Traffic Impact Study

Long Reach Village Center

Howard County, Maryland

October 3, 2025

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 47293, Expiration Date: October 11, 2027

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Executive Summary

This report presents a Traffic Impact Study (TIS) prepared in support of the proposed development of the Long Reach Village Center, the "Project", located at 8775 Cloudleap Court in Howard County, Maryland. The Project is bounded by Cloudleap Court and Tamar Drive to the north, Foreland Garth to the east, Longwood Apartments to the south, and Timber Apartments and Route 175 to the west. This report is prepared to address the APFO test for road adequacy.

For purposes of selecting the appropriate components for this assessment, it is noted that the site is located outside the Downtown Columbia Area.

The purpose of this study is to evaluate the impact of the Project on the surrounding transportation network based on a technical comparison of existing, background, and total future conditions. The scope and methodology included in this study are consistent with the Howard County guidelines for preparing traffic impact studies outside the Downtown Columbia Area.

A scoping letter was submitted to the County Staff requesting approval of the proposed study intersections and methodology. Comments and recommendations provided by the County Staff have been addressed and reflected in the study. The scoping letter is included in the attachments. Note that the required Multimodal Transportation Studies Checklist is also provided in the Technical Attachments of this document.

Proposed Project

The existing site consists of approximately 71,896 sf of retail, 15,000 sf of office use and 404 parking spaces. The Project proposes to redevelop the site to include approximately 294 multifamily, 84 townhomes and 253,481 sf commercial space. The construction is expected to occur in five (5) phases.

Note the development program analyzed in this report aligns with the version submitted to Staff during scoping. While the proposed densities have since been refined and differ in the latest plan, this study is based on the scoped development program as a conservation approach, as the scoped program results in a higher number of peak hour trips than the updated plans.

Based on the conceptual layout, primary access to the development is proposed via Foreland Garth and a new right-in/right-out only driveway from Tamar Drive. Primary access to the townhomes garage parking is proposed on Cloudleap Court.

As part of the project, the installation of a new traffic signal is proposed at the Tamar Drive and Foreland Garth/Airybrink Lane intersection. A traffic signal warrant analysis was completed to determine whether total future roadway volumes with the project meet signalization thresholds at the Tamar Drive and Foreland Garth/Airybrink Lane intersection. Based on the analysis, future roadway volumes with the project meet signalization thresholds.

Regional connections to the site are provided via Tamar Drive and other roads including Snowden Parkway, Rouse Parkway (MD 175) and Phelps Luck Drive.

Traffic Analysis

To determine the vehicular impact of the Project on the surrounding roadway network, this study includes both a Critical Lane Volume (CLV) and a queuing assessment for the proposed driveway and roadways exiting the site. These analyses were prepared for Existing, Background, and Total Future conditions.

The Howard County guidelines recommend the intersection level of service (LOS) standard for County-controlled intersections as LOS D and the standard for State-controlled intersections as LOS E.

All the intersections in the study area are County-controlled intersections, and the results of these analyses indicate that all existing intersections currently and will continue to operate within Howard County's Level of Service (LOS) thresholds, with LOS "D" or better, with the additional traffic generated by the Project. Therefore, no traffic-related mitigation is required for the Project.

The 95th percentile queue for the driveway and roadways exiting the site is expected to be adequately accommodated within the available storage or within the site without impacting any public roads.

Summary and Conclusions

With the completion of the Project, all study intersections are expected to continue to operate within the County's LOS thresholds without the need for offsite improvements. Therefore, no off-site road improvements are required as mitigation beyond the proposed access improvements (new right-in/right-out and new traffic signal at the Foreland Garth intersection).

Introduction

This report presents a Traffic Impact Study to review the transportation impacts of the proposed Project located in Howard County, Maryland.

Purpose of Study

The purpose of this report is to:

1. Review the transportation elements of the proposed development plan and identify whether the development meets the applicable standards set forth by Howard County.
2. Provide information to Howard County and other agencies on how the development of the site will influence the local transportation network.
3. Identify the net impact of the proposed development within the study area road network based on the procedures identified in the Howard County Guidelines for Traffic Impact Studies.

Contents of Study

This report is organized into eight (8) sections as follows:

- Section 1: Scope of Study
  Describes the parameters within which the study will be operating.
- Section 2: Multimodal Overview
  Provides an overview of the area transportation network, transit, pedestrian and bicycle infrastructure surrounding the Project.
- Section 3: Travel Demand Assumptions
  Outlines the anticipated travel demand of the proposed development and summarizes the estimated trip generation of the proposed development at full buildout.
- Section 4: Existing Conditions
  Summarizes the assumptions for the existing conditions capacity analyses for the study area network.
- Section 5: Background Conditions
  Summarizes the assumptions for the background (without development) capacity analyses for the study area network.
- Section 6: Future Conditions
  Summarizes the assumptions for the total future (with development) capacity analyses for the study area network.
- Section 7: Vehicle Capacity Analysis Results
  Outlines the results of the capacity analyses performed.
- Section 8: Summary and Conclusions
  A summary of the overall findings and conclusions of this report.

Section 1: Study Overview

This section includes a review of the study area and an overview of the analysis performed.

Study Area Overview

Overview of Regional Access

As shown in Figure 1 the site has ample access to regional roadways that connect the site to destinations in Howard County and the greater Baltimore/Washington metropolitan area. The site is directly accessible from Tamar Drive, a Major Collector, which connects to MD-175 and Snowden River Parkway which provides regional access.

Study Area

The study area included in this assessment was developed based on the Howard County guidelines for preparing traffic studies outside the downtown area.

Since the project is located in a planned service area for public water and sewer, per Howard County guidelines the study area is up to one and a half miles in all directions from each project entrance on a County or State road, but not beyond the intersection of a major collector or higher classified road with a major collector or higher classified road. The first intersection in all directions that meet this definition shall be evaluated.

To confirm the scope of work for the Project, a scoping letter was submitted to Staff for review. Staff provided additional comments and recommendations which have been addressed and are reflected in the study. The scoping letter is included in the Technical Attachments.

The following intersections were analyzed in this study based on scoping coordination with Staff:

1. Phelps Luck Drive [Major Collector] and Tamar Drive [Major Collector]
2. Cloudleap Court [Local] and Tamar Drive [Major Collector]
3. Site Access and Tamar Drive [Major Collector]
4. Foreland Garth [Local] and Tamar Drive [Major Collector]
5. Old Dobbin Lane [Local] and Tamar Drive [Major Collector]
6. Snowden Parkway [Minor Arterial] and Tamar Drive [Major Collector]

A map of the study intersections is provided in Figure 2.

Planned Transportation Projects

The project will include the following transportation-related studies and plans:

- Tamar Drive Complete Streets Project
- PlanHoward
- WalkHoward
- BikeHoward

Background Developments

As confirmed with Staff during scoping, no background developments were identified in the vicinity of the site for inclusion in this study. Consistent with Howard County and industry standards, only approved projects expected to be completed prior to the buildout of the proposed development with an origin/destination within the study area were reviewed.

Study Scope and Methodology

The scope and methodology used in this study are consistent with Howard County's guidelines for preparing traffic impact studies for developments located outside of the Downtown Columbia cordon.

Based on the project location, the CLV methodology was used in this analysis and the intersection LOS standard for County-controlled intersections is LOS D while the standard for State-controlled intersections is LOS E. All the intersections in the study area are County controlled intersections with an LOS standard of "D" or better.

For the purpose of this study, a horizon year of 2030 was assumed for future conditions which would include buildout plus additional growth in through traffic. This background growth would account for any nearby small developments, changes in use, and growth in traffic driving through the area.

Capacity Analysis Scenarios

Vehicular capacity analyses were prepared for this study to identify the impact of the proposed development within the study area road network. As such, Existing, Background Future (no-build), and Total Future (build) scenarios were included as follows:

- 2025 Existing Conditions
  - Based on traffic count data
- 2030 Background Conditions
  - Existing Conditions with background traffic growth, but without the proposed redevelopment.
- 2030 Total Future Conditions
  - Background Conditions with the proposed development.

Figure 1: Site Location

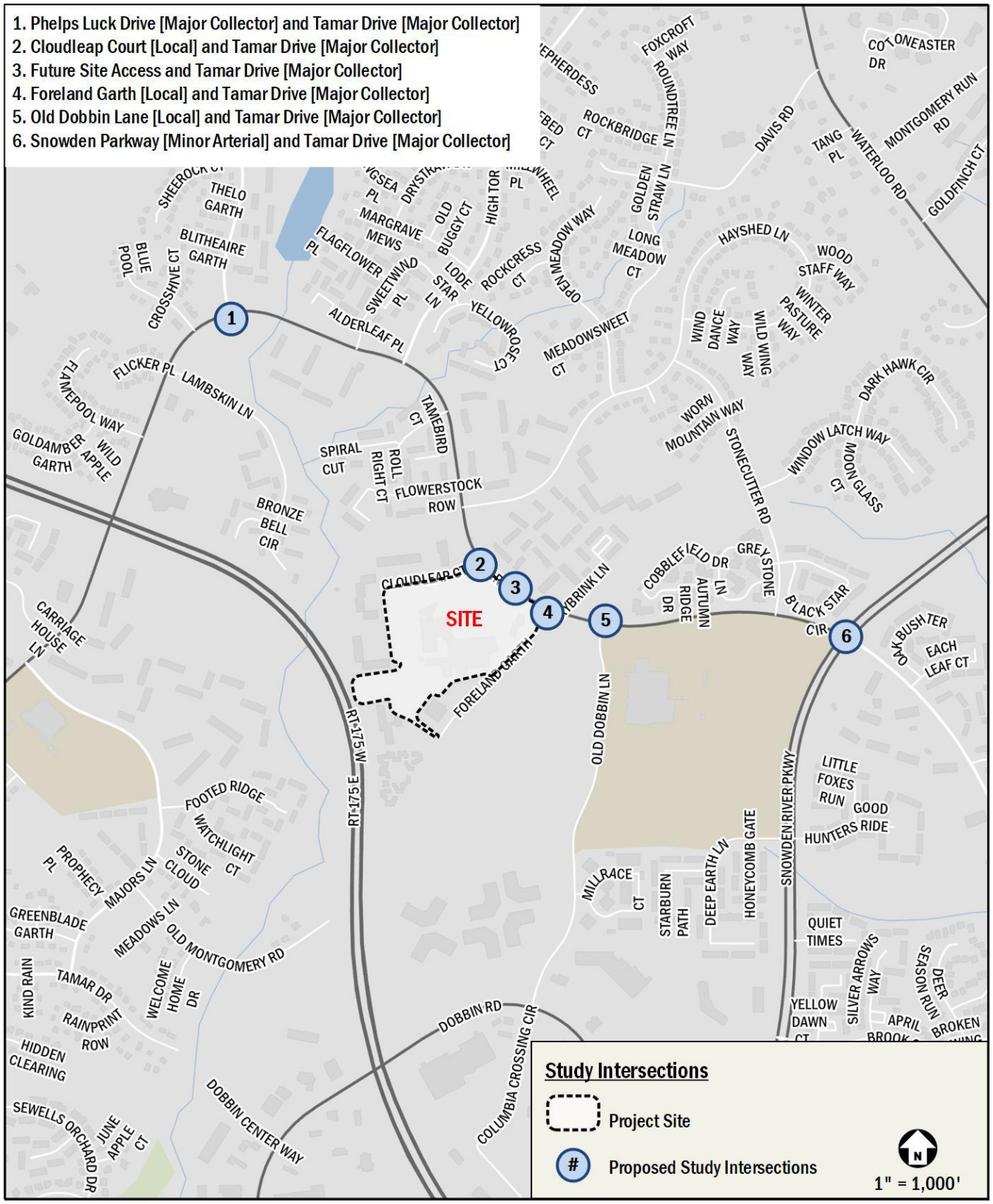


Figure 2: Study Intersections

Figure 3: Conceptual Site Plan

Section 2: Multimodal Overview

This section provides an overview of the area transportation network, transit, pedestrian and bicycle infrastructure surrounding the Project.

Overview of Local Access

The site is accessed via local vehicular network that includes Tamar Drive (Major Collector), Foreland Garth and Cloudleap Court which connects to other local and regional roadways. These routes provide ample connectivity within the Washington, DC Metropolitan area and its inner suburbs, as well as regional destinations in Maryland and Virginia.

Transit Service

The site is located in the immediate vicinity of two (2) RTA bus routes (402 and 408) which provides connections to the mall in Columbia. The RTA route 402 runs from 7:46 AM to 5:46 PM on weekdays, 8:46 AM to 5:46 PM on Saturdays, and 9:46 AM to 5:46 PM on Sundays, with frequencies of up to 60 minutes in each direction. The 408 route service runs from 6:16 AM to 11:16 PM on weekdays, 8:16 AM to 10:16 PM on Saturdays, and 9:16 AM to 8:16 PM on Sundays, with frequencies of up to 60 minutes in each direction. The existing bus stops near the site are shown in Figure 4.

Pedestrian and Bicycle Infrastructure

Regarding pedestrian and bicycle infrastructure, a multimodal sidepath, the Elkhorn Branch Trail, is present to the west of the site. This loop trail is approximately 1.9 miles long running through Elkhorn Branch wetlands in the heart of Columbia. The development proposes to integrate access to this trail.

Sidewalks exist around the site frontage along Foreland Garth, Tamar Drive and Cloudleap Court. Per WalkHoward, sidewalks facilities improvements were identified south along Foreland Garth and around the site building with sidewalk improvements identified along Cloudleap Court, Tamar Drive and north along Foreland Garth.

The WalkHoward pedestrian facilities improvements are shown below in Figure 4.

Separated bike lanes exit along southbound Old Dobbin Lane. BikeHoward, the Howard County Bicycle Master Plan, guides transportation and recreational biking improvements both on-street and off-street. The proposed BikeHoward network is divided into short-term (10 years), mid-term (10 to 20 years), and long-term (20 to 30 years) improvements. Per BikeHoward Recommendations, short-term bike lanes are recommended along Tamar Drive and mid-term Sharrows are recommended along Cloudleap Court.

The recommended bicycle facilities improvements are shown in Figure 5.

Additional improvements are planned in the vicinity of the proposed development as part of the Tamar Drive Complete Streets project. The Tamar Drive Complete Streets project includes a road diet with dedicated bicycle lanes and high-visibility crosswalks in the vicinity of the proposed development and along the site frontage. The planned improvements are detailed in the Tamar Drive Complete Street Project section of this report and shown in Figure 8.

The project also includes a network of pedestrian and bicycle facilities designed to further enhance connectivity in the area.

Figure 4: WalkHoward Pedestrian Facilities Improvements

Figure 5: BikeHoward Bicycle Facilities Improvements

Section 3: Travel Demand Assumptions

This section outlines the anticipated transportation demand of the Project based on the proposed development plan for the Project.

Consistent with the Howard County Guidelines for Traffic Impact Studies, trip generation calculations were based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation*, 11th Edition.

The existing site consists of approximately 71,896 sf of retail and 15,000 sf of office use. Trip generation rates for "Shopping Plaza (40-150k) with Supermarket" (Land Use Code 821) for retail and "General Office Building" (Land Use Code 710) for existing office use.

Trip generation rates for "Multifamily Housing (Mid-Rise)" (Land Use Code 221) were used for the proposed multifamily units, "Single-Family Housing" (Land Use Code 215) for the proposed townhomes, "Health and Fitness Center" (Land Use Code 492) for the proposed multi-sport complex, "Strip Retail Plaza (<40k)"(Land Use Code 822) for proposed retail uses under 40k sf, and "Shopping Plaza (40-150k)" (Land Use Code 821) for retail over 40k sf.

Internal Capture and Reductions

No pass-by or modal splits were applied to either the existing or proposed trip generation to provide a conservative estimate.

The mixed-use nature of the project is anticipated to generate internal trips among various uses. These trips were calculated in accordance with ITE methodology and reviewed and approved by Staff as part of scoping. A detailed summary is provided in the Technical Attachments.

A summary of the proposed net trip generation is presented in Table 1. Full trip generation calculations are included in the Technical Attachments.

Based on these calculations, the proposed Project would result in the following net changes in trip generation for the site:

- 514 net new external vehicle trips during the weekday morning peak hour (263 inbound and 251 outbound).
- 880 net new external vehicle trips during the weekday afternoon peak hour (451 inbound, 429 outbound).
- 802 net new external vehicle trips during the Saturday peak hour (412 inbound and 390 outbound).

Since the driveways counts provide access to other developments, including the existing site, the traffic analysis and forecasts for future roadway volumes with the project are based on the net external trips.

Note the development program analyzed in this report aligns with the version submitted to Staff during scoping. While the proposed densities have since been refined and differ in the latest plan, this study is based on the scoped development program as a conservation approach, as the scoped program results in a higher number of peak hour trips than the updated plans.

The trip generation for the latest plan is shown in Table 2 and the trip generation comparison between the analyzed/scoped and the latest plan is shown in Table 3.

As shown in Table 3, the scoped development program results in a higher number of peak hour trips than the updated plans.

Table 1: Trip Generation

Land Use	Land Use Code	Quantity (x)	AM Peak Hour (veh/hr)			PM Peak Hour (veh/hr)			Saturday Peak Hour (veh/hr)		
			In	Out	Total	In	Out	Total	In	Out	Total
Existing Land Use											
Shopping Plaza (40-150k) with Supermarket	821	71,896 sf	157	97	254	322	348	670	342	329	671
General Office Building	710	15,000 sf	29	4	33	6	28	34	4	4	8
Total Existing			**186**	**101**	**287**	**328**	**376**	**704**	**346**	**333**	**679**
Proposed Land Use											
Phase -1											
Multifamily (Mid-Rise)	221	157 du	13	44	57	38	24	62	32	31	63
Shopping Plaza (40-150k) with Supermarket	821	54,341 du	119	73	192	257	279	536	274	264	538
Phase-1 Total			**132**	**117**	**249**	**295**	**303**	**598**	**306**	**295**	**601**
Phase -2											
Multifamily (Mid-Rise)	221	137 du	11	38	49	33	21	54	28	27	55
Shopping Plaza (40-150k) with Supermarket	821	56,879 sf	125	76	201	266	289	555	284	273	557
Phase-2 Total			**136**	**114**	**250**	**299**	**310**	**609**	**312**	**300**	**612**
Phase -3											
Recreational Community Center	495	103,687 sf	131	67	198	128	144	272	60	51	111
Phase-3 Total			**131**	**67**	**198**	**128**	**144**	**272**	**60**	**51**	**111**
Phase -4											
Strip Retail Plaza (<40k)	822	38,574 sf	42	28	70	102	101	203	129	124	253
Phase-4 Total			**42**	**28**	**70**	**102**	**101**	**203**	**129**	**124**	**253**
Phase -5											
Single Family Attached Housing	215	84 du	10	28	38	27	19	46	28	30	58
Phase-5 Total			10	28	38	27	19	46	28	30	58
Total Proposed			**451**	**354**	**805**	**851**	**877**	**1,728**	**835**	**800**	**1,635**
Net New Trip Generation			**265**	**253**	**518**	**523**	**501**	**1,024**	**489**	**467**	**956**
Internal Capture											
Total Proposed Retail		**253,481 sf**	**417**	**244**	**661**	**753**	**813**	**1,566**	**747**	**712**	**1,459**
Internal Capture			*-1*	*-1*	*-2*	*-27*	*-45*	*-72*	*-37*	*-40*	*-77*
Total Proposed External Retail Trips			***416***	***243***	***659***	***726***	***768***	***1,494***	***710***	***672***	***1,382***
Total Proposed Residential		**378 du**	**34**	**110**	**144**	**98**	**64**	**162**	**88**	**88**	**176**
Internal Capture			*-1*	*-1*	*-2*	*-45*	*-27*	*-72*	*-40*	*-37*	*-77*
Total Proposed External Residential Trips			***33***	***109***	***142***	***53***	***37***	***90***	***48***	***51***	***99***
Net New External Trip Generation											
Net New External Trip Generation			**263**	**251**	**514**	**451**	**429**	**880**	**412**	**390**	**802**

Table 2: Trip Generation for the latest plan

Land Use	Land Use Code	Quantity (x)	AM Peak Hour (veh/hr)			PM Peak Hour (veh/hr)			Saturday Peak Hour (veh/hr)		
			In	Out	Total	In	Out	Total	In	Out	Total
Existing Land Use											
Shopping Plaza (40-150k) with Supermarket	821	71,896 sf	157	97	254	322	348	670	342	329	671
General Office Building	710	15,000 sf	29	4	33	6	28	34	4	4	8
Total Existing			**186**	**101**	**287**	**328**	**376**	**704**	**346**	**333**	**679**
Proposed Land Use											
Phase -1											
Senior Adult Housing - Multifamily	252	200 du	13	26	39	28	22	50	33	28	61
Shopping Plaza (40-150k)	821	73,810 du	79	49	128	188	195	383	246	227	473
Phase-1 Total			**92**	**75**	**167**	**216**	**217**	**433**	**279**	**255**	**534**
Phase -2											
Multifamily (Mid-Rise)	221	255 du	23	78	101	61	39	100	53	50	103
Strip Retail Plaza (<40k)	822	19,650 sf	27	18	45	63	63	126	66	63	129
Phase-2 Total			**50**	**96**	**146**	**124**	**102**	**226**	**119**	**113**	**232**
Phase -3											
Recreational Community Center	495	136,260 sf	172	88	260	155	175	330	79	67	146
Phase-3 Total			**172**	**88**	**260**	**155**	**175**	**330**	**79**	**67**	**146**
Phase -4											
Strip Retail Plaza (<40k)	822	28,610 sf	35	23	58	82	82	164	96	92	188
Phase-4 Total			**35**	**23**	**58**	**82**	**82**	**164**	**96**	**92**	**188**
Phase -5											
Single Family Attached Housing	215	50 du	5	15	20	15	11	26	18	20	38
Phase-5 Total			5	15	20	15	11	26	18	20	38
Total Proposed			**354**	**297**	**651**	**592**	**587**	**1,179**	**591**	**547**	**1,138**
Net New Trip Generation			**168**	**196**	**364**	**264**	**211**	**475**	**245**	**214**	**459**

Table 3: Trip Generation Comparison

Development Program	AM Peak Hour (veh/hr)			PM Peak Hour (veh/hr)			Saturday Peak Hour (veh/hr)		
	In	Out	Total	In	Out	Total	In	Out	Total
Analyzed/Scoped Program - Total Proposed (Table 1)	451	354	805	851	877	1,728	835	800	1,635
Latest Program Total - Proposed (Table 2)	354	297	651	592	587	1,179	591	547	1,138
Net Trips (Latest – Analyzed/Scoped)	**-97**	**-57**	**-154**	**-259**	**-290**	**-549**	**-244**	**-253**	**-497**

Section 4: Existing Conditions

This section provides a summary of the assumptions for the existing conditions capacity analyses for the study area network.

Existing Geometry and Operations Assumptions

Existing roadway geometry, lane configurations, and traffic controls were based on field observations taken during the data collection effort.

Existing lane configurations and traffic controls are shown in Figure 6.

2025 Existing Traffic Volumes

Existing weekday turning movement traffic count data was collected on Thursday, May 15, 2025 at all study intersections except for the Old Dobbin Lane intersection for which count data was collected on Tuesday, September 9, 2025. All counts were collected while public schools, including the nearby high school, and local government were in session, from 6:30 to 9:30 AM and 4:00 to 7:00 PM.

Existing Saturday counts were collected from 10:00 AM to 2:00 PM on Saturday, May 17, 2025 at all study intersections except for the Old Dobbin Lane intersection for which Saturday counts were collected on September 13, 2025

The existing peak hour traffic volumes for all intersections are shown in Figure 7.

Turning movement count data is included in the Technical Attachments.

Comments were received from County Staff requesting the inclusion of the Old Dobbin Lane and Tamar Drive intersection after data collection was completed in May. Since data could not be collected during the Summer, counts were collected later in early September at this intersection when schools were back in session.

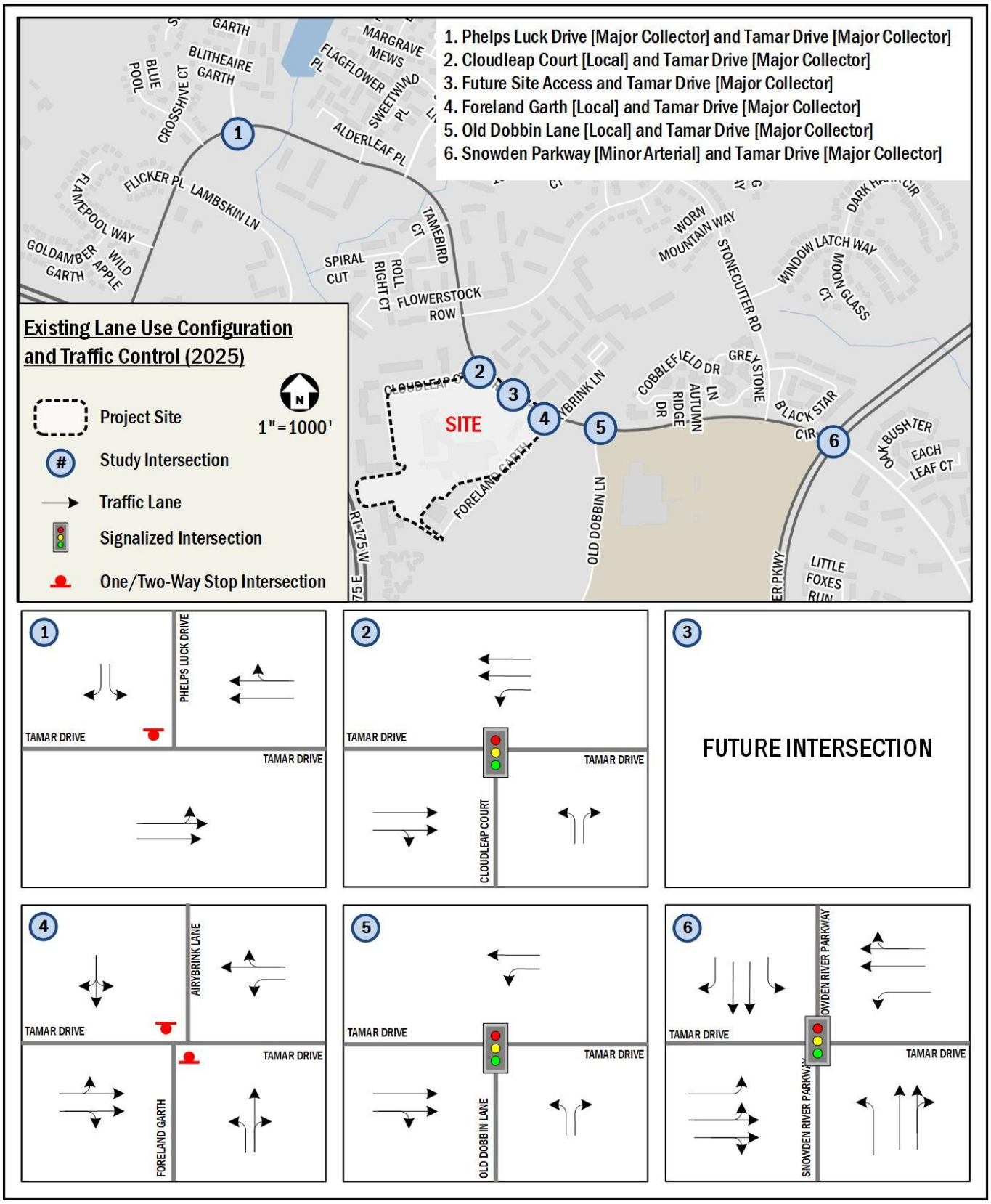


Figure 6: Existing Lane Configuration and Traffic Controls

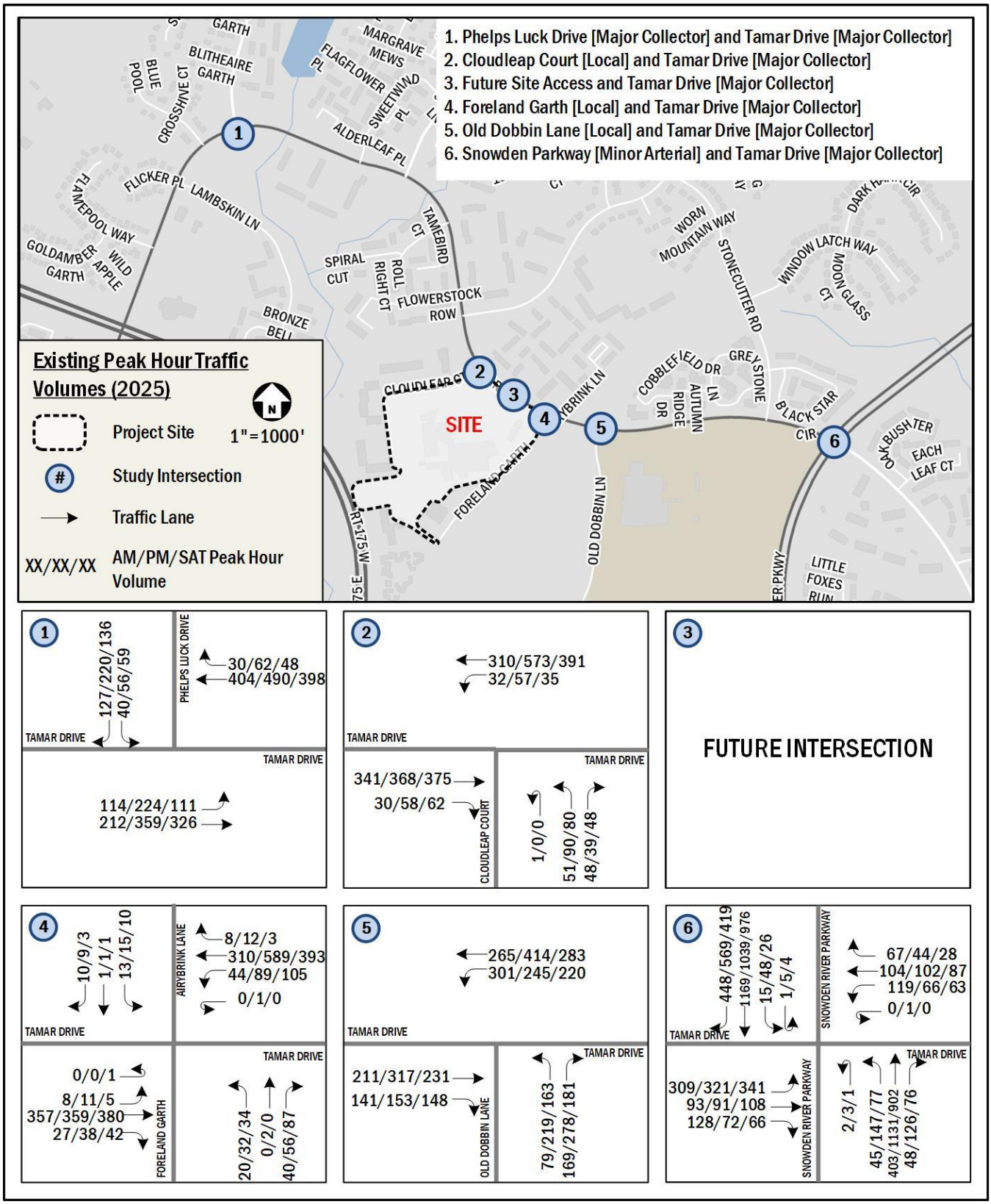


Figure 7: Existing Peak Hour Traffic Volumes (2025)

Section 5: Background Conditions

This section provides a summary of the assumptions for the background (without development) capacity analyses for the study area network.

Background Geometry and Operations Assumptions

The background roadway and operational assumptions were modified from the existing assumptions based on the following background transportation project identified within the project study area:

Tamar Drive Complete Street Project

The Howard County Office of Transportation conducted a Complete Streets corridor feasibility study in June 2020 for the section of Tamar Drive extending from Flamepool Way to Snowden River Parkway. The objectives of the study were to:

- Formulate a collaborative vision for Tamar Drive that aligns with community objectives and adheres to the guidelines set forth by PlanHoward, BikeHoward, and WalkHoward.
- Determine cost-effective enhancements that are in line with this vision.
- Evaluate and quantify the safety, operational, and environmental impacts of the proposed modifications.

Improvements on Tamar Drive along the site frontage between Cloudleap Court and Old Dobbin Lane include:

- Single travel lanes along both directions with additional left and/or right turn storage lane where appropriate
- Addition of a 6’ dedicated bicycle lanes along both directions
- Conversion of an 11’ turn lane/ median into a center 10’ two-way left turn lane
- Additional pedestrian improvements including high visibility crosswalks

The proposed development aims to meet the study's objectives by enhancing pedestrian, bicycle, and transit facilities near the site and improving connectivity to nearby neighborhoods and community destinations.

The proposed Tamar Drive modifications along the site frontage per Complete Streets are shown in Figure 8. The Complete Streets Design along Tamar Drive within the study area is included in the Technical Attachments.

The Background condition’s lane configurations and traffic controls are shown in Figure 9.

2030 Background Traffic Volumes

Traffic projections were prepared for background future conditions using a combination of the following:

- Existing traffic count data;
- Regional growth in through traffic; and
- Traffic generated by planned and approved area background developments expected to be completed prior to the buildout of the project.

Regional Growth

Regional growth through the area was estimated using annual growth rates applied to the existing traffic volumes. The growth rates used in this analysis were estimated based on data taken from the Maryland State Highway Administration’s GIS data catalog.

The assumed growth rates are consistent with the Howard County Guidelines requirements of a projected 2% per year growth compounded for the first three years of a project.

Historical growth rates applied in the traffic forecast are shown in Table 4. Regional traffic growth volumes are shown in Figure 10.

Background Developments

No pipeline development projects were identified in the vicinity of the site for inclusion in this study. Consistent with Howard County and industry standards, only approved projects expected to be completed prior to the buildout of the proposed development with an origin/destination within the study area were reviewed.

The 2030 background peak hour traffic volumes shown in Figure 11 are comprised of:

- The existing traffic volumes shown in Figure 7; and
- The regional growth in through traffic shown in Figure 10.

Table 4: Historical Growth Rates

Route	Location	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Annual % Change (2015 - 2024)	Growth Rate Applied for Future Conditions (2025-2030)
Tamar Drive	0.1 mi N of MD 175	12,404	12,645	12,990	12,871	12,872	10,753	12,304	12,385	11,900	11,861	-0.3%	2.0%
Snowden River Parkway	0.2 mi N of MD 175	30,603	31,184	31,935	32,540	32,541	27,172	31,093	31,284	31,755	25,490	-1.7%	2.0%

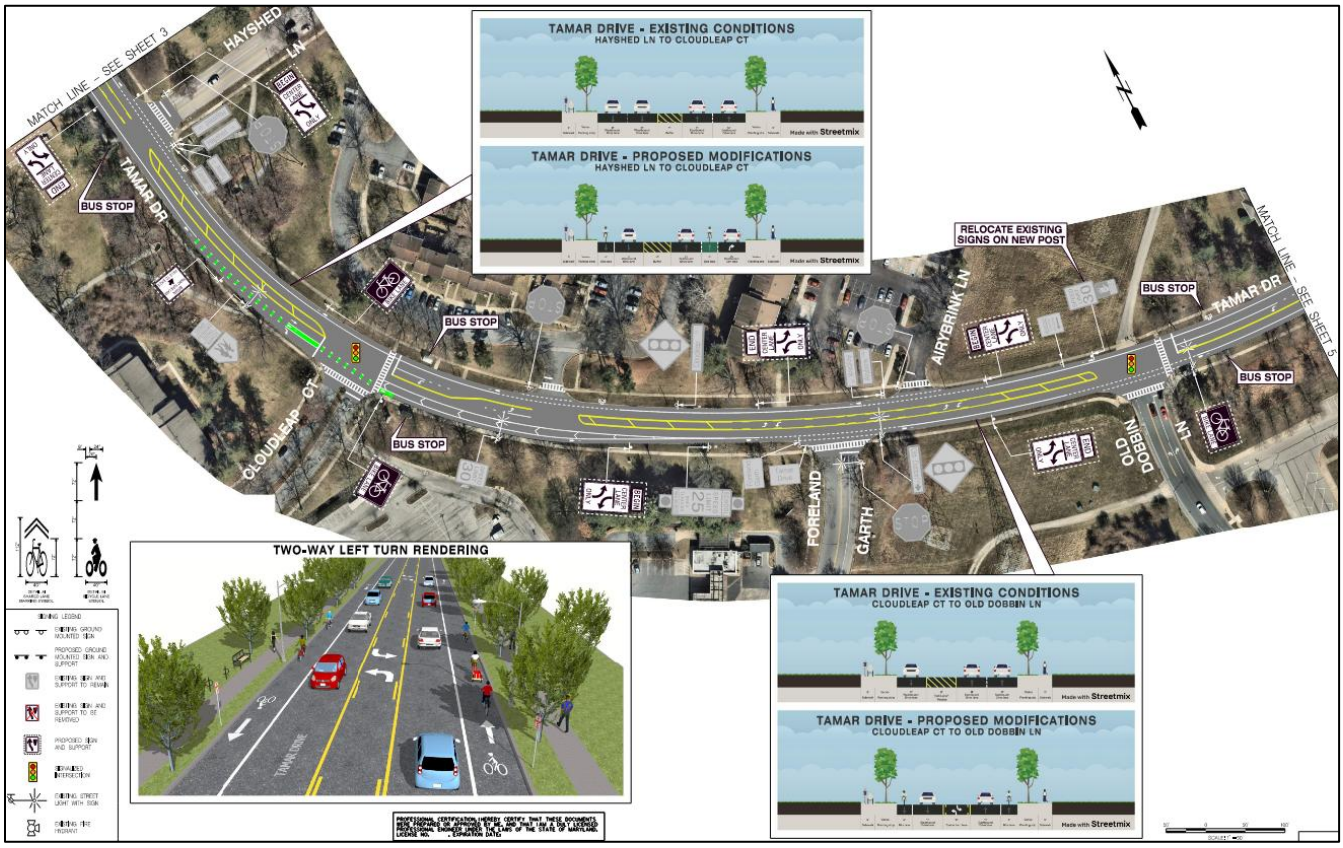


Figure 8: Tamar drive Complete Streets Design along Site Frontage

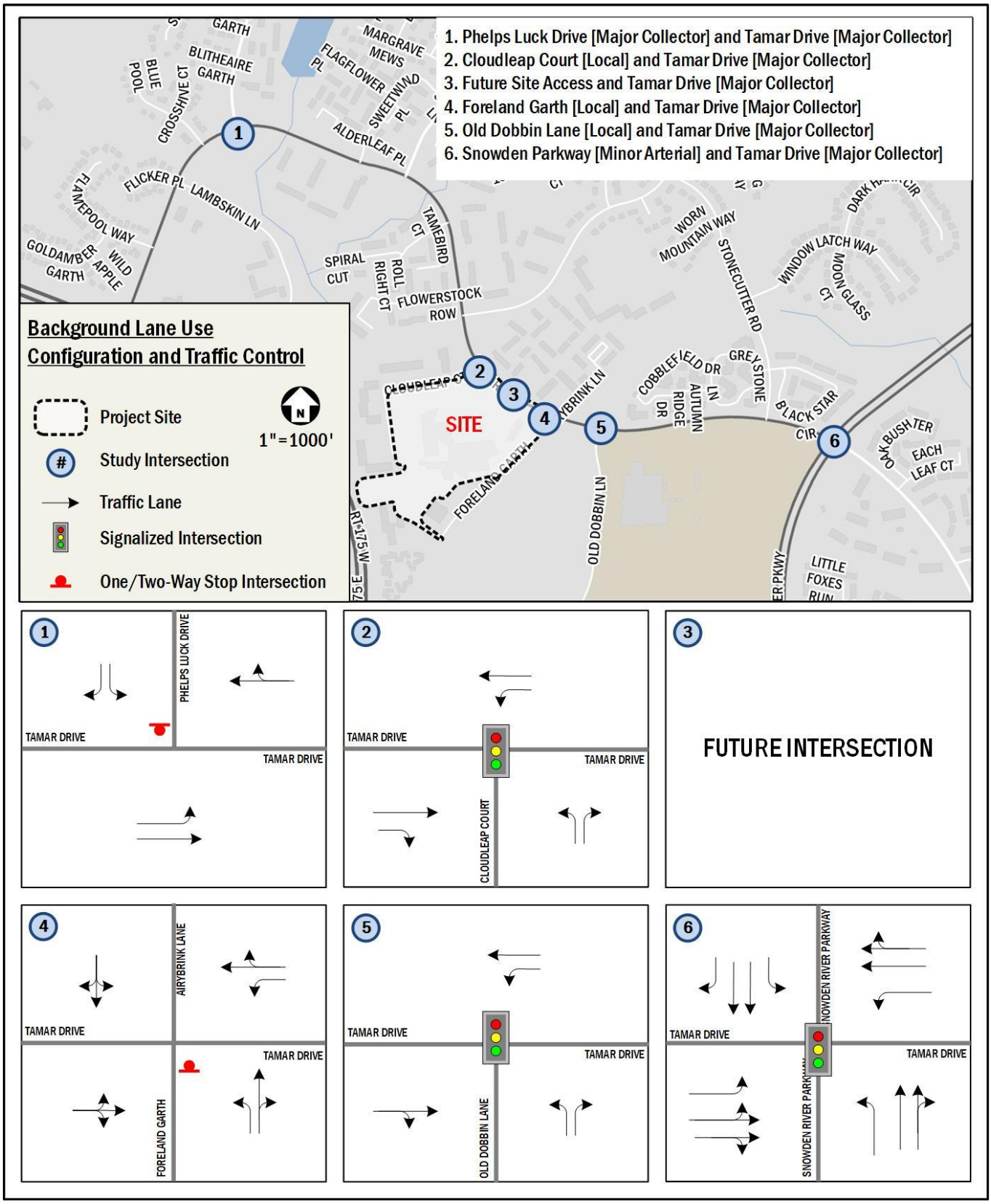


Figure 9: Background Lane Configuration and Traffic Controls

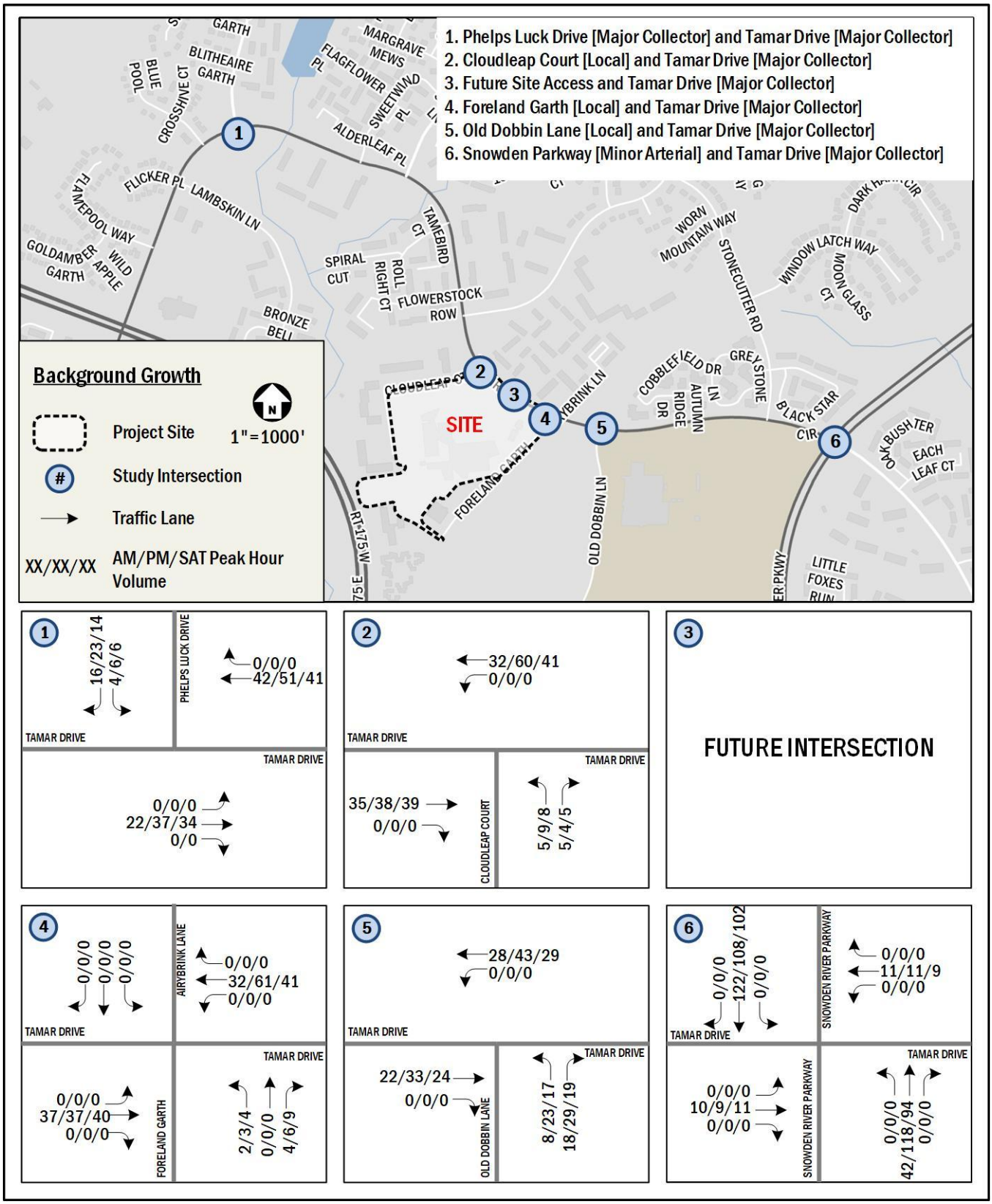


Figure 10: Background Growth

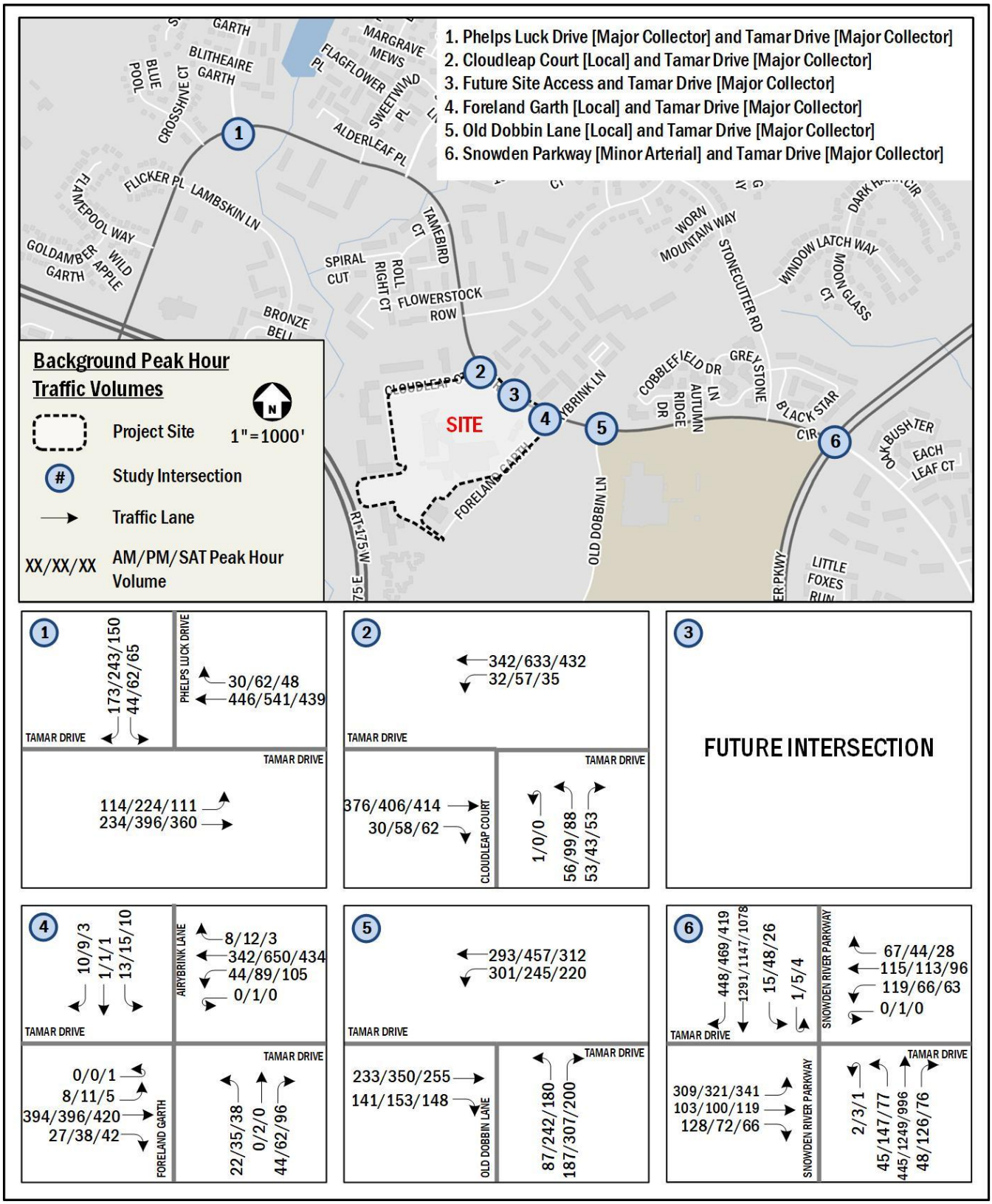


Figure 11: Background Peak Hour Volumes

Section 6: Future Conditions

This section provides a summary of the total future (with development) assumptions for the capacity analyses for the study area network.

