



GLENMONT FOREST

LOCAL AREA TRANSPORTATION REVIEW

October 17, 2023

Revised March 26, 2024

Exhibit 40
H-149



GLENMONT FOREST

Local Area Transportation Review

Montgomery County, Maryland

October 17, 2023
Revised March 26, 2024

Prepared by:

Wells + Associates, Inc.

Anne (Nancy) M. Randall, AICP
amrandall@wellsandassociates.com

John F. Cavan, P.E., PTOE
jfcavan@wellsandassociates.com

www.WellsAndAssociates.com

 [@WellsAssoc](https://twitter.com/WellsAssoc)

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 [Wells + Associates](https://www.linkedin.com/company/Wells+Associates)



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GLENMONT FOREST

Section 1 INTRODUCTION

OVERVIEW

This report details a Local Area Transportation Review (LATR) for Glenmont Forest, located at 2300 Glenmont Circle in Silver Spring, Maryland. The subject site is located along the east side of Georgia Avenue and south of Randolph Road, as shown on Figure 1-1. The site is located within the Kensington/Wheaton Orange Policy Area of Montgomery County. The study intersections are in both the Kensington Wheaton Orange Policy Area and Glenmont Metro Station Red Policy Area. This study was prepared in support of the Local Map Amendment (LMA) application in accordance with the Maryland-National Capital Park and Planning Commission (M-NCPPC) 2023 LATR Guidelines.

The Applicant, Glenmont Forest Investors LP., C/O Grady Management, Inc., is proposing to replace 482 low-rise apartment dwelling units, built in 1962, with up to 2,275 mid-rise apartment dwelling units and less than 15,000 square feet of retail space. The proposed development is expected to occur over approximately a 10 build-out. The site has two existing access points on Randolph Road and one Georgia Avenue: a full access driveway on Randolph Road via Glenmont Circle, a right-in/out access on Randolph Road east of Glenmont Circle, and a right-in/right-out access on Georgia Avenue. The Applicant is proposing one new point of access via the extension of Erskine Avenue into the property. The site plan is shown on Figure 1-2.

An LATR Transportation Study is required for this Local Map Amendment application since the proposed development is expected to generate 50 or more new peak hour person trips during the AM and PM peak periods. The scope of this LATR traffic study was established in consultation with M-NCPPC, Maryland State Highway Administration and Montgomery County Department of Transportation (MCDOT) Staff. The Scope of Work Agreement is included in Appendix A.

This report provides an update to the October 17, 2023, study in order to address MNCPPC, State Highway Administration (SHA), and Montgomery County comments.

EXECUTIVE SUMMARY

The proposed Glenmont Forest redevelopment, which includes removing 482 low-rise apartment units that will be replaced by up to 2,275 mid-rise apartment buildings. This project is subject to the LATR system adequacy tests, based on the number of peak hour person trips the site will generate, as outlined in Montgomery County's Growth and Infrastructure Policy (GIP) and the LATR 2023 Guidelines. Following are the findings and conclusions of the adequacy tests.

1. Glenmont Forest is expected to generate 1,257 AM peak hour and 1,017 PM peak hour new person trips, and 743 AM peak hour and 601 PM peak hour new auto-driver (vehicle) trips.
2. The AM and PM peak hour average vehicle delays for the study intersections within the Kensington/Wheaton Orange Policy Area are operating below the congestion standard of 80 seconds per vehicle. **The study intersections within the Glenmont Metro Station Red Policy Area are not subject to the Motor Vehicle Test. However, for information purposes only, an analysis was conducted for each of Red Policy Area intersections.**
3. Under future conditions, without and with the proposed Glenmont Forest redevelopment, the study intersections within the Kensington/Wheaton Policy Area will continue to operate below congestion standard threshold during both the AM and PM peak hours.
4. For the Pedestrian System Adequacy Test, mitigation will be required to bring the existing undesirable pedestrian level of comfort ratings for segments along Randolph Road, Glenallan Avenue and MD-97 (Georgia Avenue), and to address ADA noncompliance for crosswalk ramps within the study area. At the time of Preliminary Plan/Site Plan, the Applicant will work with Staff to determine the improvements and/or the fair share contribution to improve the PLOC in the study area.
5. Mitigation will be required to pass the Bicycle System Adequacy Test because there is high level of traffic stress under existing conditions along Randolph Road and MD-97 (Georgia Avenue). The Applicant will, at the time of Preliminary Plan/Site Plan, coordinate with Planning Staff to determine the improvement and/or fair share contribution toward the mitigation.
6. Several bus stops within the study area do not have bus shelters. Mitigation is required to pass the Bus Transit System Adequacy Test. The Applicant will, at the time of Preliminary Plan/Site Plan, coordinate with Planning Staff to determine the improvements and/or fair share contribution toward the mitigation.
7. A review of crash history within the 1,000 feet study area radius found that 531 crashes occurred between 2018 and 2023. Of the 531 report crashes, 214 were reported as injury crashes, and four (4) were classified as fatal. According to Montgomery Planning, the most serious injuries and fatalities are located along the County's arterials, such as Georgia

Avenue. The site is located within a High Injury Network along Georgia Avenue south of Randolph Road. Randolph Road east of Glenallan Avenue and Georgia Avenue north of Layhill Road are considered high injury networks.

8. The speed study shows that the 85th percentile speed exceeds 120% of the posted speed limit on Randolph Road, Georgia Avenue and Layhill Road. Therefore, the County should consider speed reduction measures and enforcement.
9. The location and design of the proposed site access roads minimizes turning movement conflicts on Georgia Avenue and Randolph Road. Sidewalks and crosswalks will be provided within and along the property frontage to ensure safe pedestrian access to and from the site. The bike lane along the Georgia Avenue frontage provides a low level of traffic stress for bicyclists travelling to or from the site.

DESCRIPTION OF MULTI-MODAL ADEQUACY TESTS

The following section describes the various multi-modal tests for determining transportation adequacy per the 2023 LATR Guidelines and the Montgomery County Growth and Infrastructure Policy:

Motor Vehicle Adequacy. This test is required for any development generating 50 or more peak hour person trips. Intersections within Orange Policy Areas are evaluated for adequacy using the Highway Capacity Manual (HCM) analyses methodology. The congestion standard (HCM delay based) for intersections within the Orange/Kensington/Wheaton Policy Area is an overall average vehicle delay of 80 seconds per vehicle.

The intersections within the Glenmont Metro Station Red Policy Areas are not subject to the Vehicle Test; however, an analysis was conducted for informational purposes. The capacity analysis and results for those intersections in the Red Policy Area are presented in the Appendix F of this report. The Policy Area designation for each of the study intersections is noted below.

The scope of the study intersections is based on the motor vehicle trip generation. For sites generating more than 250 peak hour vehicle trips, the study area is required to include a minimum of two (2) significant intersection transportation studies in each direction. The proposed development will generate 743 AM and 601 PM new peak hour vehicle trips. The following study area was identified in consultation with Staff during the scoping process:

1. Randolph Road / Livingston Street- Red Policy Area
2. Randolph Road / Georgia Avenue -Red Policy Area
3. Randolph Road / Glenmont Circle -Red Policy Area
4. Randolph Road / Residential Driveway (East of Glenmont Circle) -Red Policy Area
5. Randolph Road / Glenallan Avenue -Red Policy Area
6. Randolph Road / Middlevale Lane / Garden Gate Road -Orange Policy Area

7. Georgia Avenue / Layhill Road -Red Policy Area
8. Georgia Avenue / Glenmont Circle -Orange Policy Area
9. Georgia Avenue / Shorefield Road-Orange Policy Area
10. Layhill Road / Glenallan Avenue -Red Policy Area
11. Georgia Avenue / Arcola Avenue-Orange Policy Area
12. Glenallan Avenue / Eskine Avenue-Orange Policy Area
13. Randolph Road / Heurich Road-Orange Policy Area

Pedestrian System Adequacy is defined by the criteria described in section V.A of the Guidelines. The Pedestrian System Adequacy test consists of three components:

Pedestrian Level of Comfort (PLOC). Per the Guidelines, pedestrian system adequacy is defined as providing a “Somewhat Comfortable” (PLOC-2) or “Very Comfortable” (PLOC-1) score on streets and intersections for roads classified as Primary Residential or higher (excluding Controlled Major Highways and Freeways, and their ramps), within a certain walkshed from the site frontage, specified in the LATR Guidelines. Specific improvements to be constructed are to be identified in consultation with MNCPPC and MCDOT.

Street Lighting. As stated in the Guidelines, the Applicant must evaluate existing street lighting based on MCDOT standards along roadways or paths from the development to destinations within a certain walkshed from the site frontage as specified in the LATR Guidelines. The Guidelines also identifies the maximum span of street lighting that the Applicant must provide beyond the frontage. Where standards are not met, the Applicant must upgrade the street lighting to meet the applicable standards.

ADA Compliance. The Guidelines state that the Applicant must address Americans with Disabilities Act (ADA) noncompliance issues within a certain walkshed from the site frontage equivalent to half the walkshed specified in the LATR Guidelines. The maximum span of ADA improvements that the Applicant must provide beyond the frontage is also identified in the Guidelines.

Based on the expected peak hour person trips to be generated by this site, the required distances for the three components of the pedestrian study area are as follows:

- Pedestrian Level of Comfort and Street Lighting Study Area
1,000 feet in in all directions from the property
- ADA Compliance Study Area
500 feet in all directions from the site

Bicycle System Adequacy. This analysis considers the following:

Bicycle system adequacy is defined by the criteria described in Section VI.A of the LATR Guidelines. Per the Guidelines, the determination of adequacy is the achievement of a low Level of Traffic

Stress (LTS-2) for bicyclists. As stated in the Guidelines, bicycle system analysis is based on the following standards and scoping:

For any site generating at least 50 net new weekday peak-hour person trips, the Applicant is to conduct an analysis of existing and programmed conditions to ensure low Level of Traffic Stress (LTS-2) conditions on all transportation rights-of-way within a certain distance of the site frontage, specified in the LATR Guidelines. If current and programmed connections will not create adequate conditions, the Applicant must construct side paths, separated bike lanes, or trails, consistent with the Bicycle Master Plan, that create or extend LTS-2 conditions up to the specified distance from the site frontage.

Based on the expected person trips to be generated by this site, the required distance for the bicycle study area is within 1,000 feet of the site.

Bus Transit System Adequacy. This analysis considers the following:

Bus transit system adequacy is defined by the criteria described in Section VII.A of the LATR Guidelines. As stated in the Guidelines, for any site generating at least 50 net new weekday peak-hour person trips in Red, Orange, and Yellow Policy Areas, the Applicant is to conduct an analysis of existing and programmed conditions to ensure that there are bus shelters outfitted with real-time travel information displays and other standard amenities, along with a safe, efficient, and accessible path between the site and a bus stop, at a certain number of bus stops within a certain distance of the site frontage, specified in the LATR Guidelines. Where shelters and associated amenities are not provided, an Applicant must construct up to the number of shelters and amenities specified in the Guidelines.

Based on the expected person trips to be generated by this site, the required distance for the transit study area is 4 bus shelters within 1,500 feet of the site.

Vision Zero

According to the LATR Guidelines, all LATR studies for a site that will generate 50 or more net new weekday peak-hour person trips must develop a Vision Zero Statement. This statement must assess high injury network, review traffic speeds, and describe in detail how safe site access will be provided. With concurrence of the responsible agency, projects must implement or contribute to the implementation of safety countermeasures. The Planning Board must find a nexus to the Project's impact and that any countermeasure is proportional to that impact. The County Council may adopt predictive safety analysis as part of this statement, when available. The components of the Vision Zero Statement are described below, as stated in the LATR Guidelines.

1. **Review High Injury Network segments:** Document any segments on the High Injury Network (HIN) that are within a certain distance of the site frontage, as specified in the LATR Guidelines.

- a. *HIN Attributes*: Document attributes of the roadway segment(s), including number of lanes, posted speed limit, presence of pedestrian or bicycle infrastructure and crossings, and annual average daily traffic (if available).
 - b. *HIN Crashes*: Summarize the crashes on the relevant segment(s) within the past five years, noting the severity and mode of crashes. Review the crash attributes and summarize any trends (e.g., collision type, time of day of crashes, contributing factors).
 - c. *HIN Improvements*: Identify any recent improvements to the segment(s) or if safety improvements for the segment are included in the approved Capital Improvement Program.
2. **Assess proximate safety issues**: Review the crash history for all segments and crossings within a certain distance of the site frontage, as specified in the LATR Guidelines.
 - a. *Crash Summary*: Summarize the crashes within the past five years, noting the overall severity and mode of crashes. For any severe or fatal crashes, document the collision type, mode, and whether the crash occurred at an intersection or along a segment.
3. **Review traffic speeds**: Conduct speed studies within a certain distance from the site frontage, specified in the LATR Guidelines. Speed studies should be conducted mid-week (Tuesday, Wednesday, or Thursday) on days when school is in session. Locations will be determined by Planning Staff in collaboration with MCDOT Staff and will prioritize filling in gaps in the inventory of speed studies. Relevant speed studies that have been completed within the past three years may be used to fulfill this requirement if gaps do not remain in the inventory of speed studies.
 - a. *Observed Speeds*: For each speed study, document the 50th and 85th percentile speed for each direction.
 - b. *10-mile per hour (mph) Pace*: For each speed study, document the range of speed at which the majority of cars are traveling.
4. **Describe site access**: Summarize the safety issues identified in components 1 through 3 and describe how site circulation promotes safety, outlining how safe access will be provided to the site. Planning Staff will note if the Applicant is contributing a fee in lieu of constructing a countermeasure. Reference the Vision Zero Community Toolkit (forthcoming) or national best practices and research in outlining the appropriate treatments to address identified safety issues.
 - a. *High Injury Network*: If applicable, summarize how the project's right-of-way improvements along the HIN will address identified safety issues.
 - b. *Proximate Safety Issues*: Record how the project's right-of-way improvements within the vicinity of the site will address identified safety issues for motorists, transit riders, bicyclists, and pedestrians.

- c. *Traffic Speeds*: If observed 85th percentile speed for any day or direction exceeds the posted speed by 20 mph, summarize speed management improvements that could reduce speeds along the roadway. For example, traffic calming would be warranted on a roadway with a 25-mph posted speed limit if the observed 85th percentile speed is greater than 30 mph.
- d. *Site Circulation*: Document how site design promotes bicycle, pedestrian, and motor vehicle occupant safety. For example, limiting vehicle access points and locating and designing parking to reduce conflicts with pedestrians and bicyclists both passing by and visiting the site.

Tasks undertaken in this study included the following:

- Review of the proposed plans, background materials provided, and the Local Area Transportation Review Guidelines requirements for the Kensington/Wheaton Policy Area.
- Calculation of the number of peak hour person trips generated by the proposed redevelopment based on the LATR Guidelines methodology.
- Coordination with M-NCPPC Staff to identify the necessary scope and analyses to be included in the LATR study.
- Preparation of Motor Vehicle Adequacy Test
 - Collection of new vehicular turning movement, bicycle, and pedestrian counts at the study intersections.
 - Calculation of existing conditions average vehicle delay.
 - Identify pipeline developments located within the proximity of the site development.
 - Forecast of background future traffic volumes by combining the adjusted existing peak hour traffic volumes and the traffic expected to be generated by pipeline projects that are currently approved or planned for development.
 - Calculation of future background peak hour conditions average vehicle delay for each study intersection based on the future background traffic forecasts and existing or planned intersection geometrics.
 - Calculation of the number of AM and PM peak hour vehicle trips that will be generated by the proposed redevelopment based on the LATR Guidelines and Trip Generation, 11th Edition, published by the Institute of Transportation Engineers (ITE).
 - Assignment of the site trips based on previously approved distributions for the subject site.
 - Forecast of total future traffic volumes by combining the site trips with the background traffic forecasts.
 - Calculation of total future peak hour conditions average vehicle delay for each study intersection based on the total future traffic forecasts and existing or planned intersection geometrics.
- Preparation of Bicycle System Adequacy Test
- Preparation of Pedestrian System Adequacy Test

- Preparation of Bus Transit System Adequacy Test
- Preparation of Vision Zero Statement

Sources of data for this study include: the M-NCPPC, the MCDOT, the Maryland State Highway Administration (SHA), Institute of Transportation Engineers (ITE), Grady Management, Inc., and Wells + Associates Inc.

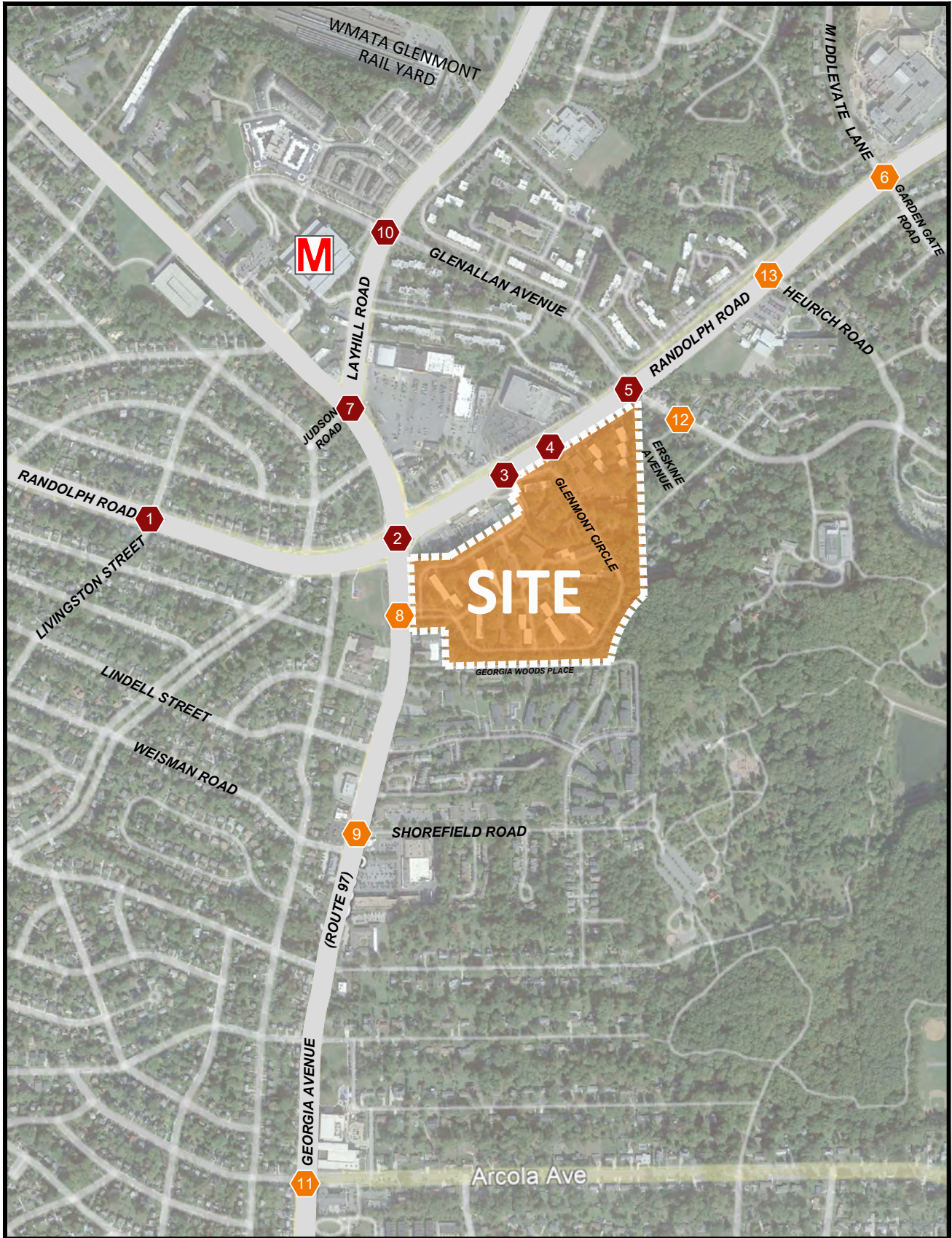


Figure 1-1
Site Location and Study Intersections

- x Study Intersection (Orange Policy Area)
- x Study Intersection (Red Policy Area)



Glenmont Forest
Montgomery County, MD



PLAN PROVIDED BY: RODGERS CONSULTING

Figure 1-2
Site Plan

 NORTH
Glenmont Forest
Montgomery County, MD

 Proposed Site Access Point

SECTION 2 BACKGROUND DATA

OVERVIEW

This section presents the following background information for the LATR:

- Description of the proposed site user
- Description of the existing vehicular ingress/egress
- Description of the study area public road network and transportation facilities
- Programmed and Planned Improvements
- Definition of the study area
- Vehicular, pedestrian and bicycle traffic counts

PLANNED SITE USES

The proposed Glenmont Forest project includes replacing the 482 low-rise apartment buildings with up to 2,275 mid-rise apartment buildings. The proposed development is expected to occur over approximately a 10-year build out.

VEHICULAR ACCESS

The site access to the public road network is provided via two driveways on Randolph Road and one driveway on Georgia Avenue. One new access point to the property will be provided and the existing access points will remain unchanged. The existing access points are (1) a right-in/right-out access along Georgia Avenue, (2) a full access driveway on Randolph Road via Glenmont Circle, and (3) an existing right-in/out access on Randolph Road east of the existing full access driveway. Erskine Avenue, on the east side of the property, will be extended into the property providing a fourth point of access for the site. The vehicular access for the site is shown on Figure 1-2.

PUBLIC ROAD NETWORK

Existing Network/Site Access

Regional access is provided by Georgia Avenue (MD 97) and Randolph Road. Local access to the site is provided via, Erskine Avenue, Layhill Road, and Glenallan Avenue.

Georgia Avenue (MD 97) is a state-maintained, six-lane divided Town Center Boulevard. Traffic signals and additional turn lanes are typically provided at major intersections. Georgia Avenue (MD 97) has a posted speed limit of 35 mph.

Randolph Road is a six-lane divided boulevard per the Master Plan of Highways and Transitways Functional Classification. Traffic signals and additional turn lanes are typically provided at major intersections. Randolph Road provides regional access and has a posted speed limit of 40 mph.

Layhill Road is a four-lane divided Town Center Boulevard and provides local access to the proposed development. Traffic signals and additional turn lanes are typically provided at major intersections. Layhill Road has a posted speed limit of 40 mph.

Glenallan Avenue is a two-lane undivided area collector road per the Master Plan of Highways and Transitways Functional Classification. Glenallan Avenue has a posted speed limit of 25 mph.

NON-AUTO TRANSPORTATION FACILITIES

The following bicycle, pedestrian, and transit infrastructure are either currently provided near the subject site or are planned.

Bicycle Facilities

Per the Montgomery County Bicycle Master Plan, a conventional bicycle lane is provided along both sides of Georgia Avenue between Mason Street and Layhill Road. However, there is a sign that indicates bikers may use the full lane along Georgia Avenue south of Mason Street and north of Layhill Road. There is an existing sidepath along the west side of Georgia Avenue between Urbana Drive, north of the study area, and Mason Street. Bicycle facilities are not currently provided along other roadways in the study area.

Per the Bicycle Master Plan, in the study area, sidepaths are planned along the east side of Georgia Avenue, along the north side of Randolph Road, along Shorefield Road, the east side of Glenallan Avenue, and from Saddlebrook Local Park south to Randolph Road. Separated bike lanes are planned along the west side of Glenallan Avenue and both sides of private streets that extend north of Randolph Road. An exhibit showing the Bicycle Master Plan is shown in Section 4 of this report.

Sidewalks

Sidewalks are provided along all public roads within the study area except for a section of the west side of Glenallan Avenue south of Randolph Road.

Transit Service

Glenmont Forest is well served by served by both Ride-On and Metrobus routes, as well as Metrorail at the Glenmont station. The following bus routes are proximate to the subject site:

- Ride-On Route 10 provides service between the Twinbrook station and New Hampshire Avenue at Powder Mill Road. This bus route makes a stop at the Glenmont station.

- Ride-On Route 26 provides service between Montgomery Mall and Glenmont Station.
- Ride-On Route 31 provides service between the Wheaton Station and the Glenmont Station.
- Ride-On Route 33 provides service between the Glenmont Station and the National Institute of Health (NIH) Medical Center station.
- Ride-On Route 39 provides service between Briggs Chaney Park and ride (at Gatehead Manor Way and Briggs Chaney Road) and the Glenmont station.
- Ride-On Route 41 provides service between Aspen Hill (at Grand Road and Bel Pre Road) and the Glenmont station.
- Ride-On Route 49 provides service between the Rockville station and the Glenmont station
- Ride-On Route 51 provides service between the Norbeck park and ride (at Georgia Avenue and Norbeck Road) and the Glenmont station.
- Ride-On Route 53 provides service between the Shady Grove station and the Glenmont station.
- Metrobus Route C8 provides service between the College Park Station and Rockville Pike.
- Metrobus Route Y2 provides service between the Silver Spring station and Montgomery General Hospital.
- Metrobus Route Y7 provides service between the Georgia Avenue-ICC Park and ride lot to the Silver Spring station.
- Metrobus Route Y8 provides service between Montgomery General Hospital and the Silver Spring Station.

All bus routes and schedules are included in Appendix B.

Glenmont Station, north of the subject sites provides Red Line Metrorail service to Washington DC, Union Station, and the MARC train.

PROGRAMMED and PLANNED IMPROVEMENTS

The MD State Highway Administration (MD SHA) completed the redesign and construction of the Georgia Avenue and Randolph Road interchange in 2018. There are no programmed or planned improvements within the site vicinity.

STUDY AREA DEFINITION

The LATR study area was established in accordance with M-NCPPC's LATR Guidelines and through consultation with M-NCPPC, MCDOT, and MD SHA Staff. The signed scoping agreement is provided in Appendix A. The following intersections and driveways are included in the study:

1. Randolph Road / Livingston Street
2. Randolph Road / Georgia Avenue
3. Randolph Road / Glenmont Circle
4. Randolph Road / Residential Driveway (East of Glenmont Circle)
5. Randolph Road / Glenallan Avenue
6. Randolph Road / Middlevale Lane / Garden Gate Road

7. Georgia Avenue / Layhill Road
8. Georgia Avenue / Glenmont Circle
9. Georgia Avenue / Shorefield Road
10. Layhill Road / Glenallan Avenue
11. Georgia Avenue / Arcola Avenue
12. Glenallan Avenue / Eskine Avenue
13. Randolph Road / Heurich Road

Figure 2-1 shows the existing lane use and traffic control for the study area.

EXISTING TRAFFIC COUNTS

Existing AM and PM peak hour vehicular, pedestrian, and bicycle traffic counts were conducted at the study intersections on Tuesday October 4, 2022, from 6:30 AM to 9:30 AM and from 4:00 PM to 7:00 PM. Figure 2-2 shows the existing AM and PM peak hour vehicular traffic volumes. Pedestrian and bicycle volumes at the study intersections are summarized on Figures 2-3 and 2-4, respectively, and the detailed count data is provided in Appendix C.

