Peak Hour Volumes.

Section 2.3 – Background Conditions

Approved Background Developments

No background developments were identified during the scoping process for this project. However, in order to provide a conservative analysis of the future traffic conditions, a 1% growth rate was applied to the study intersections for 3 years. It should be noted that an Average Daily Traffic (ADT) analysis was conducted for the MD 97 corridor over the previous 10 years. The results of the analysis, included in Appendix A, indicate no significant growth in traffic.

Background Traffic Volumes

The Background Peak Hour Volumes are shown on **Exhibit 5**. These volumes include the applied growth rate to the existing peak hour volumes.

Section 2.4 – Total Conditions

Site Trip Generation

The property is currently developed with multiple uses, including warehousing and a variety of small retail spaces in the "Antique Village" main structure and outbuildings. The 5,929 square foot warehousing building will be razed along with a 658 square foot outbuilding and 431 square foot crab shack. A 12,000 square foot structure is proposed to be constructed to be utilized as a 180-student day care. The 8,400 square foot "Antique Village" structure and adjacent 2,152 square foot structure utilized by the small retail shops will be retained with the redevelopment. The trip generation for the site is shown on **Exhibit 6.**

Note that the traffic analyses contained in this report assume the day care to have a maximum of 180 students. It is understood that the student count has since been reduced to 165 students, but this will not impact the findings of the study. The analysis of 180 students provides a conservative estimation of the impacts of the proposed development.

Site Trip Distribution & Trip Assignment

The trip distribution and assignment for the site is shown on **Exhibit 7.**

Total Traffic Volumes

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

Projected Traffic Operations

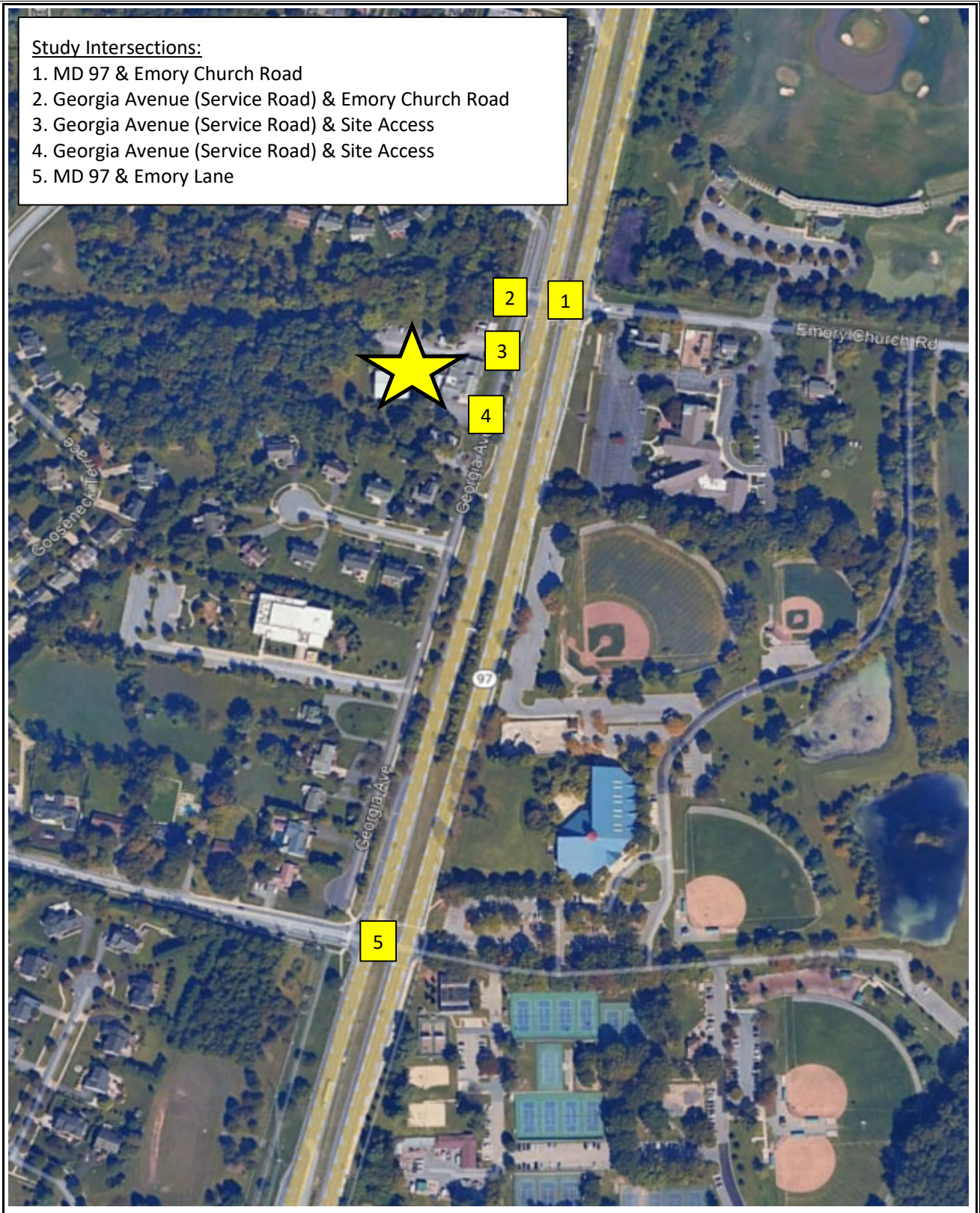
Based on the requirements of the LATR for the Olney Transportation Policy Area, a Yellow Policy Area, each study intersection must be evaluated first using the Critical Lane Volume (CLV) Methodology. Under the Guidelines, intersections in the Olney Policy Area with CLV of 1,350 or less are considered adequate. Intersections that exceed the CLV threshold must be evaluated using the Highway Capacity Manual (HCM) methodology and are required to operate with an average vehicular delay of 55 seconds/vehicle.

Exhibit 9 presents the results of the level of service (LOS) analyses. As shown, each intersection operates with a CLV below 1,350 with the exceptions of MD 97 & Emory Church Road and MD 97 & Emory Lane during the morning peak hour. As such, HCM analyses were conducted for these intersections. The results of the HCM analyses show the intersections are expected to operate with an average vehicular delay of less than 55 seconds/vehicle, thereby meeting the adequacy requirements of the Olney Policy Area.

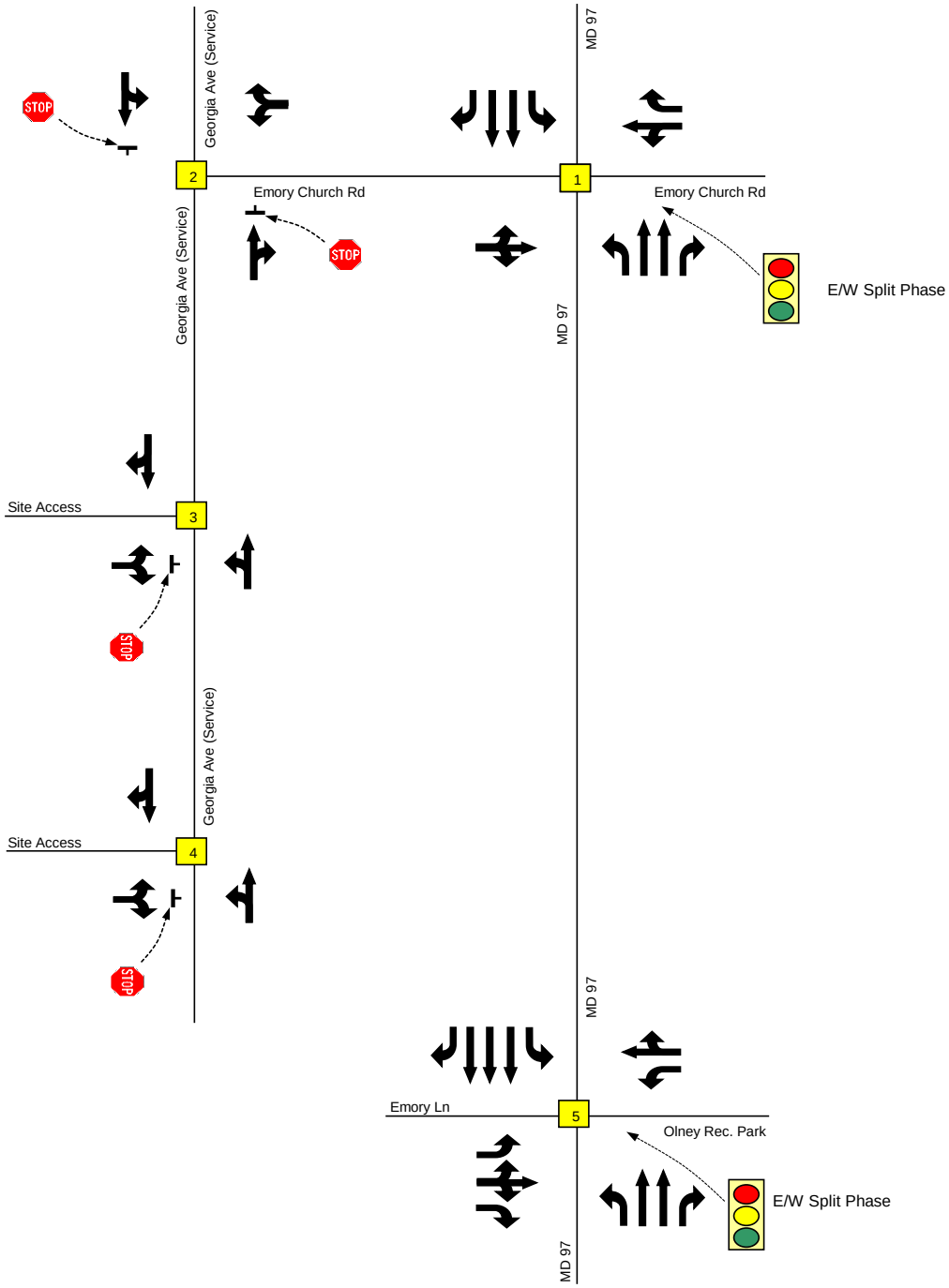
Section 2.5 – Results of Analysis

Results of Analysis

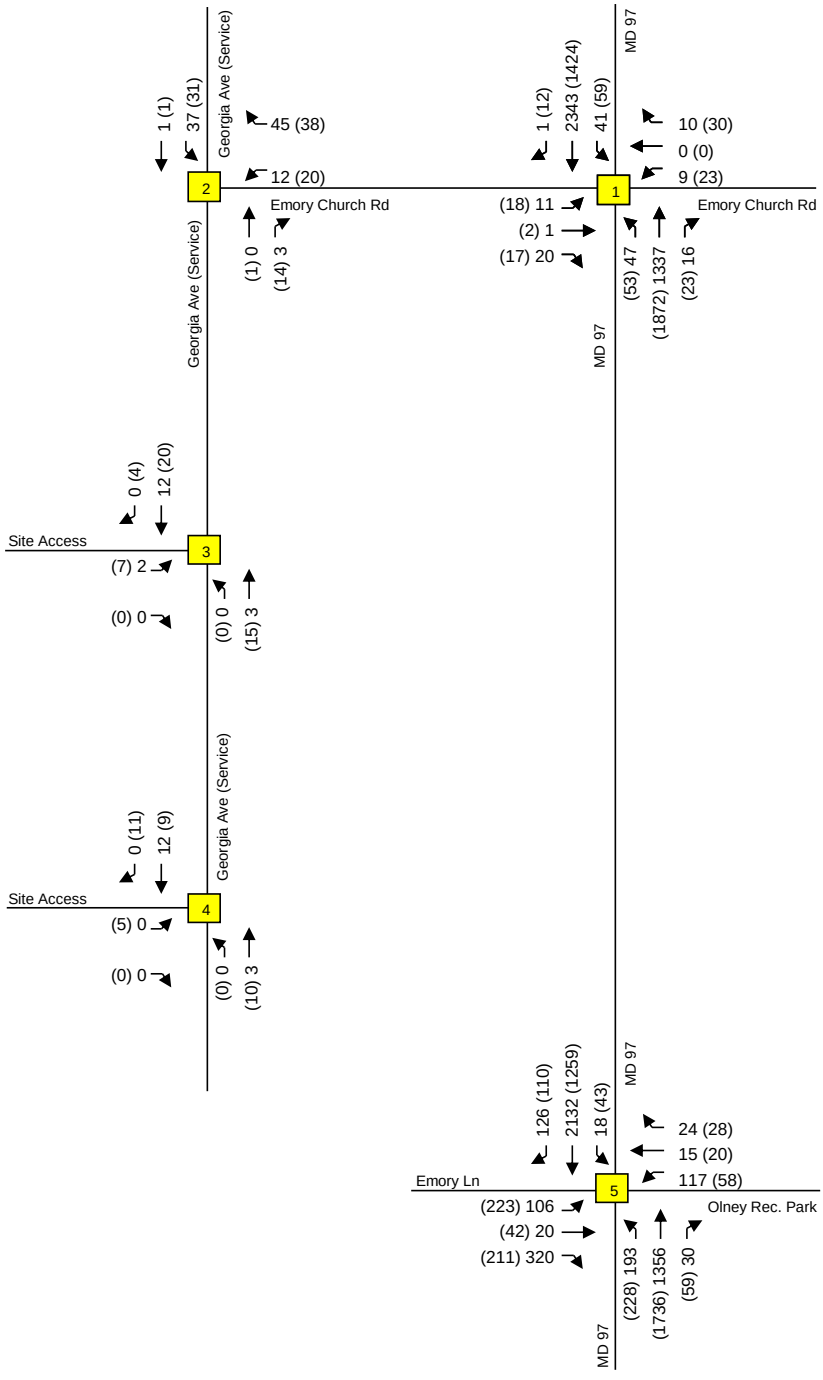
The results of the LOS analyses indicate that each study intersection meets the adequacy requirements of the Olney Policy Area.



Traffic Impact Analysis	Site Location Map	**Exhibit 2**
LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

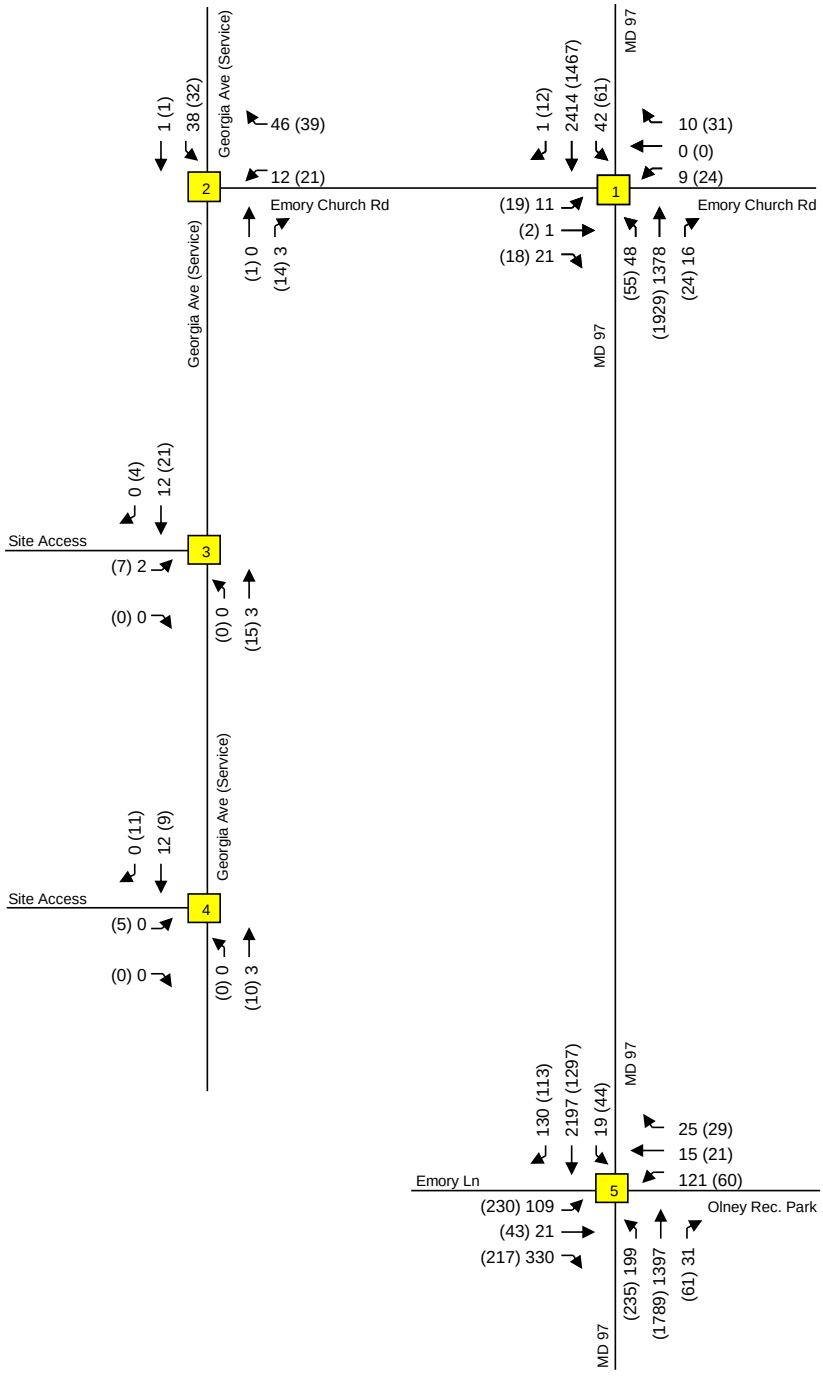


Traffic Impact Analysis	Lane Use & Traffic Control Devices	**Exhibit 3**
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		



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

Annual Growth	1.0%
Years of Growth	3
Growth Factor	1.03



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

Trip Generation Rates

Warehousing (ksf, ITE-150)	**Trip Distribution (In/Out)**
Morning Trips = 0.17 x ksf	77/23
Evening Trips = 0.18 x ksf	28/72
Strip Retail Plaza (<40k) (ksf, ITE-822)	**Trip Distribution (In/Out)**
Morning Trips = 2.36 x ksf	60/40
Evening Trips = 6.59 x ksf	50/50
Day Care Center (ksf, ITE-565)	**Trip Distribution (In/Out)**
Morning Trips = 11.00 x ksf	53/47
Evening Trips = 11.12 x ksf	47/53

Existing Uses Being Eliminated - Trip Generation Totals

				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
ITE-150	Warehousing (ksf, ITE-150)	5,929	sq.ft.	1	0	1	0	1	1
	Total Vehicular Trips per ITE Trip Generation Manual, 11th Edition:			1	0	1	0	1	1
	LATR Vehicle Trip Generation Rate Adjustment Factor (Olney):	100%							
	Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition (Auto Driver at 76.3%):			1	0	1	0	1	1
	Total Person Trips:			**1**	**0**	**1**	**0**	**1**	**1**
	Auto Driver:	76.3%		1	0	1	0	1	1
	Auto Passenger:	19.5%		0	0	0	0	0	0
	Transit:	0.7%		0	0	0	0	0	0
	Non-Motorized (Bicycle):	3.5%		0	0	0	0	0	0

				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
ITE-822	Strip Retail Plaza (<40k) (ksf, ITE-822)	658	sq.ft.	1	1	2	2	2	4
	Total Vehicular Trips per ITE Trip Generation Manual, 11th Edition:			1	1	2	2	2	4
	LATR Vehicle Trip Generation Rate Adjustment Factor (Olney):	99%							
	Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition (Auto Driver at 72.1%):			1	1	2	2	2	4
	Total Person Trips:			**2**	**1**	**3**	**3**	**3**	**6**
	Auto Driver:	72.1%		1	1	2	2	2	4
	Auto Passenger:	24.8%		1	0	1	1	1	2
	Transit:	0.5%		0	0	0	0	0	0
	Non-Motorized (Bicycle):	2.6%		0	0	0	0	0	0

Proposed Trip Generation Totals

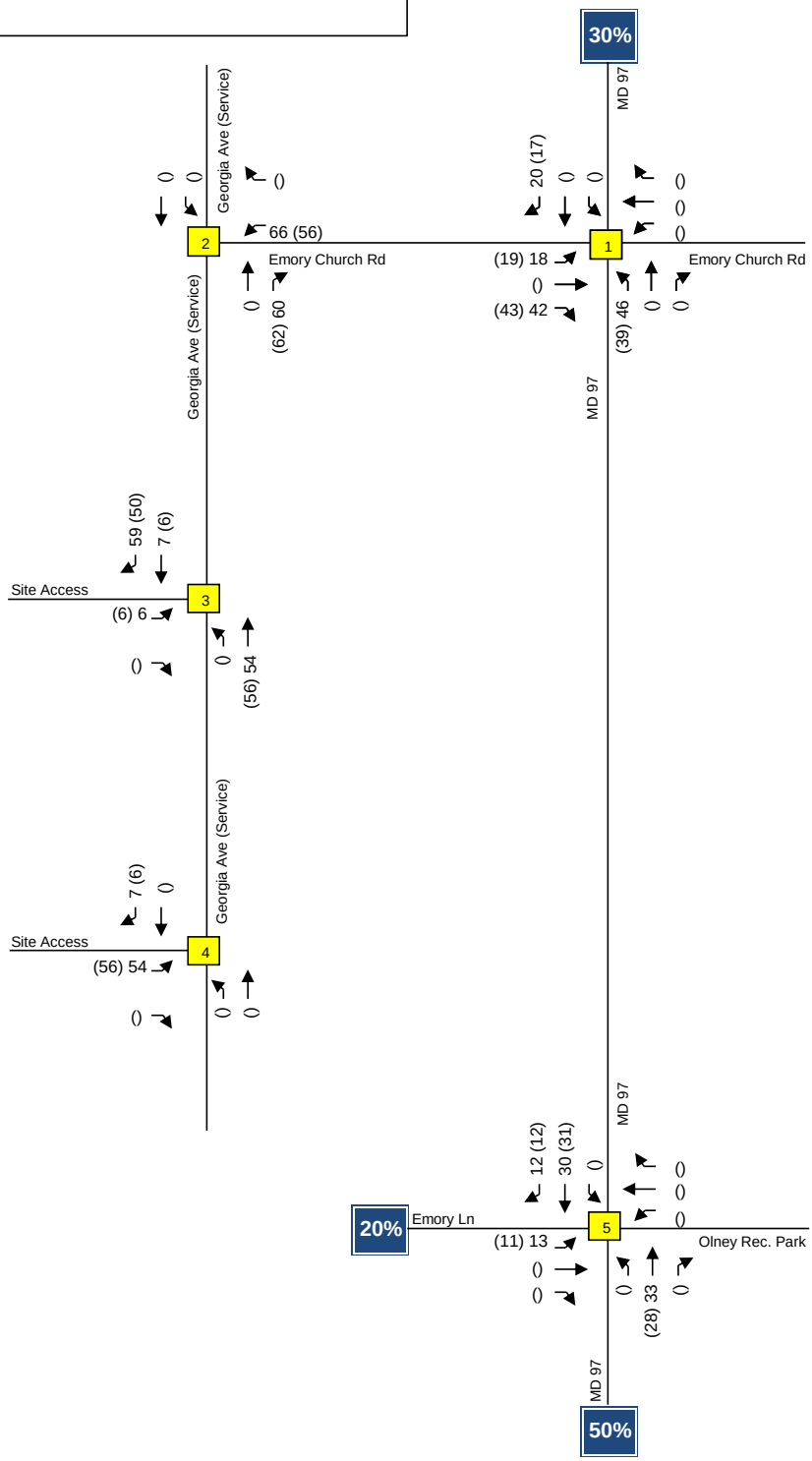
				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
ITE-565	Day Care Center (Students, ITE-565)	180	students	67	60	127	57	65	122
	Total Vehicular Trips per ITE Trip Generation Manual, 11th Edition:			67	60	127	57	65	122
	LATR Vehicle Trip Generation Rate Adjustment Factor (Olney):	100%							
	Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition (Auto Driver at 76.3%):			67	60	127	57	65	122
	Total Person Trips:			**87**	**79**	**166**	**75**	**85**	**160**
	Auto Driver:	76.3%		67	60	127	57	65	122
	Auto Passenger:	19.5%		17	15	32	15	17	31
	Transit:	0.7%		0	1	1	0	0	1
	Non-Motorized (Bicycle):	3.5%		3	3	6	3	3	6

Net Trip Generation Totals

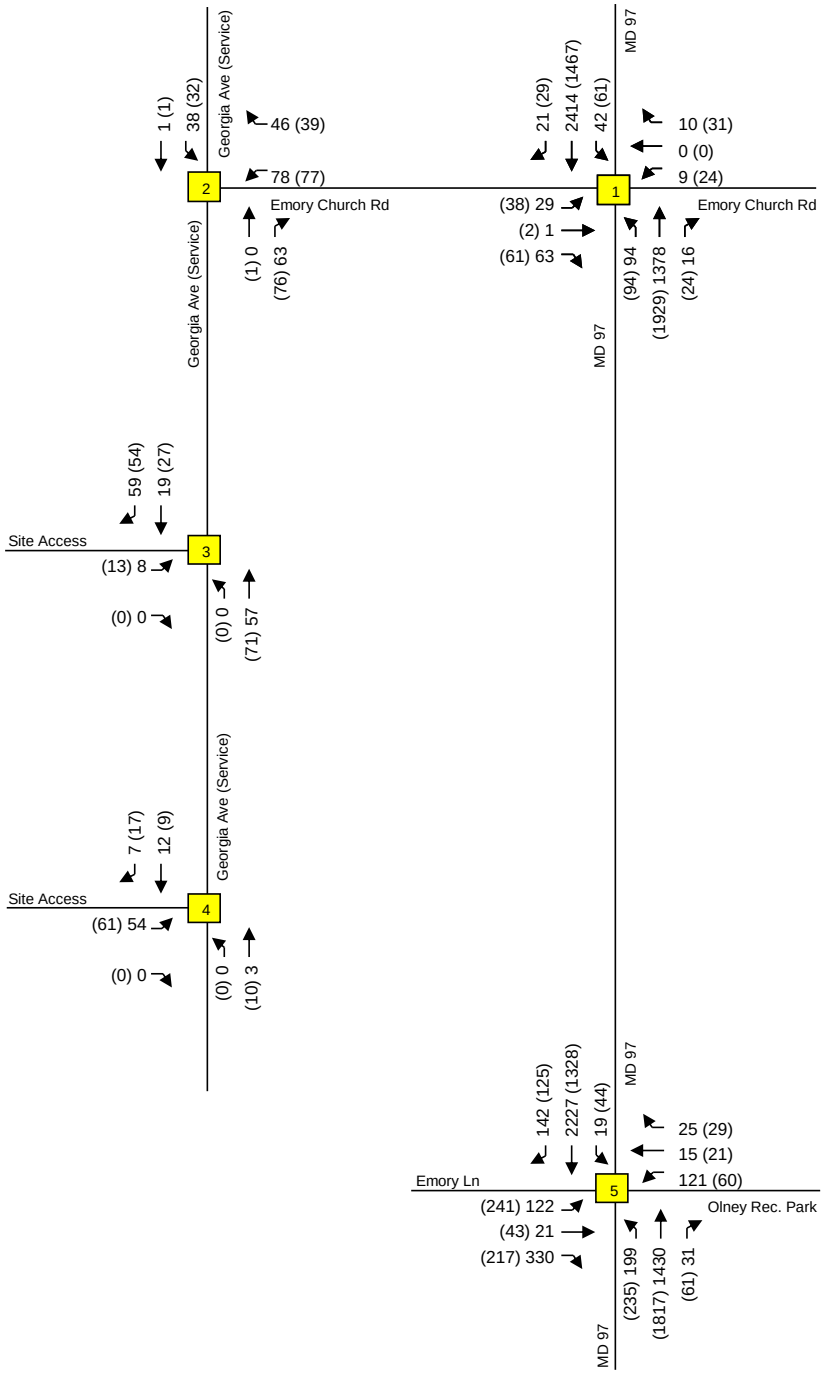
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Existing Uses Being Eliminated Peak Hour Vehicular Trips:	2	1	3	2	3	5
Proposed Peak Hour Vehicular Trips:	67	60	127	57	65	122
Net New Peak Hour Person Trips:	**65**	**59**	**124**	**55**	**62**	**117**

Note: A 431 square foot crab shack will also be eliminated with the redevelopment of the site. It is not included in the existing trip generation totals as the crab shack does not operate regularly during the morning and evening peak hours.