Future Geometry and Operations Assumptions

Future assumptions for the off-site road network and operations were modified from the background assumptions. As part of the project, the following modifications are planned at the study intersections:

- New midblock site access along Tamar Drive between Cloudleap Court and Foreland Garth
    - This will be a limited access driveway with Right-in/Right-out only
- Signalization of Foreland Garth and Tamar Drive
    - A signal warrant analysis was prepared for the proposed signal to evaluate whether future
    - While Foreland Garth is located approximately 100 west of Airybrink Lane, the side streets were analyzed with north-south split phasing as a conservative measure
    - Replacement of the center two-way left turn lane with dedicated left turn lanes from Tamar Drive at the new signalized intersection

The Project will have access to the surrounding roadway network via a new right-in/right-out connection at Tamar Drive, two (2) connections on Foreland Garth, and one (1) connection on Cloudleap Court.

The Total Future condition's lane configurations and traffic controls are shown in Figure 12.

2030 Total Future Traffic Volumes

The 2030 total future traffic volumes represent future conditions with the buildout of the proposed development and all growth assumptions included for 2030 background conditions.

Site trip distributions were assigned to the roadway network using distribution factors based on the current directional distribution of volumes in the study area. The inbound and outbound site trip distributions are shown in Figure 13 and Figure 14.

The 2030 total future peak hour volumes are shown in Figure 16 and consist of:

- The 2030 background peak hour traffic volumes shown in Figure 11; and
- The addition of net site-generated external trips for the proposed Project shown in Figure 15.

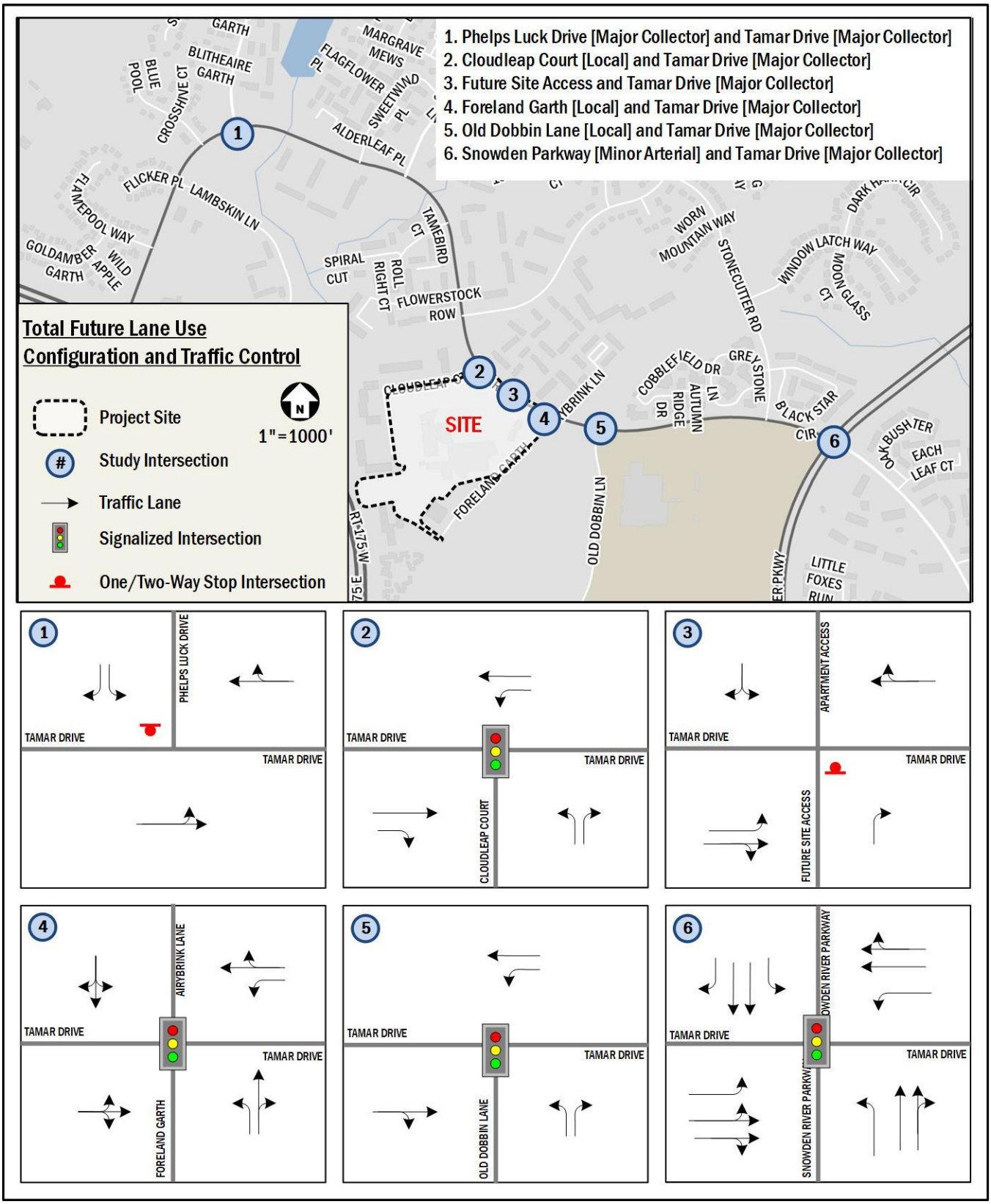


Figure 12: Total Future Lane Configuration and Traffic Controls

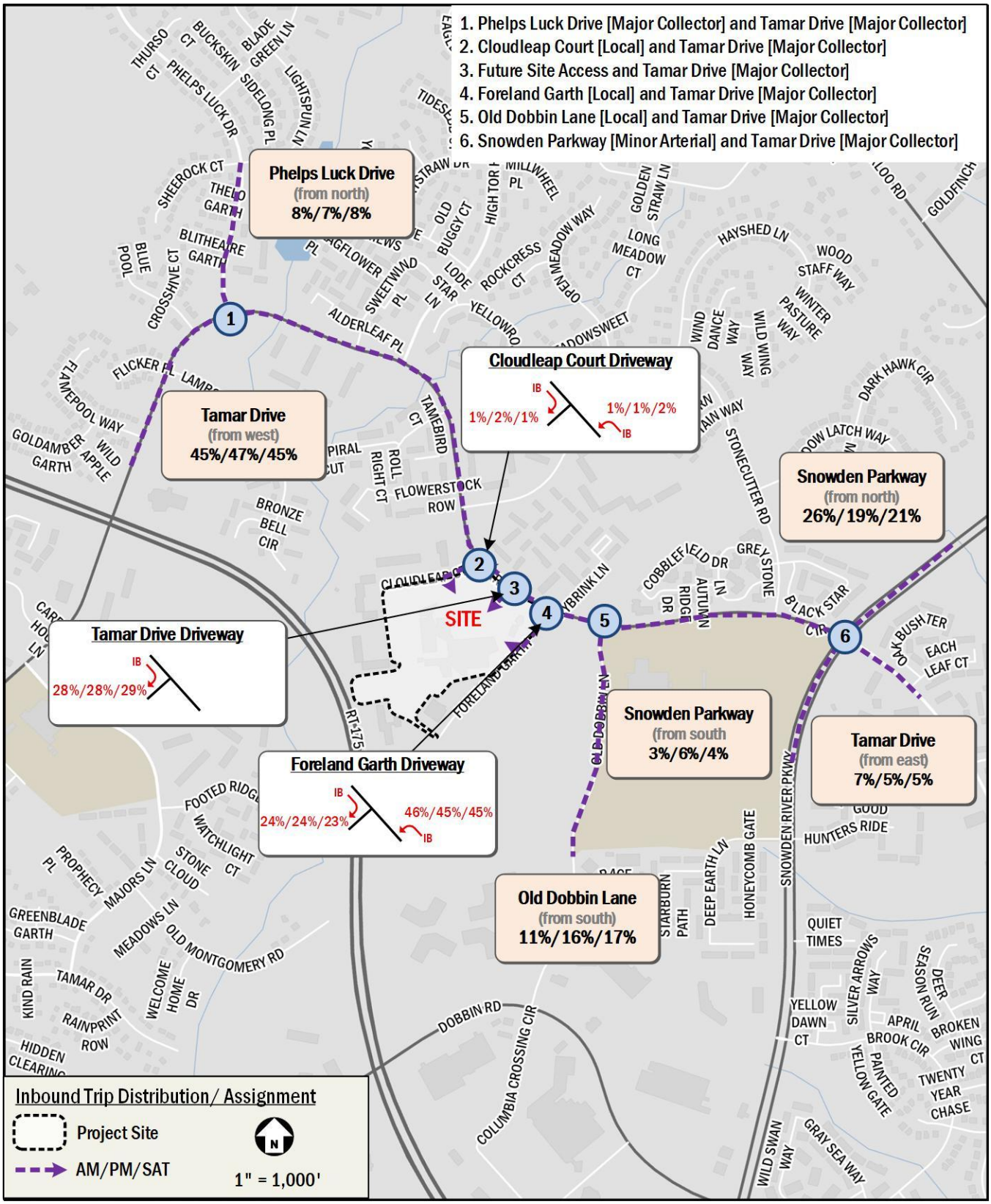


Figure 13: Inbound Site Trip Distribution/Assignment

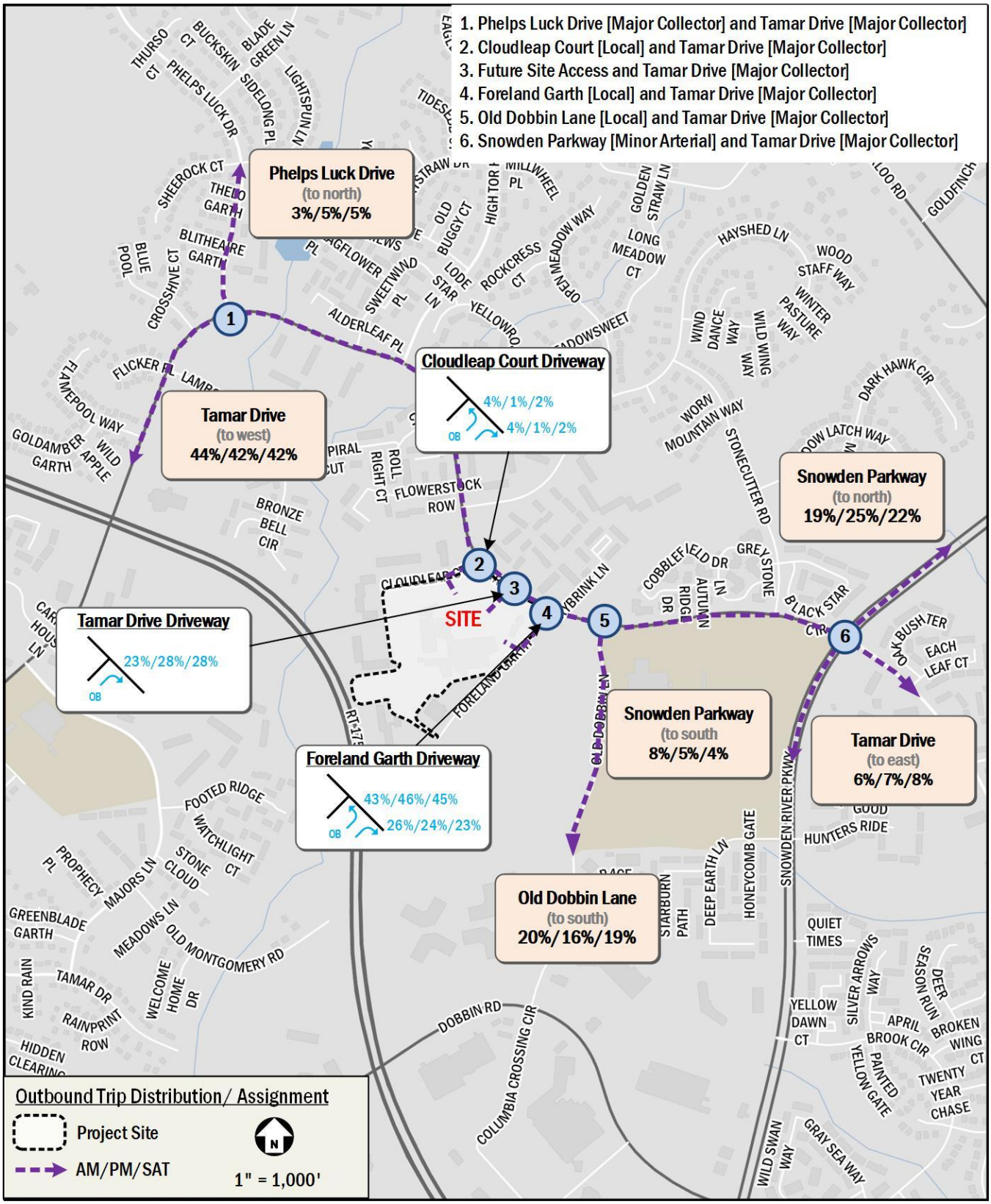


Figure 14: Outbound Site Trip Distribution/Assignment

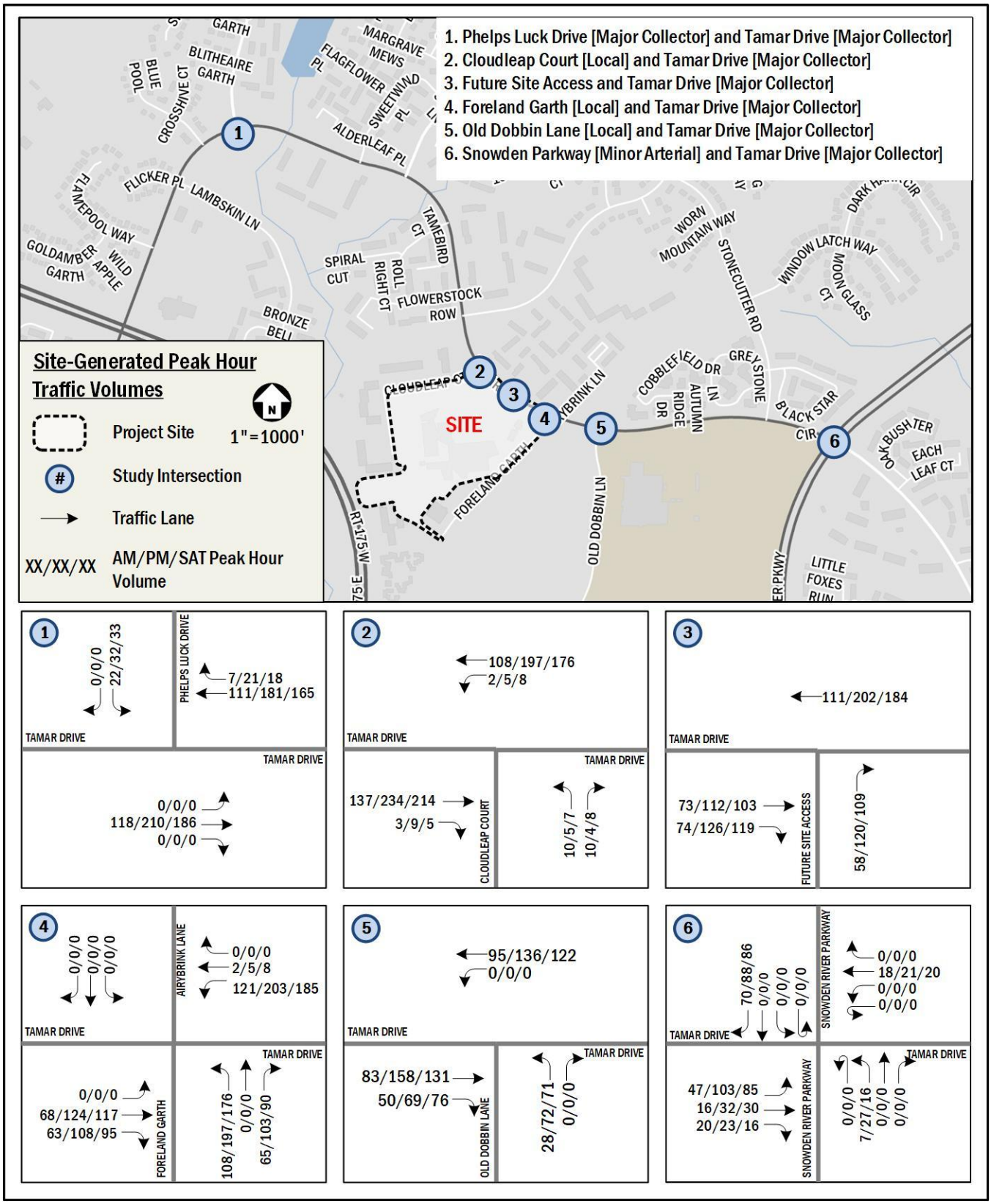


Figure 15: Site-Generated Net Peak Hour Volumes

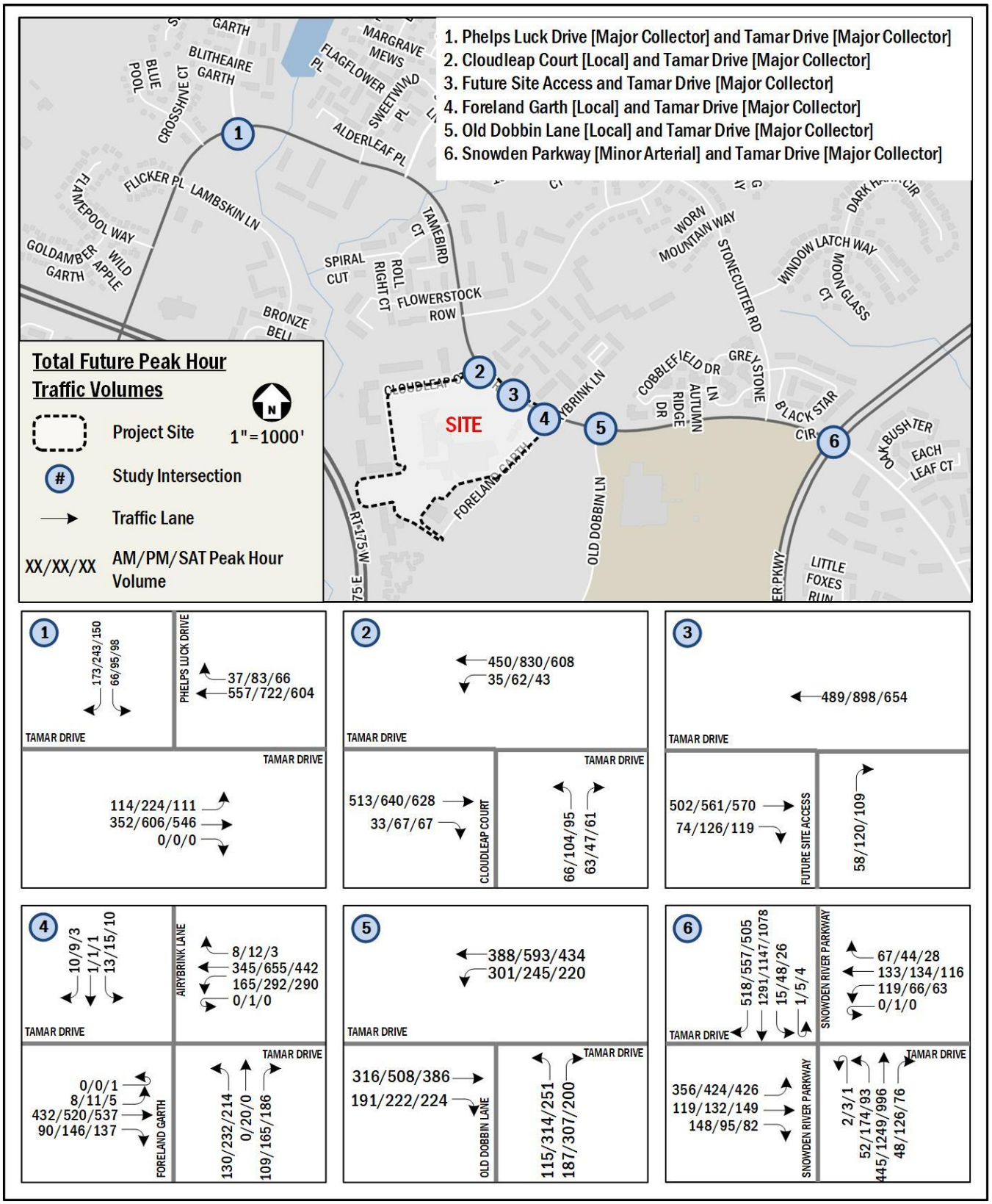


Figure 16: Total Future Peak Hour Volumes

Traffic Signal Warrant Analysis

A traffic signal warrant study was conducted at the Tamar Drive and Foreland Garth intersection to determine if a new traffic signal is warranted.

The intersection was evaluated based on the total future conditions with the project and in accordance with MDSHA's (Maryland State Highway Administration) MUTCD (Manual on Uniform Traffic Control Devices) standards and guidelines for Warrant 1, Eight Hour Vehicle Volume, Warrant 2, Four Hour Vehicle Volume and Warrant 3, Peak Hour.

Warrant 1: Eight Hour Vehicular Volume

- *The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:*

  A. The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

  B. The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

  In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Warrant 2: Four Hour Vehicular Volume

- *The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 17 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.*

Warrant 3: Peak Hour Volume

- *The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 18 for the existing combination of approach lanes.*

The total future hourly volumes satisfy the conditions for Warrants 1, 2 and 3, warranting a traffic signal at this intersection under Total Future conditions with the project.

The signal warrant worksheets are included in the Technical Attachments.

The future conditions were analyzed assuming a traffic signal at the Foreland Garth and Tamar Drive intersection.

Table 5: Warrant 1, Eight Hour Vehicular Volume (Total Future Total Volumes)

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

	MAJOR ST BOTH APPROACHES	HIGHEST HOUR MINOR ST HIGHEST APPROACH	WARRANT 1, Condition A			WARRANT 1, Condition B		
			Major Street	Minor Street	Both Met	Major Street	Minor Street	Both Met
THRESHOLD VALUES			500	150		750	75	
06:00 AM	80	115	N	N	**N**	N	Y	**N**
07:00 AM	905	220	Y	Y	**Y**	Y	Y	**Y**
08:00 AM	1,007	256	Y	Y	**Y**	Y	Y	**Y**
09:00 AM	907	273	Y	Y	**Y**	Y	Y	**Y**
10:00 AM	877	308	Y	Y	**Y**	Y	Y	**Y**
11:00 AM	942	375	Y	Y	**Y**	Y	Y	**Y**
12:00 PM	1,153	458	Y	Y	**Y**	Y	Y	**Y**
01:00 PM	1,029	407	Y	Y	**Y**	Y	Y	**Y**
02:00 PM	1,177	390	Y	Y	**Y**	Y	Y	**Y**
03:00 PM	1,303	443	Y	Y	**Y**	Y	Y	**Y**
04:00 PM	1,511	438	Y	Y	**Y**	Y	Y	**Y**
05:00 PM	1,738	509	Y	Y	**Y**	Y	Y	**Y**
06:00 PM	1,532	476	Y	Y	**Y**	Y	Y	**Y**
07:00 PM	338	393	N	Y	**N**	N	Y	**N**
	14,499	**5,061**			**12**			**12**
			8 HOURS NEEDED **SATISFIED**			8 HOURS NEEDED **SATISFIED**		

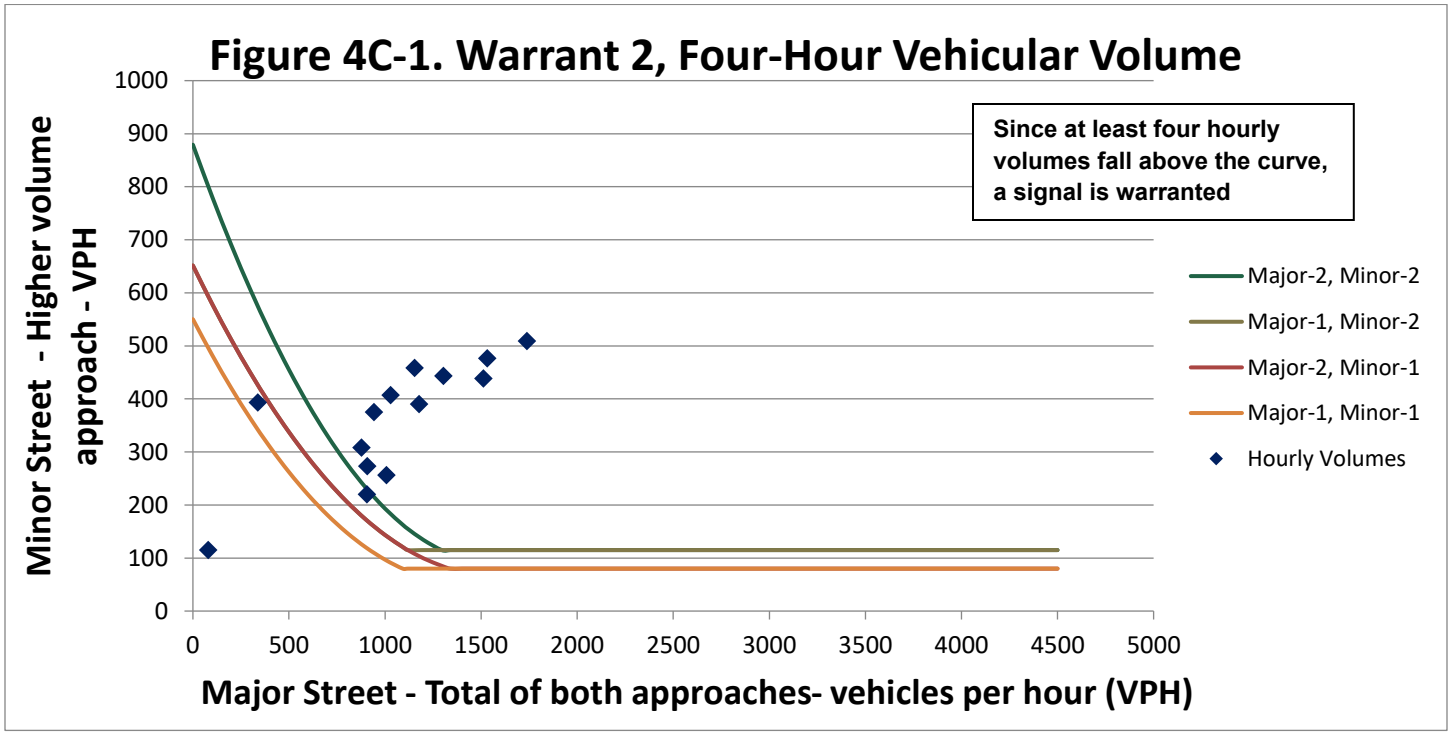


Figure 17: Warrant 2, Four-Hour Vehicular Volume (Total Future Traffic Volumes)

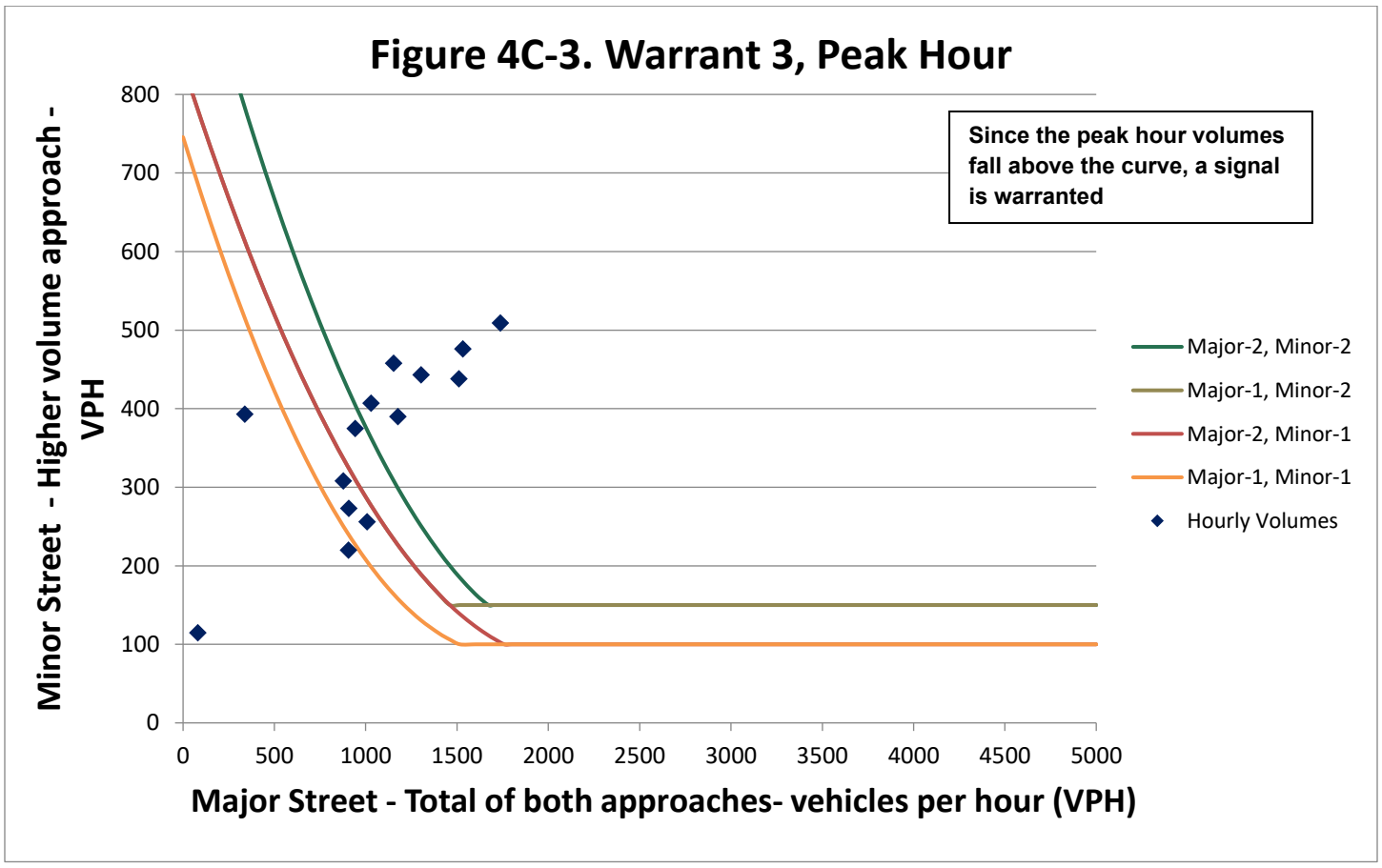


Figure 18: Warrant 3, Peak Hour (Total Future Traffic Volumes)

Section 7: Vehicular Capacity Analysis Results

Intersection Capacity Analysis

Intersection capacity analyses were performed for existing, background future and total future conditions for AM, PM and Saturday peak hours using Howard County analysis procedures, as outlined in the Howard County Guidelines for Traffic Impact Studies.

The Howard County Guidelines for Traffic Impact Studies outlines the following applicable standards for the Project based on its location outside the Downtown Columbia Area:

- For projects outside the Downtown Columbia Area, intersection level of service (LOS) standard for County-controlled intersections is LOS D and the standard for State-controlled intersections is LOS E.
    - All study intersections are along Tamar Drive and are County controlled.
    - Note that all study intersections maintained LOS “D” or better for all study periods both with and without the proposed redevelopment.

Intersection Critical Lane Volumes (CLV)

Critical Lane Volumes (CLV) were analyzed at each of the study intersections based on the existing, background and total future traffic forecasts using the corresponding lane use and traffic control scenarios for each.

Note that u-turn traffic was added to the left turn traffic, and the combined volume was assessed as the left-turn volume when calculating CLVs.

The results of these analyses indicate that all study intersections and site driveways currently and are expected to continue to operate with CLVs well within the allowable congestion standard of LOS “D” for County controlled intersections. Therefore, all study intersections meet Howard County’s threshold for adequacy with the proposed development.

The CLV analyses are summarized in Table 7 and detailed evaluation worksheets are included in the Technical Attachments.

Site Driveway Queuing Analysis

A queuing analysis was performed at the three (3) study intersections where site traffic exits onto Tamar Drive.

Queue length for the site driveway was calculated using the guidelines from the Howard County Design Manual. The Manual outlines the procedures for calculating queue lengths at both signalized and unsignalized intersections. For intersections with signal cycle lengths under 120 seconds, queue length is estimated using a simplified formula based on volume. For cycle lengths exceeding 120 seconds, a more detailed methodology is applied, incorporating critical lane analysis, recommended cycle lengths based on Level of Service (LOS), and Poisson distribution modeling. Additionally, guidance is provided for unsignalized intersections, including use of critical gap analysis and conditions under which signalized intersection methods should be applied.

The queues were calculated using the formula for cycle lengths under 120 seconds and the queues are shown in Table 6:

Queue Length = 1.25 X Volumes

Table 6: Queueing Analysis

Driveway	Storage Length (ft)	Queues (ft)		
		AM Peak	PM Peak	SAT Peak
Cloudleap Court	500	163	189	195
Tamar Drive Access	250	73	150	136
Foreland Garth	1300	299	499	500

Per the above calculation, the queue lengths for the approaches site-generated outbound trips on Tamar Drive are within the storage length available or within the site.

Adequacy

Since all study intersections pass the applicable capacity tests, no off-site intersection or roadway improvements are required to mitigate the impact of site trips expected to be added as a result of the Project.

Table 7: Critical Lane Volume (CLV) Analyses Results

AM Peak Hour	Existing		Background		Total Future	
Intersection	CLV	LOS	CLV	LOS	CLV	LOS
1. Phelps Luck Drive and Tamar Drive	510	A	763	A	881	A
2. Cloudleap Court and Tamar Drive	288	A	465	A	615	A
3. Future Site Access and Tamar Drive	342	A	429	A	634	A
4. Airybrink Lane/Forelan Garth and Tamar Drive	317	A	522	A	860	A
5. Old Dobbin Lane anad Tamar Drive	664	A	694	A	767	A
6. Snowden River Parkway and Tamar Drive	1030	B	1103	B	1144	B
PM Peak Hour	**Existing**		**Background**		**Total Future**	
Intersection	CLV	LOS	CLV	LOS	CLV	LOS
1. Phelps Luck Drive and Tamar Drive	748	A	1070	B	1272	C
2. Cloudleap Court and Tamar Drive	405	A	732	A	934	A
3. Future Site Access and Tamar Drive	630	A	696	A	1018	B
4. Airybrink Lane/Forelan Garth and Tamar Drive	415	A	752	A	1206	C
5. Old Dobbin Lane anad Tamar Drive	782	A	829	A	961	A
6. Snowden River Parkway and Tamar Drive	1051	B	1127	B	1213	C
Saturday Peak Hour	**Existing**		**Background**		**Total Future**	
Intersection	CLV	LOS	CLV	LOS	CLV	LOS
1. Phelps Luck Drive and Tamar Drive	492	A	748	A	931	A
2. Cloudleap Court and Tamar Drive	355	A	537	A	766	A
3. Future Site Access and Tamar Drive	426	A	470	A	798	A
4. Airybrink Lane/Forelan Garth and Tamar Drive	441	A	673	A	1188	C
5. Old Dobbin Lane anad Tamar Drive	609	A	642	A	807	A
6. Snowden River Parkway and Tamar Drive	925	A	992	A	1082	B

Section 8: Summary and Conclusions

This report presents a Traffic Impact Study (TIS) prepared in support of the proposed development of the Long Reach Village Center, the “Project”, located at 8775 Cloudleap Court in Howard County, Maryland. The Project is bounded by Cloudleap Court and Tamar Drive to the north, Foreland Garth to the east, Longwood Apartments to the south, and Timber Apartments and Route 175 to the west. This report is prepared to address the APFO test for road adequacy.

For purposes of selecting the appropriate components for this assessment, it is noted that the site is located outside the Downtown Columbia Area.

The purpose of this study is to evaluate the impact of the Project on the surrounding transportation network based on a technical comparison of existing, background, and total future conditions. The scope and methodology included in this study are consistent with the Howard County guidelines for preparing traffic impact studies outside the Downtown Columbia Area.

A scoping letter was submitted to the County Staff requesting approval on the proposed study intersections and methodology. Comments and recommendations provided by the County Staff have been addressed and reflected in the study. The scoping letter is included in the attachments. Note that the required Multimodal Transportation Studies Checklist is provided in the technical attachments of this document.

Proposed Project

The existing site consists of approximately 71,896 sf of retail, 15,000 sf of office space and 404 parking spaces. The Project proposes to redevelop the site to include approximately 294 multifamily, 84 townhomes and 253,481 sf commercial space. The construction is expected to occur in five (5) phases.

Note the development program analyzed in this report aligns with the version submitted to Staff during scoping. While the proposed densities have since been refined and differ in the latest plan, this study is based on the scoped development program as a conservation approach, as the scoped program results in a higher number of peak hour trips than the updated plans.

Based on the conceptual layout, primary access to the development is proposed via Foreland Garth and a new right-in/right-out only driveway from Tamar Drive. Primary access to the townhomes garage parking is proposed on Cloudleap Court.

As part of the project, the installation of a new traffic signal is proposed at the Tamar Drive and Foreland Garth/Airybrink Lane intersection. A traffic signal warrant analysis was completed to determine whether total future roadway volumes with the project meet signalization thresholds at the Tamar Drive and Foreland Garth/Airybrink Lane intersection. Based on the analysis, future roadway volumes with the project meet signalization thresholds.

Regional connections to the site are provided via Tamar Drive and other roads including Snowden Parkway, Rouse Parkway (MD 175) and Phelps Luck Drive.

Traffic Analysis

To determine the vehicular impact of the Project on the surrounding roadway network, this study includes both a CLV and a driveway queuing assessment. These analyses were prepared for Existing, Background, and Total Future conditions.

The Howard County guidelines recommend the intersection LOS standard for County-controlled intersections as LOS D and the standard for State-controlled intersections as LOS E.

All the intersections in the study area are County-controlled intersections, and the results of these analyses indicate that all existing intersections currently and will continue to operate within Howard County’s LOS thresholds, with LOS “D” or better, with the additional traffic generated by the Project. Therefore, no traffic-related mitigation is required for the Project.

The 95th percentile queue for the driveway and roadways exiting the site is expected to be adequately accommodated within the available storage or within the site without impacting any public roads.

Summary and Conclusions

With the completion of the Project and proposed improvements, all study intersections are expected to continue to operate within the County’s LOS thresholds without the need for offsite improvements. Therefore, no off-site road improvements are required for this application.

Transportation Technical Attachments

Long Reach Village Center

Howard County, Maryland

October 3, 2025

GOROVE SLADE
Transportation Planners and Engineers

CONTENTS

(Note: Click on heading to navigate directly to each section of the Technical Attachments)

A. Scoping Letter

GOROVE SLADE
Transportation Planners and Engineers

TECHNICAL MEMORANDUM

To:	James Witmer	Howard County
	Krishnakanth Jagarapu	Howard County
From:	Anila Moorthy, EIT	
	Maribel Wong	
	Katie Wagner, PE, PTOE	
Date:	May 14, 2025	
Subject:	Long Reach Village Center Development Scoping Letter	

Introduction

This memorandum outlines a proposed scope for the Traffic Impact Study to assess the redevelopment of Long Reach Village Center in Howard County, Maryland. As shown in Figure 1, the site is generally bounded by Cloudleap Court and Tamar Drive to the north, Foreland Garth to the east, Longwood Apartments to the south, and Timbers Apartments and Route 175 to the west.

The existing site consists of approximately 71,896 sf of retail, 15,000 sf of office space and 404 parking spaces. The Project proposes to redevelop the site to include approximately 294 multifamily, 84 townhomes and 253,481 sf commercial space. The construction is expected to occur in five (5) phases.

Based on the conceptual layout, primary access is proposed via Foreland Garth and a new midblock access on Tamar Drive. Secondary access for residential uses only/residential parking is proposed from Cloudleap Court.

The proposed concept sketch is shown in Figure 4. A more detailed plan will be included in the Traffic Impact Assessment (TIA) report.

The following summarizes the proposed scope:

- Site access will be access via Cloudleap Court, Foreland Garth and a has midblock crossing along Tamar Drive.
- Five (5) study intersections are proposed to be included for the analysis. The study intersections are:
  - Phelps Luck Drive [Major Collector] and Tamar Drive [Major Collector]
  - Cloudleap Court [Local] and Tamar Drive [Major Collector]
  - Site Access and Tamar Drive [Major Collector]
  - Foreland Garth [Local] and Tamar Drive [Major Collector]
  - Snowden Parkway [Minor Arterial] and Tamar Drive [Major Collector]
- Four (4) transportation-related studies will be considered as background in the study: Tamar Drive Complete Streets Study, PlanHoward, WalkHoward and BikeHoward.
- We propose to analyze weekday AM and PM and Saturday peak period conditions.
  - Existing weekday turning movement traffic count data will be collected on **Thursday May 15, 2025** when public schools are in session, from 6:30 to 9:30 AM and 4:00 to 7:00 PM and on a Saturday from 10:00 AM to 2:00 PM.

- Capacity Analysis will be performed for three scenarios: Existing (2025), Background (Future without Development 2030), and Total Future (Future with Development 2030). The computed results will be verified against the Howard County Guidelines for Traffic Impact Studies.
- A traffic signal warrant will be included in the TIS to determine if a signal would be warranted at Foreland Garth. The following four (4) signal warrants will be analyzed:
  - Warrant 1, Eight-Hour Vehicular Volume
  - Warrant 2, Four-Hour Vehicular Volume
  - Warrant 3, Peak Hour
  - Warrant 4, Pedestrian Volume

Travel Demand Assumptions

Consistent with the Howard County Guidelines for Traffic Impact Studies, trip generation calculations were based on the methodology outlined in the Institute of Transportation Engineers' (ITE) Trip Generation, 11th Edition.

The development features approximately 294 multifamily, 84 townhomes and 253,481 sf of commercial space. Trip generation rates for "Multifamily Housing (Mid-Rise)" (Land Use Code 221) was used for multifamily units, "Single-Family Housing" (Land Use Code 215) for townhomes, "Health and Fitness Center" (Land Use Code 492) for the multi-sport complex, "Strip Retail Plaza (<40k)"(Land Use Code 822) for retail uses under 40k sf and "Shopping Plaza (40-150k)" (Land Use Code 821) for retail over 40k sf. For the existing land uses, trip generation rates for "Shopping Plaza (40-150k) with Supermarket" (Land Use Code 821) for retail and "General Office Building" (Land Use Code 710) for existing office use.

Internal Capture and Reductions

No pass-by or modal splits were applied to either the existing or proposed trip generation to provide a conservative estimate.

The mixed-use nature of the project is anticipated to generate internal trips among various uses. These trips were calculated in accordance with ITE methodology. Detailed summary is provided in the Appendix.

The total site-generated vehicular trip results with credits and reductions are summarized in Table 1. Full trip generation calculations are included in the Technical Attachments.

Table 1: Trip Generation Summary

Land Use	Land Use Code	Quantity (x)	AM Peak Hour (veh/hr)			PM Peak Hour (veh/hr)		
			In	Out	Total	In	Out	Total
Existing Land Use								
Shopping Plaza (40-150k) w Supermarket	821	71,896 sf	157	97	254	322	348	670
General Office Building	710	15,000 sf	29	4	33	6	28	34
Total Existing			**186**	**101**	**287**	**328**	**376**	**704**
Proposed Land Use								
Baseline Phase 1 (w/o Internal Capture)								
Multifamily (Mid-Rise)	221	157 du	13	44	57	38	24	62
Shopping Plaza (40-150k) w Supermarket	821	54,341 du	119	73	192	257	279	536
Baseline Phase 1 Total			**132**	**117**	**249**	**295**	**303**	**598**
Baseline Phase 2 (w/o Internal Capture)								
Multifamily (Mid-Rise)	221	137 du	11	38	49	33	21	54
Shopping Plaza (40-150k) w Supermarket	821	56,879 sf	125	76	201	266	289	555
Baseline Phase 2 Total			**136**	**114**	**250**	**299**	**310**	**609**
Baseline Phase 3 (w/o Internal Capture)								
Recreational Community Center	495	103,687 sf	131	67	198	128	144	272
Baseline Phase 3 Total			**131**	**67**	**198**	**128**	**144**	**272**
Baseline Phase 4 (w/o Internal Capture)								
Strip Retail Plaza (<40k)	822	38,574 sf	42	28	70	102	101	203
Baseline Phase 4 Total			**42**	**28**	**70**	**102**	**101**	**203**
Baseline Phase 5 (w/o Internal Capture)								
Single Family Attached Housing	215	84 du	10	28	38	27	19	46
Baseline Phase 5 Total			10	28	38	27	19	46

Land Use	Land Use Code	Quantity (x)	AM Peak Hour (veh/hr)			PM Peak Hour (veh/hr)		
			In	Out	Total	In	Out	Total
Total Baseline Proposed			**451**	**354**	**805**	**851**	**877**	**1,728**
Net New Trip Generation			**265**	**253**	**518**	**523**	**501**	**1,024**
Adjusted Trip Generation with Internal Capture								
Total Proposed Retail		**253,481 sf**	**417**	**244**	**661**	**753**	**813**	**1,566**
*Total Retail Internal Capture**			*1*	*1*	*2*	*27*	*45*	*72*
Total Proposed Residential		**378 du**	**34**	**110**	**144**	**98**	**64**	**162**
Total Residential Internal Capture			*1*	*1*	*2*	*45*	*27*	*72*
Net New Trip Generation			**263**	**251**	**514**	**451**	**429**	**879**

Study Overview

Overview of Regional Access

As shown in Figure 1, the site has ample access to regional roadways that connect the site to destinations in Howard County and the greater Baltimore/Washington metropolitan area. The site is directly accessible from Tamar Drive, a Major Collector, which connects to MD-175 and Snowden River Parkway which provides regional access.

Study Area

The Project is located outside the Downtown Columbia area but within planned service area for public water and sewer. According to the Howard County guidelines, the study area should extend up to one and a half miles in all directions from each project entrance on a County or State Road. However, this distance should not exceed beyond the intersection of a major collector road or a higher classified road with another major collector road or higher classified road. The following intersections were identified for inclusion in the study:

1. Phelps Luck Drive [Major Collector] and Tamar Drive [Major Collector]
2. Cloudleap Court [Local] and Tamar Drive [Major Collector]
3. Site Access and Tamar Drive [Major Collector]
4. Foreland Garth [Local] and Tamar Drive [Major Collector]
5. Snowden Parkway [Minor Arterial] and Tamar Drive [Major Collector]

A map of the study intersections is provided in Figure 4.