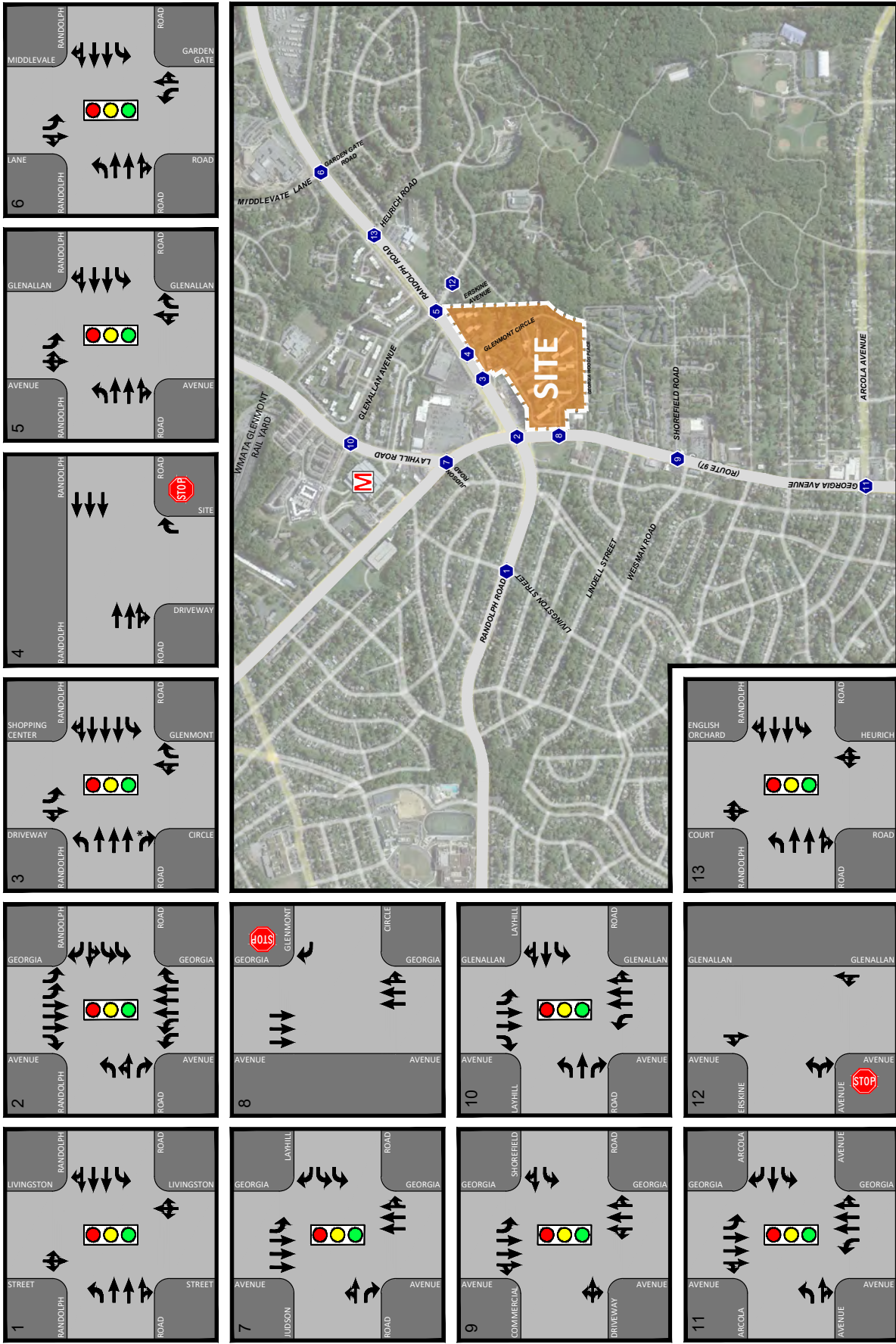


Figure 2-1
Existing Lane Use and Traffic Controls

 NORTH
 Glenmont Forest
 Montgomery County, MD

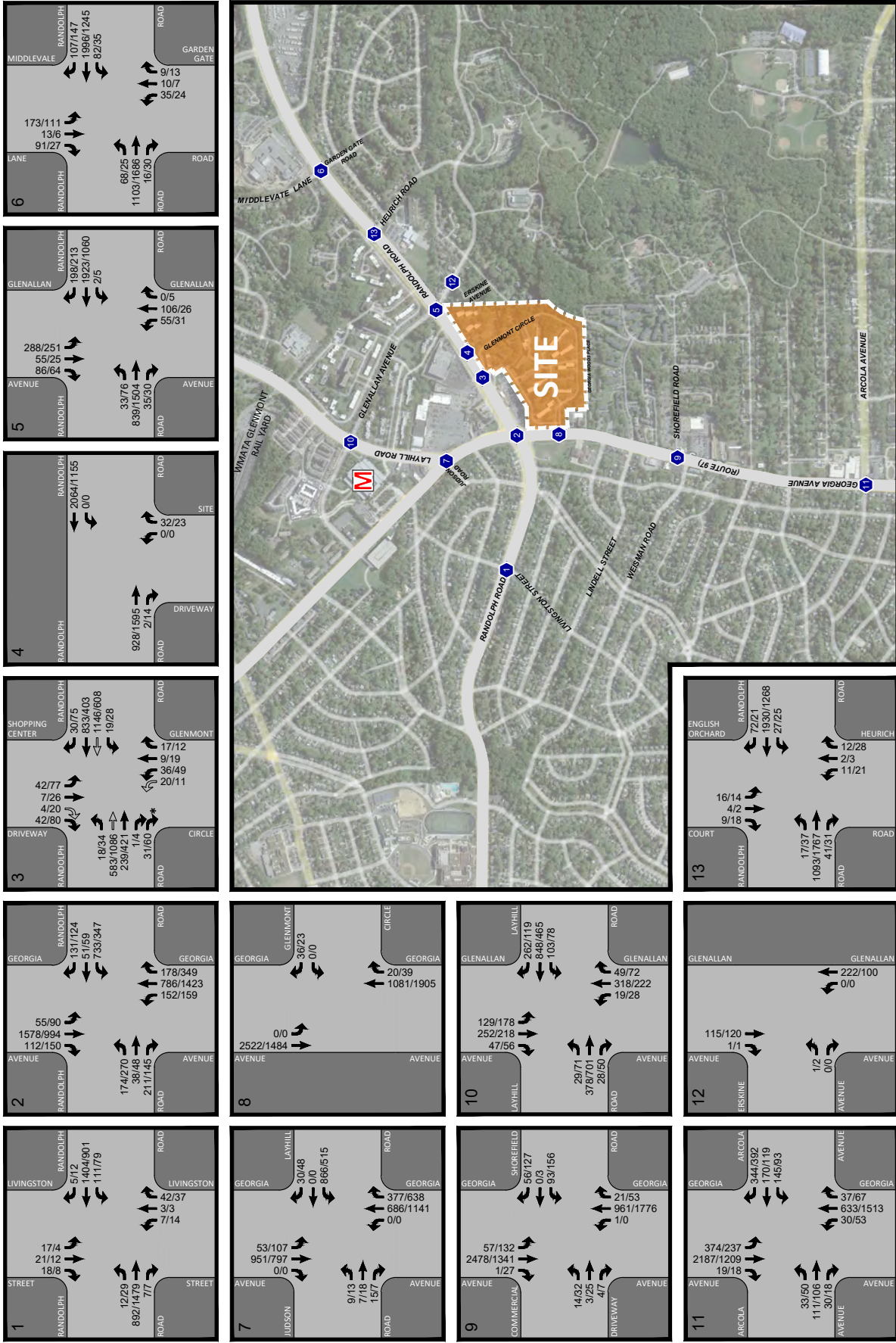


Figure 2-2
 Existing Peak Hour Traffic Counts

NORTH
 Glenmont Forest
 Montgomery County, MD



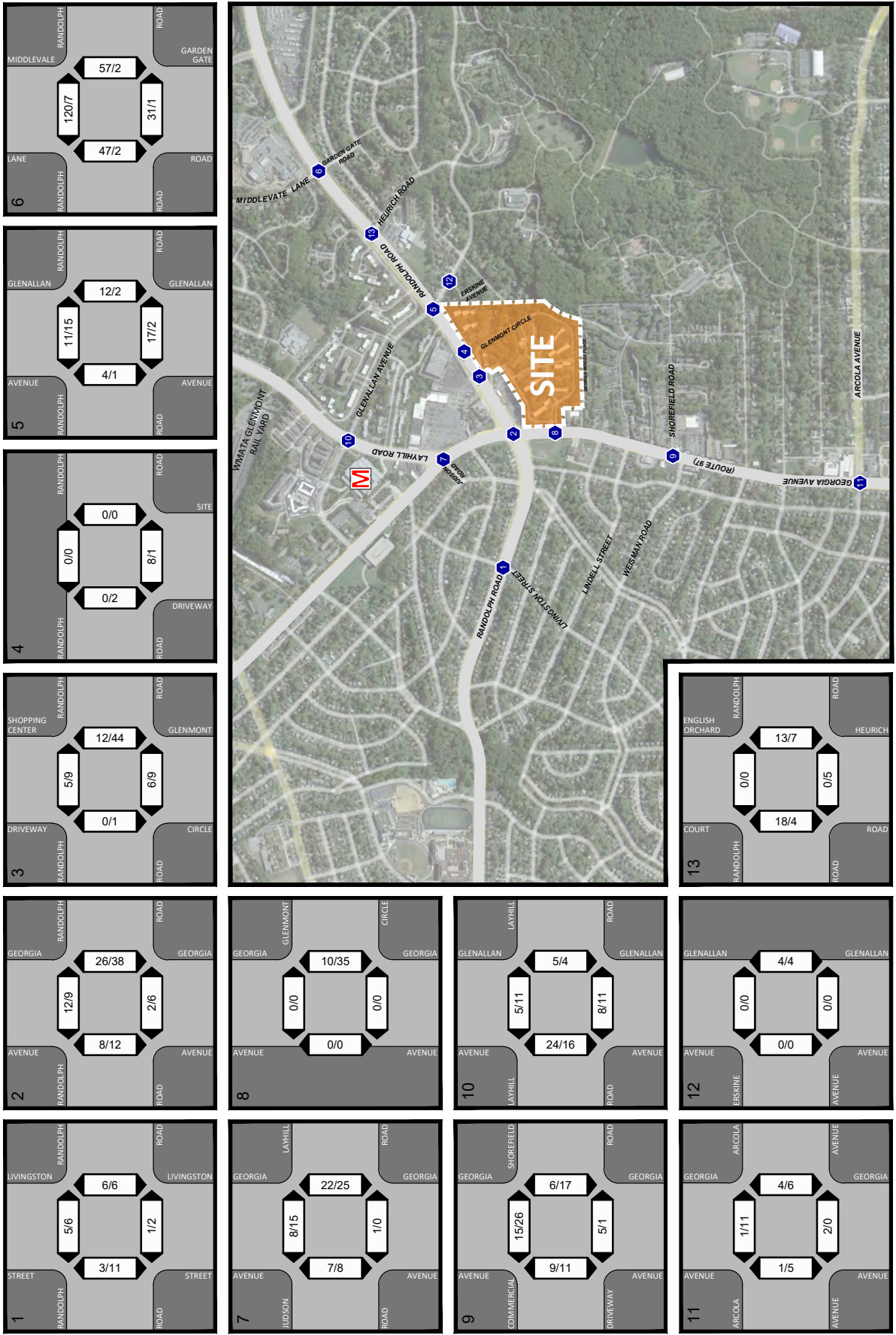


Figure 2-3
Existing Pedestrian Counts

NORTH
Glenmont Forest
Montgomery County, MD

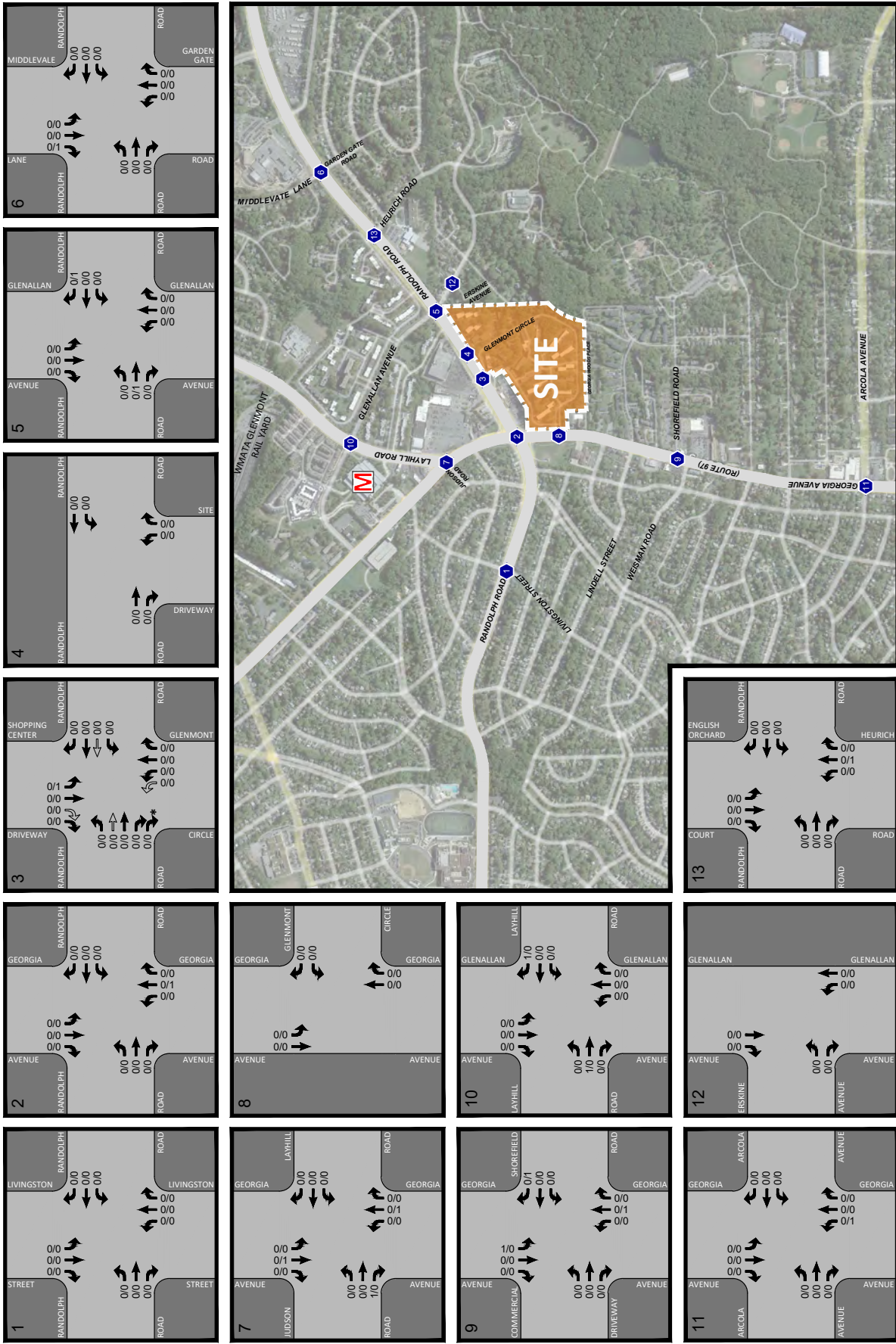


Figure 2-4
Existing Bicycle Counts

Channelized Right Turn Ramp
Traffic Volumes Traveling To/From
Randolph Road Underpass
(Arrows do not Represent Lane Use)

* AM PEAK HOUR
PM PEAK HOUR
000 / 000

NORTH
Glenmont Forest
Montgomery County, MD

SECTION 3 MOTOR VEHICLE ADEQUACY TEST

OVERVIEW

This section of the Report presents the details of the Motor Vehicle Adequacy Test for the LATR. It includes: the applicable congestion standard for the Policy Area; analysis of existing average vehicle delay at key intersections; a summary of site and pipeline trip generation projections; and analysis of future average vehicle delay without and with the site development.

CONGESTION STANDARD

The study intersections, including the site driveways, are located within either the Kensington/Wheaton Orange Policy Area of Montgomery County or the Red Glenmont Metro Station Policy Area. In Orange Policy Areas, the level of congestion is determined using the Highway Capacity Manual delay-based level of service methodology. **In the Red Policy Area, intersections are not subject to a Motor Vehicle test; however, delay-based level of service results are presented in the appendix of this Report.**

The congestion standard (HCM delay based) for intersections within the Kensington/Wheaton Policy Area is an overall average vehicle delay of 80 seconds per vehicle at the studied intersections during the AM and PM peak hours.

EXISTING CONDITIONS

Vehicular Analysis

Existing peak hour average vehicle delays were analyzed for each of the study intersections per the LATR Guidelines methodology. The intersection analysis for the intersection in the Red Policy Area has been provided for informational purposes only.

The existing peak hour delays were calculated based on the existing lane use and traffic control shown on Figure 2-1, existing traffic signal phasing/timing obtained from the Montgomery County Department of Transportation (MCDOT) shown in Appendix D, the existing vehicular traffic volumes shown on Figure 2-2, and the HCM 6th Edition methodology for signalized and unsignalized intersections where available. HCM worksheets for each study intersection are presented in Appendix E. The results of the existing analyses are summarized in Table 3-1.

The analysis shows that under existing conditions, the study intersections in the Orange Policy Area operate within the 80 second per vehicle delay standard.

The HCM worksheets and results for intersections in the Red Policy Area are shown in Appendix F.

Table 3-1
Glenmont Forest
Levels of Service Summary¹

Approach/ Lane Group	Policy Standard (s)	Existing Conditions		Background Conditions		Total Future Conditions (with Randolph Road Access)		Total Future Conditions (without Randolph Road Access)	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
		Delay (s)	Delay (s)	Delay (s)	Delay (s)	Delay (s)	Delay (s)	Delay (s)	Delay (s)
Randolph Road/Middlevale Lane/Garden Gate Road (Signalized) - Orange Zone									
Overall	80	21.5	8.1	21.8	8.0	21.6	8.0	21.6	8.0
Georgia Avenue/Glenmont Circle (Unsignalized) - Orange Zone									
Overall	80	0.2	0.2	0.2	0.3	1.5	3.2	1.5	3.2
Georgia Avenue/Shorefield Road (Signalized) - Orange Zone									
Overall	80	8.0	9.8	8.3	9.8	9.1	9.7	9.1	9.7
Georgia Avenue/Arcola Avenue (Signalized) - Orange Zone									
Overall	80	19.5	27.9	19.6	28.7	20.1	30.8	20.1	30.8
Glenallan Avenue/Eskine Avenue (Unsignalized) - Orange Zone									
Overall	80	0.0	0.1	0.0	0.1	0.9	0.5	2.5	1.4
Randolph Road/Heurich Road (Signalized) - Orange Zone									
Overall	80	1.6	2.3	1.5	2.3	1.5	2.2	1.5	2.2

Note(s):

1. Capacity analysis based on Highway Capacity Manual 6th Edition methodology where available, using Synchro 11.

FUTURE BACKGROUND CONDITIONS

Four (4) pipeline developments (approved, planned, or under construction and within the site vicinity) were identified during the scoping process and are included in this study. The pipeline development locations are shown on Figure 3-1.

- **Glenmont Metro Center:** The development program for Glenmont Metro Center includes a total of 1073_unbuilt residential dwelling units and 90,000 S.F. retail use. Glenmont Metro Center is located north of Georgia Avenue and west of Layhill Road.
- **4010 Randolph Road:** The development program for 4010 Randolph Road includes a total of 197 mid-rise apartments, 3 single-family detached housing dwelling units, a 1,000 SF Day-Care center, and a 1,000 SF clinic. It is located south of Randolph Road and west of the subject site.
- **Kaiser Permanente:** This development includes a 180,000 SF medical office building during total buildout. Kaiser Permanente is located northwest of the site in the northwest corner of Aspen Hill Road and Connecticut Avenue (MD 185).
- **Wheaton Gateway:** The site is located west of Georgia Avenue, south of Veirs Mill Road, and north of the Wheaton Mall. It is planned to be developed with 800 mid-rise residential dwelling units and 1st floor commercial.

Pipeline Trip Generation

The trip generation for the pipeline development was either obtained from the respective LATR traffic study for the development or estimated based on the LATR Guidelines methodology. The pipeline developments are forecast to add 1,298 AM peak hour trips (705 inbound and 593 outbound) and 2,033 PM peak hour trips (897 inbound and 1,136 outbound) to the area road network at full capacity. The trip generation for the pipeline development is shown on Table 3-2.

Pipeline Trip Assignments

The peak hour trip distribution for the pipeline developments were developed on information from the respective traffic study or the LATR methodology. The trips anticipated to be generated by the pipeline developments were then assigned to the roadway network based on these distributions. It is noted that not all pipeline development trips will travel through the studied intersections due on the development location. The total pipeline development peak hour traffic volumes traveling through the study intersections are shown on Figure 3-2.

Future Background Traffic Forecasts

The future background traffic forecasts represent future conditions without Glenmont Forest. AM and PM peak hour background traffic forecasts were estimated by adding the pipeline traffic

assignments (Figure 3-2) to the existing peak hour traffic counts (Figure 2-2). The resulting background future traffic forecasts are summarized on Figure 3-3. Traffic forecasting worksheets are provided in Appendix G.

Vehicular Analysis

The future background peak hour average vehicle delays were calculated based on the existing lane use and traffic control shown on Figure 2-1, existing traffic signal phasing/timing obtained from MCDOT shown in Appendix D, the future background traffic forecasts shown on Figure 3-3, and the HCM 6th Edition methodology for signalized and unsignalized intersections where available. HCM worksheets for each study intersection are presented in Appendix H. The results of the future background analyses are summarized in Table 3-1. As shown in Table 3-1, under the future background conditions, the study intersections in the Orange Policy Area will operate within the congestion standard.

The HCM worksheets for the study intersections in the Red Policy Area are shown in Appendix F.

Table 3-2
Glenmont Forest
Auto Driver Pipeline Trip Generation ⁽¹⁾

Land Use	LUC	Amount	Unit	Auto Driver Trip Generation								
				AM Peak Hour			PM Peak Hour					
				In	Out	Total	In	Out	Total			
1. Glenmont Metrocenter ⁽²⁾												
Shopping Plaza (40-150K)	821	90,000	S.F.	189	116	305	373	404	777			
Multifamily Housing (Mid-Rise)	221	1,073	DU	95	320	415	230	147	377			
			Subtotal	284	436	720	603	551	1,154			
2. 4010 Randolph Road ⁽²⁾												
Existing Use												
Government Office Building	730	35,600	S.F.	82	27	109	14	42	56			
Approved Uses												
Multifamily Housing (Mid-Rise)	221	197	DU	16	52	68	43	27	70			
Single-Family Detached Housing	210	3	DU	1	2	3	2	2	4			
Day Care Center	565	1,000	S.F.	5	5	10	5	5	10			
Clinic	630	1,000	S.F.	8	2	10	1	3	4			
			Subtotal	30	61	91	51	37	88			
			Net New Trips	-52	34	-18	37	-5	32			
3. Kaiser Permanente Aspen Hill ⁽³⁾												
Medical-Dental Office Building	720	180,000	S.F.	317	84	401	214	500	714			
4. Wheaton Gateway ⁽⁴⁾												
Existing Use												
Automobile Sales - New	840	29,849	S.F.	32	11	43	14	43	57			
Approved Uses												
Mid-Rise Residential with Ground-Floor Commercial	231	800	DU	188	50	238	57	133	190			
			Net New Trips	156	39	195	43	90	133			
			Total Pipeline Development Trips	705	593	1,298	897	1,136	2,033			

Notes:

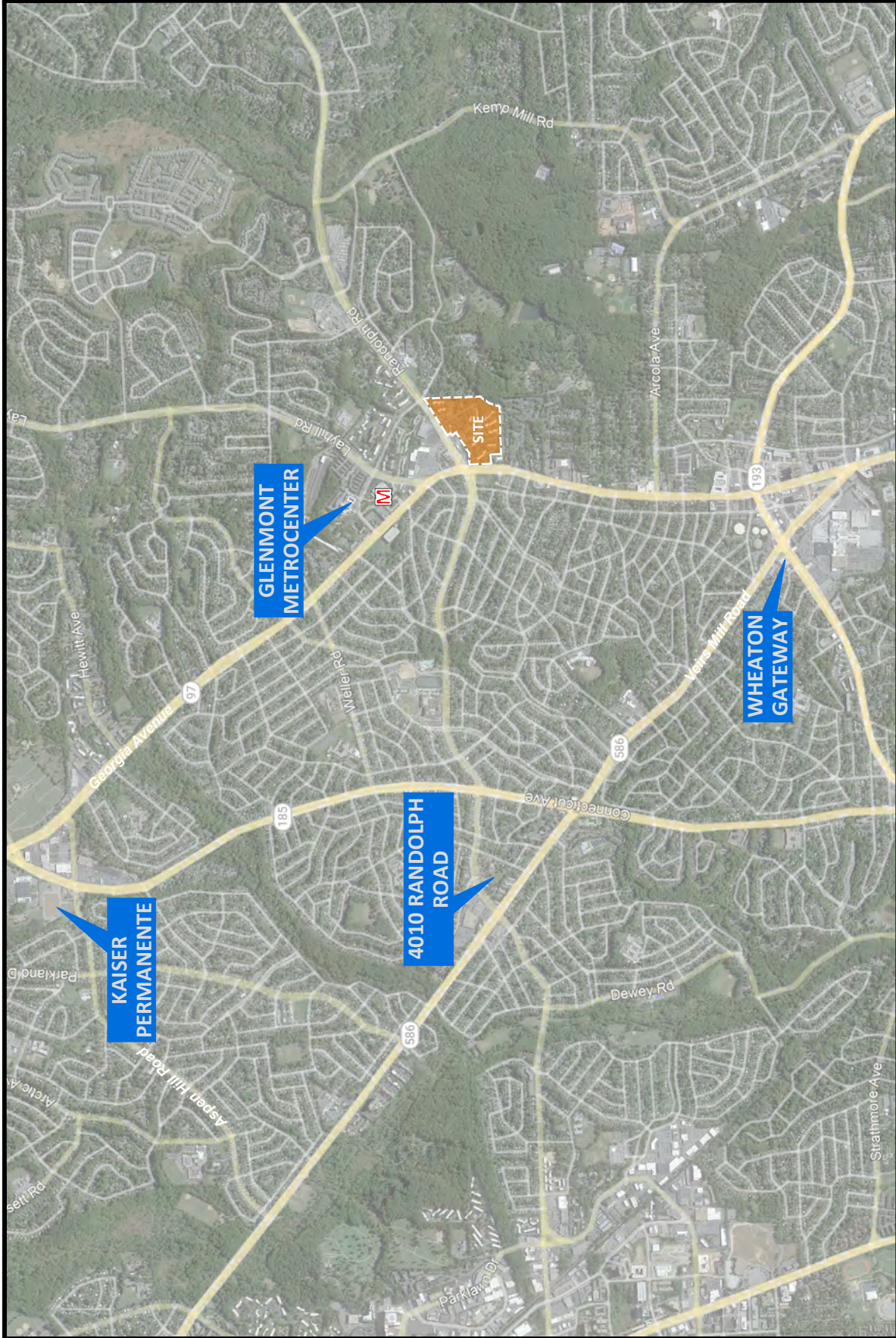
(1) Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition and the LATR mode split adjustments and percentages.