Note: Based on the site layout, it is assumed that 90% of inbound trips will enter the site at Intersection 3 and the remaining 10% at Intersection 4. It is assumed that 10% of outbound trips will exit the site at Intersection 3 and the remaining 90% will exit the site at Intersection 4.



Traffic Impact Analysis	Trip Assignment for Site	**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	**Exhibit 8**
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning	Key: xx = AM Peak Vol's (xx) = PM Peak Vol's	

Level-of-Service Results

Morning Peak Hour	Existing LOS	Background LOS	Total LOS	Meets Adequacy?
1). MD 97 & Emory Church Rd	D / 1377	D / 1418	E / 1524	Y
Highway Capacity Manual (HCM) Delay	B / 18.0	C / 21.7	D / 38.9	
2). Georgia Ave (Service) & Emory Church Rd	A / 99	A / 101	A / 225	Y
3). Georgia Ave (Service) & Site Access	A / 14	A / 14	A / 86	Y
4). Georgia Ave (Service) & Site Access	A / 12	A / 12	A / 73	Y
5). MD 97 & Emory Lane	D / 1341	D / 1383	D / 1400	Y
Highway Capacity Manual (HCM) Delay	C / 33.5	C / 35.0	D / 36.2	
Evening Peak Hour	**Existing LOS**	**Background LOS**	**Total LOS**	**Meets Adequacy?**
1). MD 97 & Emory Church Rd	B / 1149	C / 1185	C / 1247	Y
2). Georgia Ave (Service) & Emory Church Rd	A / 104	A / 107	A / 225	Y
3). Georgia Ave (Service) & Site Access	A / 31	A / 32	A / 94	Y
4). Georgia Ave (Service) & Site Access	A / 25	A / 25	A / 87	Y
5). MD 97 & Emory Lane	C / 1215	C / 1252	C / 1273	Y

Note: Per LATR Guidelines for Yellow Policy Areas, intersections operating with a CLV of 1,350 or less are considered adequate. If the CLV exceeds this threshold, the HCM methodology is utilized. HCM delay must be 55 seconds or less to meet adequacy for the Olney Policy Area.

Section 3 Pedestrian System Adequacy

Section 3.1 – Adequacy Requirements & Study Area

Per the GIP, a pedestrian system adequacy analysis is required as the site will generate more than 50 peak hour person trips. Specifically, as detailed on Exhibit 1b, the site will generate 162 AM peak hour person trips and 153 PM peak hour person trips. Table 1 of the LATR Guidelines provides the required study area from the site frontage that is to be analyzed for pedestrian system adequacy based on the peak hour person trips and is provided below. As shown, a 400-foot walkshed from the site frontage must be analyzed. Note that ADA compliance is evaluated based on half of the walkshed specified in Table 1. In this case, a 200-foot walkshed is established for ADA compliance.

Table 1. Pedestrian Adequacy Test Scoping

Peak-Hour Person Trips Generated	Red and Orange Policy Area Walkshed*	Yellow and Green Policy Area Walkshed*
50 – 99	400′	250′
100 – 199	750′	400′
200 – 349	900′	500′
350 or more	1,000′	600′

As detailed in the GIP, there are three components for the Pedestrian System Adequacy Test that must be analyzed within this 400-foot study area. They are as follows:

- Pedestrian Level of Comfort (PLOC)
- Street Lighting
- ADA Compliance

The analysis of these components are detailed in the sections below.

Section 3.2 – Pedestrian Level of Comfort (PLOC)

Per the GIP, "Pedestrian system adequacy is defined as providing a "Somewhat Comfortable" or "Very Comfortable" PLOC score on streets and intersections for roads classified as Primary Residential or higher (excluding Controlled Major Highways and Freeways, and their ramps), within a certain walkshed from the site frontage, specified in Table 1. The table also identifies the maximum span of improvement that the applicant must provide beyond the frontage which, given the Policy Area and trip generation for the proposed site, the maximum is 1,600 linear feet. Specific improvements to be constructed

should be identified in consultation with the Montgomery County Planning Department and MCDOT. **Exhibit 10a** shows the Master Plan of Highways and Transitways Designations for the roadways nearby the site.

The Montgomery County Planning Department publishes a map detailing the PLOC for roadways within Montgomery County. A copy of the PLOC map for the area in the vicinity of the site is provided on **Exhibit 10b**. Segments of the study area are indexed on Exhibit 9b with discussion of the PLOC for these segments contained on **Exhibit 10c.**

PLOC Deficiencies

As shown on Exhibits 10b and 10c, several sections of pathway and crossings within the 400-foot walkshed do not meet the PLOC standards. Potential improvements are identified that improve the PLOC rating to adequate levels. However, many of these improvements are substantial projects, which are unlikely to be completed by the applicant given the cost constraint established with the proportionality guide. Recommended improvements are discussed in Section 3.5.

Section 3.3 – Street Lighting

Exhibit 11 details the street lighting in the vicinity of the site within the 400-foot walkshed. The existing street lighting does not meet the adequacy requirements of Montgomery County, specifically regarding the spacing of lighting. There is currently only one streetlight within the study area. No more than 175 feet of space is allowed between light poles and as such, street lighting should be installed to meet the spacing requirements. It is unlikely that the applicant can provide street lighting to meet the Montgomery County standards within the maximum cost of improvements established with the proportionality guide.

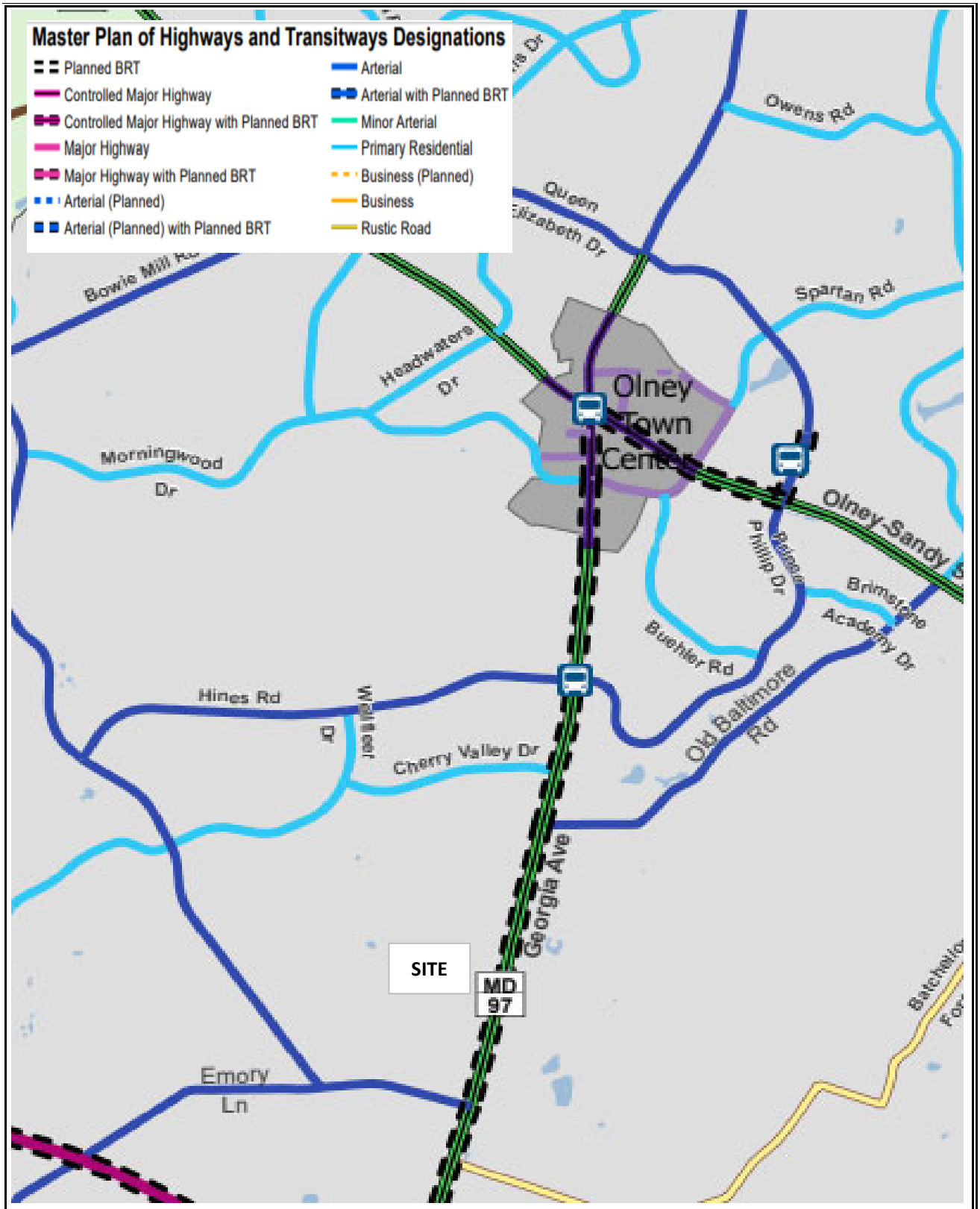
Section 3.4 – ADA Compliance

A review of the existing pedestrian facilities found that all sidewalks, crossings, and ramps comply with ADA requirements. The pedestrian links along Georgia Avenue Service Road and Emory Church Road that do not provide sidewalks should be improved by constructing sidewalks to meet both PLOC and ADA requirements. However, Emory Church Road is not classified as Primary Residential or higher and therefore not subject to the adequacy requirements of the LATR. Additionally, it is unlikely that the applicant can construct any significant length of new sidewalk given the constraint of the maximum cost of improvements established with the proportionality guide.

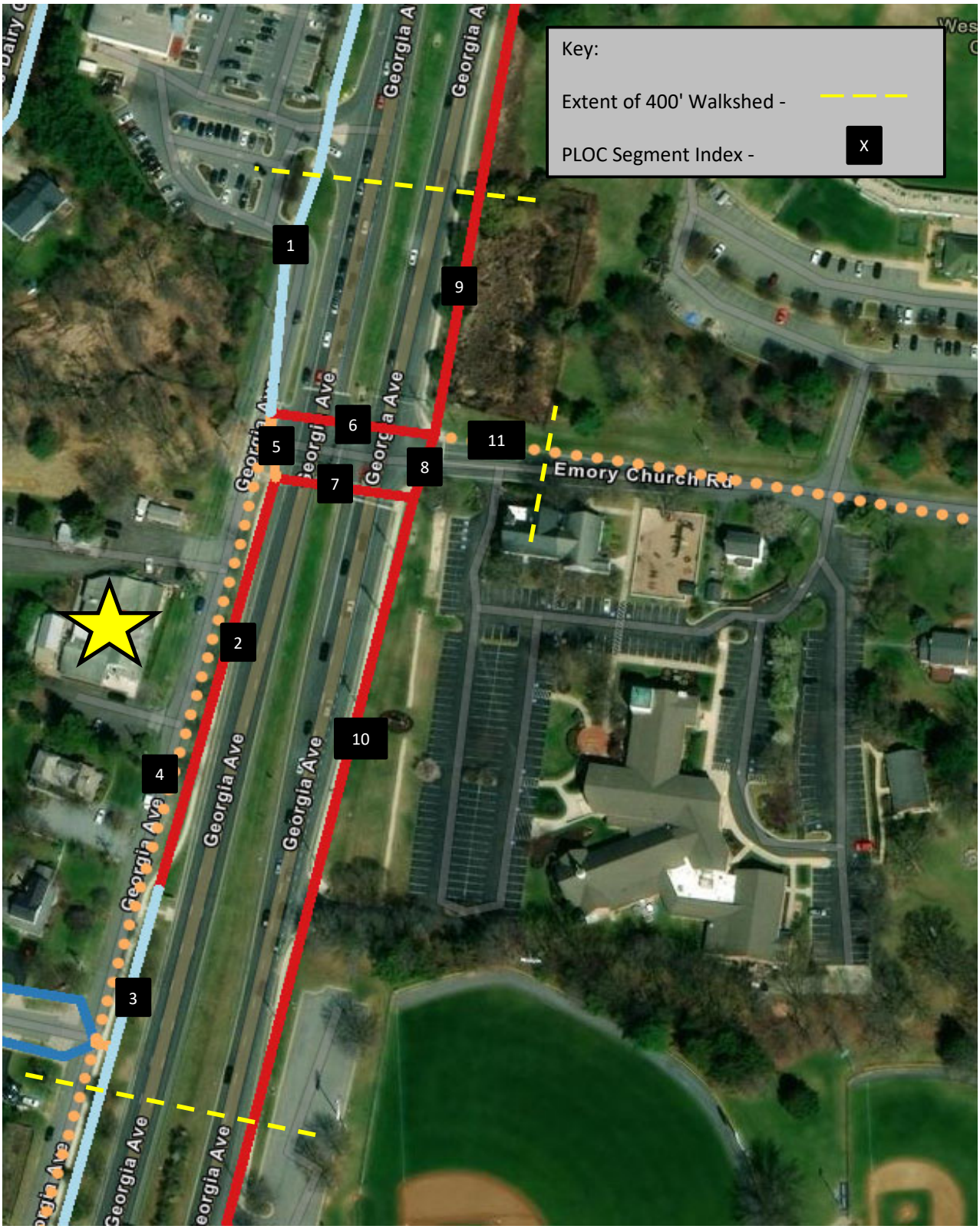
Section 3.5 – Pedestrian System Adequacy Evaluation

Based on the above analyses of the PLOC, street lighting, and ADA compliance, the following offsite pedestrian system improvements should be considered by the applicant, given the cost constraint of the proportionality guide:

- Construct high visibility crosswalk for the crossing of Georgia Avenue Service Road at the intersection with Emory Church Road (PLOC Segment #5)
- Construct high visibility crosswalk for the south leg crossing of the intersection of MD 97 & Emory Church Road (PLOC Segment #7)
    - The speed limit along MD 97 should be reduced to 30 MPH to reach adequate PLOC with the above improvement
- Construct high visibility crosswalk for the south leg crossing of the intersection of MD 97 & Emory Church Road (PLOC Segment #7)
    - The speed limit along MD 97 should be reduced to 30 MPH to reach adequate PLOC with the above improvement

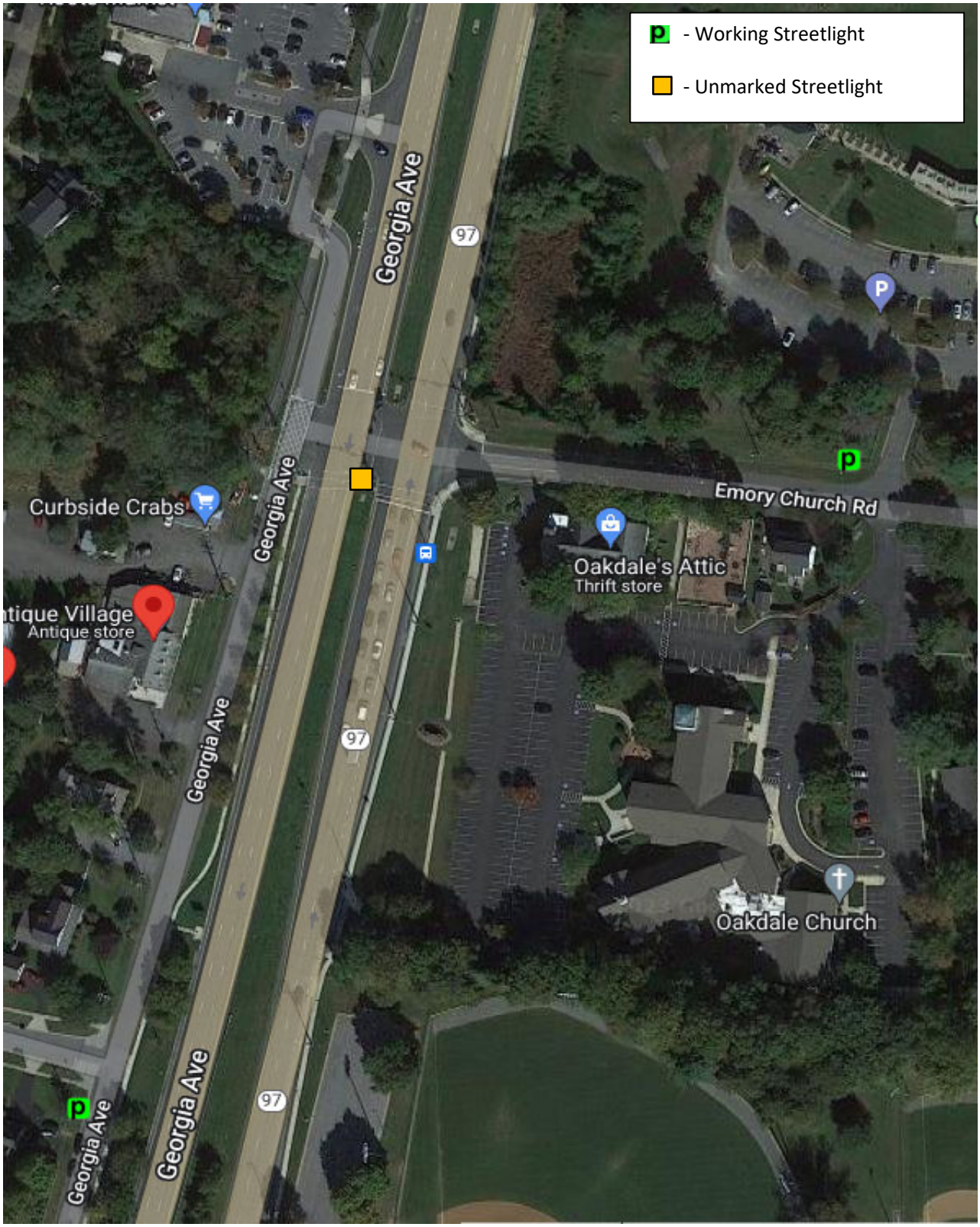


Traffic Impact Analysis	Master Plan of Highways And Transitways	**Exhibit 10a**
LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		



Traffic Impact Analysis	PLOC Review	**Exhibit 10b**
LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

Segment Number	Segment	Speed Limit	Notes	PLOC Rating		Potential Improvements
				County	Applicant	
1	West side of MD 97, between Shopping Center and Emory Church Road	40 / 25	8 foot pathway with 25 foot buffer to MD 97 (40 MPH) and 6 foot buffer to Georgia Avenue Service Road (assumed 25 MPH)	Somewhat Comfortable	Somewhat Comfortable	N/A - Adequate PLOC
2	West side of MD 97, south of Emory Church Road	40	5 foot pathway with variable 3 foot to 4.5 foot buffer	Undesirable	Undesirable	The pathway should be reconstructed along Georgia Avenue Service Road, a lower speed road, in order to provide an approximately 8 foot buffer between the pathway and MD 97.
3	West side of MD 97, south of Emory Church Road	40	5 foot pathway with 30 foot buffer to MD 97	Somewhat Comfortable	Somewhat Comfortable	N/A - Adequate PLOC
4	West side of Georgia Avenue Service Road, south of Emory Church Road	25	Pedestrian Link with no sidewalk. Note that a portion of this link overlaps with Segment #3, and is incorrectly marked as unconstructed sidewalk	Uncomfortable	Uncomfortable	Construct 5 foot sidewalk with a buffer of at least 2 feet between Georgia Avenue Service Road. More than 8 feet of buffer will be provided between the pathway and MD 97. This improvement overlaps with the potential improvement for Segement #2.
5	Intersection of MD 97 & Emory Church Road: West Leg Crossing	25	This crossing is incorrectly located in the PLOC database. The crosswalk actually crosses the south leg of the intersection of Georgia Avenue Service Road & Emory Church Road to join the sidepath along MD 97.	Uncomfortable	Somewhat Comfortable	Construct a high visibility crosswalk to achieve "Comfortable" PLOC rating
6	Intersection of MD 97 & Emory Church Road: North Leg Crossing	40	Controlled crossing of 6+ lanes with no markings	Undesirable	Undesirable	Construct pedestrian refuge in median with high visibility crosswalk. The speed limit along MD 97 should be reduced to 30 MPH to reach adequate PLOC. Note, a crossing of Georgia Avenue Service Road would also be required to join the sidepath.
7	Intersection of MD 97 & Emory Church Road: South Leg Crossing	40	Controlled crossing of 6+ lanes with marked crosswalk and pedestrian refuge. Note this segment is incorrectly marked as raised median.	Undesirable	Uncomfortable	Construct high visibility crosswalk. The speed limit along MD 97 should be reduced to 30 MPH to reach adequate PLOC
8	Intersection of MD 97 & Emory Church Road: East Leg Crossing	40	Controlled crossing of 3 lanes with no crosswalk	Undesirable	Undesirable	Construct high visibility crosswalk. The speed limit along MD 97 should be reduced to 30 MPH to reach adequate PLOC
9	East side of MD 97, north of Emory Church Road	40	5 foot pathway with 4 foot buffer	Undesirable	Undesirable	A buffer of at least 5 feet should be provided. The speed limit along MD 97 should be reduced to 30 MPH to reach adequate PLOC
10	East side of MD 97, south of Emory Church Road	40	5 foot pathway with 4 foot buffer	Undesirable	Undesirable	A buffer of at least 5 feet should be provided. The speed limit along MD 97 should be reduced to 30 MPH to reach adequate PLOC
11	North side of Emory Church Road, east of MD 97	25	Pedestrian Link with no sidewalk. Note that Emory Church Road is not classified as Primary Residential or higher and as such is not subject to the LATR PLOC requirements for this project.	Uncomfortable	Uncomfortable	N/A - Emory Church Road not classified as Primary Residential or higher.



Traffic Impact Analysis	Streetlight Inventory	**Exhibit 11**
LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

Section 4 Bicycle System Adequacy

Section 4.1 – Adequacy Requirements & Study Area

Per the GIP, a bicycle system adequacy analysis is required as the site will generate more than 50 peak hour person trips. Specifically, the site will generate 162 peak hour person trips during the AM peak hour and 153 peak hour person trips during the PM peak hour. Table 2 of the LATR Guidelines provides the required study area from the site frontage that is to be analyzed for bicycle system adequacy based on the peak hour person trips and is provided below. As shown, a 400-foot study area from the site frontage must be analyzed.

Table 2. Bicycle Adequacy Test Scoping

Peak-Hour Person Trips Generated	Red and Orange Policy Areas	Yellow and Green Policy Areas
50 – 99	400'	250'
100 – 199	750'	400'
200 – 349	900'	500'
350 or more	1,000'	600'

As detailed in the GIP, bicycle system adequacy is defined as providing a low Level of Traffic Stress (LTS-2) for bicyclists. Per the above table, this LTS-2 must be maintained within the 400-foot walkshed of the site frontage with the consideration of both current or programmed bicycle infrastructure. If the existing and programmed bicycle infrastructure is not expected to ensure LTS-2, the developer must improve bicycle facilities in accordance with the Montgomery County Bicycle Master Plan within the study area.

Section 4.2 – Bicycle Level of Stress

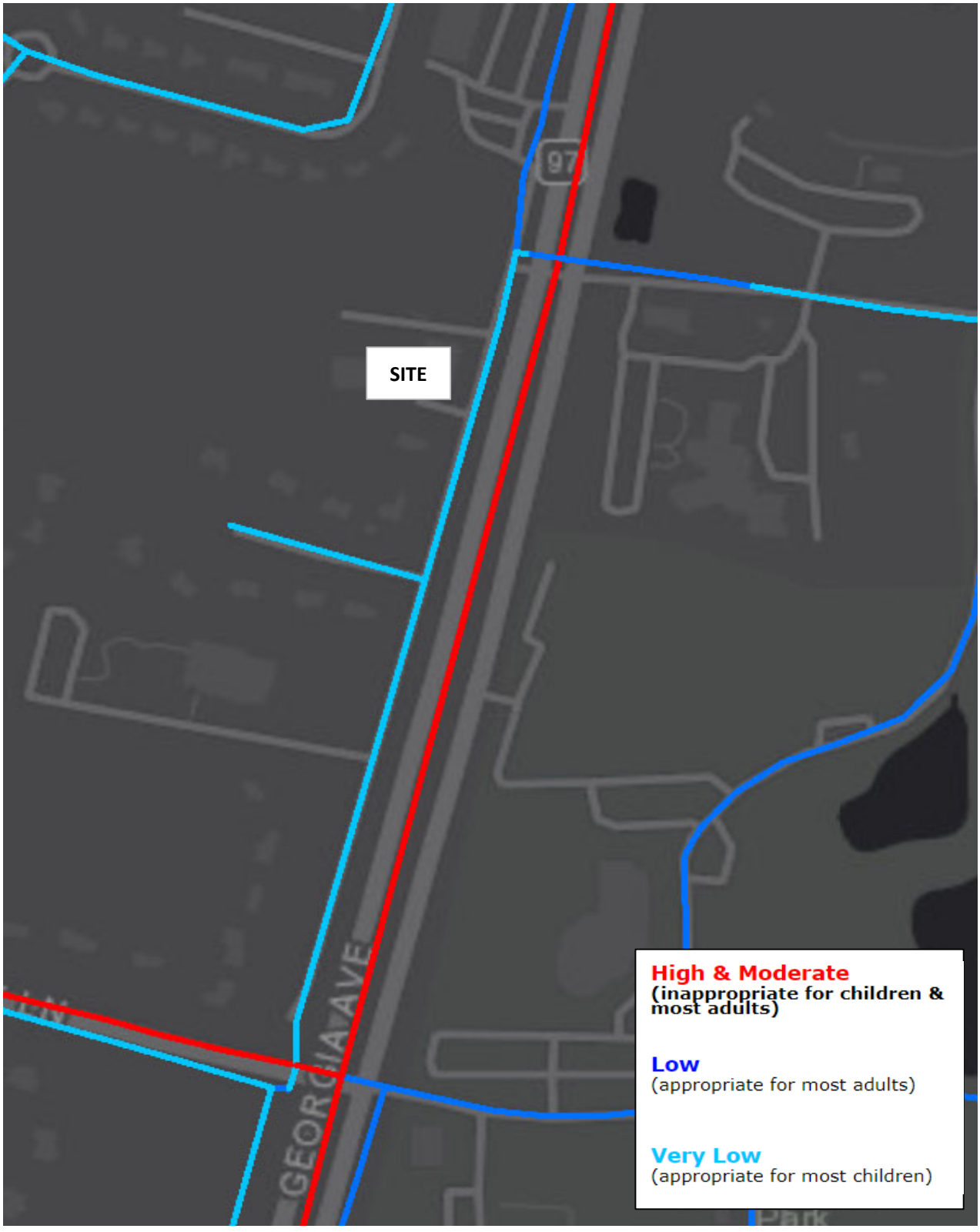
Exhibit 12a details the Bicycle Level of Stress for the roadways in the vicinity of the site. As shown, high Bicycle Level of Stress is indicated along MD 97.