Relevant Area Studies and Background Projects

The Project will include the following transportation-related studies and plans:

- Tamar Drive Complete Streets Study
- PlanHoward
- WalkHoward
- BikeHoward

No pipeline development projects were identified in the vicinity of the site for inclusion in this study. Consistent with Howard County and industry standards, only approved projects expected to be completed prior to the buildout of the proposed development with an origin/destination within the study area were reviewed.

We request that Howard County Staff identify any specific pipeline developments that should be added to background conditions in this study.

Study Scope and Methodology

The scope and methodology to be used in this study will be consistent with Howard County's guidelines for preparing traffic impact studies. For the purposes of this study, the horizon year of 2030 is assumed for future conditions.

Capacity Analysis Scenario

Vehicular capacity analyses will be prepared for this study to identify the impact of the proposed development within the study area road network. As such, existing, background future (no-build), and total future (build) scenarios will be included for weekday AM, PM and Saturday Peak hours as follows:

- 2025 Existing Conditions
  - Based on traffic count data.
  - Existing weekday turning movement traffic count data to be collected on **Thursday May 15 2025** when public schools are in session from 6:30 to 9:30 AM and 4:00 to 7:00 PM and on a Saturday from 10:00 AM to 2:00 PM.
- 2030 Background Conditions
  - Existing Conditions plus a background traffic growth of 2% per year compounded and background development traffic, but without the proposed redevelopment.
- 2030 Total Future Conditions
  - Background Future Conditions adjusted to account for the proposed development.

Adequacy

The Howard County guidelines recommend the intersection level of service (LOS) standard for County-controlled intersections as LOS D and the standard for State-controlled intersections as LOS E. All the intersections in the study area are County-controlled intersections, and all intersections should continue to operate within Howard County's Level of Service (LOS) thresholds, with LOS "D" or better, with the additional traffic generated by the Project.

According to County guidelines, a mitigation plan must be developed for the intersection(s) that will increase the capacity on road facilities in the study area so that the level of service after construction of the project would be equal to the level of service if the project had not been constructed but not more than the minimum level of service.

Traffic Signal Warrant

A Signal warrant analyses will be conducted based on projected future conditions and in accordance with MDSHA's (Maryland State Highway Administration) MUTCD (Manual on Uniform Traffic Control Devices) standards and guidelines for the following four (4) signal warrants at the Foreland Garth and Tamar Drive intersection:

- Warrant 1, Eight-Hour Vehicular Volume
- Warrant 2, Four-Hour Vehicular Volume
- Warrant 3, Peak Hour
- Warrant 4, Pedestrian Volume

Figure 1: Site Location

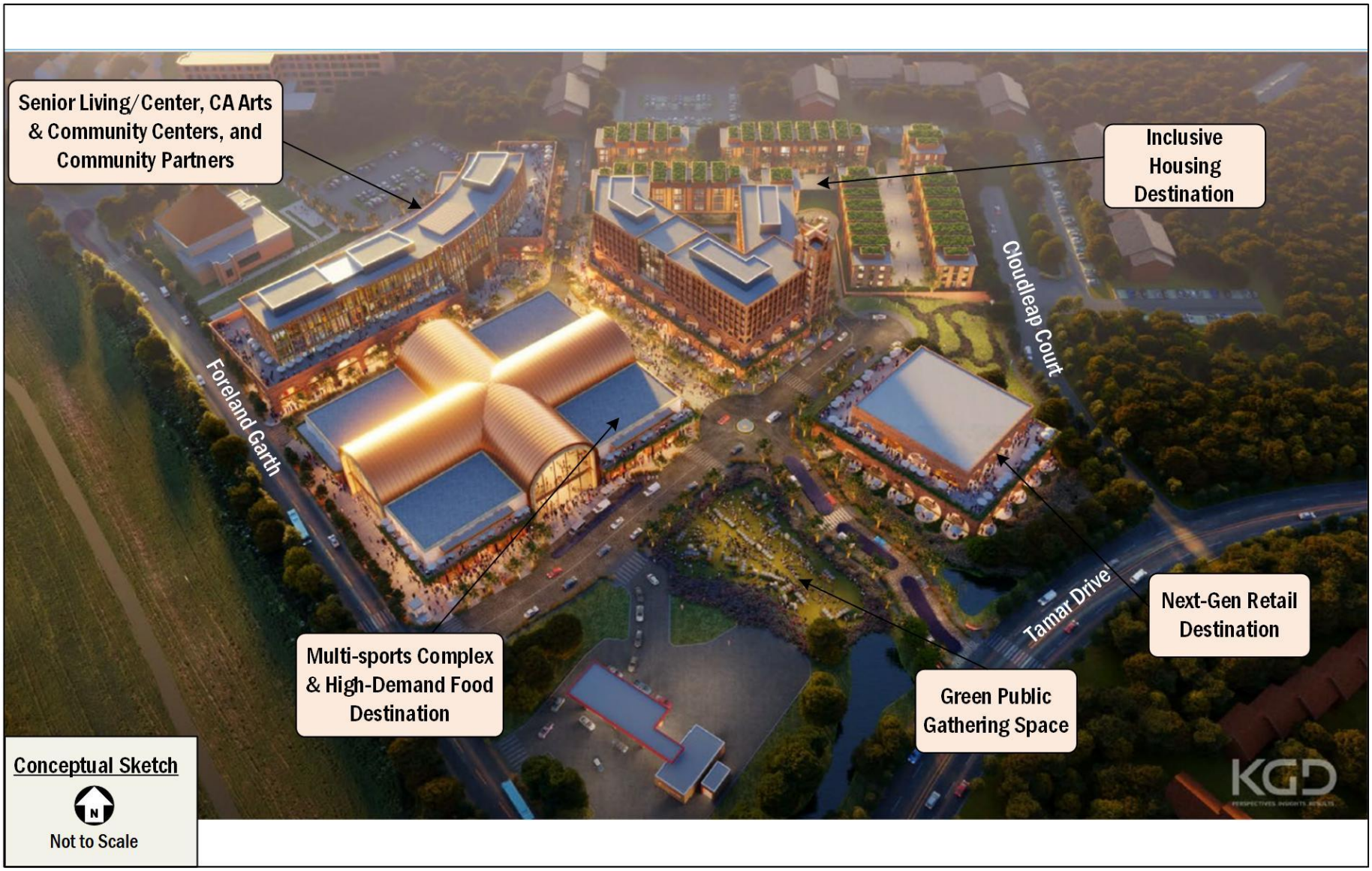


Figure 2: Conceptual Sketch

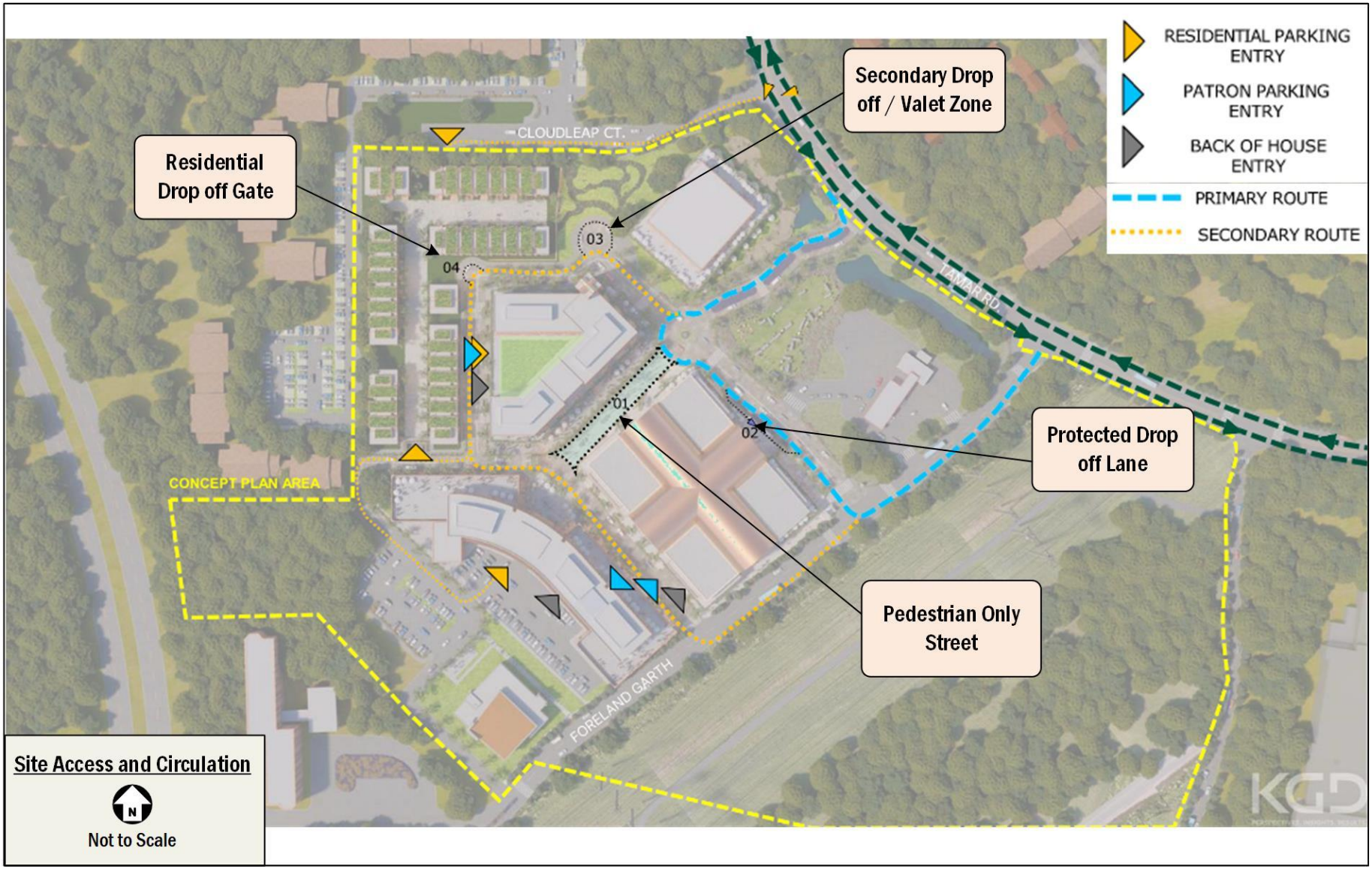


Figure 3: Site Access and Circulation

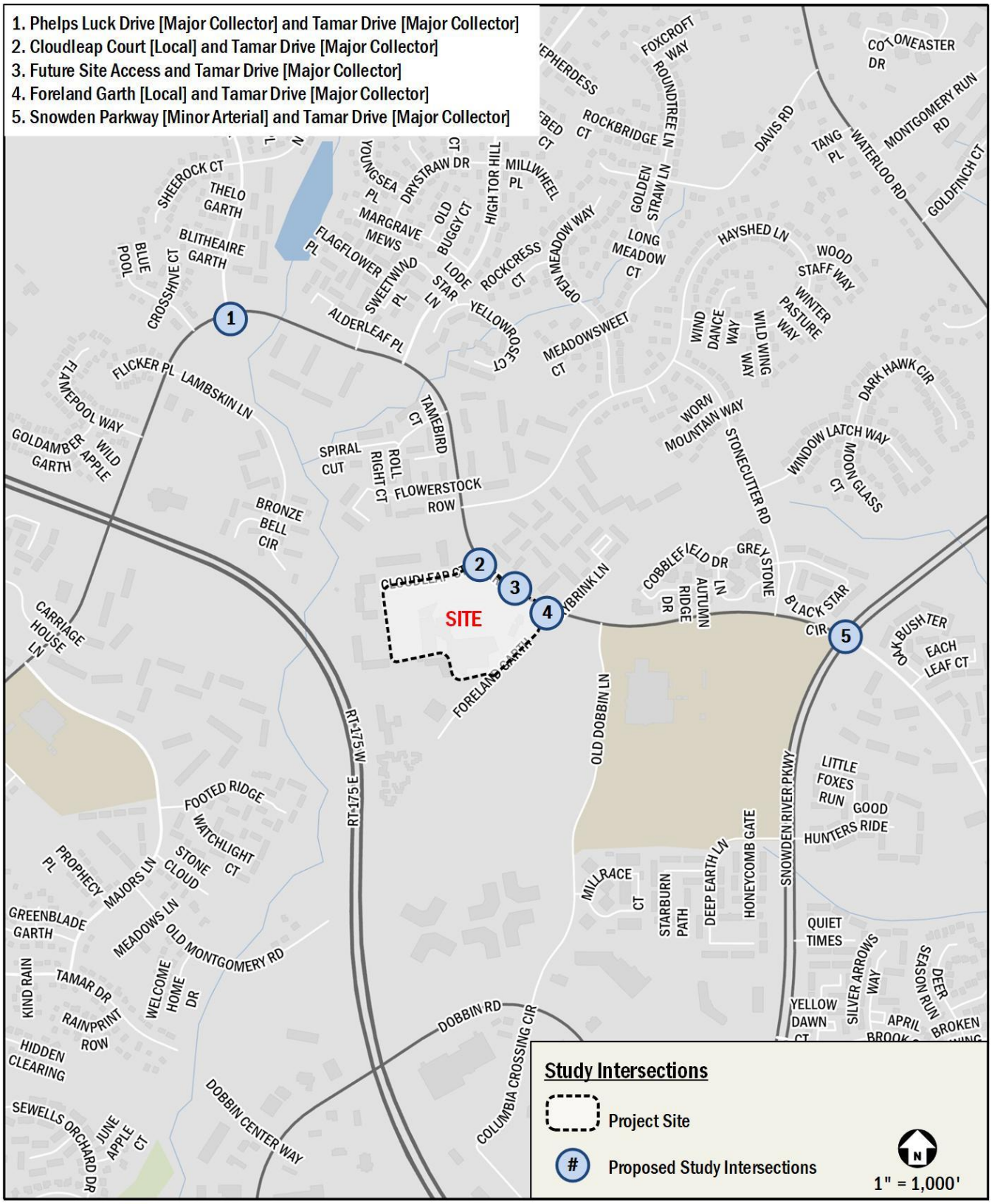


Figure 4: Study Intersections

B. Trip Generation Calculations

Existing Land Use Trip Generation

71,896 sf retail and 15,000 sf office

Note: Setting used for trip generation is General Urban/Suburban

Base trip generation using ITEs' *Trip Generation* 11th Edition

Land Use	Land Use Code	Quantity (x)	AM Peak Hour			PM Peak Hour			Weekday ADT	Saturday Peak Hour		
			In	Out	Total	In	Out	Total	Total	In	Out	Total
Shopping Plaza (40-150k) with Supermarket	821	71,896 sf	157 veh/hr	97 veh/hr	254 veh/hr	322 veh/hr	348 veh/hr	670 veh/hr	6946 veh	342 veh/hr	329 veh/hr	671 veh/hr
		Calculation Details:	*62%*	*38%*	*=3.53(X/1000)*	*48%*	*52%*	*7.67(X/1000)+118.8*	*=76.96(X/1000)+1412.79*	*51%*	*49%*	*=7.6(X/1000)+125.07*
General Office Building	710	15,000 sf	29 veh/hr	4 veh/hr	33 veh/hr	6 veh/hr	28 veh/hr	34 veh/hr	223 veh	4 veh/hr	4 veh/hr	8 veh/hr
		Calculation Details:	*88%*	*12%*	*=0.86X*	*17%*	*83%*	*T)=0.83Ln(X/1000)+1*	*n(T)=0.87Ln(X/1000)+3.05*	*54%*	*46%*	*=0.53(X/1000)*

Proposed Land Use Trip Generation

Note: Setting used for trip generation is General Urban/Suburban

Base trip generation using ITEs' *Trip Generation* 11th Edition

Land Use	Land Use Code	Quantity (x)	AM Peak Hour			PM Peak Hour			Weekday ADT	Saturday Peak Hour		
			In	Out	Total	In	Out	Total	Total	In	Out	Total
Phase 1: 157 du with 54,341 sf retail												
Multifamily (Mid-Rise)	221	157 du	13 veh/hr	44 veh/hr	57 veh/hr	38 veh/hr	24 veh/hr	62 veh/hr	702 veh	32 veh/hr	31 veh/hr	63 veh/hr
		Calculation Details:	*23%*	*77%*	*=0.44X/1000-11.61*	*61%*	*39%*	*=0.39X+0.34*	*=4.77X/1000-46.46*	*51%*	*49%*	*Ln(T)=1Ln(X)-0.91*
Shopping Plaza (40-150k) with Supermarket	821	54,341 sf	119 veh/hr	73 veh/hr	192 veh/hr	257 veh/hr	279 veh/hr	536 veh/hr	5595 veh	274 veh/hr	264 veh/hr	538 veh/hr
		Calculation Details:	*62%*	*38%*	*=3.53(X/1000)*	*48%*	*52%*	*7.67(X/1000)+118.8*	*=76.96(X/1000)+1412.79*	*51%*	*49%*	*=7.6(X/1000)+125.07*
		Phase 1 Total	**132 veh/hr**	**117 veh/hr**	**249 veh/hr**	**295 veh/hr**	**303 veh/hr**	**598 veh/hr**	**6297 veh**	**306 veh/hr**	**295 veh/hr**	**601 veh/hr**
Phase 2: 137 du with 56,879 sf retail												
Multifamily (Mid-Rise)	221	137 du	11 veh/hr	38 veh/hr	49 veh/hr	33 veh/hr	21 veh/hr	54 veh/hr	607 veh	28 veh/hr	27 veh/hr	55 veh/hr
		Calculation Details:	*23%*	*77%*	*=0.44X/1000-11.61*	*61%*	*39%*	*=0.39X+0.34*	*=4.77X/1000-46.46*	*51%*	*49%*	*Ln(T)=1Ln(X)-0.91*
Shopping Plaza (40-150k) with Supermarket	821	56,879 sf	125 veh/hr	76 veh/hr	201 veh/hr	266 veh/hr	289 veh/hr	555 veh/hr	5790 veh	284 veh/hr	273 veh/hr	557 veh/hr
		Calculation Details:	*62%*	*38%*	*=3.53(X/1000)*	*48%*	*52%*	*7.67(X/1000)+118.8*	*=76.96(X/1000)+1412.79*	*51%*	*49%*	*=7.6(X/1000)+125.07*
		Phase 2 Total	**136 veh/hr**	**114 veh/hr**	**250 veh/hr**	**299 veh/hr**	**310 veh/hr**	**609 veh/hr**	**6397 veh**	**312 veh/hr**	**300 veh/hr**	**612 veh/hr**
Phase 3: 103,687 sf of multi-sport complex												
Recreational Community Center	495	103,687 sf	131 veh/hr	67 veh/hr	198 veh/hr	128 veh/hr	144 veh/hr	272 veh/hr	2889 veh	60 veh/hr	51 veh/hr	111 veh/hr
		Calculation Details:	*66%*	*34%*	*=1.91(X/1000)*	*47%*	*53%*	*T)=0.71Ln(X/1000)+2*	*Ln(T)=0.98Ln(X/1000)+3.42*	*54%*	*46%*	*=1.07(X/1000)*
		Phase 3 Total	**131 veh/hr**	**67 veh/hr**	**198 veh/hr**	**128 veh/hr**	**144 veh/hr**	**272 veh/hr**	**2889 veh**	**60 veh/hr**	**51 veh/hr**	**111 veh/hr**
Phase 4: 38,574 sf retail												
Strip Retail Plaza (<40k)	822	38,574 sf	42 veh/hr	28 veh/hr	70 veh/hr	102 veh/hr	101 veh/hr	203 veh/hr	1858 veh	129 veh/hr	124 veh/hr	253 veh/hr
		Calculation Details:	*60%*	*40%*	*=0.66X*	*50%*	*50%*	*T)=0.71Ln(X/1000)+2*	*=42.2(X/1000)+229.68*	*51%*	*49%*	*=6.57(X/1000)*
		Phase 4 Total	**42 veh/hr**	**28 veh/hr**	**70 veh/hr**	**102 veh/hr**	**101 veh/hr**	**203 veh/hr**	**1858 veh**	**129 veh/hr**	**124 veh/hr**	**253 veh/hr**
Phase 5: 84 du townhomes												
Single Family Attached Housing	215	84 du	10 veh/hr	28 veh/hr	38 veh/hr	27 veh/hr	19 veh/hr	46 veh/hr	590 veh	28 veh/hr	30 veh/hr	58 veh/hr
		Calculation Details:	*25%*	*75%*	*=0.52X/1000-5.7*	*59%*	*41%*	*=0.6X/1000-3.93*	*=7.62X/1000-50.48*	*48%*	*52%*	*n(T)=0.82Ln(X)+0.43*
		Phase 5 Total	**10 veh/hr**	**28 veh/hr**	**38 veh/hr**	**27 veh/hr**	**19 veh/hr**	**46 veh/hr**	**590 veh**	**28 veh/hr**	**30 veh/hr**	**58 veh/hr**
		Total Proposed	**451 veh/hr**	**354 veh/hr**	**805 veh/hr**	**851 veh/hr**	**877 veh/hr**	**1728 veh/hr**	**18031 veh**	**835 veh/hr**	**800 veh/hr**	**1635 veh/hr**

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Long Reach Village Center	**Organization:**	
Project Location:		**Performed By:**	
Scenario Description:		**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	821,822,495	253,481		661	417	244
Restaurant				0		
Cinema/Entertainment				0		
Residential	215,221		378	144	34	110
Hotel				0		
All Other Land Uses[2]				0		
				805	451	354

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	5%	2%	1.70	5%	2%
Restaurant						
Cinema/Entertainment						
Residential	1.70	5%	2%	1.70	5%	2%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	1	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,369	767	602
Internal Capture Percentage	0%	0%	0%
External Vehicle-Trips[5]	745	418	327
External Transit-Trips[6]	68	38	30
External Non-Motorized Trips[6]	27	15	12

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	0%	0%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	2%	1%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Long Reach Village Center
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	417	709	1.70	244	415
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.70	34	58	1.70	110	187
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	120		54	0	58	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	4	2	37	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		227	0	0	0	0
Retail	0		0	0	1	0
Restaurant	0	57		0	3	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	121	0	0		0
Hotel	0	28	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	2	707	709	387	35	14
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	57	58	31	3	1
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	1	414	415	226	21	8
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	185	187	101	9	4
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Long Reach Village Center	**Organization:**	
Project Location:		**Performed By:**	
Scenario Description:		**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	821,822,495	253,481		1,566	753	813
Restaurant				0		
Cinema/Entertainment				0		
Residential	215,221		378	162	98	64
Hotel				0		
All Other Land Uses[2]				0		
				1,728	851	877

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.70	5%	2%	1.70	5%	2%
Restaurant						
Cinema/Entertainment						
Residential	1.70	5%	2%	1.70	5%	2%
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail					0	
Restaurant						
Cinema/Entertainment						
Residential		0				
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	77	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	46	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	2,938	1,447	1,491
Internal Capture Percentage	8%	9%	8%
External Vehicle-Trips[5]	1,473	724	749
External Transit-Trips[6]	135	67	68
External Non-Motorized Trips[6]	54	27	27

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	4%	6%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	46%	42%
Hotel	N/A	N/A

[1] Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2] Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3] Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4] Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-P, 9-P (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5] Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6] Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Project Name:	Long Reach Village Center
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.70	753	1280	1.70	813	1382
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.70	98	167	1.70	64	109
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	28		401	55	359	69
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	4	46	23	0		3
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		102	0	0	7	0
Retail	0		0	0	77	0
Restaurant	0	640		0	27	0
Cinema/Entertainment	0	51	0		7	0
Residential	0	128	0	0		0
Hotel	0	26	0	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	46	1234	1280	675	62	25
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	77	90	167	49	5	2
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	77	1305	1382	714	65	26
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	46	63	109	35	3	1
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

C. Existing Turning Movement Counts

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:45 AM to 08:45 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Phelps Luck Drive/ & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Phelps Luck Drive					Tamar Drive										Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM to 06:45 AM	0	2	0	22	1	0	0	42	2	0	0	0	0	0	0	0	7	21	0	0
06:45 AM to 07:00 AM	0	3	0	21	1	0	0	62	1	0	0	0	0	0	0	0	7	36	0	0
07:00 AM to 07:15 AM	0	6	0	23	1	0	0	66	4	0	0	0	0	0	0	0	9	36	0	0
07:15 AM to 07:30 AM	0	4	0	36	1	0	0	97	5	0	0	0	0	0	0	0	20	44	0	0
07:30 AM to 07:45 AM	0	8	0	41	0	0	0	93	2	0	0	0	0	0	0	0	29	42	0	0
07:45 AM to 08:00 AM	0	10	0	33	0	0	0	116	8	0	0	0	0	0	0	0	22	62	0	0
08:00 AM to 08:15 AM	0	10	0	43	0	0	0	88	6	0	0	0	0	0	0	0	28	50	0	0
08:15 AM to 08:30 AM	0	12	0	40	0	0	0	107	14	0	0	0	0	0	0	0	35	58	0	0
08:30 AM to 08:45 AM	0	7	0	40	0	0	0	93	17	0	0	0	0	0	0	0	30	52	0	0
08:45 AM to 09:00 AM	0	6	0	40	0	0	0	95	9	0	0	0	0	0	0	0	27	47	0	0
09:00 AM to 09:15 AM	0	14	0	37	0	0	0	86	6	0	0	0	0	0	0	0	20	49	0	0
09:15 AM to 09:30 AM	0	5	0	30	0	0	0	62	2	0	0	0	0	0	0	0	20	49	0	0
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	195				0	449				0	0				0	337				0
07:45 AM to 08:45 AM	0	39	0	156		0	0	404	45		0	0	0	0		0	115	222	0	
Peak Hour Factor (PHF) Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
0.92	n/a	0.81	n/a	0.91	**0.92**	n/a	n/a	0.87	0.66	**0.91**	n/a	n/a	n/a	n/a	**n/a**	n/a	0.82	0.90	n/a	**0.91**

HEAVY VEHICLES (FHWA 4+)

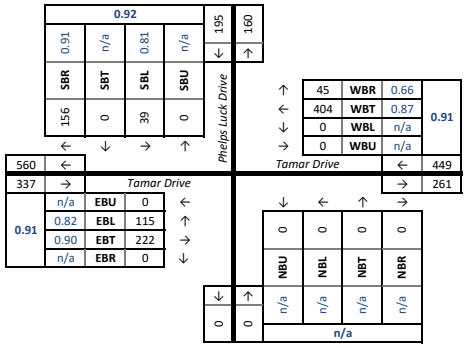
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Phelps Luck Drive				Tamar Drive								Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	1	0	1	0	0	1	1	0	0	0	0	0	1	3	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	8	1	0	0	0	0	0	2	1	0
07:15 AM to 07:30 AM	0	1	0	0	0	0	6	2	0	0	0	0	0	1	2	0
07:30 AM to 07:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	3	2	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	3	1	0	0	0	0	0	3	6	0
08:00 AM to 08:15 AM	0	2	0	3	0	0	4	0	0	0	0	0	0	3	3	0
08:15 AM to 08:30 AM	0	0	0	1	0	0	5	0	0	0	0	0	0	2	6	0
08:30 AM to 08:45 AM	0	1	0	4	0	0	2	1	0	0	0	0	0	2	3	0
08:45 AM to 09:00 AM	0	1	0	0	0	0	4	0	0	0	0	0	0	2	2	0
09:00 AM to 09:15 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	2	2	0
09:15 AM to 09:30 AM	0	0	0	3	0	0	6	0	0	0	0	0	0	0	1	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	11				16				0				28			
07:45 AM to 08:45 AM	0	3	0	8	0	0	14	2	0	0	0	0	0	10	18	0
Heavy Vehicle % (PHV):	0.0%	7.7%	0.0%	5.1%	**5.6%**	0.0%	0.0%	3.5%	4.4%	**3.6%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	8.7%	8.1%	0.0%	**8.3%**
INT. PEAK HR (HV ONLY)	11				16				0				28			
07:45 AM to 08:45 AM	0	3	0	8	0	0	14	2	0	0	0	0	0	10	18	0
Heavy Vehicle % (PHV):	0.0%	7.7%	0.0%	5.1%	**5.6%**	0.0%	0.0%	3.5%	4.4%	**3.6%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	8.7%	8.1%	0.0%	**8.3%**

BICYCLES

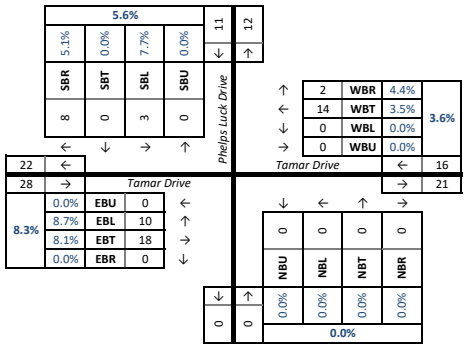
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Phelps Luck Drive				Tamar Drive								Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
09:00 AM to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	0				0				0				1			
07:45 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
INT. PEAK HR (BIKES)	0				0				0				2			
08:00 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0

DATA COLLECTION NOTES :

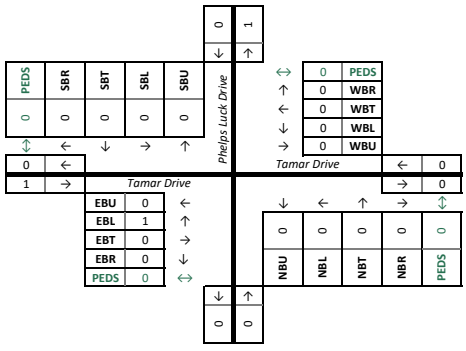
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:45 AM to 08:45 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. /Cloudleap Court & Tamar Drive

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:						Tamar Drive					Cloudleap Court					Tamar Drive				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM	to 06:45 AM	0	0	0	0	0	0	3	18	0	0	0	8	0	8	0	0	0	42	3	0
06:45 AM	to 07:00 AM	0	0	0	0	0	0	7	38	0	0	0	4	0	14	2	0	0	64	4	0
07:00 AM	to 07:15 AM	0	0	0	0	0	0	4	52	0	0	0	3	0	12	1	0	0	44	2	0
07:15 AM	to 07:30 AM	0	0	0	0	0	0	6	66	0	0	0	6	0	5	0	0	0	72	4	0
07:30 AM	to 07:45 AM	0	0	0	0	0	0	9	76	0	2	0	11	0	13	12	0	0	87	6	0
07:45 AM	to 08:00 AM	0	0	0	0	0	0	7	88	0	0	0	11	0	14	4	0	0	103	7	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	10	68	0	0	0	8	0	10	2	0	0	78	7	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	6	78	0	0	1	21	0	11	1	0	0	73	10	0
08:30 AM	to 08:45 AM	0	0	0	0	0	0	10	74	0	0	0	17	0	15	0	0	0	74	17	0
08:45 AM	to 09:00 AM	0	0	0	0	0	0	9	66	0	0	0	9	0	10	2	0	0	74	14	0
09:00 AM	to 09:15 AM	0	0	0	0	0	0	9	66	0	0	0	12	0	6	0	0	0	75	11	0
09:15 AM	to 09:30 AM	0	0	0	0	0	0	9	44	0	0	0	7	0	7	0	0	0	71	3	0
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
11:00 AM	to 11:15 AM																				
11:15 AM	to 11:30 AM																				
INT. PEAK HR (ALL VEH)		0				0	341				0	108				7	369				0
07:45 AM	to 08:45 AM	0	0	0	0		0	33	308	0		1	57	0	50		0	0	328	41	
Peak Hour	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF)	**0.89**	n/a	n/a	n/a	n/a	**n/a**	n/a	0.83	0.88	n/a	**0.90**	0.25	0.68	n/a	0.83	**0.82**	n/a	n/a	0.80	0.60	**0.84**

HEAVY VEHICLES (FHWA 4+)

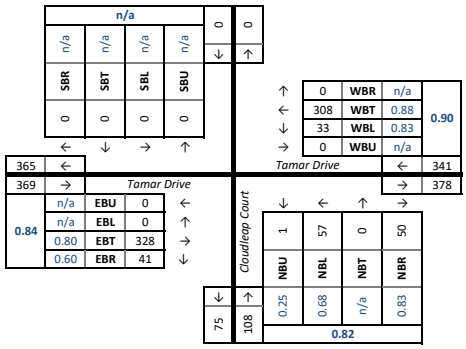
	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:						Tamar Drive					Cloudleap Court					Tamar Drive				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
06:30 AM	to 06:45 AM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	3	0	
06:45 AM	to 07:00 AM	0	0	0	0		0	0	4	0		0	0	0	0		0	0	1	0	
07:00 AM	to 07:15 AM	0	0	0	0		0	1	7	0		0	1	0	1		0	0	0	0	
07:15 AM	to 07:30 AM	0	0	0	0		0	0	4	0		0	0	0	0		0	0	5	0	
07:30 AM	to 07:45 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	1	0	
07:45 AM	to 08:00 AM	0	0	0	0		0	0	5	0		0	0	0	0		0	0	7	0	
08:00 AM	to 08:15 AM	0	0	0	0		0	1	5	0		0	1	0	0		0	0	5	0	
08:15 AM	to 08:30 AM	0	0	0	0		0	0	8	0		0	5	0	0		0	0	2	1	
08:30 AM	to 08:45 AM	0	0	0	0		0	1	5	0		0	1	0	0		0	0	4	0	
08:45 AM	to 09:00 AM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	3	1	
09:00 AM	to 09:15 AM	0	0	0	0		0	0	6	0		0	1	0	2		0	0	1	1	
09:15 AM	to 09:30 AM	0	0	0	0		0	0	6	0		0	0	0	0		0	0	3	0	
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
11:00 AM	to 11:15 AM																				
11:15 AM	to 11:30 AM																				
INT. PEAK HR (ALL VEH)		0					25					7					19				
07:45 AM	to 08:45 AM	0	0	0	0		0	2	23	0		0	7	0	0		0	0	18	1	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	6.1%	7.5%	0.0%	**7.3%**	0.0%	12.3%	0.0%	0.0%	**6.5%**	0.0%	0.0%	5.5%	2.4%	**5.1%**
INT. PEAK HR (HV ONLY)		0					25					7					19				
07:45 AM	to 08:45 AM	0	0	0	0		0	2	23	0		0	7	0	0		0	0	18	1	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	6.1%	7.5%	0.0%	**7.3%**	0.0%	12.3%	0.0%	0.0%	**6.5%**	0.0%	0.0%	5.5%	2.4%	**5.1%**

BICYCLES

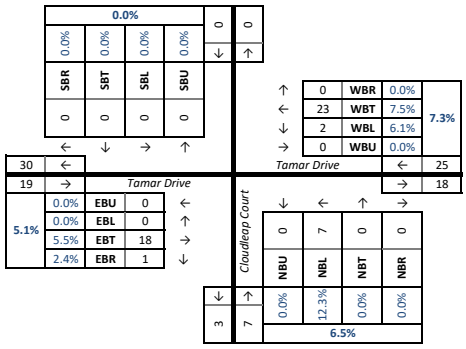
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:					Tamar Drive				Cloudleap Court				Tamar Drive			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM	to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:30 AM	to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:45 AM	to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
11:00 AM	to 11:15 AM																
11:15 AM	to 11:30 AM																
INT. PEAK HR (ALL VEH)		0				0				0				1			
07:45 AM	to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
INT. PEAK HR (BIKES)		0				0				0				2			
08:30 AM	to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1

DATA COLLECTION NOTES :

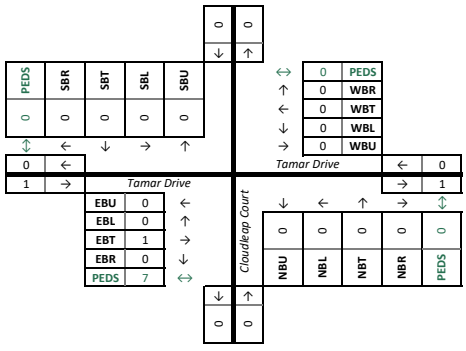
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:30 AM to 08:30 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Airybrink Lane/Forelan Garth & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Airybrink Lane					Tamar Drive					Forelan Garth					Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM to 06:45 AM	0	4	0	1	3	0	2	20	2	0	0	1	0	4	0	0	0	50	2	0
06:45 AM to 07:00 AM	0	3	0	1	1	0	6	41	1	0	0	2	1	6	1	0	1	71	6	0
07:00 AM to 07:15 AM	0	3	0	5	1	1	6	53	5	0	0	3	0	4	1	0	1	57	1	1
07:15 AM to 07:30 AM	0	6	1	1	0	0	10	68	2	0	0	1	0	12	1	0	1	71	2	1
07:30 AM to 07:45 AM	0	3	1	4	8	0	12	76	3	2	0	3	0	10	18	0	1	94	5	1
07:45 AM to 08:00 AM	0	5	0	4	3	0	12	83	4	1	0	7	0	13	4	0	5	101	11	0
08:00 AM to 08:15 AM	0	3	0	1	2	0	12	76	0	0	0	4	0	7	2	0	2	81	5	0
08:15 AM to 08:30 AM	0	2	0	1	0	0	8	75	1	1	0	6	0	10	0	0	0	81	6	0
08:30 AM to 08:45 AM	0	4	1	2	4	0	17	75	1	1	0	6	1	13	1	0	0	82	5	0
08:45 AM to 09:00 AM	0	4	0	0	1	0	12	81	0	0	0	2	0	15	1	1	3	78	6	0
09:00 AM to 09:15 AM	0	4	0	2	0	0	6	61	4	0	0	3	1	8	0	0	1	74	6	0
09:15 AM to 09:30 AM	0	9	1	1	1	0	9	49	3	0	0	2	2	10	1	0	0	75	3	2
09:30 AM to 09:45 AM	0	0	1	1	1	0	17	68	2	1	0	2	1	10	1	0	1	58	4	1
09:45 AM to 10:00 AM	0	0	0	2	1	0	23	55	3	0	0	3	0	13	1	0	1	65	10	0
10:00 AM to 10:15 AM	0	1	0	0	2	0	10	58	3	0	0	4	0	13	2	0	0	48	8	1
10:15 AM to 10:30 AM	0	2	0	4	0	1	8	62	0	0	0	6	0	9	0	0	0	58	5	0
10:30 AM to 10:45 AM	0	2	1	1	2	1	11	72	1	0	0	6	1	8	1	0	0	55	7	3
10:45 AM to 11:00 AM	0	4	0	0	2	0	9	66	2	1	0	2	0	11	1	0	2	37	3	1
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	24				13	362				4	60				24	392				1
07:30 AM to 08:30 AM	0	13	1	10		0	44	310	8		0	20	0	40		0	8	357	27	
Peak Hour Factor (PHF) Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
0.86	n/a	0.65	0.25	0.63	**0.67**	n/a	0.92	0.93	0.50	**0.91**	n/a	0.71	n/a	0.77	**0.75**	n/a	0.40	0.88	0.61	**0.84**

HEAVY VEHICLES (FHWA 4+)

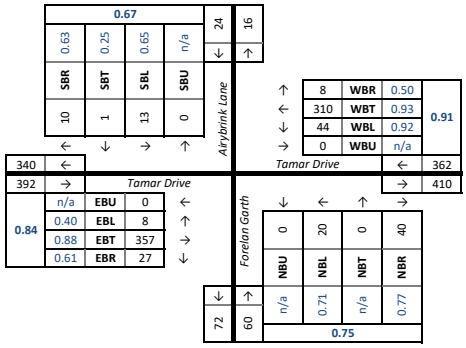
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Airybrink Lane				Tamar Drive				Forelan Garth				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3	0
06:45 AM to 07:00 AM	0	0	0	0	0	1	4	0	0	0	0	1	0	0	2	0
07:00 AM to 07:15 AM	0	0	0	2	0	0	7	2	0	0	0	0	0	0	2	0
07:15 AM to 07:30 AM	0	0	0	0	0	1	4	0	0	0	0	0	0	0	4	0
07:30 AM to 07:45 AM	0	0	0	0	0	3	1	1	0	0	0	1	0	0	1	1
07:45 AM to 08:00 AM	0	1	0	1	0	3	3	0	0	1	0	4	0	1	1	4
08:00 AM to 08:15 AM	0	0	0	0	0	2	6	0	0	0	0	2	0	0	3	2
08:15 AM to 08:30 AM	0	0	0	0	0	1	7	0	0	1	0	1	0	0	2	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	5	0	0	1	0	1	0	0	2	1
08:45 AM to 09:00 AM	0	1	0	0	0	0	3	0	0	0	0	4	0	1	2	1
09:00 AM to 09:15 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	3	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	6	0	0	0	0	0	0	0	3	0
09:30 AM to 09:45 AM	0	0	0	0	0	2	3	0	0	1	0	2	0	0	2	1
09:45 AM to 10:00 AM	0	0	0	0	0	2	0	0	0	0	0	1	0	0	1	0
10:00 AM to 10:15 AM	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0
10:15 AM to 10:30 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0
10:30 AM to 10:45 AM	0	0	0	0	0	0	3	0	0	1	0	0	0	0	1	0
10:45 AM to 11:00 AM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	1	1
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	2				27				10				15			
07:30 AM to 08:30 AM	0	1	0	1	0	9	17	1	0	2	0	8	0	1	7	7
Heavy Vehicle % (PHV):	0.0%	7.7%	0.0%	10.0%	0.0%	20.5%	5.5%	12.5%	0.0%	10.0%	0.0%	20.0%	0.0%	12.5%	2.0%	25.9%
PHV				**8.3%**				**7.5%**				**16.7%**				**3.8%**
INT. PEAK HR (HV ONLY)	2				27				11				16			
07:45 AM to 08:45 AM	0	1	0	1	0	6	21	0	0	3	0	8	0	1	8	7
Heavy Vehicle % (PHV):	0.0%	7.1%	0.0%	12.5%	0.0%	12.2%	6.8%	0.0%	0.0%	13.0%	0.0%	18.6%	0.0%	14.3%	2.3%	25.9%
PHV				**8.7%**				**7.4%**				**16.4%**				**4.2%**

BICYCLES

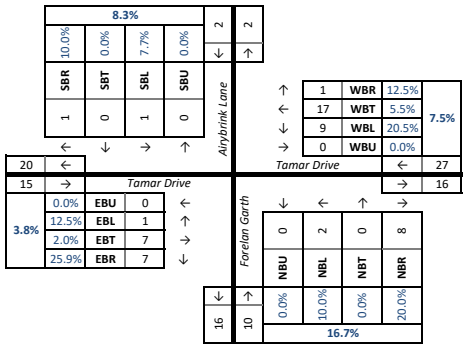
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Airybrink Lane				Tamar Drive				Forelan Garth				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:30 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM to 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM to 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
10:00 AM to 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM to 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM to 10:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
10:45 AM to 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	0				0				0				1			
07:30 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
INT. PEAK HR (BIKES)	0				0				0				3			
06:45 AM to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0

DATA COLLECTION NOTES :

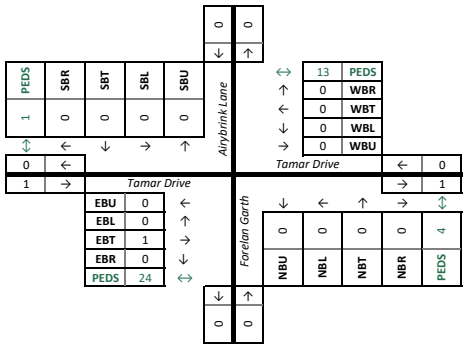
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:30 AM to 08:30 AM
System Peak Hour (all vehicles): 07:30 AM to 08:30 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Snowden River Pkwy & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Snowden River Pkwy					Tamar Drive					Snowden River Pkwy					Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM to 06:45 AM	0	1	152	31	0	0	10	7	13	0	0	4	49	6	0	0	43	4	11	0
06:45 AM to 07:00 AM	0	0	164	48	2	0	9	7	12	1	0	6	65	2	2	0	46	7	23	0
07:00 AM to 07:15 AM	0	4	235	83	0	0	8	14	11	0	0	11	79	4	0	0	41	4	12	0
07:15 AM to 07:30 AM	0	6	227	119	0	0	16	15	12	0	0	11	75	5	2	0	86	10	20	0
07:30 AM to 07:45 AM	0	3	284	135	0	0	53	47	15	0	1	14	86	10	6	0	70	20	37	0
07:45 AM to 08:00 AM	0	1	267	117	0	0	26	30	7	0	0	10	115	11	1	0	103	42	41	0
08:00 AM to 08:15 AM	1	5	304	114	0	0	23	17	14	0	0	10	89	12	1	0	64	14	25	0
08:15 AM to 08:30 AM	0	6	314	82	0	0	17	10	31	0	1	11	113	15	0	0	72	17	25	0
08:30 AM to 08:45 AM	0	8	261	93	0	0	21	25	20	0	0	14	131	8	0	0	48	14	27	0
08:45 AM to 09:00 AM	1	5	303	102	0	0	18	14	17	0	1	15	106	11	1	0	71	15	23	0
09:00 AM to 09:15 AM	0	5	264	96	0	0	12	14	11	0	0	14	99	9	0	0	67	13	20	0
09:15 AM to 09:30 AM	1	9	225	81	0	0	14	23	16	0	0	14	104	13	1	0	62	23	18	0
09:30 AM to 09:45 AM																				
09:45 AM to 10:00 AM																				
10:00 AM to 10:15 AM																				
10:15 AM to 10:30 AM																				
10:30 AM to 10:45 AM																				
10:45 AM to 11:00 AM																				
11:00 AM to 11:15 AM																				
11:15 AM to 11:30 AM																				
INT. PEAK HR (ALL VEH)	1633				0	290				0	498				8	530				0
07:30 AM to 08:30 AM	1	15	1169	448		0	119	104	67		2	45	403	48		0	309	93	128	
Peak Hour Factor (PHF) Overall **0.95**	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
	0.25	0.63	0.93	0.83	**0.96**	n/a	0.56	0.55	0.54	**0.63**	0.50	0.80	0.88	0.80	**0.89**	n/a	0.75	0.55	0.78	**0.71**

HEAVY VEHICLES (FHWA 4+)

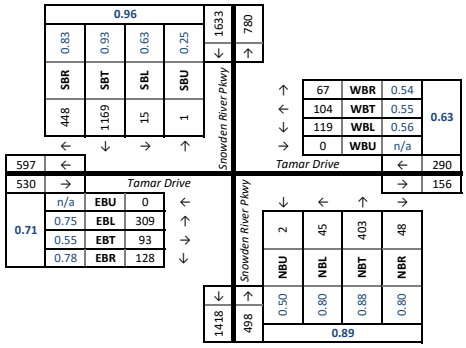
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Snowden River Pkwy				Tamar Drive				Snowden River Pkwy				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	4	4	0	0	0	0	0	0	3	0	0	1	1	1
06:45 AM to 07:00 AM	0	0	5	4	0	1	2	0	0	0	2	0	0	4	1	0
07:00 AM to 07:15 AM	0	0	5	3	0	0	2	0	0	2	2	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	7	13	0	0	1	0	0	3	2	0	0	1	1	1
07:30 AM to 07:45 AM	0	0	5	13	0	1	0	0	0	1	3	1	0	5	0	2
07:45 AM to 08:00 AM	0	0	13	5	0	2	1	0	0	1	6	0	0	6	0	2
08:00 AM to 08:15 AM	0	1	8	4	0	1	0	0	0	1	3	4	0	3	1	1
08:15 AM to 08:30 AM	0	1	7	6	0	0	0	3	0	1	2	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	4	1	0	0	1	1	0	0	5	0	0	0	0	2
08:45 AM to 09:00 AM	0	0	6	2	0	0	1	2	0	0	5	0	0	2	0	4
09:00 AM to 09:15 AM	0	1	2	5	0	0	0	1	0	1	8	1	0	3	0	1
09:15 AM to 09:30 AM	0	0	4	1	0	2	3	3	0	1	6	1	0	1	1	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	63				8				23				20			
07:30 AM to 08:30 AM	0	2	33	28	0	4	1	3	0	4	14	5	0	14	1	5
Heavy Vehicle % (PHV):	0.0%	13.3%	2.8%	6.3%	**3.9%**	0.0%	3.4%	1.0%	4.5%	**2.8%**	0.0%	8.9%	3.5%	10.4%	**4.6%**	0.0%	4.5%	1.1%	3.9%	**3.8%**
INT. PEAK HR (HV ONLY)	69				6				25				23			
07:15 AM to 08:15 AM	0	1	33	35	0	4	2	0	0	6	14	5	0	15	2	6
Heavy Vehicle % (PHV):	0.0%	6.7%	3.0%	7.2%	**4.4%**	0.0%	3.4%	1.8%	0.0%	**2.2%**	0.0%	13.3%	3.8%	13.2%	**5.6%**	0.0%	4.6%	2.3%	4.9%	**4.3%**