(2) Glenmont Metro Station Policy Area

(3) Kensington / Wheaton Policy Area

(4) Aspen Hill Policy Area

(5) Wheaton CBD Policy Area



← NORTH
Glenmont Forest
Montgomery County, MD

Figure 3-1
Pipeline Development Locations

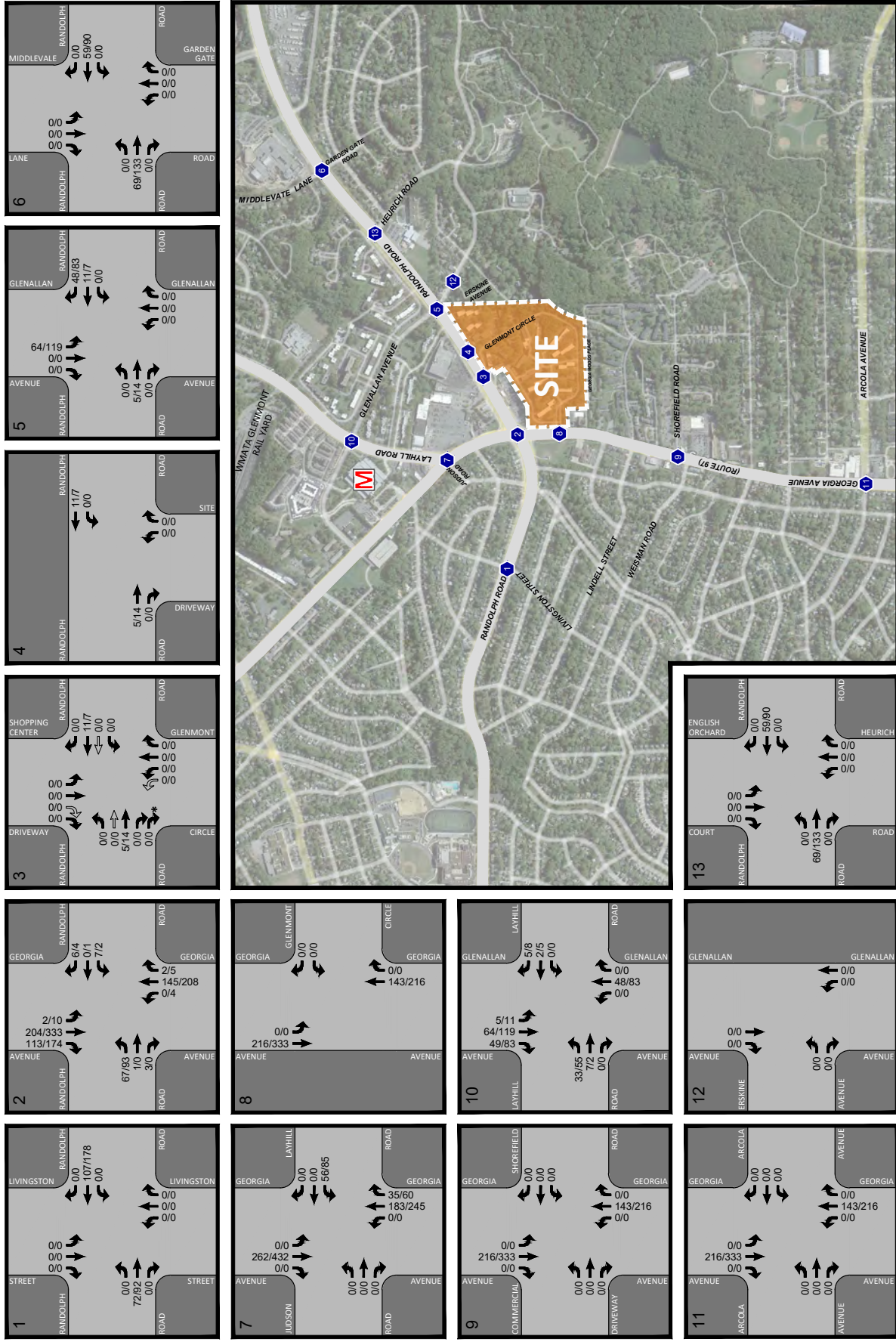


Figure 3-2
Pipeline Trip Assignments

Channelized Right Turn Ramp
 Traffic Volumes Traveling To/From
 Randolph Road Underpass
 (Arrows do not Represent Lane Use)

* AM PEAK HOUR
 PM PEAK HOUR
 000 / 000

NORTH
 Glenmont Forest
 Montgomery County, MD



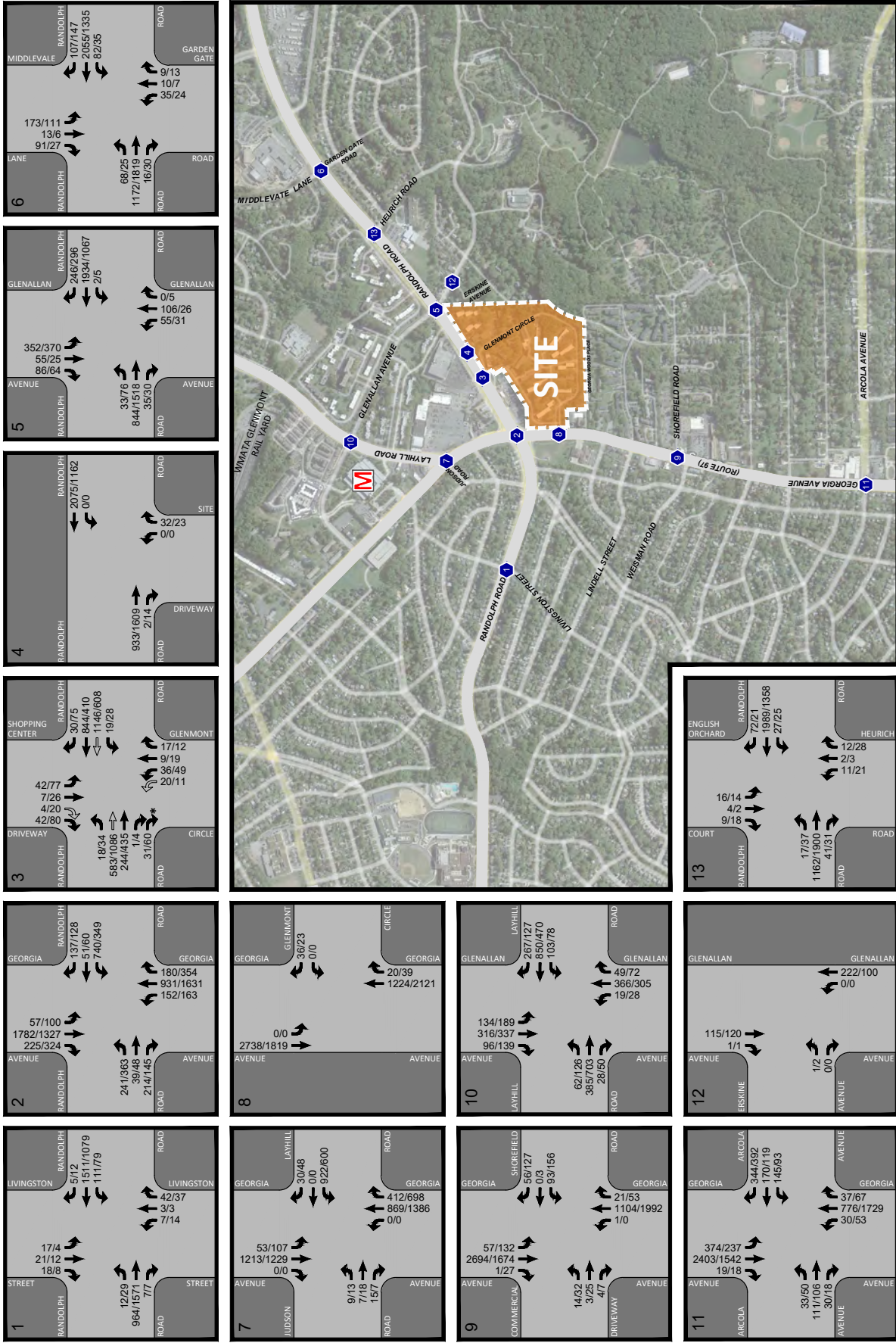


Figure 3-3
Background Traffic Forecasts

NORTH
Glenmont Forest
Montgomery County, MD

* Channelized Right Turn Ramp
Traffic Volumes Traveling To/From
Randolph Road Underpass
(Arrows do not Represent Lane Use)

AM PEAK HOUR
PM PEAK HOUR
000 / 000



TOTAL FUTURE CONDITIONS

The total future condition analyzes the impact of the Glenmont Forest proposed development, which includes removing 482 low-rise apartment dwelling units. The proposed use would be replaced with up to 2,275 mid-rise apartment dwelling units with ancillary retail space of less than 15,000 square feet located within the ground floor of an apartment building and no parking is provided for the retail space.

Trip Generation

Trip generation calculations for Glenmont Forest were based on ITE trip generation rates and the Kensington/Wheaton Policy Area adjustment factors and non-auto mode split percentages provided in the LATR Guidelines. The MNCPPC guidelines specifically state that retail of less than 15,000 square feet should not be included in the trip generation calculations when the retail space is less than 15,000 square feet, located within a residential or office building and no parking is provided for the retail space. The trip generation summary is shown in Table 3-3.

Glenmont Forest, as shown in the Multimodal Trip Generation section of Table 3-3, is expected to generate 1,523 AM peak hour and 1,367 PM peak hour total person trips, and 900 AM peak hour and 808 PM peak hour total auto-driver (vehicle) trips, based on the LATR Guidelines methodology for calculating person and vehicle trips. The existing uses generate 266 AM peak hour and 350 PM peak hour person trips, and 157 AM peak hour and 207 PM peak hour vehicle trips. Therefore, the proposed re-development will generate 1,257 AM peak hour and 1,017 PM peak hour new person trips and 743 AM peak hour and 601 PM peak hour new vehicle trips.

As noted in Table 3-3, the peak hour vehicle trips generated by the existing uses were not removed from the road network, resulting in a conservative capacity analysis.

Site Trip Distributions

The peak hour site trip distributions were developed based on assumptions documented in the LATR Guidelines, and confirmed through the scoping process. (See Appendix A). The site vehicle trips were assigned to the area road network based on the following distributions:

	<u>Percent</u>
West on Randolph Road	25
North on Georgia Avenue	15
Layhill Road	5
East on Randolph Road	10
South on Georgia Avenue	<u>45</u>
Total	100

Site Trip Assignments

The new site-generated traffic volumes were assigned to the public road network according to the directional distribution described above. The resulting site traffic assignments are shown on Figure 3-4.

Total Future Forecasts

The total future traffic forecasts represent future conditions with Glenmont Forest. The AM and PM peak hour total future traffic forecasts were developed by adding the proposed new site traffic assignments, shown on Figure 3-4, to the future background traffic forecasts, shown on Figure 3-3. The AM and PM total future traffic forecasts are shown on Figure 3-5. Traffic forecasting worksheets are provided in Appendix F.

Future Forecasts without Right-In/Right-Out Access to Randolph Road

Per the request of MCDOT, we have analyzed the site's impact with and without the existing right-in right-out access site on Randolph Road (intersection #4).

The site trip assignments without right-in/right out access are shown on Figure 3-6, The traffic adjustments to the baseline traffic volumes due to the closure of the existing entrance are shown on Figure 3-7. The total future traffic forecasts without right-in/right-out access to Randolph Road are shown on Figure 3-8. Traffic forecasting worksheets are provided in Appendix F.

Vehicular Analysis

The total future peak hour delays were calculated based on the existing lane use and traffic control for the off-site intersections shown on Figure 2-1, existing traffic signal phasing/timing obtained from MCDOT shown in Appendix D, the total future traffic forecasts shown on Figures 3-5 and 3-8, and the HCM 6th Edition methodology for signalized and unsignalized intersections where available. HCM worksheets for each study intersection are presented in Appendix I. The results of the total future analyses are summarized in Table 3-1.

Under total future conditions, the study intersections in the Orange Policy Area are expected to operate below the delay congestion standard. Therefore, the motor vehicle adequacy test is passed, and mitigation is not required.

The HCM worksheets for the intersections in the Red Policy Area are shown in Appendix F.

Table 3-3
Glenmont Forest
Site Trip Generation⁽¹⁾⁽²⁾

Land Use	LUC	Amount	Unit	ITE Trip Generation			2022 LATR Trip Generation Rate Adjustment Factors / Mode Split Adjustments															
				AM Peak Hour ³		Total	AM Peak Hour		PM Peak Hour		PM Peak Hour		Total									
				In	Out	Total	In	Out	In	Out	In	Out	Total									
Existing / Approved Use																						
Multi-family Housing (Low-Rise)	220	482	DU	41	131	172	144	84	228	157	68	22	20	42	266	207	89	28	26	54	350	
Proposed Use																						
Multi-family Housing (Mid-Rise)	221	2,275	DU	227	762	989	542	346	888	900	387	123	113	236	1,523	808	347	111	101	212	1,367	
			Net New Trips	186	631	817	398	262	660	743	319	101	99	194	1,257	601	258	83	75	158	1,017	

Notes:
 (1) Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition.
 (2) Kensington / Wheaton Policy Area
 (3) The ITE equation for the AM and PM Peak Hour of Adjacent Street Traffic were used.

Table 3-4
Glenmont Forest
Auto Driver Trip Generation

Land Use	LUC	Amount	Unit	Auto Driver Trip Generation			Auto Driver Trip Generation							
				AM Peak Hour		Total	PM Peak Hour		Total					
				In	Out	Total	In	Out	Total					
Existing / Approved Use														
Multi-family Housing (Low-Rise)	220	482	DU	38	119	157	130	77	207					
Proposed Use														
Multi-family Housing (Mid-Rise)	221	2,275	DU	207	693	900	493	315	808					
			Net Site Trips (Proposed vs. Existing)	169	574	743	363	238	601					

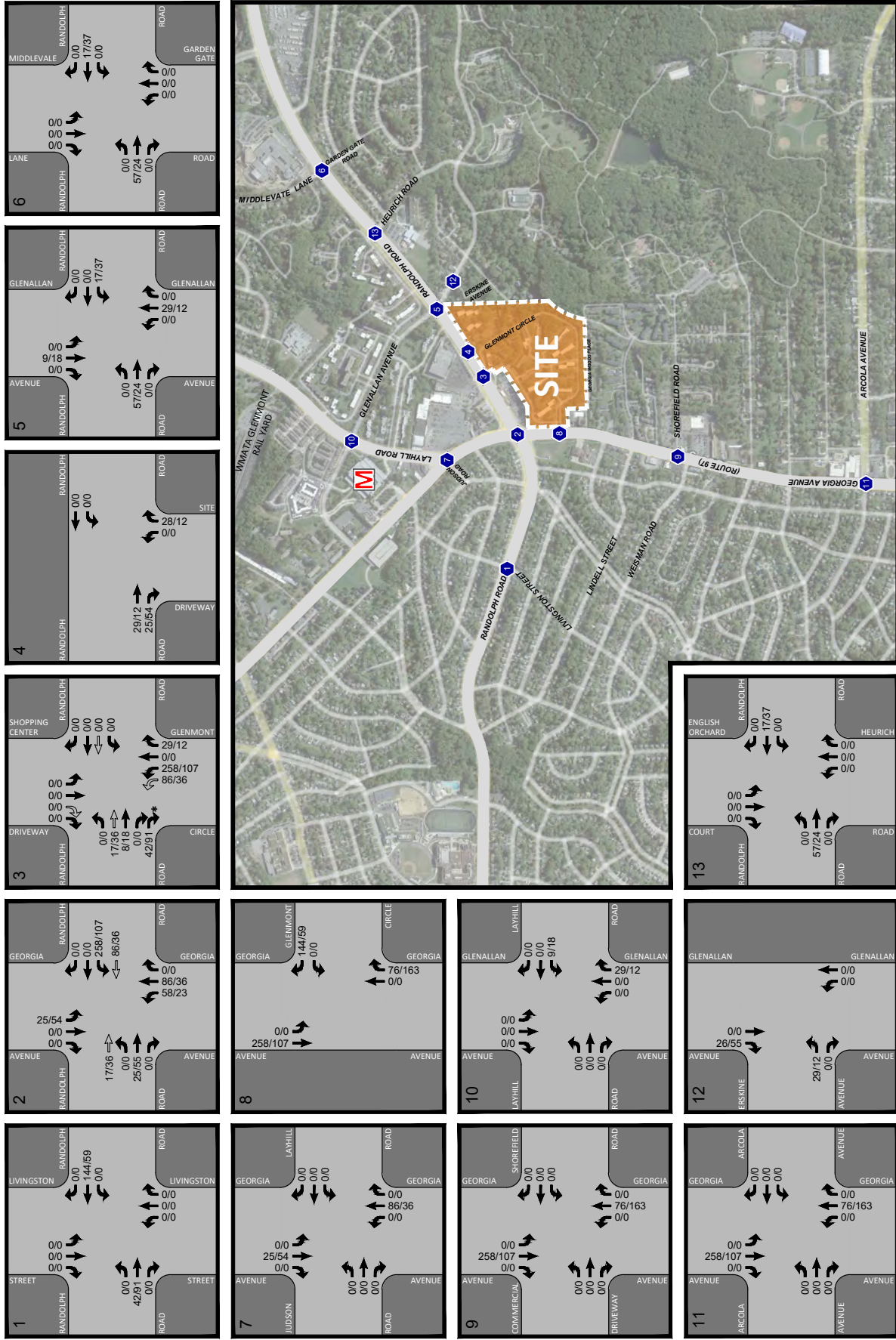


Figure 3-4
Proposed Site Trips Assignments
With Right-in/Right-Out Access to Randolph Road

NORTH
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 Montgomery County, MD

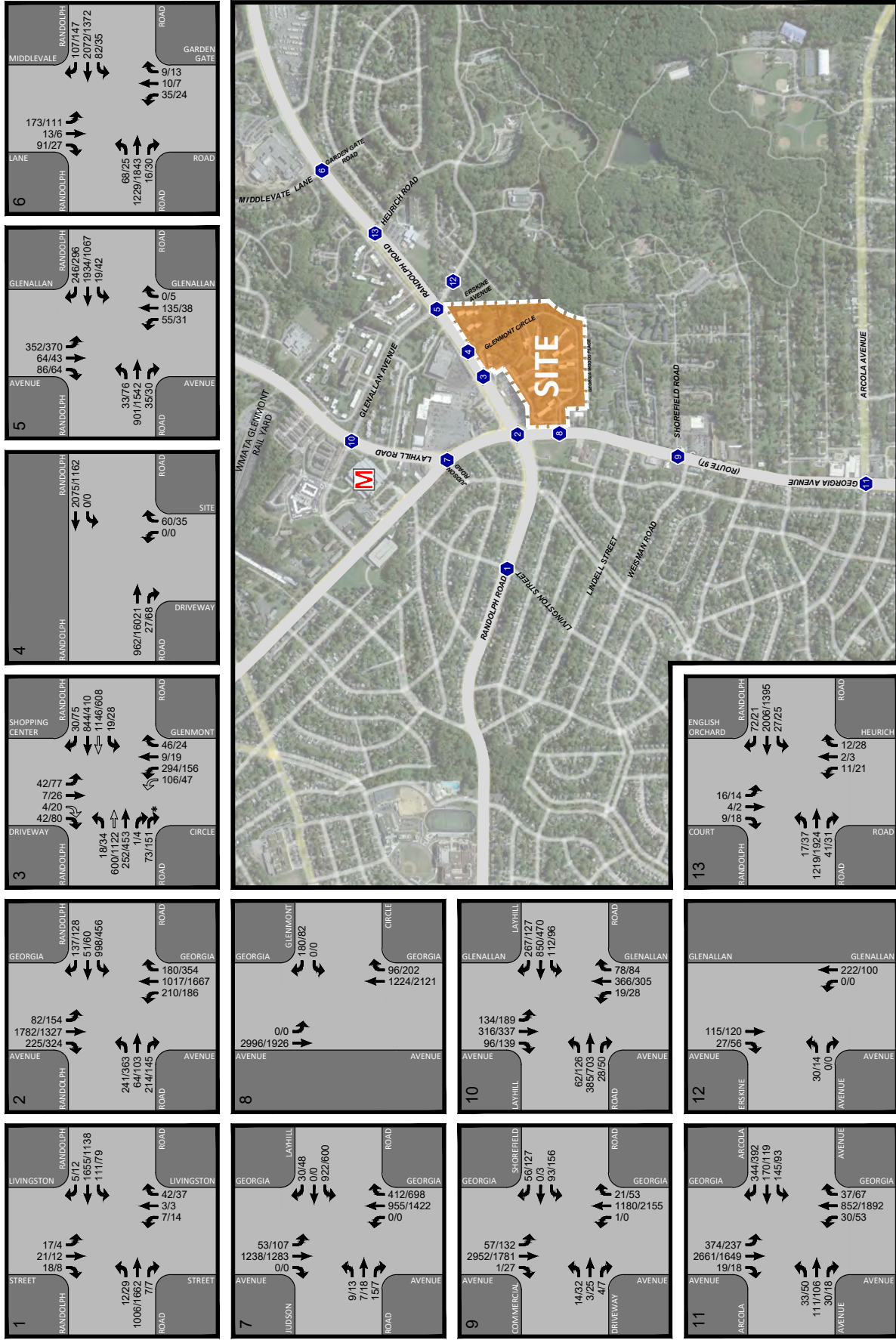


Figure 3-5
Total Future Traffic Forecasts
With Right-in/Right-Out Access to Randolph Road

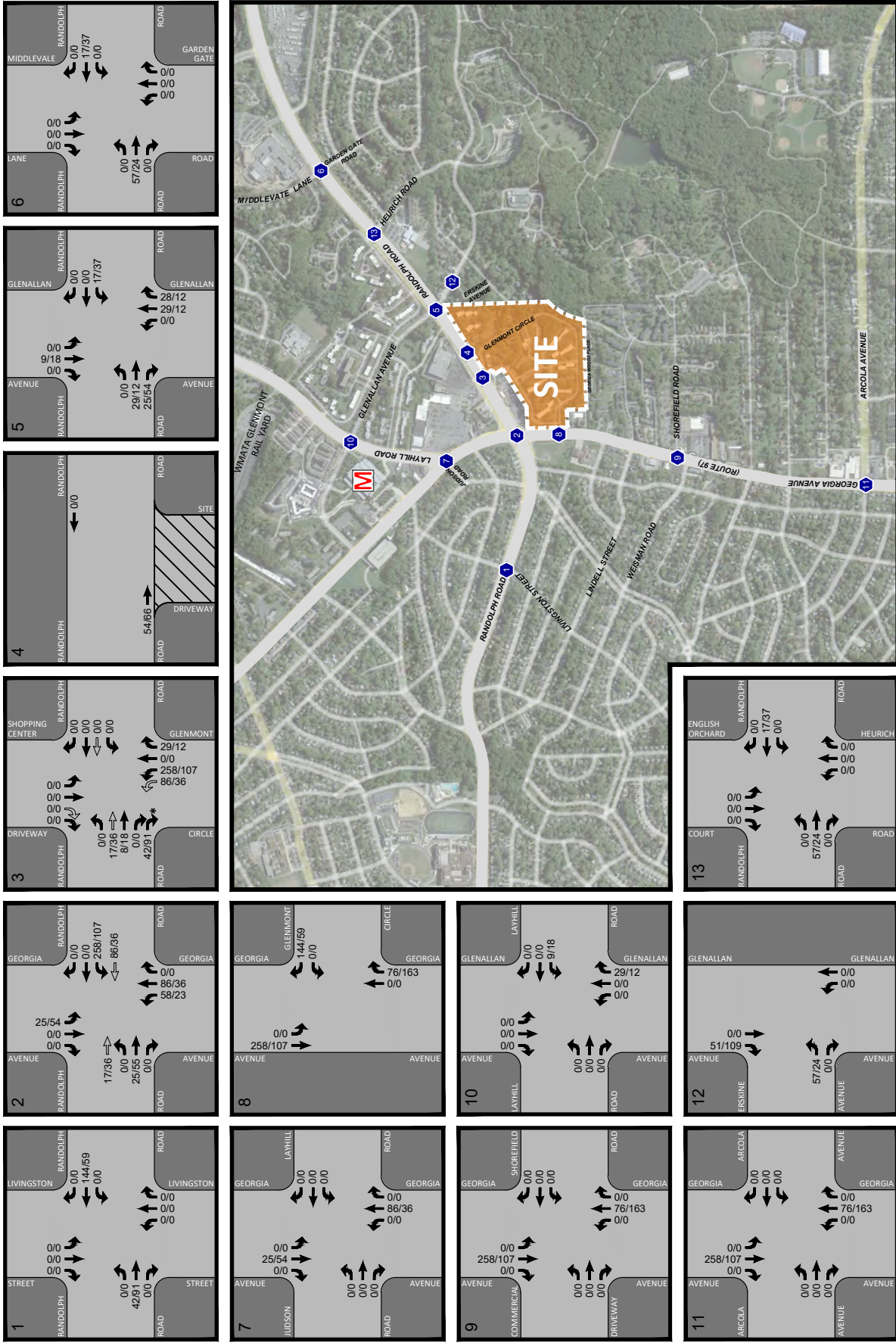


Figure 3-6
Proposed Site Trips Assignments
Without Right-in/Right-Out Access to Randolph Road

Channelized Right Turn Ramp
 Traffic Volumes Traveling To/From
 Randolph Road Underpass
 (Arrows do not Represent Lane Use)

* AM PEAK HOUR
 PM PEAK HOUR
 000 / 000

NORTH
 Glenmont Forest
 Montgomery County, MD

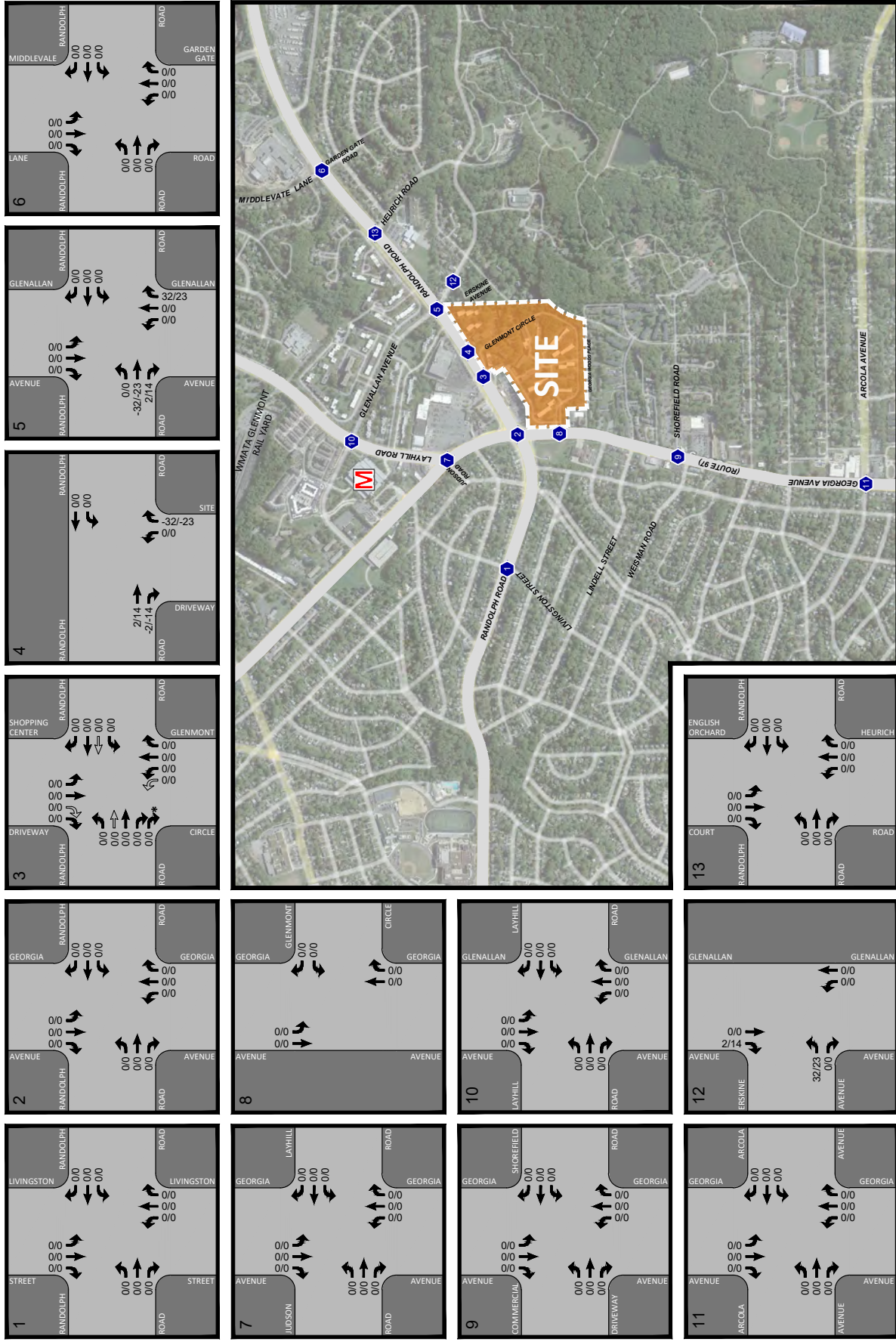


Figure 3-7
Traffic Adjustments for the Closure of the Existing Site Driveway

Channelized Right Turn Ramp
 Traffic Volumes Traveling To/From
 Randolph Road Underpass
 (Arrows do not Represent Lane Use)