Section 4.3 Bicycle Master Plan

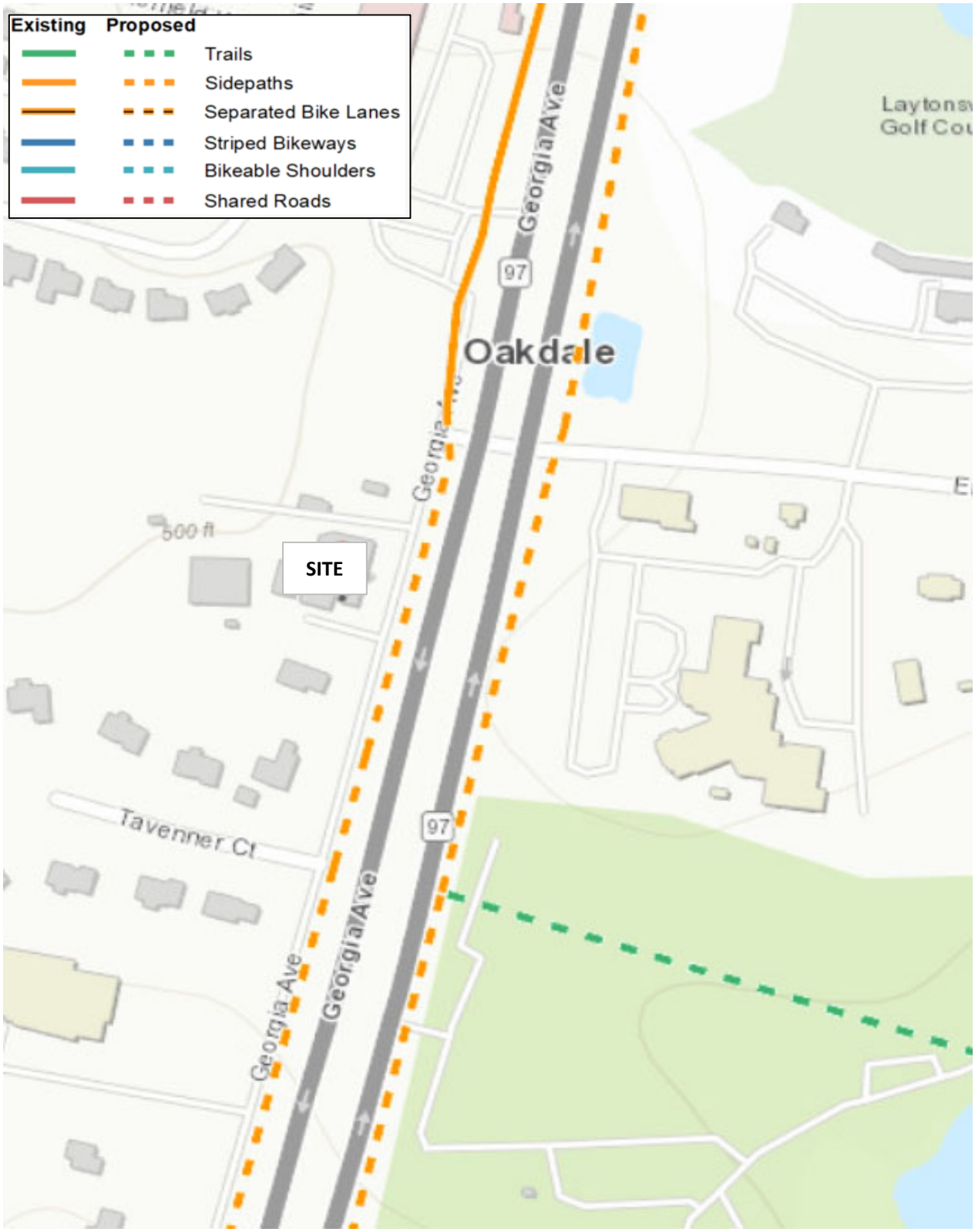
Exhibit 12b details the current Montgomery County Bicycle Master Plan in the vicinity of the site. As shown, a sidepath is planned along both sides of MD 97. The applicant is responsible for constructing the portion of the sidepath within the walkshed. However, it is unlikely that any significant portion of the sidepath can be constructed within the available cost cap.

Section 4.4 - Bicycle System Adequacy Analysis & Discussion

Based on the above analyses of the existing and planned bicycle system surrounding the proposed development, construction of a sidepath within the 400-foot walkshed of the site could be considered. However, it is not feasible to construct any functional portion of the sidepath within the site's $4,752 Proportionality Guide fee. Therefore, it is recommended that the improvement budget is utilized for the recommended improvements to the pedestrian system.



Traffic Impact Analysis	Bicycle Level of Traffic Stress	**Exhibit 12a**
LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		



Traffic Impact Analysis	Bicycle Level of Traffic Stress	**Exhibit 12a**

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

Section 5 Bus Transit System Adequacy

Section 5.1 – Adequacy Requirements & Study Area

Per the GIP, a Bus Transit System Adequacy analysis is required as the site will generate more than 50 peak hour person trips. Specifically, the site will generate 162 peak hour person trips during the AM peak hour and 153 peak hour person trips during the PM peak hour. Table 3 of the LATR Guidelines provides the required study area from the site frontage that is to be analyzed for bus transit system adequacy based on the peak hour person trips and is provided below. As shown, a 1,000 foot study area from the site frontage must be analyzed and up to two shelters / amenities must be constructed.

Table 3. Bus Transit Adequacy Test Scoping

Peak-Hour Person Trips Generated	Red and Orange Policy Areas	Yellow Policy Areas
50 – 99	2 shelters within 500'	1 shelter within 500'
100 – 199	2 shelters within 1,000'	2 shelters within 1,000'
200 – 349	3 shelters within 1,300'	2 shelters within 1,300'
350 or more	4 shelters within 1,500'	3 shelters within 1,500'

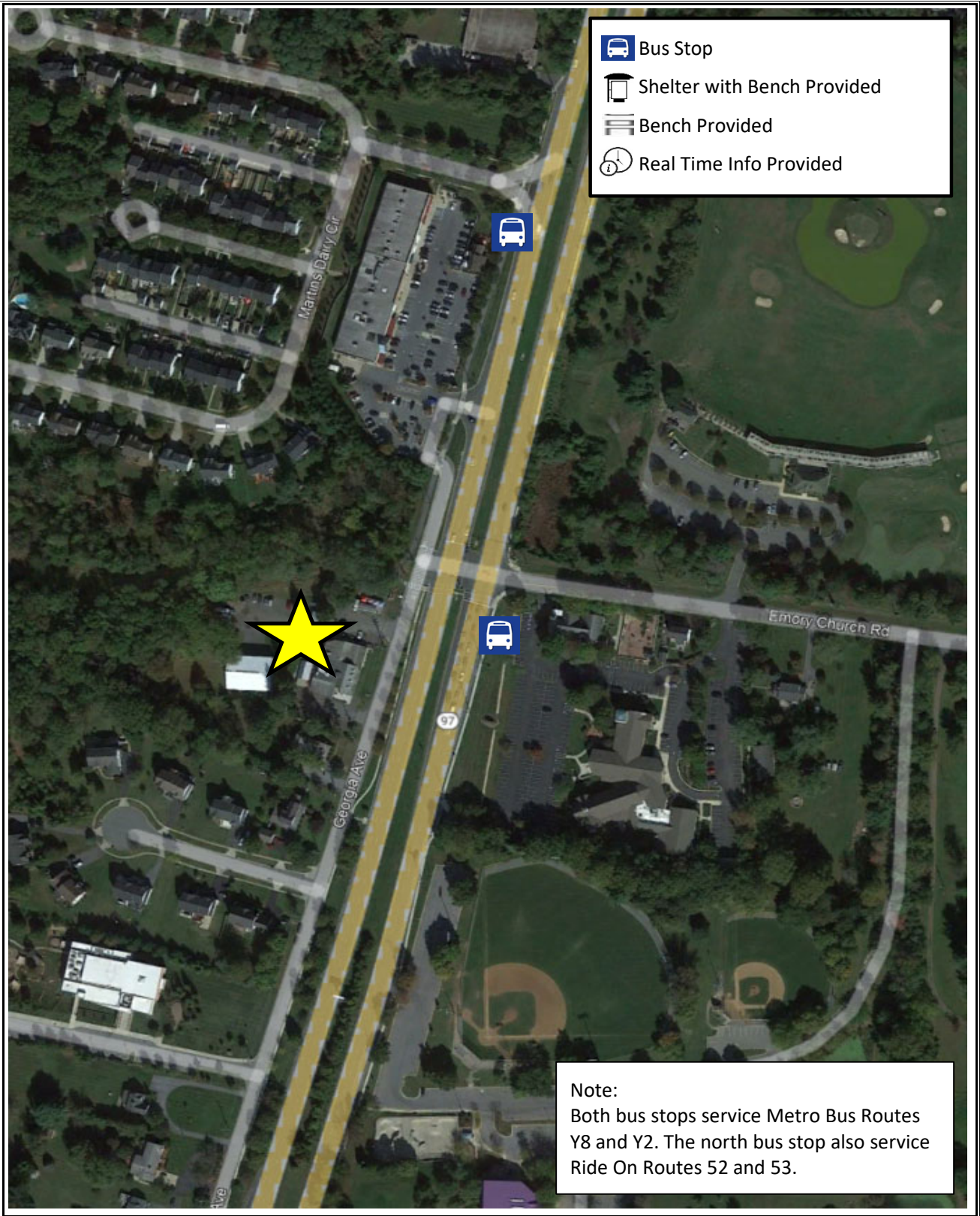
As detailed in the GIP, a bus stop is considered adequate if it includes a shelter outfitted with real-time travel information displays and other standard amenities.

Section 5.2 – Bus Transit System Inventory

An inventory of the bus stops in the 1,000-foot study area is detailed on **Exhibit 13**. As shown, there are two bus stops located within the study area, neither of which include benches, bus shelters, or real time information.

Section 5.3 – Bus Transit System Recommendations

Given the inventory detailed on Exhibit 13 and per the requirements per Table 3, two bus stops must be upgraded to provide adequate accommodation for bus patrons. However, it is unlikely that the bus shelters can be improved within the constraint of the proportionality guide. Therefore, it is recommended that the improvement budget is utilized for the recommended improvements to the pedestrian system.



Traffic Impact Analysis	Bus Transit System Stops and Infrastructure	**Exhibit 13**

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

Section 6 Vision Zero Statement

Section 6.1 – Overview

Per the GIP, a Vision Zero Statement must be provided for the site since it generates more than 50 peak hour person trips. A Vision Zero Statement must assess and propose solutions to high injury networks and safety issues, review traffic speeds, and describe in detail how safe site access will be provided.

A review of the current High Injury Networks (HIN) per the Montgomery County Vision Zero website indicates that no portion of the study area is located within a current HIN.

Section 6.2 – Safety Issues

Crash data from 2015-2022 was obtained from Montgomery County Vision Zero Data Explorer tool to identify any severe or fatal and bicycle or pedestrian crashes in the general vicinity of the site. The results are shown on **Exhibit 15** and show that only two severe crashes occurred within the vicinity of the study intersections, one of which was alcohol related. The majority of crashes are minor rear end type crashes. Based on the available crash data, no significant crash patterns are apparent within the study network.

Site Access Safety Consideration

The site is proposed to be accessed via the two existing site access points. There are no restrictions to the sight distance in either direction from either site access point and Georgia Avenue Service Road is a low-speed, low-volume roadway. It is our opinion that the site access points will operate safely.

Site Circulation

The two existing site access points are proposed to be connected internally with the redevelopment of the site. It is expected that the majority of site traffic will enter at the northern access point and exit at the southern access point, but this will not be enforced.

Section 6.3 – Speed Studies

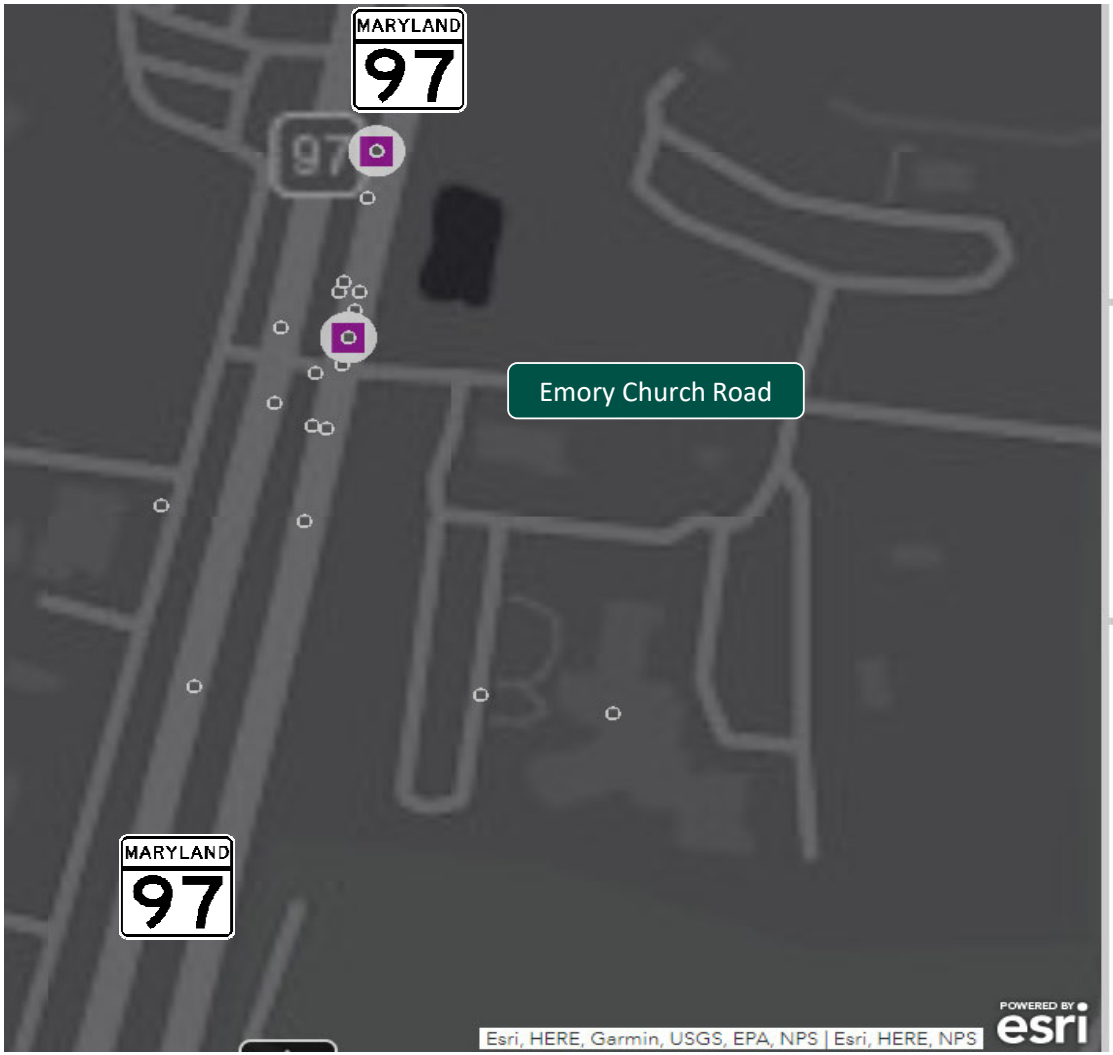
During the scoping process, M-NCPPC Staff requested a speed studies along MD 97 and Georgia Avenue Service Road at the following locations:

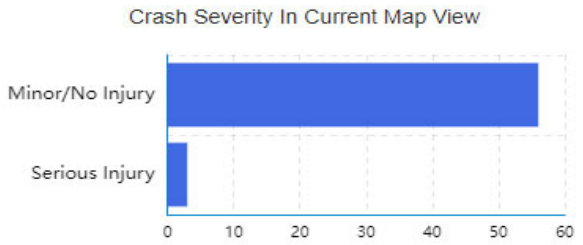
- MD 97 at Emory Church Road
- MD 97, 700 feet south of Emory Church Road

- Georgia Avenue Service Road at site frontage

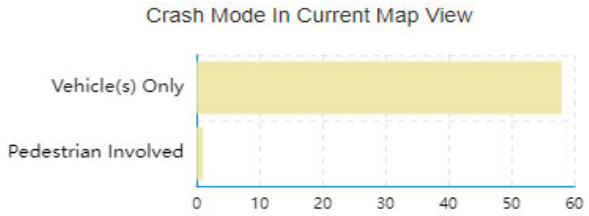
Speed studies were conducted and the results are included in Appendix C. The posted speed limit along MD 97 is 45 MPH within the vicinity of the speed study locations. As shown on the worksheet in Appendix A, the 85th percentile speeds along MD 97 and Georgia Avenue Service Road are within the 20% above posted speed limit threshold in both directions.

As discussed in the Pedestrian System Evaluation, the 45 MPH posted speed limit along MD 97 results in inadequate PLOC ratings for the pathways alongside MD 97. Reducing the speed limit to 30 MPH will improve PLOC and create safer traffic conditions for drivers and bicyclists. Montgomery County and MDOT SHA Staff should consider reducing the speed limit in this corridor.

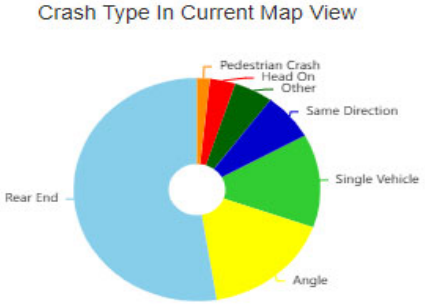




Crash Mode Chart



Crash Type



Transportation Facilities Analysis	Crash Data Map	**Exhibit 8b**
Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		

Section 7 Conclusions

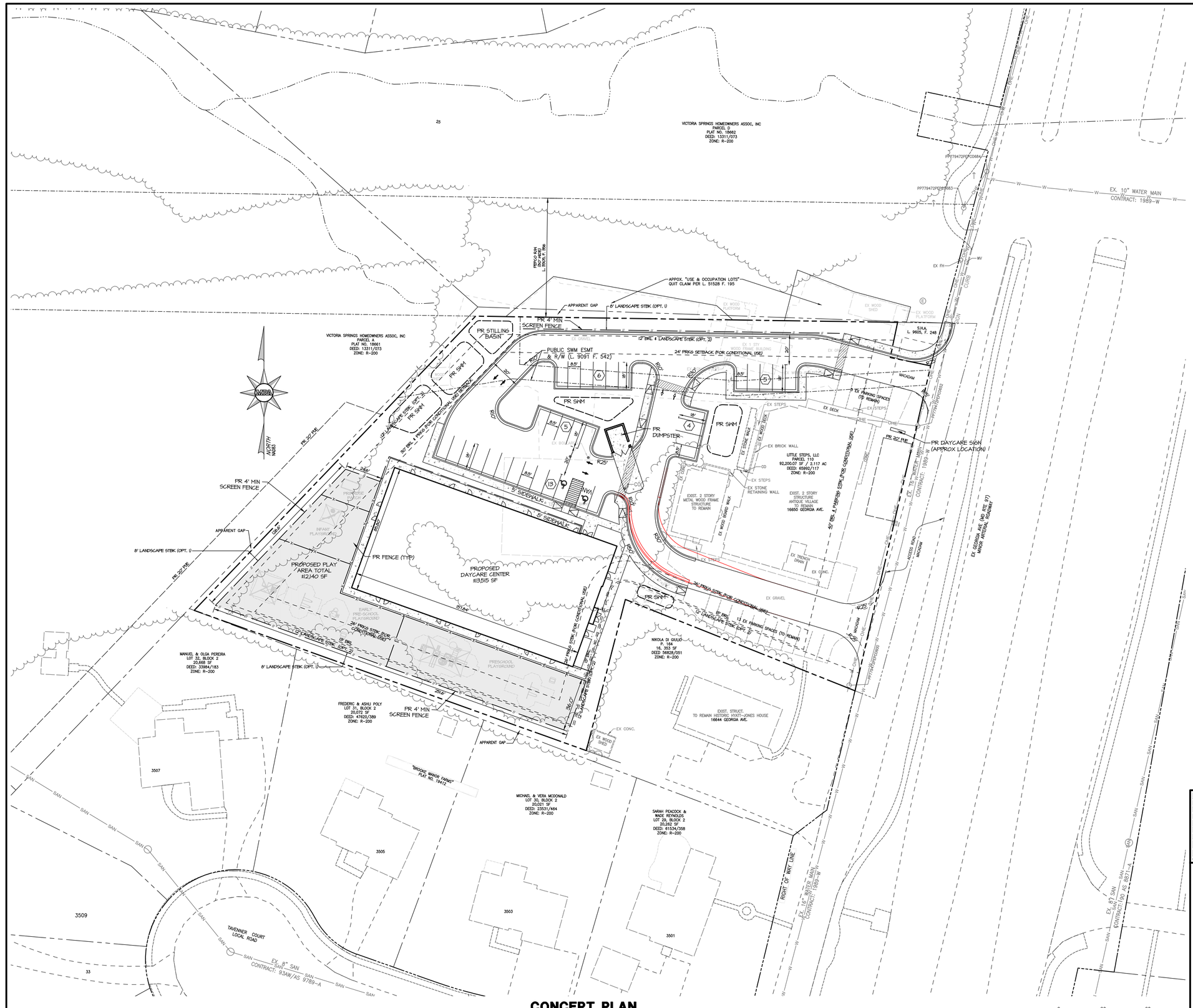
As detailed in this report, the conclusions and findings of this study yielded the following results:

- The site will generate 162 AM peak hour person trips and 153 PM peak hour person trips based on the ITE Trip Generation Manual, 11th Edition and applicable Montgomery County adjustment factors.
- The project has a maximum cost of offsite improvements of $4,752.00 based on the LATR Proportionality Guide.
- The results of the Motor Vehicle Adequacy Test (Section 3) found that the study intersections will operate well within adequacy thresholds for the Olney Policy Area.
- The results of the Pedestrian Adequacy Test (Section 4) found that PLOC and ADA compliance standards will be met with the recommendations detailed in Section 4.
- The results of the Bicycle System Adequacy Test found that a sidepath within the 400-foot walkshed of the site could be considered. However, it is not feasible to construct any functional portion of the sidepath within the site's $4,752 Proportionality-Guide-established fee.
- Two bus stops were identified which do not meet the standards outlined in the LATR Guidelines. The applicant is responsible for upgrading these bus stops. However, it is unlikely that the applicant can construct these improvements within the site's $4,752 Proportionality-Guide-established fee.
- The Vision Zero Statement detailed that crash data for the years 2015-2022 indicates no significant crash pattern in the study network. The site access points will have adequate sight distance for safe operation. Speeds along MD 97 and Georgia Avenue Service Road were found to be reasonable for the posted speed limit. However, consideration should be given to reducing the speed limit along MD 97 to 30 MPH to improve the PLOC rating along with the suggested off-site improvements.
- Based on the findings of this report, the following off-site improvements should be considered:
    - Construct high visibility crosswalk for the crossing of Georgia Avenue Service Road at the intersection with Emory Church Road (PLOC Segment #5)
    - Construct high visibility crosswalk for the south leg crossing of the intersection of MD 97 & Emory Church Road (PLOC Segment #7)
        - The speed limit along MD 97 would need to be reduced to 30 MPH to reach adequate PLOC with the above improvement, requiring approval of the operating agency (MDOT SHA).

- Construct high visibility crosswalk for the south leg crossing of the intersection of MD 97 & Emory Church Road (PLOC Segment #7)
    - The speed limit along MD 97 would need to be reduced to 30 MPH to reach adequate PLOC with the above improvement, requiring approval of the operating agency (MDOT SHA).

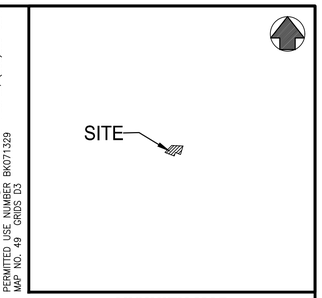
Appendix A

Supplemental Information
Turning Movement Counts



CONCEPT PLAN

SCALE: 1" = 30'



VICINITY MAP

SCALE: 1"=2000'

1.	SITE LOCATION:	16650 GEORGIA AVE. TM 16513, PARCEL 110
2.	TAX ACCOUNT:	08-00120720
3.	OWNER:	LITTLE STEPS, LLC
4.	SITE AREA:	±2.117 AC (92,200 SF)
5.	ZONING:	R-200
6.	EX LAND USE:	ANTIQUE SHOP (NON-CONFORMING USE #2367133) GENERAL RETAIL
7.	PROPOSED LAND USE:	13,515 SF CHILD DAY CARE CENTER (CONDITIONAL USE) 12,140 SF OUTDOOR PLAY AREA RETENTION OF EX ANTIQUE SHOP & ASSOC. BUILDING
8.	R-200 DEVELOPMENT STANDARDS (SEC. 4.4.7.B) A. LOT COVERAGE: B. PRINCIPAL BUILDING SETBACKS • FRONT: • SIDE/SUM OF SIDE: • REAR: C. BUILDING HEIGHT (PRINCIPAL STRUCTURE):	 25% 40' 12'/25' 30' 50'
9.	PARKING REQUIRED: A. PER CODE (6.2.4.B): 5 PS/1,000 SF GLA FOR ANTIQUE STORE & OTHER RETAIL 3 PS/1,000 SF FOR CHILD DAY CARE CENTER B. PER PARKING STUDY:	 44 PARKING SPACES 50 PARKING SPACES
10.	PARKING SETBACKS (FOR CONDITIONAL USE) (SEC. 6.2.5.K.2) A. REAR PARKING SETBACK: B. SIDE PARKING SETBACK: NO PARKING IS PERMITTED WITHIN THE FRONT BUILDING SETBACK	 30' (EQUAL TO THE REAR BUILDING SETBACK) 24'/26' (2X THE SIDE BUILDING SETBACK)
11.	PARKING PROVIDED: • EXIST GRAVEL LOT PARKING SPACES TO REMAIN: • PROP PARKING SPACES:	51 PARKING SPACES TOTAL 18 PARKING SPACES 33 PARKING SPACES
12.	LANDSCAPE SCREENING (GENERAL BUILDING WITH A CONDITIONAL USE IN A RURAL RESIDENTIAL ZONE) MIN. DEPTH:	 8' WITH A 4' MIN. FENCE (OPT. #1) OR 12' WITHOUT A FENCE

13. ADDITIONAL REQUIREMENTS FOR THE CONDITIONAL USE - DAY CARE CENTER, OVER 30 PERSONS)
   - A. ALL REQUIRED PARKING MUST BE BEHIND THE FRONT BUILDING LINE; HOWEVER, REQUIRED PARKING MAY BE LOCATED BETWEEN THE STRUCTURE AND THE STREET WHERE THE HEARING EXAMINER FINDS THAT SUCH PARKING IS SAFE, NOT DETRIMENTAL TO THE NEIGHBORHOOD, ACCESSIBLE, AND COMPATIBLE WITH SURROUNDING PROPERTIES.
   - B. AN ADEQUATE AREA FOR THE DISCHARGE AND PICK UP OF CHILDREN IS PROVIDED.
   - C. THE HEARING EXAMINER MAY LIMIT THE NUMBER OF CHILDREN OUTSIDE AT ANY ONE TIME.
   - D. THE DAY CARE CENTER (OVER 30 PERSONS) MUST BE LOCATED ON A SITE CONTAINING A MINIMUM OF 500 SQUARE FEET OF LAND AREA PER PERSON. THE HEARING EXAMINER MAY REDUCE THE AREA REQUIREMENT TO LESS THAN 500 SQUARE FEET, BUT NOT LESS THAN 250 SQUARE FEET, PER PERSON WHERE IT FINDS THAT:
     - a. THE FACILITY WILL PREDOMINATELY SERVE PERSONS OF AN AGE RANGE THAT REQUIRES LIMITED OUTDOOR ACTIVITY SPACE;
     - b. THE ADDITIONAL DENSITY WILL NOT ADVERSELY AFFECT ADJACENT PROPERTIES; AND
     - c. ADDITIONAL TRAFFIC GENERATED BY THE ADDITIONAL DENSITY WILL NOT ADVERSELY AFFECT THE SURROUNDING STREETS.