BICYCLES

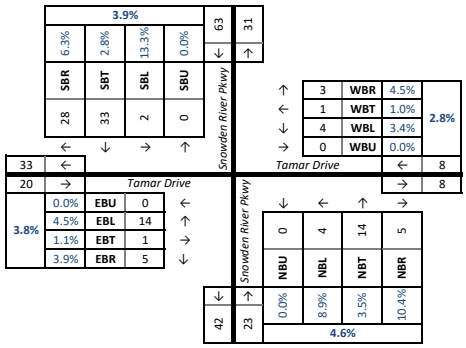
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Snowden River Pkwy				Tamar Drive				Snowden River Pkwy				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM to 06:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:45 AM to 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:30 AM to 07:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
07:45 AM to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM to 08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM to 08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM to 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM to 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM to 09:45 AM																
09:45 AM to 10:00 AM																
10:00 AM to 10:15 AM																
10:15 AM to 10:30 AM																
10:30 AM to 10:45 AM																
10:45 AM to 11:00 AM																
11:00 AM to 11:15 AM																
11:15 AM to 11:30 AM																
INT. PEAK HR (ALL VEH)	0				1				0				0			
07:30 AM to 08:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
INT. PEAK HR (BIKES)	0				1				0				2			
06:30 AM to 07:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1

DATA COLLECTION NOTES :

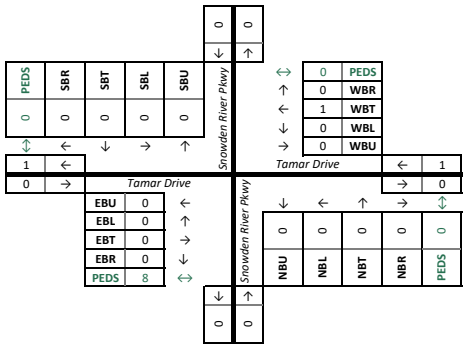
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:45 PM to 05:45 PM
System Peak Hour (all vehicles): 05:00 PM to 06:00 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Phelps Luck Drive/ & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Phelps Luck Drive					Tamar Drive										Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	14	0	41	0	0	0	99	15	0	0	0	0	0	0	0	59	101	0	0
04:15 PM to 04:30 PM	0	10	0	26	0	0	0	101	17	0	0	0	0	0	0	0	45	101	0	0
04:30 PM to 04:45 PM	0	15	0	56	1	0	0	115	17	0	0	0	0	0	0	0	64	95	0	0
04:45 PM to 05:00 PM	0	12	0	52	1	0	0	110	15	0	0	0	0	0	0	0	69	110	0	0
05:00 PM to 05:15 PM	0	16	0	47	1	0	0	102	17	0	0	0	0	0	0	0	53	79	0	0
05:15 PM to 05:30 PM	0	16	0	55	0	0	0	117	13	0	0	0	0	0	0	0	68	95	0	0
05:30 PM to 05:45 PM	0	11	0	62	1	0	0	124	16	0	0	0	0	0	0	0	55	111	0	0
05:45 PM to 06:00 PM	0	13	0	56	0	0	0	147	16	0	0	0	0	0	0	0	48	74	0	0
06:00 PM to 06:15 PM	0	8	0	58	0	0	0	124	17	0	0	0	0	0	0	0	38	83	0	0
06:15 PM to 06:30 PM	0	19	0	43	2	0	0	83	22	0	0	0	0	0	0	0	34	81	0	0
06:30 PM to 06:45 PM	0	18	0	35	0	0	0	98	19	0	0	0	0	0	0	0	35	94	0	0
06:45 PM to 07:00 PM	0	8	0	39	0	0	0	91	15	0	0	0	0	0	0	0	40	76	0	0
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	271				3	514				0	0				0	640				0
04:45 PM to 05:45 PM	0	55	0	216		0	0	453	61		0	0	0	0		0	245	395	0	
Peak Hour Factor (PHF) Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
0.94	n/a	0.86	n/a	0.87	**0.93**	n/a	n/a	0.91	0.90	**0.92**	n/a	n/a	n/a	n/a	**n/a**	n/a	0.89	0.89	n/a	**0.89**

HEAVY VEHICLES (FHWA 4+)

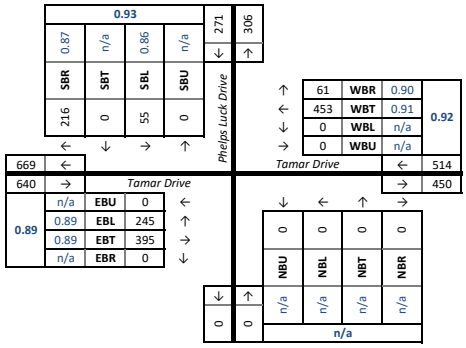
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Phelps Luck Drive				Tamar Drive								Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	3	0	0	4	0	0	0	0	0	0	2	5	0
04:15 PM to 04:30 PM	0	0	0	1	0	0	2	0	0	0	0	0	0	3	1	0
04:30 PM to 04:45 PM	0	0	0	2	0	0	0	2	0	0	0	0	0	2	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	2	2	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	3	1	0
05:15 PM to 05:30 PM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0
05:30 PM to 05:45 PM	0	0	0	1	0	0	1	1	0	0	0	0	0	1	1	0
05:45 PM to 06:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0
06:00 PM to 06:15 PM	0	0	0	4	0	0	1	0	0	0	0	0	0	2	7	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
06:30 PM to 06:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3	0
06:45 PM to 07:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	2				8				0				11			
04:45 PM to 05:45 PM	0	0	0	2	0	0	7	1	0	0	0	0	0	6	5	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.9%	**0.7%**	0.0%	0.0%	1.5%	1.6%	**1.6%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	2.4%	1.3%	0.0%	**1.7%**
INT. PEAK HR (HV ONLY)	6				12				0				17			
04:00 PM to 05:00 PM	0	0	0	6	0	0	10	2	0	0	0	0	0	9	8	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	3.4%	**2.7%**	0.0%	0.0%	2.4%	3.1%	**2.5%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	3.8%	2.0%	0.0%	**2.6%**

BICYCLES

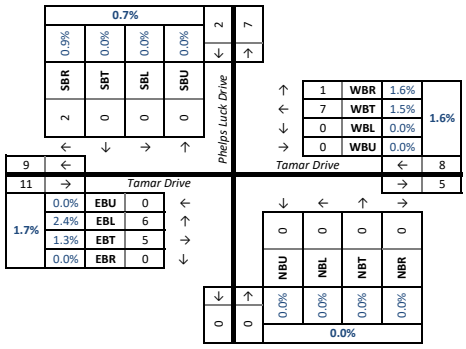
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Phelps Luck Drive				Tamar Drive								Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	1	0	0	3	0	0	0	0	0	0	0	1	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	1				3				0				1			
04:45 PM to 05:45 PM	0	0	0	1	0	0	3	0	0	0	0	0	0	0	1	0
INT. PEAK HR (BIKES)	1				3				0				2			
05:00 PM to 06:00 PM	0	0	0	1	0	0	3	0	0	0	0	0	0	0	2	0

DATA COLLECTION NOTES :

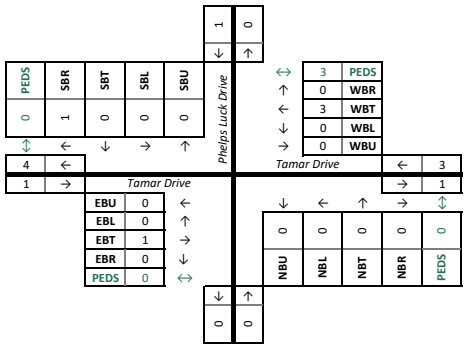
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:15 PM to 06:15 PM
System Peak Hour (all vehicles): 05:00 PM to 06:00 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. /Cloudleap Court & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:						Tamar Drive					Cloudleap Court					Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	0	0	0	0	0	15	123	0	1	0	21	0	5	1	0	0	87	17	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	13	127	0	1	0	17	0	15	0	0	0	92	13	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	5	135	0	0	0	14	0	11	2	0	0	76	17	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	14	122	0	2	0	19	0	10	0	0	0	100	18	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	7	128	0	0	0	24	0	10	1	0	0	89	11	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	13	140	0	1	0	20	0	13	1	0	0	87	16	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	15	149	0	2	0	22	0	7	4	0	0	92	16	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	22	156	0	3	0	24	0	9	1	0	0	100	15	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	7	158	0	2	0	14	0	10	4	0	0	87	13	2
06:15 PM to 06:30 PM	0	0	0	0	0	0	11	119	0	8	0	21	0	10	2	0	0	88	15	2
06:30 PM to 06:45 PM	0	0	0	0	0	0	17	112	0	2	0	18	0	11	2	0	0	101	19	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	12	110	0	0	0	24	0	13	1	0	0	89	11	1
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	0				0	660				8	119				10	426				2
05:15 PM to 06:15 PM	0	0	0	0		0	57	603	0		0	80	0	39		0	0	366	60	
Peak Hour Factor (PHF) Overall	**0.92**																			
	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
	n/a	n/a	n/a	n/a	**n/a**	n/a	0.65	0.95	n/a	**0.93**	n/a	0.83	n/a	0.75	**0.90**	n/a	n/a	0.92	0.94	**0.93**

HEAVY VEHICLES (FHWA 4+)

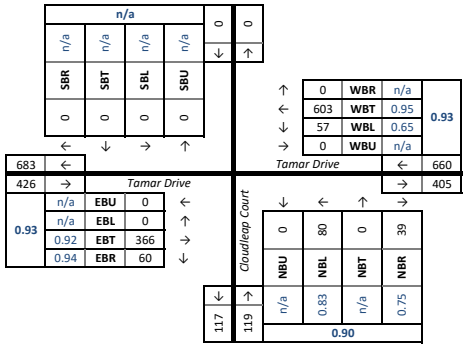
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:					Tamar Drive				Cloudleap Court				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	1	6	0	0	0	0	0	0	0	3	1
04:15 PM to 04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0
04:45 PM to 05:00 PM	0	0	0	0	0	1	4	0	0	0	0	0	0	0	2	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	1
05:30 PM to 05:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
05:45 PM to 06:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	10	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				6				0				15			
05:15 PM to 06:15 PM	0	0	0	0	0	1	5	0	0	0	0	0	0	0	14	1
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	1.7%
	0.0%				**0.9%**				**0.0%**				**3.5%**			
INT. PEAK HR (HV ONLY)	0				17				2				8			
04:00 PM to 05:00 PM	0	0	0	0	0	2	15	0	0	1	0	1	0	0	7	1
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	3.0%	0.0%	0.0%	1.4%	0.0%	2.4%	0.0%	0.0%	2.0%	1.5%
	0.0%				**3.1%**				**1.8%**				**1.9%**			

BICYCLES

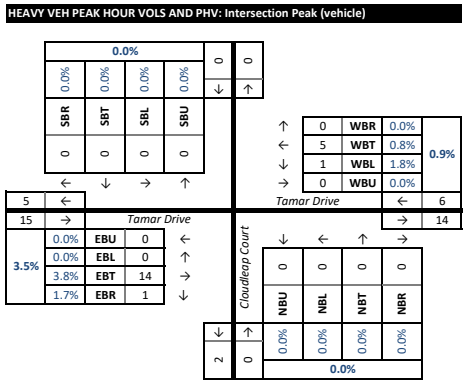
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:					Tamar Drive				Cloudleap Court				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	2	1	0	0	0	0	1	0	0	4	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	3	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	1	0	0	3	0	0	0	0	1	3
06:15 PM to 06:30 PM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	2
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				4				4				7			
05:15 PM to 06:15 PM	0	0	0	0	0	2	2	0	0	4	0	0	0	0	4	3
INT. PEAK HR (BIKES)	0				5				4				7			
05:30 PM to 06:30 PM	0	0	0	0	0	1	4	0	0	4	0	0	0	0	4	3

DATA COLLECTION NOTES :

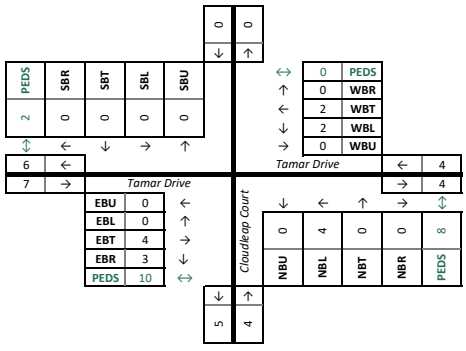
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:15 PM to 06:15 PM
System Peak Hour (all vehicles): 05:00 PM to 06:00 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Airybrink Lane/Forelan Garth & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Airybrink Lane					Tamar Drive					Forelan Garth					Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	4	1	2	0	0	15	129	6	0	0	5	0	14	3	0	1	82	10	2
04:15 PM to 04:30 PM	0	3	0	1	0	0	14	135	4	0	0	5	0	16	1	0	1	97	5	0
04:30 PM to 04:45 PM	0	3	0	3	1	0	20	141	2	0	0	8	0	8	0	0	5	82	6	2
04:45 PM to 05:00 PM	0	2	0	4	1	0	17	117	5	0	0	11	1	11	0	0	5	92	10	1
05:00 PM to 05:15 PM	0	4	0	4	0	1	28	131	4	0	0	6	0	18	1	0	3	87	8	3
05:15 PM to 05:30 PM	0	2	0	2	0	0	23	133	2	0	0	9	1	10	1	0	2	88	11	1
05:30 PM to 05:45 PM	0	3	0	0	3	0	19	158	2	0	0	9	0	18	5	0	3	89	7	1
05:45 PM to 06:00 PM	0	6	1	3	0	0	19	167	4	0	0	8	1	10	1	0	3	95	12	1
06:00 PM to 06:15 PM	0	5	0	1	1	0	15	152	8	0	0	9	1	20	5	0	2	86	11	3
06:15 PM to 06:30 PM	0	1	0	4	5	0	25	119	5	1	0	9	0	8	3	0	2	89	6	4
06:30 PM to 06:45 PM	0	1	0	3	0	0	20	119	4	0	0	5	0	24	2	0	0	95	11	1
06:45 PM to 07:00 PM	0	3	0	1	1	0	28	118	4	0	0	6	0	17	1	0	2	98	11	0
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	23				4	702				0	96				12	409				6
05:15 PM to 06:15 PM	0	16	1	6		0	76	610	16		0	35	3	58		0	10	358	41	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.93**	n/a	0.67	0.25	0.50	**0.58**	n/a	0.83	0.91	0.50	**0.92**	n/a	0.97	0.75	0.73	**0.80**	n/a	0.83	0.94	0.85	**0.93**

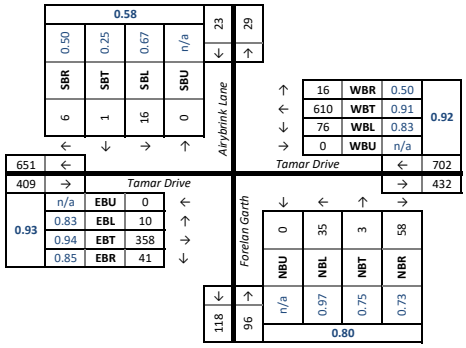
HEAVY VEHICLES (FHWA 4+)

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Airybrink Lane				Tamar Drive				Forelan Garth				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	1	0	1	0	0	5	1	0	0	0	0	0	1	3	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0
04:45 PM to 05:00 PM	0	0	0	0	0	1	5	0	0	0	0	0	0	0	2	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0
05:45 PM to 06:00 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	9	1
06:15 PM to 06:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				5				2				13			
05:15 PM to 06:15 PM	0	0	0	0	0	1	4	0	0	2	0	0	0	0	12	1
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.7%	0.0%	0.7%	0.0%	5.7%	0.0%	0.0%	2.1%	0.0%	0.0%	3.4%	2.4%	3.2%	
INT. PEAK HR (HV ONLY)	2				18				1				9			
04:00 PM to 05:00 PM	0	1	0	1	0	1	16	1	0	0	0	1	0	1	8	0
Heavy Vehicle % (PHV):	0.0%	8.3%	0.0%	10.0%	0.0%	1.5%	3.1%	5.9%	0.0%	0.0%	0.0%	2.0%	0.0%	8.3%	2.3%	0.0%		

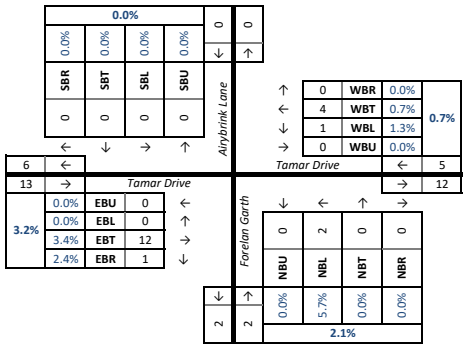
BICYCLES

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Airybrink Lane				Tamar Drive				Forelan Garth				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	1	0	1	0	0	1	0	0	0	0	0	0	0	2	0
04:30 PM to 04:45 PM	0	0	0	1	0	0	0	1	0	0	0	3	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
05:45 PM to 06:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
06:30 PM to 06:45 PM	0	4	0	0	0	0	1	4	0	0	0	0	0	0	1	0
06:45 PM to 07:00 PM	0	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				5				0				2			
05:15 PM to 06:15 PM	0	0	0	0	0	1	3	1	0	0	0	0	0	0	2	0
INT. PEAK HR (BIKES)	11				14				0				3			
06:00 PM to 07:00 PM	0	11	0	0	0	0	3	11	0	0	0	0	0	0	3	0

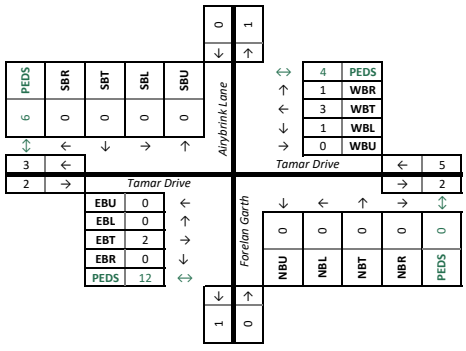
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 04:30 PM to 05:30 PM
System Peak Hour (all vehicles): 05:00 PM to 06:00 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Snowden River Pkwy & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Snowden River Pkwy					Tamar Drive					Snowden River Pkwy					Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	14	202	108	2	0	16	29	15	1	0	31	293	24	1	0	107	19	18	0
04:15 PM to 04:30 PM	1	3	239	116	0	0	20	34	10	0	0	21	299	28	1	0	85	26	23	0
04:30 PM to 04:45 PM	1	9	257	110	1	0	12	21	13	1	0	35	313	18	1	0	72	30	23	0
04:45 PM to 05:00 PM	1	7	262	95	0	0	28	27	10	1	0	27	290	37	0	0	86	32	25	0
05:00 PM to 05:15 PM	2	9	262	105	3	0	21	29	5	1	1	38	317	50	0	0	75	21	13	0
05:15 PM to 05:30 PM	1	12	251	114	1	0	11	24	15	1	1	34	318	30	2	0	74	28	22	0
05:30 PM to 05:45 PM	0	11	248	108	0	0	19	27	13	0	0	39	232	26	1	0	100	22	14	0
05:45 PM to 06:00 PM	2	16	278	142	0	1	15	22	11	0	1	36	264	20	2	0	72	20	23	0
06:00 PM to 06:15 PM	3	15	206	117	0	0	20	35	12	1	0	34	229	29	2	0	93	23	18	0
06:15 PM to 06:30 PM	1	4	269	121	1	0	18	21	5	1	0	34	210	13	2	0	65	14	12	0
06:30 PM to 06:45 PM	0	12	211	110	1	0	11	22	10	0	0	38	228	10	0	0	75	27	24	0
06:45 PM to 07:00 PM	1	10	190	103	0	0	17	22	3	0	0	34	224	28	1	0	86	20	19	0
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	1498				5	216				4	1509				3	501				0
04:30 PM to 05:30 PM	5	37	1032	424		0	72	101	43		2	134	1238	135		0	307	111	83	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.98**	0.63	0.77	0.98	0.93	**0.99**	n/a	0.64	0.87	0.72	**0.83**	0.50	0.88	0.97	0.68	**0.93**	n/a	0.89	0.87	0.83	**0.88**

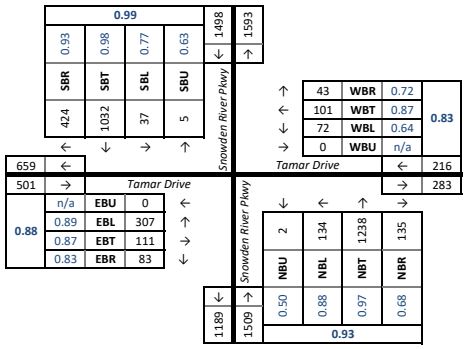
HEAVY VEHICLES (FHWA 4+)

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Snowden River Pkwy				Tamar Drive				Snowden River Pkwy				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	6	4	0	2	4	3	0	2	9	1	0	4	0	1
04:15 PM to 04:30 PM	0	0	7	0	0	0	0	0	0	1	5	0	0	1	2	0
04:30 PM to 04:45 PM	0	0	3	1	0	0	1	0	0	0	5	0	0	0	1	0
04:45 PM to 05:00 PM	0	0	0	3	0	0	0	0	0	1	6	1	0	2	0	0
05:00 PM to 05:15 PM	0	1	1	0	0	1	0	0	0	0	1	0	0	1	0	0
05:15 PM to 05:30 PM	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0
05:30 PM to 05:45 PM	0	0	2	2	0	0	0	0	0	0	1	0	0	1	0	0
05:45 PM to 06:00 PM	0	0	1	2	0	0	0	0	0	0	5	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	10	0	0
06:15 PM to 06:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0
06:30 PM to 06:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	1
06:45 PM to 07:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	12				2				15				4			
04:30 PM to 05:30 PM	0	1	7	4	0	1	1	0	0	2	12	1	0	3	1	0
Heavy Vehicle % (PHV):	0.0%	2.7%	0.7%	0.9%	0.0%	1.4%	1.0%	0.0%	0.0%	1.5%	1.0%	0.7%	0.0%	1.0%	0.9%	0.0%
INT. PEAK HR (HV ONLY)	24				10				31				11			
04:00 PM to 05:00 PM	0	0	16	8	0	2	5	3	0	4	25	2	0	7	3	1
Heavy Vehicle % (PHV):	0.0%	0.0%	1.7%	1.9%	0.0%	2.6%	4.5%	6.3%	0.0%	3.5%	2.1%	1.9%	0.0%	2.0%	2.8%	1.1%

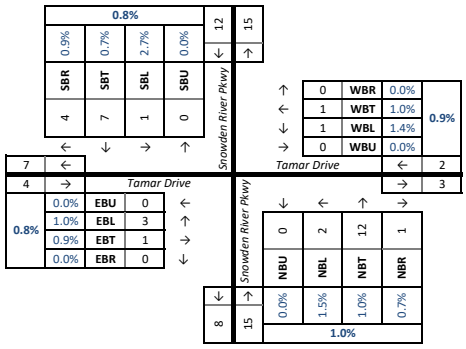
BICYCLES

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Snowden River Pkwy				Tamar Drive				Snowden River Pkwy				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM to 05:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM to 06:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				2				0				2			
04:30 PM to 05:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
INT. PEAK HR (BIKES)	0				2				0				4			
04:45 PM to 05:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	1	3	0

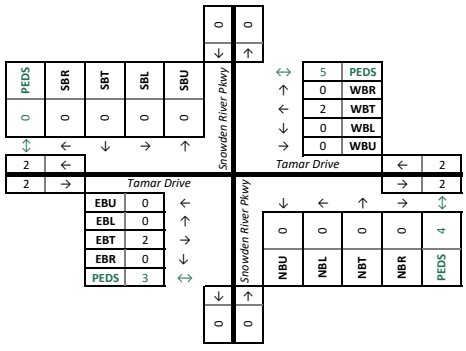
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 10:00 AM to 02:00 PM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 12:45 PM to 01:45 PM
System Peak Hour (all vehicles): 12:45 PM to 01:45 PM
User-Defined Peak Hour: 11:00 AM to 12:00 PM

Intersection: 1. Phelps Luck Drive/ & Tamar Drive

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Phelps Luck Drive					Tamar Drive										Tamar Drive				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
10:00 AM	to 10:15 AM	0	7	0	34	0	0	0	78	3	0	0	0	0	0	0	0	28	69	0	0
10:15 AM	to 10:30 AM	0	7	0	33	1	0	0	95	10	0	0	0	0	0	0	0	19	80	0	0
10:30 AM	to 10:45 AM	0	7	0	33	0	0	0	92	3	0	0	0	0	0	0	0	27	85	0	0
10:45 AM	to 11:00 AM	0	6	0	38	1	0	0	85	8	0	0	0	0	0	0	0	24	68	0	0
11:00 AM	to 11:15 AM	0	10	0	46	0	0	0	66	7	0	0	0	0	0	0	0	27	71	0	0
11:15 AM	to 11:30 AM	0	13	0	43	0	0	0	77	8	0	0	0	0	0	0	0	37	75	0	1
11:30 AM	to 11:45 AM	0	12	0	40	2	0	0	111	10	0	0	0	0	0	0	0	37	85	0	0
11:45 AM	to 12:00 PM	0	18	0	42	2	0	0	86	11	0	0	0	0	0	0	0	30	65	0	0
12:00 PM	to 12:15 PM	0	19	0	39	1	0	0	79	6	0	0	0	0	0	0	0	31	67	0	0
12:15 PM	to 12:30 PM	0	16	0	27	0	0	0	98	8	0	0	0	0	0	0	0	33	80	0	0
12:30 PM	to 12:45 PM	0	11	0	32	1	0	0	78	13	0	0	0	0	0	0	0	40	86	0	0
12:45 PM	to 01:00 PM	0	15	0	40	0	0	0	107	10	0	0	0	0	0	0	0	19	75	0	0
01:00 PM	to 01:15 PM	0	11	0	37	0	0	0	89	13	0	0	0	0	0	0	0	33	90	0	0
01:15 PM	to 01:30 PM	0	23	0	22	0	0	0	93	12	0	0	0	0	0	0	0	30	88	0	0
01:30 PM	to 01:45 PM	0	10	0	37	0	0	0	109	13	0	0	0	0	0	0	0	29	73	0	0
01:45 PM	to 02:00 PM	0	16	0	38	0	0	0	92	11	0	0	0	0	0	0	0	32	55	0	0
02:00 PM	to 02:15 PM																				
02:15 PM	to 02:30 PM																				
02:30 PM	to 02:45 PM																				
02:45 PM	to 03:00 PM																				
SYSTEM PEAK HR (VEH.)		195				0	446				0	0				0	437				0
12:45 PM	to 01:45 PM	0	59	0	136		0	0	398	48		0	0	0	0		0	111	326	0	
Peak Hour Factor (PHF)	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
	0.99	n/a	0.64	n/a	0.85	**0.89**	n/a	n/a	0.91	0.92	**0.91**	n/a	n/a	n/a	n/a	**n/a**	n/a	0.84	0.91	n/a	**0.89**

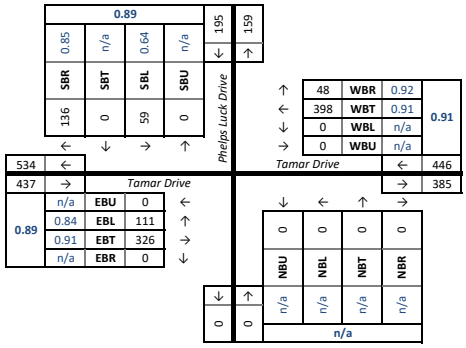
HEAVY VEHICLES (FHWA 4+)

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Phelps Luck Drive					Tamar Drive										Tamar Drive				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
10:00 AM	to 10:15 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	1	4	0	
10:15 AM	to 10:30 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	0	0	
10:30 AM	to 10:45 AM	0	0	0	2		0	0	1	0		0	0	0	0		0	2	3	0	
10:45 AM	to 11:00 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	0	0	
11:00 AM	to 11:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	2	0	
11:15 AM	to 11:30 AM	0	1	0	0		0	0	3	0		0	0	0	0		0	0	0	0	
11:30 AM	to 11:45 AM	0	0	0	1		0	0	2	0		0	0	0	0		0	1	3	0	
11:45 AM	to 12:00 PM	0	1	0	1		0	0	1	0		0	0	0	0		0	0	0	0	
12:00 PM	to 12:15 PM	0	1	0	0		0	0	4	0		0	0	0	0		0	2	1	0	
12:15 PM	to 12:30 PM	0	2	0	0		0	0	1	0		0	0	0	0		0	0	1	0	
12:30 PM	to 12:45 PM	0	0	0	1		0	0	3	0		0	0	0	0		0	0	1	0	
12:45 PM	to 01:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
01:00 PM	to 01:15 PM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	1	0	
01:15 PM	to 01:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	1	0	
01:30 PM	to 01:45 PM	0	0	0	1		0	0	1	1		0	0	0	0		0	0	2	0	
01:45 PM	to 02:00 PM	0	0	0	0		0	0	0	1		0	0	0	0		0	0	1	0	
02:00 PM	to 02:15 PM																				
02:15 PM	to 02:30 PM																				
02:30 PM	to 02:45 PM																				
02:45 PM	to 03:00 PM																				
SYSTEM PEAK HR (VEH.)		1					3					0					5				
12:45 PM	to 01:45 PM	0	0	0	1		0	0	2	1		0	0	0	0		0	1	4	0	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.7%	**0.5%**	0.0%	0.0%	0.5%	2.1%	**0.7%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.9%	1.2%	0.0%	**1.1%**
INT. PEAK HR (HV ONLY)		5					10					0					7				
11:15 AM	to 12:15 PM	0	3	0	2		0	0	10	0		0	0	0	0		0	3	4	0	
Heavy Vehicle % (PHV):		0.0%	4.8%	0.0%	1.2%	**2.2%**	0.0%	0.0%	2.8%	0.0%	**2.6%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	2.2%	1.4%	0.0%	**1.6%**

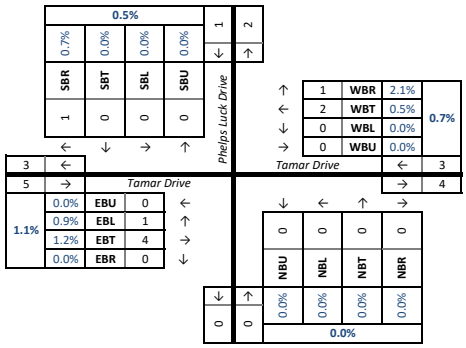
BICYCLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Phelps Luck Drive					Tamar Drive										Tamar Drive				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
10:00 AM	to 10:15 AM	0	1	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
10:15 AM	to 10:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	1	0	0	
10:30 AM	to 10:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
10:45 AM	to 11:00 AM	0	0	0	0		0	0	1	1		0	0	0	0		0	0	0	0	
11:00 AM	to 11:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
11:15 AM	to 11:30 AM	0	0	0	1		0	0	0	0		0	0	0	0		0	0	0	0	
11:30 AM	to 11:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
11:45 AM	to 12:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
12:00 PM	to 12:15 PM	0	0	0	2		0	0	0	0		0	0	0	0		0	0	0	0	
12:15 PM	to 12:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	2	0	0	
12:30 PM	to 12:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
12:45 PM	to 01:00 PM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	0	0	
01:00 PM	to 01:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
01:15 PM	to 01:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
01:30 PM	to 01:45 PM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	0	0	
01:45 PM	to 02:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
02:00 PM	to 02:15 PM																				
02:15 PM	to 02:30 PM																				
02:30 PM	to 02:45 PM																				
02:45 PM	to 03:00 PM																				
SYSTEM PEAK HR (VEH.)		0					2					0					0				
12:45 PM	to 01:45 PM	0	0	0	0		0	0	2	0		0	0	0	0		0	0	0	0	
INT. PEAK HR (BIKES)		2					1					0					3				
12:00 PM	to 01:00 PM	0	0	0	2		0	0	1	0		0	0	0	0		0	2	1	0	

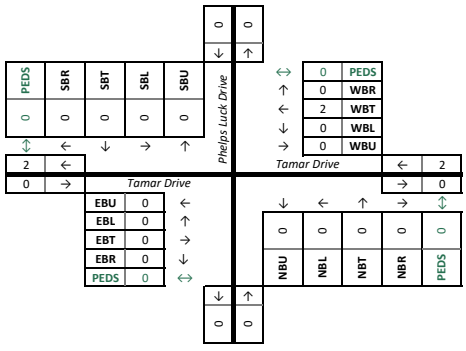
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 10:00 AM to 02:00 PM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 12:15 PM to 01:15 PM
System Peak Hour (all vehicles): 12:45 PM to 01:45 PM
User-Defined Peak Hour: 11:00 AM to 12:00 PM

Intersection: 1. /Cloudleap Court & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:						Tamar Drive					Cloudleap Court					Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
10:00 AM to 10:15 AM	0	0	0	0	0	0	9	77	0	7	0	15	0	10	0	0	0	71	13	0
10:15 AM to 10:30 AM	0	0	0	0	0	0	13	84	0	1	0	19	0	11	0	0	0	84	22	1
10:30 AM to 10:45 AM	0	0	0	0	0	0	7	87	0	3	0	14	0	12	1	0	0	77	28	0
10:45 AM to 11:00 AM	0	0	0	0	0	0	12	72	0	4	0	17	0	16	1	0	0	77	19	1
11:00 AM to 11:15 AM	0	0	0	0	0	0	9	67	0	3	0	12	0	11	2	0	0	81	17	0
11:15 AM to 11:30 AM	0	0	0	0	0	0	4	87	0	3	0	5	0	13	2	0	0	94	19	0
11:30 AM to 11:45 AM	0	0	0	0	0	0	9	103	0	4	0	20	0	20	0	0	0	84	27	0
11:45 AM to 12:00 PM	0	0	0	0	0	0	8	86	0	1	0	17	0	7	3	0	0	89	23	0
12:00 PM to 12:15 PM	0	0	0	0	0	1	6	88	0	6	0	21	0	12	1	0	0	77	19	2
12:15 PM to 12:30 PM	0	0	0	0	0	0	14	83	0	4	0	17	0	13	2	0	0	87	21	0
12:30 PM to 12:45 PM	0	0	0	0	0	0	11	97	0	0	0	23	0	19	0	0	0	95	22	0
12:45 PM to 01:00 PM	0	0	0	0	0	0	11	109	0	0	0	17	0	19	0	0	0	96	18	0
01:00 PM to 01:15 PM	0	0	0	0	0	0	11	89	0	2	0	21	0	14	4	0	0	92	9	0
01:15 PM to 01:30 PM	0	0	0	0	0	0	6	92	0	3	0	19	0	5	2	0	0	97	14	0
01:30 PM to 01:45 PM	0	0	0	0	0	0	7	101	0	2	0	23	0	10	0	0	0	90	21	0
01:45 PM to 02:00 PM	0	0	0	0	0	0	9	102	0	2	0	23	0	17	0	0	0	71	20	4
02:00 PM to 02:15 PM																				
02:15 PM to 02:30 PM																				
02:30 PM to 02:45 PM																				
02:45 PM to 03:00 PM																				
SYSTEM PEAK HR (VEH.)	0				0	426				7	128				6	437				0
12:45 PM to 01:45 PM	0	0	0	0		0	35	391	0		0	80	0	48		0	0	375	62	
Peak Hour Factor (PHF) Overall **0.92**	U	Left	Thru	Right	**SB** **n/a**	U	Left	Thru	Right	**WB** **0.89**	U	Left	Thru	Right	**NB** **0.89**	U	Left	Thru	Right	**EB** **0.96**
	n/a	n/a	n/a	n/a		n/a	0.80	0.90	n/a		n/a	0.87	n/a	0.63		n/a	n/a	0.97	0.74	

HEAVY VEHICLES (FHWA 4+)

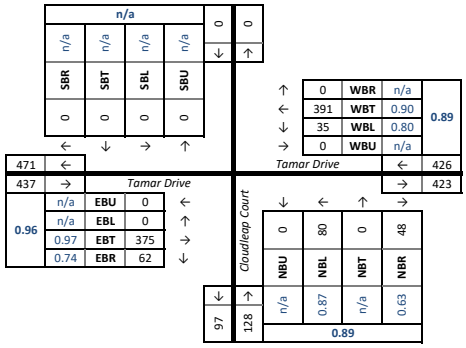
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:					Tamar Drive				Cloudleap Court				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
10:00 AM to 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
10:15 AM to 10:30 AM	0	0	0	0	0	1	1	0	0	1	0	0	0	0	1	0
10:30 AM to 10:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2	0
10:45 AM to 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM to 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM to 11:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
11:30 AM to 11:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	4	0
11:45 AM to 12:00 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	1
12:00 PM to 12:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0
12:15 PM to 12:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0
12:30 PM to 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:45 PM to 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
01:00 PM to 01:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
01:15 PM to 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
01:30 PM to 01:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0
01:45 PM to 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
02:00 PM to 02:15 PM																
02:15 PM to 02:30 PM																
02:30 PM to 02:45 PM																
02:45 PM to 03:00 PM																
SYSTEM PEAK HR (VEH.)	0				5				1				5			
12:45 PM to 01:45 PM	0	0	0	0	0	1	4	0	0	0	0	1	0	0	5	0
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	1.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	1.3%	0.0%
	0.0%				**1.2%**				**0.8%**				**1.1%**			
INT. PEAK HR (HV ONLY)	0				9				0				10			
11:30 AM to 12:30 PM	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9	1
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	1.1%
	0.0%				**2.3%**				**0.0%**				**2.3%**			

BICYCLES

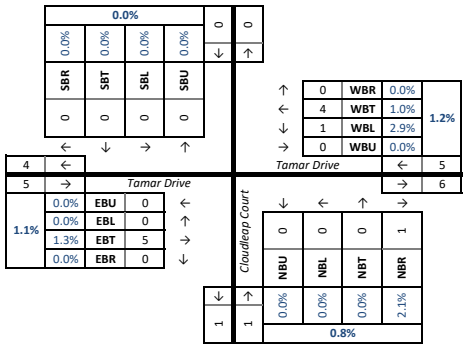
Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:					Tamar Drive				Cloudleap Court				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
10:00 AM to 10:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
10:15 AM to 10:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
10:30 AM to 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM to 11:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1
11:00 AM to 11:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
11:15 AM to 11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
11:30 AM to 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM to 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0
12:00 PM to 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:15 PM to 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:30 PM to 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM to 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
01:00 PM to 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15 PM to 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
01:30 PM to 01:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
01:45 PM to 02:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
02:00 PM to 02:15 PM																
02:15 PM to 02:30 PM																
02:30 PM to 02:45 PM																
02:45 PM to 03:00 PM																
SYSTEM PEAK HR (VEH.)	0				1				0				3			
12:45 PM to 01:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	1
INT. PEAK HR (BIKES)	0				3				3				3			
10:00 AM to 11:00 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	1	2

DATA COLLECTION NOTES :

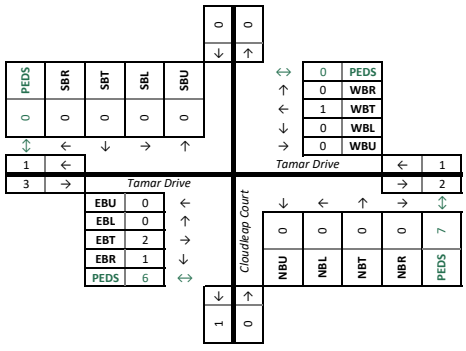
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 10:00 AM to 02:00 PM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 12:45 PM to 01:45 PM
System Peak Hour (all vehicles): 12:45 PM to 01:45 PM
User-Defined Peak Hour: 11:00 AM to 12:00 PM

Intersection: 1. Airybrink Lane/Forelan Garth & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Airybrink Lane					Tamar Drive					Forelan Garth					Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
10:00 AM to 10:15 AM	0	2	0	0	3	1	30	83	1	1	0	8	0	5	0	0	1	74	12	2
10:15 AM to 10:30 AM	0	1	0	1	1	0	24	96	1	0	0	2	1	15	1	0	0	81	12	2
10:30 AM to 10:45 AM	0	5	0	2	2	0	28	88	2	0	0	5	0	10	0	0	1	74	15	0
10:45 AM to 11:00 AM	0	6	0	0	2	0	30	82	1	0	0	4	0	18	0	0	0	74	10	3
11:00 AM to 11:15 AM	0	2	0	0	3	0	36	76	1	0	0	1	0	17	0	0	0	83	15	1
11:15 AM to 11:30 AM	0	1	0	2	1	0	29	78	3	0	0	6	0	7	4	0	0	96	10	0
11:30 AM to 11:45 AM	0	7	2	2	0	0	34	97	2	0	0	11	0	16	4	0	2	94	12	0
11:45 AM to 12:00 PM	0	3	0	3	1	0	21	83	4	0	0	7	2	23	1	0	0	79	18	4
12:00 PM to 12:15 PM	0	2	0	0	1	0	34	93	2	0	0	6	0	11	1	0	0	85	9	2
12:15 PM to 12:30 PM	0	3	0	1	2	0	25	89	3	0	0	7	2	27	2	0	2	77	16	1
12:30 PM to 12:45 PM	0	5	0	3	2	0	18	96	6	0	0	10	0	14	0	0	0	91	22	0
12:45 PM to 01:00 PM	0	3	0	2	0	0	24	102	0	0	0	13	0	19	0	0	1	101	13	0
01:00 PM to 01:15 PM	0	2	1	1	0	0	35	92	3	0	0	7	0	22	1	1	1	94	9	0
01:15 PM to 01:30 PM	0	2	0	0	0	0	22	90	0	0	0	11	0	24	3	0	2	98	7	0
01:30 PM to 01:45 PM	0	3	0	0	0	0	24	109	5	0	0	3	0	22	0	0	1	87	13	1
01:45 PM to 02:00 PM	0	0	2	4	1	0	17	89	4	1	0	16	1	33	0	0	1	77	10	0
02:00 PM to 02:15 PM																				
02:15 PM to 02:30 PM																				
02:30 PM to 02:45 PM																				
02:45 PM to 03:00 PM																				
SYSTEM PEAK HR (VEH.)	14				0	506				0	121				4	428				1
12:45 PM to 01:45 PM	0	10	1	3		0	105	393	8		0	34	0	87		1	5	380	42	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) 0.96	n/a	0.83	0.25	0.38	**0.70**	n/a	0.75	0.90	0.40	**0.92**	n/a	0.65	n/a	0.91	**0.86**	0.25	0.63	0.94	0.81	**0.93**

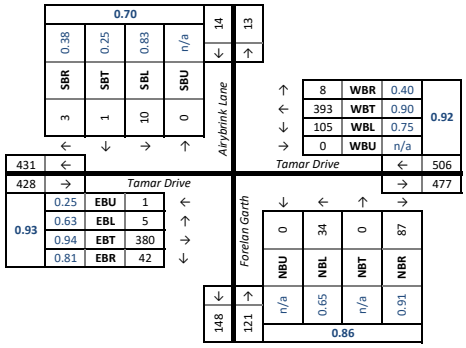
HEAVY VEHICLES (FHWA 4+)

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Airybrink Lane				Tamar Drive				Forelan Garth				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
10:00 AM to 10:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0
10:15 AM to 10:30 AM	0	0	0	0	0	3	1	0	0	0	0	0	0	0	1	0
10:30 AM to 10:45 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
10:45 AM to 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
11:00 AM to 11:15 AM	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0
11:15 AM to 11:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
11:30 AM to 11:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	1
11:45 AM to 12:00 PM	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	1
12:00 PM to 12:15 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0
12:15 PM to 12:30 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	1
12:30 PM to 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
12:45 PM to 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
01:00 PM to 01:15 PM	0	0	0	0	0	1	1	0	0	1	0	1	0	0	0	0
01:15 PM to 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
01:30 PM to 01:45 PM	0	0	0	0	0	0	4	0	0	0	0	1	0	0	2	1
01:45 PM to 02:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
02:00 PM to 02:15 PM																
02:15 PM to 02:30 PM																
02:30 PM to 02:45 PM																
02:45 PM to 03:00 PM																
SYSTEM PEAK HR (VEH.)	0				6				3				6			
12:45 PM to 01:45 PM	0	0	0	0	0	1	5	0	0	1	0	2	0	0	5	1
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	1.3%	0.0%	1.2%	0.0%	2.9%	0.0%	2.3%	2.5%	0.0%	0.0%	1.3%	2.4%	1.4%	
INT. PEAK HR (HV ONLY)	0				10				2				9			
11:30 AM to 12:30 PM	0	0	0	0	0	0	10	0	0	0	0	2	0	0	6	3
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	0.0%	2.1%	0.0%	0.0%	0.0%	2.6%	1.8%	0.0%	0.0%	1.8%	5.5%	2.3%	

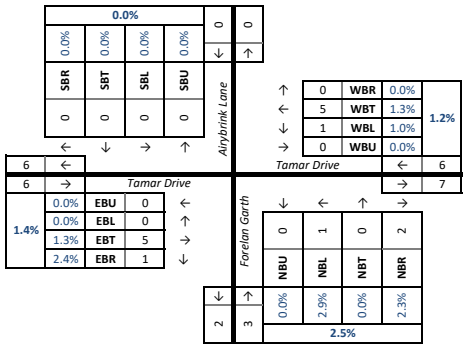
BICYCLES

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Airybrink Lane				Tamar Drive				Forelan Garth				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
10:00 AM to 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
10:15 AM to 10:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
10:30 AM to 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM to 11:00 AM	0	8	0	0	0	0	2	4	0	0	0	0	0	0	0	0
11:00 AM to 11:15 AM	0	0	0	1	0	0	0	4	0	0	0	1	0	0	0	0
11:15 AM to 11:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
11:30 AM to 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM to 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
12:00 PM to 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
12:15 PM to 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM to 12:45 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0
12:45 PM to 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
01:00 PM to 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM to 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
01:30 PM to 01:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
01:45 PM to 02:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
02:00 PM to 02:15 PM																
02:15 PM to 02:30 PM																
02:30 PM to 02:45 PM																
02:45 PM to 03:00 PM																
SYSTEM PEAK HR (VEH.)	0				1				0				2			
12:45 PM to 01:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
INT. PEAK HR (BIKES)	9				11				1				0			
10:15 AM to 11:15 AM	0	8	0	1	0	0	3	8	0	0	0	1	0	0	0	0

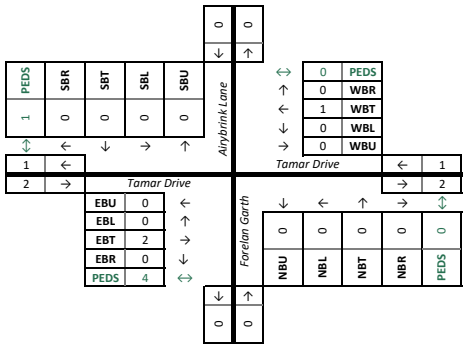
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 10:00 AM to 02:00 PM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 2. System Peak (vehicle)
Intersection Peak Hour (all vehicles): 12:45 PM to 01:45 PM
System Peak Hour (all vehicles): 12:45 PM to 01:45 PM
User-Defined Peak Hour: 11:00 AM to 12:00 PM