* AM PEAK HOUR
 PM PEAK HOUR
 000 / 000

NORTH
 Glenmont Forest
 Montgomery County, MD

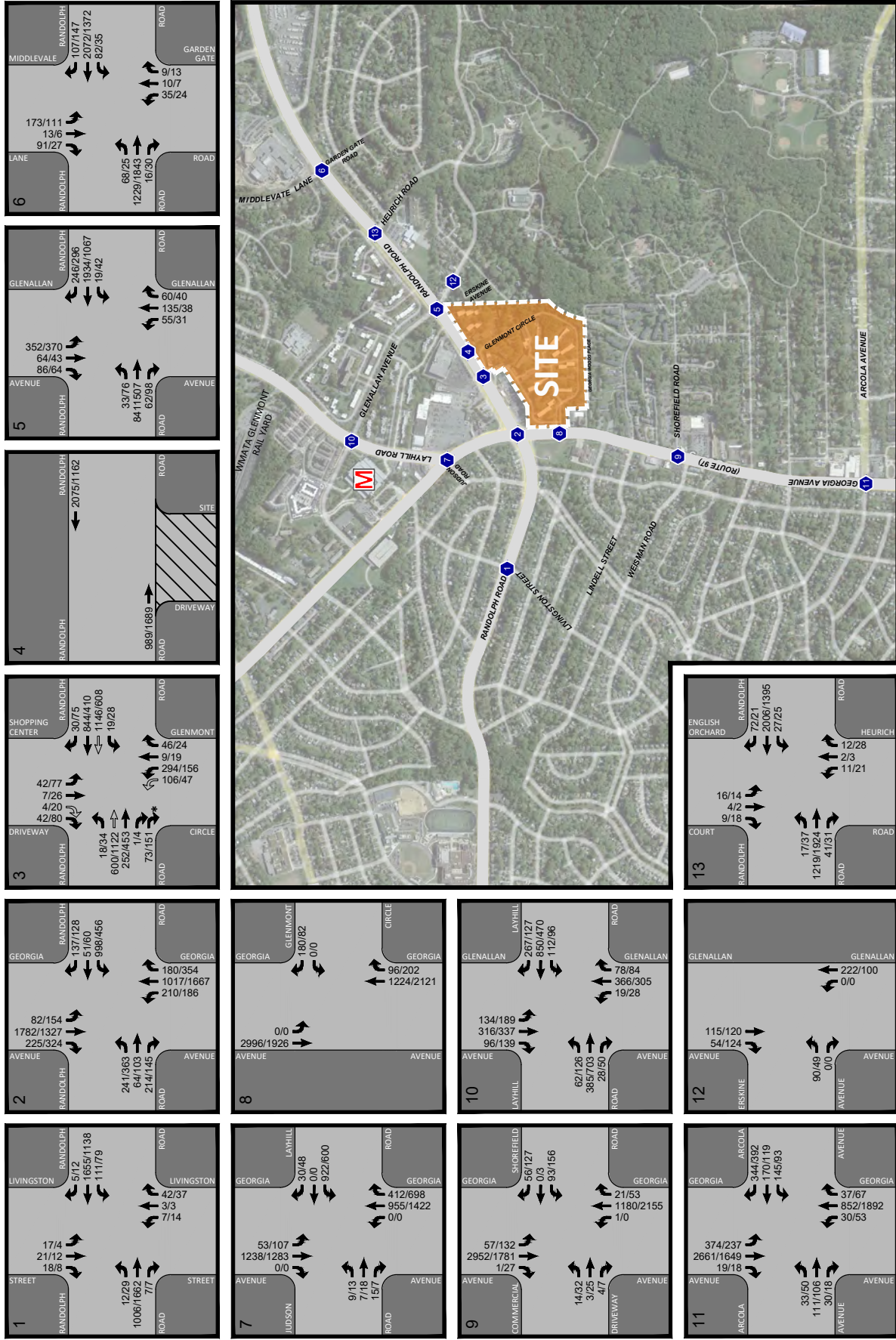


Figure 3-8
Total Future Traffic Forecasts
Without Right-in/Right-Out Access to Randolph Road

Legend:
 * Channelized Right Turn Ramp
 Traffic Volumes Traveling To/From Randolph Road Underpass (Arrows do not Represent Lane Use)

AM PEAK HOUR
 PM PEAK HOUR
 000 / 000

Figure 3-8
Total Future Traffic Forecasts
Without Right-in/Right-Out Access to Randolph Road



SECTION 4 PEDESTRIAN, BICYCLE, and BUS TRANSIT SYSTEM ADEQUACY TESTS

OVERVIEW

This section of the Report discusses the scope and results of the Pedestrian, Bicycle, and Bus Transit System Adequacy tests, following the LATR Guidelines.

PEDESTRIAN SYSTEM ADEQUACY

As previously discussed, the Pedestrian System Adequacy Test consists of the following three components:

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

Following is a discussion of the results of each evaluation:

Pedestrian Level of Comfort (PLOC)

The requirements for the PLOC portion of the Pedestrian Adequacy Test are described in the LATR Guidelines. Per the Guidelines, the applicable value for the proposed redevelopment is 1,000 feet in all directions based on a peak-hour person trip generation of 350 or more and the site location within an Orange Policy Area.

The PLOC Map found at <https://mcatlas.org/pedplan/> was reviewed to identify the PLOC for the pedestrian facilities with the 1,000-foot radius of the property. Field work was performed in November 2022, and a field verification in December 2022, to verify the PLOC within the 1,000-foot radius for the Pedestrian System Adequacy Test.

Figure 4-1 shows the existing pedestrian facilities in the study area and Figure 4-2 shows the current PLOC within the applicable 1,000 feet from the site boundary. Tables 4-1 and 4-2 list the PLOC Value and comfort level along with conditions and characteristics for sidewalks and crosswalks that affect the PLOC.

Of the segments reviewed, a large majority have an uncomfortable, undesirable, or unacceptable rating, especially those along the east side of Georgia Avenue and the south side of Randolph Road. Each of these segments are off-site. Widening the buffer between the vehicle travel lane and the sidewalk would improve the rating. One segment on the west side of Glenallan Avenue south of Randolph Road does not have a sidewalk. Building a sidewalk would improve the PLOC.

At the time of Preliminary Plan/Site Plan, the Applicant will work with Planning Staff and MCDOT to identify what improvements are feasible for off-site improvements and within the Proportionality Guide Calculation.

Street Lighting

According to the LATR Guidelines, streetlights are to be inventoried and inspected to determine if they are operational. The Applicant must upgrade the street lighting if standards are not met or they are not operational.

Based on the person trip generation, the applicable radius for the proposed development is 1,000 feet from the property boundaries. A field verified inventory of streetlights within the 1,000-foot study area boundary, is provided on Figure 4-3. An inspection of the streetlights in January 2023 verified that each of the streets along Georgia Avenue, Randolph Road, and Glenallan Avenue are operating except one along the southwest (SW) ramp of Randolph Road. As shown on Figure 4-3, there are streetlights along MD 97, Randolph Road, and the field verification confirmed they are in operation. Details on the streetlight standards are presented in the appendix. The Applicant will work with Staff at the time of Preliminary Plan/Site Plan to identify improvements, if needed.

ADA Compliance

The requirements for the ADA Compliance portion of the Pedestrian Adequacy Test are described in the LATR Guidelines. The applicable value for the proposed development is one-half of 1,000 ft (500 ft) based on peak hour person trip generation of 350 or more and located within an Orange Policy Area. Table 4-3 lists the ramp and the location. The table lists if detectable warning strips are provided, the ramp width, and landing area for each ramp.

At the time of Preliminary Plan/Site Plan the non-compliant ramps will be reviewed with staff to determine those that should be fixed to meet mitigation requirements.

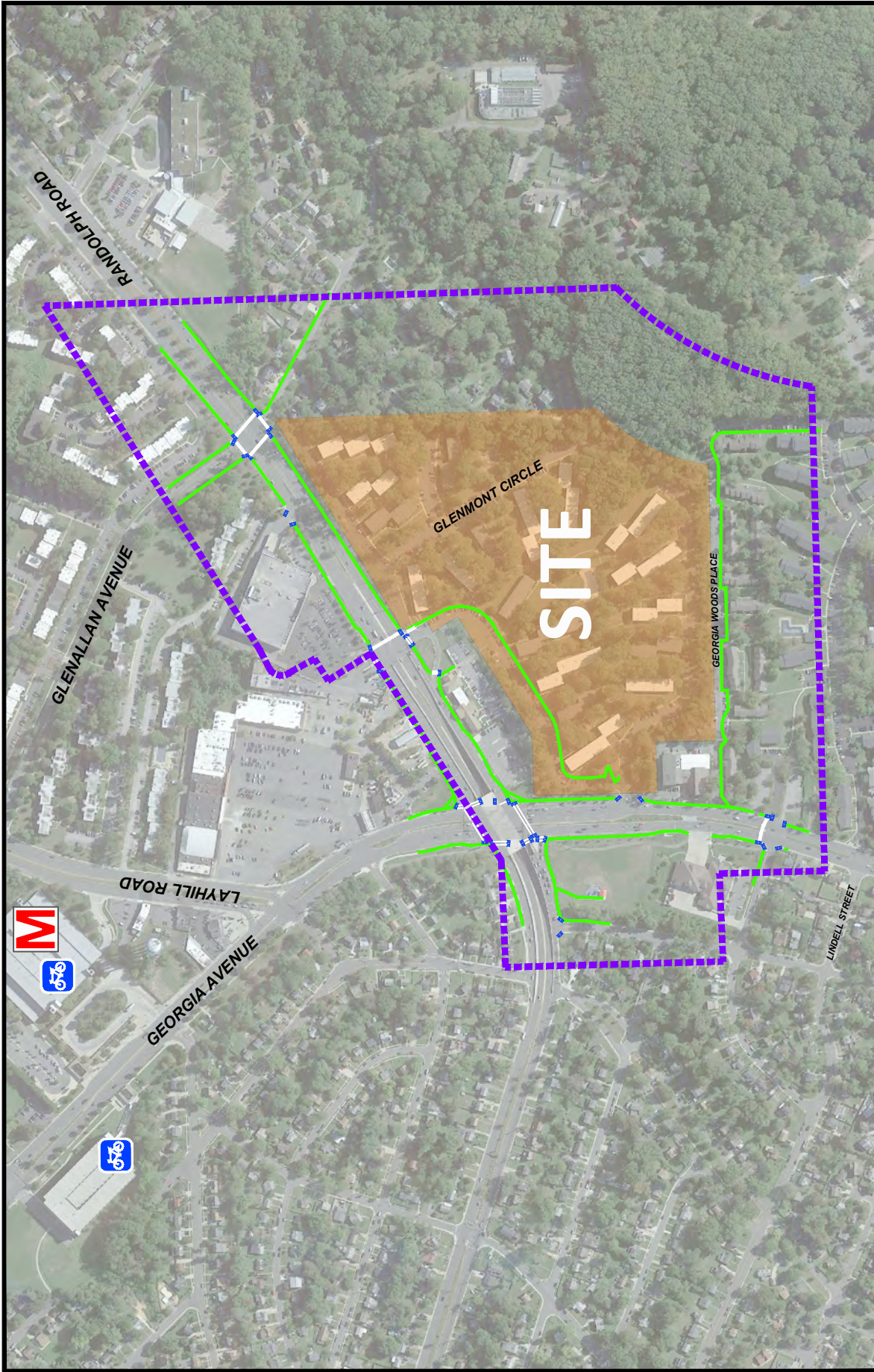
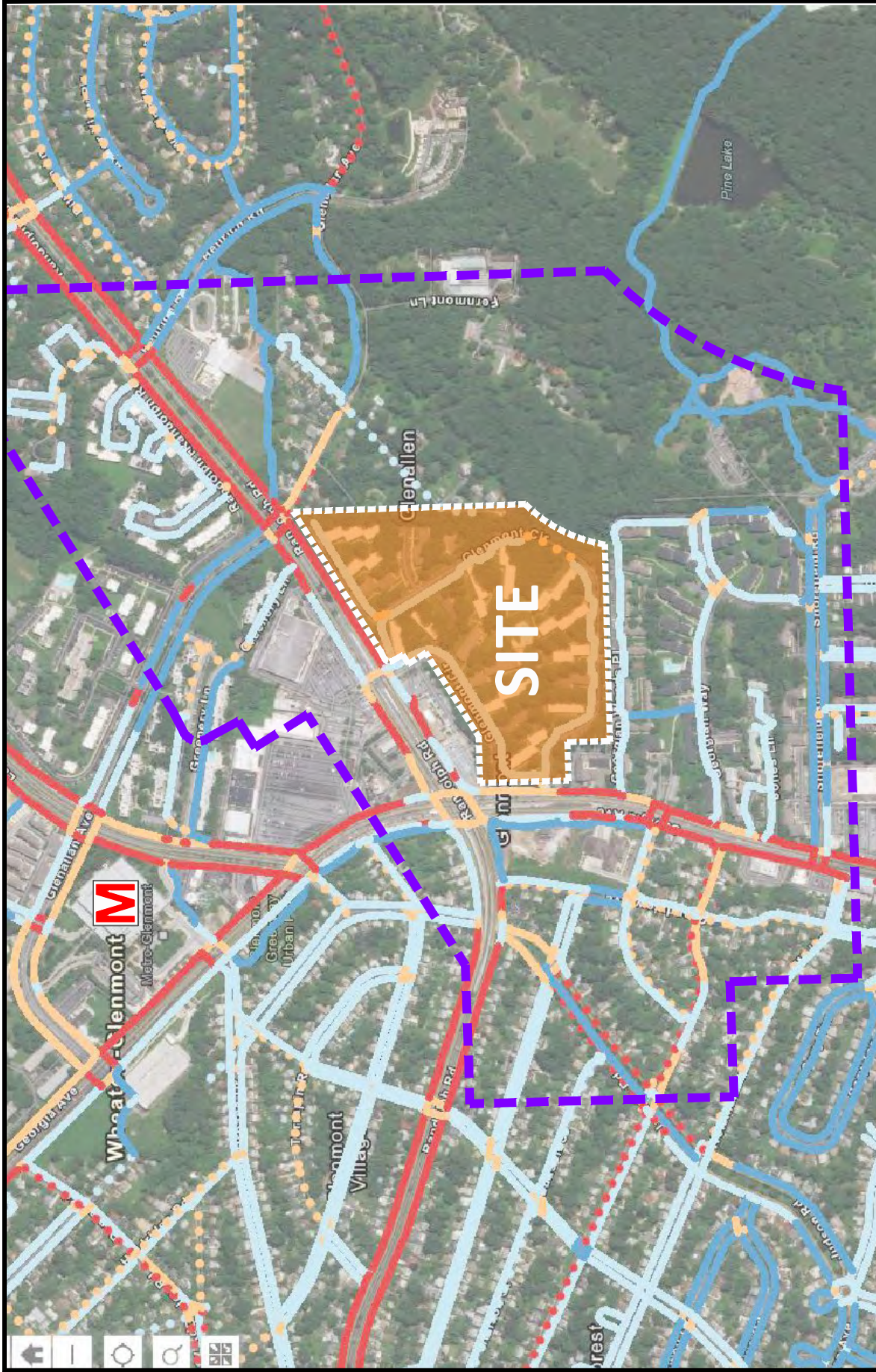
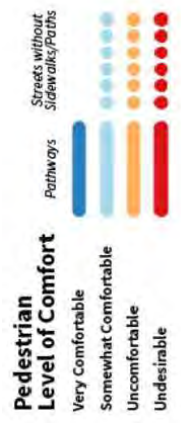


Figure 4-1
Pedestrian and Bicycle Facilities

← NORTH
Glenmont Forest
Montgomery County, MD



 NORTH
 Glenmont Forest
 Montgomery County, MD



 1000' Radius

Figure 4-2
Pedestrian Level of Comfort (PLOC) Study Area

Table 4-1
Glenmont Forest
Sidewalk and Pathway Pedestrian Level of Comfort

ID	Location	Context (Urban/Non-urban)	Posted Speed Limit (mph)	Linear Length	Surface Type	Pathway Width	Buffer Width	Multiple Cracks in one section	Severe Spalling	Obstructions (less than 36" opening)	Obstruction Type	Missing Section Lengths (approx.)	Comfort Levels (Target 2 - Somewhat Comfortable)	Recommendation	Improved Comfort Level
1	MD 97, Between Layhill and Randolph (E side)	Non-urban	35	290	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
2	MD 97, Between Layhill and Randolph (E side)	Non-urban	35	269	Concrete	8-10ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
3	MD 97, Between Layhill and Randolph (W side)	Non-urban	35	475	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Somewhat comfortable (2)	N/A	N/A
4	MD 97, Between Layhill and Randolph (W side)	Non-urban	35	75	Concrete	8-10ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
5	MD 97, Between Layhill and Randolph (W side)	Non-urban	35	95	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Somewhat comfortable (2)	N/A	N/A
6	MD 97, Between Layhill and Randolph (W side)	Non-urban	35	372	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Somewhat comfortable (2)	N/A	N/A
7	MD 97, Adjacent to fire station (W side)	Non-urban	35	222	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
8	MD 97, South of fire station (W side)	Non-urban	35	207	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Somewhat comfortable (2)	N/A	N/A
9	MD 97, Between Randolph and Glenmont Cir (E side)	Non-urban	35	348	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Uncomfortable (3)	Widen buffer	Somewhat comfortable (2)
10	MD 97, Between Glenmont Cir and Georgian Woods (E side)	Non-urban	35	256	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
11	MD 97, Between Georgian Woods and Mason St (E side)	Non-urban	35	170	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Uncomfortable (3)	Widen buffer	Somewhat comfortable (2)
12	MD 97, South of Mason St (E side)	Non-urban	35	236	Concrete	3.5-5ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
13	Randolph Rd (NW ramp)	Non-urban	40	463	Concrete	8-10ft	5-8ft	No	No	No	N/A	N/A	Somewhat comfortable (2)	N/A	N/A
14	Randolph Rd (SW ramp)	Non-urban	40	826	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
15	Randolph Rd (SW ramp)	Non-urban	40	88	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Somewhat comfortable (2)	N/A	N/A
16	Randolph Rd (between Judson and Grandview) (SW ramp)	Non-urban	40	63	Concrete	5-8ft	3-5ft	No	No	No	N/A	N/A	Uncomfortable (3)	Widen buffer	Somewhat comfortable (2)
17	Randolph Rd (between Judson and Grandview) (SW ramp)	Non-urban	40	177	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
18	Randolph Rd (between Grandview and MD 97) (SW ramp)	Non-urban	40	305	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Very Comfortable (1)	N/A	N/A
19	Randolph Rd (SE ramp)	Non-urban	40	205	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Somewhat comfortable (2)	N/A	N/A
20	Randolph Rd (SE ramp) W of police station	Non-urban	40	205	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
21	Randolph Rd (SE ramp) (Police station entrance)	Non-urban	40	124	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Somewhat comfortable (2)	N/A	N/A
22	Randolph Rd (Adjacent to police station)	Non-urban	40	52	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
23	Randolph Rd (Between police station and Glenmont Cir)	Non-urban	40	121	Concrete	5-8ft	5-8ft	No	No	No	N/A	N/A	Somewhat comfortable (2)	N/A	N/A
24	Randolph Rd (Between Glenmont Cir and Glenallan Ave)	Non-urban	40	900	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
25	Randolph Rd (Between MD 97 and Starbucks)	Non-urban	40	217	Concrete	8-10ft	5-8ft	No	No	No	N/A	N/A	Uncomfortable (3)	N/A	N/A
26	Randolph Rd (Between Starbucks and shopping center entrance)	Non-urban	40	313	Concrete	8-10ft	0-2ft	No	No	No	N/A	N/A	Somewhat comfortable (2)	N/A	N/A
27	Randolph Rd (Between Shopping center entrance and back of Lidl)	Non-urban	40	554	Concrete	8-10ft	5-8ft	No	No	No	N/A	N/A	Undesirable (4)	N/A	N/A
28	Randolph Rd (Between back of Lidl and Glenallan Ave)	Non-urban	40	256	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
29	Randolph Rd (E of Glenallan Ave) (South side)	Non-urban	40	1000	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
30	Randolph Rd (E of Glenallan Ave) (North side)	Non-urban	40	1000	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Undesirable (4)	Create buffer	Somewhat comfortable (2)
31	Glenallan Ave (North of Randolph Rd) (East side)	Non-urban	25	467	Concrete	3.5-5ft	0-2ft	No	No	No	N/A	N/A	Very Comfortable (1)	N/A	N/A
32	Glenallan Ave (North of Randolph Rd) (West side)	Non-urban	25	467	Concrete	3.5-5ft	0-2ft	No	No	No	N/A	N/A	Very Comfortable (1)	N/A	N/A
33	Glenallan Ave (South of Randolph Rd) (East side)	Non-urban	25	605	Concrete	5-8ft	0-2ft	No	No	No	N/A	N/A	Uncomfortable (3)	Create buffer	Somewhat comfortable (2)



Table 4-2
Glenmont Forest
Crosswalk Pedestrian Level of Comfort

		Crosswalks										
Intersection		Leg	Marking Type	Centered with Ramp (Y/N)	Pedestrian Signal (Y/N)	Push Button (Y/N)	Push Button	# of lanes	Context (Controlled/Uncontrolled)	Median Type	Crosswalk Type	Posted Speed Limit (mph)
Road Segment	Road Segment											
1	MD 97	N	HV (D)	Y	Y	Y	Accessible	10	Controlled	Raised Refuge Island	Asphalt	35
2	MD 97	S	HV (D)	Y	Y	Y	Accessible	10	Controlled	Raised Refuge Island	Asphalt	35
3	MD 97	E	HV (D)	Y	Y	Y	Accessible	6	Controlled	Raised Refuge Island	Asphalt	40
4	MD 97	W	HV (D)	Y	Y	Y	Accessible	5	Controlled	Raised Refuge Island	Asphalt	40
5	MD 97	E	HV (D)	Y	N	Y	Accessible	5	Controlled	Raised Refuge Island	Asphalt	40
6	MD 97	W	HV (D)	Y	Y	Y	Accessible	3	Controlled	NA	Asphalt	25
7	MD 97	N	HV (D)	Y	Y	Y	Accessible	8	Controlled	Raised Refuge Island	Asphalt	35
8	MD 97	E/W	Marked	Y	N	N	NA	6	Uncontrolled	Raised Refuge Island	Asphalt	35
9	MD 97	N	HV (D)	Y	Y	Y	Accessible	7	Controlled	NA	Asphalt	35
10	MD 97	S	HV (D)	Y	Y	Y	Accessible	6	Controlled	NA	Asphalt	35
11	MD 97	E	HV (D)	Y	Y	Y	Accessible	3	Controlled	NA	Asphalt	25
12	Randolph Rd	S	HV (D)	Y	Y	Y	Accessible	3	Controlled	NA	Asphalt	25
13	Randolph Rd	E	HV (D)	Y	Y	Y	Accessible	8	Controlled	Raised Refuge Island	Asphalt	40
14	Randolph Rd	N	HV (D)	Y	Y	Y	Accessible	3	Controlled	NA	Asphalt	25
15	Randolph Rd	N	HV (D)	Y	Y	Y	Accessible	3	Controlled	NA	Asphalt	25
16	Randolph Rd	S	HV (D)	Y	Y	Y	Accessible	3	Controlled	NA	Asphalt	25
17	Randolph Rd	E	HV (D)	Y	Y	Y	Accessible	7	Controlled	NA	Asphalt	40
18	Randolph Rd	W	HV (D)	Y	Y	Y	Accessible	7	Controlled	NA	Asphalt	40



MAP SOURCE: MONTGOMERY COUNTY DOT WEBSITE

- Street Light Outage has not been reported
- Streetlight Outage has been reported
- R Streetlight Outage just reported
- 1000' Radius