SHEET:

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

PRIMROSE AT 16650 GEORGIA AVENUE

CONCEPT PLAN

8TH ELECTION DISTRICT
OLNEY, MARYLAND
MONTGOMERY COUNTY

DATE	REVISIONS		
		JOB NO.:	22077
		SCALE:	1" = 30"
		DATE:	5-25-2023
		DRAWN BY:	MAM
		DESIGN BY:	CMG
		REVIEW BY:	CMG
		SHEET:	1 OF 1

MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Local Area Transportation Review

TRANSPORTATION IMPACT STUDY SCOPE OF WORK AGREEMENT

December 2023

Scoping Approval - Prior to initiating a Local Area Transportation Review study or supplemental traffic study, scoping *must be approved* by relevant agencies, including the Planning Department, the Montgomery County Department of Transportation, and the State Highway Administration (where relevant). It is the responsibility of the Applicant to obtain approval, which is demonstrated below via signature or electronic signature of the relevant agency representatives. Generally, the Applicant should anticipate a turnaround time of ten (10) business days for form review. Substantially large projects may require additional time and/or may warrant a scoping meeting.

Montgomery County Planning Department
Name (print): Justine Iván González-Vélez Signature: [signature] Date: 7/17/2024

Montgomery County Department of Transportation
Name (print): Rebecca Torma-Kim Signature: Rebecca Torma Date: 7/16/24

State Highway Administration (where relevant)
Name (print): Kwesi Woodroffe Signature: [signature] Date: 7/17/2024

Applicant Contact Information	
Transportation Consultant (company, contact name, email, and phone number)	Lenhart Traffic Consulting, Inc. / Nick Driban / NDriban@LenhartTraffic.com / 410.216.3333
Name of Applicant / Developer	Beenish Bhatia, Little Steps, LLC

Project Information *Include Tables/Graphics, As Needed*			
Project Name (include plan no. if known)	16650 Georgia Avenue Day Care		
Project Location (include address if known)	16650 Georgia Avenue, Olney, MD 20832		
Policy Area(s) (See Growth & Infrastructure Policy Area map T1[1])	Olney	Master Plan(s) / Sector Plan Area(s)	Olney

[1] https://montgomeryplanning.org/wp-content/uploads/2020/11/20210101-Text-of-the-2020-2024-Growth-and-Infrastructure-Policy-with-Maps.pdf

Application Type(s)	■ Preliminary Plan	☐ Site Plan	☐ Sketch/Concept/Pre-Preliminary (Optional)	☐ Amendment
	☐ Conditional Use (formerly special exception)	☐ Local Map Amendment	☐ APF at Building Permit	☐ Other:
Project Description & Previous Approvals (proposed land uses, zoning, no. of units, square footage, construction phasing, prior approvals and proposals, existing uses, site operations, year built, status of Adequate Public Facilities [APF], other relevant info)	The site is currently developed with a variety of uses, including warehousing and a variety of small retail spaces in the "Antique Village" main structure and in outbuildings. The 5,320 square foot warehousing space with 715 square foot mezzanine will be demolished, as well as a 660 square foot outbuilding. Remaining 8,400 square foot Antique Village structure and adjacent 2 story structure with 2,152 square are proposed to be retained in a redevelopment of the site. A new 12,000 square foot structure is proposed to be built to be utilized as a 180-student day care facility.			
1. Site Access (proposed access location(s), existing/adjacent/opposite curb cuts, interparcel connections, access configurations and restrictions, internal circulation, private roads, parking/loading areas, other relevant info)	Existing site access is provided via two full movement access points along MD 97 Service Road. The site access is not proposed to be modified with the redevelopment of the property.			
2. Transportation Analysis Requirement	■ Transportation Impact Study Generates 50 or more total weekday peak-hour person trips (vehicular, transit, bicycle, and/or pedestrian) with no reductions other than a credit for existing developments over 12 years old, ***AND*** is outside of the White Flint and White Oak Policy Areas. Fill out remainder of this form and include in transportation impact study appendix.		☐ Transportation Impact Study Exemption Statement Generates 49 or fewer total weekday peak-hour person trips (vehicular, transit, bicycle, and/or pedestrian) with no reductions other than a credit for existing developments over 12 years old, ***OR*** within White Flint and White Oak Policy Areas.	
3. Project-based Transportation Demand Management Plan Required? (see Chapter 42, Articles I and II)	■ No	☐ Yes (In Transportation Management District [TMD])	☐ Amend Existing Project-based TDM Plan	
4. Established Transportation Management District (TMD)?	■ No	☐ Yes TMD Name: _____		

Transportation Impact Study Assumptions *Include Tables/Graphics, As Needed*		
5. Study Years / Phases	Existing Year: 2024	Phases / Build-out Year(s): 2027
6. Study Periods	■ AM ■ PM ☐ Mid-day ☐ Saturday ☐ Sunday ☐ Other: _____	
7. Study Intersections (For projects generating 50 or more weekday peak-hour person trips, list all signalized & significant unsignalized intersections, and site driveways traffic counts **must be collected within 12 months of completed and accepted application**)	# of tiers of intersections to study (refer to current LATR Guidelines): _____ *For the purpose of determining the number of tiers of study intersections, trip calculation for the subject site should also include nearby unbuilt properties in common ownership. No trip reductions should be taken in this calculation other than a credit for existing developments over 12 years old.*	
	1) MD 97 & Emory Church Road	7)
	2) Georgia Ave (Servce Road) & Emory Church Road	8)
	3) Georgia Ave (Servce Road) & Site Access	9)
	4) Georgia Ave (Servce Road) & Site Access	10)
	5) MD 97 & Emory Lane	11)
	6)	attach more rows if necessary
8. Trip Generation **(Clearly cite sources and methodology including use of ITE average trip rates vs. equations, ITE land use code(s), version of ITE TripGen; include trip generation for existing site, current approvals, proposed uses, and net changes. Show calculations in the cells to the right of this box.)** ** Only required if total peak hour person trips are 50 or more in either the AM or PM peak hour. Sum of all vehicle, transit, and non-motorized trips shall be the equivalent of total person trips. . Show all calculations for vehicle and person trips in the cells immediately to the right of this box.*	Vehicle Trips* (AM) (Auto Driver) 124 - See Exhibit 2 (Attached)	Total Person Trips* (AM) 162 - See Exhibit 2 (Attached)
	Vehicle Trips* (PM) (Auto Driver) 117 - See Exhibit 2 (Attached)	Total Person Trips* (PM) 153 - See Exhibit 2 (Attached)

9. Multi-modal Intersection Counts	Are new counts being collected in support of this study?* Yes Are historical counts being used in support of this study? **Refer to the LATR Guidelines for the procedures pertaining to the collection of multi-modal (i.e., motor vehicle, bicycle and pedestrian) intersection counts. Generally, counts are acceptable when they are less than one year old at the time a transportation study is submitted.*
10. Trip Reductions (include justification and supporting documentation for internal capture, pass-by, diverted, Transportation Demand Management)	N/A
11. Trip Distribution % (include a map of the proposed project in addition to a list or table)	■ A map is attached.
12. Pipeline Developments to be considered as background traffic (include name, plan #, land uses, and sizes for approved but unbuilt developments or concurrently pending applications; info can be obtained from the M-NCPPC Pipeline website: - website is updated quarterly)	N/A
13. Pipeline Transportation Projects to be considered as background condition (fully funded for construction in County Capital Improvement Program, State Consolidated Transportation Program, developer projects, etc. within the next 6 years)	N/A
14. Vision Zero Statement **(Include maps depicting the scope of the various Vision Zero Statement scoping requirements.)**	• Trigger: All LATR studies for a site that generates 50 or more weekday peak-hour person trips must develop a Vision Zero Statement. • Requirements: The Vision Zero Statement consists of four components: 1. **Review High Injury Network segments:** Document any segments on the High Injury Network (HIN) that are within a certain distance of the site frontage. 2. **Assess proximate safety issues:** Review the crash history for all segments and crossings within a certain distance of the site frontage. 3. **Review traffic speeds:** Conduct speed studies within a certain distance from the site frontage.

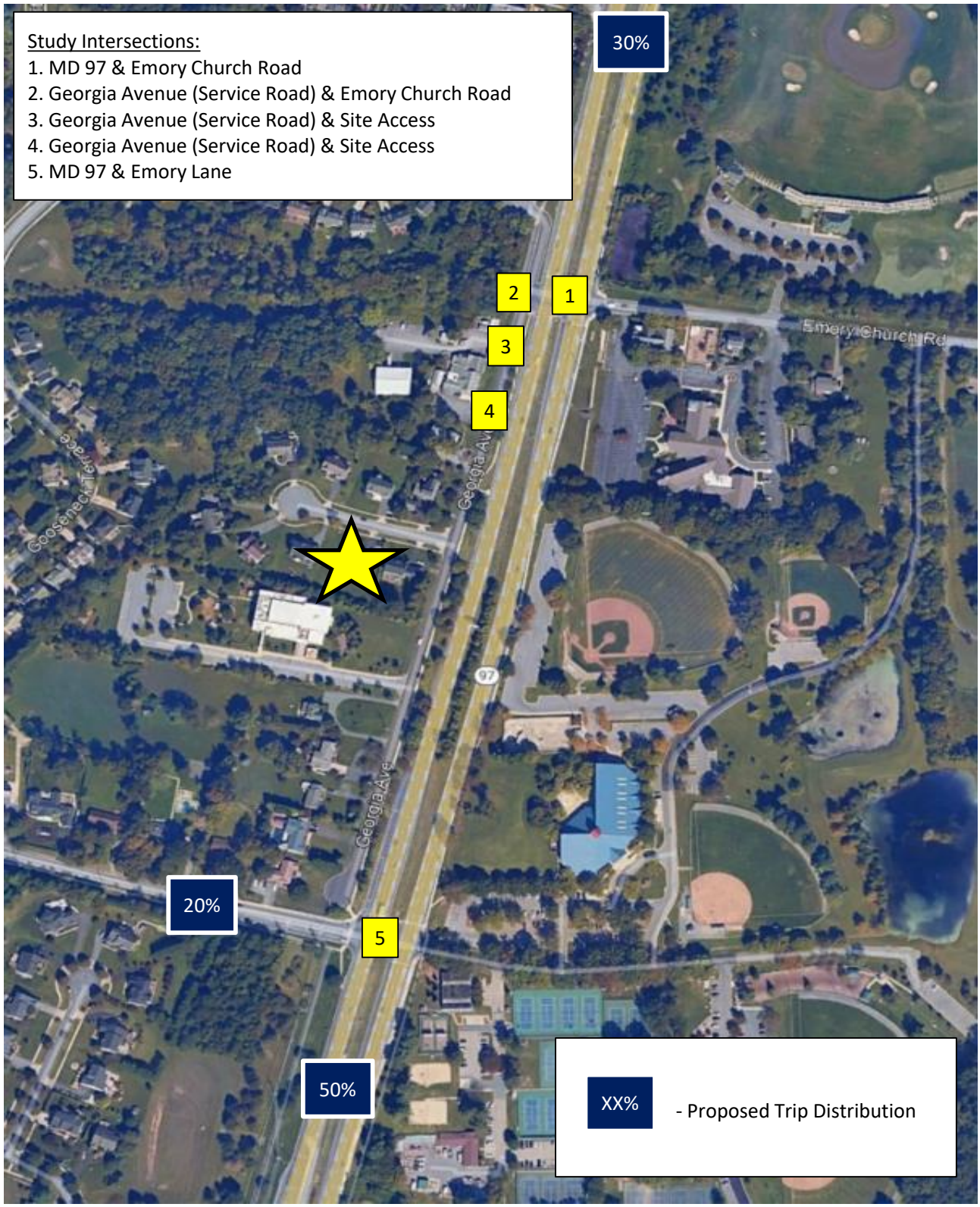
	4. Describe site access: Address the safety issues identified in steps 1 through 3 and describe how site circulation promotes safety, outlining how safe access will be provided to the site. The applicant should refer to the *LATR Guidelines* to determine the applicable scoping distance pertaining to steps 1 through 3 and requirements pertaining to steps 1 through 4 above. ☒ Maps are attached. ☐ Vision Zero Statement is attached.

Preliminary Mitigation Analysis		***Refer to the LATR Guidelines for details on how to mitigate***
15. Vehicular Analysis **(Include a map depicting the location of the study area intersections.)**	☒ Vehicular Analysis Anticipated (Vehicular mitigation to be determined after study) ☒ A map is attached	• TEST: The motor vehicle adequacy test will not be applied in "Red" policy areas and these areas will not be subject to LATR motor vehicle mitigation requirements. If the plan generates 50 or more net new weekday peak-hour person trips, HCM Analysis is required to be provided for all intersections analyzed in studies for: 1) "Orange" policy areas, and 2) intersections with a CLV of more than 1,350 in "Yellow" & "Green" policy areas. 3) **With the exception of intersections located within "Red" policy areas, CLV analysis required for all intersections regardless of policy area. CLV assessment and signal timing worksheets are to be included in the study appendix.** • MITIGATION: The applicant must mitigate its impact on vehicle delay or down to the applicable policy area standard, whichever is less.
16. Pedestrian Analysis **(Include a map depicting the scope of the applicable walkshed distance requirement.)**	☒ Pedestrian Mitigation Anticipated ☒ A map is attached	• TEST: If the plan generates 50 or more net new weekday peak hour person trips, mitigation of surrounding pedestrian conditions is required. MITIGATION: Mitigation consists of three components: (1) **Pedestrian Level of Comfort (PLOC).** Pedestrian system adequacy is defined by providing a "Somewhat Comfortable" or "Very Comfortable PLOC score on streets and intersections for roads classified as Primary Residential or higher within a certain walkshed from the site. (2) **Street Lighting.** The applicant must evaluate existing street lighting based on MCDOT standards along roadways and paths from the development within a certain walkshed from the site frontage. Where standards are not met, the applicant must upgrade the street lighting to meet the applicable standard. (3) **ADA Compliance.** The applicant must fix ADA noncompliance issues within a certain walkshed from the site frontage equivalent to half the walkshed specified in the required scoping distance. The applicant should refer to the *LATR Guidelines* to determine the applicable scoping walkshed distance requirement for each component described above. Record walkshed distance here 400 feet

17. Bicycle Analysis **(Include a map depicting the scope of the applicable bicycle scoping requirement.)**	▣ Bicycle Mitigation Anticipated ▣ A map is attached	• TEST: If the plan generates 50 or more net new peak hour weekday person trips, mitigation of surrounding bicycle conditions is required • MITIGATION: Required to ensure a low Level of Traffic Stress (LTS-2) on all existing transportation rights-of-way within a certain distance of the site frontage; Alternatively, the project may provide a master planned improvement that provides an equivalent improvement in the level of traffic stress for cyclists within a certain distance of the site frontage. The applicant should refer to the *LATR Guidelines* to determine the applicable scoping distance requirement. Record scoping distance here __**400**____ feet
18. Bus Transit Analysis **(Include a map depicting the scope of the bus transit scoping requirement.)**	▣ Transit Mitigation Anticipated ▣ A map is attached	• TEST: If the plan generates 50 or more net new peak hour person trips, mitigation of surrounding transit conditions is required. Projects located within "Green" policy areas are exempt from the bus transit adequacy test. • MITIGATION: Required to ensure that there are bus shelters outfitted with realtime traveler information displays and other standard amenities, along with a safe, efficient, and accessible path between the site and a bus stop, at a certain number of bus stops within a certain distance from the site. The applicant should refer to the *LATR Guidelines* to determine the applicable scoping distance requirement and the applicable number of bus shelters. Record scoping distance here 1000 feet Record the applicable number of bus shelters here 2
19. Proportionality and Cost Estimates **(For information purposes only. These estimates are subject to change.)**	• Version of Cost Estimation Tool N/A • Version of LATR Proportionality Guide Tool 1.3 • Estimated Proportionality Guide amount $4,752	
Additional Analysis or Software Required	☐ Queuing Analysis ☐ Signal Warrant Analysis ☐ Weaving/Merge Analysis	☐ Crash Analysis ☐ Synchro ☐ SIDRA ☐ VISSIM ☐ CORSIM ☐ Other _____

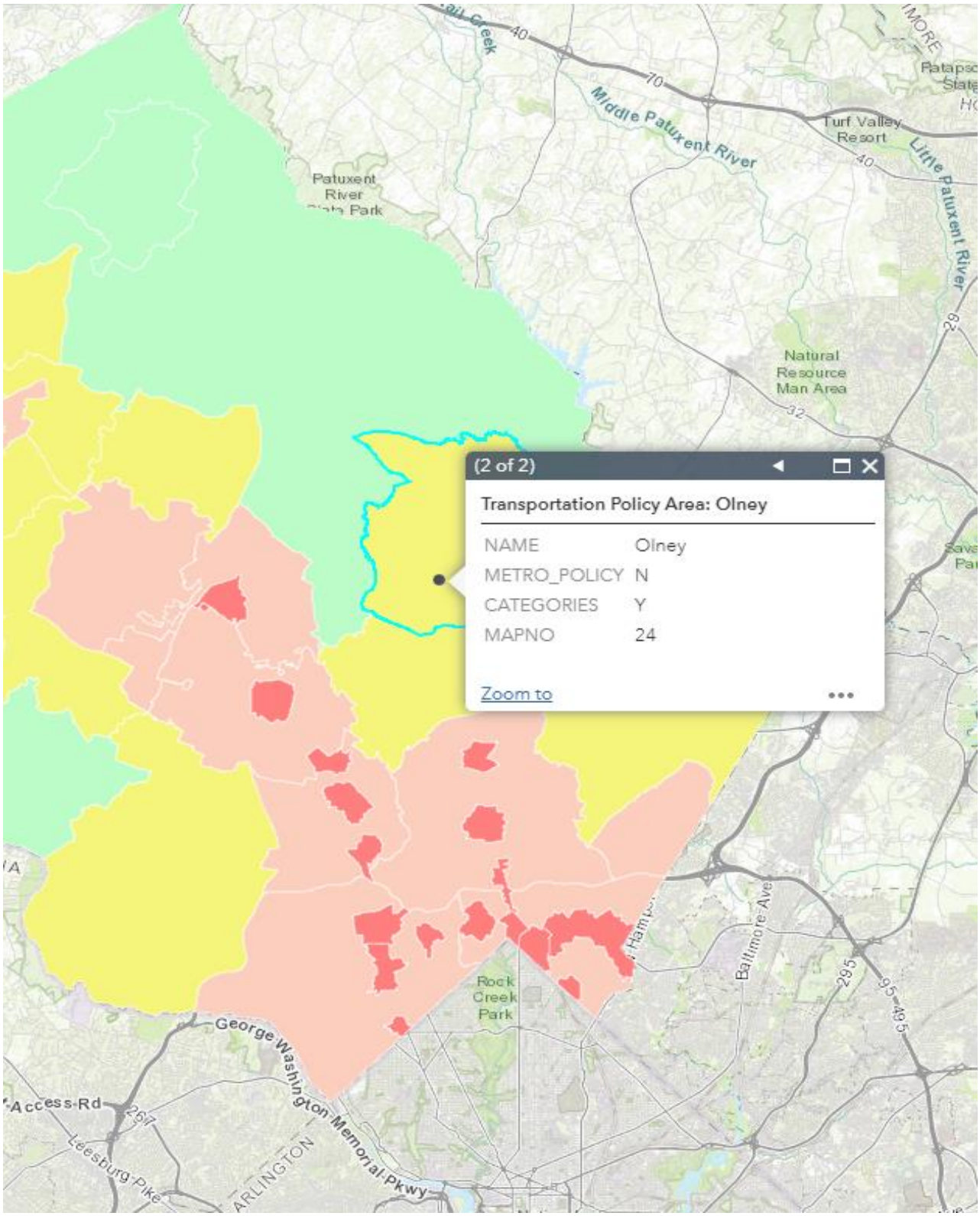
M-NCPPC Clarifications	**Additional Assumptions & Special Circumstances for Discussion**
• **Transportation impact study will comply** with all other requirements of the LATR Guidelines not listed on this form. • **If physical improvements are proposed as mitigation**, the transportation impact study will demonstrate feasibility with regards to right-of-way and utility relocation (at a minimum). • **If the development proposal significantly changes after this transportation impact study** scope has been agreed to, the	Speed studies required per LATR: 1) Along Georgia Avenue (Service Road) at site frontage 2) Along MD 97, south of intersection with Emory Church Road 3) Along Georgia Avenue, 700 ft south of Emory Church Road

Applicant will work with M-NCPPC staff to amend the scope to accurately reflect the new proposal. • **A receipt from MCDOT** showing that the transportation impact study review fee has been paid will be provided to M-NCPPC IRC Division at the time the development application is submitted. • **An electronic copy of the transportation impact study** and appendices will be provided to Planning Department and MCDOT in electronic format.* * At the time of this document's publication, the Planning Department is accepting plan applications electronically using the E-Plans platform: (https://montgomeryplanning.org/resources/eplans-applicant-user-guide/)	



Traffic Impact Analysis	Site Location Map	**Exhibit 1a**

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



Traffic Impact Analysis	Policy Area Map	**Exhibit 1b**
LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

Trip Generation Rates

Warehousing (ksf, ITE-150)	**Trip Distribution (In/Out)**
Morning Trips = 0.17 x ksf	77/23
Evening Trips = 0.18 x ksf	28/72
Strip Retail Plaza (<40k) (ksf, ITE-822)	**Trip Distribution (In/Out)**
Morning Trips = 2.36 x ksf	60/40
Evening Trips = 6.59 x ksf	50/50
Day Care Center (ksf, ITE-565)	**Trip Distribution (In/Out)**
Morning Trips = 11.00 x ksf	53/47
Evening Trips = 11.12 x ksf	47/53

Existing Uses Being Eliminated - Trip Generation Totals

				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
ITE-150	Warehousing (ksf, ITE-150)	5,929 sq.ft.		1	0	1	0	1	1
	Total Vehicular Trips per ITE Trip Generation Manual, 11th Edition:			1	0	1	0	1	1
	LATR Vehicle Trip Generation Rate Adjustment Factor (Olney):	100%							
	Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition (Auto Driver at 76.3%):			1	0	1	0	1	1
		Total Person Trips:		**1**	**0**	**1**	**0**	**1**	**1**
		Auto Driver:	76.3%	1	0	1	0	1	1
		Auto Passenger:	19.5%	0	0	0	0	0	0
		Transit:	0.7%	0	0	0	0	0	0
		Non-Motorized (Bicycle):	3.5%	0	0	0	0	0	0

				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
ITE-822	Strip Retail Plaza (<40k) (ksf, ITE-822)	658 sq.ft.		1	1	2	2	2	4
	Total Vehicular Trips per ITE Trip Generation Manual, 11th Edition:			1	1	2	2	2	4
	LATR Vehicle Trip Generation Rate Adjustment Factor (Olney):	99%							
	Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition (Auto Driver at 72.1%):			1	1	2	2	2	4
		Total Person Trips:		**2**	**1**	**3**	**3**	**3**	**6**
		Auto Driver:	72.1%	1	1	2	2	2	4
		Auto Passenger:	24.8%	1	0	1	1	1	2
		Transit:	0.5%	0	0	0	0	0	0
		Non-Motorized (Bicycle):	2.6%	0	0	0	0	0	0