Intersection: 1. Snowden River Pkwy & Tamar Drive

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Snowden River Pkwy					Tamar Drive					Snowden River Pkwy					Tamar Drive				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
10:00 AM	to 10:15 AM	1	12	220	83	0	0	13	23	12	0	1	21	148	11	2	0	52	11	14	0
10:15 AM	to 10:30 AM	1	5	203	95	1	0	13	21	11	0	0	21	137	10	0	0	80	16	21	0
10:30 AM	to 10:45 AM	0	9	201	79	1	0	11	29	14	1	1	14	165	8	1	0	66	12	18	0
10:45 AM	to 11:00 AM	0	4	218	106	0	0	14	14	5	0	0	22	196	10	0	0	64	20	13	0
11:00 AM	to 11:15 AM	1	7	210	84	0	1	16	11	13	0	0	16	151	9	0	0	68	19	19	0
11:15 AM	to 11:30 AM	1	6	266	112	0	0	14	13	9	1	0	15	168	11	2	1	71	23	26	0
11:30 AM	to 11:45 AM	4	9	221	95	0	0	12	19	10	0	1	27	179	16	0	0	95	20	23	0
11:45 AM	to 12:00 PM	2	6	275	100	2	0	17	20	10	4	2	21	192	20	2	0	69	18	23	0
12:00 PM	to 12:15 PM	1	7	212	108	0	1	11	14	8	0	1	24	164	19	0	1	85	17	16	0
12:15 PM	to 12:30 PM	1	5	254	103	0	0	19	17	6	2	0	18	211	20	0	0	71	21	29	0
12:30 PM	to 12:45 PM	1	12	238	95	0	0	18	16	6	0	0	27	212	17	1	0	81	22	18	0
12:45 PM	to 01:00 PM	0	4	259	104	0	0	12	19	9	0	1	25	255	14	0	0	87	20	18	0
01:00 PM	to 01:15 PM	1	8	239	108	1	0	12	15	9	0	0	19	202	21	3	0	91	29	16	0
01:15 PM	to 01:30 PM	1	11	226	114	0	0	24	21	8	0	0	9	231	19	1	0	81	29	16	0
01:30 PM	to 01:45 PM	2	3	252	93	0	0	15	32	2	0	0	24	214	22	0	0	82	30	16	0
01:45 PM	to 02:00 PM	2	3	226	86	1	0	14	18	3	0	2	15	208	14	1	0	86	24	24	0
02:00 PM	to 02:15 PM																				
02:15 PM	to 02:30 PM																				
02:30 PM	to 02:45 PM																				
02:45 PM	to 03:00 PM																				
SYSTEM PEAK HR (VEH.)		1425				1	178				0	1056				4	515				0
12:45 PM	to 01:45 PM	4	26	976	419		0	63	87	28		1	77	902	76		0	341	108	66	
Peak Hour	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF)	**0.96**	0.50	0.59	0.94	0.92	**0.97**	n/a	0.66	0.68	0.78	**0.84**	0.25	0.77	0.88	0.86	**0.89**	n/a	0.94	0.90	0.92	**0.95**

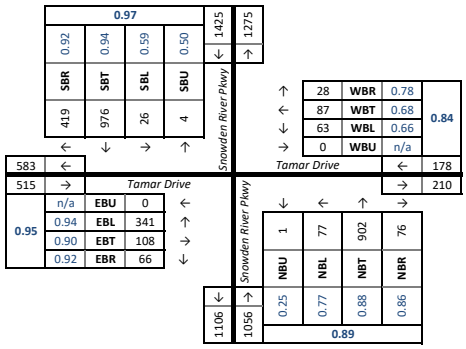
HEAVY VEHICLES (FHWA 4+)

	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Snowden River Pkwy				Tamar Drive				Snowden River Pkwy				Tamar Drive			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
10:00 AM	to 10:15 AM	0	1	1	0	0	0	1	1	0	1	3	0	0	3	0	0
10:15 AM	to 10:30 AM	0	0	2	1	0	0	0	0	0	0	3	0	0	0	1	0
10:30 AM	to 10:45 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
10:45 AM	to 11:00 AM	0	0	2	0	0	0	0	0	0	1	1	0	0	0	0	1
11:00 AM	to 11:15 AM	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	2
11:15 AM	to 11:30 AM	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0
11:30 AM	to 11:45 AM	0	0	2	0	0	0	0	0	0	1	1	0	0	2	0	0
11:45 AM	to 12:00 PM	0	0	3	1	0	0	1	0	0	1	1	0	0	0	0	3
12:00 PM	to 12:15 PM	0	1	2	3	0	0	0	0	0	1	0	0	0	1	0	0
12:15 PM	to 12:30 PM	0	0	3	0	0	0	0	0	0	0	3	0	0	1	0	1
12:30 PM	to 12:45 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
12:45 PM	to 01:00 PM	0	0	2	0	0	0	0	0	0	1	1	0	0	0	0	1
01:00 PM	to 01:15 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	2	0	0
01:15 PM	to 01:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0
01:30 PM	to 01:45 PM	0	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0
01:45 PM	to 02:00 PM	0	0	2	0	0	0	0	0	0	0	1	0	0	2	0	1
02:00 PM	to 02:15 PM																
02:15 PM	to 02:30 PM																
02:30 PM	to 02:45 PM																
02:45 PM	to 03:00 PM																
SYSTEM PEAK HR (VEH.)		6				0				4				6			
12:45 PM	to 01:45 PM	0	0	3	3	0	0	0	0	0	1	3	0	0	4	1	1
Heavy Vehicle % (PHV):		0.0%	0.0%	0.3%	0.7%	**0.4%**	0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	1.3%	0.3%	0.0%	**0.4%**	0.0%	1.2%	0.9%	1.5%	**1.2%**
INT. PEAK HR (HV ONLY)		15				1				8				8			
11:30 AM	to 12:30 PM	0	1	10	4	0	0	1	0	0	3	5	0	0	4	0	4
Heavy Vehicle % (PHV):		0.0%	3.7%	1.0%	1.0%	**1.1%**	0.0%	0.0%	1.4%	0.0%	**0.6%**	0.0%	3.3%	0.7%	0.0%	**0.9%**	0.0%	1.3%	0.0%	4.4%	**1.6%**

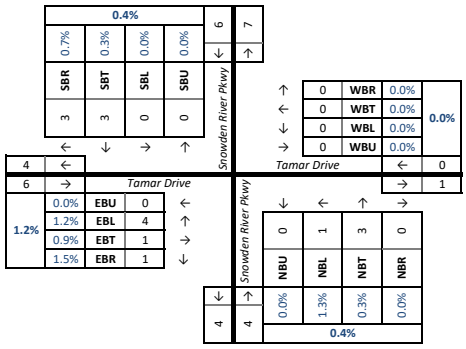
BICYCLES

	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Snowden River Pkwy				Tamar Drive				Snowden River Pkwy				Tamar Drive			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
10:00 AM	to 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	to 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	to 10:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
10:45 AM	to 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	to 11:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
11:15 AM	to 11:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	to 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	to 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:00 PM	to 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:15 PM	to 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	to 12:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0
12:45 PM	to 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	to 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	to 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
01:30 PM	to 01:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	to 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
02:00 PM	to 02:15 PM																
02:15 PM	to 02:30 PM																
02:30 PM	to 02:45 PM																
02:45 PM	to 03:00 PM																
SYSTEM PEAK HR (VEH.)		1				0				0				1			
12:45 PM	to 01:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
INT. PEAK HR (BIKES)		0				2				0				3			
11:45 AM	to 12:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	1

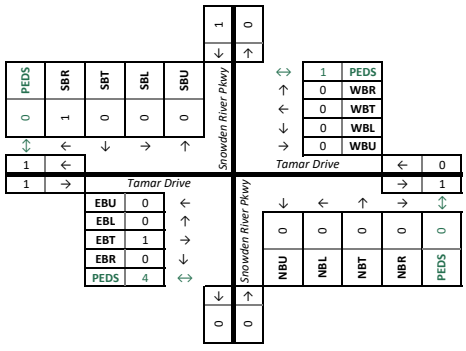
VEHICLE PEAK HOUR VOLS AND PHF: System Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: System Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: System Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 11:00 AM to 04:00 PM
Date of Counts: Thursday, May 15, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 02:30 PM to 03:30 PM
System Peak Hour (all vehicles): 02:30 PM to 03:30 PM
User-Defined Peak Hour: 12:00 PM to 01:00 PM

Intersection: 1. Airybrink Lane/Forelan Garth & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Airybrink Lane					Tamar Drive					Forelan Garth					Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
11:00 AM to 11:15 AM	0	1	0	2	2	0	8	59	2	0	0	1	1	9	2	0	1	61	5	0
11:15 AM to 11:30 AM	0	2	1	3	1	0	15	67	2	0	0	5	0	10	2	0	2	69	3	2
11:30 AM to 11:45 AM	0	2	0	1	1	0	13	66	0	0	0	5	0	12	2	0	2	60	5	2
11:45 AM to 12:00 PM	0	1	0	0	0	0	15	50	1	0	0	5	0	9	1	0	2	58	8	2
12:00 PM to 12:15 PM	0	1	2	4	2	0	21	77	1	1	0	6	0	12	4	0	1	63	9	2
12:15 PM to 12:30 PM	0	4	0	1	1	0	15	83	2	0	0	3	2	20	0	0	2	69	6	0
12:30 PM to 12:45 PM	0	2	1	2	0	0	19	80	0	0	0	6	1	8	1	0	1	78	11	0
12:45 PM to 01:00 PM	1	4	0	1	2	0	20	77	4	0	0	12	0	13	0	0	3	69	8	1
01:00 PM to 01:15 PM	0	3	0	3	1	0	9	76	5	0	0	5	1	16	1	0	3	75	7	0
01:15 PM to 01:30 PM	0	0	1	1	1	0	22	66	4	0	0	5	0	23	0	0	0	91	10	1
01:30 PM to 01:45 PM	0	2	0	2	0	0	6	81	0	0	0	3	2	14	4	0	3	45	7	1
01:45 PM to 02:00 PM	0	1	0	4	0	0	10	80	2	0	0	4	0	17	1	0	0	52	11	0
02:00 PM to 02:15 PM	0	1	0	2	1	0	12	81	4	0	0	8	0	17	0	0	1	56	7	1
02:15 PM to 02:30 PM	0	4	0	4	2	0	15	73	4	0	0	4	0	11	4	0	2	85	10	0
02:30 PM to 02:45 PM	0	1	1	4	13	0	22	109	2	1	0	6	0	13	26	0	2	85	3	4
02:45 PM to 03:00 PM	0	3	0	4	1	0	18	113	4	0	0	8	1	17	7	0	3	86	14	0
03:00 PM to 03:15 PM	0	3	1	2	0	0	18	124	2	0	0	4	1	19	3	0	0	77	8	3
03:15 PM to 03:30 PM	0	1	2	0	1	0	20	97	2	0	0	6	1	17	2	1	3	83	5	2
03:30 PM to 03:45 PM	0	3	0	3	0	1	11	108	3	0	0	2	1	18	0	0	1	84	8	2
03:45 PM to 04:00 PM	0	4	0	0	0	0	18	108	7	3	0	7	0	16	0	0	0	91	4	1
INT. PEAK HR (ALL VEH)	22				15	531				1	93				38	370				9
02:30 PM to 03:30 PM	0	8	4	10		0	78	443	10		0	24	3	66		1	8	331	30	
Peak Hour Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF) **0.94**	n/a	0.67	0.50	0.63	**0.79**	n/a	0.89	0.89	0.63	**0.92**	n/a	0.75	0.75	0.87	**0.89**	0.25	0.67	0.96	0.54	**0.90**

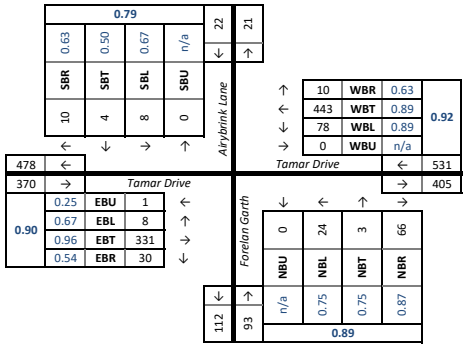
HEAVY VEHICLES (FHWA 4+)

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Airybrink Lane				Tamar Drive				Forelan Garth				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
11:00 AM to 11:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	1
11:15 AM to 11:30 AM	0	0	0	0	0	1	5	0	0	0	0	1	0	0	1	1
11:30 AM to 11:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0
11:45 AM to 12:00 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	1
12:00 PM to 12:15 PM	0	0	0	1	0	1	3	0	0	1	0	0	0	0	3	0
12:15 PM to 12:30 PM	0	0	0	0	0	1	3	0	0	0	0	1	0	0	2	0
12:30 PM to 12:45 PM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	4	1
12:45 PM to 01:00 PM	0	1	0	0	0	2	2	1	0	0	0	2	0	0	3	1
01:00 PM to 01:15 PM	0	0	0	1	0	0	1	1	0	0	0	1	0	0	3	0
01:15 PM to 01:30 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	5	0
01:30 PM to 01:45 PM	0	0	0	0	0	0	3	0	0	0	0	1	0	0	2	1
01:45 PM to 02:00 PM	0	0	0	0	0	0	2	0	0	0	0	3	0	0	2	3
02:00 PM to 02:15 PM	0	0	0	0	0	0	5	1	0	0	0	0	0	0	2	0
02:15 PM to 02:30 PM	0	0	0	1	0	0	3	0	0	1	0	0	0	0	9	0
02:30 PM to 02:45 PM	0	0	0	0	0	1	2	0	0	1	0	0	0	0	2	0
02:45 PM to 03:00 PM	0	1	0	0	0	1	6	0	0	0	0	2	0	1	6	1
03:00 PM to 03:15 PM	0	0	0	1	0	1	4	1	0	0	0	0	0	0	1	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8	0
03:45 PM to 04:00 PM	0	0	0	0	0	1	4	0	0	2	0	1	0	0	3	2
INT. PEAK HR (ALL VEH)	2				19				3				14			
02:30 PM to 03:30 PM	0	1	0	1	0	3	15	1	0	1	0	2	0	1	12	1
Heavy Vehicle % (PHV):	0.0%	12.5%	0.0%	10.0%	**9.1%**	0.0%	3.8%	3.4%	10.0%	**3.6%**	0.0%	4.2%	0.0%	3.0%	**3.2%**	0.0%	12.5%	3.6%	3.3%	**3.8%**
INT. PEAK HR (HV ONLY)	2				24				2				20			
02:45 PM to 03:45 PM	0	1	0	1	0	2	21	1	0	0	0	2	0	1	18	1
Heavy Vehicle % (PHV):	0.0%	10.0%	0.0%	11.1%	**9.1%**	0.0%	3.0%	4.8%	9.1%	**4.6%**	0.0%	0.0%	0.0%	2.8%	**2.1%**	0.0%	14.3%	5.5%	2.9%	**5.4%**

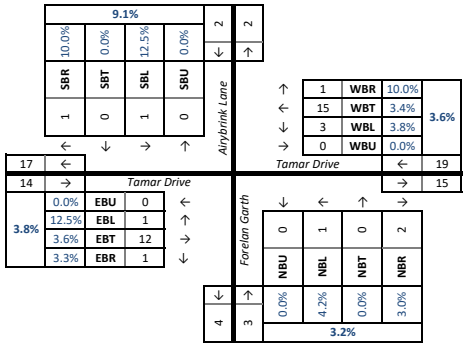
BICYCLES

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Airybrink Lane				Tamar Drive				Forelan Garth				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
11:00 AM to 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM to 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:30 AM to 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM to 12:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
12:00 PM to 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12:15 PM to 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM to 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM to 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
01:00 PM to 01:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
01:15 PM to 01:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
01:30 PM to 01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
01:45 PM to 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM to 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM to 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM to 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM to 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM to 03:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
03:15 PM to 03:30 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
03:30 PM to 03:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
03:45 PM to 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
INT. PEAK HR (ALL VEH)	0				1				2				0			
02:30 PM to 03:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0
INT. PEAK HR (BIKES)	0				2				2				2			
03:00 PM to 04:00 PM	0	0	0	0	0	0	2	0	0	1	0	1	0	0	1	1

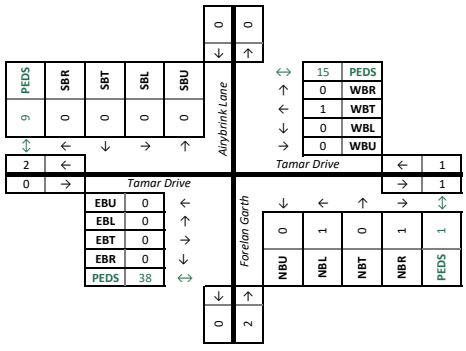
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 06:30 AM to 09:30 AM
Date of Counts: Tuesday, September 9, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 07:15 AM to 08:15 AM
System Peak Hour (all vehicles): 07:15 AM to 08:15 AM
User-Defined Peak Hour: 07:30 AM to 08:30 AM

Intersection: 1. Trail/Old Dobbin Lane & Tamar Drive

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Trail					Tamar Drive					Old Dobbin Lane					Tamar Drive				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
06:30 AM	to 06:45 AM	0	0	0	0	1	0	21	17	0	0	0	7	0	4	0	0	0	48	15	0
06:45 AM	to 07:00 AM	0	0	0	0	1	0	26	32	0	1	0	10	0	2	0	0	0	40	23	0
07:00 AM	to 07:15 AM	0	0	0	0	2	0	22	47	0	0	0	9	0	9	3	0	0	51	21	0
07:15 AM	to 07:30 AM	0	0	0	0	9	0	71	65	0	7	0	14	0	18	2	0	0	56	32	0
07:30 AM	to 07:45 AM	0	0	0	0	21	0	112	61	0	38	0	24	0	77	32	0	0	54	47	0
07:45 AM	to 08:00 AM	0	0	0	0	10	0	58	70	0	8	0	27	0	58	8	0	0	53	41	0
08:00 AM	to 08:15 AM	0	0	0	0	2	0	60	69	0	3	0	14	0	16	2	0	0	48	21	0
08:15 AM	to 08:30 AM	0	0	0	0	2	0	51	74	0	1	0	18	0	9	0	0	0	57	24	0
08:30 AM	to 08:45 AM	0	0	0	0	0	0	57	66	0	1	0	29	0	13	0	0	0	69	36	0
08:45 AM	to 09:00 AM	0	0	0	0	1	0	58	54	0	1	0	16	0	32	0	0	0	61	35	0
09:00 AM	to 09:15 AM	0	0	0	0	1	0	51	59	0	1	0	15	0	20	0	0	0	42	25	0
09:15 AM	to 09:30 AM	0	0	0	0	1	0	39	61	0	1	0	17	0	11	0	0	0	61	30	0
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
11:00 AM	to 11:15 AM																				
11:15 AM	to 11:30 AM																				
INT. PEAK HR (ALL VEH)		0				42	566				56	248				44	352				0
07:15 AM	to 08:15 AM	0	0	0	0		0	301	265	0		0	79	0	169		0	0	211	141	
Peak Hour	Overall	U	Left	Thru	Right	**SB**	U	Left	Thru	Right	**WB**	U	Left	Thru	Right	**NB**	U	Left	Thru	Right	**EB**
Factor (PHF)	**0.78**	n/a	n/a	n/a	n/a	**n/a**	n/a	0.67	0.95	n/a	**0.82**	n/a	0.73	n/a	0.55	**0.61**	n/a	n/a	0.94	0.75	**0.87**

HEAVY VEHICLES (FHWA 4+)

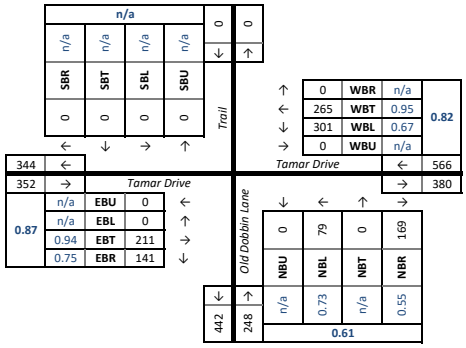
	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Trail					Tamar Drive					Old Dobbin Lane					Tamar Drive				
	Movement:	U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right		U	Left	Thru	Right	
06:30 AM	to 06:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	3	0	
06:45 AM	to 07:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	1	0	
07:00 AM	to 07:15 AM	0	0	0	0		0	1	3	0		0	1	0	0		0	0	0	0	
07:15 AM	to 07:30 AM	0	0	0	0		0	3	3	0		0	2	0	2		0	0	2	1	
07:30 AM	to 07:45 AM	0	0	0	0		0	15	2	0		0	4	0	7		0	0	1	0	
07:45 AM	to 08:00 AM	0	0	0	0		0	0	5	0		0	4	0	1		0	0	2	1	
08:00 AM	to 08:15 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	2	1	
08:15 AM	to 08:30 AM	0	0	0	0		0	0	2	0		0	4	0	0		0	0	2	2	
08:30 AM	to 08:45 AM	0	0	0	0		0	1	3	0		0	3	0	0		0	0	3	4	
08:45 AM	to 09:00 AM	0	0	0	0		0	0	3	0		0	1	0	1		0	0	6	1	
09:00 AM	to 09:15 AM	0	0	0	0		0	0	1	0		0	0	0	0		0	0	5	1	
09:15 AM	to 09:30 AM	0	0	0	0		0	0	1	0		0	1	0	0		0	0	0	1	
09:30 AM	to 09:45 AM																				
09:45 AM	to 10:00 AM																				
10:00 AM	to 10:15 AM																				
10:15 AM	to 10:30 AM																				
10:30 AM	to 10:45 AM																				
10:45 AM	to 11:00 AM																				
11:00 AM	to 11:15 AM																				
11:15 AM	to 11:30 AM																				
INT. PEAK HR (ALL VEH)		0					29					20					10				
07:15 AM	to 08:15 AM	0	0	0	0		0	18	11	0		0	10	0	10		0	0	7	3	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	6.0%	4.2%	0.0%	**5.1%**	0.0%	12.7%	0.0%	5.9%	**8.1%**	0.0%	0.0%	3.3%	2.1%	**2.8%**
INT. PEAK HR (HV ONLY)		0					32					21					7				
07:00 AM	to 08:00 AM	0	0	0	0		0	19	13	0		0	11	0	10		0	0	5	2	
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	**0.0%**	0.0%	7.2%	5.3%	0.0%	**6.3%**	0.0%	14.9%	0.0%	6.2%	**8.9%**	0.0%	0.0%	2.3%	1.4%	**2.0%**

BICYCLES

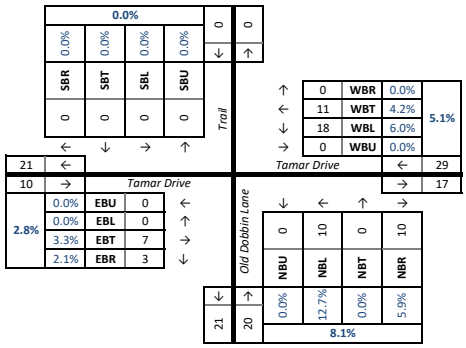
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Trail				Tamar Drive				Old Dobbin Lane				Tamar Drive			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
06:30 AM	to 06:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
06:45 AM	to 07:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:00 AM	to 07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	to 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0
07:30 AM	to 07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	to 08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	to 08:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
08:15 AM	to 08:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
08:30 AM	to 08:45 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0
08:45 AM	to 09:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
09:00 AM	to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	to 09:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
09:30 AM	to 09:45 AM																
09:45 AM	to 10:00 AM																
10:00 AM	to 10:15 AM																
10:15 AM	to 10:30 AM																
10:30 AM	to 10:45 AM																
10:45 AM	to 11:00 AM																
11:00 AM	to 11:15 AM																
11:15 AM	to 11:30 AM																
INT. PEAK HR (ALL VEH)		0				0				3				1			
07:15 AM	to 08:15 AM	0	0	0	0	0	0	0	0	0	1	0	2	0	0	1	0
INT. PEAK HR (BIKES)		0				2				2				2			
06:30 AM	to 07:30 AM	0	0	0	0	0	1	1	0	0	0	0	2	0	0	1	1

DATA COLLECTION NOTES :

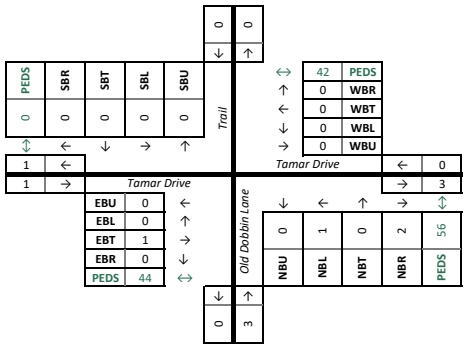
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 04:00 PM to 07:00 PM
Date of Counts: Tuesday, September 9, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 05:00 PM to 06:00 PM
System Peak Hour (all vehicles): 05:00 PM to 06:00 PM
User-Defined Peak Hour: 05:00 PM to 06:00 PM

Intersection: 1. Trail/Old Dobbin Lane & Tamar Drive

ALL VEHICLES

Direction:	Southbound					Westbound					Northbound					Eastbound				
Roadway:	Trail					Tamar Drive					Old Dobbin Lane					Tamar Drive				
Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
04:00 PM to 04:15 PM	0	0	0	0	2	0	60	89	0	2	0	47	0	82	0	0	0	78	33	0
04:15 PM to 04:30 PM	0	0	0	0	1	0	46	92	0	1	0	46	0	57	1	0	0	65	38	0
04:30 PM to 04:45 PM	0	0	0	0	1	0	54	95	0	2	0	37	0	53	0	0	0	57	25	0
04:45 PM to 05:00 PM	0	0	0	0	2	0	65	103	0	0	0	45	0	63	1	0	0	66	30	0
05:00 PM to 05:15 PM	0	0	0	0	1	0	46	109	0	1	0	54	0	80	0	0	0	71	41	0
05:15 PM to 05:30 PM	0	0	0	0	4	0	58	101	0	3	0	51	0	72	1	0	0	86	35	0
05:30 PM to 05:45 PM	0	0	0	0	1	0	64	113	0	1	0	63	0	62	1	0	0	80	35	0
05:45 PM to 06:00 PM	0	0	0	0	4	0	77	91	0	6	0	51	0	64	4	0	0	80	42	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	85	90	0	1	0	44	0	45	0	0	0	50	48	0
06:15 PM to 06:30 PM	0	0	0	0	4	0	46	82	0	4	0	69	0	83	0	0	0	67	33	0
06:30 PM to 06:45 PM	0	0	0	0	4	0	41	91	0	3	0	56	0	71	0	0	0	52	22	0
06:45 PM to 07:00 PM	0	0	0	0	3	0	38	66	0	4	0	41	0	63	2	0	0	56	28	0
07:00 PM to 07:15 PM																				
07:15 PM to 07:30 PM																				
07:30 PM to 07:45 PM																				
07:45 PM to 08:00 PM																				
08:00 PM to 08:15 PM																				
08:15 PM to 08:30 PM																				
08:30 PM to 08:45 PM																				
08:45 PM to 09:00 PM																				
INT. PEAK HR (ALL VEH)	0				10	659				11	497				6	470				0
05:00 PM to 06:00 PM	0	0	0	0		0	245	414	0		0	219	0	278		0	0	317	153	
Peak Hour Factor (PHF) Overall **0.97**	U	Left	Thru	Right	**SB** **n/a**	U	Left	Thru	Right	**WB** **0.93**	U	Left	Thru	Right	**NB** **0.93**	U	Left	Thru	Right	**EB** **0.96**
	n/a	n/a	n/a	n/a		n/a	0.80	0.92	n/a		n/a	0.87	n/a	0.87		n/a	n/a	0.92	0.91	

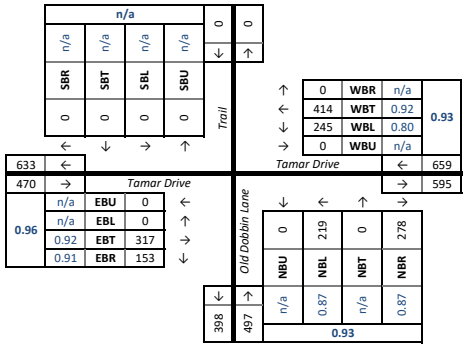
HEAVY VEHICLES (FHWA 4+)

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Trail				Tamar Drive				Old Dobbin Lane				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	1	6	0	0	3	0	0	0	0	5	3
04:15 PM to 04:30 PM	0	0	0	0	0	1	4	0	0	0	0	0	0	0	3	1
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	1
04:45 PM to 05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
05:00 PM to 05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
05:15 PM to 05:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
05:30 PM to 05:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	4	0
06:00 PM to 06:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	4	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				3				4				8			
05:00 PM to 06:00 PM	0	0	0	0	0	0	3	0	0	3	0	1	0	0	7	1
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.5%	0.0%	1.4%	0.0%	0.4%	0.8%	0.0%	0.0%	2.2%	0.7%	1.7%	
INT. PEAK HR (HV ONLY)	0				12				4				19			
04:00 PM to 05:00 PM	0	0	0	0	0	2	10	0	0	4	0	0	0	0	14	5
Heavy Vehicle % (PHV):	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	2.6%	0.0%	2.0%	0.0%	2.3%	0.0%	0.0%	0.9%	0.0%	0.0%	5.3%	4.0%	4.8%	

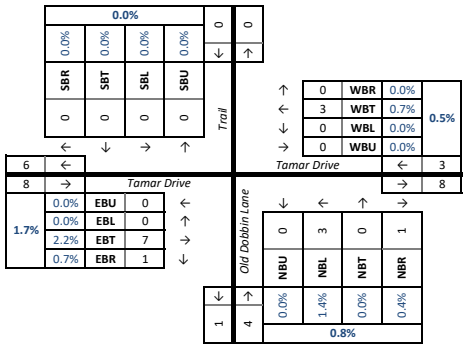
BICYCLES

Direction:	Southbound				Westbound				Northbound				Eastbound			
Roadway:	Trail				Tamar Drive				Old Dobbin Lane				Tamar Drive			
Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
04:00 PM to 04:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
04:15 PM to 04:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
04:30 PM to 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	2
04:45 PM to 05:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	2
05:00 PM to 05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
05:15 PM to 05:30 PM	0	0	0	0	0	0	3	0	0	1	0	0	0	0	0	1
05:30 PM to 05:45 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
05:45 PM to 06:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
06:00 PM to 06:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1
06:15 PM to 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
06:30 PM to 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0
06:45 PM to 07:00 PM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0
07:00 PM to 07:15 PM																
07:15 PM to 07:30 PM																
07:30 PM to 07:45 PM																
07:45 PM to 08:00 PM																
08:00 PM to 08:15 PM																
08:15 PM to 08:30 PM																
08:30 PM to 08:45 PM																
08:45 PM to 09:00 PM																
INT. PEAK HR (ALL VEH)	0				6				1				5			
05:00 PM to 06:00 PM	0	0	0	0	0	0	6	0	0	1	0	0	0	0	2	3
INT. PEAK HR (BIKES)	0				4				2				14			
04:30 PM to 05:30 PM	0	0	0	0	0	0	4	0	0	1	0	1	0	0	7	7

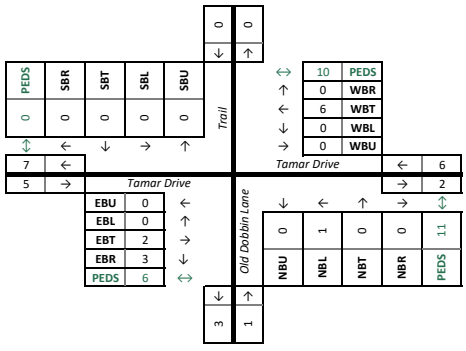
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)



PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)



DATA COLLECTION NOTES :

Gorove/Slade Associates - Multimodal Turning Movement Count Report

Project Name : Long Reach Village Center
Project # : 3422-002
Location Howard County, MD
Data Source: Gorove/Slade Associates, Inc.

Analysis Period: STUDY_PERIOD 10:00 AM to 02:00 PM
Date of Counts: Saturday, September 6, 2025
Weather: Partly Cloudy

Volumes Displayed as: 1. Intersection Peak (vehicle)
Intersection Peak Hour (all vehicles): 01:00 PM to 02:00 PM
System Peak Hour (all vehicles): 01:00 PM to 02:00 PM
User-Defined Peak Hour: 11:00 AM to 12:00 PM

Intersection: 1. Trail/Old Dobbin Lane & Tamar Drive

ALL VEHICLES

	Direction:	Southbound					Westbound					Northbound					Eastbound				
	Roadway:	Trail					Tamar Drive					Old Dobbin Lane					Tamar Drive				
	Movement:	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds	U	Left	Thru	Right	Peds
10:00 AM	to 10:15 AM	0	0	0	0	4	0	34	75	0	0	0	24	0	25	2	0	0	42	24	0
10:15 AM	to 10:30 AM	0	0	0	0	4	0	51	50	0	0	0	24	0	33	2	0	0	41	42	0
10:30 AM	to 10:45 AM	0	0	0	0	1	0	40	72	0	0	0	50	0	37	2	0	0	52	33	0
10:45 AM	to 11:00 AM	0	0	0	0	0	0	50	74	0	0	0	36	0	37	0	0	0	67	30	0
11:00 AM	to 11:15 AM	0	0	0	0	4	0	52	62	0	8	0	36	0	35	2	0	0	51	38	0
11:15 AM	to 11:30 AM	0	0	0	0	0	0	42	68	0	0	0	43	0	38	2	0	0	75	35	0
11:30 AM	to 11:45 AM	0	0	0	0	6	0	49	49	0	4	0	35	0	44	0	0	0	54	31	0
11:45 AM	to 12:00 PM	0	0	0	0	3	0	54	55	0	0	0	31	0	31	0	0	0	47	32	0
12:00 PM	to 12:15 PM	0	0	0	0	0	0	59	73	0	0	0	44	0	56	0	0	0	70	39	0
12:15 PM	to 12:30 PM	0	0	0	0	0	0	60	50	0	1	0	26	0	51	0	0	0	49	37	0
12:30 PM	to 12:45 PM	0	0	0	0	2	0	28	54	0	2	0	44	0	41	0	0	0	43	46	0
12:45 PM	to 01:00 PM	0	0	0	0	3	0	67	66	0	2	0	50	0	59	0	0	0	53	29	0
01:00 PM	to 01:15 PM	0	0	0	0	1	0	71	72	0	0	0	44	0	40	4	0	0	69	38	0
01:15 PM	to 01:30 PM	0	0	0	0	0	0	39	74	0	2	0	38	0	48	1	0	0	50	34	0
01:30 PM	to 01:45 PM	0	0	0	0	1	0	57	58	0	1	0	41	0	41	2	0	0	46	32	0
01:45 PM	to 02:00 PM	0	0	0	0	1	0	53	79	0	0	0	40	0	52	0	0	0	66	44	0
02:00 PM	to 02:15 PM																				
02:15 PM	to 02:30 PM																				
02:30 PM	to 02:45 PM																				
02:45 PM	to 03:00 PM																				
INT. PEAK HR (ALL VEH)		0				3	503				3	344				7	379				0
01:00 PM	to 02:00 PM	0	0	0	0		0	220	283	0		0	163	0	181		0	0	231	148	
Peak Hour Factor (PHF)	Overall	0.92																			
		U	Left	Thru	Right	SB	U	Left	Thru	Right	WB	U	Left	Thru	Right	NB	U	Left	Thru	Right	EB
		n/a	n/a	n/a	n/a	n/a	n/a	0.77	0.90	n/a	0.88	n/a	0.93	n/a	0.87	0.93	n/a	n/a	0.84	0.84	0.86

HEAVY VEHICLES (FHWA 4+)

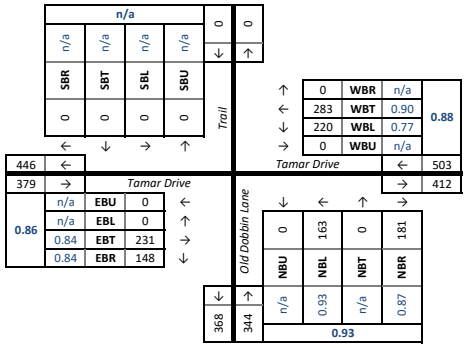
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Trail				Tamar Drive				Old Dobbin Lane				Tamar Drive			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
10:00 AM	to 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
10:15 AM	to 10:30 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	0	1	1
10:30 AM	to 10:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0
10:45 AM	to 11:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0
11:00 AM	to 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11:15 AM	to 11:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1
11:30 AM	to 11:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0
11:45 AM	to 12:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
12:00 PM	to 12:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2	0
12:15 PM	to 12:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
12:30 PM	to 12:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
12:45 PM	to 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
01:00 PM	to 01:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
01:15 PM	to 01:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
01:30 PM	to 01:45 PM	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0
01:45 PM	to 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0
02:00 PM	to 02:15 PM																
02:15 PM	to 02:30 PM																
02:30 PM	to 02:45 PM																
02:45 PM	to 03:00 PM																
INT. PEAK HR (ALL VEH)		0				3				5				3			
01:00 PM	to 02:00 PM	0	0	0	0	0	2	1	0	0	2	0	3	0	0	1	2
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.4%	0.0%	0.6%	1.2%	0.0%	1.7%	1.5%	0.0%	0.0%	0.4%	1.4%	0.8%
INT. PEAK HR (HV ONLY)		0				4				4				7			
11:15 AM	to 12:15 PM	0	0	0	0	0	1	3	0	0	4	0	0	0	0	6	1
Heavy Vehicle % (PHV):		0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	1.2%	0.0%	0.9%	2.6%	0.0%	0.0%	1.2%	0.0%	0.0%	2.4%	0.7%	1.8%

BICYCLES

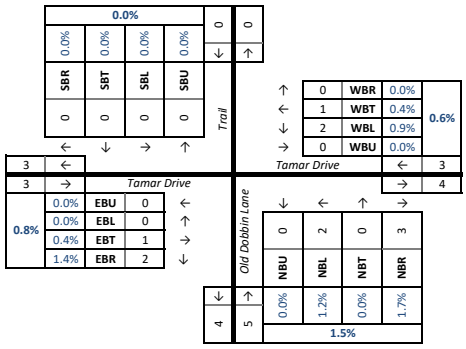
	Direction:	Southbound				Westbound				Northbound				Eastbound			
	Roadway:	Trail				Tamar Drive				Old Dobbin Lane				Tamar Drive			
	Movement:	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right
10:00 AM	to 10:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
10:15 AM	to 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10:30 AM	to 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
10:45 AM	to 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:00 AM	to 11:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
11:15 AM	to 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
11:30 AM	to 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	to 12:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
12:00 PM	to 12:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
12:15 PM	to 12:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0
12:30 PM	to 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	to 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
01:00 PM	to 01:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
01:15 PM	to 01:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
01:30 PM	to 01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
01:45 PM	to 02:00 PM	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	to 02:15 PM																
02:15 PM	to 02:30 PM																
02:30 PM	to 02:45 PM																
02:45 PM	to 03:00 PM																
INT. PEAK HR (ALL VEH)		5				3				1				3			
01:00 PM	to 02:00 PM	0	2	3	0	0	0	3	0	0	1	0	0	0	0	1	2
INT. PEAK HR (BIKES)		5				3				1				3			
01:00 PM	to 02:00 PM	0	2	3	0	0	0	3	0	0	1	0	0	0	0	1	2

DATA COLLECTION NOTES :

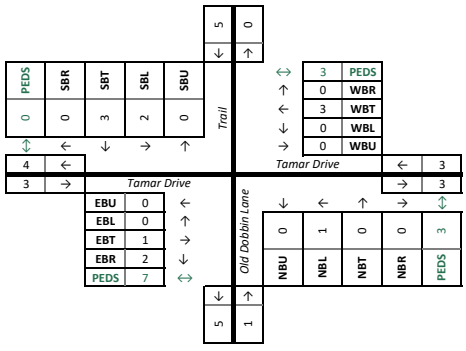
VEHICLE PEAK HOUR VOLS AND PHF: Intersection Peak (vehicle)



HEAVY VEH PEAK HOUR VOLS AND PHV: Intersection Peak (vehicle)

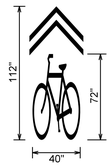


PED AND BIKE PEAK HOUR VOLUMES: Intersection Peak (vehicle)

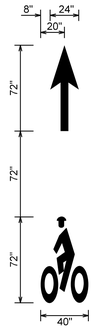


D. Tamar Drive Complete Streets

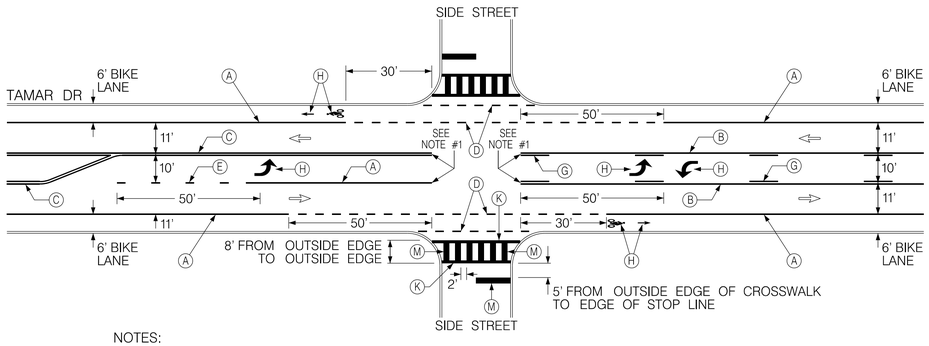
DETAIL A:
SHARED LANE MARKING SYMBOL



DETAIL B:
BICYCLE LANE SYMBOL

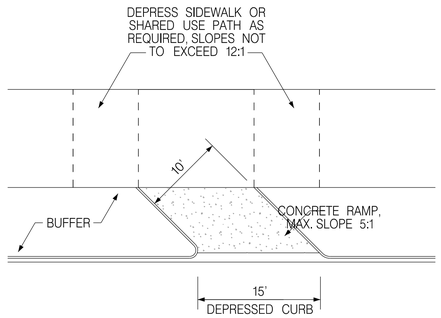


DETAIL C:
INTERSECTION TYPICAL



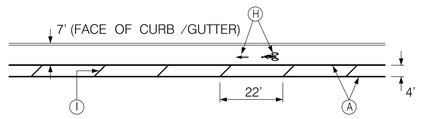
NOTES:
1. CENTERLINE MARKING SHALL BEGIN/END AT MIDPOINT OF SIDE STREET CURB RADIUS.

DETAIL D:
BIKE LANE TRANSITION RAMP TYPICAL

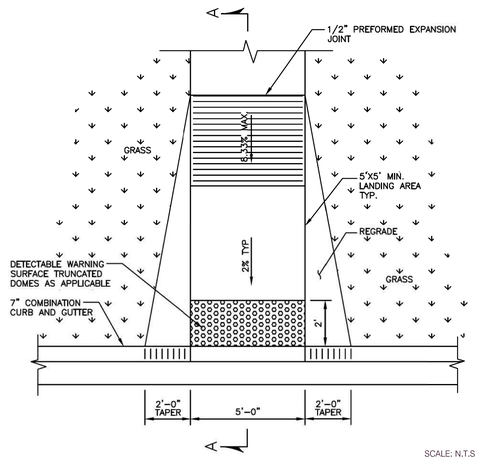


	PAVEMENT MARKING LEGEND	UNIT
A	5 IN. WHITE PERMANENT REFLECTIVE PAINT	LF
B	5 IN. YELLOW PERMANENT REFLECTIVE PAINT	LF
C	5 IN. DOUBLE YELLOW PERMANENT REFLECTIVE PAINT	LF
D	5 IN. DOTTED (3' STRIPE, 3' GAP) WHITE PERMANENT REFLECTIVE PAINT	LF
E	5 IN. DOTTED (3' STRIPE, 9' GAP) WHITE PERMANENT REFLECTIVE PAINT	LF
F	5 IN. DOTTED (10' STRIPE, 30' GAP) WHITE PERMANENT REFLECTIVE PAINT	LF
G	5 IN. DOTTED (10' STRIPE, 30' GAP) YELLOW PERMANENT REFLECTIVE PAINT	LF
H	WHITE LEAD FREE REFLECTIVE THERMOPLASTIC SYMBOLS	EA
I	5 IN. WHITE PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF
J	5 IN. DOTTED (3' STRIPE, 9' GAP) WHITE PERMANENT PREFORMED PATTERNED REFLECTIVE PAVEMENT MARKINGS	LF
K	12 IN. WHITE PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF
L	15 IN. YELLOW PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF
M	24 IN. WHITE PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF
N	GREEN SKID RESISTANT REFLECTIVE PAINT	SF

DETAIL E:
BICYCLE LANE BUFFER

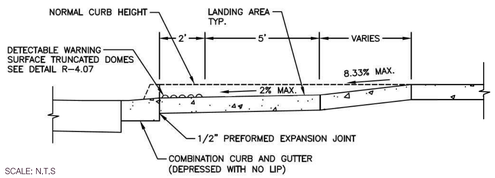


DETAIL F:
RAMP PERPENDICULAR TO CURB



SCALE: N.T.S

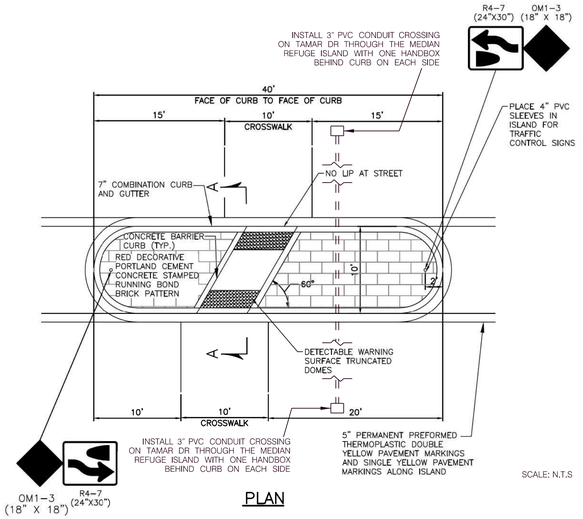
SECTION A–A



SCALE: N.T.S

NOTES:
1. ALL RAMPS SHALL HAVE A WARNING TEXTURE EXTENDING THE FULL WIDTH OF RAMP. SEE DETAIL R-4.07.
2. GRASS AREA ADJACENT TO SIDEWALK MUST BE SLOPED TO MEET RAMP.
3. SIDEWALK LESS THAN 5'–0" REQUIRES APPROVAL THROUGH THE EXEMPTIONS PROCESS. SEE VOLUME III.
4. THE WIDTH OF THE RAMP SHALL NOT BE LESS THAN THE WIDTH OF THE ADJACENT SIDEWALK, SHARED USE PATH, AND/OR SEPARATED BIKEWAY.

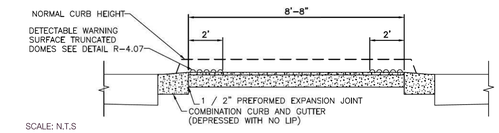
DETAIL G:
PEDESTRIAN REFUGE RAMP



SCALE: N.T.S

PLAN

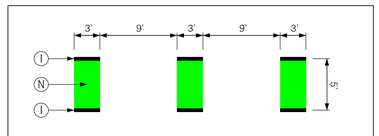
SECTION A–A



SCALE: N.T.S

NOTES:
1. SEE DETAIL R-3.01 FOR 7" COMBINATION CURB AND GUTTER.
2. SEE DETAIL R-4.07 FOR DETECTABLE WARNING SURFACE.
3. SEE DETAIL R-3.03 FOR CONCRETE BARRIER CURB.
4. SEE DETAIL T-7.03 FOR PEDESTRIAN CROSSWALK DETAIL.
5. CLEAR PASSAGE BETWEEN THE MEDIAN ISLAND AND THE OUTSIDE SHALL BE 12'–0" MINIMUM.
6. THE SLOPE WITHIN THE PEDESTRIAN ROUTE IN THE MEDIAN SHALL NOT EXCEED 2% IN ANY DIRECTION.

DETAIL H:
BICYCLE CROSSING PAVEMENT MARKING



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. , EXPIRATION DATE:

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING

CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

CHIEF, BUREAU OF HIGHWAYS

DES: JMC
DRN: RL
CHK: MJW
DATE: 04/04/2025

BY	NO.		DATE

CAPITAL PROJECT NO.