NORTH
Glenmont Forest
Montgomery County, MD

Figure 4-3
Streetlight Inventory

Table 4-3
Glenmont Forest
ADA Ramp Evaluation

ID	Ramps							
	In between		DWS (Y/N)	DWS Type	DWS Color	DWS Size	Ramp Width	Ramp Landing Area (5' x 5')
	Road Segment	Road Segment						
1	Layhill Road	Shopping Center Entrance	N	N/A	N/A	N/A	N/A	N/A
2	MD 97 (SE island) (channelized right)	Layhill Rd	Y	Cast in Place	Red	5x2	5	5x5
3	MD 97 (SE island)	Layhill Rd	Y	Cast in Place	Red	9x2	9	9x9
4	MD 97 (NE island)	Layhill Rd	Y	Cast in Place	Red	7x2	7	7x7
5	MD 97 (NE island) (crossing channelized right)	Layhill Rd	Y	Cast in Place	Red	5x2	5	5x5
6	MD 97 (N median island)	Layhill Rd	N	N/A	N/A	N/A	N/A	N/A
7	MD 97 (E median island)	Layhill Rd	Y	Cast in Place	Red	8.5x2	8.5	8.5x8.5
8	MD 97 (E median island)	Layhill Rd	Y	Cast in Place	Red	11x2	11	11x11
9	MD 97	Judson Rd (N side)	Y	Cast in Place	Red	10x2	10	10x10
10	MD 97	Judson Rd (N side)	Y	Cast in Place	Red	7x2	7	7x7
11	MD 97	Judson Rd (S side)	Y	Cast in Place	Red	8x2	8	8x8
12	MD 97	Sheraton St	Y	Cast in Place	Red	7x2	7	7x7
13	MD 97 (NE side)	Shopping entrance(s)	Y	Cast in Place	Red	7x2	7	7x7
14	MD 97 (NE side)	Shopping entrance(s) (sunoco)	Y	Cast in Place	Red	5x2	5	5x5
15	MD 97 (NE side)	Shopping entrance(s) (mcdonalds)	Y	Cast in Place	Red	5x2	5	5x5
16	MD 97 (NW side)	Randolph Rd	Y	Cast in Place	Red	7x2	7	7x7
17	MD 97 (NE island)	Randolph Rd	Y	Cast in Place	Red	7x2	7	7x7
18	MD 97 (NE sidewalk)	Randolph Rd	Y	Cast in Place	Red	8x2	8	8x8
19	MD 97 (SW island)	Randolph Rd	Y	Cast in Place	Red	10x2	10	10x10
20	MD 97 (SE side)	Randolph Rd	Y	Cast in Place	Red	7x2	7	7x7
21	MD 97 (NW island)	Randolph Rd	Y	Cast in Place	Red	5x2	5	5x5
22	MD 97 (N island)	Randolph Rd	Y	Cast in Place	Red	8x2	8	8x8
23	MD 97 (S island)	Randolph Rd	Y	Cast in Place	Red	8x2	5	5x5
24	MD 97 (E island)	Randolph Rd	Y	Cast in Place	Red	7x2	7	7x7
25	MD 97 (W island)	Randolph Rd	Y	Cast in Place	Red	7x2	7	7x7
26	Randolph Rd	Police Station Entrance	N	N/A	N/A	N/A	N/A	N/A
27	Randolph Rd	Glenmont Cir (West entrance)	Y	Cast in Place	Red	7x2	7	7x7
28	Randolph Rd	Glenmont Cir (East entrance)	N	N/A	N/A	N/A	N/A	N/A
29	Randolph Rd (W side)	Shopping Entrance	Y	Cast in Place	Red	8x2	8	8x8
30	Randolph Rd (E side) (crossing Randolph)	Shopping Entrance	Y	Cast in Place	Red	5x2	5	5x5
31	Randolph Rd (crossing shopping center)	Shopping Entrance	Y	Cast in Place	Red	8x2	8	8x8
32	Randolph Rd (E median)	Shopping Entrance	Y	Cast in Place	Red	7x2	7	7x7
33	Randolph Rd	Starbucks Exit	Y	Cast in Place	Yellow	8x2	8	8x8
34	Randolph Rd	Starbucks Entrance	Y	Cast in Place	Red	8x2	8	8x8
35	Randolph Rd	McDonalds Entrance	N	N/A	N/A	N/A	N/A	N/A
36	Randolph Rd	Lidl entrance	N	N/A	N/A	N/A	N/A	N/A
37	Randolph Rd	Lidl loading zone	N	N/A	N/A	N/A	N/A	N/A
38	Randolph Rd	Greenery Lane	N	N/A	N/A	N/A	N/A	N/A
39	Randolph Rd (NW side)	Glenallan Ave	Y	Cast in Place	Yellow	6.5x2	6.5	6.5x6.5
40	Randolph Rd (SE side)	Glenallan Ave	Y	Cast in Place	Yellow	7x2	7	7x7
41	Randolph Rd (Sw side) (crossing Glenallan)	Glenallan Ave	Y	Cast in Place	Yellow	8x2	8	8x8
42	Randolph Rd (Sw side) (crossing Randolph)	Glenallan Ave	Y	Cast in Place	Yellow	6x2	6	6x6
43	Randolph Rd (NE side)	Glenallan Ave	Y	Cast in Place	Yellow	6x2	6	6x6
44	Glenallan Ave	Wallace Ave	Y	Cast in Place	Red	4x2	4	4x4
45	Randolph Rd	Winexburg Manor Dr	N	N/A	N/A	N/A	N/A	N/A
46	MD 97	Glenmont Cir	Y	Cast in Place	Red	8x2	8	8x8
47	MD 97	Catholic Charities Center	N	N/A	N/A	N/A	N/A	N/A
48	MD 97	Georgian Way	N	N/A	N/A	N/A	N/A	N/A
49	MD 97	Georgian Woods Place	N	N/A	N/A	N/A	N/A	N/A
50	MD 97 (NW side)	Mason St	Y	Cast in Place	Red	9x2	9	9x9
51	MD 97 (NE side)	Mason St	Y	Cast in Place	Red	5x2	5	5x5
52	MD 97 (SE side)	Mason St	Y	Cast in Place	Red	5x2	5	5x5
53	MD 97 (SW side)	Mason St	Y	Cast in Place	Red	5x2	5	5x5
54	MD 97 (N median)	Mason St	Y	Cast in Place	Red	7x2	7	7x7
55	Randolph Rd	Judson Ave (N&S)	Y	Cast in Place	Red	7x2	7	7x7
56	Randolph Rd	Grandview Ave (E&W)	Y	Cast in Place	Red	5x2	5	5x5

BICYCLE SYSTEM ADEQUACY

As previously discussed, per the LATR Guidelines, bicycle system adequacy is defined as providing a low Level of Traffic Stress (LTS-2) for bicyclists. The requirements for the Bicycle System Adequacy test are described in the LATR Guidelines. The applicable value for the proposed development is 1,000 feet based on peak hour person trip generation of 350 or more and the site location within an Orange Policy Area. Figure 4-4 shows existing and proposed bicycle facilities, per the Bicycle Master Plan.

Bicycle system adequacy is measured by the LTS (Level of Traffic Stress). The stress is determined based on the comfort or skill level of a cyclist in reference to a roadway. Per the Guidelines, appropriate adequacy for a bicycle system provides an LTS-2. Potential mitigation involves the Applicant providing necessary adjustments to promote low level of traffic stress facilities LTS-2 conditions within 1,000 ft of the development's site boundary.

Per the County's Bicycle Stress Map, MD 97 (Georgia Avenue), Randolph Road, and Glenallan Avenue north of Randolph Road are currently rated with high & moderate stress levels.

At the time of Preliminary Plan/Site Plan, the Applicant will work with Staff to determine what, if any, bicycle or side path improvements along Georgia Avenue and Randolph Road should be constructed to meet the Bicycle Low Level of Stress standard and Proportionality Guide Calculation cap for off-site improvements.

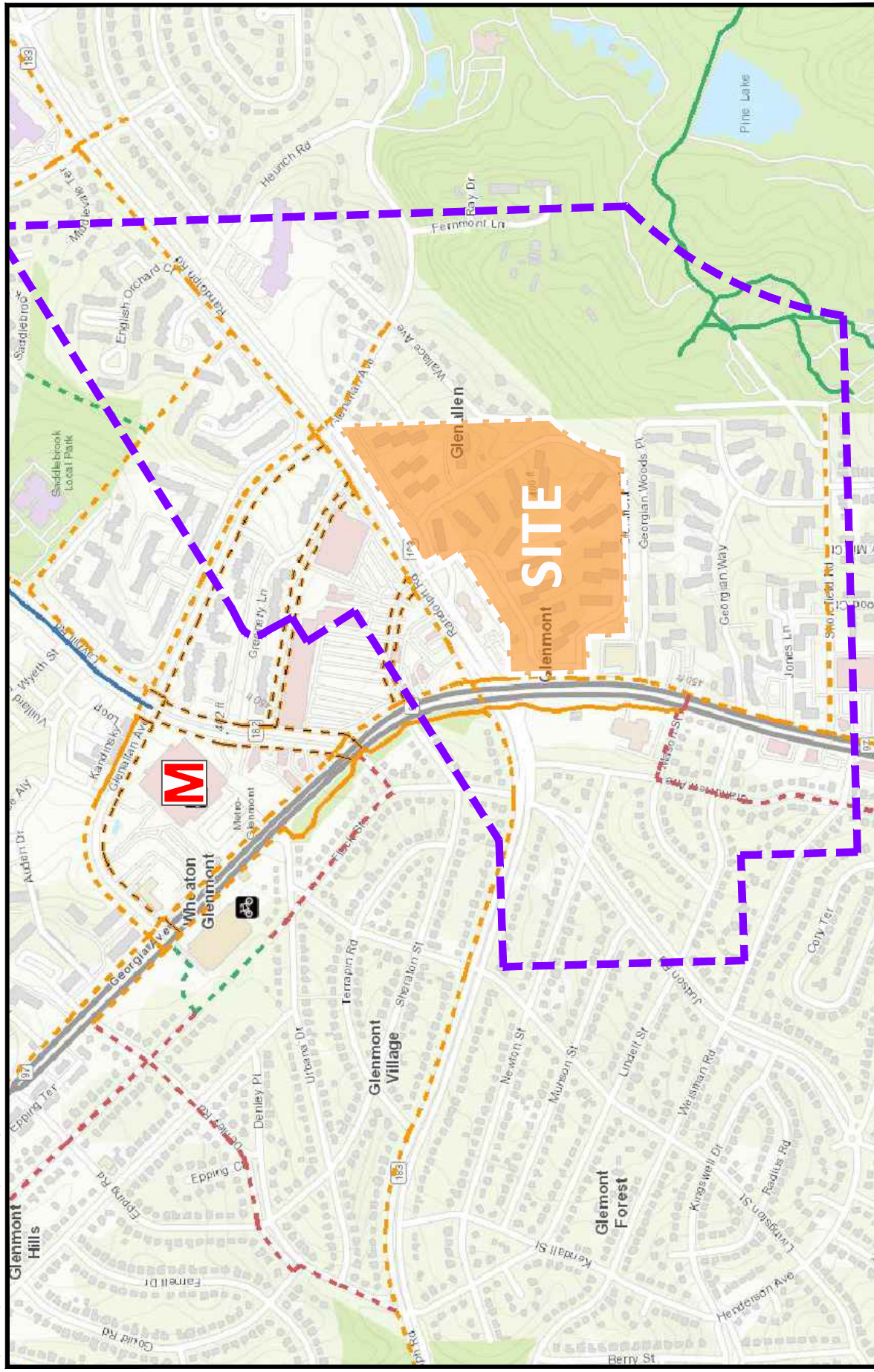


Figure 4-4
Bicycle Master Plan

BUS TRANSIT SYSTEM ADEQUACY

The requirements for the Bus Transit Adequacy test are described in the LATR Guidelines. The applicable requirement for the proposed development is four (4) shelters within 1,500 feet of the site based on a peak hour person trip generation of 350 or more and the site located within an Orange Policy Area.

There are 19 bus stops within the study area, as shown on Figure 4-5 and listed on Table 4-3. Of the 19 bus stops, eight (8) have shelters and 11 do not have shelters. At the time of Preliminary Plan/Site Plan the Applicant will coordinate with MCDOT Staff to identify four (4) stops that may be appropriate for bus shelters to meet the mitigation requirement and if they will be prioritized to reach the Proportionality Guide Calculation cap for off-site improvements.

Table 4-4
Glenmont Forest
Bus Stops

Bus Stops						
Bus Number	Bus Route (RideOn)	Location	Size	Connected to Pathway	Midblock	Bus Shelter
1	2000696	MD 97/Layhill/Judson (SB)	13x5	Yes	No	Yes
2	2005510	MD 97/Randolph (NB)	N/A	Yes	No	No
3	22842	MD 97/Randolph (SB)	17x5	Yes	No	Yes
4	2000671	MD 97/Randolph (EB)	13x5	Yes	No	Yes
5	2001117	Randolph/Judson (WB)	N/A	Yes	No	No
6	2001118	Randolph/Judson (EB)	7x3	Yes	No	No
7	2000677	Randolph/Livingston (WB)	7x3	Yes	No	No
8	2000676	Randolph/Livingston (EB)	N/A	Yes	No	No
9	2000693	Randolph/Shopping center (WB)	13x5	Yes	No	Yes
10	2000701	Randolph/Glenallan (EB)	N/A	Yes	No	No
11	2000698	Randolph/Glenallan (WB)	N/A	Yes	No	No
12	2000717	Randolph/English Orchard (WB)	N/A	Yes	No	No
13	2000716	Randolph/Heurich (EB)	N/A	Yes	No	No
14	2000635	MD 97/Mason (NB)	5x3	Yes	No	No
15	2000629	MD 97/Mason (SB)	17x5	Yes	No	Yes
16	2000600	MD 97/Weisman (SB)	13x5	Yes	No	Yes
17	2000607	MD 97/Shorefield (NB)	13x5	Yes	No	Yes
18	29976	Layhill/Greenery (NB)	13x5	Yes	No	Yes
19	10002	Layhill/Greenery (SB)	N/A	Yes	No	No



Figure 4-5
Bus Transit Stops

← NORTH
Glenmont Forest
Montgomery County, MD

LATR PROPORTIONALITY FOR OFF-SITE IMPROVEMENTS

Per the LATR Guidelines, the Planning Board established a maximum cost for off-site improvements that an applicant is required to construct or fund to mitigate deficiencies identified in Pedestrian, Bicycle and Bus Transit Systems Adequacy tests.

With the proposed 2,275 mid-rise apartments, at this time the Applicant would have a maximum \$9,988,160 improvement cap for off-site improvements.

Using the Proportionality Calculator, Version 1.3, the improvement cap is calculated by the number of dwelling units, times the LATR Proportionality Guide Rate, times the Adjustment Factor for the policy area. For Glenmont Forest, the cap is calculated as:

$$2,275 \times \$10,976 \times 40\% = \$9,988,160$$

At the time of Preliminary Plan/Site Plan, the Proportionality Guide will be recalculated and the Applicant will work with MCDOT and Planning Staff to identify which improvement options should be pursued to meet Glenmont Forest requirements to mitigate deficiencies in the Pedestrian, Bicycle, and Bus Transit Systems.

The Proportionality Cap cost estimate above reflects a full density build-out. This may be adjusted at the time of Preliminary Plan/Site Plan based on the proposed density and the requirements contained in the applicable Growth and Infrastructure Policy (GIP).

SECTION 5 VISION ZERO STATEMENT

This section provides a Vision Zero Statement following the LATR Guidelines. The LATR Vision Zero Statement requirement consists of the following:

1. **Review High Injury Network segments:** Document any segments on the High Injury Network (HIN) that are within a certain distance of the site frontage, as specified in Table 6 of the LATR Guidelines.

The site is located within a High Injury Network. Specifically, Georgia Avenue north of University Boulevard and south of Hewitt Avenue is classified as a high injury network. In addition, it is noted that Randolph Road west of Georgia Avenue is classified as a high injury network.

2. **Assess proximate safety issues:** Review the crash history for all segments and crossings within a certain distance of the site frontage, as specified in the LATR Guidelines. A summary of crashes within the past five years, noting the overall severity and mode of crashes, is to be provided. For any severe or fatal crashes, documentation of the collision type, mode, and whether the crash occurred at an intersection or along a segment is to be provided.

Per the LATR Guidelines, the applicable Vision Zero study area and requirement for the proposed development is collecting crash data within 1,000 feet in all directions within the past five (5) years. All crash data was collected from Montgomery County Interactive Crash Map. Table 5-1 provides a summary of the number of crashes within the study area. A map showing the location of the fatal and severe injury crashes is shown on Figure 5-1.

Within 1,000 feet of the site boundaries, a total of 531 crashes were reported from 2018 through January 2023. 214 of the crashes were reported as injury crashes, and four (4) were classified as fatal. All fatal crashes involved pedestrians. 2 of them occurred along an intersection and the other 2 occurred along a segment.

3. **Review traffic speeds:** Speed studies were conducted within the required 1000-foot distance from the site frontage as specified in the LATR Guidelines. The speed studies were conducted along Georgia Avenue, Randolph Road, and Layhill Road. The study began on January 19, 2023, at 12:00 AM and concluded on January 20, 2023, at 12:00 AM, lasting a total of 24 hours. The posted speed limit and results from the data collection are summarized in Table 5-2.

Speed studies conducted along Randolph Road east of Glenallan Avenue indicate the average speed was 38 mph and the 85th percentile speed was 47mph. The posted speed is 40mph. Along Randolph Road east of Livingston Street, 50th percentile speed was 37mph and the 85th percentile speed was 46mph.

Along Georgia Avenue between Arcola Drive and Shorefield Drive, the 50th percentile speed was 34mph and the 85th percentile speed was 36mph. The posted speed on Georgia Avenue is 35mph. Along Georgia Avenue between Glenallan Avenue and Urbana Drive, the 50th percentile speed was 34mph and the 85th percentile speed was 44mph.

Along Layhill Road between Glenallan Avenue and Georgia Avenue, the 50th percentile speed was 30mph and the 85th percentile speed was 39mph. The posted speed is 30mph.

As shown in Table 5-2, the 85th percentile speeds exceeded 120% of the posted speed limit on Randolph Road, Georgia Avenue and Layhill Road. Therefore, it is recommended that speed reduction measures and enforcement be considered by the County.

- 4. Site access:** The site layout of site minimizes conflicts between bicycles, pedestrians, and vehicles. Access to Glenmont Forest will be provided via a private drive on MD 97 (Georgia Avenue), a private drive on Randolph Road and Erskine Avenue, and a public street on Randolph Road. Erskine Avenue is planned to extend east and intersect with Glenallen Avenue. Sidewalks will be provided on both sides of the internal streets with landscaping and on-street parking buffering pedestrians from the vehicular travel way. The parking garages and loading docks for the residential buildings will be located within the interior of Glenmont Forest with no direct access to Randolph Road or Georgia Avenue.

Table 5-1
Glenmont Forest
Crash Analysis Summary ⁽¹⁾

Category	Subcategory	Applicable Radius: 250' within Proposed Site Development
		# of Crashes
Year	July 2018- 2019	76
	2019	129
	2020	86
	2021	107
	2022	122
	<u>2023-present</u>	<u>11</u>
	Total	531
Severity	Minor/No Injury	313
	Injury	214
Mode	Severe Injury/Fatal	4
	Vehicles Only	494
	Bicyclist Related	9
	Pedestrian Related	28

Note:

(1) Dataset taken from Montgomery County Interactive Crash Map.

<https://mcplanning.maps.arcgis.com/apps/webappviewer/index.html?id=3bec8ba90fca4cc182cc042ed38af0e7>

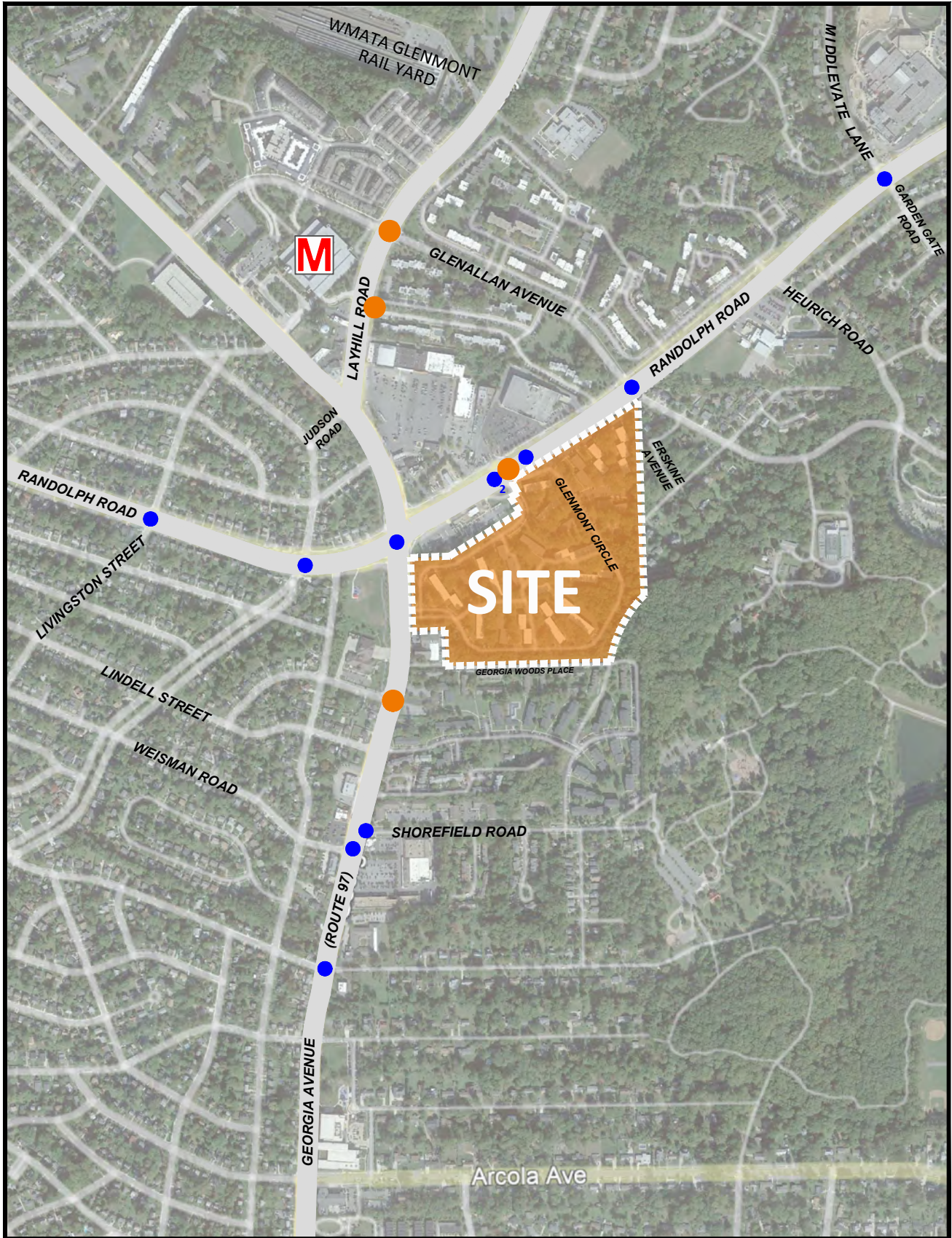


Figure 5-1
Location of Severe Injury and Fatal Crashes

- Severe Injury Crash
- Fatal Crash



Glenmont Forest
Montgomery County, MD

Table 5-2
Glenmont Forest
Speed Study Analysis

Lane/Direction	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3
Date Collected	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023
Posted Speed Limit (mph)	35	35	35	35	35	35	35	35	35
120% of Posted Speed Limit (mph)	42	42	42	42	42	42	42	42	42
Average Speed (mph)	35	35	33	36	40	37	36	40	37
85th Percentile (mph)	45	47	46	38	47	41	38	47	41
85th Percentile Exceed 120% of Posted Speed Limit? (Y/N)	Y	Y	Y	N	Y	N	N	Y	N
10-mph pace (mph)	35-45	35-45	30-40	35-45	35-45	35-45	35-45	35-45	35-45

Randolph Road EB									Randolph Road WB		
Lane/Direction	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
Date Collected	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023		
Posted Speed Limit (mph)	40	40	40	40	40	40	40	40	40		
120% of Posted Speed Limit (mph)	48	48	48	48	48	48	48	48	48		
Average Speed (mph)	35	38	35	35	40	36	35	40	36		
85th Percentile (mph)	42	45	48	45	50	48	45	50	48		
85th Percentile Exceed 120% of Posted Speed Limit? (Y/N)	N	N	Y	N	Y	Y	N	Y	Y		
10-mph pace (mph)	35-45	35-45	35-45	35-45	40-50	35-45	35-45	40-50	35-45		

Layhill Road EB									Layhill Road WB		
Lane/Direction	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
Date Collected	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023	1/19/2023		
Posted Speed Limit (mph)	30	30	30	30	30	30	30	30	30		
120% of Posted Speed Limit (mph)	36	36	36	36	36	36	36	36	36		
Average Speed (mph)	35	30	30	30	25	24	30	25	24		
85th Percentile (mph)	45	40	41	35	36	35	35	36	35		
85th Percentile Exceed 120% of Posted Speed Limit? (Y/N)	Y	Y	Y	N	Y	Y	N	Y	N		
10-mph pace (mph)	35-45	30-40	30-40	30-40	25-35	25-35	30-40	25-35	25-35		

Section 6 CONCLUSIONS

The Applicant proposing to remove 482 low-rise apartment dwelling units and replace the development with up to 2,275 mid-rise apartment dwelling units. The proposed development is expected to occur over a 10-year build-out. The existing property is occupied with 482 low-rise apartments built in 1962. The site is currently provided via two driveways on Randolph Road and one driveway on Georgia Avenue. The Applicant is proposing that the existing right-in/right-out access along Georgia Avenue, full movement driveway on Randolph Road via Glenmont Circle, and right-in/out access on Randolph Road east of the existing full access driveway, plus a new access to Erskine Avenue will provide access to Glenmont Forest. The site is subject to the Local Area Transportation Review system adequacy tests and a Vision Zero statement, based on the number of peak hour person trips the site will generate, as outlined in Montgomery County's Growth and Infrastructure Policy and the LATR 2023 Guidelines.

Following are the findings and conclusions of the four adequacy tests and Vision Zero evaluations.

1. Glenmont Forest is expected to generate 1,257 AM peak hour and 1,017 PM peak hour new person trips, and 743 AM peak hour and 601 PM peak hour new auto-driver (vehicle) trips.
2. The AM and PM peak hour average vehicle delays for the study intersections within the Kensington/Wheaton Orange Policy Area are operating below the congestion standard of 80 seconds per vehicle. The study intersections within the Glenmont Metro Station Red Policy Area are not subject to the Motor Vehicle Test. However, for information purposes, an analysis was conducted at each of these intersections.
3. Under future conditions, without and with the proposed Glenmont Forest redevelopment, the study intersections within the Kensington/Wheaton Policy Area will continue to operate below congestion standard threshold during both the AM and PM peak hours.
4. For the Pedestrian System Adequacy Test, mitigation is required to bring the existing undesirable pedestrian level of comfort ratings for segments along Randolph Road, Glenallan Avenue and MD-97 (Georgia Avenue) and to address ADA noncompliance for crosswalk ramps within the study area. At the time of Preliminary Plan/Site Plan, the Applicant will work with Staff to determine the improvements and the fair share contribution to improve the PLOC in the study area.
5. Mitigation is required to pass the Bicycle System Adequacy Test because there is high level of traffic stress under existing conditions along Randolph Road and MD-97 (Georgia Avenue). The Applicant will, at the time of Preliminary Plan/Site Plan, coordinate with Planning Staff to determine the fair share contribution toward the mitigation.

6. Several bus stops within the study area do not have bus shelters. Mitigation is required to pass the Bus Transit System Adequacy Test. The Applicant will, at the time of Preliminary Plan/Site Plan, coordinate with Planning Staff to determine the fair share contribution toward the mitigation.
7. A review of crash history within the 1,000 feet study area radius found that 531 crashes occurred between 2018 and 2023. Of the 531 report crashes, 214 were reported as injury crashes, and four (4) were classified as fatal. According to Montgomery Planning, the most serious injuries and fatalities are located along the County's arterials, such as Georgia Avenue. The site is located within a High Injury Network along Georgia Avenue south of Randolph Road. Randolph Road east of Glenallan Avenue and Georgia Avenue north of Layhill Road are considered high injury networks.
8. The speed study shows that the 85th percentile speed exceeds 120% of the posted speed limit on Randolph Road, Georgia Avenue and Layhill Road. Therefore, the County should consider speed reduction measures and enforcement.
9. The location and design of the proposed site access roads minimizes turning movement conflicts on Georgia Avenue and Randolph Road. Sidewalks and crosswalks will be provided within and along the property frontage to ensure safe pedestrian access to and from the site. The bike lane along the Georgia Avenue frontage provides a low level of traffic stress for bicyclists travelling to or from the site.