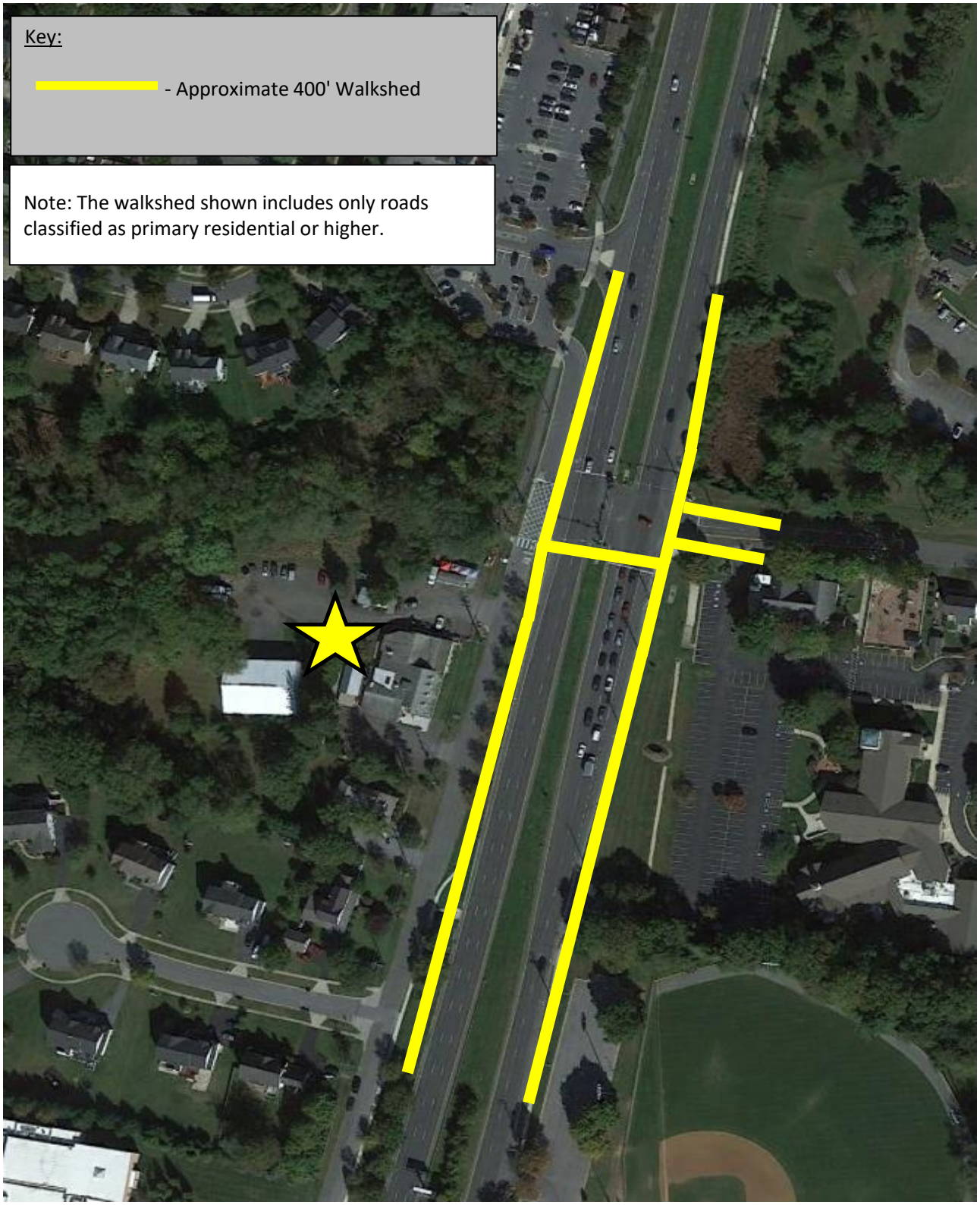
Proposed Trip Generation Totals

				AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
ITE-565	Day Care Center (Students, ITE-565)	180 students		67	60	127	57	65	122
	Total Vehicular Trips per ITE Trip Generation Manual, 11th Edition:			67	60	127	57	65	122
	LATR Vehicle Trip Generation Rate Adjustment Factor (Olney):	100%							
	Total LATR Adjusted Vehicular Trips per ITE Trip Generation Manual, 11th Edition (Auto Driver at 76.3%):			67	60	127	57	65	122
		Total Person Trips:		**87**	**79**	**166**	**75**	**85**	**160**
		Auto Driver:	76.3%	67	60	127	57	65	122
		Auto Passenger:	19.5%	17	15	32	15	17	31
		Transit:	0.7%	0	1	1	0	0	1
		Non-Motorized (Bicycle):	3.5%	3	3	6	3	3	6

Net Trip Generation Totals

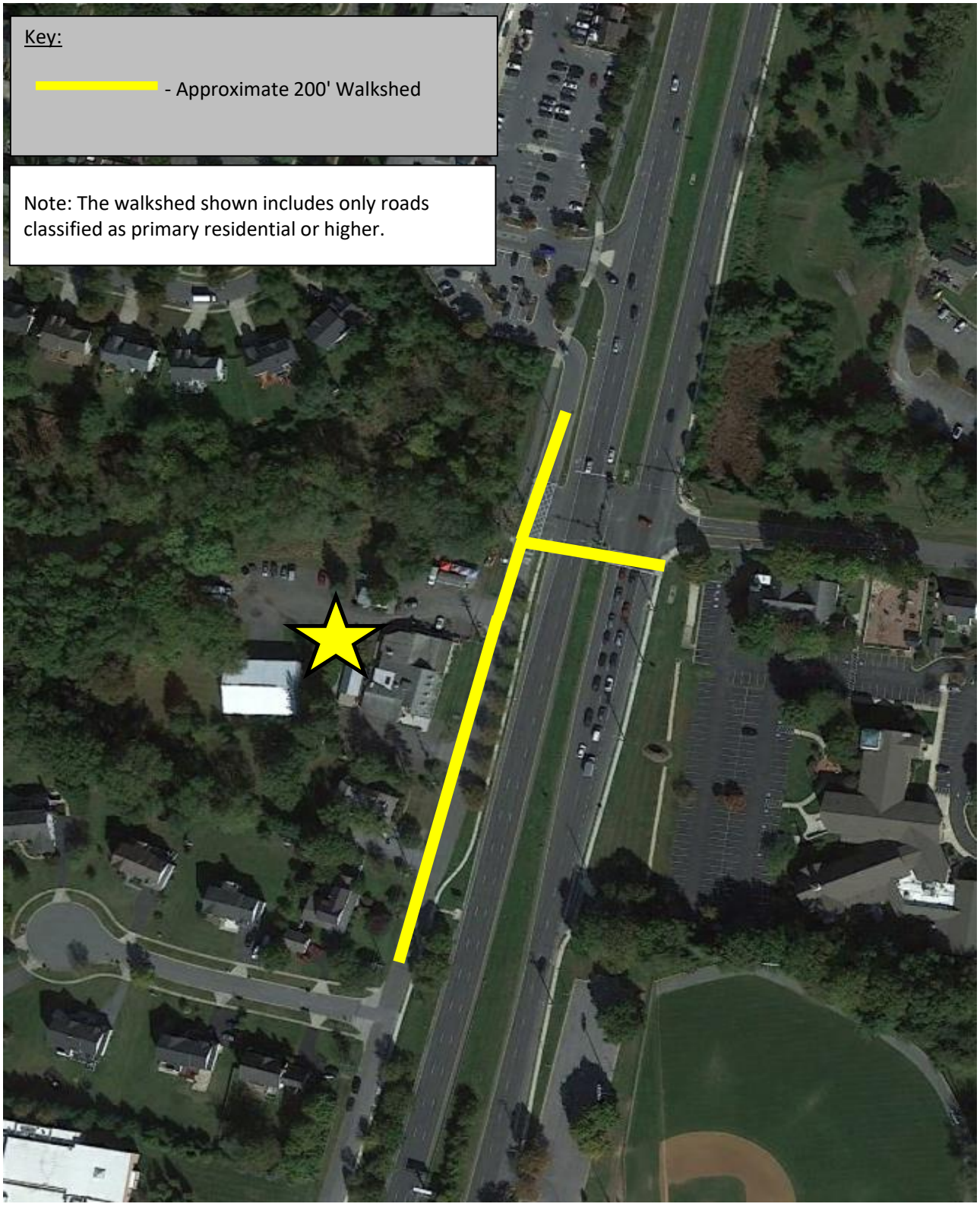
	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Existing Uses Being Eliminated Peak Hour Person Trips:	3	1	4	3	4	7
Proposed Peak Hour Person Trips:	87	79	166	75	85	160
Net New Peak Hour Person Trips:	**84**	**78**	**162**	**72**	**81**	**153**

Note: A 431 square foot crab shack will also be eliminated with the redevelopment of the site. It is not included in the existing trip generation totals as the crab shack does not operate regularly during the morning and evening peak hours.



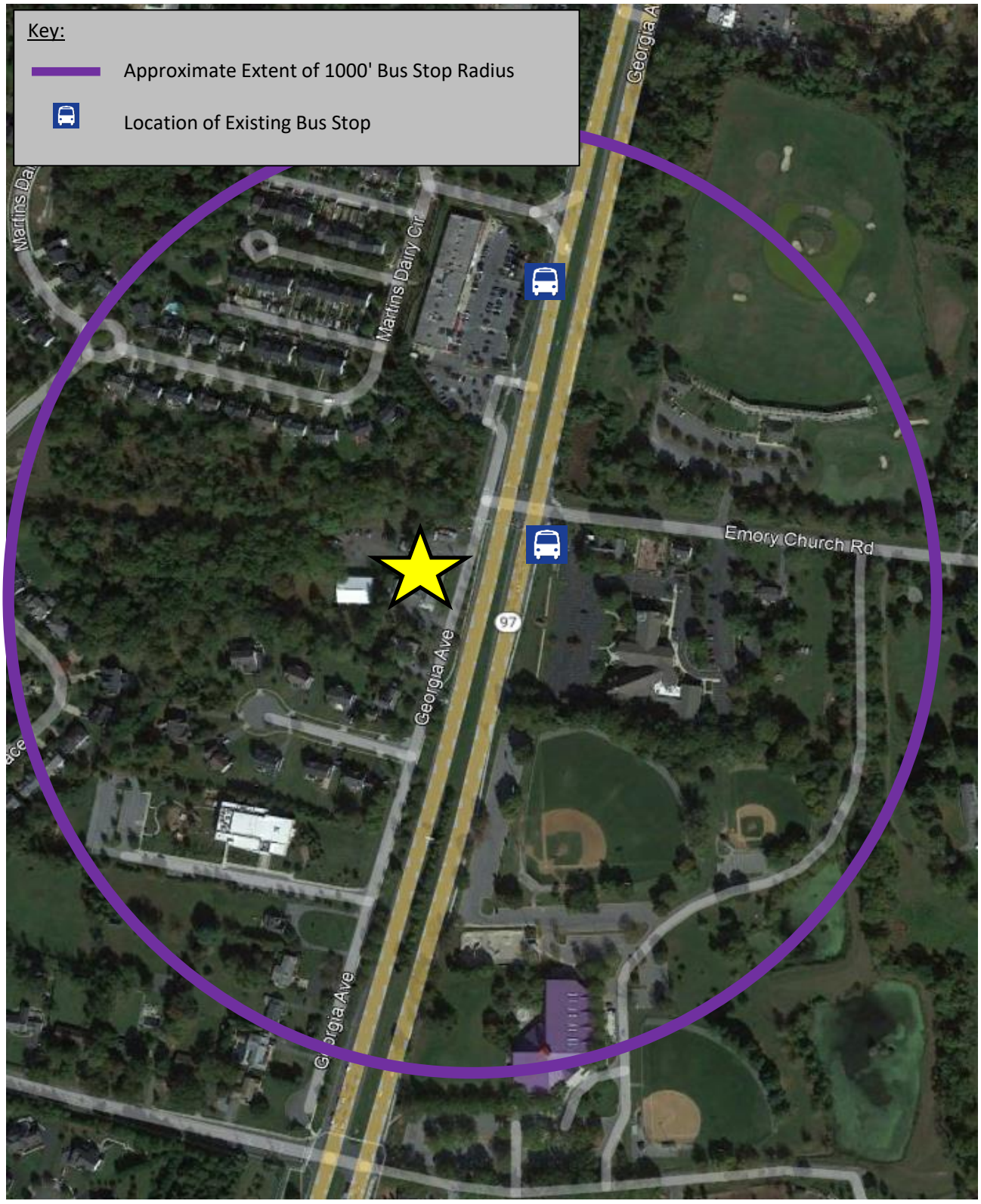
Traffic Impact Analysis	Approximate Walkshed for Ped/Bike Adequacy	**Exhibit 3a**

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



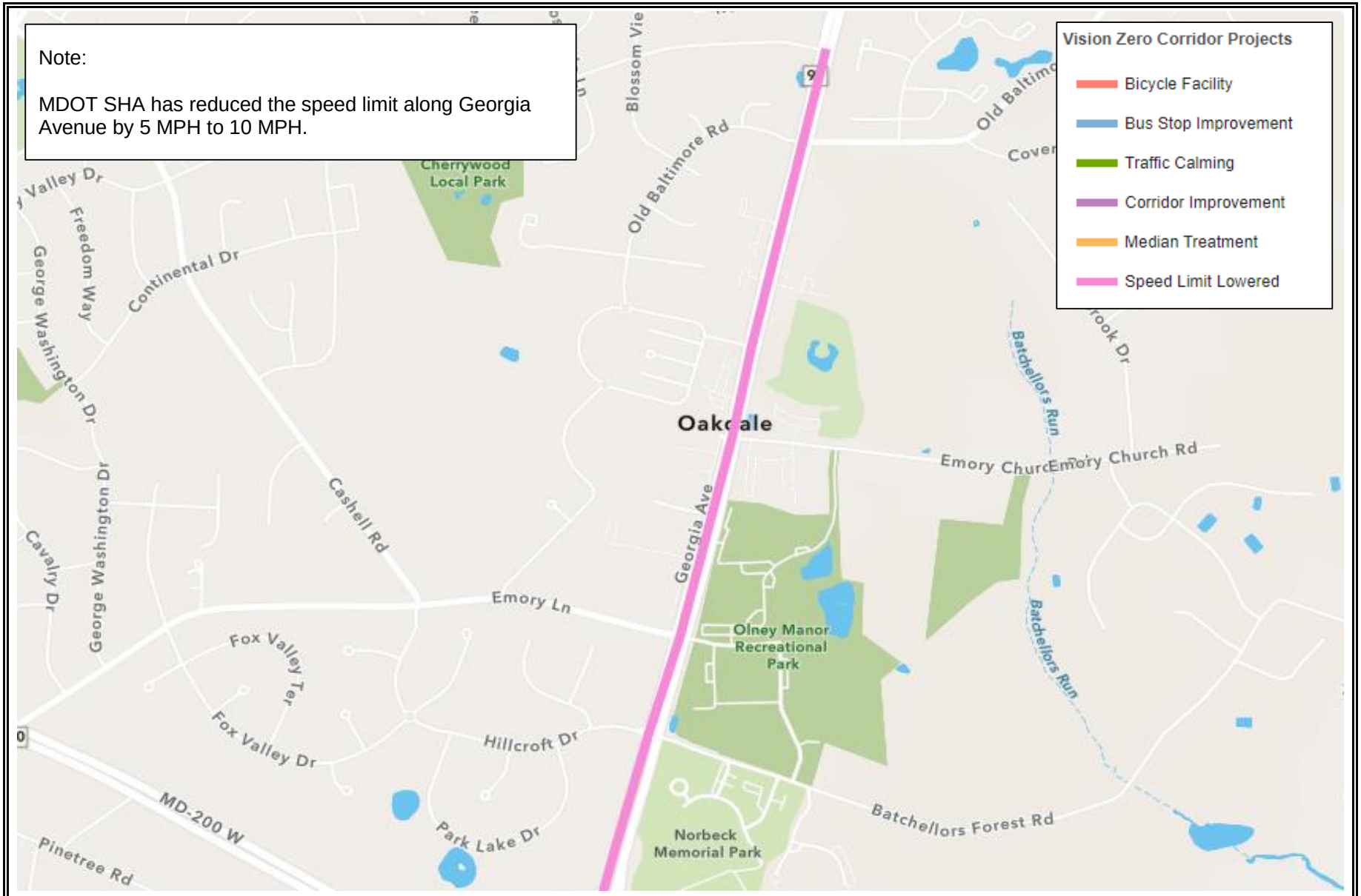
Traffic Impact Analysis	Approximate Walkshed for ADA Adequacy	**Exhibit 3b**

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



Traffic Impact Analysis	Approximate Walkshed for Transit Adequacy	**Exhibit 3c**

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



Traffic Impact Analysis	High Injury Network (HIN) within Site Vicinity	**Exhibit 3d**
LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com		

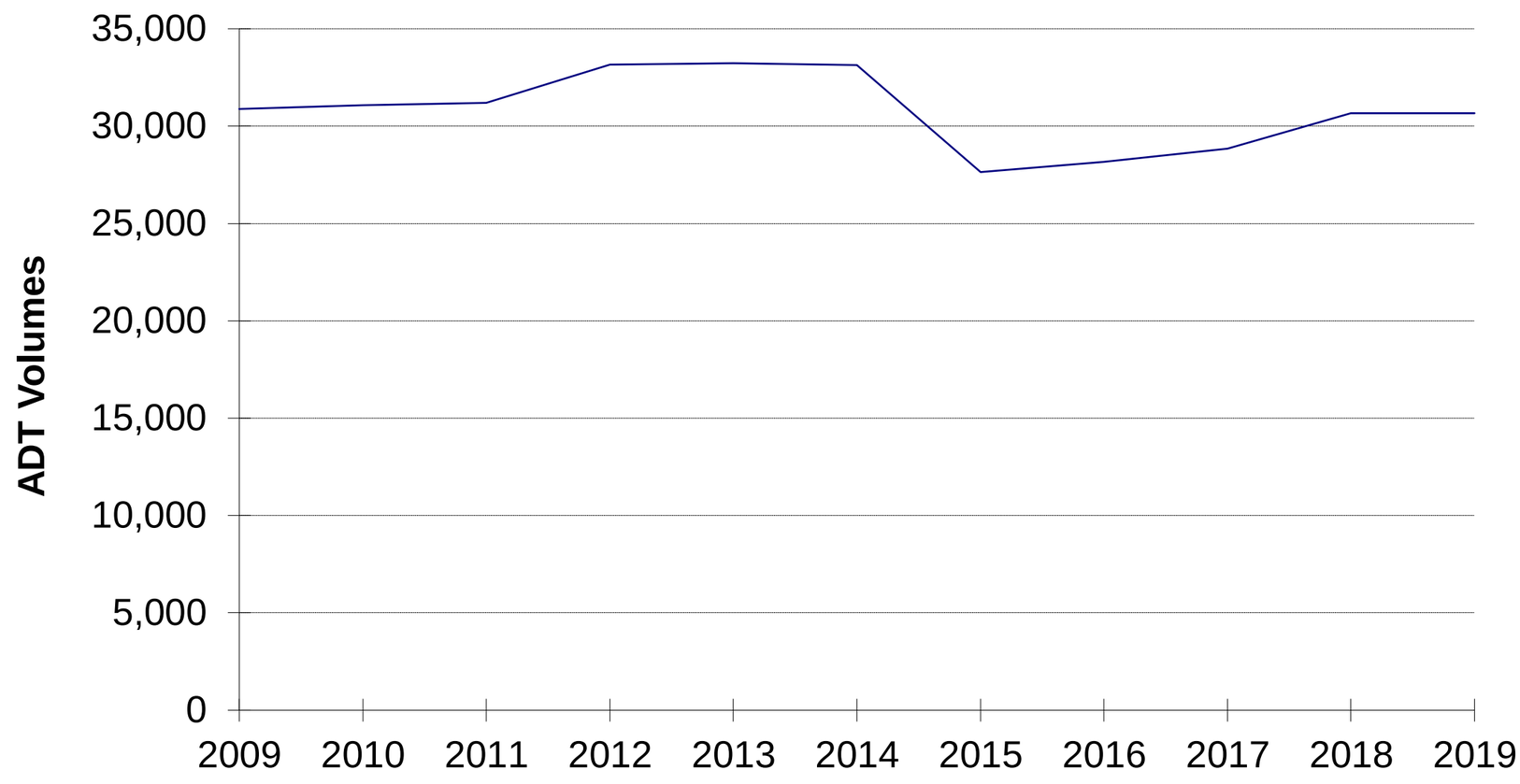
TRAFFIC GROWTH PROJECTION

LOCATION: **MD 97, North of Hines Road/Prince Philip Drive**

REPORT DATE: 01-May-23

AVERAGE GROWTH:	0.13%
MATHEMATICAL GROWTH:	-0.07%

Year	ADT Volume	Vol. increase	% increase	Average %
2009	30,880			
2010	31,071	191	0.62%	0.62%
2011	31,202	131	0.42%	0.52%
2012	33,160	1,958	6.28%	2.44%
2013	33,231	71	0.21%	1.88%
2014	33,132	-99	-0.30%	1.45%
2015	27,640	-5,492	-16.58%	-1.56%
2016	28,171	531	1.92%	-1.06%
2017	28,852	681	2.42%	-0.63%
2018	30,670	1,818	6.30%	0.14%
2019	30,671	1	0.00%	0.13%



TRAFFIC GROWTH
MD 97, North of Hines Road/Prince Philip Drive

Weekday Morning Peak Hour (6:30 am - 9:30 am)

	MD 97 Northbound					MD 97 Southbound					Emory Church Road Eastbound					Emory Church 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	2	9	171	1	1	0	2	354	1	0	0	0	0	2	0	0	0	0	0	0	542
6:45-7:00	0	5	188	2	1	1	5	521	0	0	0	2	0	3	0	0	0	0	1	0	728
7:00-7:15	3	5	189	9	0	2	2	578	1	0	0	2	0	2	0	0	3	0	0	0	796
7:15-7:30	0	4	204	0	0	3	5	582	0	0	0	1	0	5	0	0	3	0	3	1	810
7:30-7:45	1	4	252	1	0	1	5	636	0	0	0	0	0	3	0	0	3	0	2	0	908
7:45-8:00	1	9	347	3	1	4	9	608	1	0	0	3	1	5	0	0	0	0	2	0	993
8:00-8:15	3	15	365	5	0	5	7	528	0	0	0	5	0	2	0	0	2	0	4	0	941
8:15-8:30	1	13	373	7	0	4	6	571	0	0	0	3	0	10	0	0	4	0	2	0	994
8:30-8:45	0	10	283	5	1	4	10	499	1	0	0	4	1	3	0	0	5	0	4	0	829
8:45-9:00	1	15	274	3	1	5	13	524	1	0	0	2	0	9	0	0	0	0	1	0	848
9:00-9:15	1	16	253	3	0	7	10	472	1	0	0	3	0	5	0	0	4	0	1	0	776
9:15-9:30	2	11	243	8	0	7	4	374	0	0	0	0	0	3	0	0	3	0	2	0	657
Hourly Totals																					
6:30-7:30	5	23	752	12	2	6	14	2035	2	0	0	5	0	12	0	0	6	0	4	1	2879
6:45-7:45	4	18	833	12	1	7	17	2317	1	0	0	5	0	13	0	0	9	0	6	1	3244
7:00-8:00	5	22	992	13	1	10	21	2404	2	0	0	6	1	15	0	0	9	0	7	1	3509
7:15-8:15	5	32	1168	9	1	13	26	2354	1	0	0	9	1	15	0	0	8	0	11	1	3654
7:30-8:30	6	41	1337	16	1	14	27	2343	1	0	0	11	1	20	0	0	9	0	10	0	3837
7:45-8:45	5	47	1368	20	2	17	32	2206	2	0	0	15	2	20	0	0	11	0	12	0	3759
8:00-9:00	5	53	1295	20	2	18	36	2122	2	0	0	14	1	24	0	0	11	0	11	0	3614
8:15-9:15	3	54	1183	18	2	20	39	2066	3	0	0	12	1	27	0	0	13	0	8	0	3449
8:30-9:30	4	52	1053	19	2	23	37	1869	3	0	0	9	1	20	0	0	12	0	8	0	3112

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**	**Total**
7:30-8:30	**6**	**41**	**1337**	**16**	**1**	**14**	**27**	**2343**	**1**	**0**	**0**	**11**	**1**	**20**	**0**	**0**	**9**	**0**	**10**	**0**	**3837**

Weekday Evening Peak Hour (4 pm - 7 pm)

	MD 97 Northbound					MD 97 Southbound					Emory Church Road Eastbound					Emory Church 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
4:00-4:15	3	14	459	3	0	8	4	344	0	0	0	4	0	3	0	0	2	0	8	0	852
4:15-4:30	3	10	422	10	1	5	6	396	4	0	0	6	0	10	0	0	1	0	4	0	877
4:30-4:45	3	10	462	7	0	10	6	346	3	0	0	4	0	2	0	0	12	0	6	0	871
4:45-5:00	0	9	467	7	0	7	6	360	5	0	0	5	2	6	0	0	3	0	5	0	882
5:00-5:15	2	16	475	4	0	7	5	352	1	0	0	4	0	6	0	0	5	0	6	0	883
5:15-5:30	0	13	468	5	0	8	10	366	3	0	0	5	0	3	0	0	3	0	13	0	897
5:30-5:45	0	17	458	13	1	7	7	332	3	0	0	3	0	2	1	0	2	0	7	0	851
5:45-6:00	0	13	479	9	0	8	8	356	1	0	0	6	0	5	0	0	3	1	8	0	897
6:00-6:15	1	12	457	8	0	10	5	355	2	0	0	5	0	2	0	0	9	0	7	1	873
6:15-6:30	0	13	411	9	0	7	9	314	3	0	0	4	0	8	0	0	4	0	8	0	790
6:30-6:45	1	15	376	14	0	11	6	321	0	0	0	6	0	3	0	0	4	0	8	0	765
6:45-7:00	0	10	363	10	0	9	11	244	2	0	0	5	0	6	0	0	4	0	5	0	669
Hourly Totals																					
4:00-5:00	9	43	1810	27	1	30	22	1446	12	0	0	19	2	21	0	0	18	0	23	0	3483
4:15-5:15	8	45	1826	28	1	29	23	1454	13	0	0	19	2	24	0	0	21	0	21	0	3514
4:30-5:30	5	48	1872	23	0	32	27	1424	12	0	0	18	2	17	0	0	23	0	30	0	3533
4:45-5:45	2	55	1868	29	1	29	28	1410	12	0	0	17	2	17	1	0	13	0	31	0	3515
5:00-6:00	2	59	1880	31	1	30	30	1406	8	0	0	18	0	16	1	0	13	1	34	0	3530
5:15-6:15	1	55	1862	35	1	33	30	1409	9	0	0	19	0	12	1	0	17	1	35	1	3521
5:30-6:30	1	55	1805	39	1	32	29	1357	9	0	0	18	0	17	1	0	18	1	30	1	3414
5:45-6:45	2	53	1723	40	0	36	28	1346	6	0	0	21	0	18	0	0	20	1	31	1	3326
6:00-7:00	2	50	1607	41	0	37	31	1234	7	0	0	20	0	19	0	0	21	0	28	1	3098

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**
4:30-5:30	**5**	**48**	**1872**	**23**	**0**	**32**	**27**	**1424**	**12**	**0**	**0**	**18**	**2**	**17**	**0**	**0**	**23**	**0**	**30**	**0**	**3533**

Peak Hour
Turning Movement Count

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

Intersection: MD 97 & Emory Church Road
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Thursday, September 5, 2024
Jurisdiction: Montgomery County

Weekday Morning Peak Hour (6:30 am - 9:30 am)