MAP NO. BLOCK NO.

COMPLETE STREETS
TAMAR DRIVE FROM MD 175
TO SNOWDEN RIVER PARKWAY

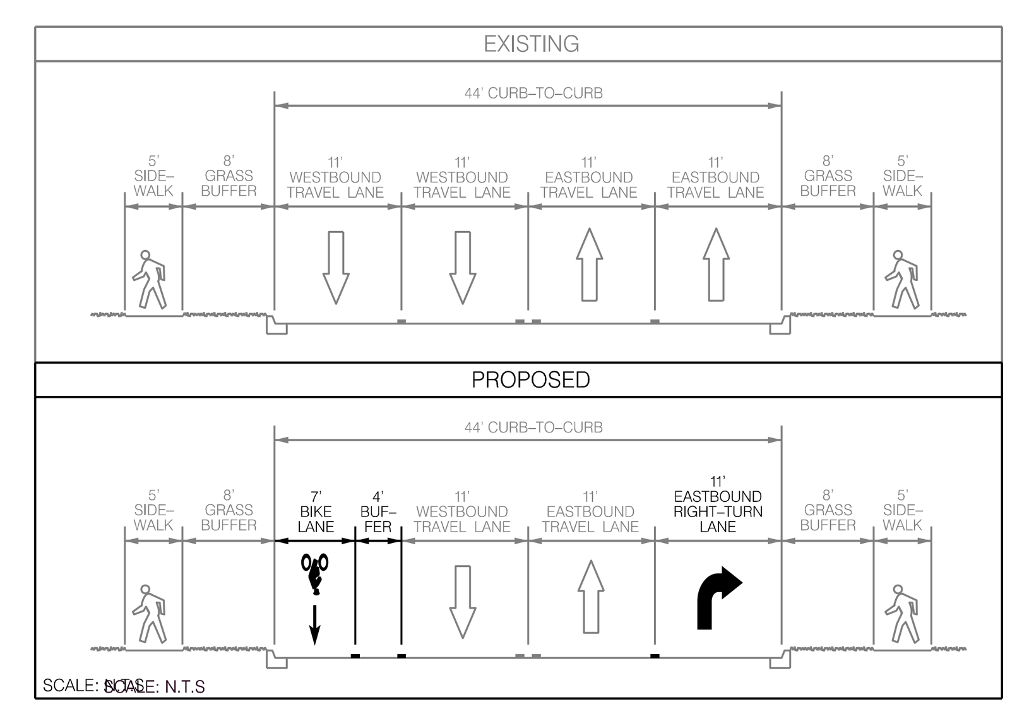
ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE N.T.S.

SHEET 1 OF 6

D:\2024\24004424_006_Traffic Engineering\CADD\Tamar Dr\Tamar Dr_Asbuilt Sheets.dgn
4/4/2025

ROADWAY TYPICAL SECTION



SIGNING LEGEND

- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN AND SUPPORT
- EXISTING SIGN AND SUPPORT TO REMAIN
- EXISTING SIGN AND SUPPORT TO BE REMOVED
- PROPOSED SIGN AND SUPPORT
- SIGNALIZED INTERSECTION
- EXISTING STREET LIGHT WITH SIGN
- EXISTING FIRE HYDRANT

	PAVEMENT MARKING LEGEND	UNIT	QTY
A	5 IN. WHITE PERMANENT REFLECTIVE PAINT	LF	
B	5 IN. YELLOW PERMANENT REFLECTIVE PAINT	LF	
C	5 IN. DOUBLE YELLOW PERMANENT REFLECTIVE PAINT	LF	
D	5 IN. DOTTED (3' STRIPE, 3' GAP) WHITE PERMANENT REFLECTIVE PAINT	LF	
E	5 IN. DOTTED (3' STRIPE, 9' GAP) WHITE PERMANENT REFLECTIVE PAINT	LF	
F	5 IN. DOTTED (10' STRIPE, 30' GAP) WHITE PERMANENT REFLECTIVE PAINT	LF	
G	5 IN. DOTTED (10' STRIPE, 30' GAP) YELLOW PERMANENT REFLECTIVE PAINT	LF	
H	WHITE LEAD FREE REFLECTIVE THERMOPLASTIC SYMBOLS	EA	
I	5 IN. WHITE PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	
J	5 IN. DOTTED (3' STRIPE, 9' GAP) WHITE PERMANENT PREFORMED PATTERNED REFLECTIVE PAVEMENT MARKINGS	LF	
K	12 IN. WHITE PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	
L	15 IN. YELLOW PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	
M	24 IN. WHITE PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	
N	GREEN SKID RESISTANT REFLECTIVE PAINT	SF	

SIGNING INVENTORY	UNIT	QTY
GALVANIZED STEEL PERFORATED 2 IN. SIGN POST	LF	
SHEET ALUMINUM SIGN	SF	
REMOVE EXISTING SIGN	SF	
RELOCATE EXISTING SIGN	SF	

CONSTRUCTION DETAILS

1. DIMENSIONS ARE MEASURED FROM FACE OF CURB.
2. ALL SHARROW AND BIKE LANE MARKING SYMBOLS SHALL BE CENTERED IN THE TRAVEL LANE.
3. TYPICAL SHARROW AND BIKE LANE MARKING SYMBOL SPACING IS 250 FEET, AND WILL VARY TO AVOID CONFLICTS WITH INTERSECTIONS. PLACEMENT TO BE DIRECTED BY THE ENGINEER.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. , EXPIRATION DATE:

50' 0 50' 100'
SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
CHIEF, BUREAU OF HIGHWAYS

DES: JMC
DRN: RL
CHK: MJW
DATE: 04/04/2025

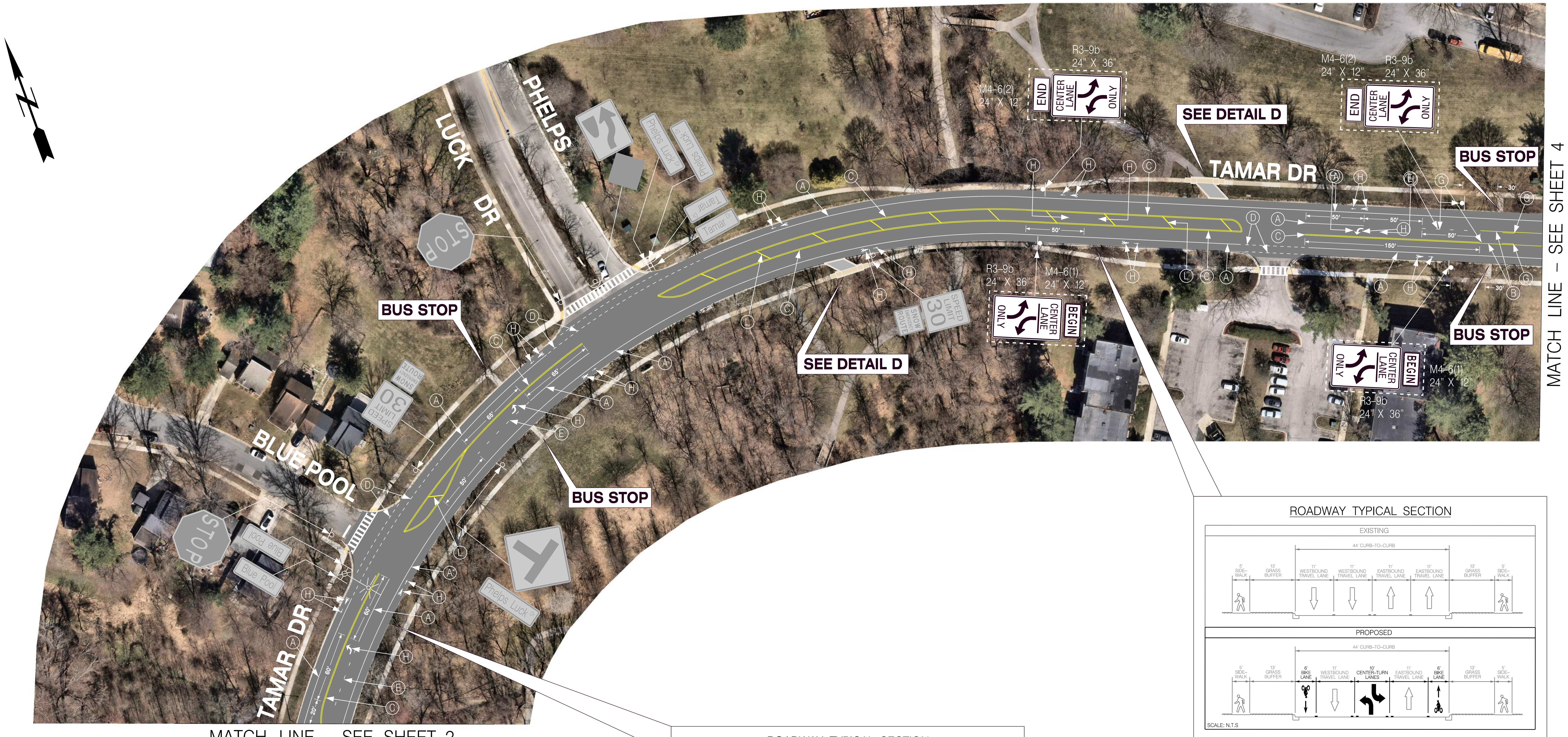
BY	NO.		DATE

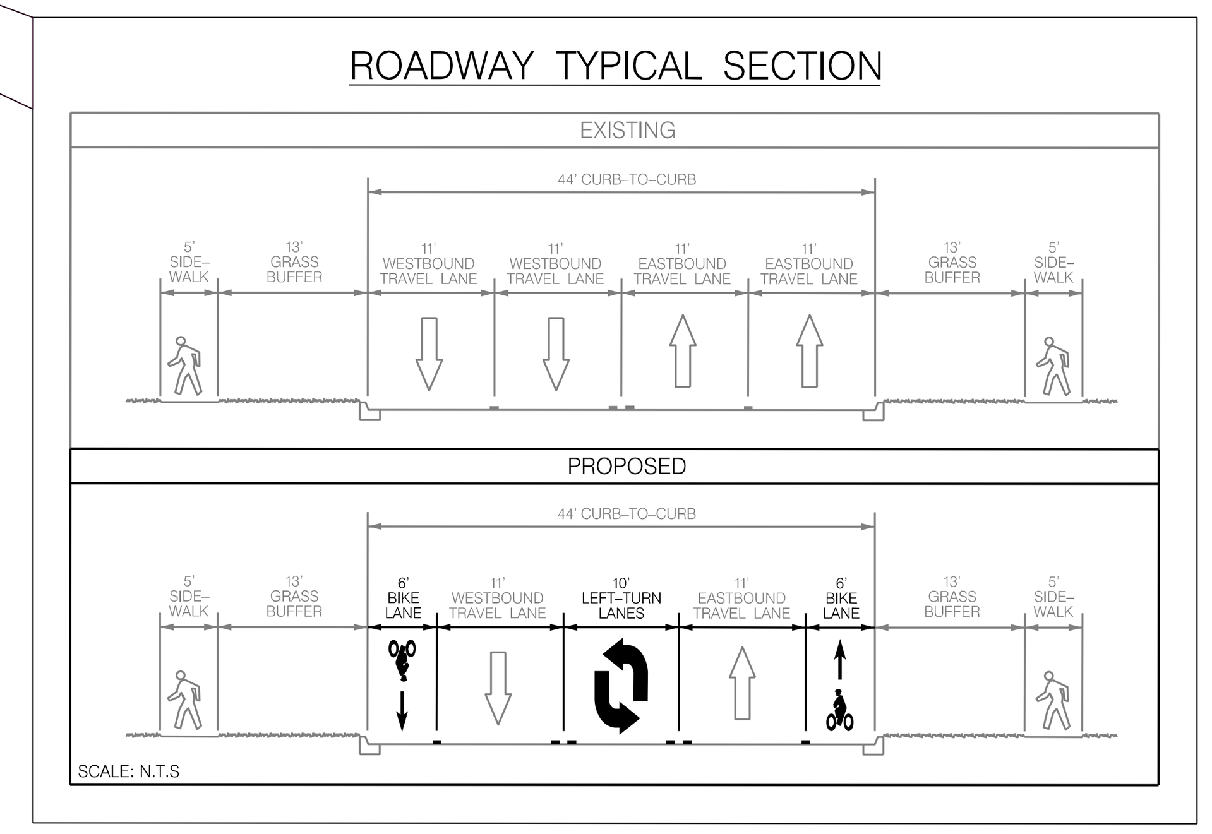
CAPITAL PROJECT NO.
MAP NO. BLOCK NO.

COMPLETE STREETS
TAMAR DRIVE FROM MD 175
TO SNOWDEN RIVER PARKWAY

ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE 1" = 50'
SHEET 2 OF 6





SCALE: 1" = 50'

SIGNING LEGEND

- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN AND SUPPORT
- EXISTING SIGN AND SUPPORT TO REMAIN
- EXISTING SIGN AND SUPPORT TO BE REMOVED
- PROPOSED SIGN AND SUPPORT
- SIGNALIZED INTERSECTION
- EXISTING STREET LIGHT WITH SIGN
- EXISTING FIRE HYDRANT

	PAVEMENT MARKING LEGEND	UNIT	QTY
A	5 IN. WHITE PERMANENT REFLECTIVE PAINT	LF	
B	5 IN. YELLOW PERMANENT REFLECTIVE PAINT	LF	
C	5 IN. DOUBLE YELLOW PERMANENT REFLECTIVE PAINT	LF	
D	5 IN. DOTTED (3' STRIPE, 3' GAP) WHITE PERMANENT REFLECTIVE PAINT	LF	
E	5 IN. DOTTED (3' STRIPE, 9' GAP) WHITE PERMANENT REFLECTIVE PAINT	LF	
F	5 IN. DOTTED (10' STRIPE, 30' GAP) WHITE PERMANENT REFLECTIVE PAINT	LF	
G	5 IN. DOTTED (10' STRIPE, 30' GAP) YELLOW PERMANENT REFLECTIVE PAINT	LF	
H	WHITE LEAD FREE REFLECTIVE THERMOPLASTIC SYMBOLS	EA	
I	5 IN. WHITE PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	
J	5 IN. DOTTED (3' STRIPE, 9' GAP) WHITE PERMANENT PREFORMED PATTERNED REFLECTIVE PAVEMENT MARKINGS	LF	
K	12 IN. WHITE PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	
L	15 IN. YELLOW PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	
M	24 IN. WHITE PERMANENT REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	LF	
N	GREEN SKID RESISTANT REFLECTIVE PAINT	SF	

SIGNING INVENTORY	UNIT	QTY
GALVANIZED STEEL PERFORATED 2 IN. SIGN POST	LF	
SHEET ALUMINUM SIGN	SF	
REMOVE EXISTING SIGN	SF	
RELOCATE EXISTING SIGN	SF	

CONSTRUCTION DETAILS

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING

CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

CHIEF, BUREAU OF HIGHWAYS

DES: JMC
DRN: RL
CHK: MJW
DATE: 04/04/2025

BY	NO.		DATE

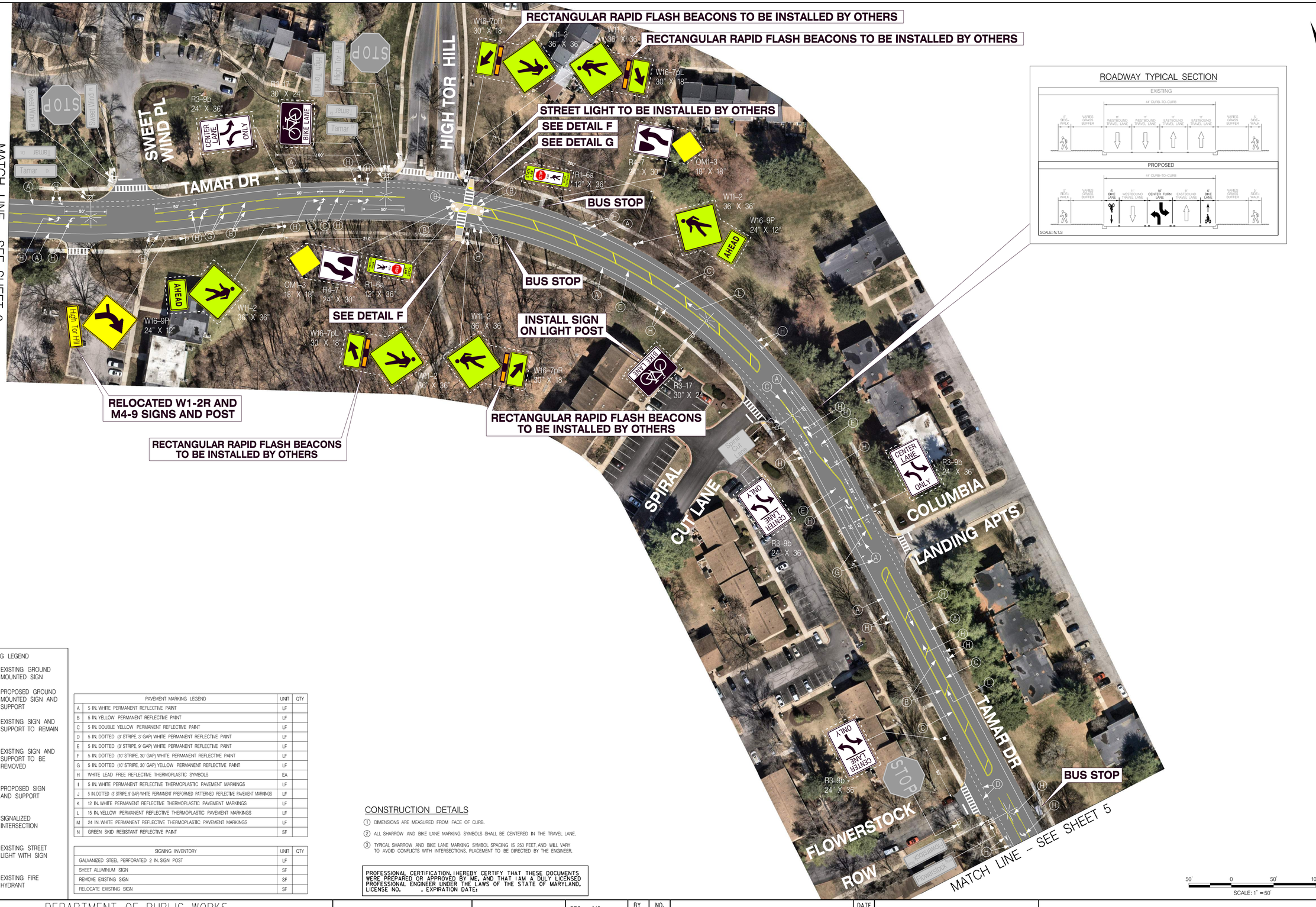
CAPITAL PROJECT NO.

MAP NO. | BLOCK NO.

COMPLETE STREETS
TAMAR DRIVE FROM MD 175
TO SNOWDEN RIVER PARKWAY

ELECTION DISTRICT 2 | HOWARD COUNTY, MARYLAND

SCALE 1" = 50'



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CHIEF, BUREAU OF HIGHWAYS

JMT

DES: JMC	BY	NO.		DATE
DRN: RL				
CHK: MJW				
DATE: 04/04/2025				

CAPITAL PROJECT NO.

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COMPLETE STREETS
TAMAR DRIVE FROM MD 175
TO SNOWDEN RIVER PARKWAY

ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE 1" = 50'

SHEET 4 OF 6

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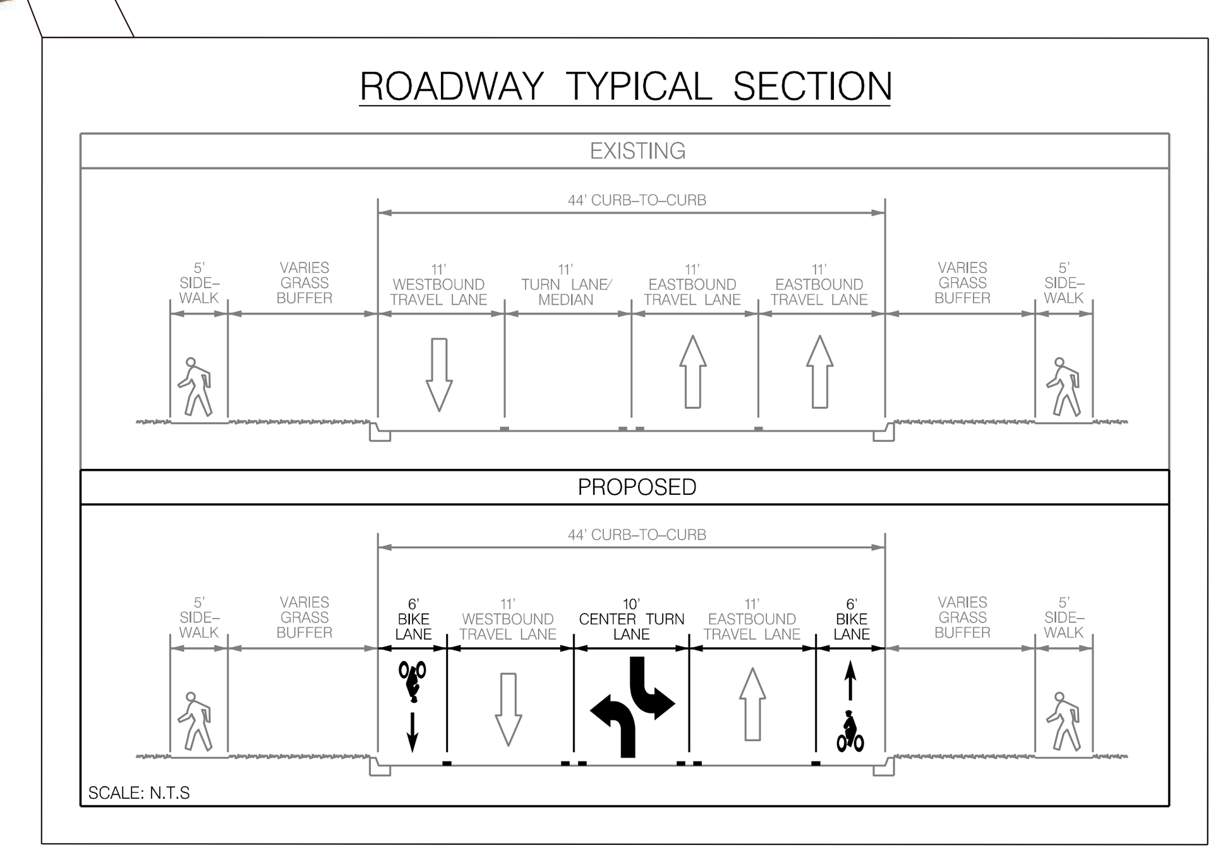
4/7/2025



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COMPLETE STREETS
TAMAR DRIVE FROM MD 175
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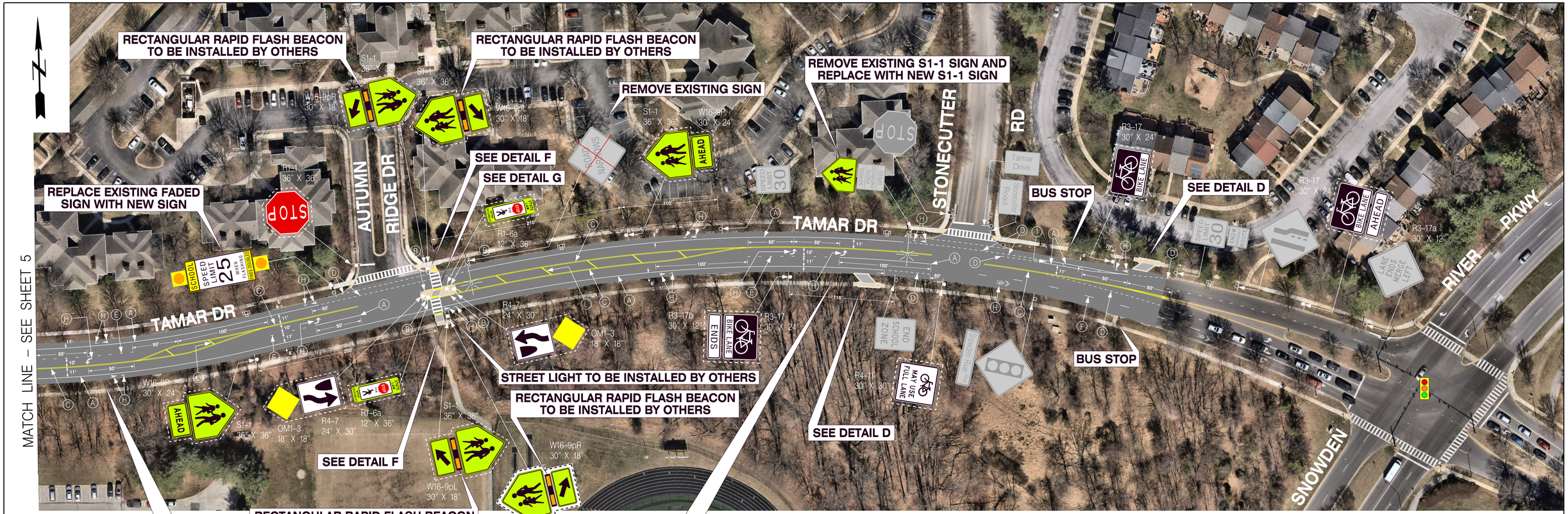
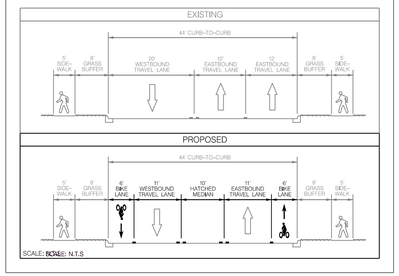
ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE 1" = 50'

SHEET 5 OF 6



ROADWAY TYPICAL SECTION



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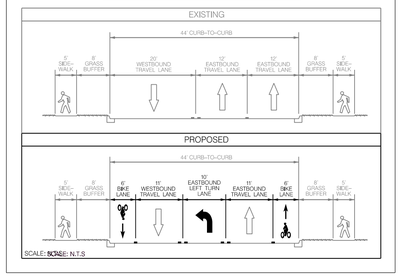

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ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

SCALE 1" = 50'

SHEET 6 OF 6

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4/7/2025

E. Signal Warrant Analysis

Tamar Drive and Foreland Garth

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS

INTERSECTION NAME: Tamar Drive and Foreland Garth

COUNT DATE: 1/0/1900

INTERSECTION CONDITION: Total Future

MAJOR STREET: Tamar Drive

OF APPROACH LANES: 1

MINOR STREET: Foreland Garth

OF APPROACH LANES: 1

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): N

	MAJOR ST BOTH APPROACHES*	HIGHEST HOUR MINOR ST HIGHEST APPROACH	WARRANT 1, Condition A			WARRANT 1, Condition B			WARRANT 1, Combination Warrant						Four Hour Warrant	Peak Hour Warrant
									CONDITION A			CONDITION B			WARRANT 2	WARRANT 3
			MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET	MAJOR STREET	MINOR STREET	BOTH MET		
THRESHOLD VALUES			500	150		750	75		400	120		600	60			
06:00 AM	80	115					Y						Y			
07:00 AM	905	220	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	
08:00 AM	1,007	256	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
09:00 AM	907	273	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
10:00 AM	877	308	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
11:00 AM	942	375	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
12:00 PM	1,153	458	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
01:00 PM	1,029	407	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
02:00 PM	1,177	390	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
03:00 PM	1,303	443	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
04:00 PM	1,511	438	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:00 PM	1,738	509	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
06:00 PM	1,532	476	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
07:00 PM	338	393		Y			Y			Y			Y		**Y**	
	14,499	**5,061**			**12**			**12**			**12**			**12**	**13**	**11**
			8 HOURS NEEDED **SATISFIED**			8 HOURS NEEDED **SATISFIED**			8 HOURS OF BOTH COND. A AND COND. B NEEDED **SATISFIED**						4 HRS NEEDED **SATISFIED**	1 HR NEEDED **SATISFIED**

WARRANT 1 -- Eight-Hour Vehicular Volume Warrant

Condition A : Minimum Vehicular Volume

Condition B : Interruption of Continuous Traffic

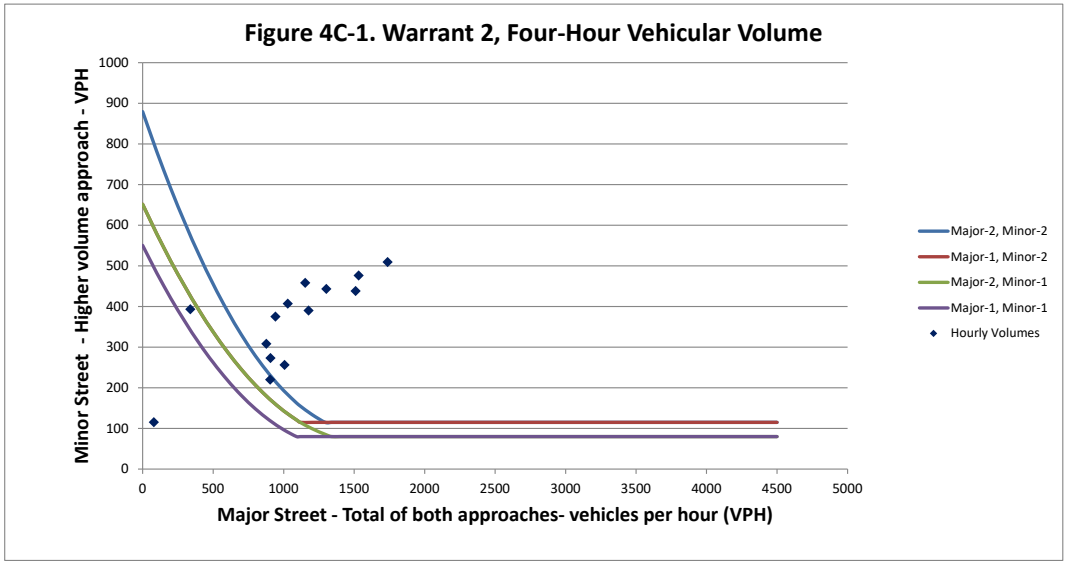
Combination : Combination of Condition A and Condition B

WARRANT 2 -- Four-Hour Vehicular Volume Warrant

WARRANT 3 -- Peak Hour Warrant

Four-Hour Vehicular Volume

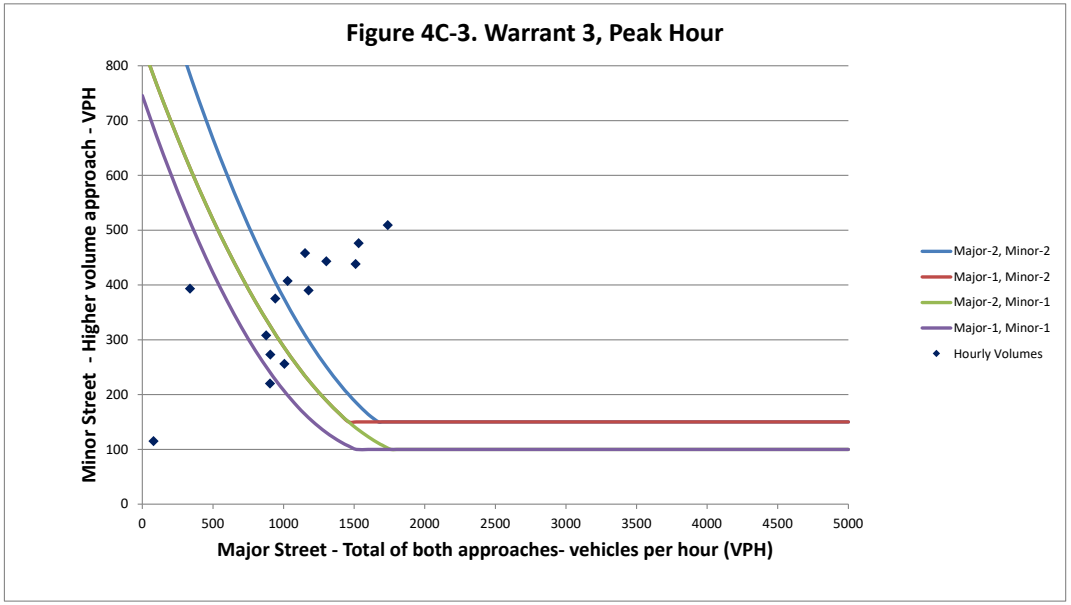
Input			Four-Hour Vehicular Volume				
Time	Major Street Volume	Minor Street Volume	X	Y			
12:00 - 1:00			0	879.2322	651.5062	651.5062	550.227
1:00 - 2:00			100	781.3473	579.0711	579.0711	482.7256
2:00 - 3:00			200	689.9685	511.4404	511.4404	420.1495
3:00 - 4:00			300	605.0959	448.6144	448.6144	362.4989
4:00 - 5:00			400	526.7294	390.5929	390.5929	309.7737
5:00 - 6:00			500	454.8692	337.376	337.376	261.9739
6:00 - 7:00	80	115	600	389.515	288.9636	288.9636	219.0994
7:00 - 8:00	905	220	700	330.6671	245.3558	245.3558	181.1504
8:00 - 9:00	1007	256	800	278.3253	206.5525	206.5525	148.1267
9:00 - 10:00	907	273	900	232.4897	172.5538	172.5538	120.0285
10:00 - 11:00	877	308	1000	193.1602	143.3597	143.3597	96.8556
11:00 - 12:00	942	375	1092	162.7233	120.7445	120.7445	80
12:00 - 1:00	1153	458	1118	155.1197	115	115.0902	80
1:00 - 2:00	1029	407	1200	134.0198	115	99.3851	80
2:00 - 3:00	1177	390	1295	115	115	85.22956	80
3:00 - 4:00	1303	443	1340	115	115	80	80
4:00 - 5:00	1511	438	1400	115	115	80	80
5:00 - 6:00	1738	509	1500	115	115	80	80
6:00 - 7:00	1532	476	1600	115	115	80	80
7:00 - 8:00	338	393	1700	115	115	80	80
8:00 - 9:00			1800	115	115	80	80
9:00 - 10:00			1900	115	115	80	80
10:00 - 11:00			4500	115	115	80	80



Standard: The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

Peak Hour

Input								
Time	Major Street Volume	Minor Street Volume	X	Y				
12:00 - 1:00			0	1060.541	837.5942	837.5942	745.652
1:00 - 2:00			100	973.6036	767.1194	767.1194	672.3336
2:00 - 3:00			200	890.7867	700.085	700.085	603.3559
3:00 - 4:00			300	812.0898	636.4911	636.4911	538.7187
4:00 - 5:00			400	737.5128	576.3377	576.3377	478.4221
5:00 - 6:00			500	667.0559	519.6248	519.6248	422.4662
6:00 - 7:00	80	115	600	600.7189	466.3525	466.3525	370.8508
7:00 - 8:00	905	220	700	538.502	416.5206	416.5206	323.576
8:00 - 9:00	1007	256	800	480.4051	370.1292	370.1292	280.6419
9:00 - 10:00	907	273	900	426.4281	327.1783	327.1783	242.0483
10:00 - 11:00	877	308	1000	376.5712	287.6679	287.6679	207.7953
11:00 - 12:00	942	375	1100	330.8342	251.5979	251.5979	177.883
12:00 - 1:00	1153	458	1200	289.2173	218.9685	218.9685	152.3112
1:00 - 2:00	1029	407	1300	251.7203	189.7796	189.7796	131.08
2:00 - 3:00	1177	390	1400	218.3433	164.0312	164.0312	114.1895
3:00 - 4:00	1303	443	1461	200.0065	150	150.0141	106.0177
4:00 - 5:00	1511	438	1516	184.7876	150	138.4733	100
5:00 - 6:00	1738	509	1600	163.9494	150	122.8558	100
6:00 - 7:00	1532	476	1672	150	150	111.4016	100
7:00 - 8:00	338	393	1700	150	150	107.4289	100
8:00 - 9:00			1759	150	150	100	100
9:00 - 10:00			1800	150	150	100	100
10:00 - 11:00			1900	150	150	100	100
10:00 - 11:00			5000	150	150	100	100
11:00 - 12:00							



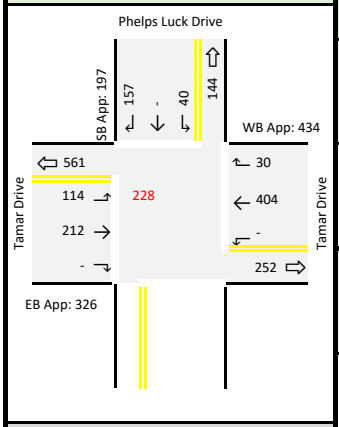
Standard: The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

F. CLV Worksheet

Project: Long Reach Village
Intersection: 1. Phelps Luck Drive and Tamar Drive
Scenario: Existing Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV

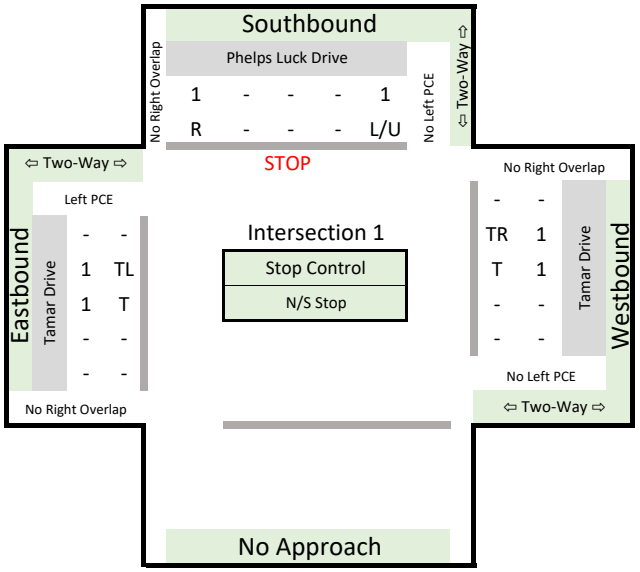


Total Intersection: 957 veh/hr

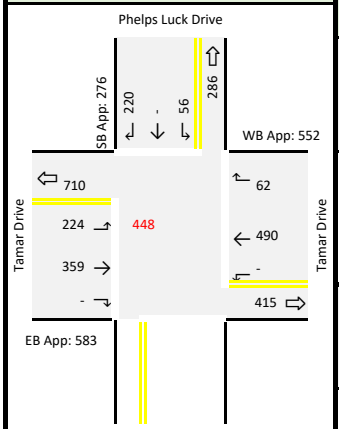
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				0		
	T+TL	440		0.55	242	-	0.00	0	242	«	
					0				0		
Westbound					0				114		
	T+TR	434		0.55	239	114	1.00	114	353	«	✓
	R*	30	0	1.00	30				144		
Northbound					0				40	«	
					0	40	1.00	40	40		
					0				40		
Southbound	L	40		1.00	40				40		
					0	-	0.00	0	0		
	R	157	0	1.00	157				157	«	✓

Notes: * Defacto right-turn lane test, if applicable

CLV 510 A



PM Peak Hour CLV



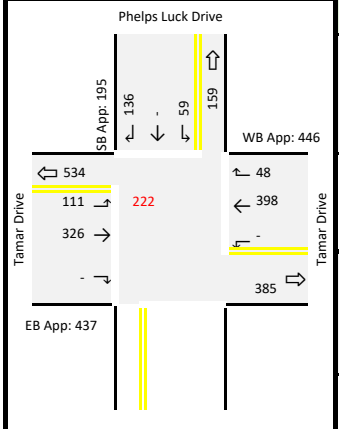
Total Intersection: 1,411 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				0		
	T+TL	807		0.55	444	-	0.00	0	444	«	
					0				0		
Westbound					0				224		
	T+TR	552		0.55	304	224	1.00	224	528	«	✓
	R*	62	0	1.00	62				286		
Northbound					0				56	«	
					0	56	1.00	56	56		
					0				56		
Southbound	L	56		1.00	56				56		
					0	-	0.00	0	0		
	R	220	0	1.00	220				220	«	✓

Notes: * Defacto right-turn lane test, if applicable

CLV 748 A

SAT Peak Hour CLV



Total Intersection: 1,078 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				0		
	T+TL	548		0.55	301	-	0.00	0	301	«	
					0				0		
Westbound					0				111		
	T+TR	446		0.55	245	111	1.00	111	356	«	✓
	R*	48	0	1.00	48				159		
Northbound					0				59	«	
					0	59	1.00	59	59		
					0				59		
Southbound	L	59		1.00	59				59		
					0	-	0.00	0	0		
	R	136	0	1.00	136				136	«	✓

Notes: * Defacto right-turn lane test, if applicable

CLV 492 A

Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	-	-	-	30	62	48	-	-	-	157	220	136
RT LUF		n/a			n/a			0.00			n/a	
Adjusted Rights	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	n/a	n/a	n/a
Adjacent Lefts	-	-	-	40	56	59	-	-	-	114	224	111
Adj. LT LUF		0.00			1.00			0.00			1.00	
Adjusted Adj. Lefts	0	0	0	40	56	59	0	0	0	114	224	111
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Left Turns	114	224	111	-	-	-	-	-	-	40	56	59
Not Split & TL or LTR		Yes: PCE			No: No PCE			No: No PCE			No: No PCE	
Opposing T+R	434	552	446	212	359	326	157	220	136	-	-	-
PCE Factor	2.0	2.0	2.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PCE Adjusted Lefts	**228**	**448**	**222**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

Howard County Standards

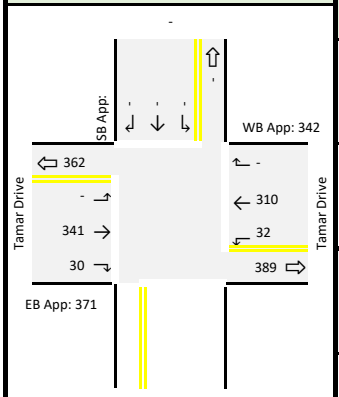
Lane Use Factors		
#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

LOS	CLV Range			PCE	Opposing Through+Right		
A	0	to	1,000	1.10	0	to	199
B	1,001	to	1,150	2.00	200	to	599
C	1,151	to	1,300	3.00	600	to	799
D	1,301	to	1,450	4.00	800	to	999
E	1,451	to	1,600	5.00	1,000	to	9,999
F	1,601	to	9,999				

Project: Long Reach Village
Intersection: Cloudleap Court and Tamar Drive
Scenario: Existing Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV



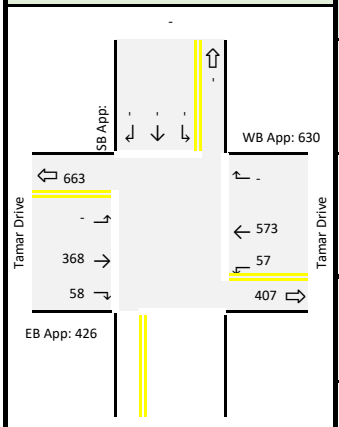
Total Intersection: 813 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				32		
	T+TR	371		0.55	204	32	1.00	32	236	«	✓
	R*	30	0	1.00	30				62		
Westbound	L	32		1.00	32				32		
	T + T	310		0.55	171	-	0.00	0	171	«	
					0				0		
Northbound	L	52		1.00	52				52	«	✓
					0	-	SPLIT	0	0		
	R	48	0	1.00	48				48		
Southbound					0				0	«	✓
					0	52	SPLIT	0	0		
					0				0		

Notes: * Defacto right-turn lane test, if applicable

CLV 288 A

PM Peak Hour CLV



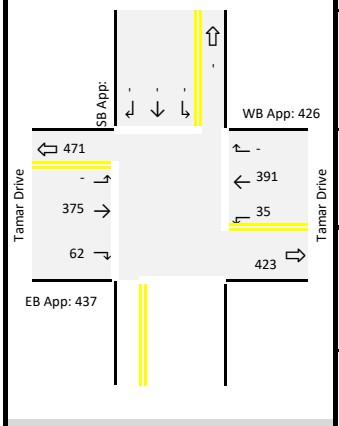
Total Intersection: 1,185 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				57		
	T+TR	426		0.55	234	57	1.00	57	291	«	
	R*	58	0	1.00	58				115		
Westbound	L	57		1.00	57				57		
	T + T	573		0.55	315	-	0.00	0	315	«	✓
					0				0		
Northbound	L	90		1.00	90				90	«	✓
					0	-	SPLIT	0	0		
	R	39	0	1.00	39				39		
Southbound					0				0	«	✓
					0	90	SPLIT	0	0		
					0				0		

Notes: * Defacto right-turn lane test, if applicable

CLV 405 A

SAT Peak Hour CLV

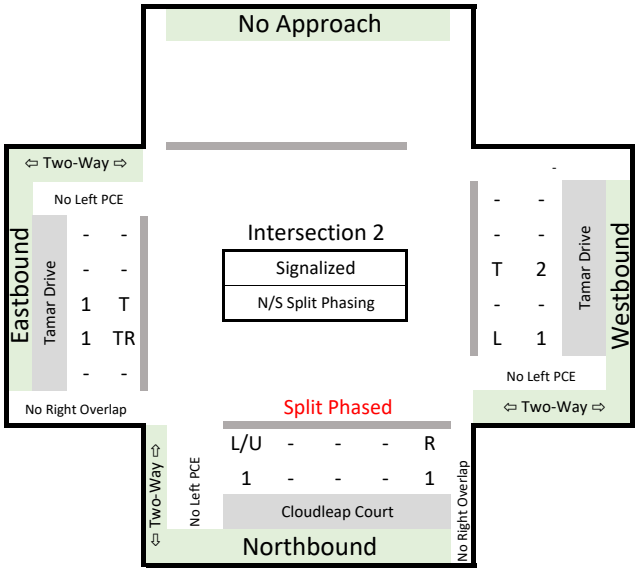


Total Intersection: 991 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				35		
	T+TR	437		0.55	240	35	1.00	35	275	«	✓
	R*	62	0	1.00	62				97		
Westbound	L	35		1.00	35				35		
	T + T	391		0.55	215	-	0.00	0	215	«	
					0				0		
Northbound	L	80		1.00	80				80	«	✓
					0	-	SPLIT	0	0		
	R	48	0	1.00	48				48		
Southbound					0				0	«	✓
					0	80	SPLIT	0	0		
					0				0		

Notes: * Defacto right-turn lane test, if applicable

CLV 355 A



Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	30	58	62	-	-	-	48	39	48	-	-	-
RT LUF		n/a			0.00			n/a			n/a	
Adjusted Rights	n/a	n/a	n/a	0	0	0	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	52	90	80	-	-	-	32	57	35	-	-	-
Adj. LT LUF		1.00			0.00			1.00			0.00	
Adjusted Adj. Lefts	52	90	80	0	0	0	32	57	35	0	0	0
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Left Turns	-	-	-	32	57	35	52	90	80	-	-	-
Not Split & TL or LTR		No: No PCE			No: No PCE			No: No PCE			No: No PCE	
Opposing T+R	310	573	391	371	426	437	-	-	-	48	39	48
PCE Factor	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PCE Adjusted Lefts	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

Howard County Standards

Lane Use Factors		
#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

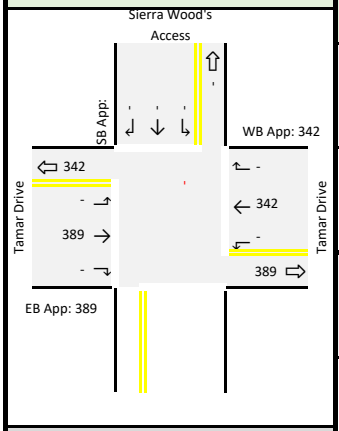
LOS	CLV Range		
A	0	to	1,000
B	1,001	to	1,150
C	1,151	to	1,300
D	1,301	to	1,450
E	1,451	to	1,600
F	1,601	to	9,999

PCE	Opposing Through+Right		
1.10	0	to	199
2.00	200	to	599
3.00	600	to	799
4.00	800	to	999
5.00	1,000	to	9,999