APPENDIX A
SCOPE FORM





Local Area Transportation Review

TRANSPORTATION IMPACT STUDY SCOPE OF WORK AGREEMENT

Updated Winter 2021

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

Montgomery County Planning Department		
Name (print):	Alex Rixey	Signature: <u>Alex Rixey</u> Date: <u>11/30/2022</u>
Montgomery County Department of Transportation		
Name (print):	Rebecca Torma	Signature: <u>Rebecca Torma</u> Date: <u>12/1/22</u>
State Highway Administration (where relevant)		
Name (print):	Kwesi Woodroffe	Signature: <u>[Signature]</u> Date: <u>12/01/2022</u>

Applicant Contact Information	
Transportation Consultant (company, contact name, email, and phone number)	Nancy Randall, AICP - Wells + Associates - amrandall@wellsandassociates.com - C: (410) 353-7340 Christine Bairan, EIT - Wells + Associates - cgbairan@wellsandassociates.com - C: (310) 971-3421
Name of Applicant / Developer	Grady Management, Inc. Jean Paul Savary

Project Information *Include Tables/Graphics, As Needed*

Project Name (include plan no. if known)	Glenmont Forest		
Project Location (include address if known)	Located along the southeast quadrant of the Randolph Road / Georgia Avenue intersection Bordered along Glenallan Avenue, Randolph Road, and Georgian Woods Place		
Policy Area(s) (subdivision staging policy map)	Kensington / Wheaton	Master Plan(s) / Sector Plan Area(s)	Glenmont Sector Plan
Application Type(s)	<input type="checkbox"/> Preliminary Plan	<input type="checkbox"/> Site Plan	<input type="checkbox"/> Sketch/Concept/Pre-Preliminary (Optional)
	<input type="checkbox"/> Conditional Use (formerly special exception)	<input checked="" type="checkbox"/> Local Map Amendment	<input type="checkbox"/> APF at Building Permit
			<input type="checkbox"/> Amendment <input type="checkbox"/> Other:

<p>Project Description & Previous Approvals</p> <p>(proposed land uses, zoning, no. of units, square footage, construction phasing, prior approvals and proposals, existing uses, site operations, year built, status of Adequate Public Facilities [APF], other relevant info)</p>	<p>The Applicant is proposing to remove 482 low-rise apartment dwelling units and replace the development with up to 1,810 mid-rise apartment dwelling units.</p>		
<p>1.Site Access</p> <p>(proposed access location(s), existing/adjacent/opposite curb cuts, interparcel connections, access configurations and restrictions, internal circulation, private roads, parking/loading areas, other relevant info)</p>	<p>The access to the proposed development is assumed to remain with one right-in/right-out access along Georgia Avenue, a full access driveway on Randolph Road via Glenmont Circle, and existing right-in/out access on Randolph Road east of the existing full access driveway, and provide new access to Erskine Avenue.</p>		
<p>2.Transportation Analysis Requirement</p>	<p><input checked="" type="checkbox"/> Transportation Impact Study</p> <p>Generates <u>50 or more</u> total weekday peak hour person trips (vehicular, transit, bicycle, and/or pedestrian) with no reductions other than a credit for existing developments over 12 years old, <u>AND</u> is outside of the White Flint and White Oak Policy Areas. Fill out remainder of this form and include in transportation impact study appendix.</p>	<p><input type="checkbox"/> Transportation Study Exemption Statement</p> <p>Generates <u>49 or fewer</u> total weekday peak hour person trips (vehicular, transit, bicycle, and/or pedestrian) with no reductions other than a credit for existing developments over 12 years old, <u>OR</u> within White Flint and White Oak Policy Areas.</p>	
<p>3.Project-based Transportation Demand Management Plan Required (see Chapter 42, Articles I and II)</p>	<p><input checked="" type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes (In Transportation Management District [TMD])</p> <p>** will coordinate with MCDOT</p>	<p><input type="checkbox"/> Amend Existing TMAg</p>
<p>4.Established Transportation Management District (TMD)?</p>	<p><input checked="" type="checkbox"/> No</p>	<p><input type="checkbox"/> Yes TMD Name: _____</p>	
<p>Transportation Impact Study Assumptions <i>Include Tables/Graphics, As Needed</i></p>			
<p>5.Study Years / Phases</p>	<p>Existing Year: 2022</p>	<p>Phases / Build-out Year(s): 2022 (10 year build out)</p>	
<p>6.Study Periods</p>	<p><input checked="" type="checkbox"/> AM <input checked="" type="checkbox"/> PM <input type="checkbox"/> Mid-day <input type="checkbox"/> Saturday <input type="checkbox"/> Sunday <input type="checkbox"/> Other: _____</p>		

<p>7. Study Intersections (For projects generating 50 or more person trips, list all signalized & significant unsignalized intersections, and site driveways traffic counts must be collected within 12-months of completed and accepted application)</p>	<p># of tiers of intersections to study (refer current LATR Guidelines): <u>2</u> <i>For the purpose of determining the number of tiers of study intersections, trip calculation for the subject site should also include nearby unbuilt properties in common ownership. No trip reductions should be taken in this calculation other than a credit for existing developments over 12 years old.</i></p>				
<p>8. Trip Generation (clearly cite sources and methodology including use of average rates vs. equation; include trip generation for existing site, current approvals, proposed uses, and net changes)</p>	<p>Total Person Trips</p> <p>AM: 942 PM: 736</p>	<p>Vehicle Trips* (Auto Driver)</p> <p>AM: 557 PM: 435</p>	<p>Transit Trips*</p> <p>AM: 76 PM: 60</p>	<p>Walking Trips* (non-motorized + transit)</p> <p>AM: 145 PM: 114</p>	<p>Bicycling Trips* (non-motorized)</p> <p>AM: 69 PM: 54</p>
<p>9. Trip Reductions (include justification and supporting documentation for internal capture, pass-by, diverted, Transportation Demand Management)</p>	<p>No reductions proposed at this time.</p>				
<p>10. Trip Distribution % (include a map of the proposed project in addition to a list or table)</p>	<p>West Randolph Road - 25% North Georgia Avenue - 15% Layhill Road - 5% East Randolph Road - 10% South Georgia Avenue - 45%</p> <p style="text-align: right;">* See attached for assignment matrix and map</p>				
<p>11. Pipeline Developments to be considered as background traffic (include name, plan #, land uses, and sizes for approved but unbuilt developments or concurrently pending applications; info can be obtained from the M-NCPPC Pipeline website: - website is updated quarterly)</p>	<p>Glenmont Metrocenter (120130080) - includes a total of 714 unbuilt residential dwelling units and 90,000 S.F. retail use.</p> <p>4010 Randolph Road (820210080) - includes a total of 197 mid-rise apartments, 3 single-family detached housing dwelling units, 1,000 SF day care center, and 1,000 SF clinic.</p> <p>Kaiser Permanente Aspen Hill (82018007A) - includes a 180,000 SF medical office building during total buildout.</p> <p>Wheaton Gateway (320210060) - includes 800 mid-rise residential dwelling units with 1st floor commercial.</p>				
<p>12. Pipeline Transportation Projects to be considered as background condition (fully funded for construction in County Capital Improvement Program, State Consolidated Transportation Program, developer projects, etc. within the next 6 years)</p>	<p>No pipeline transportation or CIP projects have been identified.</p>				

<p>13. Vision Zero Statement</p>	<ul style="list-style-type: none"> • Trigger: All LATR studies for a site that generates 50 or more weekday peak hour person trips must develop a Vision Zero Statement. • Requirements: The Vision Zero Statement consists of four components: <ol style="list-style-type: none"> 1. Review High Injury Network segments: Document any segments on the High Injury Network (HIN) that are within a certain distance of the site frontage. 2. Assess proximate safety issues: Review the crash history for all segments and crossings within a certain distance of the site frontage. 3. Review traffic speeds: Conduct speed studies within a certain distance from the site frontage. 4. Describe site access: Address the safety issues identified in steps 1 through 3 and describe how site circulation promotes safety, outlining how safe access will be provided to the site. <p>The applicant should refer to the <i>LATR Guidelines</i> to determine the applicable scoping distance pertaining to steps 1 through 3 and requirements pertaining to steps 1 through 4.</p>
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Preliminary Mitigation Analysis <i>*Refer to the LATR Guidelines for details on how to mitigate</i>	
<p>14. Vehicular Analysis</p>	<p><input checked="" type="checkbox"/> Vehicular Analysis Anticipated (Vehicular mitigation to be determined after study)</p> <ul style="list-style-type: none"> • TEST: The motor vehicle adequacy test will not be applied in "Red" policy areas and these areas will not be subject to LATR motor vehicle mitigation requirements. If the plan generates 50 or more weekday peak hour person trips, HCM Analysis is required to be provided for all intersections analyzed in studies for: 1) "Orange" policy areas, and 2) intersections with a CLV of more than 1,350 in "Yellow & Green" policy areas. 3) With the exception of intersections located within "Red" policy areas, CLV analysis required for all intersections regardless of policy area. CLV assessment and signal timing worksheets are to be included in the study appendix. • MITIGATION: The applicant must mitigate its impact on vehicle delay or down to the applicable policy area standard, whichever is less.
<p>15. Pedestrian Analysis</p>	<p><input checked="" type="checkbox"/> Pedestrian Mitigation Anticipated</p> <ul style="list-style-type: none"> • TEST: If the plan generates 50 or more weekday peak hour person trips, mitigation of surrounding pedestrian conditions is required. MITIGATION: Mitigation consists of three components: <ol style="list-style-type: none"> (1) Pedestrian Level of Comfort (PLOC). Pedestrian system adequacy is defined by providing a "Somewhat Comfortable" or "Very Comfortable PLOC score on streets and intersections for roads classified as Primary Residential or higher within a certain walkshed from the site. (2) Street Lighting. The applicant must evaluate existing street lighting based on MCDOT standards along roadways and paths from the development within a certain walkshed from the site frontage. Where standards are not met, the applicant must upgrade the street lighting to meet the applicable standard. (3) ADA Compliance. The applicant must fix ADA noncompliance issues within a certain walkshed from the site frontage equivalent to half the walkshed specified in

	<p>the required scoping distance.</p> <p>The applicant should refer to the <i>LATR Guidelines</i> to determine the applicable scoping walkshed distance requirement for each component described above.</p>	
16. Bicycle Analysis	<input checked="" type="checkbox"/> Bicycle Mitigation Anticipated	<ul style="list-style-type: none"> • TEST: If the plan generates 50 or more peak hour weekday person trips mitigation of surrounding bicycle conditions is required • MITIGATION: Required to ensure a low Level of Traffic Stress (LTS-2) on all existing transportation rights-of-way within a certain distance of the site frontage ; Alternatively, the project may provide a master planned improvement that provides an equivalent improvement in the level of traffic stress for cyclists within a certain distance of the site frontage. <p>The applicant should refer to the <i>LATR Guidelines</i> to determine the applicable scoping distance requirement.</p>
17. Bus Transit Analysis	<input checked="" type="checkbox"/> Transit Mitigation Anticipated	<ul style="list-style-type: none"> • TEST: If the plan generates 50 or more peak hour person trips mitigation of surrounding transit conditions is required. Projects located within "Green" policy areas are exempt from the bus transit adequacy test. • MITIGATION: Required to ensure that there are bus shelters outfitted with realtime traveler information displays and other standard amenities, along with a safe, efficient, and accessible path between the site and a bus stop, at a certain number of bus stops within a certain distance from the site. <p>The applicant should refer to the <i>LATR Guidelines</i> to determine the applicable number of bus stop and scoping distance requirement.</p>
Additional Analysis or Software Required	<input checked="" type="checkbox"/> Queuing Analysis <input checked="" type="checkbox"/> Signal Warrant Analysis <input type="checkbox"/> Weaving/Merge Analysis	<input checked="" type="checkbox"/> Accident Analysis <input checked="" type="checkbox"/> Synchro <input type="checkbox"/> SIDRA <input type="checkbox"/> VISSIM <input type="checkbox"/> CORSIM <input type="checkbox"/> Other _____
M-NCPPC Clarifications		Additional Assumptions & Special Circumstances for Discussion
<ul style="list-style-type: none"> • Transportation impact study will comply with all other requirements of the LATR Guidelines not listed on this form. • If physical improvements are proposed as mitigation, the transportation impact study will demonstrate feasibility with regards to right-of-way and utility relocation (at a minimum). • If the development proposal significantly changes after this transportation impact study scope has been agreed to, the Applicant will work with M-NCPPC staff to amend the scope to accurately reflect the new proposal. • A receipt from MCDOT showing that the transportation impact study review fee has been paid will be provided to M-NCPPC DARC at the time the development application is submitted. • Minimum of seven paper copies (more if near the County line or an incorporated City) and two PDF copies of the transportation impact study and appendices will be provided. 		

Project: Glenmont Forest

Policy Area: Kensington / Wheaton (Orange)

Person Trip Generation: 350 or more Net New Person Trips based on AM peak hour

Pedestrian System Adequacy

1. Pedestrian Level of Comfort: From Table 12 – 1,000’
2. Street Lighting: From Table 12 = 1,000’
3. ADA Compliance: ½ of Table 12 – 500’

Table 12. Pedestrian Adequacy Test Scoping

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

* The maximum required length of sidewalk and streetlighting improvements beyond the frontage is 4 times the appropriate value in this column. The maximum span required for ADA improvements beyond the frontage is equal to the appropriate value in this column.

Bicycle System Adequacy

1. LTS-2: From Table 13 – 1,000’

Table 13. Bicycle Adequacy Test Scoping

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

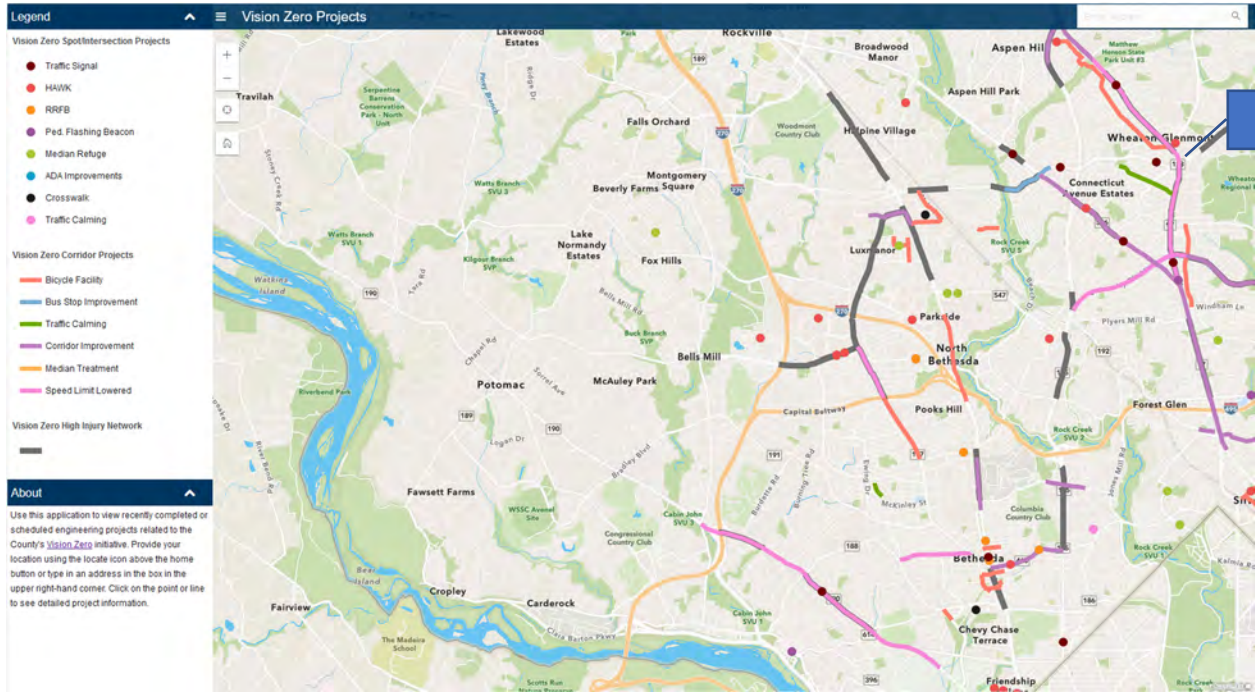
Bus Transit System Adequacy

1. Bus Shelters: From Table 14 – 4 shelters within 1,500’

Table 14. Bus Transit Adequacy Test Scoping

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

Vision Zero: Site is located within a High Injury Network along Georgia Avenue south of Randolph Road. In addition, it is noted that Randolph Road east of Glenallen Ave and Georgia Avenue north of Layhill Road are considered as high injury networks.



Up to 8 Speed Studies within 1,000' from site frontage. Speed study locations will be coordinated with County staff, if necessary.

Proposed Speed Study Locations:

1. Randolph Road, east of Glenallen Avenue (EB/WB direction)
2. Georgia Avenue, between Arcola Avenue and Shorefield Road (NB/SB direction)
3. Randolph Road, east of Livingston Road (EB/WB direction)
4. Layhill Road, between Glenallen Avenue and Georgia Avenue (EB/WB direction)
5. Georgia Avenue, between Glenallen Avenue and Urbana Drive