	Georgia Avenue Service Road Northbound					Georgia Avenue Service Road Southbound					N/A Eastbound					Emory Church 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	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	12
6:45-7:00	0	0	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	5	0	10
7:00-7:15	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	6	0	10
7:15-7:30	0	0	0	4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4	0	10
7:30-7:45	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	1	0	3	0	7
7:45-8:00	0	0	1	2	0	0	7	0	0	0	0	0	0	0	0	0	1	0	9	0	20
8:00-8:15	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	15	0	22
8:15-8:30	0	0	0	1	0	0	12	0	0	0	0	0	0	0	0	0	4	0	9	0	26
8:30-8:45	0	0	0	1	0	0	7	0	0	0	0	0	0	0	0	0	2	0	9	0	19
8:45-9:00	0	0	0	0	0	0	11	1	0	0	0	0	0	0	0	0	4	0	12	0	28
9:00-9:15	0	0	0	1	0	0	7	0	0	0	0	0	0	0	0	0	2	0	15	0	25
9:15-9:30	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	10	0	14
Hourly Totals																					
6:30-7:30	0	0	0	7	0	0	10	0	0	0	0	0	0	0	0	0	0	0	25	0	42
6:45-7:45	0	0	0	6	0	0	12	0	0	0	0	0	0	0	0	0	1	0	18	0	37
7:00-8:00	0	0	1	7	0	0	15	0	0	0	0	0	0	0	0	0	2	0	22	0	47
7:15-8:15	0	0	1	7	0	0	18	0	0	0	0	0	0	0	0	0	2	0	31	0	59
7:30-8:30	0	0	1	4	0	0	28	0	0	0	0	0	0	0	0	0	6	0	36	0	75
7:45-8:45	0	0	1	4	0	0	33	0	0	0	0	0	0	0	0	0	7	0	42	0	87
8:00-9:00	0	0	0	2	0	0	37	1	0	0	0	0	0	0	0	0	10	0	45	0	95
8:15-9:15	0	0	0	3	0	0	37	1	0	0	0	0	0	0	0	0	12	0	45	0	98
8:30-9:30	0	0	0	2	0	0	28	1	0	0	0	0	0	0	0	0	9	0	46	0	86

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**	**Total**
8:15-9:15	**0**	**0**	**0**	**3**	**0**	**0**	**37**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**45**	**0**	**98**

Weekday Evening Peak Hour (4 pm - 7 pm)

	Georgia Avenue Service Road Northbound					Georgia Avenue Service Road Southbound					N/A Eastbound					Emory Church 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
4:00-4:15	0	0	0	2	0	0	5	0	0	0	0	0	0	0	2	0	0	0	14	0	21
4:15-4:30	0	0	0	4	0	0	12	0	0	0	0	1	0	0	0	0	5	0	9	0	31
4:30-4:45	0	0	0	2	0	0	4	0	0	0	0	0	0	0	2	0	6	0	7	0	19
4:45-5:00	0	0	0	3	0	0	10	1	0	0	0	1	0	0	0	0	5	0	9	0	29
5:00-5:15	0	0	1	5	0	0	5	0	0	0	0	3	0	0	0	0	4	0	13	0	31
5:15-5:30	0	0	0	1	0	0	7	0	0	0	0	1	0	0	0	0	6	0	10	0	25
5:30-5:45	0	0	1	1	0	0	4	0	0	0	0	0	0	0	0	0	6	0	14	0	26
5:45-6:00	0	0	0	1	0	0	10	0	0	0	0	0	0	0	0	0	0	0	15	0	26
6:00-6:15	0	0	0	1	0	0	6	0	0	0	0	1	0	0	0	0	2	0	12	0	22
6:15-6:30	0	0	1	3	0	0	9	0	0	0	0	1	0	0	0	0	4	0	12	0	30
6:30-6:45	0	0	0	9	0	0	0	0	0	0	0	5	0	0	0	0	3	0	12	0	29
6:45-7:00	0	0	0	8	0	0	3	0	0	0	0	3	0	1	2	0	3	0	9	0	27
Hourly Totals																					
4:00-5:00	0	0	0	11	0	0	31	1	0	0	0	2	0	0	4	0	16	0	39	0	104
4:15-5:15	0	0	1	14	0	0	31	1	0	0	0	5	0	0	2	0	20	0	38	0	112
4:30-5:30	0	0	1	11	0	0	26	1	0	0	0	5	0	0	2	0	21	0	39	0	106
4:45-5:45	0	0	2	10	0	0	26	1	0	0	0	5	0	0	0	0	21	0	46	0	111
5:00-6:00	0	0	2	8	0	0	26	0	0	0	0	4	0	0	0	0	16	0	52	0	108
5:15-6:15	0	0	1	4	0	0	27	0	0	0	0	2	0	0	0	0	14	0	51	0	99
5:30-6:30	0	0	2	6	0	0	29	0	0	0	0	2	0	0	0	0	12	0	53	0	104
5:45-6:45	0	0	1	14	0	0	25	0	0	0	0	7	0	0	0	0	9	0	51	0	107
6:00-7:00	0	0	1	21	0	0	18	0	0	0	0	10	0	1	2	0	12	0	45	0	110

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**
4:15-5:15	**0**	**0**	**1**	**14**	**0**	**0**	**31**	**1**	**0**	**0**	**0**	**5**	**0**	**0**	**2**	**0**	**20**	**0**	**38**	**0**	**112**

Peak Hour
Turning Movement Count

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

Intersection: Georgia Avenue Service Road & Site Access
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Thursday, September 5, 2024
Jurisdiction: Montgomery County

Weekday Morning Peak Hour (6:30 am - 9:30 am)

	Georgia Avenue Service Road Northbound					Georgia Avenue Service Road Southbound					Site Access Eastbound					N/A 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	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
6:45-7:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:00-7:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15-7:30	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:30-7:45	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45-8:00	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4
8:00-8:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8:15-8:30	0	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	5
8:30-8:45	0	0	1	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	4
8:45-9:00	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
9:00-9:15	0	0	1	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	4
9:15-9:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Totals																					
6:30-7:30	0	0	7	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	9
6:45-7:45	0	0	6	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	8
7:00-8:00	0	0	8	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	11
7:15-8:15	0	0	8	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	11
7:30-8:30	0	0	5	0	0	0	0	6	1	0	0	0	0	0	0	0	0	0	0	0	12
7:45-8:45	0	0	5	0	0	0	0	7	1	0	0	1	0	0	0	0	0	0	0	0	14
8:00-9:00	0	0	2	0	0	0	0	10	1	0	0	1	0	0	0	0	0	0	0	0	14
8:15-9:15	0	0	3	0	0	0	0	12	0	0	0	2	0	0	0	0	0	0	0	0	17
8:30-9:30	0	0	2	0	0	0	0	9	0	0	0	2	0	0	0	0	0	0	0	0	13

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**	**Total**
8:15-9:15	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**

Weekday Evening Peak Hour (4 pm - 7 pm)

	Georgia Avenue Service Road Northbound					Georgia Avenue Service Road Southbound					Site Access Eastbound					N/A 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
4:00-4:15	0	0	2	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	5
4:15-4:30	0	0	4	0	0	0	0	5	0	0	0	2	0	0	0	0	0	0	0	0	11
4:30-4:45	0	0	2	0	0	0	0	6	2	0	0	2	0	0	0	0	0	0	0	0	12
4:45-5:00	0	0	3	0	0	0	0	5	1	0	0	1	0	0	0	0	0	0	0	0	10
5:00-5:15	0	0	6	0	0	0	0	4	1	0	0	2	0	0	0	0	0	0	0	0	13
5:15-5:30	0	0	1	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	7
5:30-5:45	0	0	2	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	8
5:45-6:00	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3
6:00-6:15	0	0	1	0	0	0	0	2	3	0	0	3	0	0	0	0	0	0	0	0	9
6:15-6:30	0	1	3	0	0	0	0	4	1	0	0	1	0	0	0	0	0	0	0	0	10
6:30-6:45	0	0	9	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	13
6:45-7:00	0	0	8	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	12
Hourly Totals																					
4:00-5:00	0	0	11	0	0	0	0	16	5	0	0	5	0	1	0	0	0	0	0	0	38
4:15-5:15	0	0	15	0	0	0	0	20	4	0	0	7	0	0	0	0	0	0	0	0	46
4:30-5:30	0	0	12	0	0	0	0	21	4	0	0	5	0	0	0	0	0	0	0	0	42
4:45-5:45	0	0	12	0	0	0	0	21	2	0	0	3	0	0	0	0	0	0	0	0	38
5:00-6:00	0	0	10	0	0	0	0	16	1	0	0	4	0	0	0	0	0	0	0	0	31
5:15-6:15	0	0	5	0	0	0	0	14	3	0	0	5	0	0	0	0	0	0	0	0	27
5:30-6:30	0	1	7	0	0	0	0	12	4	0	0	6	0	0	0	0	0	0	0	0	30
5:45-6:45	0	1	14	0	0	0	0	9	4	0	0	7	0	0	0	0	0	0	0	0	35
6:00-7:00	0	1	21	0	0	0	0	12	4	0	0	6	0	0	0	0	0	0	0	0	44

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**
4:15-5:15	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**20**	**4**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**46**

Peak Hour
Turning Movement Count

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

Intersection: Georgia Avenue Service Road & Site Access
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Thursday, September 5, 2024
Jurisdiction: Montgomery County

Weekday Morning Peak Hour (6:30 am - 9:30 am)

	Georgia Avenue Service Road Northbound					Georgia Avenue Service Road Southbound					Site Access Eastbound					N/A 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	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:45-7:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
7:00-7:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15-7:30	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:30-7:45	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2
7:45-8:00	0	0	3	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	4
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	5
8:30-8:45	0	0	1	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	3
8:45-9:00	0	0	0	0	0	0	0	4	0	0	0	0	0	0	1	0	0	0	0	0	4
9:00-9:15	0	0	1	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	3
9:15-9:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Totals																					
6:30-7:30	0	0	7	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	9
6:45-7:45	0	0	6	0	0	1	0	1	0	0	0	0	0	0	2	0	0	0	0	0	10
7:00-8:00	0	0	8	0	0	1	0	2	0	0	0	0	0	0	2	0	0	0	0	0	13
7:15-8:15	0	0	8	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	12
7:30-8:30	0	0	5	0	0	0	0	6	0	0	0	0	0	0	2	0	0	0	0	0	13
7:45-8:45	0	0	5	0	0	0	0	7	0	0	0	0	0	0	3	0	0	0	0	0	15
8:00-9:00	0	0	2	0	0	0	0	10	0	0	0	0	0	0	3	0	0	0	0	0	15
8:15-9:15	0	0	3	0	0	0	0	12	0	0	0	0	0	0	4	0	0	0	0	0	19
8:30-9:30	0	0	2	0	0	0	0	9	0	0	0	0	0	0	4	0	0	0	0	0	15

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**	**Total**
8:15-9:15	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**19**

Weekday Evening Peak Hour (4 pm - 7 pm)

	Georgia Avenue Service Road Northbound					Georgia Avenue Service Road Southbound					Site Access Eastbound					N/A 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
4:00-4:15	0	0	2	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3
4:15-4:30	0	0	3	0	0	0	0	3	2	0	0	1	0	0	0	0	0	0	0	0	9
4:30-4:45	0	0	2	0	0	0	0	3	3	0	0	0	0	0	2	0	0	0	0	0	8
4:45-5:00	0	0	2	0	0	0	0	1	4	0	0	1	0	0	0	0	0	0	0	0	8
5:00-5:15	0	0	3	0	0	0	0	2	2	0	0	3	0	0	0	0	0	0	0	0	10
5:15-5:30	0	0	0	0	0	0	0	4	2	0	0	1	0	0	0	0	0	0	0	0	7
5:30-5:45	0	0	2	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	8
5:45-6:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:00-6:15	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	3
6:15-6:30	0	0	3	0	0	0	0	2	2	0	0	1	0	0	0	0	0	0	0	0	8
6:30-6:45	0	0	4	0	0	0	0	3	0	0	0	5	0	0	0	0	0	0	0	0	12
6:45-7:00	0	0	5	0	0	0	0	3	0	0	0	3	0	1	2	0	0	0	0	0	12
Hourly Totals																					
4:00-5:00	0	0	9	0	0	1	0	7	9	0	0	2	0	0	4	0	0	0	0	0	32
4:15-5:15	0	0	10	0	0	0	0	9	11	0	0	5	0	0	2	0	0	0	0	0	37
4:30-5:30	0	0	7	0	0	0	0	10	11	0	0	5	0	0	2	0	0	0	0	0	35
4:45-5:45	0	0	7	0	0	0	0	11	10	0	0	5	0	0	0	0	0	0	0	0	33
5:00-6:00	0	0	6	0	0	0	0	10	6	0	0	4	0	0	0	0	0	0	0	0	26
5:15-6:15	0	0	3	0	0	0	0	10	4	0	0	2	0	0	0	0	0	0	0	0	19
5:30-6:30	0	0	6	0	0	0	0	8	4	0	0	2	0	0	0	0	0	0	0	0	20
5:45-6:45	0	0	8	0	0	0	0	7	2	0	0	7	0	0	0	0	0	0	0	0	24
6:00-7:00	0	0	12	0	0	0	0	10	2	0	0	10	0	1	2	0	0	0	0	0	37

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**
4:15-5:15	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**9**	**11**	**0**	**0**	**5**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**37**

Peak Hour
Turning Movement Count

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

Intersection: Georgia Avenue Service Road & Site Access
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Thursday, September 5, 2024
Jurisdiction: Montgomery County

Weekday Morning Peak Hour (6:30 am - 9:30 am)

	MD 97 Northbound					MD 97 Southbound					Emory Lane Eastbound					Olney Recreational Park 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	3	9	166	4	0	0	0	344	7	0	0	7	2	49	0	0	3	0	2	0	596
6:45-7:00	2	19	190	5	0	0	0	471	15	0	0	10	3	72	0	0	1	2	2	0	792
7:00-7:15	7	14	186	3	0	0	0	493	13	0	0	15	4	85	0	0	9	0	1	1	830
7:15-7:30	8	26	206	8	0	0	1	511	26	1	0	16	1	97	1	0	9	0	2	2	911
7:30-7:45	9	37	259	6	0	0	9	551	37	0	0	20	6	84	0	0	28	3	3	1	1052
7:45-8:00	14	31	367	6	0	0	5	564	30	0	0	18	9	78	1	0	47	1	13	0	1183
8:00-8:15	17	32	371	6	0	0	1	474	35	0	0	40	3	85	0	0	36	8	5	0	1113
8:15-8:30	6	47	359	12	0	0	3	543	24	0	0	28	2	73	1	0	6	3	3	0	1109
8:30-8:45	7	29	286	13	0	0	5	495	30	0	0	13	6	71	0	0	10	2	2	1	969
8:45-9:00	8	27	267	11	0	1	4	469	31	0	0	29	3	79	0	0	12	4	3	1	948
9:00-9:15	8	32	259	17	0	0	3	440	21	0	0	14	2	77	0	0	10	0	2	0	885
9:15-9:30	7	30	249	4	0	0	1	368	24	0	0	20	2	52	0	0	5	2	4	1	768
Hourly Totals																					
6:30-7:30	20	68	748	20	0	0	1	1819	61	1	0	48	10	303	1	0	22	2	7	3	3134
6:45-7:45	26	96	841	22	0	0	10	2026	91	1	0	61	14	338	1	0	47	5	8	4	3591
7:00-8:00	38	108	1018	23	0	0	15	2119	106	1	0	69	20	344	2	0	93	4	19	4	3983
7:15-8:15	48	126	1203	26	0	0	16	2100	128	1	0	94	19	344	2	0	120	12	23	3	4265
7:30-8:30	46	147	1356	30	0	0	18	2132	126	0	0	106	20	320	2	0	117	15	24	1	4460
7:45-8:45	44	139	1383	37	0	0	14	2076	119	0	0	99	20	307	2	0	99	14	23	1	4377
8:00-9:00	38	135	1283	42	0	1	13	1981	120	0	0	110	14	308	1	0	64	17	13	2	4142
8:15-9:15	29	135	1171	53	0	1	15	1947	106	0	0	84	13	300	1	0	38	9	10	2	3914
8:30-9:30	30	118	1061	45	0	1	13	1772	106	0	0	76	13	279	0	0	37	8	11	3	3573

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**	**Total**
7:30-8:30	**46**	**147**	**1356**	**30**	**0**	**0**	**18**	**2132**	**126**	**0**	**0**	**106**	**20**	**320**	**2**	**0**	**117**	**15**	**24**	**1**	**4460**

Weekday Evening Peak Hour (4 pm - 7 pm)

	MD 97 Northbound					MD 97 Southbound					Emory Lane Eastbound					Olney Recreational Park 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
4:00-4:15	1	52	417	7	0	0	2	328	13	3	0	46	1	38	0	0	13	4	5	0	927
4:15-4:30	5	54	420	4	0	1	6	373	21	1	0	50	4	52	0	0	18	2	4	0	1014
4:30-4:45	3	54	434	13	0	2	8	323	25	1	0	33	5	50	0	0	27	3	10	0	990
4:45-5:00	7	57	452	8	0	0	4	339	15	1	0	48	5	41	1	0	11	5	7	0	999
5:00-5:15	5	59	426	10	0	2	13	319	16	3	0	58	10	54	0	0	12	6	5	0	995
5:15-5:30	2	47	429	15	0	4	9	311	30	3	0	67	8	51	1	0	12	6	4	0	995
5:30-5:45	8	55	415	10	0	3	7	314	27	2	0	66	12	50	2	0	18	7	14	0	1006
5:45-6:00	3	52	465	17	0	0	13	306	23	0	0	47	15	52	0	0	14	5	5	0	1017
6:00-6:15	9	52	427	17	0	1	6	328	30	2	0	43	7	58	0	0	14	2	5	0	999
6:15-6:30	5	46	430	10	0	1	7	303	18	1	0	33	8	53	0	0	9	7	2	1	932
6:30-6:45	3	48	360	8	0	0	6	283	18	0	0	38	6	39	0	0	5	9	5	0	828
6:45-7:00	4	38	364	18	0	0	6	227	14	3	0	20	3	33	2	0	7	4	4	3	742
Hourly Totals																					
4:00-5:00	16	217	1723	32	0	3	20	1363	74	6	0	177	15	181	1	0	69	14	26	0	3937
4:15-5:15	20	224	1732	35	0	5	31	1354	77	6	0	189	24	197	1	0	68	16	26	0	4005
4:30-5:30	17	217	1741	46	0	8	34	1292	86	8	0	206	28	196	2	0	62	20	26	0	3989
4:45-5:45	22	218	1722	43	0	9	33	1283	88	9	0	239	35	196	4	0	53	24	30	0	4008
5:00-6:00	18	213	1735	52	0	9	42	1250	96	8	0	238	45	207	3	0	56	24	28	0	4024
5:15-6:15	22	206	1736	59	0	8	35	1259	110	7	0	223	42	211	3	0	58	20	28	0	4027
5:30-6:30	25	205	1737	54	0	5	33	1251	98	5	0	189	42	213	2	0	55	21	26	1	3962
5:45-6:45	20	198	1682	52	0	2	32	1220	89	3	0	161	36	202	0	0	42	23	17	1	3780
6:00-7:00	21	184	1581	53	0	2	25	1141	80	6	0	134	24	183	2	0	35	22	16	4	3513

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**
5:15-6:15	**22**	**206**	**1736**	**59**	**0**	**8**	**35**	**1259**	**110**	**7**	**0**	**223**	**42**	**211**	**3**	**0**	**58**	**20**	**28**	**0**	**4027**

Peak Hour
Turning Movement Count

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

Intersection: MD 97 & Emory Lane
Weather: Clear
Count by: Count Cam DSS
Count Day/Date: Thursday, September 5, 2024
Jurisdiction: Montgomery County

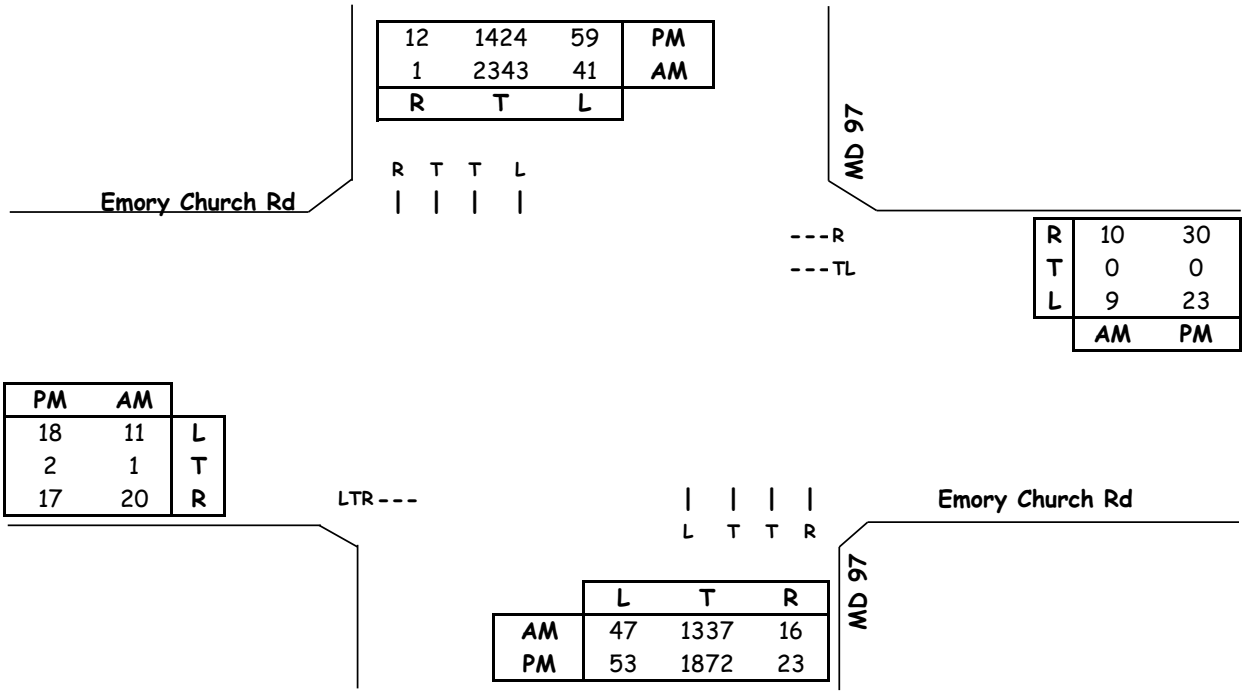
Appendix B

Level of Service (LOS) Worksheets

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: MD 97
Minor Street: Emory Church Rd
Study Period: Existing Traffic

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour

	Through Volumes			+ Opposing Lefts			AM
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	32	1.00	32				32
WB	9	1.00	9				9
NB	1337	0.55	735	41	1.00	41	1336
SB	2343	0.55	1289	47	1.00	47	
						CLV TOTAL=	**1377**
						Level of Service (LOS)=	**D**

PM Peak Hour

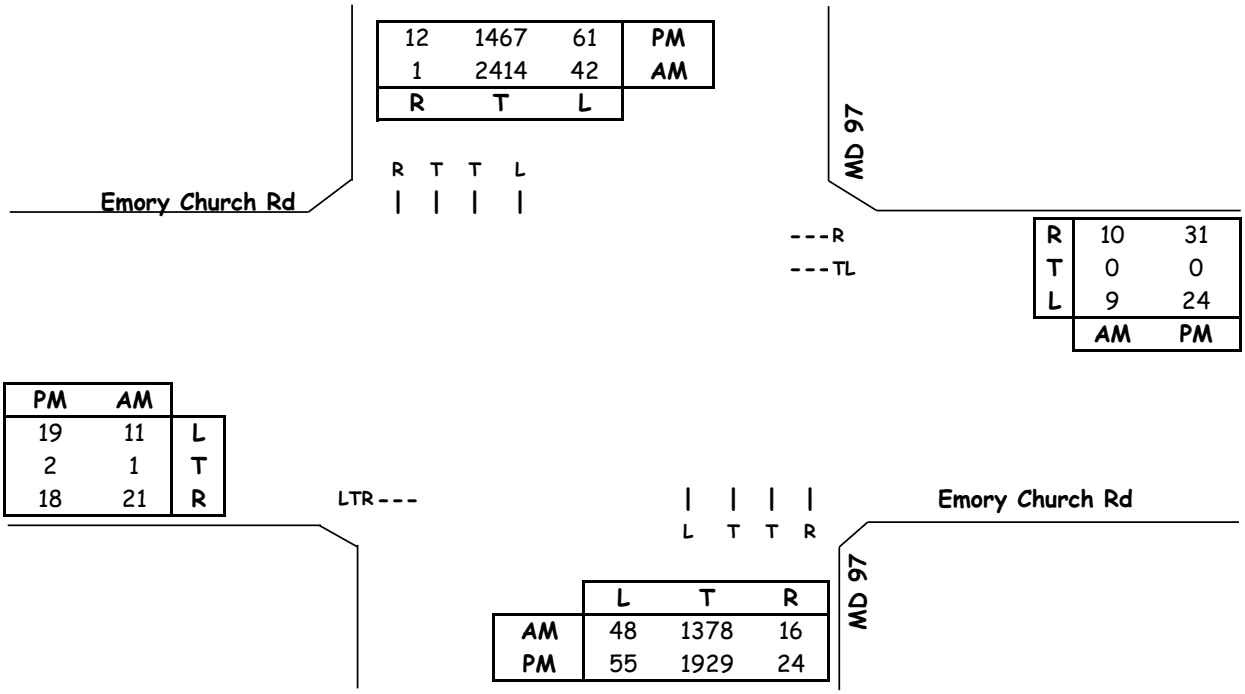
	Through Volumes			+ Opposing Lefts			PM
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	37	1.00	37				37
WB	23	1.00	23				23
NB	1872	0.55	1030	59	1.00	59	1089
SB	1424	0.55	783	53	1.00	53	
						CLV TOTAL=	**1149**
						Level of Service (LOS)=	**B**

Critical Lane Volume Analysis Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		MD 97 & Emory Church Rd (Existing Traffic)	**Intersection** **1**

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: MD 97
Minor Street: Emory Church Rd
Study Period: Background Traffic

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour

	Through Volumes			+ Opposing Lefts			AM
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	33	1.00	33				33
WB	9	1.00	9				9
NB	1378	0.55	758	42	1.00	42	1376
SB	2414	0.55	1328	48	1.00	48	
						CLV TOTAL=	**1418**
						Level of Service (LOS)=	**D**