Project: Long Reach Village
Intersection: Future Site Access and Tamar Drive
Scenario: Existing Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV



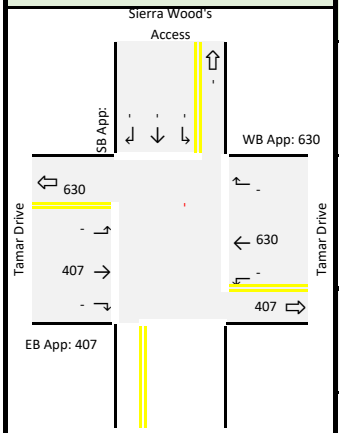
Total Intersection: 731 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	-		1.00	0				0		
	T+T	389		0.55	214	-	0.00	0	214	«	
					0				0		
Westbound					0				0		
	TR	342		1.00	342	-	1.00	0	342	«	✓
	R*	-	0	1.00	0				0		
Northbound					0				0	«	✓
					0	-	1.00	0	0		
					0				0		
Southbound					0				0	«	
	LTR	-		1.00	0	-	0.00	0	0		
	R*	-	0	1.00	0				0		

Notes: * Defacto right-turn lane test, if applicable

CLV 342 A

PM Peak Hour CLV



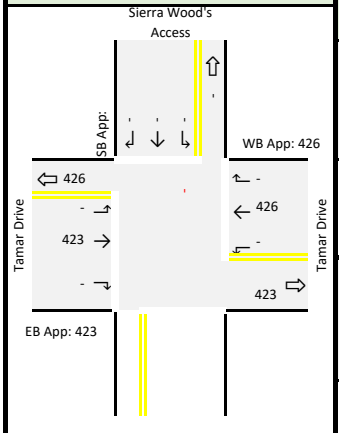
Total Intersection: 1,037 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	-		1.00	0				0		
	T+T	407		0.55	224	-	0.00	0	224	«	
					0				0		
Westbound					0				0		
	TR	630		1.00	630	-	1.00	0	630	«	✓
	R*	-	0	1.00	0				0		
Northbound					0				0	«	✓
					0	-	1.00	0	0		
					0				0		
Southbound					0				0	«	
	LTR	-		1.00	0	-	0.00	0	0		
	R*	-	0	1.00	0				0		

Notes: * Defacto right-turn lane test, if applicable

CLV 630 A

SAT Peak Hour CLV

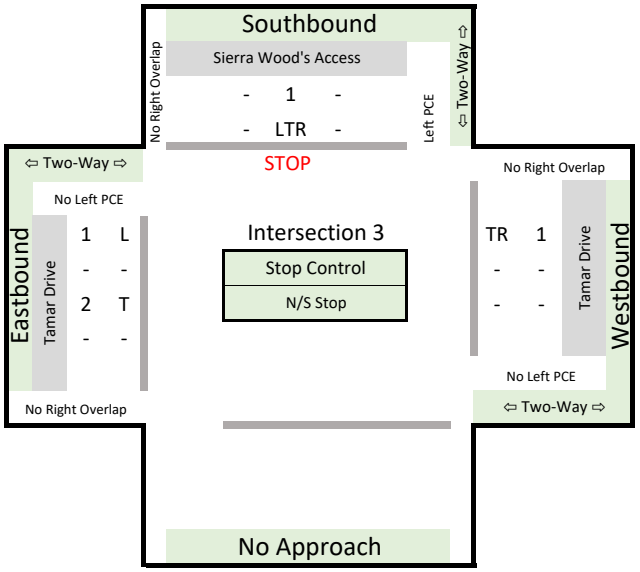


Total Intersection: 849 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	-		1.00	0				0		
	T+T	423		0.55	233	-	0.00	0	233	«	
					0				0		
Westbound					0				0		
	TR	426		1.00	426	-	1.00	0	426	«	✓
	R*	-	0	1.00	0				0		
Northbound					0				0	«	✓
					0	-	1.00	0	0		
					0				0		
Southbound					0				0	«	
	LTR	-		1.00	0	-	0.00	0	0		
	R*	-	0	1.00	0				0		

Notes: * Defacto right-turn lane test, if applicable

CLV 426 A



Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	-	-	-	-	-	-	-	-	-	-	-	-
RT LUF	n/a			n/a			n/a			n/a		
Adjusted Rights	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	-	-	-	-	-	-	-	-	-	-	-	-
Adj. LT LUF	0.00			1.00			0.00			1.00		
Adjusted Adj. Lefts	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Left Turns	-	-	-	-	-	-	-	-	-	-	-	-
Not Split & TL or LTR	No: No PCE			No: No PCE			No: No PCE			Yes: PCE		
Opposing T+R	342	630	426	389	407	423	-	-	-	-	-	-
PCE Factor	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.1	1.1	1.1
PCE Adjusted Lefts	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**0**	**0**	**0**

Howard County Standards

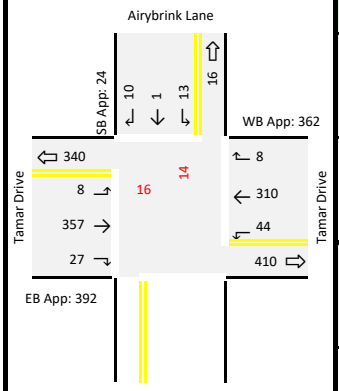
Lane Use Factors		
#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

LOS	CLV Range			PCE	Opposing Through+Right		
A	0	to	1,000	1.10	0	to	199
B	1,001	to	1,150	2.00	200	to	599
C	1,151	to	1,300	3.00	600	to	799
D	1,301	to	1,450	4.00	800	to	999
E	1,451	to	1,600	5.00	1,000	to	9,999
F	1,601	to	9,999				

Project: Long Reach Village
Intersection: 4. Airybrink Lane/Forelan Garth and Tamar Drive
Scenario: Existing Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV

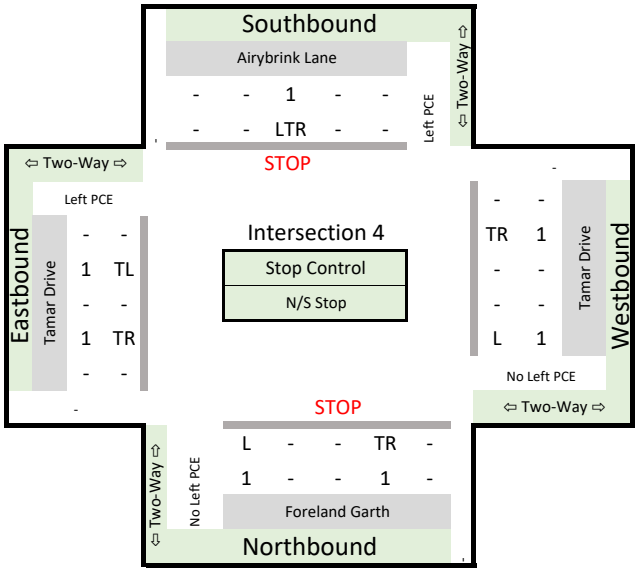


Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				44		
	TL+TR	400		0.55	220	44	1.00	44	264	«	✓
					0				44		
Westbound	L	44		1.00	44				52		
	TR	318		0.55	175	8	1.00	8	183	«	
	R*	8	0	1.00	8				16		
Northbound	L	20		1.00	20				33		
	TR	40		1.00	40	13	1.00	13	53	«	✓
	R*	40		1.00	40				53		
Southbound					0				20		
	LTR	25		1.00	25	20	1.00	20	45	«	
	R*	10	0	1.00	10				30		

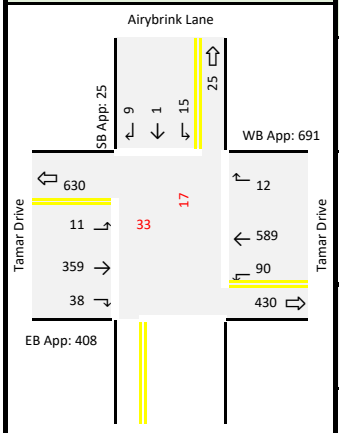
Total Intersection: 838 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 317 A



PM Peak Hour CLV



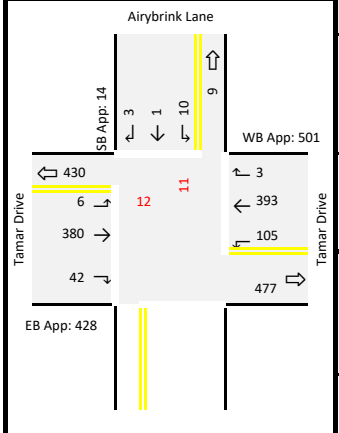
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				90		
	TL+TR	430		0.55	237	90	1.00	90	327	«	
					0				90		
Westbound	L	90		1.00	90				101		
	TR	601		0.55	331	11	1.00	11	342	«	✓
	R*	12		1.00	12				23		
Northbound	L	32		1.00	32				47		
	TR	58		1.00	58	15	1.00	15	73	«	✓
	R*	56		1.00	56				71		
Southbound					0				32		
	LTR	27		1.00	27	32	1.00	32	59	«	
	R*	9		1.00	9				41		

Total Intersection: 1,214 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 415 A

SAT Peak Hour CLV



Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				105		
	TL+TR	434		0.55	239	105	1.00	105	344	«	✓
			0		0				105		
Westbound	L	105		1.00	105				111		
	TR	396		0.55	218	6	1.00	6	224	«	
	R*	3	0	1.00	3				9		
Northbound	L	34		1.00	34				44		
	TR	87		1.00	87	10	1.00	10	97	«	✓
	R*	87	0	1.00	87				97		
Southbound					0				34		
	LTR	15		1.00	15	34	1.00	34	49	«	
	R*	3	0	1.00	3				37		

Total Intersection: 1,064 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 441 A

Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	27	38	42	8	12	3	40	56	87	10	9	3
RT LUF		0.00			0.00			0.00			0.00	
Adjusted Rights	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Lefts	20	32	34	13	15	10	44	90	105	8	11	6
Adj. LT LUF		1.00			1.00			1.00			1.00	
Adjusted Adj. Lefts	20	32	34	13	15	10	44	90	105	8	11	6
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Left Turns	8	11	6	44	90	105	20	32	34	13	15	10
Not Split & TL or LTR		Yes: PCE			No: No PCE			No: No PCE			Yes: PCE	
Opposing T+R	318	601	396	384	397	422	11	10	4	40	58	87
PCE Factor	2.0	3.0	2.0	n/a	n/a	n/a	n/a	n/a	n/a	1.1	1.1	1.1
PCE Adjusted Lefts	**16**	**33**	**12**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**14**	**17**	**11**

Howard County Standards

Lane Use Factors		
#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

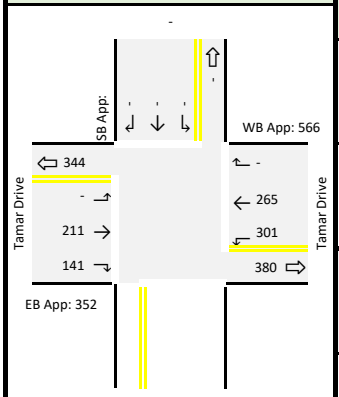
LOS	CLV Range		
A	0	to	1,000
B	1,001	to	1,150
C	1,151	to	1,300
D	1,301	to	1,450
E	1,451	to	1,600
F	1,601	to	9,999

PCE	Opposing Through+Right		
1.10	0	to	199
2.00	200	to	599
3.00	600	to	799
4.00	800	to	999
5.00	1,000	to	9,999

Project: Long Reach Village
Intersection: 5. Old Dobbin Lane anad Tamar Drive
Scenario: Existing Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV



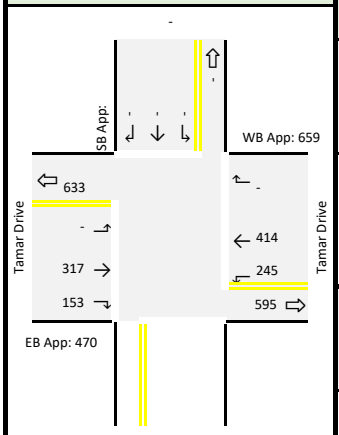
Total Intersection: 1,166 veh/hr

Notes: * Defacto right-turn lane test, if applicable

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				301		
	T+TR	352		0.55	194	301	1.00	301	495	«	✓
	R*	141		1.00	141				442		
Westbound	L	301		1.00	301				301	«	
	T	265		1.00	265	-	0.00	0	265		
					0				0		
Northbound	L	79		1.00	79				79		
					0	-	SPLIT	0	0		
	R	169		1.00	169				169	«	✓
Southbound					0				0	«	✓
					0	79	SPLIT	0	0		
					0				0		

CLV 664 A

PM Peak Hour CLV



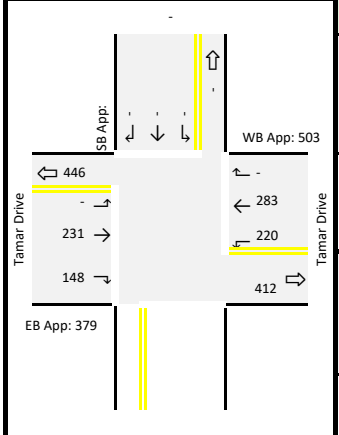
Total Intersection: 1,626 veh/hr

Notes: * Defacto right-turn lane test, if applicable

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				245		
	T+TR	470		0.55	259	245	1.00	245	504	«	✓
	R*	153		1.00	153				398		
Westbound	L	245		1.00	245				245		
	T	414		1.00	414	-	0.00	0	414	«	
					0				0		
Northbound	L	219		1.00	219				219		
					0	-	SPLIT	0	0		
	R	278		1.00	278				278	«	✓
Southbound					0				0	«	✓
					0	219	SPLIT	0	0		
					0				0		

CLV 782 A

SAT Peak Hour CLV

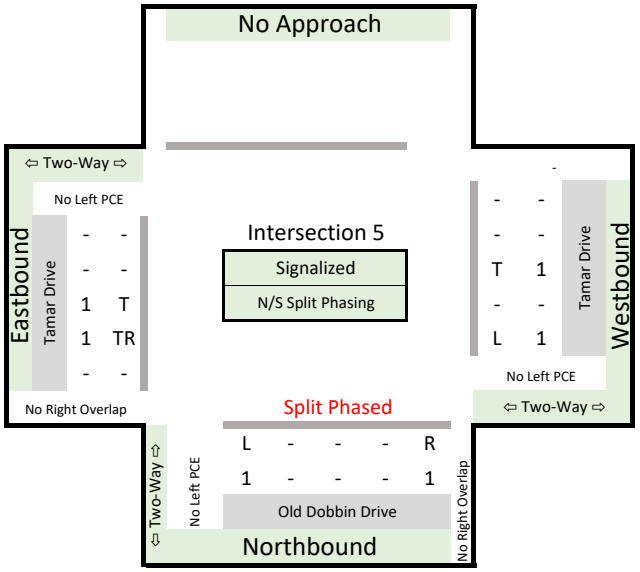


Total Intersection: 1,226 veh/hr

Notes: * Defacto right-turn lane test, if applicable

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				220		
	T+TR	379		0.55	208	220	1.00	220	428	«	✓
	R*	148	0	1.00	148				368		
Westbound	L	220		1.00	220				220		
	T	283		1.00	283	-	0.00	0	283	«	
			0		0				0		
Northbound	L	163		1.00	163				163		
					0	-	SPLIT	0	0		
	R	181	0	1.00	181				181	«	✓
Southbound					0				0	«	✓
					0	163	SPLIT	0	0		
			0		0				0		

CLV 609 A



Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	141	153	148	-	-	-	169	278	181	-	-	-
RT LUF		n/a			0.00			n/a			n/a	
Adjusted Rights	n/a	n/a	n/a	0	0	0	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	79	219	163	-	-	-	301	245	220	-	-	-
Adj. LT LUF		1.00			1.00			1.00			0.00	
Adjusted Adj. Lefts	79	219	163	0	0	0	301	245	220	0	0	0
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Left Turns	-	-	-	301	245	220	79	219	163	-	-	-
Not Split & TL or LTR		No: No PCE			No: No PCE			No: No PCE			No: No PCE	
Opposing T+R	265	414	283	352	470	379	-	-	-	169	278	181
PCE Factor	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PCE Adjusted Lefts	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

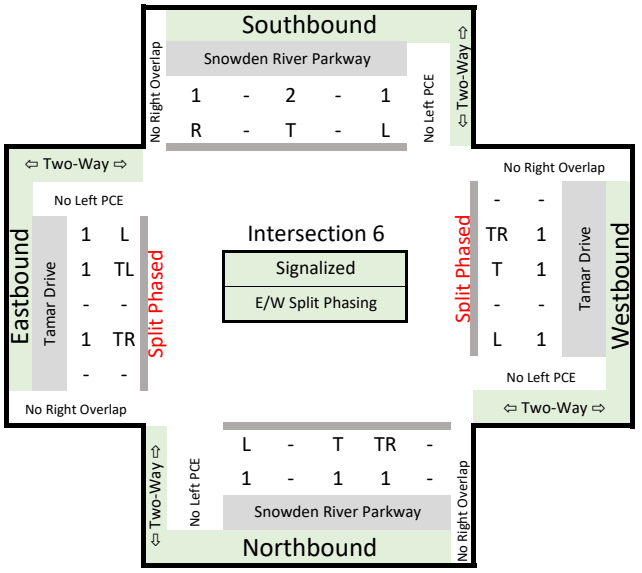
Howard County Standards

Lane Use Factors		
#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

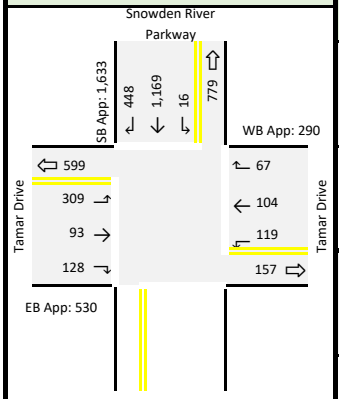
PCE	Opposing Through+Right		
1.10	0	to	199
2.00	200	to	599
3.00	600	to	799
4.00	800	to	999
5.00	1,000	to	9,999

Project: Long Reach Village
Intersection: 6. Snowden River Parkway and Tamar Drive
Scenario: Existing Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers



AM Peak Hour CLV

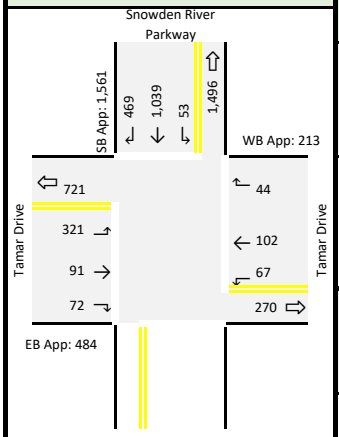


Total Intersection: 2,951 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	LT	402		0.55	221	119	SPLIT	0	221	«	✓
	LTR	530		0.40	212				212		
	R*	128		1.00	128				128		
Westbound	L	119		1.00	119	309	SPLIT	0	119	«	✓
	T+TR	171		0.55	94				94		
	R*	67		1.00	67				67		
Northbound	L	47		1.00	47	16	1.00	16	63		
	T+TR	451		0.55	248				264	«	
	R*	48		1.00	48				64		
Southbound	L	16		1.00	16	47	1.00	47	63		
	T+T	1,169		0.55	643				690	«	✓
	R	448	0	1.00	448				495		
								CLV	1,030		B

Notes: * Defacto right-turn lane test, if applicable

PM Peak Hour CLV

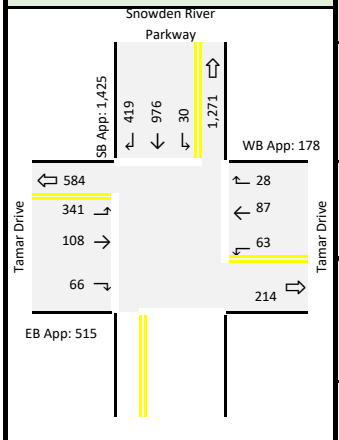


Total Intersection: 3,665 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	LT	412		0.55	227	67	SPLIT	0	227	«	✓
	LTR	484		0.40	194				194		
	R*	72	0	1.00	72				72		
Westbound	L	67		1.00	67	321	SPLIT	0	67		
	T+TR	146		0.55	80				80	«	✓
	R*	44	0	1.00	44				44		
Northbound	L	150		1.00	150	53	1.00	53	203		
	T+TR	1257		0.55	691				744	«	✓
	R*	126	0	1.00	126				179		
Southbound	L	53		1.00	53	150	1.00	150	203		
	T+T	1,039		0.55	571				721	«	
	R	469	0	1.00	469				619		
								CLV	1,051		B

Notes: * Defacto right-turn lane test, if applicable

SAT Peak Hour CLV



Total Intersection: 3,174 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	LT	449		0.55	247	63	SPLIT	0	247	«	✓
	LTR	515		0.40	206				206		
	R*	66	0	1.00	66				66		
Westbound	L	63		1.00	63	341	SPLIT	0	63	«	✓
	T+TR	115		0.55	63				63		
	R*	28	0	1.00	28				28		
Northbound	L	78		1.00	78	30	1.00	30	108		
	T+TR	978		0.55	538				568	«	
	R*	76	0	1.00	76				106		
Southbound	L	30		1.00	30	78	1.00	78	108		
	T+T	976		0.55	537				615	«	✓
	R	419	0	1.00	419				497		
								CLV	925		A

Notes: * Defacto right-turn lane test, if applicable

Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	128	72	66	67	44	28	48	126	76	448	469	419
RT LUF		n/a			n/a			n/a			n/a	
Adjusted Rights	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	47	150	78	16	53	30	119	67	63	309	321	341
Adj. LT LUF		1.00			1.00			1.00			0.60	
Adjusted Adj. Lefts	47	150	78	16	53	30	119	67	63	185	193	205
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Left Turns	309	321	341	119	67	63	47	150	78	16	53	30
Not Split & TL or LTR		No: No PCE			No: No PCE			No: No PCE			No: No PCE	
Opposing T+R	171	146	115	221	163	174	1,617	1,508	1,395	451	1,257	978
PCE Factor	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PCE Adjusted Lefts	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

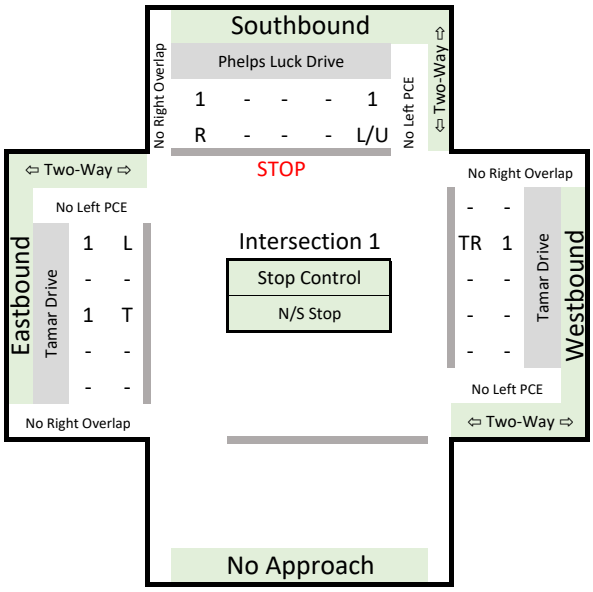
Howard County Standards

Lane Use Factors		
#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

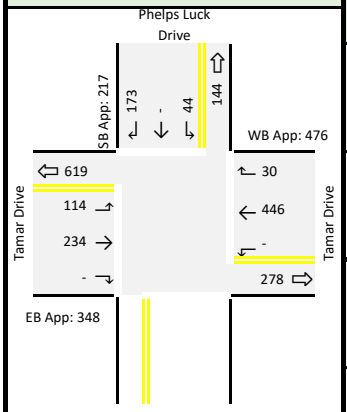
LOS	CLV Range			PCE	Opposing Through+Right		
A	0	to	1,000	1.10	0	to	199
B	1,001	to	1,150	2.00	200	to	599
C	1,151	to	1,300	3.00	600	to	799
D	1,301	to	1,450	4.00	800	to	999
E	1,451	to	1,600	5.00	1,000	to	9,999
F	1,601	to	9,999				

Project: Long Reach Village
Intersection: 1. Phelps Luck Drive and Tamar Drive
Scenario: Background Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers



AM Peak Hour CLV



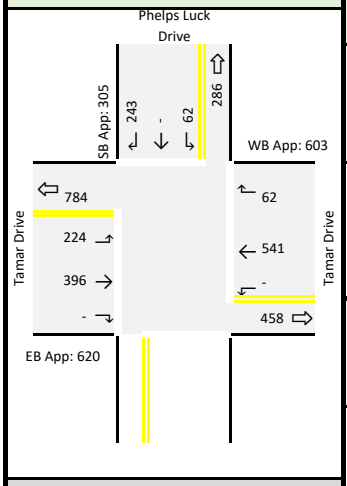
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	114		1.00	114				114		
	T	234		1.00	234	-	0.00	0	234	«	
					0				0		
Westbound					0				114		
	TR	476		1.00	476	114	1.00	114	590	«	✓
	R*	30	0	1.00	30				144		
Northbound					0				44	«	
					0	44	1.00	44	44		
					0				44		
Southbound	L	44		1.00	44				44		
					0	-	0.00	0	0		
	R	173	0	1.00	173				173	«	✓

Total Intersection: 1,041 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 763 A

PM Peak Hour CLV



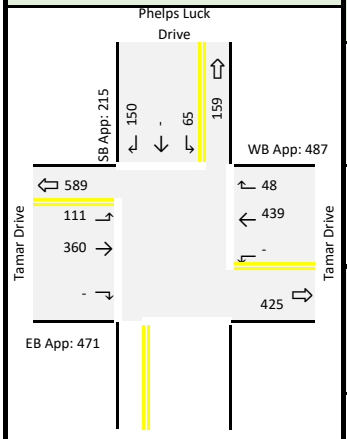
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	224		1.00	224				224		
	T	396		1.00	396	-	0.00	0	396	«	
					0				0		
Westbound					0				224		
	TR	603		1.00	603	224	1.00	224	827	«	✓
	R*	62	0	1.00	62				286		
Northbound					0				62	«	
					0	62	1.00	62	62		
					0				62		
Southbound	L	62		1.00	62				62		
					0	-	0.00	0	0		
	R	243	0	1.00	243				243	«	✓

Total Intersection: 1,528 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 1,070 B

SAT Peak Hour CLV



Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	111		1.00	111				111		
	T	360		1.00	360	-	0.00	0	360	«	
					0				0		
Westbound					0				111		
	TR	487		1.00	487	111	1.00	111	598	«	✓
	R*	48	0	1.00	48				159		
Northbound					0				65	«	
					0	65	1.00	65	65		
					0				65		
Southbound	L	65		1.00	65				65		
					0	-	0.00	0	0		
	R	150	0	1.00	150				150	«	✓

Total Intersection: 1,173 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 748 A

Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	-	-	-	30	62	48	-	-	-	173	243	150
RT LUF		n/a			n/a			0.00			n/a	
Adjusted Rights	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	n/a	n/a	n/a
Adjacent Lefts	-	-	-	44	62	65	-	-	-	114	224	111
Adj. LT LUF		0.00			1.00			0.00			1.00	
Adjusted Adj. Lefts	0	0	0	44	62	65	0	0	0	114	224	111
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Left Turns	114	224	111	-	-	-	-	-	-	44	62	65
Not Split & TL or LTR	No: No PCE			No: No PCE			No: No PCE			No: No PCE		
Opposing T+R	476	603	487	234	396	360	173	243	150	-	-	-
PCE Factor	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PCE Adjusted Lefts	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

Howard County Standards

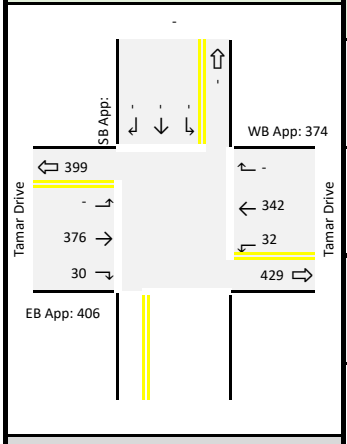
Lane Use Factors		
#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

LOS	CLV Range			PCE	Opposing Through+Right		
A	0	to	1,000	1.10	0	to	199
B	1,001	to	1,150	2.00	200	to	599
C	1,151	to	1,300	3.00	600	to	799
D	1,301	to	1,450	4.00	800	to	999
E	1,451	to	1,600	5.00	1,000	to	9,999
F	1,601	to	9,999				

Project: Long Reach Village
Intersection: Cloudleap Court and Tamar Drive
Scenario: Background Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV



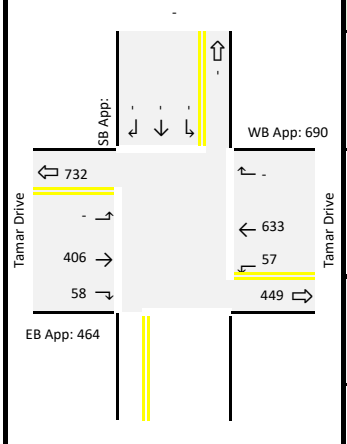
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				32		
	T	376		1.00	376	32	1.00	32	408	«	✓
	R	30	0	1.00	30				62		
Westbound	L	32		1.00	32				32		
	T	342		1.00	342	-	0.00	0	342	«	
					0				0		
Northbound	L	57		1.00	57				57	«	✓
					0	-	SPLIT	0	0		
	R	53	0	1.00	53				53		
Southbound					0				0	«	✓
					0	57	SPLIT	0	0		
					0				0		

Total Intersection: 890 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 465 A

PM Peak Hour CLV



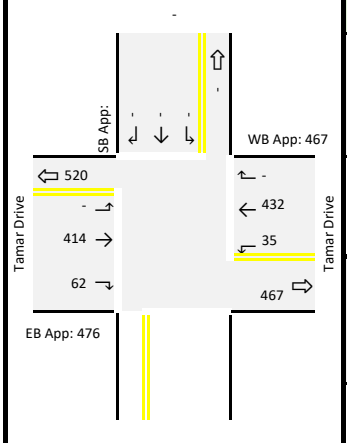
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				57		
	T	406		1.00	406	57	1.00	57	463	«	
	R	58	0	1.00	58				115		
Westbound	L	57		1.00	57				57		
	T	633		1.00	633	-	0.00	0	633	«	✓
					0				0		
Northbound	L	99		1.00	99				99	«	✓
					0	-	SPLIT	0	0		
	R	43	0	1.00	43				43		
Southbound					0				0	«	✓
					0	99	SPLIT	0	0		
					0				0		

Total Intersection: 1,296 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 732 A

SAT Peak Hour CLV

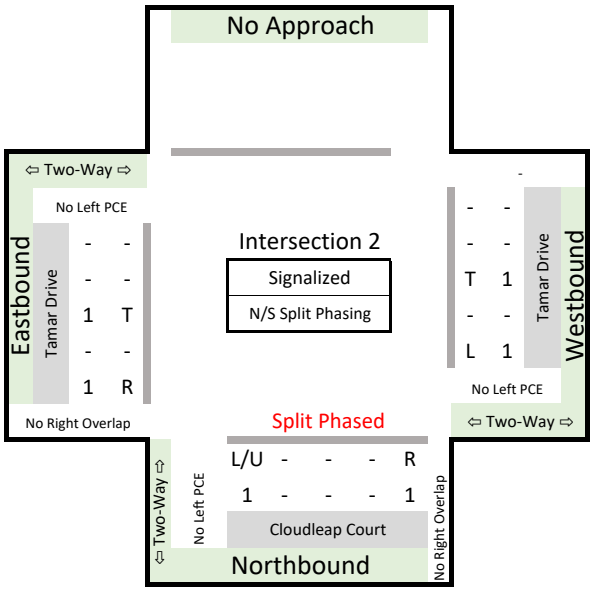


Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				35		
	T	414		1.00	414	35	1.00	35	449	«	✓
	R	62	0	1.00	62				97		
Westbound	L	35		1.00	35				35		
	T	432		1.00	432	-	0.00	0	432	«	
					0				0		
Northbound	L	88		1.00	88				88	«	✓
					0	-	SPLIT	0	0		
	R	53	0	1.00	53				53		
Southbound					0				0	«	✓
					0	88	SPLIT	0	0		
					0				0		

Total Intersection: 1,084 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 537 A



Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	30	58	62	-	-	-	53	43	53	-	-	-
RT LUF		n/a			0.00			n/a			n/a	
Adjusted Rights	n/a	n/a	n/a	0	0	0	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	57	99	88	-	-	-	32	57	35	-	-	-
Adj. LT LUF		1.00			0.00			1.00			0.00	
Adjusted Adj. Lefts	57	99	88	0	0	0	32	57	35	0	0	0
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Left Turns	-	-	-	32	57	35	57	99	88	-	-	-
Not Split & TL or LTR		No: No PCE			No: No PCE			No: No PCE			No: No PCE	
Opposing T+R	342	633	432	406	464	476	-	-	-	53	43	53
PCE Factor	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PCE Adjusted Lefts	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

Howard County Standards

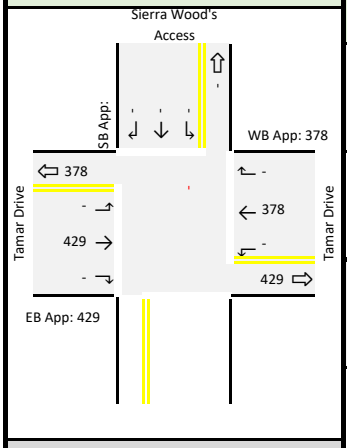
Lane Use Factors		
#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

LOS	CLV Range			PCE	Opposing Through+Right		
A	0	to	1,000	1.10	0	to	199
B	1,001	to	1,150	2.00	200	to	599
C	1,151	to	1,300	3.00	600	to	799
D	1,301	to	1,450	4.00	800	to	999
E	1,451	to	1,600	5.00	1,000	to	9,999
F	1,601	to	9,999				

Project: Long Reach Village
Intersection: Future Site Access and Tamar Drive
Scenario: Background Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV



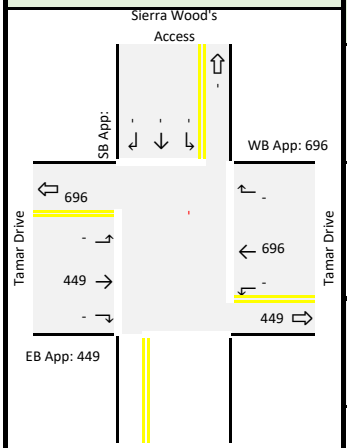
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	-		1.00	0				0		
	T	429		1.00	429	-	0.00	0	429	«	✓
					0				0		
Westbound					0				0		
	TR	378		1.00	378	-	1.00	0	378	«	
	R*	-	0	1.00	0				0		
Northbound					0				0	«	✓
					0	-	1.00	0	0		
					0				0		
Southbound					0				0	«	
	LTR	-		1.00	0	-	0.00	0	0		
	R*	-	0	1.00	0				0		

Total Intersection: 807 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 429 A

PM Peak Hour CLV



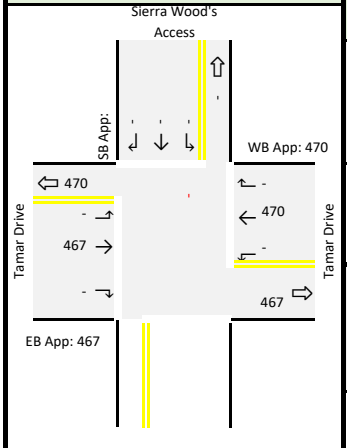
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	-		1.00	0				0		
	T	449		1.00	449	-	0.00	0	449	«	
					0				0		
Westbound					0				0		
	TR	696		1.00	696	-	1.00	0	696	«	✓
	R*	-	0	1.00	0				0		
Northbound					0				0	«	✓
					0	-	1.00	0	0		
					0				0		
Southbound					0				0	«	
	LTR	-		1.00	0	-	0.00	0	0		
	R*	-	0	1.00	0				0		

Total Intersection: 1,145 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 696 A

SAT Peak Hour CLV

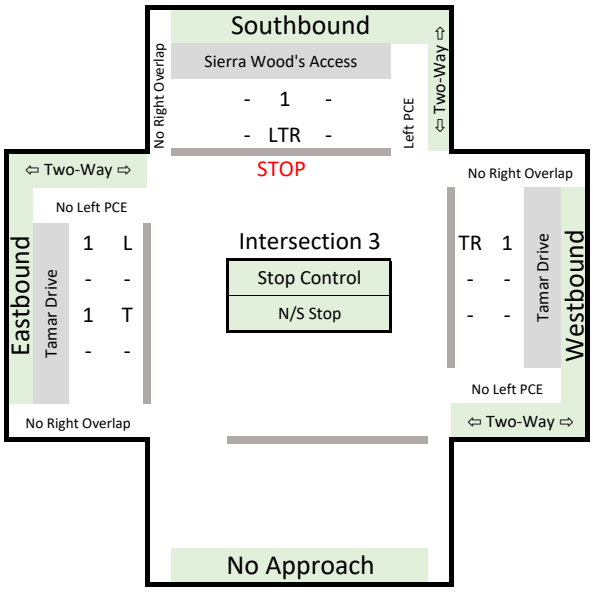


Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	-		1.00	0				0		
	T	467		1.00	467	-	0.00	0	467	«	
					0				0		
Westbound					0				0		
	TR	470		1.00	470	-	1.00	0	470	«	✓
	R*	-	0	1.00	0				0		
Northbound					0				0	«	✓
					0	-	1.00	0	0		
					0				0		
Southbound					0				0	«	
	LTR	-		1.00	0	-	0.00	0	0		
	R*	-	0	1.00	0				0		

Total Intersection: 937 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 470 A



Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	-	-	-	-	-	-	-	-	-	-	-	-
RT LUF	n/a			n/a			n/a			n/a		
Adjusted Rights	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	-	-	-	-	-	-	-	-	-	-	-	-
Adj. LT LUF	0.00			1.00			0.00			1.00		
Adjusted Adj. Lefts	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

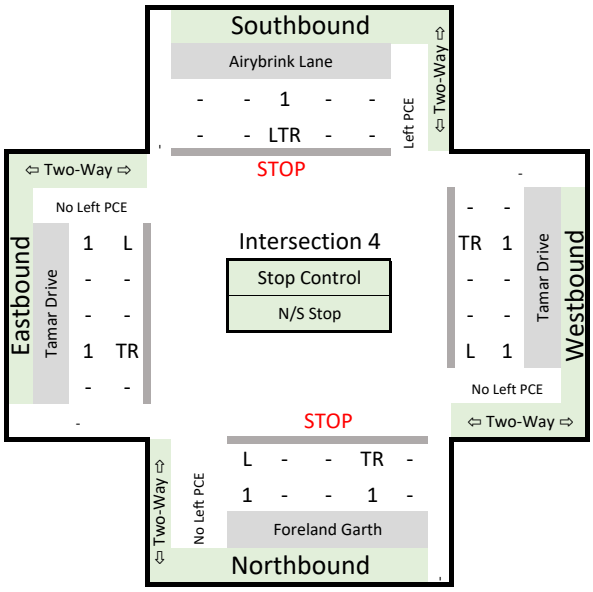
	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Left Turns	-	-	-	-	-	-	-	-	-	-	-	-
Not Split & TL or LTR	No: No PCE			No: No PCE			No: No PCE			Yes: PCE		
Opposing T+R	378	696	470	429	449	467	-	-	-	-	-	-
PCE Factor	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.1	1.1	1.1
PCE Adjusted Lefts	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**0**	**0**	**0**

Howard County Standards

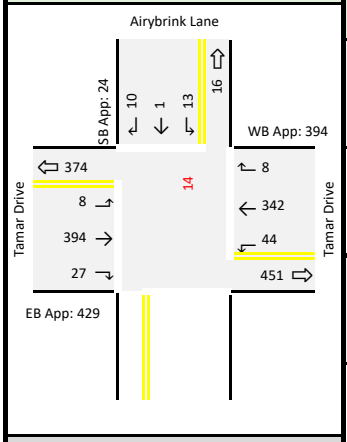
Lane Use Factors			LOS	CLV Range			PCE	Opposing Through+Right		
#	Th & R	L	A	0	to	1,000	1.10	0	to	199
1	1.00	1.00	B	1,001	to	1,150	2.00	200	to	599
2	0.55	0.60	C	1,151	to	1,300	3.00	600	to	799
3	0.40	0.00	D	1,301	to	1,450	4.00	800	to	999
4	0.30	0.00	E	1,451	to	1,600	5.00	1,000	to	9,999
5	0.00	0.00	F	1,601	to	9,999				

Project: Long Reach Village
Intersection: 4. Airybrink Lane/Forelan Garth and Tamar Drive
Scenario: Background Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers



AM Peak Hour CLV

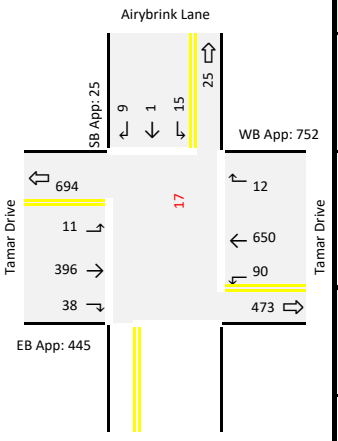


Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	8		1.00	8				52		
	TR	421		1.00	421	44	1.00	44	465	«	✓
	R*	27		1.00	27				71		
Westbound	L	44		1.00	44				52		
	TR	350		1.00	350	8	1.00	8	358	«	
	R*	8	0	1.00	8				16		
Northbound	L	22		1.00	22				35		
	TR	44		1.00	44	13	1.00	13	57	«	✓
	R*	44		1.00	44				57		
Southbound					0				22		
	LTR	25		1.00	25	22	1.00	22	47	«	
	R*	10	0	1.00	10				32		
								CLV	522		A

Total Intersection: 913 veh/hr

Notes: * Defacto right-turn lane test, if applicable

PM Peak Hour CLV

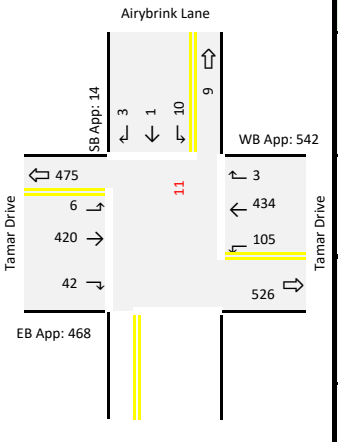


Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	11		1.00	11				101		
	TR	434		1.00	434	90	1.00	90	524	«	
	R*	38		1.00	38				128		
Westbound	L	90		1.00	90				101		
	TR	662		1.00	662	11	1.00	11	673	«	✓
	R*	12		1.00	12				23		
Northbound	L	35		1.00	35				50		
	TR	64		1.00	64	15	1.00	15	79	«	✓
	R*	62		1.00	62				77		
Southbound					0				35		
	LTR	27		1.00	27	35	1.00	35	62	«	
	R*	9		1.00	9				44		
								CLV	752		A

Total Intersection: 1,321 veh/hr

Notes: * Defacto right-turn lane test, if applicable

SAT Peak Hour CLV



Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	6		1.00	6				111		
	TR	462		1.00	462	105	1.00	105	567	«	✓
	R*	42	0	1.00	42				147		
Westbound	L	105		1.00	105				111		
	TR	437		1.00	437	6	1.00	6	443	«	
	R*	3	0	1.00	3				9		
Northbound	L	38		1.00	38				48		
	TR	96		1.00	96	10	1.00	10	106	«	✓
	R*	96	0	1.00	96				106		
Southbound					0				38		
	LTR	15		1.00	15	38	1.00	38	53	«	
	R*	3	0	1.00	3				41		
								CLV	673		A

Total Intersection: 1,158 veh/hr

Notes: * Defacto right-turn lane test, if applicable

Right Turn Overlap Adjustments

	Eastbound			Westbound			Northbound			Southbound		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
Right Turns	27	38	42	8	12	3	44	62	96	10	9	3
RT LUF		0.00			0.00			0.00			0.00	
Adjusted Rights	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Lefts	22	35	38	13	15	10	44	90	105	8	11	6
Adj. LT LUF		1.00			1.00			1.00			1.00	
Adjusted Adj. Lefts	22	35	38	13	15	10	44	90	105	8	11	6
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound			Westbound			Northbound			Southbound		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
Left Turns	8	11	6	44	90	105	22	35	38	13	15	10
Not Split & TL or LTR	No: No PCE			No: No PCE			No: No PCE			Yes: PCE		
Opposing T+R	350	662	437	421	434	462	11	10	4	44	64	96
PCE Factor	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.1	1.1	1.1
PCE Adjusted Lefts	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**14**	**17**	**11**

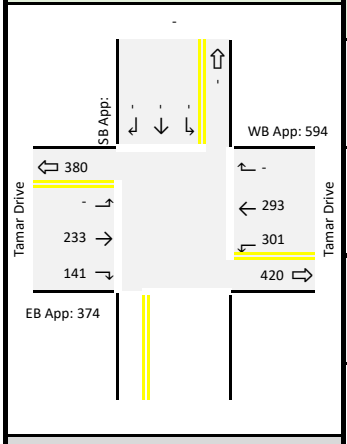
Howard County Standards

Lane Use Factors			LOS	CLV Range				PCE	Opposing Through+Right			
#	Th & R	L										
1	1.00	1.00	A	0	to	1,000		1.10	0	to	199	
2	0.55	0.60	B	1,001	to	1,150		2.00	200	to	599	
3	0.40	0.00	C	1,151	to	1,300		3.00	600	to	799	
4	0.30	0.00	D	1,301	to	1,450		4.00	800	to	999	
5	0.00	0.00	E	1,451	to	1,600		5.00	1,000	to	9,999	
			F	1,601	to	9,999						

Project: Long Reach Village
Intersection: 5. Old Dobbin Lane anad Tamar Drive
Scenario: Background Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV



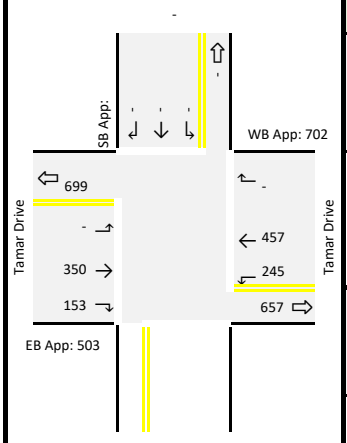
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				301		
	T+TR	374		0.55	206	301	1.00	301	507	«	✓
	R*	141		1.00	141				442		
Westbound	L	301		1.00	301				301	«	
	T	293		1.00	293	-	0.00	0	293		
					0				0		
Northbound	L	87		1.00	87				87		
					0	-	SPLIT	0	0		
	R	187		1.00	187				187	«	✓
Southbound					0				0	«	✓
					0	87	SPLIT	0	0		
					0				0		

Total Intersection: 1,242 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 694 A

PM Peak Hour CLV



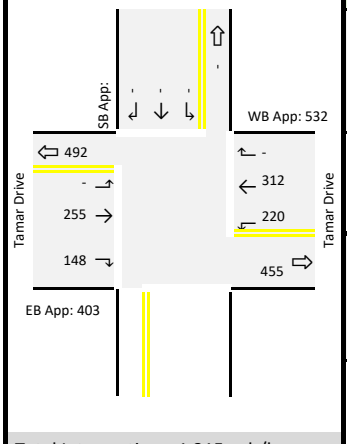
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				245		
	T+TR	503		0.55	277	245	1.00	245	522	«	✓
	R*	153		1.00	153				398		
Westbound	L	245		1.00	245				245		
	T	457		1.00	457	-	0.00	0	457	«	
					0				0		
Northbound	L	242		1.00	242				242		
					0	-	SPLIT	0	0		
	R	307		1.00	307				307	«	✓
Southbound					0				0	«	✓
					0	242	SPLIT	0	0		
					0				0		

Total Intersection: 1,754 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 829 A