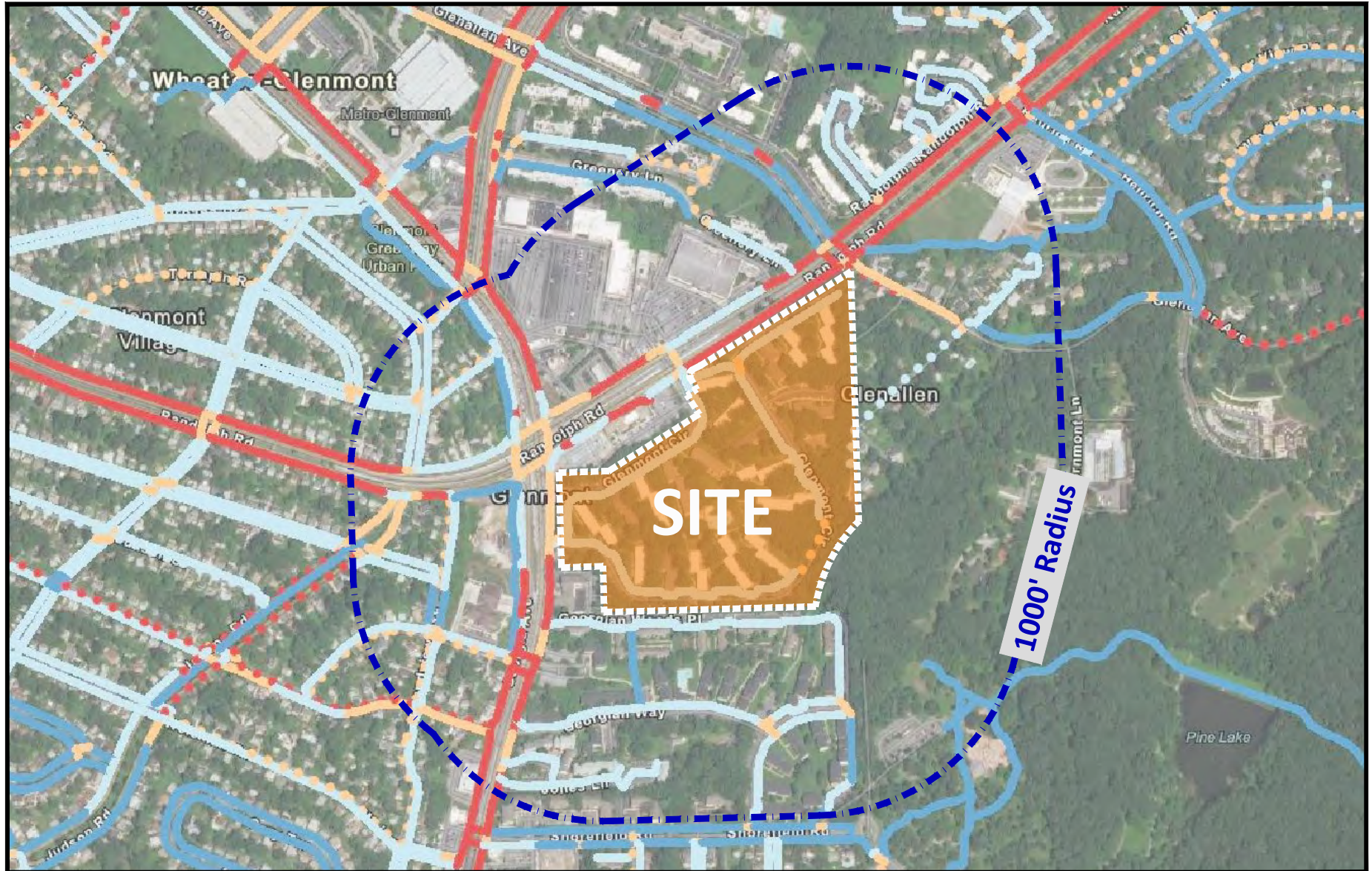


Figure 1
Pedestrian Level of Comfort (PLOC) Study Area



NORTH

Glenmont Forest
Montgomery County, MD

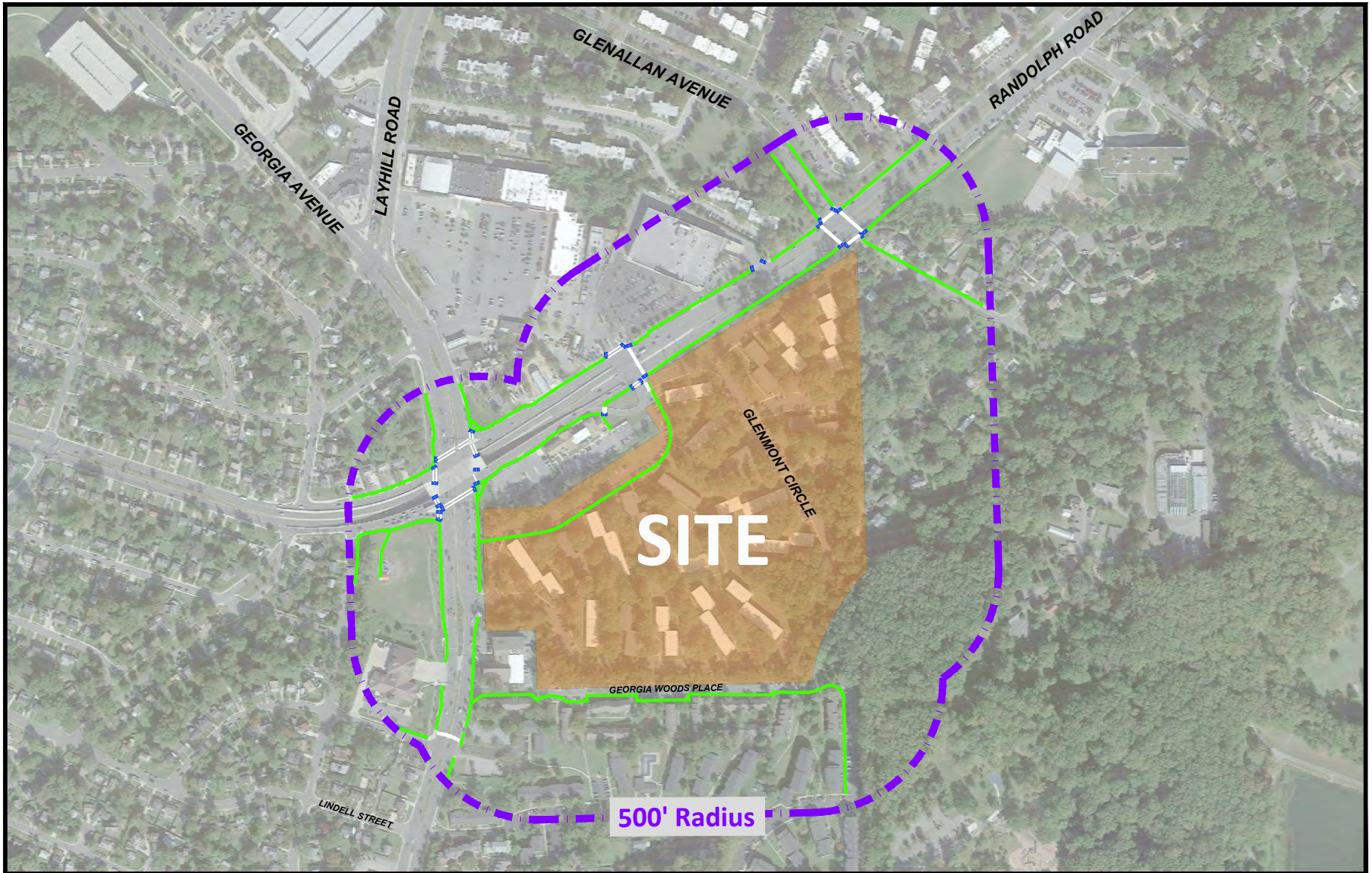


Figure 2
ADA Compliance Study Area

-  SIDEWALK
-  PEDESTRIAN CROSSWALK
-  CURB RAMP



NORTH

Glenmont Forest
Montgomery County, MD



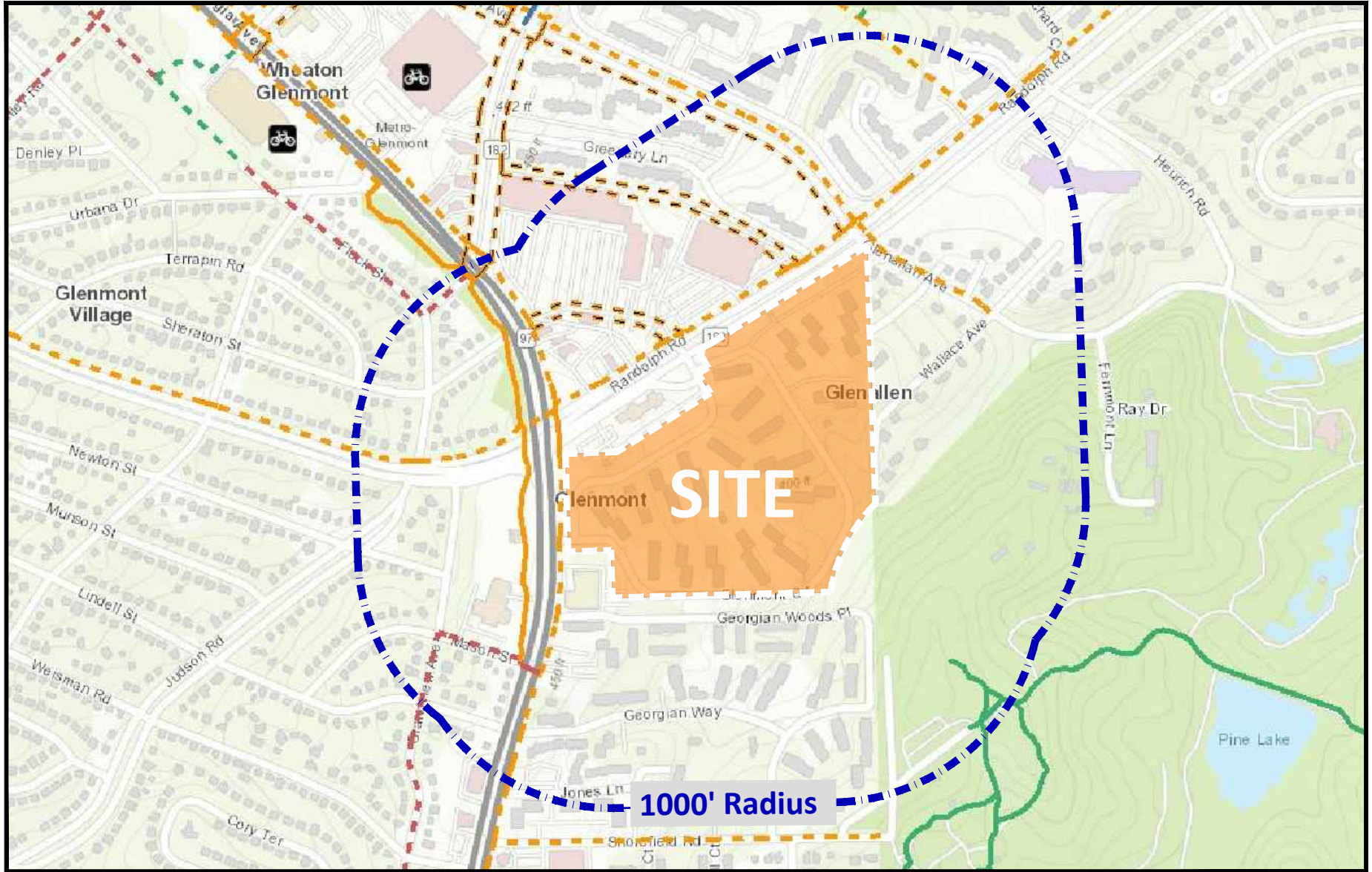


Figure 3
Bicycle System Study Area

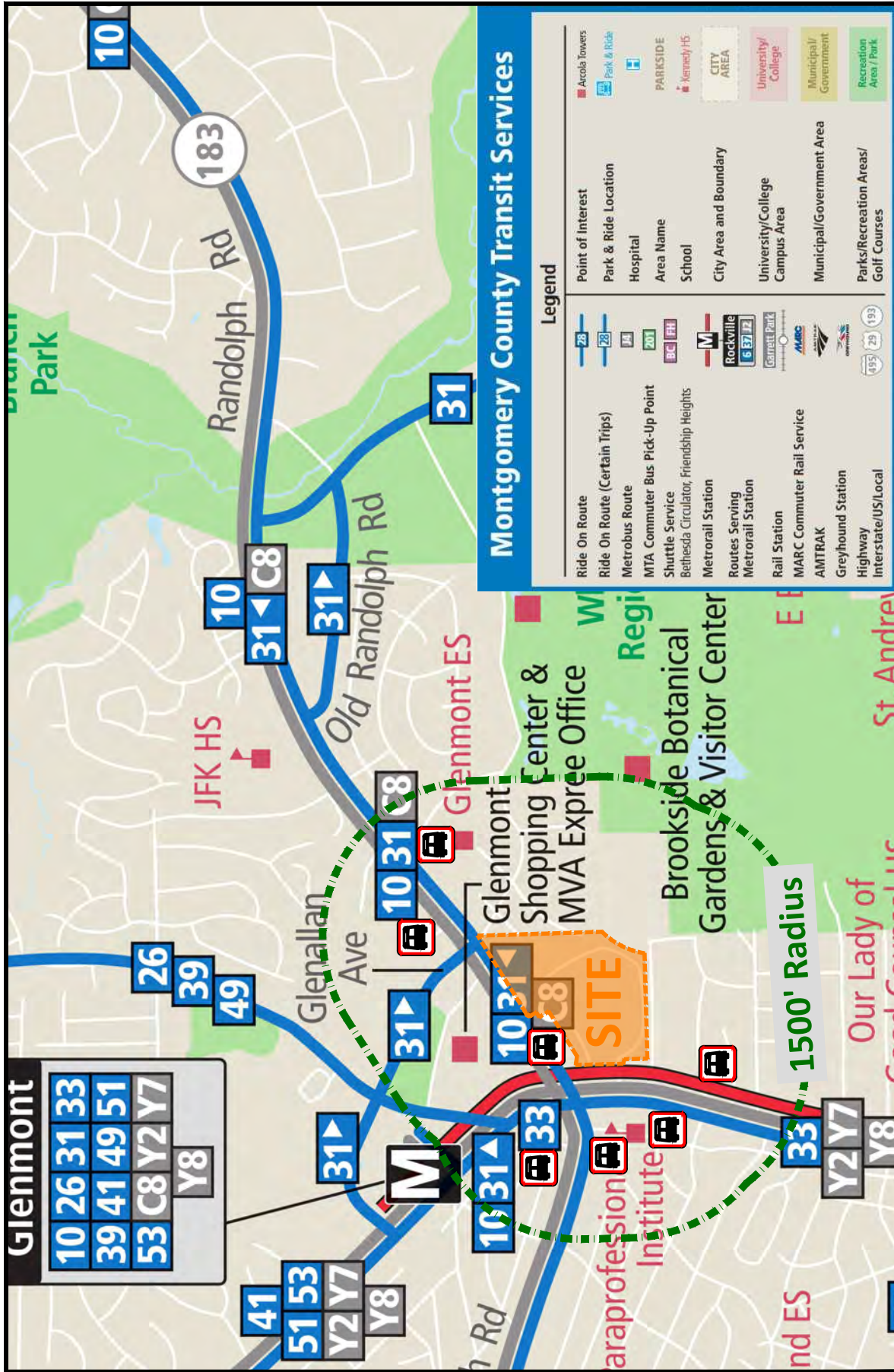
Existing	Proposed	
		Trails
		Sidepaths
		Separated Bike Lanes
		Striped Bikeways
		Bikeable Shoulders
		Shared Roads



NORTH

Glenmont Forest
Montgomery County, MD





← NORTH
 Glenmont Forest
 Montgomery County, MD

Figure 4
 Bus Transit System Adequacy



Table 1A
Glenmont Forest
Site Trip Generation ^{(1) (2)}

Land Use	LUC	Amount	Unit	ITE Trip Generation						2022 LATR Trip Generation Rate Adjustment Factors / Mode Split Adjustments												
				AM Peak Hour ³			PM Peak Hour ³			AM Peak Hour					PM Peak Hour							
				In	Out	Total	In	Out	Total	Auto Driver (Vehicle Trips)	Auto Passenger	Transit Trips	Non-Motorized (Bicycle Trips)	Pedestrian (Walking Trips)	Total Person Trips	Auto Driver (Vehicle Trips)	Auto Passenger	Transit Trips	Non-Motorized (Bicycle Trips)	Pedestrian (Walking Trips)	Total Person Trips	
Existing / Approved Use																						
Multifamily Housing (Low-Rise)	220	482	DU	41	131	172	144	84	228	157	68	22	20	42	266	207	89	28	26	54	350	
Proposed Use																						
Multifamily Housing (Mid-Rise)	221	1,810	DU	181	604	785	431	275	706	714	307	98	89	187	1,208	642	276	88	80	168	1,086	
Net New Trips				140	473	613	287	191	478	557	239	76	69	145	942	435	187	60	54	114	736	

Notes:
(1) Trip Generation based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition.
(2) Kensington / Wheaton Policy Area
(3) The ITE equation for the AM and PM Peak Hour of Adjacent Street Traffic were used.

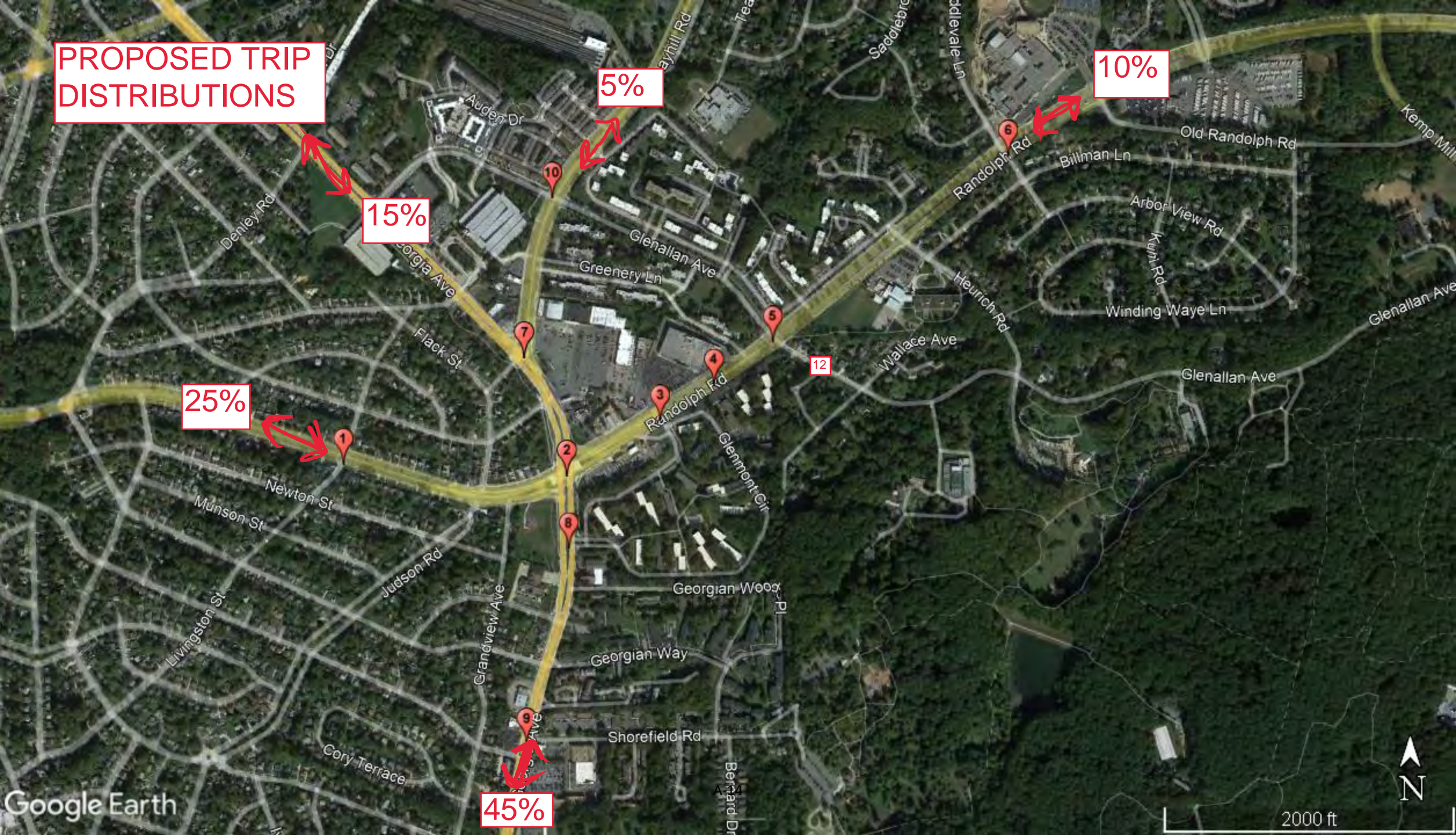
Table 1B
Glenmont Forest
Auto Driver Trip Generation

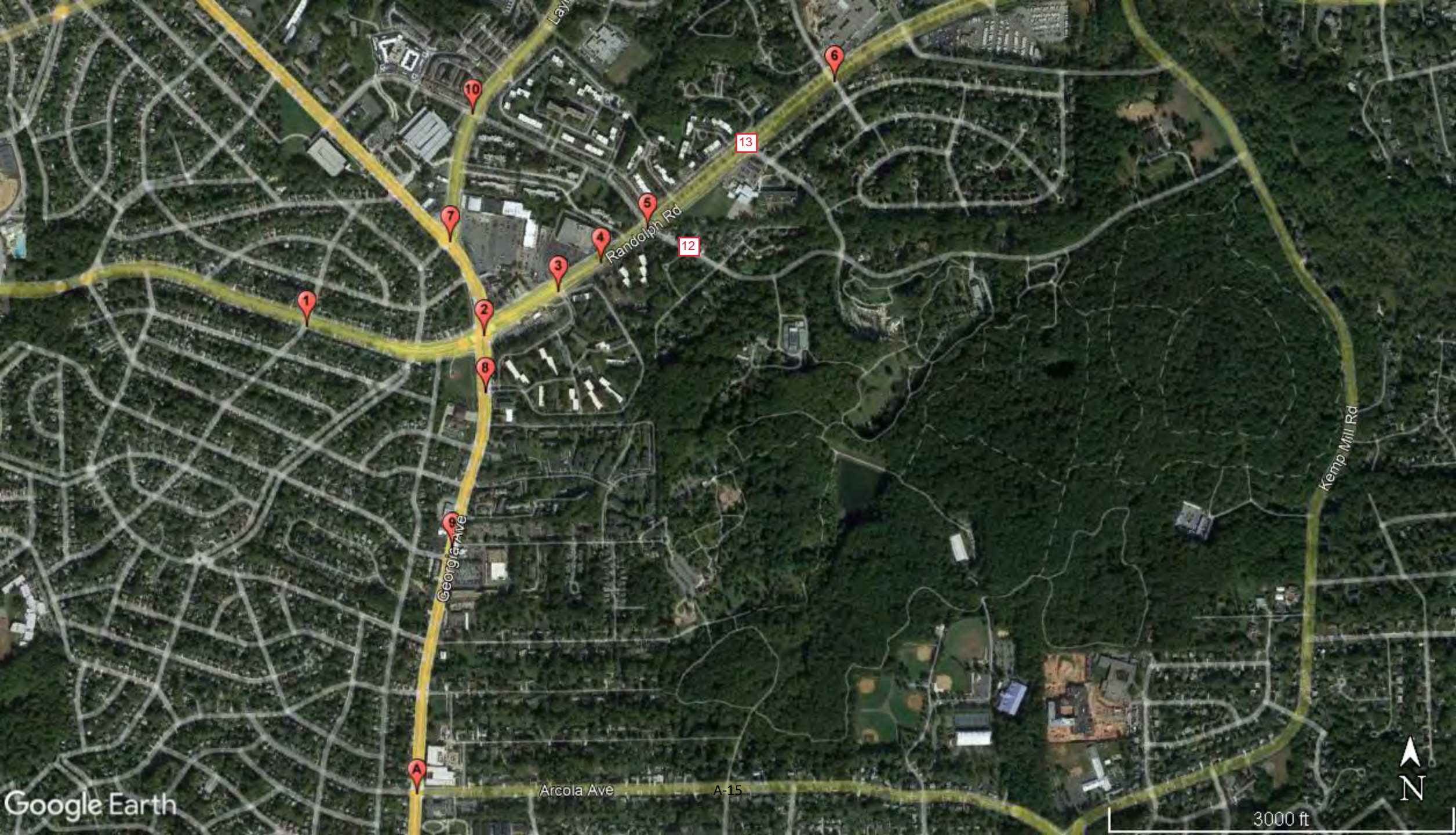
Land Use	LUC	Amount	Unit	Auto Driver Trip Generation							
				AM Peak Hour			PM Peak Hour				
				In	Out	Total	In	Out	Total		
Existing / Approved Use											
Multifamily Housing (Low-Rise)	220	482	DU	38	119	157	130	77	207		
Proposed Use											
Multifamily Housing (Mid-Rise)	221	1,810	DU	164	550	714	392	250	642		
Net Site Trips (Proposed vs. Existing)				126	431	557	262	173	435		

Table 2
Trip Distribution/Assignment Matrix
Hypothetical Case - Kensington / Wheaton for Residential Component

Trip Distribution by Super District	Residential Development	West on Randolph Road	North on Georgia Avenue	Layhill Road	East on Randolph Road	South on Georgia Avenue	Total
01. Bethesda / Chevy Chase	8.6%	4.0%	0.0%	0.0%	0.0%	4.6%	8.6%
02. Silver Spring / Takoma Park	6.9%	0.0%	0.0%	0.0%	0.0%	6.9%	6.9%
03. Potomac / Darnestown / Travilah	2.2%	2.0%	0.0%	0.0%	0.0%	0.2%	2.2%
04. Rockville / North Bethesda	13.9%	11.0%	0.0%	0.0%	0.0%	2.9%	13.9%
05. Kensington / Wheaton	20.7%	3.0%	6.0%	2.0%	3.7%	6.0%	20.7%
06. White Oak / Fairland / Cloverly	5.8%	0.0%	0.0%	1.0%	4.8%	0.0%	5.8%
07. Gaithersburg / Shady Grove	3.9%	1.9%	1.0%	1.0%	0.0%	0.0%	3.9%
08. Aspen Hill / Olney	5.3%	0.0%	4.3%	1.0%	0.0%	0.0%	5.3%
09. Germantown / Clarksburg	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.5%
10. Rural West of I-270	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11. Rural East of I-270	0.5%	0.0%	0.5%	0.0%	0.0%	0.0%	0.5%
12. Washington, DC	16.6%	0.0%	0.0%	0.0%	0.0%	16.6%	16.6%
13. PG / AA / Cal / St. M / Chis Cos., MD	8.6%	0.0%	0.0%	0.0%	2.6%	6.0%	8.6%
14. VA / WV	5.5%	3.0%	0.0%	0.0%	0.0%	2.5%	5.5%
15. Frederick Co., MD	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
16. Howard Co./Carroll Co., MD	0.9%	0.0%	0.9%	0.0%	0.0%	0.0%	0.9%
Total	100.0%	25.4%	12.8%	5.0%	11.1%	45.7%	100.0%
	Use ->	25%	15%	5%	10%	45%	100.0%

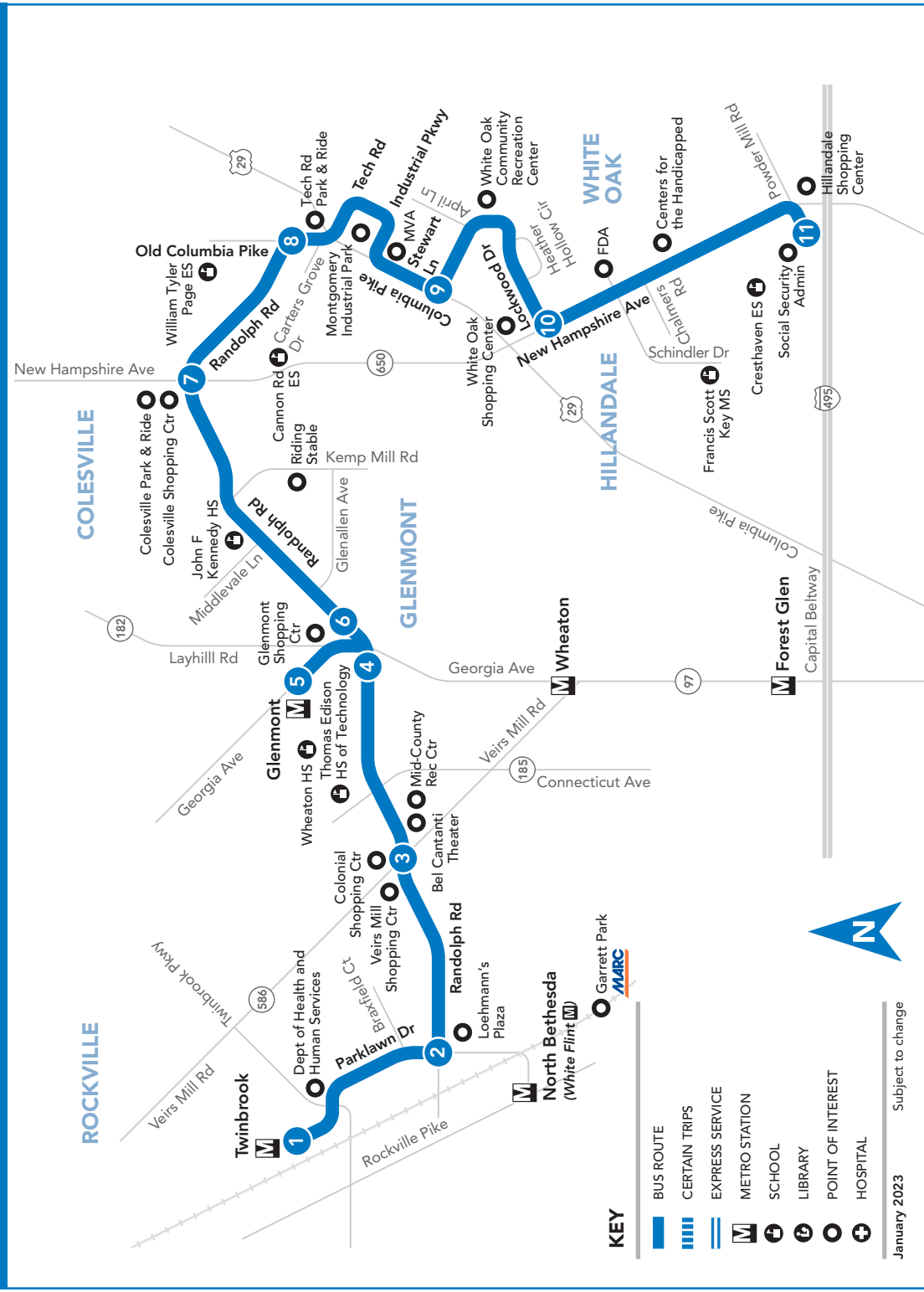
PROPOSED TRIP DISTRIBUTIONS





APPENDIX B
BUS ROUTES





HOW TO RIDE A BUS

Check schedule for timepoint nearest your location. Wait at the blue and white **RIDE ON** bus stop sign. Arrive several minutes before scheduled time. Have exact fare ready (drivers do not make change).

- Not all stops are listed on a public timetable.
- If you are unfamiliar with your stop, sit or stand behind the line near the front of the bus and ask the bus driver to notify you when your stop is approaching.
- Ask the bus driver if you are not sure if the bus goes to your stop.
- If you have internet access (at home or somewhere else, such as a public library), it may be easier for you to use an online trip planner rather than a paper timetable.
- Be mindful of changes in the schedule, for holidays or bad weather.
- Please observe the following rules for all patrons: No eating, drinking, or smoking.
- Electronic devices may be played with earphones set at low level.

HOW TO READ A TIMETABLE

- Find the schedule for the day of the week and the direction you wish to ride.
- Find the timepoints closest to your origin and destination. The timepoints are shown on the route map and indicate the time the bus is scheduled to be at the particular location. Your nearest bus stop may be between timepoints.
- Read down the column to see the times when a trip will be at the given timepoint. Read the times across to the right to see when the trip reaches other timepoints. If no time is shown, that trip does not serve that timepoint.

FARES Effective August 2022

Regular Fare, Token, or SmarTrip®	\$1.00
Transfer from MetroRail to Ride On buses	\$1.00
SmarTrip® Transfer from MetroRail to Metrobus	FREE
Ride On Bus-to-Bus Transfer with SmarTrip®	FREE
Ride On to Metrobus Transfer with SmarTrip®	\$1.00
Metrobus to Ride On Transfer with SmarTrip®	FREE
Seniors age 65 years or older with a Senior SmarTrip® card or valid Medicare Card and Photo ID	FREE
Person with disability with Metro Disabled ID Card	
Person with disability with Metro Disability ID Card – Attendant Eligible Attendant also rides free.	
MetroAccess - Certified Customer with ID MetroAccess - Companion	FREE
Children under age 5	
Children 5 to 18 with a Youth Cruiser SmarTrip® Card or student ID Anytime	FREE

GUARANTEED RIDE HOME

When you take Metrobus, Metrorail and Ride On to work, you are eligible to participate in the free Commuter Connections Guaranteed Ride Home Program. To register and to receive program details call:
Commuter Services at **301-770-POOL(7665)**.

METROACCESS

Alternative paratransit service to this Ride On route for people with certified disabilities is available. Call MetroAccess at **301-562-5360**.

Montgomery County assures that no person shall, on the grounds of race, color, or national origin, as provided by Title VI of the Civil Rights Act of 1964 and the Civil Rights Act of 1987, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity. For more information or to file a complaint, please contact the Montgomery County Office of Human Rights.

WELCOME TO RIDE ON

RIDE ON is a community bus service operated by the Montgomery County Department of Transportation.
RIDE ON operates over 75 routes that serve all 13 Montgomery County Metrorail stations and 7 MARC stations.
For detailed information, or to have timetables mailed, call **311**.
Outside Montgomery County **240-777-0311**

Visit our web site at: www.rideonbus.com
Real Time information is available at: www.rideonrealtime.com
Regular Mailing Address: Montgomery County DOT Division of Transit Services 101 Monroe Street, 5th Floor Rockville, MD 20850

For more information, or to request this document in an alternate format or translated into another language, please call 311, or outside Montgomery County 240-777-0311.

Para más información o para pedir este documento en un formato diferente o traducido a otro idioma, por favor, llame al 311 o de fuera del Condado de Montgomery al 240-777-0311.

如需更多信息、需要以其它格式提供本文檔或需要將本文檔翻譯成其它語言、請撥打311。如果您不在蒙哥馬利郡、請撥打240-777-0311。

자세한 정보를 원하시거나 본 문서를 다른 형식 또는 다른 언어로의 번역본으로 원하실 경우, 전화번호 311, 또는 몽고메리 카운티 이외의 지역에서는 240-777-0311로 연락하시기 바랍니다.

ለተጨማሪ መረጃ፣ ወይም ደህንነት ጽሑፍን በተለያዩ መልክ ለመጠየቅ ወይም ወደሌላ ቋንቋ ለማስተርጎም፣ ለባዘዎትን በ 311 ወይም ከሞንትጎመሪ ካውንቲ ውጪ 240-777-0311 ይደውሉ።

Pour plus d'informations ou pour recevoir un exemplaire de ce document sous un format différent ou traduit dans une autre langue, veuillez composer le 311 ou le 240-777-0311, à l'extérieur du comté de Montgomery.

Để tìm hiểu thêm, hoặc để yêu cầu cung cấp tài liệu này theo định dạng khác hay chuyển ngữ sang ngôn ngữ khác, vui lòng gọi 311 hoặc số 240-777-0311 nếu gọi từ bên ngoài Quận Montgomery.

HOLIDAY SCHEDULE

Weekday Schedule operates on Indigenous Peoples' Day
Saturday Schedule operates on Independence Day
Sunday Schedule operates on New Year's Day, Memorial Day, Labor Day, Thanksgiving Day, Christmas Day
Special Schedule operates on MLK, Jr. Day, Presidents' Day, Juneteenth, Veterans Day

- Like us on Facebook facebook.com/RideOnMCT
- Follow us on Twitter twitter.com/RideOnMCT
- Subscribe to email alerts at www.montgomerycountymd.gov/govdelivery
- Subscribe to text alerts by texting MONTGOMERY RIDEON to 468311
- YouTube youtube.com/RideOnMCT
- Instagram instagram.com/RideOnMCT

Thank You for Riding with Us!

Printed on recycled paper with soy-based ink

EFFECTIVE: JANUARY 29, 2023



10

Approximate travel time between stops

- Twinbrook M
- 4-8 mins Randolph Rd & Parklawn Dr
- 4-7 mins Randolph & Veirs Mill Rds
- 5-9 mins Randolph Rd & Georgia Ave
- 2-4 mins Glenmont M
- 2-4 mins Georgia Ave & Randolph Rd
- 5-13 mins Randolph Rd & New Hampshire Ave
- 5-8 mins Old Columbia Pike & E. Randolph Rd
- 5-9 mins Stewart Ln & Old Columbia Pike
- 4-7 mins Lockwood Dr & New Hampshire Ave
- 4-5 mins Hillandale (New Hampshire Ave & Powder Mill Rd)

SERVICE DAYS
DAILY



Telephone **311**
Online at www.rideonbus.com
Real Time Info at www.rideonrealtime.com

33

Glenmont **M** – Georgia Ave – Newport Mill Rd – Kensington – Medical Center **M**



KEY

- BUS ROUTE
- CERTAIN TRIPS
- EXPRESS SERVICE
- METRO STATION
- SCHOOL
- LIBRARY
- POINT OF INTEREST
- HOSPITAL

January 2023 Subject to change



WELCOME TO RIDE ON

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Regular Mailing Address:
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 Division of Transit Services
 101 Monroe Street, 5th
 Floor Rockville, MD 20850

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ለተጨማሪ መረጃ፣ ወይም ደህንነ ጽ-ኩመንት በተለዋጭ መልክ ለመጠየቅ ወይም ወደሌላ ቋንቋ ለማስተርጎም፣ ክብካታን በ 311 ወይም ከሞንትጎመሪ ካውንቲ ውጪ 240-777-0311 ይደውሉ።

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Để tìm hiểu thêm, hoặc để yêu cầu cung cấp tài liệu này theo định dạng khác hay chuyển ngữ sang ngôn ngữ khác, vui lòng gọi 311 hoặc số 240-777-0311 nếu gọi từ bên ngoài Quận Montgomery.