PM Peak Hour

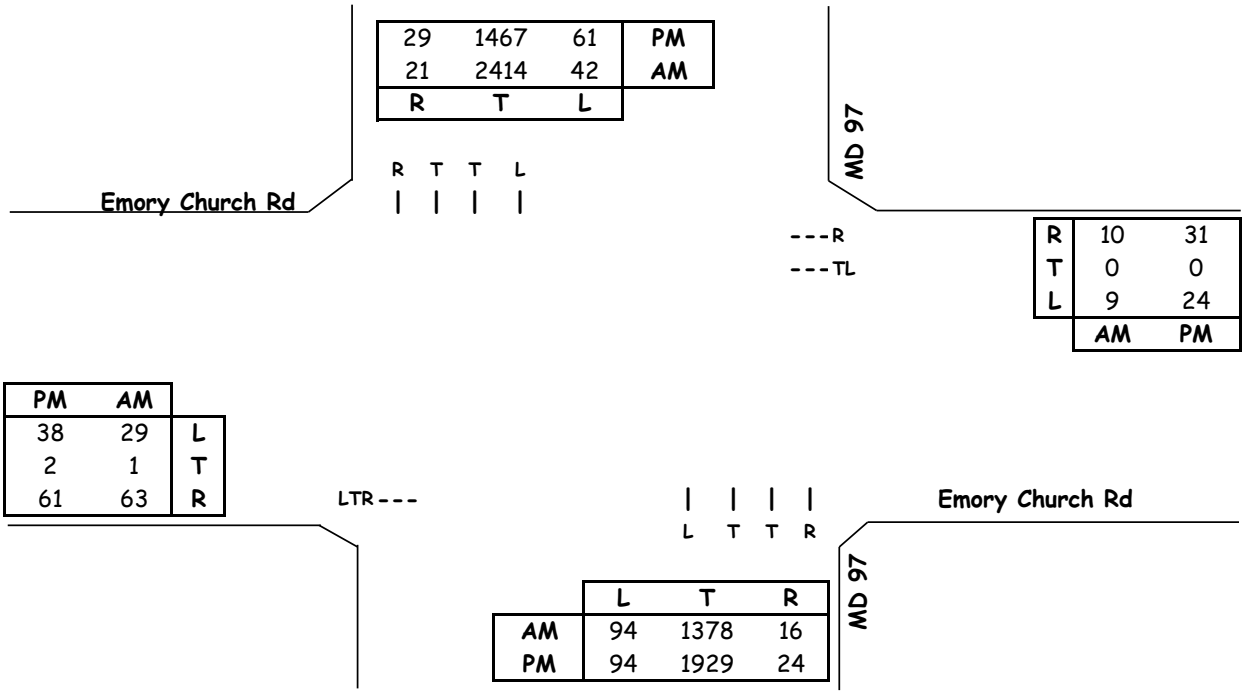
	Through Volumes			+ Opposing Lefts			PM
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	39	1.00	39				39
WB	24	1.00	24				24
NB	1929	0.55	1061	61	1.00	61	1122
SB	1467	0.55	807	55	1.00	55	
						CLV TOTAL=	**1185**
						Level of Service (LOS)=	**C**

Critical Lane Volume Analysis Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		MD 97 & Emory Church Rd (Background Traffic)	**Intersection** **1**

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: MD 97
Minor Street: Emory Church Rd
Study Period: Total Traffic

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour

	Through Volumes			+ Opposing Lefts			AM
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	93	1.00	93				93
WB	9	1.00	9				9
NB	1378	0.55	758	42	1.00	42	1422
SB	2414	0.55	1328	94	1.00	94	
						CLV TOTAL=	**1524**
						Level of Service (LOS)=	**E**

PM Peak Hour

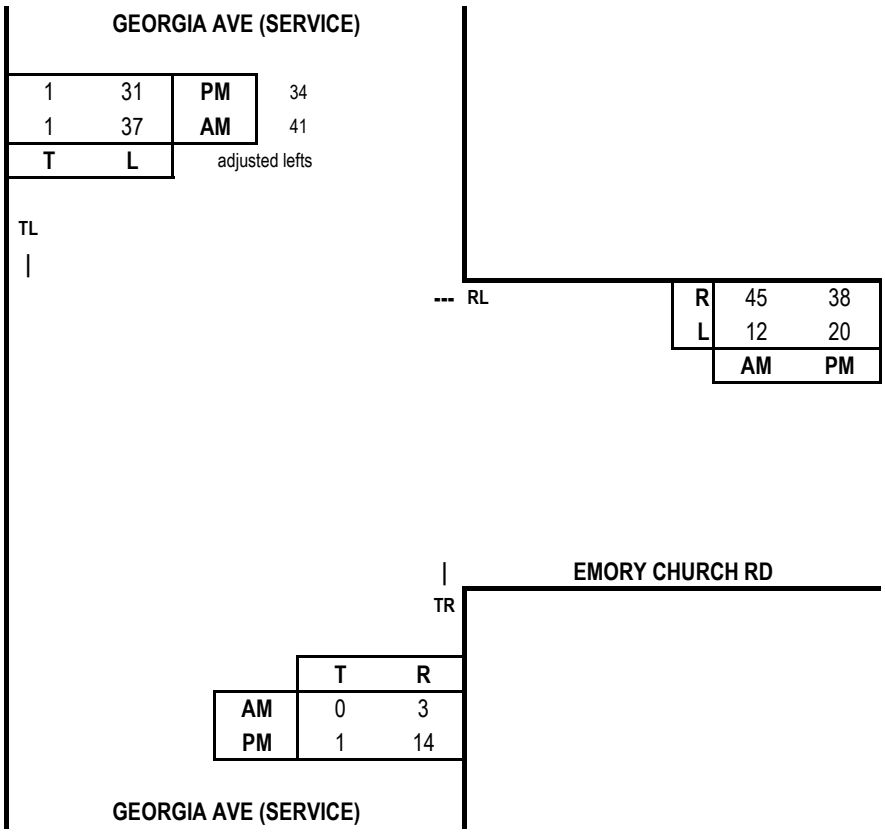
	Through Volumes			+ Opposing Lefts			PM
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	CLV
EB	101	1.00	101				101
WB	24	1.00	24				24
NB	1929	0.55	1061	61	1.00	61	1122
SB	1467	0.55	807	94	1.00	94	
						CLV TOTAL=	**1247**
						Level of Service (LOS)=	**C**

Critical Lane Volume Analysis Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		MD 97 & Emory Church Rd (Total Traffic)	**Intersection** **1**

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

Intersection of: Georgia Ave (Service)
and: Emory Church Rd
Conditions: Existing Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
WB	57	1.00	57				57
NB	3	1.00	3	37	1.00	37	42
SB	42	1.00	42				

CLV TOTAL= **99**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
WB	58	1.00	58				58
NB	15	1.00	15	31	1.00	31	46
SB	35	1.00	35				

CLV TOTAL= **104**
Level of Service (LOS)= **A**

Critical Lane Volume Analysis

LENHART TRAFFIC CONSULTING, INC.
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SEVERNA PARK, MD 21146
www.lenharttraffic.com

N

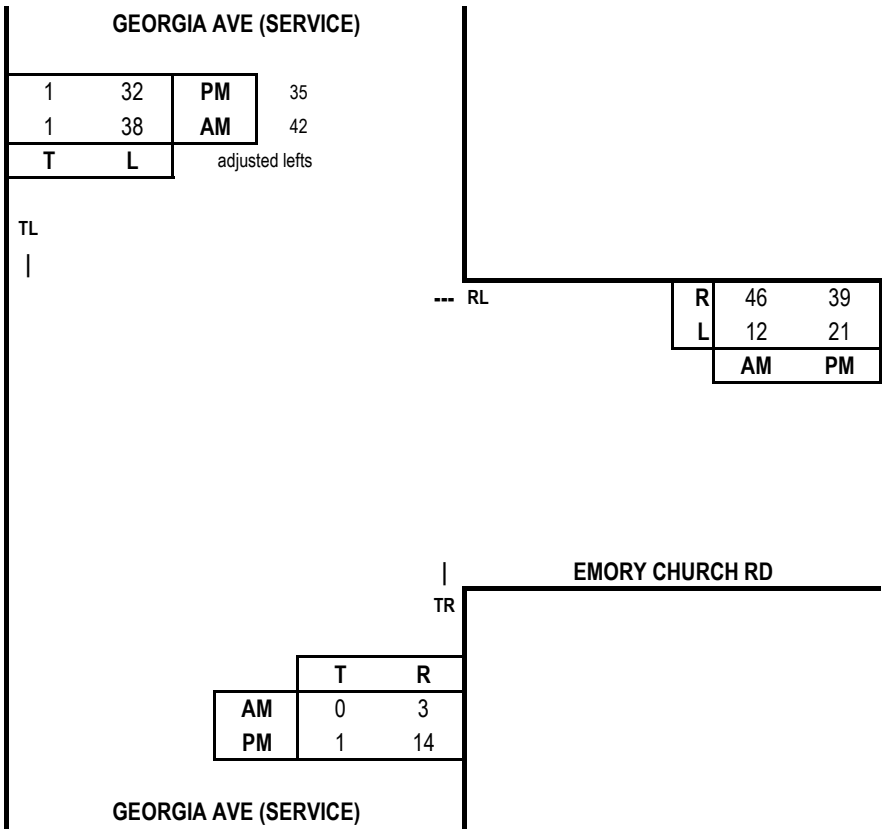
Georgia Ave (Service) &
Emory Church Rd
(Existing Traffic)

Intersection
2

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

Intersection of: Georgia Ave (Service)
and: Emory Church Rd
Conditions: Background Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
WB	58	1.00	58				58
NB	3	1.00	3	38	1.00	38	43
SB	43	1.00	43				
						CLV TOTAL=	**101**
						Level of Service (LOS)=	**A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
WB	60	1.00	60				60
NB	15	1.00	15	32	1.00	32	47
SB	36	1.00	36				
						CLV TOTAL=	**107**
						Level of Service (LOS)=	**A**

Critical Lane Volume Analysis

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N

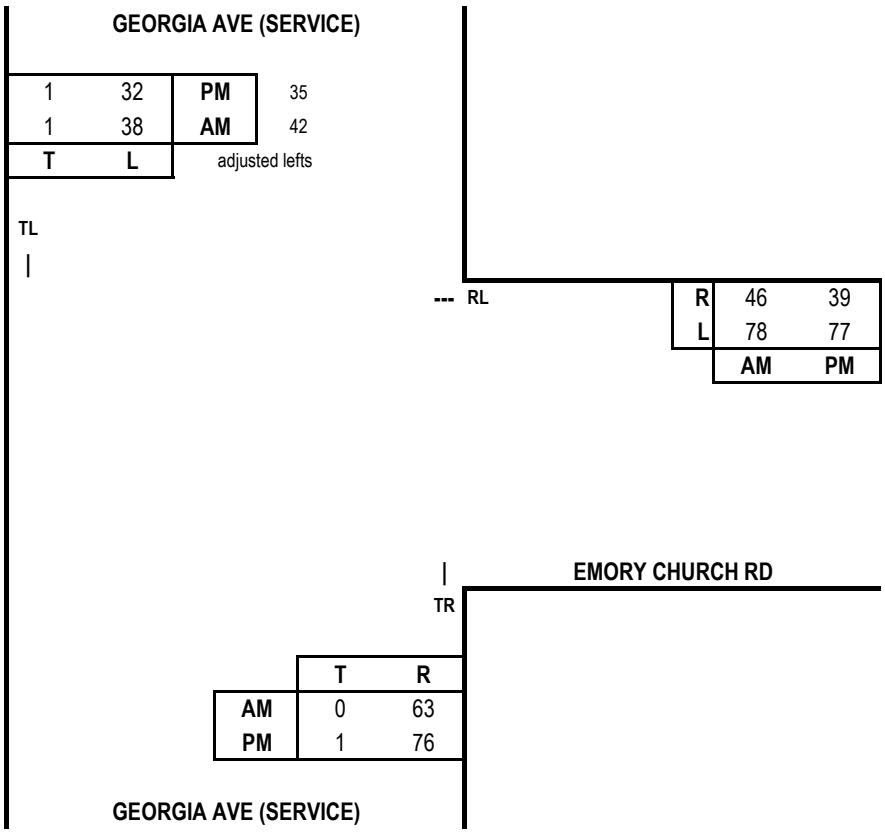
Georgia Ave (Service) &
Emory Church Rd
(Background Traffic)

Intersection
2

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

Intersection of: Georgia Ave (Service)
and: Emory Church Rd
Conditions: Total Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
WB	124	1.00	124				124
NB	63	1.00	63	38	1.00	38	101
SB	43	1.00	43				

CLV TOTAL= **225**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
WB	116	1.00	116				116
NB	77	1.00	77	32	1.00	32	109
SB	36	1.00	36				

CLV TOTAL= **225**
Level of Service (LOS)= **A**

Critical Lane Volume Analysis

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N

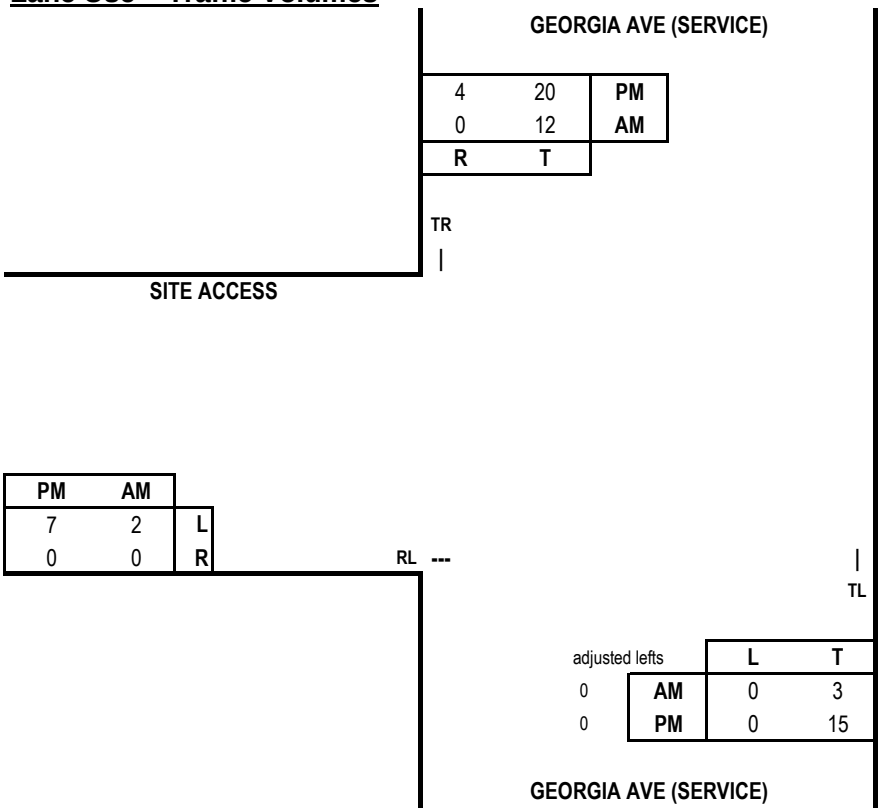
Georgia Ave (Service) &
Emory Church Rd
(Total Traffic)

Intersection
2

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

Intersection of: Georgia Ave (Service)
and: Site Access
Conditions: Existing Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	2	1.00	2				2
NB	3	1.00	3				12
SB	12	1.00	12	0	1.00	0	
					CLV TOTAL=		14
					Level of Service (LOS)=		A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	7	1.00	7				7
NB	15	1.00	15				24
SB	24	1.00	24	0	1.00	0	
					CLV TOTAL=		31
					Level of Service (LOS)=		A

Critical Lane Volume Analysis

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SEVERNA PARK, MD 21146
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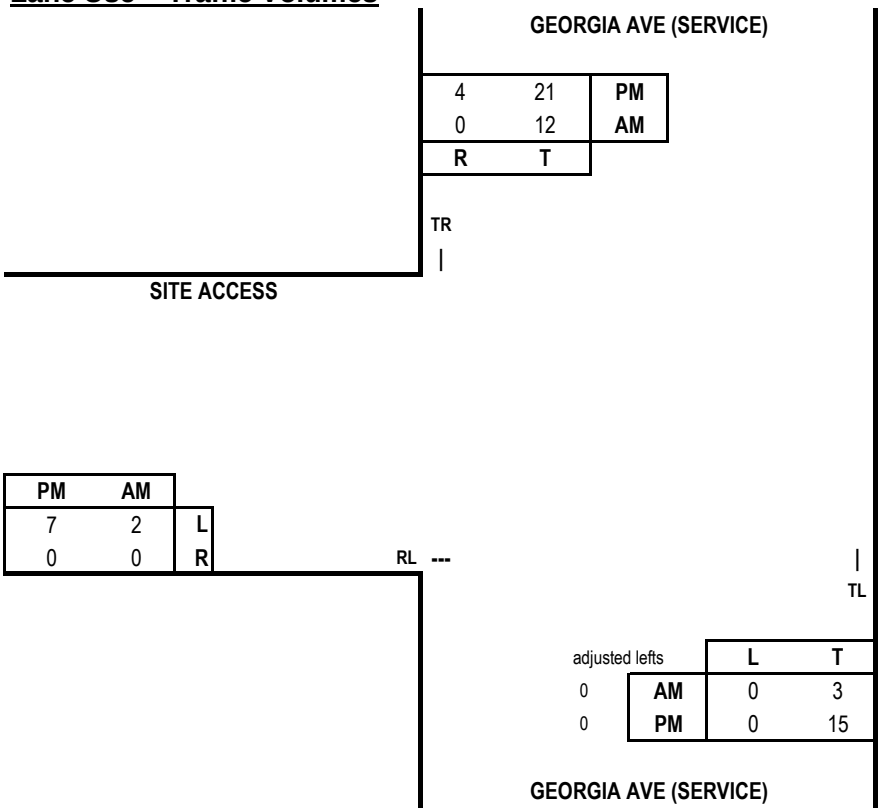
Georgia Ave (Service) & Site Access
(Existing Traffic)

Intersection 3

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

Intersection of: Georgia Ave (Service)
and: Site Access
Conditions: Background Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	2	1.00	2				2
NB	3	1.00	3				12
SB	12	1.00	12	0	1.00	0	
					CLV TOTAL=		14
					Level of Service (LOS)=		A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	7	1.00	7				7
NB	15	1.00	15				25
SB	25	1.00	25	0	1.00	0	
					CLV TOTAL=		32
					Level of Service (LOS)=		A

Critical Lane Volume Analysis

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645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
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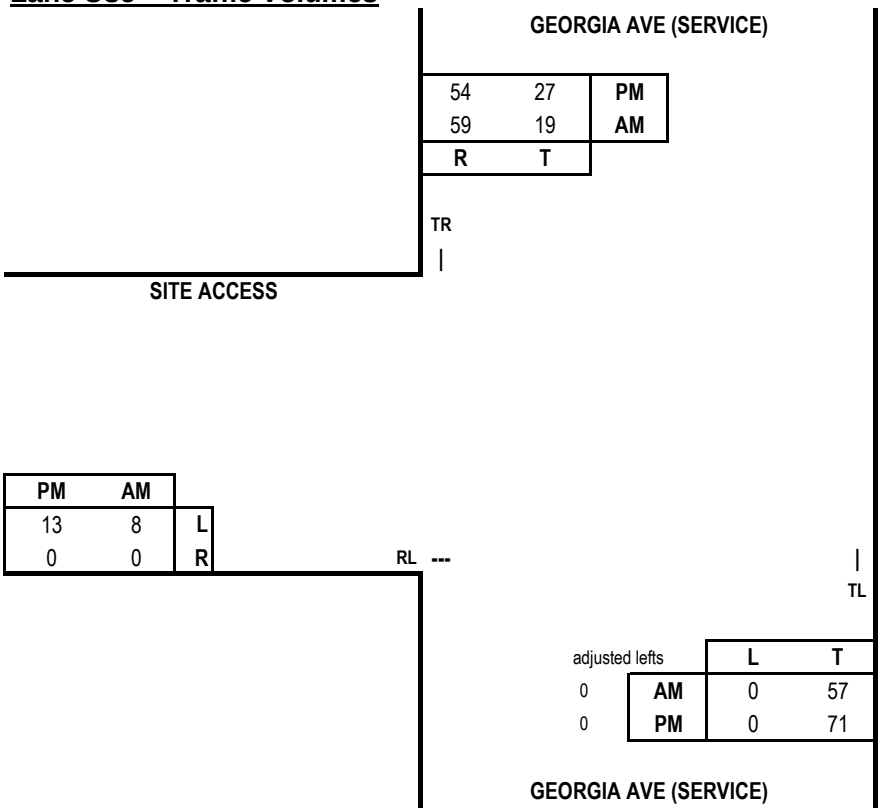
Georgia Ave (Service) & Site Access
(Background Traffic)

Intersection 3

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

Intersection of: Georgia Ave (Service)
and: Site Access
Conditions: Total Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	8	1.00	8				8
NB	57	1.00	57				78
SB	78	1.00	78	0	1.00	0	
					CLV TOTAL=		86
					Level of Service (LOS)=		A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	13	1.00	13				13
NB	71	1.00	71				81
SB	81	1.00	81	0	1.00	0	
					CLV TOTAL=		94
					Level of Service (LOS)=		A

Critical Lane Volume Analysis

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SEVERNA PARK, MD 21146
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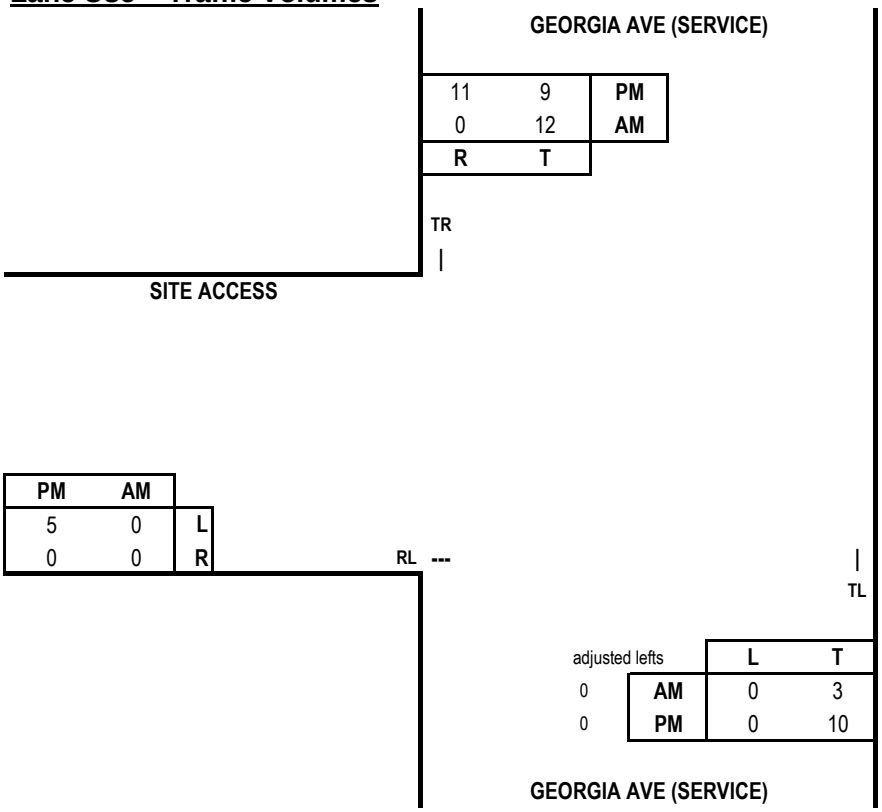
Georgia Ave (Service) & Site Access
(Total Traffic)

Intersection 3

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

Intersection of: Georgia Ave (Service)
and: Site Access
Conditions: Existing Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	0	1.00	0				0
NB	3	1.00	3				12
SB	12	1.00	12	0	1.00	0	
					CLV TOTAL=		12
					Level of Service (LOS)=		A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	5	1.00	5				5
NB	10	1.00	10				20
SB	20	1.00	20	0	1.00	0	
					CLV TOTAL=		25
					Level of Service (LOS)=		A

Critical Lane Volume Analysis

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

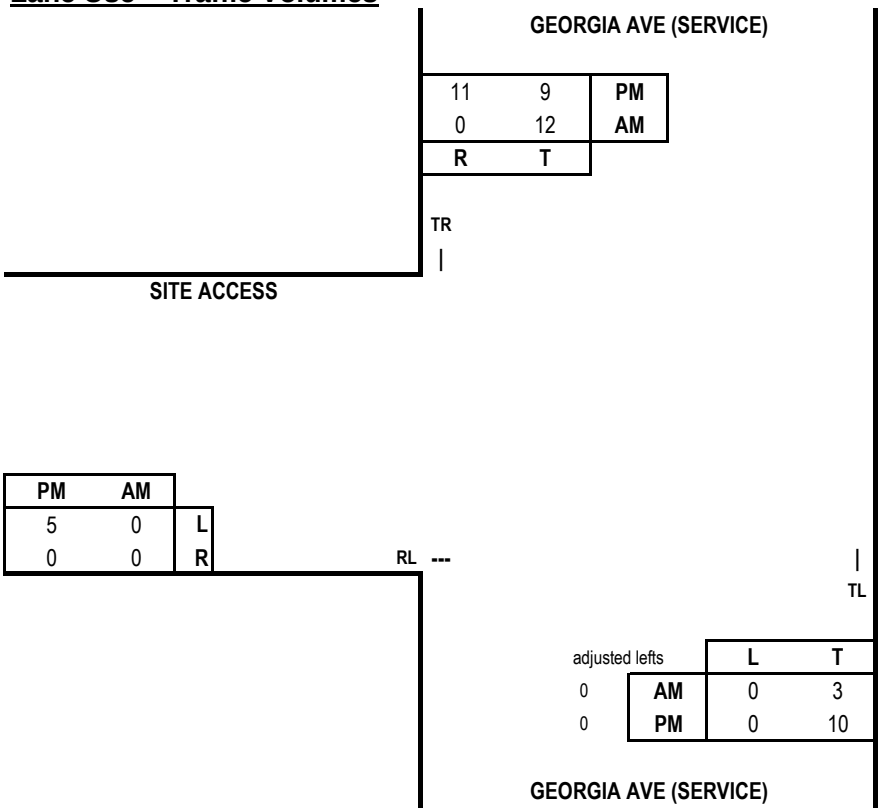
Georgia Ave (Service) & Site Access
(Existing Traffic)

Intersection 4

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

Intersection of: Georgia Ave (Service)
and: Site Access
Conditions: Background Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	0	1.00	0				0
NB	3	1.00	3				12
SB	12	1.00	12	0	1.00	0	

CLV TOTAL= **12**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	5	1.00	5				5
NB	10	1.00	10				20
SB	20	1.00	20	0	1.00	0	

CLV TOTAL= **25**
Level of Service (LOS)= **A**

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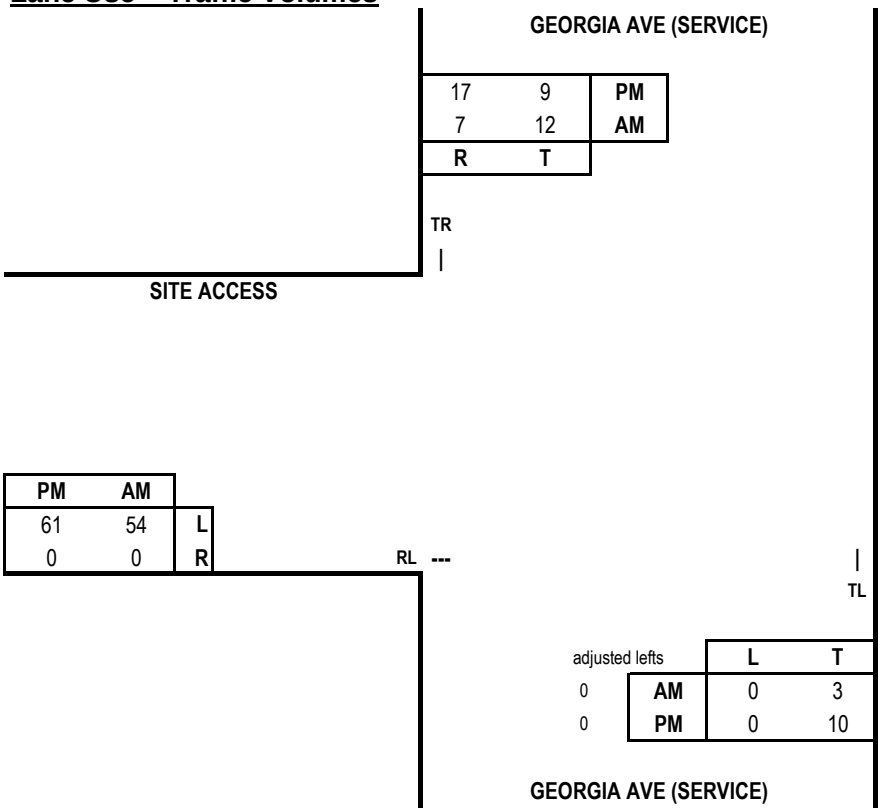
(Background Traffic)