SAT Peak Hour CLV

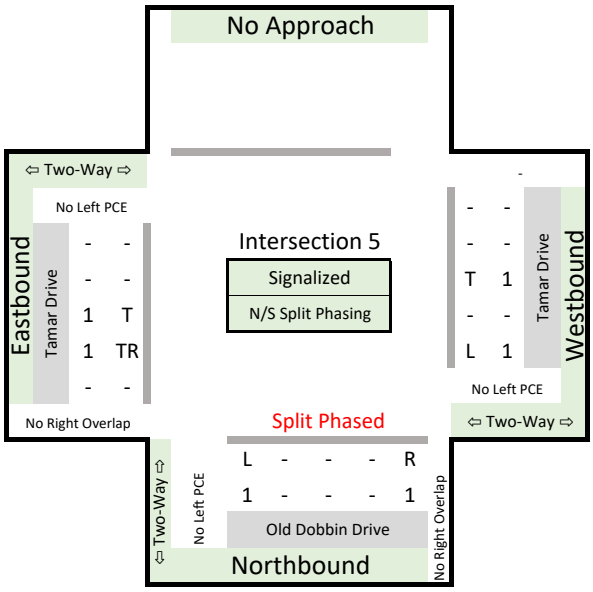


Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				220		
	T+TR	403		0.55	222	220	1.00	220	442	«	✓
	R*	148	0	1.00	148				368		
Westbound	L	220		1.00	220				220		
	T	312		1.00	312	-	0.00	0	312	«	
			0		0				0		
Northbound	L	180		1.00	180				180		
					0	-	SPLIT	0	0		
	R	200	0	1.00	200				200	«	✓
Southbound					0				0	«	✓
					0	180	SPLIT	0	0		
			0		0				0		

Total Intersection: 1,315 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 642 A



Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	141	153	148	-	-	-	187	307	200	-	-	-
RT LUF		n/a			0.00			n/a			n/a	
Adjusted Rights	n/a	n/a	n/a	0	0	0	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	87	242	180	-	-	-	301	245	220	-	-	-
Adj. LT LUF		1.00			1.00			1.00			0.00	
Adjusted Adj. Lefts	87	242	180	0	0	0	301	245	220	0	0	0
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Left Turns	-	-	-	301	245	220	87	242	180	-	-	-
Not Split & TL or LTR	No: No PCE			No: No PCE			No: No PCE			No: No PCE		
Opposing T+R	293	457	312	374	503	403	-	-	-	187	307	200
PCE Factor	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PCE Adjusted Lefts	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

Howard County Standards

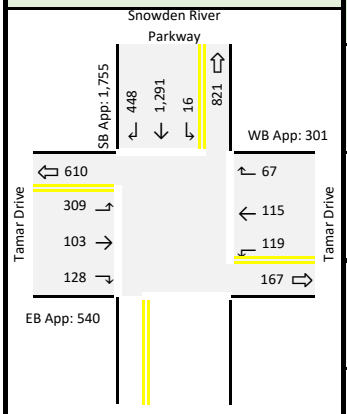
Lane Use Factors		
#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

PCE	Opposing Through+Right		
1.10	0	to	199
2.00	200	to	599
3.00	600	to	799
4.00	800	to	999
5.00	1,000	to	9,999

Project: Long Reach Village
Intersection: 6. Snowden River Parkway and Tamar Drive
Scenario: Background Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV



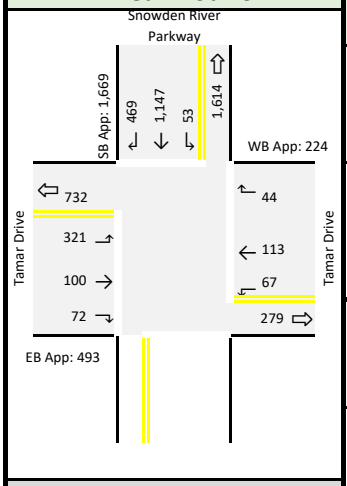
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	LT	412		0.55	227	119	SPLIT	0	227	«	✓
	LTR	540		0.40	216				216		
	R*	128		1.00	128				128		
Westbound	L	119		1.00	119	309	SPLIT	0	119	«	✓
	T+TR	182		0.55	100				100		
	R*	67		1.00	67				67		
Northbound	L	47		1.00	47	16	1.00	16	63		
	T+TR	493		0.55	271				287	«	
	R*	48		1.00	48				64		
Southbound	L	16		1.00	16	47	1.00	47	63		
	T+T	1,291		0.55	710				757	«	✓
	R	448	0	1.00	448				495		

Total Intersection: 3,136 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 1,103 B

PM Peak Hour CLV



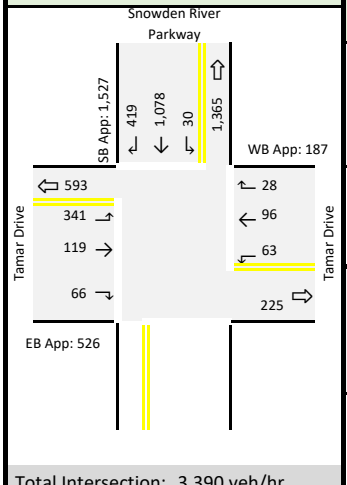
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	LT	421		0.55	232	67	SPLIT	0	232	«	✓
	LTR	493		0.40	197				197		
	R*	72	0	1.00	72				72		
Westbound	L	67		1.00	67	321	SPLIT	0	67		
	T+TR	157		0.55	86				86	«	✓
	R*	44	0	1.00	44				44		
Northbound	L	150		1.00	150	53	1.00	53	203		
	T+TR	1375		0.55	756				809	«	✓
	R*	126	0	1.00	126				179		
Southbound	L	53		1.00	53	150	1.00	150	203		
	T+T	1,147		0.55	631				781	«	
	R	469	0	1.00	469				619		

Total Intersection: 3,911 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 1,127 B

SAT Peak Hour CLV

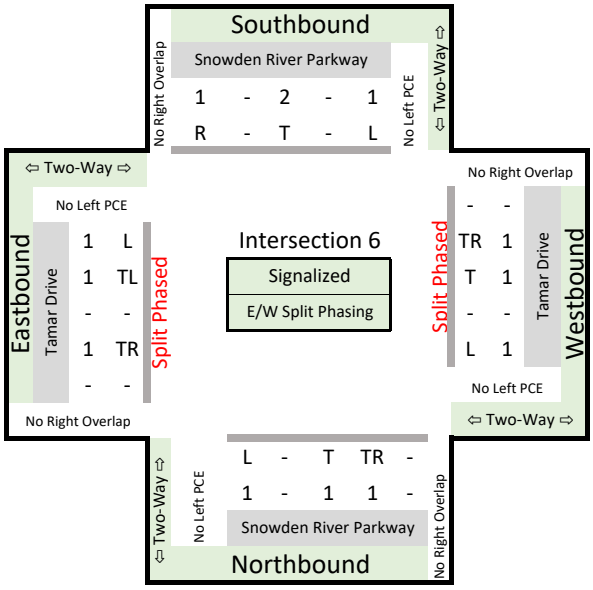


Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	LT	460		0.55	253	63	SPLIT	0	253	«	✓
	LTR	526		0.40	210				210		
	R*	66	0	1.00	66				66		
Westbound	L	63		1.00	63	341	SPLIT	0	63		
	T+TR	124		0.55	68				68	«	✓
	R*	28	0	1.00	28				28		
Northbound	L	78		1.00	78	30	1.00	30	108		
	T+TR	1072		0.55	590				620	«	
	R*	76	0	1.00	76				106		
Southbound	L	30		1.00	30	78	1.00	78	108		
	T+T	1,078		0.55	593				671	«	✓
	R	419	0	1.00	419				497		

Total Intersection: 3,390 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 992 A



Right Turn Overlap Adjustments

	Eastbound			Westbound			Northbound			Southbound		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
Right Turns	128	72	66	67	44	28	48	126	76	448	469	419
RT LUF		n/a			n/a			n/a			n/a	
Adjusted Rights	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	47	150	78	16	53	30	119	67	63	309	321	341
Adj. LT LUF		1.00			1.00			1.00			0.60	
Adjusted Adj. Lefts	47	150	78	16	53	30	119	67	63	185	193	205
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Passenger Car Equivalent (PCE) Adjustments

	Eastbound			Westbound			Northbound			Southbound		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
Left Turns	309	321	341	119	67	63	47	150	78	16	53	30
Not Split & TL or LTR		No: No PCE			No: No PCE			No: No PCE			No: No PCE	
Opposing T+R	182	157	124	231	172	185	1,739	1,616	1,497	493	1,375	1,072
PCE Factor	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
PCE Adjusted Lefts	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

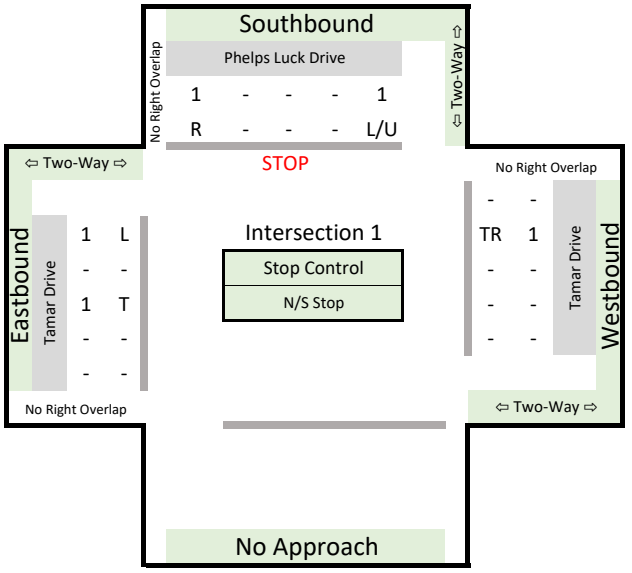
Howard County Standards

Lane Use Factors		
#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

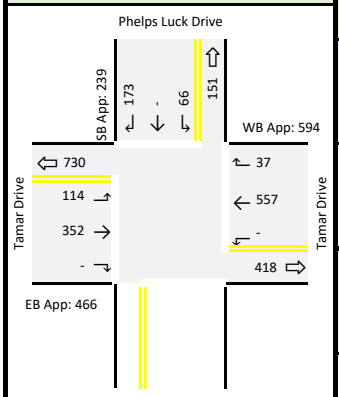
LOS	CLV Range			PCE	Opposing Through+Right		
A	0	to	1,000	1.10	0	to	199
B	1,001	to	1,150	2.00	200	to	599
C	1,151	to	1,300	3.00	600	to	799
D	1,301	to	1,450	4.00	800	to	999
E	1,451	to	1,600	5.00	1,000	to	9,999
F	1,601	to	9,999				

Project: Long Reach Village
Intersection: 1. Phelps Luck Drive and Tamar Drive
Scenario: Total Future Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers



AM Peak Hour CLV

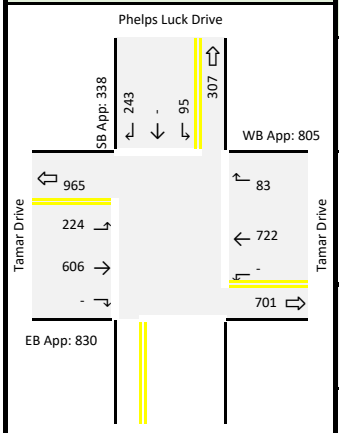


Total Intersection: 1,299 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	114		1.00	114				114		
	T	352		1.00	352	-	0.00	0	352	«	
					0				0		
Westbound					0				114		
	TR	594		1.00	594	114	1.00	114	708	«	✓
	R*	37	0	1.00	37				151		
Northbound					0				66	«	
					0	66	1.00	66	66		
					0				66		
Southbound	L	66		1.00	66				66		
					0	-	0.00	0	0		
	R	173	0	1.00	173				173	«	✓
								CLV	881		A

Notes: * Defacto right-turn lane test, if applicable

PM Peak Hour CLV

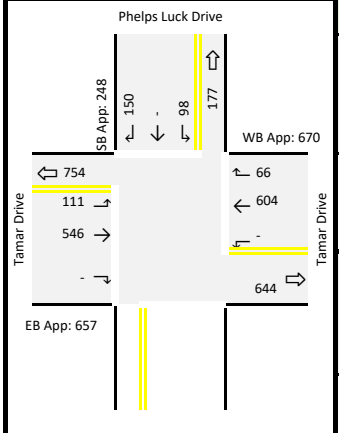


Total Intersection: 1,973 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	224		1.00	224				224		
	T	606		1.00	606	-	0.00	0	606	«	
					0				0		
Westbound					0				224		
	TR	805		1.00	805	224	1.00	224	1029	«	✓
	R*	83	0	1.00	83				307		
Northbound					0				95	«	
					0	95	1.00	95	95		
					0				95		
Southbound	L	95		1.00	95				95		
					0	-	0.00	0	0		
	R	243	0	1.00	243				243	«	✓
								CLV	1,272		C

Notes: * Defacto right-turn lane test, if applicable

SAT Peak Hour CLV



Total Intersection: 1,575 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	111		1.00	111				111		
	T	546		1.00	546	-	0.00	0	546	«	
					0				0		
Westbound					0				111		
	TR	670		1.00	670	111	1.00	111	781	«	✓
	R*	66	0	1.00	66				177		
Northbound					0				98	«	
					0	98	1.00	98	98		
					0				98		
Southbound	L	98		1.00	98				98		
					0	-	0.00	0	0		
	R	150	0	1.00	150				150	«	✓
								CLV	931		A

Notes: * Defacto right-turn lane test, if applicable

Right Turn Overlap Adjustments

	Eastbound			Westbound			Northbound			Southbound		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
Right Turns	-	-	-	37	83	66	-	-	-	173	243	150
RT LUF		n/a			n/a			0.00			n/a	
Adjusted Rights	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	n/a	n/a	n/a
Adjacent Lefts	-	-	-	66	95	98	-	-	-	114	224	111
Adj. LT LUF		0.00			1.00			0.00			1.00	
Adjusted Adj. Lefts	0	0	0	66	95	98	0	0	0	114	224	111
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

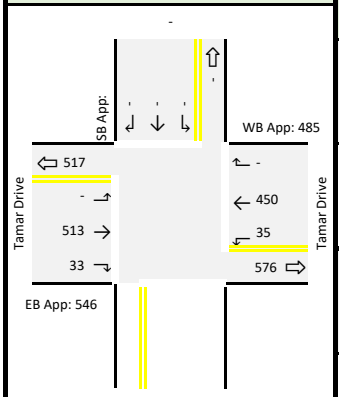
Howard County Standards

Lane Use Factors			LOS	CLV Range			
#	Th & R	L					
1	1.00	1.00	A	0	to	1,000	
2	0.55	0.60	B	1,001	to	1,150	
3	0.40	0.00	C	1,151	to	1,300	
4	0.30	0.00	D	1,301	to	1,450	
5	0.00	0.00	E	1,451	to	1,600	
			F	1,601	to	9,999	

Project: Long Reach Village
Intersection: Cloudleap Court and Tamar Drive
Scenario: Total Future Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV



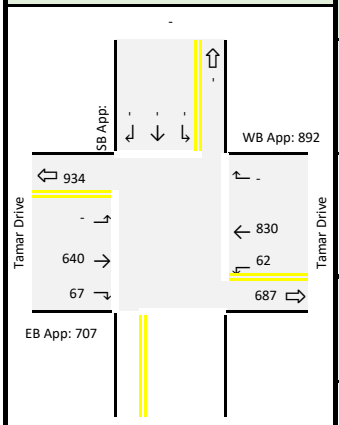
Total Intersection: 1,161 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				35		
	T	513		1.00	513	35	1.00	35	548	«	✓
	R	33	0	1.00	33				68		
Westbound	L	35		1.00	35				35		
	T	450		1.00	450	-	0.00	0	450	«	
					0				0		
Northbound	L	67		1.00	67				67	«	✓
					0	-	SPLIT	0	0		
	R	63	0	1.00	63				63		
Southbound					0				0	«	✓
					0	67	SPLIT	0	0		
					0				0		

Notes: * Defacto right-turn lane test, if applicable

CLV 615 A

PM Peak Hour CLV



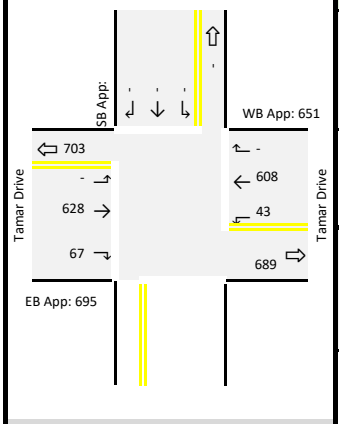
Total Intersection: 1,750 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				62		
	T	640		1.00	640	62	1.00	62	702	«	
	R	67	0	1.00	67				129		
Westbound	L	62		1.00	62				62		
	T	830		1.00	830	-	0.00	0	830	«	✓
					0				0		
Northbound	L	104		1.00	104				104	«	✓
					0	-	SPLIT	0	0		
	R	47	0	1.00	47				47		
Southbound					0				0	«	✓
					0	104	SPLIT	0	0		
					0				0		

Notes: * Defacto right-turn lane test, if applicable

CLV 934 A

SAT Peak Hour CLV

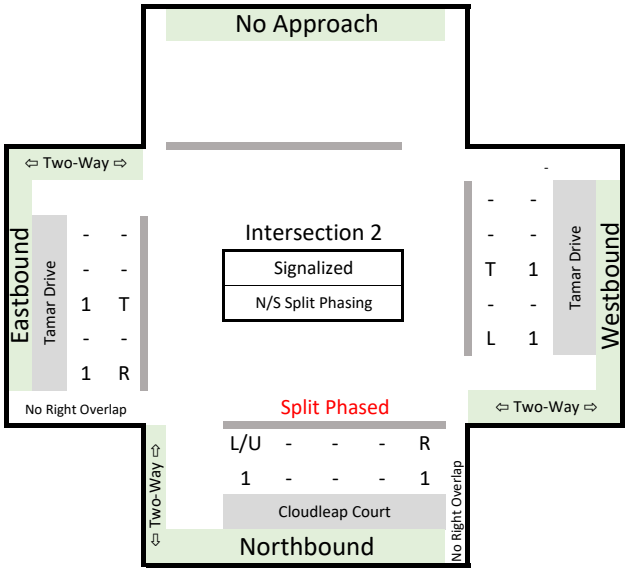


Total Intersection: 1,502 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				43		
	T	628		1.00	628	43	1.00	43	671	«	✓
	R	67	0	1.00	67				110		
Westbound	L	43		1.00	43				43		
	T	608		1.00	608	-	0.00	0	608	«	
					0				0		
Northbound	L	95		1.00	95				95	«	✓
					0	-	SPLIT	0	0		
	R	61	0	1.00	61				61		
Southbound					0				0	«	✓
					0	95	SPLIT	0	0		
					0				0		

Notes: * Defacto right-turn lane test, if applicable

CLV 766 A



Right Turn Overlap Adjustments

	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	33	67	67	-	-	-	63	47	61	-	-	-
RT LUF		n/a			0.00			n/a			n/a	
Adjusted Rights	n/a	n/a	n/a	0	0	0	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	67	104	95	-	-	-	35	62	43	-	-	-
Adj. LT LUF		1.00			0.00			1.00			0.00	
Adjusted Adj. Lefts	67	104	95	0	0	0	35	62	43	0	0	0
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Howard County Standards

#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

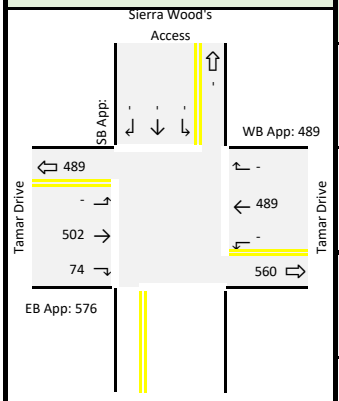
Lane Use Factors

LOS	CLV Range
A	0 to 1,000
B	1,001 to 1,150
C	1,151 to 1,300
D	1,301 to 1,450
E	1,451 to 1,600
F	1,601 to 9,999

Project: Long Reach Village
Intersection: Future Site Access and Tamar Drive
Scenario: Total Future Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV

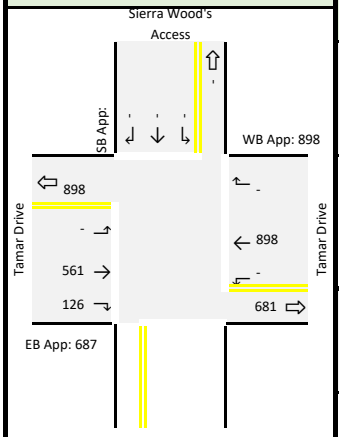


Total Intersection: 1,123 veh/hr

Notes: * Defacto right-turn lane test, if applicable

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	-		1.00	0				0		
	TR	576		1.00	576	-	0.00	0	576	«	✓
	R*	74		1.00	74				74		
Westbound					0				0		
	TR	489		1.00	489	-	1.00	0	489	«	
	R*	-	0	1.00	0				0		
Northbound					0				0		
					0	-	1.00	0	0		
	R	58		1.00	58				58	«	✓
Southbound					0				0	«	
	LTR	-		1.00	0	-	0.00	0	0		
	R*	-	0	1.00	0				0		
							CLV		634		A

PM Peak Hour CLV

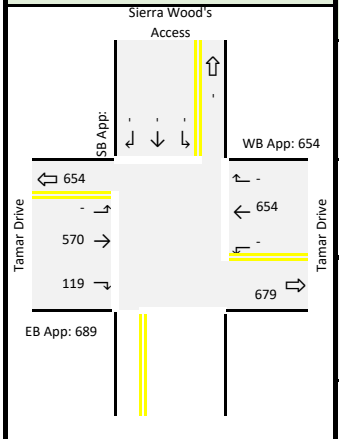


Total Intersection: 1,705 veh/hr

Notes: * Defacto right-turn lane test, if applicable

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	-		1.00	0				0		
	TR	687		1.00	687	-	0.00	0	687	«	
	R*	126		1.00	126				126		
Westbound					0				0		
	TR	898		1.00	898	-	1.00	0	898	«	✓
	R*	-	0	1.00	0				0		
Northbound					0				0		
					0	-	1.00	0	0		
	R	120		1.00	120				120	«	✓
Southbound					0				0	«	
	LTR	-		1.00	0	-	0.00	0	0		
	R*	-	0	1.00	0				0		
							CLV		1,018		B

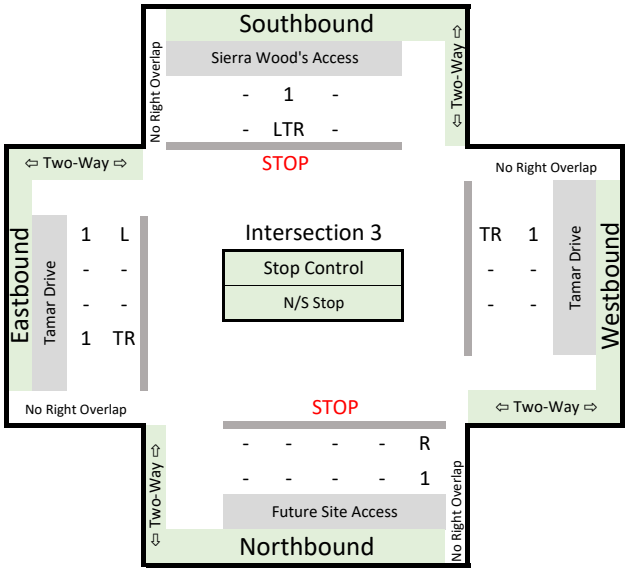
SAT Peak Hour CLV



Total Intersection: 1,452 veh/hr

Notes: * Defacto right-turn lane test, if applicable

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	-		1.00	0				0		
	TR	689		1.00	689	-	0.00	0	689	«	✓
	R*	119		1.00	119				119		
Westbound					0				0		
	TR	654		1.00	654	-	1.00	0	654	«	
	R*	-	0	1.00	0				0		
Northbound					0				0		
					0	-	1.00	0	0		
	R	109		1.00	109				109	«	✓
Southbound					0				0	«	
	LTR	-		1.00	0	-	0.00	0	0		
	R*	-	0	1.00	0				0		
							CLV		798		A



Right Turn Overlap Adjustments

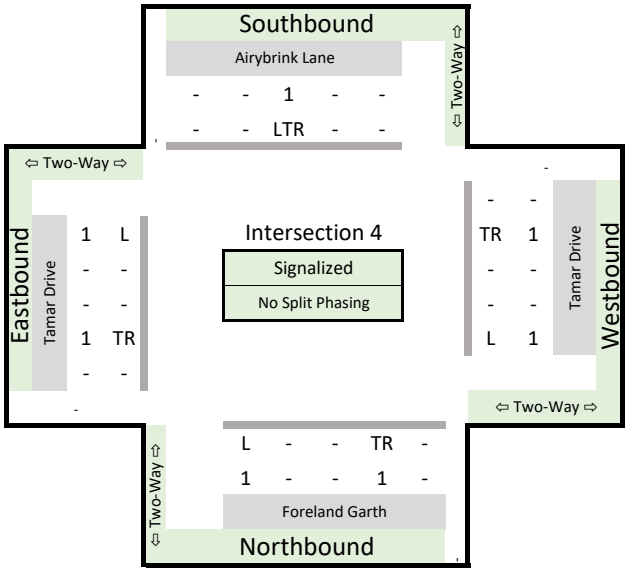
	Eastbound AM	Eastbound PM	Eastbound SAT	Westbound AM	Westbound PM	Westbound SAT	Northbound AM	Northbound PM	Northbound SAT	Southbound AM	Southbound PM	Southbound SAT
Right Turns	74	126	119	-	-	-	58	120	109	-	-	-
RT LUF		n/a			n/a			n/a			n/a	
Adjusted Rights	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	-	-	-	-	-	-	-	-	-	-	-	-
Adj. LT LUF		0.00			1.00			0.00			1.00	
Adjusted Adj. Lefts	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Howard County Standards

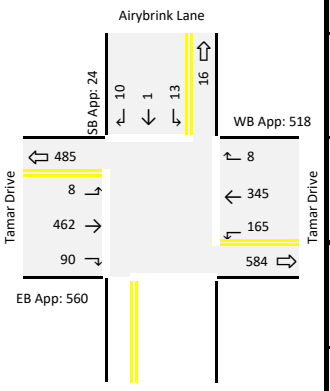
Lane Use Factors			LOS	CLV Range
#	Th & R	L		
1	1.00	1.00	A	0 to 1,000
2	0.55	0.60	B	1,001 to 1,150
3	0.40	0.00	C	1,151 to 1,300
4	0.30	0.00	D	1,301 to 1,450
5	0.00	0.00	E	1,451 to 1,600
			F	1,601 to 9,999

Project: Long Reach Village
Intersection: 4. Airybrink Lane/Forelan Garth and Tamar Drive
Scenario: Total Future Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers



AM Peak Hour CLV

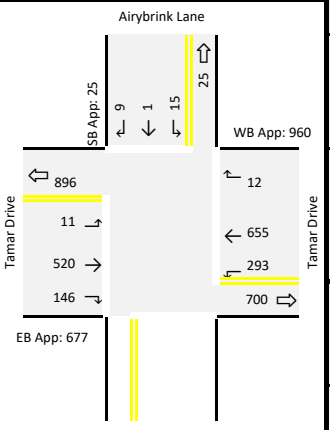


Total Intersection: 1,341 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	8		1.00	8				173		
	TR	552		1.00	552	165	1.00	165	717	«	✓
	R*	90		1.00	90				255		
Westbound	L	165		1.00	165				173		
	TR	353		1.00	353	8	1.00	8	361	«	
	R*	8	0	1.00	8				16		
Northbound	L	130		1.00	130				143	«	✓
	TR	109		1.00	109	13	1.00	13	122		
	R*	109		1.00	109				122		
Southbound					0				130		
	LTR	11		1.00	11	130	1.00	130	141	«	
	R*	10	0	1.00	10				140		
									CLV	860	A

Notes: * Defacto right-turn lane test, if applicable

PM Peak Hour CLV

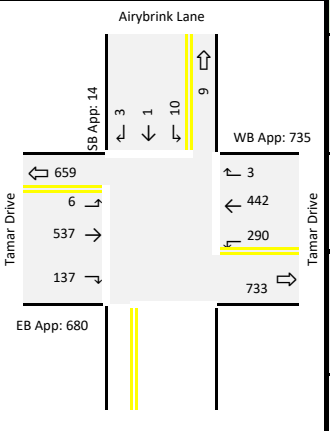


Total Intersection: 2,061 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	11		1.00	11				304		
	TR	666		1.00	666	293	1.00	293	959	«	✓
	R*	146		1.00	146				439		
Westbound	L	293		1.00	293				304		
	TR	667		1.00	667	11	1.00	11	678	«	
	R*	12		1.00	12				23		
Northbound	L	232		1.00	232				247	«	✓
	TR	167		1.00	167	15	1.00	15	182		
	R*	165		1.00	165				180		
Southbound					0				232		
	LTR	10		1.00	10	232	1.00	232	242	«	
	R*	9		1.00	9				241		
									CLV	1,206	C

Notes: * Defacto right-turn lane test, if applicable

SAT Peak Hour CLV



Total Intersection: 1,829 veh/hr

Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	L	6		1.00	6				296		
	TR	674		1.00	674	290	1.00	290	964	«	✓
	R*	137	0	1.00	137				427		
Westbound	L	290		1.00	290				296		
	TR	445		1.00	445	6	1.00	6	451	«	
	R*	3	0	1.00	3				9		
Northbound	L	214		1.00	214				224	«	✓
	TR	186		1.00	186	10	1.00	10	196		
	R*	186	0	1.00	186				196		
Southbound					0				214		
	LTR	4		1.00	4	214	1.00	214	218	«	
	R*	3	0	1.00	3				217		
									CLV	1,188	C

Notes: * Defacto right-turn lane test, if applicable

Right Turn Overlap Adjustments

	Eastbound			Westbound			Northbound			Southbound		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
Right Turns	90	146	137	8	12	3	109	165	186	10	9	3
RT LUF		0.00			0.00			0.00			0.00	
Adjusted Rights	0	0	0	0	0	0	0	0	0	0	0	0
Adjacent Lefts	130	232	214	13	15	10	165	293	290	8	11	6
Adj. LT LUF		1.00			1.00			1.00			1.00	
Adjusted Adj. Lefts	130	232	214	13	15	10	165	293	290	8	11	6
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

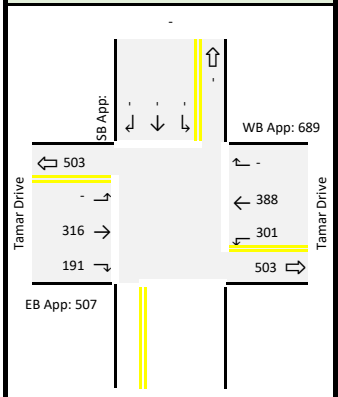
Howard County Standards

Lane Use Factors			LOS	CLV Range			
#	Th & R	L					
1	1.00	1.00	A	0	to	1,000	
2	0.55	0.60	B	1,001	to	1,150	
3	0.40	0.00	C	1,151	to	1,300	
4	0.30	0.00	D	1,301	to	1,450	
5	0.00	0.00	E	1,451	to	1,600	
			F	1,601	to	9,999	

Project: Long Reach Village
Intersection: 5. Old Dobbin Lane anad Tamar Drive
Scenario: Total Future Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV

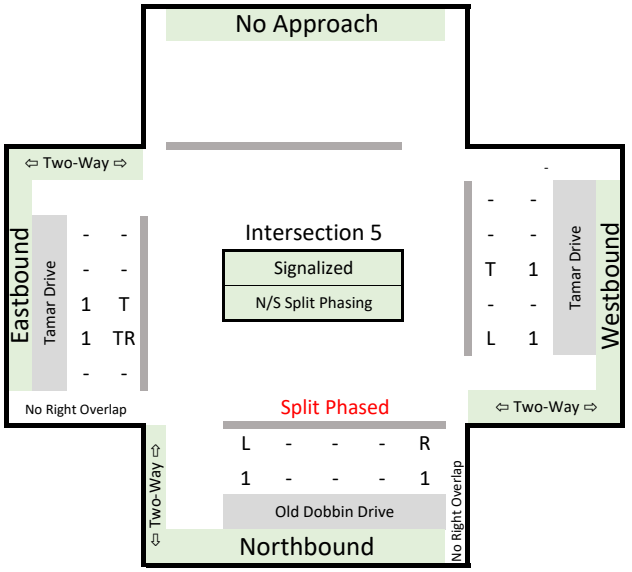


Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				301		
	T+TR	507		0.55	279	301	1.00	301	580	«	✓
	R*	191		1.00	191				492		
Westbound	L	301		1.00	301				301		
	T	388		1.00	388	-	0.00	0	388	«	
					0				0		
Northbound	L	115		1.00	115				115		
					0	-	SPLIT	0	0		
	R	187		1.00	187				187	«	✓
Southbound					0				0	«	✓
					0	115	SPLIT	0	0		
					0				0		

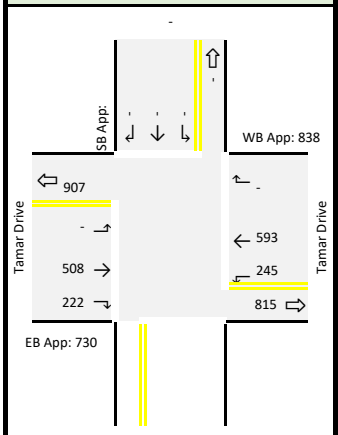
Total Intersection: 1,498 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 767 A



PM Peak Hour CLV



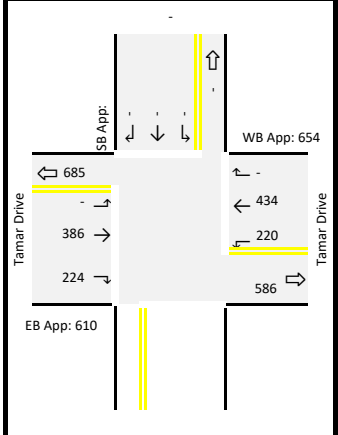
Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				245		
	T+TR	730		0.55	402	245	1.00	245	647	«	✓
	R*	222		1.00	222				467		
Westbound	L	245		1.00	245				245		
	T	593		1.00	593	-	0.00	0	593	«	
					0				0		
Northbound	L	314		1.00	314				314	«	✓
					0	-	SPLIT	0	0		
	R	307		1.00	307				307		
Southbound					0				0	«	✓
					0	314	SPLIT	0	0		
					0				0		

Total Intersection: 2,189 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 961 A

SAT Peak Hour CLV



Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound					0				220		
	T+TR	610		0.55	336	220	1.00	220	556	«	✓
	R*	224	0	1.00	224				444		
Westbound	L	220		1.00	220				220		
	T	434		1.00	434	-	0.00	0	434	«	
			0		0				0		
Northbound	L	251		1.00	251				251	«	✓
					0	-	SPLIT	0	0		
	R	200	0	1.00	200				200		
Southbound					0				0	«	✓
					0	251	SPLIT	0	0		
			0		0				0		

Total Intersection: 1,715 veh/hr

Notes: * Defacto right-turn lane test, if applicable

CLV 807 A

Right Turn Overlap Adjustments

	Eastbound			Westbound			Northbound			Southbound		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
Right Turns	191	222	224	-	-	-	187	307	200	-	-	-
RT LUF		n/a			0.00			n/a			n/a	
Adjusted Rights	n/a	n/a	n/a	0	0	0	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	115	314	251	-	-	-	301	245	220	-	-	-
Adj. LT LUF		1.00			1.00			1.00			0.00	
Adjusted Adj. Lefts	115	314	251	0	0	0	301	245	220	0	0	0
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Howard County Standards

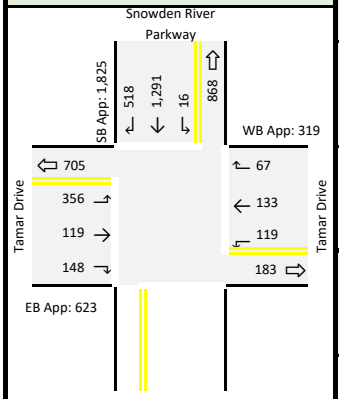
Lane Use Factors

#	Th & R	L
1	1.00	1.00
2	0.55	0.60
3	0.40	0.00
4	0.30	0.00
5	0.00	0.00

Project: Long Reach Village
Intersection: 6. Snowden River Parkway and Tamar Drive
Scenario: Total Future Conditions
Jurisdiction: Howard County

GOROVE SLADE
Transportation Planners and Engineers

AM Peak Hour CLV

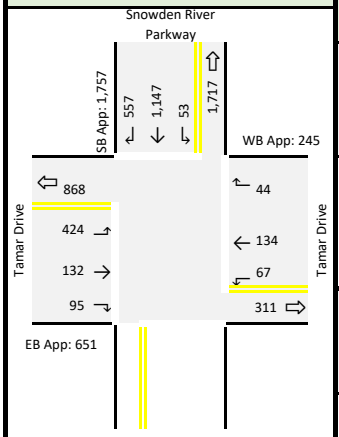


Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	LT	475		0.55	261	119	SPLIT	0	261	«	✓
	LTR	623		0.40	249				249		
	R*	148		1.00	148				148		
Westbound	L	119		1.00	119	356	SPLIT	0	119	«	✓
	T+TR	200		0.55	110				110		
	R*	67		1.00	67				67		
Northbound	L	54		1.00	54	16	1.00	16	70		
	T+TR	493		0.55	271				287	«	
	R*	48		1.00	48				64		
Southbound	L	16		1.00	16	54	1.00	54	70		
	T+T	1,291		0.55	710				764	«	✓
	R	518	0	1.00	518				572		
								CLV	1,144		B

Total Intersection: 3,314 veh/hr

Notes: * Defacto right-turn lane test, if applicable

PM Peak Hour CLV

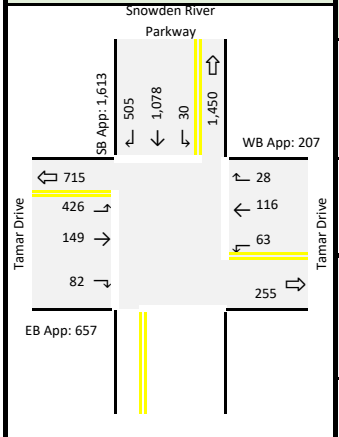


Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	LT	556		0.55	306	67	SPLIT	0	306	«	✓
	LTR	651		0.40	260				260		
	R*	95	0	1.00	95				95		
Westbound	L	67		1.00	67	424	SPLIT	0	67		
	T+TR	178		0.55	98				98	«	✓
	R*	44	0	1.00	44				44		
Northbound	L	177		1.00	177	53	1.00	53	230		
	T+TR	1375		0.55	756				809	«	✓
	R*	126	0	1.00	126				179		
Southbound	L	53		1.00	53	177	1.00	177	230		
	T+T	1,147		0.55	631				808	«	
	R	557	0	1.00	557				734		
								CLV	1,213		C

Total Intersection: 4,205 veh/hr

Notes: * Defacto right-turn lane test, if applicable

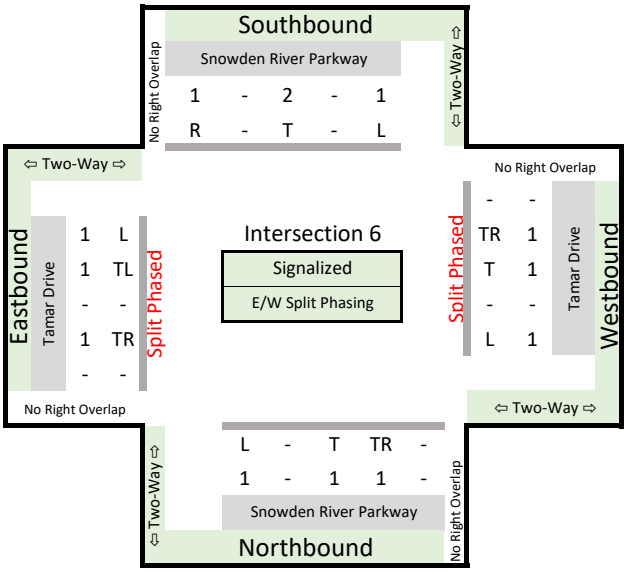
SAT Peak Hour CLV



Approach	Lane Group	Lane Group Volume	Overlap	LUF	Sum	Opp. Lefts	LT LUF	Opp. Volume	Summary Group	Max	CLV
Eastbound	LT	575		0.55	316	63	SPLIT	0	316	«	✓
	LTR	657		0.40	263				263		
	R*	82	0	1.00	82				82		
Westbound	L	63		1.00	63	426	SPLIT	0	63		
	T+TR	144		0.55	79				79	«	✓
	R*	28	0	1.00	28				28		
Northbound	L	94		1.00	94	30	1.00	30	124		
	T+TR	1072		0.55	590				620	«	
	R*	76	0	1.00	76				106		
Southbound	L	30		1.00	30	94	1.00	94	124		
	T+T	1,078		0.55	593				687	«	✓
	R	505	0	1.00	505				599		
								CLV	1,082		B

Total Intersection: 3,643 veh/hr

Notes: * Defacto right-turn lane test, if applicable



Right Turn Overlap Adjustments

	Eastbound			Westbound			Northbound			Southbound		
	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
Right Turns	148	95	82	67	44	28	48	126	76	518	557	505
RT LUF		n/a			n/a			n/a			n/a	
Adjusted Rights	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Adjacent Lefts	54	177	94	16	53	30	119	67	63	356	424	426
Adj. LT LUF		1.00			1.00			1.00			0.60	
Adjusted Adj. Lefts	54	177	94	16	53	30	119	67	63	214	254	256
Right Turn Overlap	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Howard County Standards

Lane Use Factors			LOS	CLV Range			
#	Th & R	L					
1	1.00	1.00	A	0	to	1,000	
2	0.55	0.60	B	1,001	to	1,150	
3	0.40	0.00	C	1,151	to	1,300	
4	0.30	0.00	D	1,301	to	1,450	
5	0.00	0.00	E	1,451	to	1,600	
			F	1,601	to	9,999	

G. Multimodal Transportation Studies Checklist

HowardCounty
maryland
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
3430 Court House Drive, Ellicott City, Maryland 21043 410-313-2350

MULTIMODAL TRANSPORTATION STUDIES

This form and the resources embedded herein are intended to aid applicants in completing the Multimodal Transportation Study.

I. BACKGROUND

The Howard County Design Manual was updated in February 2022 to incorporate the Howard County Complete Streets Policy. A Multimodal Transportation Study (MTS) is to be completed by the applicant as detailed in the Howard County Design Manual Volume III, Chapter 5 page 5-10 which states: "For development projects in proximity of a county school, county park, county library, or other specified location, a multimodal transportation study will be submitted to DPZ along with the first submission of the Sketch, Preliminary Equivalent Sketch, or Site Development Plan."

Note: The applicant may also be required to complete a level of service study for motor vehicle traffic, a safety evaluation, a parking/access study, and/or a noise study at the discretion of the Department of Public Works in consultation with the Office of Transportation. In addition, all qualifying development projects are required to conduct an Adequate Road Facilities Test Evaluation as outlined in Chapter 4. Those requirements are not fulfilled by the completion of this form.

II. STEPS

Y/N

☑ ☐ **A. Does your project generate more than 5 peak hour trips?**

If no, this form is complete. Please sign page 2 to certify that your project is exempt from submitting a MTS.

☑ ☐ **B. Is your project located within the below distances to any of the destinations listed in Table 1?**

Please use this interactive map to identify if any of the below destinations are within a designated radius of the proposed development, and select yes or no for each destination.

If none, this form is complete. Please sign page 2 to certify that your project is exempt from submitting a MTS.

		Table 1: Destinations and distances requiring multimodal transportation studies	
		Destination	**Distance**
☑	☐	Howard County Public School (Elementary or Middle School)	1 mile
☑	☐	Howard County Public School (High School)	1.5 miles
☐	☑	Howard County Public Library	0.5 miles
☑	☑	Howard County Park	0.5 miles
☐	☑	Transit Oriented Development	0.5 miles
☐	☑	US Route 40 from the Patapsco River to the interchange with Interstate 70	0.5 miles
☐	☑	Main Street in Ellicott City from the Patapsco River to Rogers Avenue	0.5 miles
☐	☑	Main Street in Elkridge from US Route 1 to Washington Boulevard	0.5 miles

If you selected yes for any of the above destinations, please list them below:

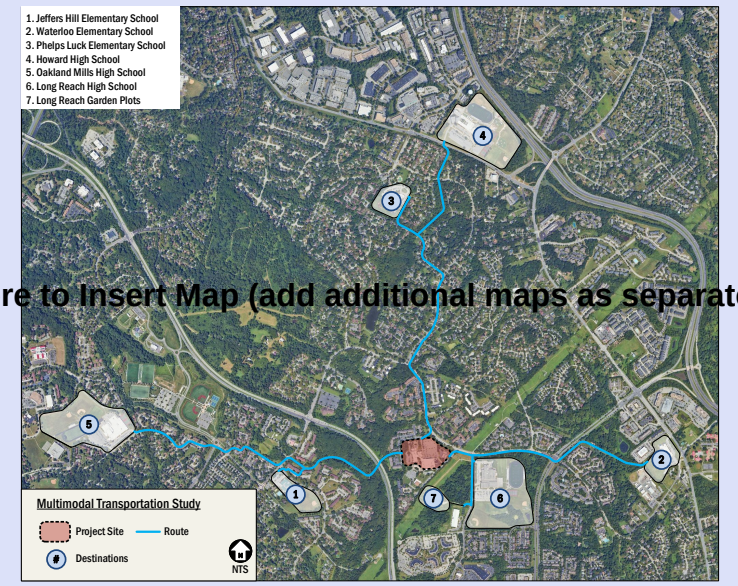
Your proposed project is located within 1 mile of following Elementary and/or Middle Schools:
1. Jeffers Hill Elem
2. Waterloo Elem
3. Phelps Luck Elem

Your proposed project is located within 1.5 miles of following High Schools:
1. Howard High School
2. Oakland Mills High
3. Long Reach High

Your project development is located within 0.5 miles of a park
1. Long Reach Garden Plots

C. **<u>For each of the destinations</u> within the specified distance of your development, provide a map showing a pedestrian and bicycle connection between the development and the destination.** Note: Developers are just required to show these connections, *not* build them.

- The pedestrian connection identified must be suitable for an elementary school aged child, e.g. sidewalks or a 10' wide shared use path *with* designated street crossings. The map should clearly note whether each segment of the pedestrian facility is existing or proposed.
- The bicycle connection must be Bicycle Level of Traffic Stress 1 (LTS1). LTS guidance is provided on pages 5-11 and 5-12 of Volume III of the Design Manual. The map should clearly note and whether each segment of the bicycle facility is exiting or proposed. The bicycle connection may take advantage of existing LTS1 streets or separated bicycle routes (shared use paths), which should be designated as "existing." Connections along any existing LTS2-4 streets or through undeveloped land used should be designated as "proposed." The bicycle connection should have no gaps in LTS1 connectivity between the development and destination. This interactive map shows the existing LTS for every street in Maryland and existing Separated Bicycle Routes.
- Note that a continuous 10' wide shared use path fulfills both pedestrian and bicycle connectivity requirements.
- An example of a Multimodal Transportation Study is provided on the Office of Transportation website.
- For questions on Multimodal Transportation Studies, contact the Howard County Office of Transportation, transportation@howardcountymd.gov, 410-313-4312



Click Here to Insert Map (add additional maps as separate pages)

I answered no to question A or B, and as result, am not required to submit a Multimodal Transportation Study.

Katie Wagner	K Wagner	10/3/2025
Name	Signature	Date

I answered yes to question A and B and have attached the map(s) showing the pedestrian and bicycle connection(s) between the proposed development and nearby destinations to this form.

Name	Signature	Date

Check the Help and Resources instructions accessible from the ProjectDox login screen for the appropriate locations to upload all documentation including this form. Once you have completed your uploads, remember to complete your ProjectDox task.

Save Form

REV 6/2022