Intersection 4

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

Intersection of: Georgia Ave (Service)
and: Site Access
Conditions: Total Traffic

Lane Use + Traffic Volumes



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	54	1.00	54				54
NB	3	1.00	3				19
SB	19	1.00	19	0	1.00	0	

CLV TOTAL= **73**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	61	1.00	61				61
NB	10	1.00	10				26
SB	26	1.00	26	0	1.00	0	

CLV TOTAL= **87**
Level of Service (LOS)= **A**

Critical Lane Volume Analysis

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www.lenharttraffic.com

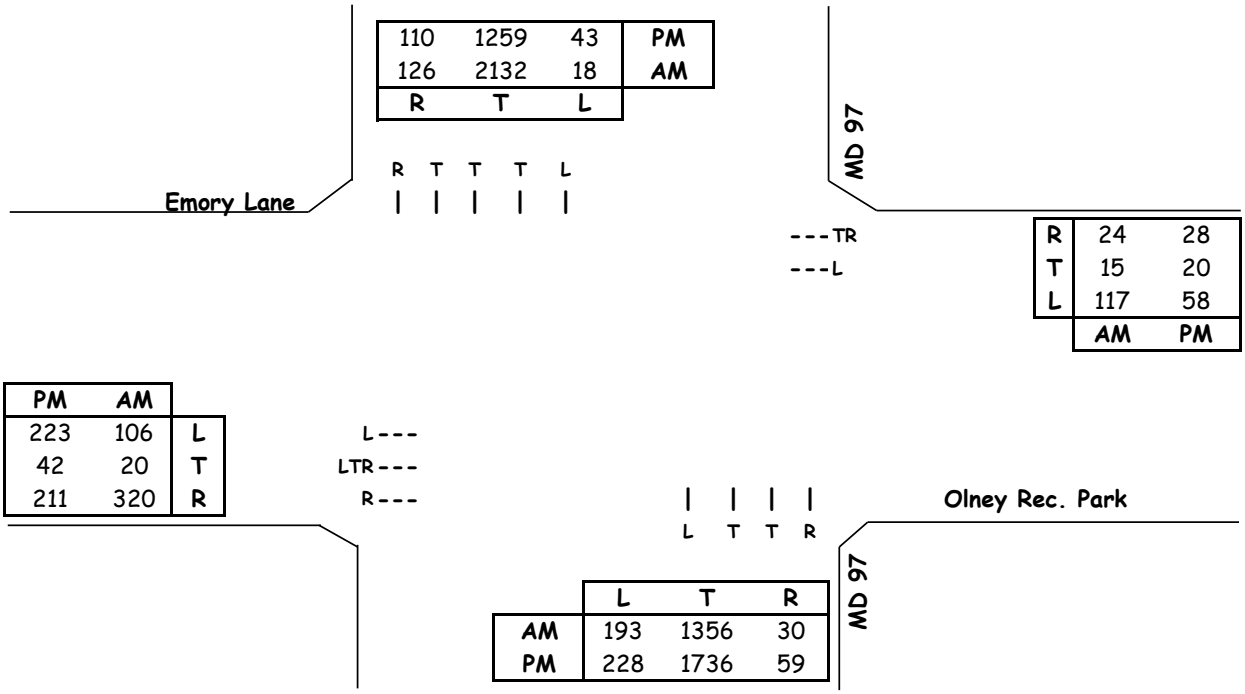
Georgia Ave (Service) & Site Access
(Total Traffic)

Intersection 4

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: MD 97
Minor Street: Olney Rec. Park
Study Period: Existing Traffic

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour

Dir	Through Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	446	0.40	178				178
WB	117	1.00	117				117
NB	1356	0.55	746	18	1.00	18	1046
SB	2132	0.40	853	193	1.00	193	

CLV TOTAL= **1341**
Level of Service (LOS)= **D**

PM Peak Hour

Dir	Through Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	265	0.60	159				159
WB	58	1.00	58				58
NB	1736	0.55	955	43	1.00	43	998
SB	1259	0.40	504	228	1.00	228	

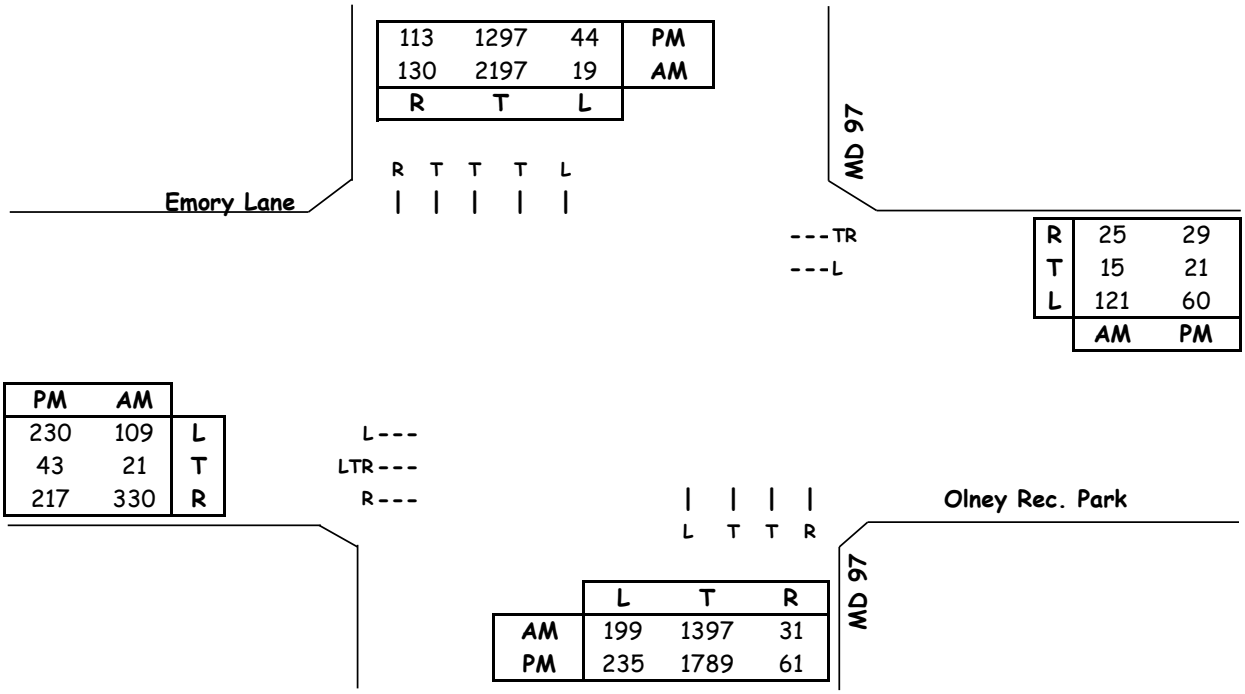
CLV TOTAL= **1215**
Level of Service (LOS)= **C**

Critical Lane Volume Analysis Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		MD 97 & Olney Rec. Park (Existing Traffic)	**Intersection** **5**

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: MD 97
Minor Street: Olney Rec. Park
Study Period: Background Traffic

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour

Dir	Through Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	460	0.40	184				184
WB	121	1.00	121				121
NB	1397	0.55	768	19	1.00	19	1078
SB	2197	0.40	879	199	1.00	199	
						CLV TOTAL=	**1383**
						Level of Service (LOS)=	**D**

PM Peak Hour

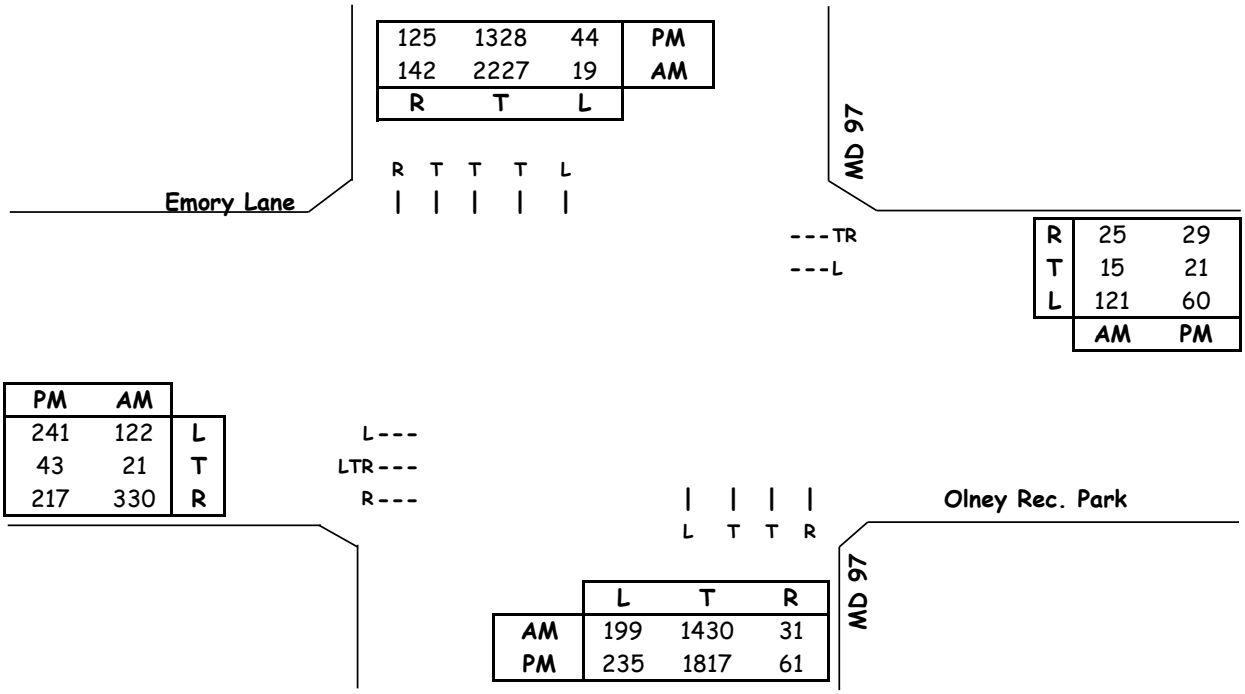
Dir	Through Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	273	0.60	164				164
WB	60	1.00	60				60
NB	1789	0.55	984	44	1.00	44	1028
SB	1297	0.40	519	235	1.00	235	
						CLV TOTAL=	**1252**
						Level of Service (LOS)=	**C**

Critical Lane Volume Analysis Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		MD 97 & Olney Rec. Park (Background Traffic)	**Intersection** **5**

Critical Lane Volume (CLV) Methodology for MSHA

Main Line: MD 97
Minor Street: Olney Rec. Park
Study Period: Total Traffic

Lane Use + Traffic Volumes



Traffic Signal Phasing includes East/West Split Phase

AM Peak Hour

Dir	Through Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	473	0.40	189				189
WB	121	1.00	121				121
NB	1430	0.55	787	19	1.00	19	1090
SB	2227	0.40	891	199	1.00	199	

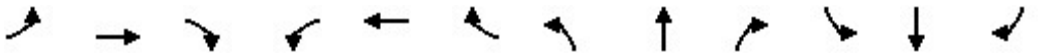
CLV TOTAL= **1400**
Level of Service (LOS)= **D**

PM Peak Hour

Dir	Through Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	284	0.60	170				170
WB	60	1.00	60				60
NB	1817	0.55	999	44	1.00	44	1043
SB	1328	0.40	531	235	1.00	235	

CLV TOTAL= **1273**
Level of Service (LOS)= **C**

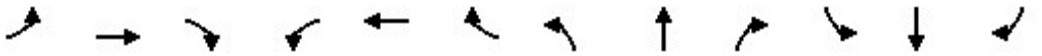
Critical Lane Volume Analysis Lenhart Traffic Consulting, Inc. Traffic Engineering & Transportation Planning		MD 97 & Olney Rec. Park (Total Traffic)	**Intersection** **5**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1	20	9	0	10	47	1337	16	41	2343	1
Future Volume (vph)	11	1	20	9	0	10	47	1337	16	41	2343	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.92			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1676			1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.98			0.95	1.00	0.04	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)		1676			1770	1583	76	3539	1583	275	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	1	22	10	0	11	51	1453	17	45	2547	1
RTOR Reduction (vph)	0	21	0	0	0	11	0	0	4	0	0	0
Lane Group Flow (vph)	0	14	0	0	10	0	51	1453	13	45	2547	1
Turn Type	Split	NA		Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases						4	2		2	6		6
Actuated Green, G (s)		4.4			3.9	3.9	102.9	97.7	97.7	102.3	97.4	97.4
Effective Green, g (s)		4.4			3.9	3.9	102.9	97.7	97.7	102.3	97.4	97.4
Actuated g/C Ratio		0.03			0.03	0.03	0.80	0.76	0.76	0.79	0.76	0.76
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		57			53	47	129	2682	1199	275	2674	1196
v/s Ratio Prot		c0.01			c0.01		c0.02	0.41		0.01	c0.72	
v/s Ratio Perm						0.00	0.30		0.01	0.12		0.00
v/c Ratio		0.24			0.19	0.01	0.40	0.54	0.01	0.16	0.95	0.00
Uniform Delay, d1		60.6			61.0	60.6	34.7	6.4	3.8	4.3	13.7	3.9
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.2			1.7	0.1	2.0	0.8	0.0	0.3	9.4	0.0
Delay (s)		62.8			62.7	60.7	36.7	7.2	3.8	4.6	23.1	3.9
Level of Service		E			E	E	D	A	A	A	C	A
Approach Delay (s)		62.8			61.6			8.1			22.8	
Approach LOS		E			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	128.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	20	320	117	15	24	193	1356	30	18	2132	126
Future Volume (vph)	106	20	320	117	15	24	193	1356	30	18	2132	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00		1.00	0.95	1.00	1.00	0.91	1.00
Frt	1.00	0.88	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1481	1504	1770	1690		1770	3539	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1481	1504	1770	1690		1770	3539	1583	1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	22	348	127	16	26	210	1474	33	20	2317	137
RTOR Reduction (vph)	0	118	169	0	23	0	0	0	12	0	0	50
Lane Group Flow (vph)	103	76	19	127	19	0	210	1474	21	20	2317	87
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	14.4	14.4	14.4	13.8	13.8		19.5	92.4	92.4	4.7	77.6	77.6
Effective Green, g (s)	14.4	14.4	14.4	13.8	13.8		19.5	92.4	92.4	4.7	77.6	77.6
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.10		0.14	0.64	0.64	0.03	0.54	0.54
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	168	148	151	170	162		240	2281	1020	58	2753	857
v/s Ratio Prot	c0.06	0.05		c0.07	0.01		c0.12	0.42		0.01	c0.46	
v/s Ratio Perm			0.01						0.01			0.05
v/c Ratio	0.61	0.51	0.13	0.75	0.11		0.88	0.65	0.02	0.34	0.84	0.10
Uniform Delay, d1	61.8	61.1	58.7	63.1	59.2		60.7	15.5	9.2	67.8	27.7	15.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.5	3.0	0.4	16.3	0.3		27.8	1.4	0.0	3.6	3.3	0.2
Delay (s)	68.3	64.1	59.1	79.4	59.5		88.5	16.9	9.2	71.3	31.0	16.2
Level of Service	E	E	E	E	E		F	B	A	E	C	B
Approach Delay (s)		63.1			74.4			25.5			30.5	
Approach LOS		E			E			C			C	

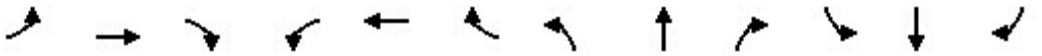
Intersection Summary			
HCM 2000 Control Delay	33.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	143.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1	21	9	0	10	48	1378	16	42	2414	1
Future Volume (vph)	11	1	21	9	0	10	48	1378	16	42	2414	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.91			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1674			1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.98			0.95	1.00	0.04	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)		1674			1770	1583	76	3539	1583	259	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	1	23	10	0	11	52	1498	17	46	2624	1
RTOR Reduction (vph)	0	22	0	0	0	11	0	0	4	0	0	0
Lane Group Flow (vph)	0	14	0	0	10	0	52	1498	13	46	2624	1
Turn Type	Split	NA		Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases						4	2		2	6		6
Actuated Green, G (s)		4.5			3.9	3.9	103.0	97.7	97.7	102.2	97.3	97.3
Effective Green, g (s)		4.5			3.9	3.9	103.0	97.7	97.7	102.2	97.3	97.3
Actuated g/C Ratio		0.03			0.03	0.03	0.80	0.76	0.76	0.79	0.75	0.75
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		58			53	47	130	2680	1198	262	2669	1193
v/s Ratio Prot		c0.01			c0.01		c0.02	0.42		0.01	c0.74	
v/s Ratio Perm						0.00	0.30		0.01	0.13		0.00
v/c Ratio		0.24			0.19	0.01	0.40	0.56	0.01	0.18	0.98	0.00
Uniform Delay, d1		60.6			61.0	60.7	37.7	6.6	3.8	4.6	15.1	3.9
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.1			1.7	0.1	2.0	0.8	0.0	0.3	13.9	0.0
Delay (s)		62.7			62.7	60.7	39.7	7.4	3.8	4.9	29.0	3.9
Level of Service		E			E	E	D	A	A	A	C	A
Approach Delay (s)		62.7			61.7			8.5			28.5	
Approach LOS		E			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	129.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

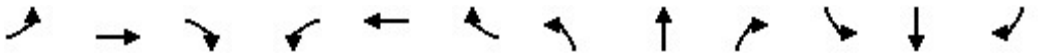
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	21	330	121	15	25	199	1397	31	19	2197	130
Future Volume (vph)	109	21	330	121	15	25	199	1397	31	19	2197	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00		1.00	0.95	1.00	1.00	0.91	1.00
Frt	1.00	0.88	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1481	1504	1770	1687		1770	3539	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1481	1504	1770	1687		1770	3539	1583	1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	23	359	132	16	27	216	1518	34	21	2388	141
RTOR Reduction (vph)	0	118	174	0	24	0	0	0	12	0	0	50
Lane Group Flow (vph)	106	82	20	132	19	0	216	1518	22	21	2388	91
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	14.6	14.6	14.6	14.0	14.0		19.7	92.6	92.6	4.8	77.7	77.7
Effective Green, g (s)	14.6	14.6	14.6	14.0	14.0		19.7	92.6	92.6	4.8	77.7	77.7
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.10		0.14	0.64	0.64	0.03	0.54	0.54
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	170	150	152	172	164		242	2275	1017	59	2743	854
v/s Ratio Prot	c0.06	0.06		c0.07	0.01		c0.12	0.43		0.01	c0.47	
v/s Ratio Perm			0.01						0.01			0.06
v/c Ratio	0.62	0.55	0.13	0.77	0.11		0.89	0.67	0.02	0.36	0.87	0.11
Uniform Delay, d1	62.1	61.6	58.9	63.4	59.3		61.1	16.1	9.3	68.1	28.8	16.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.9	4.1	0.4	18.3	0.3		31.0	1.6	0.0	3.7	4.1	0.3
Delay (s)	69.0	65.6	59.3	81.7	59.6		92.1	17.6	9.3	71.8	32.9	16.4
Level of Service	E	E	E	F	E		F	B	A	E	C	B
Approach Delay (s)		63.9			76.3			26.6			32.3	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	144.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

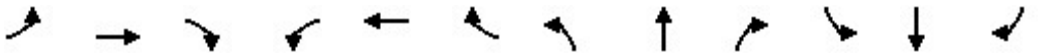
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	1	63	9	0	10	94	1378	16	42	2414	21
Future Volume (vph)	29	1	63	9	0	10	94	1378	16	42	2414	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.91			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98			0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1667			1770	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.98			0.95	1.00	0.04	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)		1667			1770	1583	77	3539	1583	252	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	1	68	10	0	11	102	1498	17	46	2624	23
RTOR Reduction (vph)	0	51	0	0	0	11	0	0	5	0	0	7
Lane Group Flow (vph)	0	50	0	0	10	0	102	1498	12	46	2624	16
Turn Type	Split	NA		Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases						4	2		2	6		6
Actuated Green, G (s)		9.4			3.9	3.9	104.5	96.2	96.2	98.1	93.0	93.0
Effective Green, g (s)		9.4			3.9	3.9	104.5	96.2	96.2	98.1	93.0	93.0
Actuated g/C Ratio		0.07			0.03	0.03	0.79	0.73	0.73	0.74	0.70	0.70
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		118			52	46	166	2567	1148	244	2482	1110
v/s Ratio Prot		c0.03			c0.01		c0.04	0.42		0.01	c0.74	
v/s Ratio Perm						0.00	0.44		0.01	0.13		0.01
v/c Ratio		0.42			0.19	0.01	0.61	0.58	0.01	0.19	1.06	0.01
Uniform Delay, d1		59.0			62.8	62.5	42.3	8.7	5.0	6.5	19.8	6.0
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.4			1.8	0.1	6.6	1.0	0.0	0.4	35.5	0.0
Delay (s)		61.4			64.6	62.5	48.9	9.6	5.1	6.9	55.3	6.0
Level of Service		E			E	E	D	A	A	A	E	A
Approach Delay (s)		61.4			63.5			12.1			54.0	
Approach LOS		E			E			B			D	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	132.6	Sum of lost time (s)	18.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	21	330	121	15	25	199	1430	31	19	2227	142
Future Volume (vph)	122	21	330	121	15	25	199	1430	31	19	2227	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.95	0.91	0.95	1.00	1.00		1.00	0.95	1.00	1.00	0.91	1.00
Frt	1.00	0.88	0.85	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1482	1504	1770	1687		1770	3539	1583	1770	5085	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1482	1504	1770	1687		1770	3539	1583	1770	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	133	23	359	132	16	27	216	1554	34	21	2421	154
RTOR Reduction (vph)	0	113	172	0	24	0	0	0	12	0	0	51
Lane Group Flow (vph)	120	88	22	132	19	0	216	1554	22	21	2421	103
Turn Type	Split	NA	Perm	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	15.5	15.5	15.5	14.1	14.1		19.7	92.5	92.5	4.8	77.6	77.6
Effective Green, g (s)	15.5	15.5	15.5	14.1	14.1		19.7	92.5	92.5	4.8	77.6	77.6
Actuated g/C Ratio	0.11	0.11	0.11	0.10	0.10		0.14	0.64	0.64	0.03	0.54	0.54
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	179	158	160	172	164		240	2259	1010	58	2723	847
v/s Ratio Prot	c0.07	0.06		c0.07	0.01		c0.12	0.44		0.01	c0.48	
v/s Ratio Perm			0.01						0.01			0.07
v/c Ratio	0.67	0.55	0.14	0.77	0.11		0.90	0.69	0.02	0.36	0.89	0.12
Uniform Delay, d1	62.2	61.4	58.6	63.8	59.7		61.6	16.9	9.6	68.6	29.8	16.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.5	4.2	0.4	18.3	0.3		32.8	1.7	0.0	3.8	4.8	0.3
Delay (s)	71.7	65.6	59.0	82.1	60.0		94.4	18.6	9.6	72.4	34.7	17.0
Level of Service	E	E	E	F	E		F	B	A	E	C	B
Approach Delay (s)		64.5			76.7			27.5			33.9	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	36.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	144.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Appendix C

Speed Studies

District:
County; Montgomery
Location: MD 97, 700 Ft South of Emory Church Rd
Date: 4/19/2023
Time: 11:00 AM

Direction	Northbound	Southbound
Observation #	Speed (MPH)	Speed (MPH)
1	41	34
2	43	46
3	51	40
4	39	41
5	43	43
6	42	27
7	39	42
8	41	59
9	30	37
10	39	52
11	39	49
12	43	42
13	51	37
14	47	49
15	45	52
16	38	49
17	42	47
18	39	44
19	52	34
20	35	46
21	37	65
22	38	37
23	35	34
24	34	45
25	34	47
26	41	42
27	40	38
28	35	38
29	37	41
30	43	46
31	49	32
32	41	38
33	38	47
34	39	44
35	45	41
36	41	36
37	36	59
38	57	55
39	51	58
40	39	47
41	53	44
42	50	42
43	47	42
44	46	47
45	41	49
46	43	48
47	37	35
48	35	47
49	45	45
50	47	41

NB - 50th Percentile Speed 41 MPH

NB - 85th Percentile Speed 48 MPH

SB - 50th Percentile Speed 44 MPH

SB - 85th Percentile Speed 49 MPH

Prepared by Lenhart Traffic Consulting
Last Printed On: 5/9/2023, 3:05 PM

District:
County;
Location: MD 97 & Emory Church
Date: 2/21/2023
Time: 12:15 PM

Direction	Northbound	Southbound
Observation #	Speed (MPH)	Speed (MPH)
1	41	32
2	39	38
3	38	43
4	32	41
5	44	52
6	53	43
7	38	45
8	41	40
9	45	38
10	48	51
11	49	36
12	47	32
13	48	35
14	49	45
15	40	43
16	32	40
17	46	38
18	39	36
19	38	50
20	41	36
21	38	47
22	46	33
23	48	41
24	50	35
25	46	51
26	38	52
27	35	37
28	38	44
29	39	39
30	44	41
31	42	49
32	46	38
33	44	45
34	52	51
35	47	50
36	43	49
37	41	47
38	42	46
39	27	43
40	28	39
41	35	51
42	40	38
43	47	43
44	48	37
45	32	44
46	34	39
47	34	41
48	31	45
49	46	51
50	51	53

NB - 50th Percentile Speed 42 MPH

NB - 85th Percentile Speed 48 MPH

SB - 50th Percentile Speed 43 MPH

SB - 85th Percentile Speed 51 MPH

Prepared by Lenhart Traffic Consulting
Last Printed On: 5/9/2023, 3:05 PM

District:
County;
Location: Georgia Ave Service Rd & Site
Date: 4/19/2023
Time: 12:45 PM

Direction	Northbound	Southbound
Observation #	Speed (MPH)	Speed (MPH)
1	32	20
2	25	32
3	36	21
4	28	24
5	21	29
6	19	25
7	14	19
8	15	16
9	18	21
10	21	17
11	24	21
12	26	23
13	24	24
14	19	18
15	20	17
16	22	22
17	27	26
18	21	25
19	26	23
20	30	24
21	18	22
22	21	22
23	24	21
24	21	27
25	30	25
26	29	18
27	23	28
28	21	22
29	22	26
30	22	30
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

NB - 50th Percentile Speed 22 MPH

NB - 85th Percentile Speed 29 MPH

SB - 50th Percentile Speed 23 MPH

SB - 85th Percentile Speed 27 MPH

Prepared by Lenhart Traffic Consulting
Last Printed On: 5/9/2023, 3:05 PM