HOLIDAY SCHEDULE

Weekday Schedule operates on Indigenous Peoples' Day
 Saturday Schedule operates on Independence Day
 Sunday Schedule operates on New Year's Day, Memorial Day, Labor Day, Thanksgiving Day, Christmas Day
 Special Schedule operates on MLK, Jr. Day, Presidents' Day, Juneteenth, Veterans Day

- Like us on Facebook facebook.com/RideOnMCT
- Follow us on Twitter twitter.com/RideOnMCT
- Subscribe to email alerts at www.montgomerycountymd.gov/govdelivery
- Subscribe to text alerts by texting MONTGOMERY RIDEON to 468311
- YouTube youtube.com/RideOnMCT
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Thank You for Riding with Us!

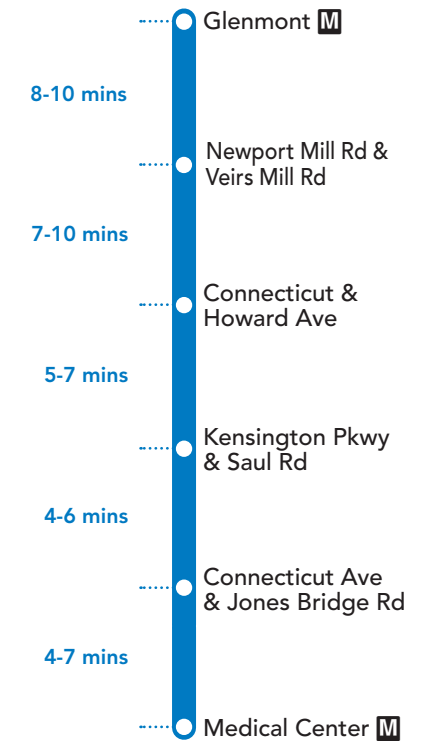
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EFFECTIVE: JANUARY 29, 2023



33

Approximate travel time between stops



SERVICE DAYS
 MONDAY - FRIDAY



Telephone **311**
 Online at www.rideonbus.com
 Real Time Info at www.rideonrealtime.com

33 To Medical Center

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

1	2	3	4	5	6
5:15	5:26	5:31	5:36	5:41	5:44
5:50	6:01	6:06	6:11	6:16	6:19
6:25	6:37	6:43	6:48	6:54	6:58
6:55	7:07	7:13	7:18	7:24	7:28
7:25	7:37	7:43	7:48	7:54	7:58
7:55	8:07	8:13	8:19	8:24	8:28
8:25	8:37	8:43	8:49	8:54	8:58
9:00	9:12	9:18	9:24	9:29	9:33
2:30	2:42	2:48	2:53	2:57	3:01
3:15	3:27	3:33	3:38	3:42	3:46
3:55	4:07	4:13	4:19	4:25	4:29
4:25	4:37	4:43	4:49	4:55	4:59
4:55	5:07	5:13	5:19	5:25	5:29
5:25	5:37	5:43	5:49	5:55	5:59
5:55	6:07	6:13	6:18	6:23	6:26
6:35	6:47	6:53	6:58	7:03	7:06
7:20	7:32	7:38	7:43	7:48	7:51

NOTES:

AM	PM
----	----

Please arrive at your stop several minutes ahead of your bus' scheduled arrival. Since safe service is a priority at Ride On, buses may be delayed due to traffic or weather.

33 To Glenmont

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

6	5	4	3	2	1
5:50	5:55	5:59	6:04	6:09	6:20
6:30	6:35	6:39	6:44	6:49	7:00
7:05	7:11	7:15	7:20	7:26	7:38
7:35	7:41	7:45	7:50	7:56	8:08
8:10	8:17	8:21	8:25	8:30	8:42
2:30	2:35	2:39	2:44	2:50	3:02
3:10	3:17	3:21	3:26	3:32	3:45
3:40	3:47	3:51	3:56	4:02	4:15
4:10	4:17	4:21	4:26	4:32	4:45
4:40	4:47	4:51	4:56	5:02	5:15
5:10	5:17	5:21	5:26	5:32	5:45
5:40	5:47	5:51	5:56	6:02	6:15
6:10	6:16	6:20	6:25	6:30	6:41
6:40	6:46	6:50	6:55	7:00	7:11
7:15	7:21	7:25	7:30	7:35	7:46
8:00	8:06	8:10	8:15	8:20	8:31

NOTES:

AM	PM
----	----

There is NO Saturday or Sunday service on this route

HOW TO RIDE A BUS

Check schedule for timepoint nearest your location. Wait at the blue and white **RIDE ON** bus stop sign. Arrive several minutes before scheduled time. Have exact fare ready (drivers do not make change).

- Not all stops are listed on a public timetable.
- If you are unfamiliar with your stop, sit or stand behind the line near the front of the bus and ask the bus driver to notify you when your stop is approaching.
- Ask the bus driver if you are not sure if the bus goes to your stop.
- If you have internet access (at home or somewhere else, such as a public library), it may be easier for you to use an online trip planner rather than a paper timetable.
- Be mindful of changes in the schedule, for holidays or bad weather.
- Please observe the following rules for all patrons: No eating, drinking, or smoking.
- Electronic devices may be played with earphones set *at low level*.

HOW TO READ A TIMETABLE

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FARES

Effective August 2022

Regular Fare, Token, or SmarTrip®	\$1.00
Transfer from MetroRail to Ride On buses	\$1.00
SmarTrip® Transfer from MetroRail to Metrobus	FREE
Ride On Bus-to-Bus Transfer with SmarTrip®	FREE
Ride On to Metrobus Transfer with SmarTrip®	\$1.00
Metrobus to Ride On Transfer with SmarTrip®	FREE
Seniors age 65 years or older with a Senior SmarTrip® card or valid Medicare Card and Photo ID	FREE
Person with disability with Metro Disabled ID Card	
Person with disability with Metro Disability ID Card – Attendant Eligible	FREE
Attendant also rides free.	
MetroAccess - Certified Customer with ID MetroAccess - Companion	FREE
Children under age 5	
Children 5 to 18 with a Youth Cruiser SmarTrip® Card or student ID Anytime	FREE

GUARANTEED RIDE HOME

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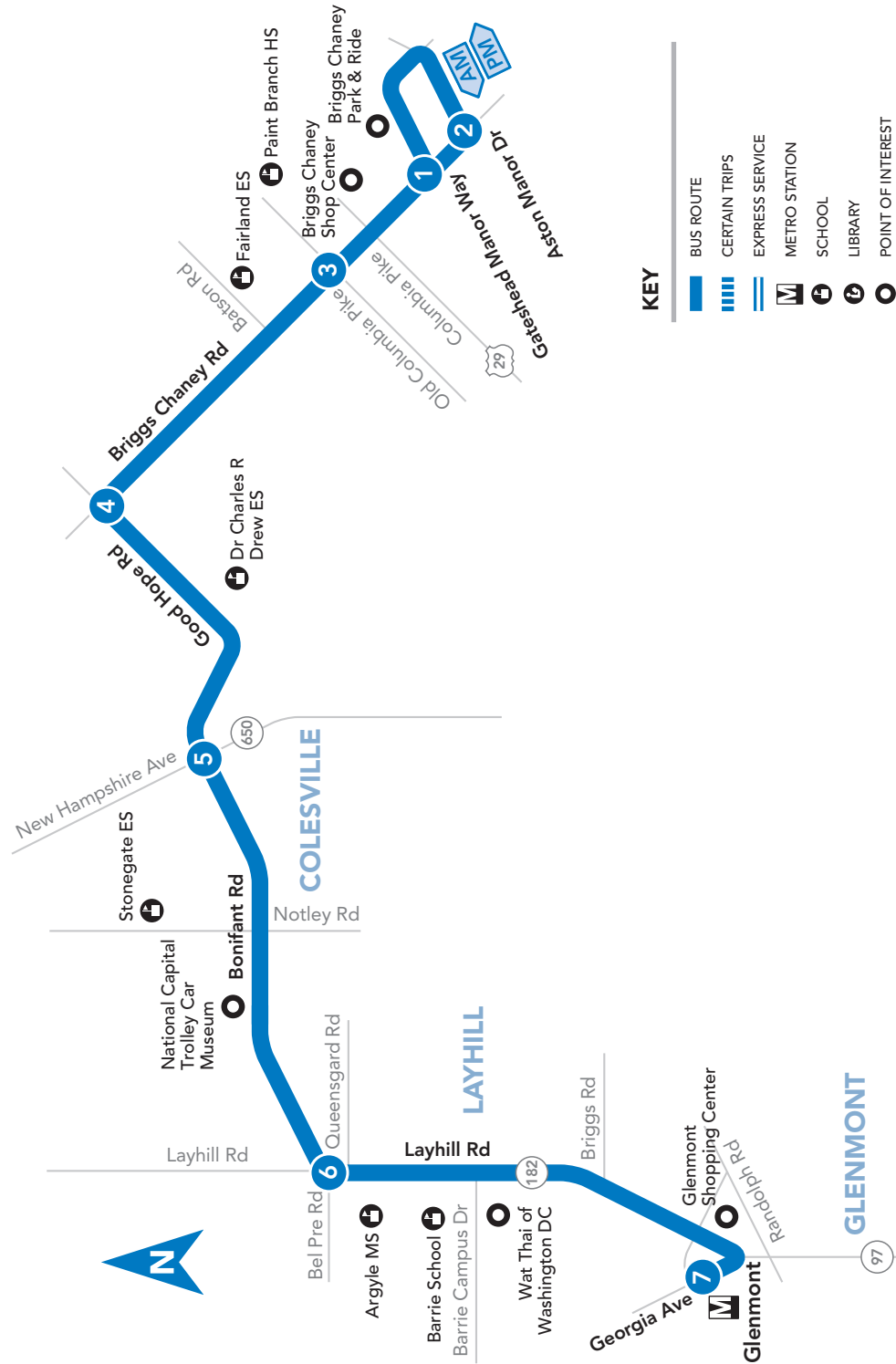
METROACCESS

Alternative paratransit service to this Ride On route for people with certified disabilities is available. Call MetroAccess at **301-562-5360**.



39

Briggs Chaney Park & Ride – Aston Manor Dr – Good Hope Rd – Bonifant Rd – Layhill – Glenmont Metro Station



KEY

- BUS ROUTE
- CERTAIN TRIPS
- EXPRESS SERVICE
- METRO STATION
- SCHOOL
- LIBRARY
- POINT OF INTEREST
- HOSPITAL

January 2023
Subject to change

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Thank You for Riding with Us!

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EFFECTIVE: JANUARY 29, 2023

39



SERVICE DAYS
MONDAY - FRIDAY

Telephone 311
Online at www.rideonbus.com
Real Time Info at www.rideonrealtime.com

39 To Glenmont **M**

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

1	2	3	4	5	6	7
5:25	5:27	5:31	5:35	5:40	5:46	5:51
6:00	6:02	6:06	6:10	6:15	6:21	6:26
6:35	6:37	6:42	6:46	6:51	7:01	7:07
7:10	7:12	7:17	7:21	7:26	7:36	7:42
7:45	7:47	7:52	7:56	8:01	8:11	8:17
8:20	8:22	8:26	8:30	8:35	8:42	8:47
9:00	9:02	9:06	9:10	9:15	9:22	9:27
9:40	9:42	9:46	9:50	9:55	10:02	10:07
3:05	3:10	3:14	3:19	3:25	3:30	
3:50	3:55	3:59	4:04	4:10	4:15	
4:35	4:40	4:44	4:49	4:55	5:00	
5:15	5:20	5:24	5:29	5:35	5:40	
5:50	5:55	5:59	6:04	6:10	6:15	
6:25	6:30	6:34	6:39	6:45	6:50	
7:00	7:05	7:09	7:14	7:20	7:25	

NOTES:

AM	PM
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Please arrive at your stop several minutes ahead of your bus' scheduled arrival. Since safe service is a priority at Ride On, buses may be delayed due to traffic or weather.

39 To Briggs Chaney Park & Ride

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

7	6	5	4	3	2	1
6:00	6:05	6:09	6:13	6:17		6:19
6:40	6:46	6:52	6:56	7:00		7:02
7:15	7:21	7:27	7:31	7:35		7:37
7:50	7:56	8:02	8:06	8:10		8:12
8:25	8:31	8:37	8:41	8:45		8:47
9:00	9:06	9:13	9:17	9:22		9:24
2:30	2:36	2:43	2:47	2:51	2:55	2:57
3:15	3:21	3:29	3:33	3:37	3:41	3:43
4:00	4:06	4:14	4:18	4:22	4:26	4:28
4:35	4:43	4:51	4:56	5:00	5:04	5:06
5:10	5:18	5:26	5:31	5:35	5:39	5:41
5:45	5:53	6:01	6:06	6:10	6:14	6:16
6:20	6:27	6:34	6:39	6:43	6:47	6:49
7:00	7:07	7:14	7:19	7:23	7:27	7:29
7:50	7:57	8:04	8:09	8:13	8:17	8:19

NOTES:

AM	PM
----	----

There is NO Saturday or Sunday service on this route

HOW TO RIDE A BUS

Check schedule for timepoint nearest your location. Wait at the blue and white **RIDE ON** bus stop sign. Arrive several minutes before scheduled time. Have exact fare ready (drivers do not make change).

- Not all stops are listed on a public timetable.
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Ride On Bus-to-Bus Transfer with SmarTrip®	FREE
Ride On to Metrobus Transfer with SmarTrip®	\$1.00
Metrobus to Ride On Transfer with SmarTrip®	FREE
Seniors age 65 years or older with a Senior SmarTrip® card or valid Medicare Card and Photo ID	FREE
Person with disability with Metro Disabled ID Card	
Person with disability with Metro Disability ID Card – Attendant Eligible	FREE
Attendant also rides free.	
MetroAccess - Certified Customer with ID MetroAccess - Companion	FREE
Children under age 5	
Children 5 to 18 with a Youth Cruiser SmarTrip® Card or student ID Anytime	FREE

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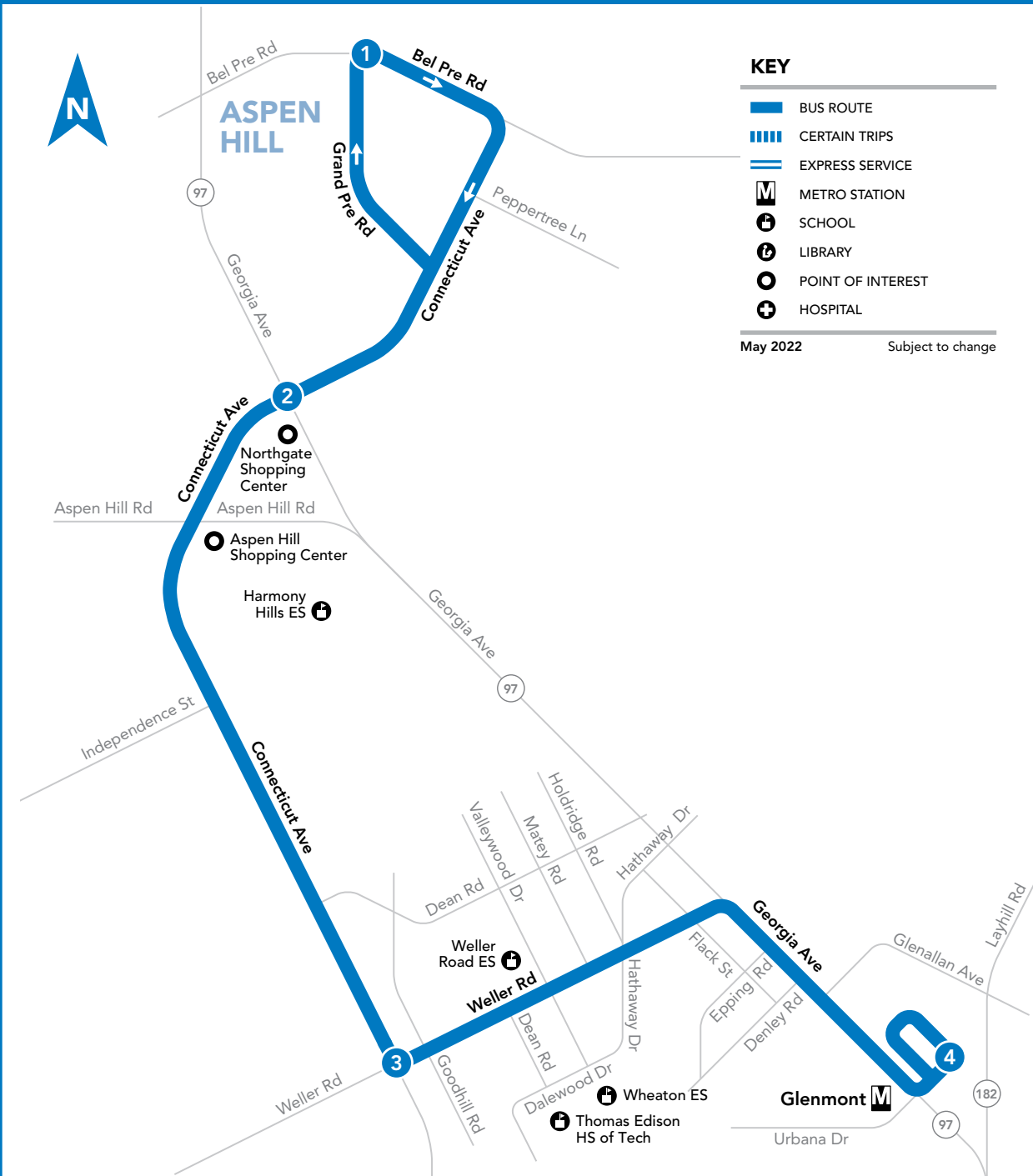
METROACCESS

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41

Aspen Hill - Connecticut Ave –
Weller Rd – Georgia Ave – Glenmont



KEY

- BUS ROUTE
- ▬▬▬ CERTAIN TRIPS
- ▬▬▬▬ EXPRESS SERVICE
- M** METRO STATION
- S** SCHOOL
- L** LIBRARY
- P** POINT OF INTEREST
- H** HOSPITAL

May 2022 Subject to change

41 To Glenmont

SUNDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

Grand Pre & Bel Pre Rds	Connecticut & Georgia Aves	Connecticut Ave & Weller Rd	Glenmont
8:00	8:05	8:10	8:13
8:40	8:45	8:50	8:53
9:20	9:25	9:30	9:33
10:00	10:05	10:10	10:13
10:40	10:45	10:50	10:53
11:20	11:25	11:31	11:35
12:00	12:05	12:11	12:15
12:40	12:45	12:51	12:55
1:20	1:25	1:31	1:35
2:00	2:05	2:11	2:15
2:40	2:45	2:51	2:55
3:20	3:25	3:31	3:35
4:00	4:05	4:11	4:15
4:40	4:45	4:51	4:55
5:20	5:25	5:31	5:35
6:00	6:04	6:09	6:12
6:40	6:44	6:49	6:52
7:20	7:24	7:29	7:32
8:00	8:04	8:09	8:12
8:40	8:44	8:49	8:52

NOTES: AM PM

HOW TO READ A TIMETABLE

- Find the schedule for the day of the week and the direction you wish to ride.
- Find the timepoints closest to your origin and destination. The timepoints are shown on the route map and indicate the time the bus is scheduled to be at the particular location. Your nearest bus stop may be between timepoints.
- Read down the column to see the times when a trip will be at the given timepoint. Read the times across to the right to see when the trip reaches other timepoints.

41 To Grand Pre & Bel Pre Roads

SUNDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

Glenmont	Connecticut Ave & Weller Rd	Connecticut & Georgia Aves	Grand Pre & Bel Pre Rds
7:40	7:44	7:49	7:51
8:20	8:24	8:29	8:31
9:00	9:04	9:09	9:11
9:40	9:44	9:49	9:51
10:20	10:24	10:29	10:31
11:00	11:04	11:10	11:12
11:40	11:44	11:50	11:52
12:20	12:24	12:30	12:32
1:00	1:04	1:10	1:12
1:40	1:44	1:50	1:52
2:20	2:24	2:30	2:32
3:00	3:04	3:12	3:14
3:40	3:44	3:52	3:54
4:20	4:24	4:32	4:34
5:00	5:04	5:11	5:13
5:40	5:44	5:51	5:53
6:20	6:24	6:31	6:33
7:00	7:04	7:11	7:13
7:40	7:44	7:51	7:53
8:20	8:24	8:31	8:33

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ለተጨማሪ መረጃ፣ ወይም ደህንነት ጽሑፍን በተለያዩ መልክ ለመጠየቅ ወይም ወደሌላ ቋንቋ ለማስተርጎም፣ ስለከምትን በ 311 ወይም ከምትገኙት ከውጭ ውጪ 240-777-0311 ይደውሉ።

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HOLIDAY SCHEDULE

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Saturday Schedule operates on Independence Day
Sunday Schedule operates on New Year's Day, Memorial Day, Labor Day, Thanksgiving Day, Christmas Day
Special Schedule operates on MLK, Jr. Day, Presidents' Day, Juneteenth, Veterans Day

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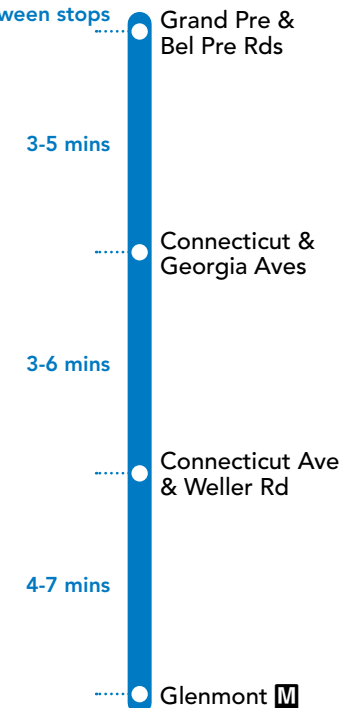
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EFFECTIVE: MAY 8, 2022



41

Approximate travel time between stops



SERVICE DAYS

DAILY



Telephone 311

Online at www.rideonbus.com

Real Time Info at www.rideonrealtime.com

41 To Glenmont 

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

1	2	3	4
5:20	5:24	5:28	5:32
6:00	6:04	6:09	6:14
6:40	6:48	6:55	7:00
7:20	7:28	7:35	7:40
8:00	8:08	8:15	8:20
8:40	8:48	8:55	9:00
9:20	9:25	9:31	9:35
10:00	10:05	10:11	10:15
10:40	10:45	10:51	10:55
11:20	11:25	11:31	11:35
12:00	12:05	12:11	12:15
12:40	12:45	12:51	12:55
1:20	1:25	1:31	1:35
2:00	2:06	2:12	2:16
2:40	2:46	2:52	2:56
3:20	3:26	3:32	3:36
4:00	4:06	4:12	4:16
4:40	4:46	4:52	4:56
5:20	5:26	5:32	5:36
6:00	6:06	6:12	6:16
6:40	6:46	6:52	6:56
7:20	7:25	7:30	7:34
8:00	8:05	8:10	8:14
8:40	8:45	8:50	8:54
9:20	9:25	9:30	9:34
10:00	10:05	10:10	10:14
10:40	10:45	10:50	10:54
11:20	11:25	11:30	11:34

NOTES: AM PM

41 To Grand Pre & Bel Pre Roads

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

4	3	2	1
5:40	5:43	5:50	5:52
6:20	6:23	6:30	6:32
7:00	7:04	7:11	7:13
7:40	7:44	7:51	7:53
8:20	8:24	8:31	8:33
9:00	9:04	9:11	9:13
9:40	9:44	9:51	9:53
10:20	10:24	10:31	10:33
11:00	11:04	11:11	11:13
11:40	11:44	11:51	11:53
12:20	12:24	12:31	12:33
1:00	1:04	1:11	1:13
1:40	1:44	1:51	1:53
2:20	2:24	2:31	2:33
3:00	3:04	3:11	3:13
3:40	3:44	3:51	3:53
4:20	4:25	4:32	4:34
5:00	5:05	5:12	5:14
5:40	5:45	5:52	5:54
6:20	6:24	6:31	6:33
7:00	7:04	7:11	7:13
7:40	7:44	7:51	7:53
8:20	8:24	8:31	8:33
9:00	9:04	9:11	9:13
9:40	9:44	9:51	9:53
10:20	10:24	10:30	10:32
11:00	11:04	11:10	11:12

NOTES: AM PM

41 To Glenmont 

SATURDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

1	2	3	4
5:20	5:24	5:28	5:31
6:00	6:04	6:08	6:11
6:40	6:44	6:48	6:51
7:20	7:25	7:31	7:34
8:00	8:05	8:11	8:14
8:40	8:45	8:51	8:54
9:20	9:25	9:31	9:34
10:00	10:05	10:11	10:14
10:40	10:45	10:51	10:54
11:20	11:25	11:31	11:34
12:00	12:05	12:11	12:14
12:40	12:45	12:51	12:54
1:20	1:25	1:31	1:35
2:00	2:05	2:11	2:15
2:40	2:45	2:51	2:55
3:20	3:25	3:31	3:35
4:00	4:05	4:11	4:15
4:40	4:45	4:51	4:55
5:20	5:25	5:31	5:35
6:00	6:05	6:11	6:15
6:40	6:45	6:51	6:55
7:20	7:25	7:31	7:35
8:00	8:05	8:10	8:13
8:40	8:45	8:50	8:53
9:20	9:25	9:30	9:33
10:00	10:05	10:10	10:13
10:40	10:45	10:50	10:53
11:20	11:25	11:30	11:33

NOTES: AM PM

41 To Grand Pre & Bel Pre Roads

SATURDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

4	3	2	1
5:40	5:43	5:48	5:50
6:20	6:23	6:28	6:30
7:00	7:03	7:08	7:10
7:40	7:43	7:48	7:50
8:20	8:23	8:28	8:30
9:00	9:03	9:08	9:10
9:40	9:43	9:48	9:50
10:20	10:24	10:31	10:33
11:00	11:04	11:11	11:13
11:40	11:44	11:51	11:53
12:20	12:24	12:31	12:33
1:00	1:04	1:11	1:13
1:40	1:44	1:52	1:54
2:20	2:24	2:32	2:34
3:00	3:04	3:12	3:14
3:40	3:44	3:52	3:54
4:20	4:24	4:32	4:34
5:00	5:04	5:12	5:14
5:40	5:44	5:52	5:54
6:20	6:24	6:32	6:34
7:00	7:04	7:12	7:14
7:40	7:43	7:49	7:51
8:20	8:23	8:29	8:31
9:00	9:03	9:09	9:11
9:40	9:43	9:49	9:51
10:20	10:23	10:29	10:31
11:00	11:03	11:09	11:11

NOTES: AM PM

HOW TO RIDE A BUS

Check schedule for timepoint nearest your location. Wait at the blue and white **RIDE ON** bus stop sign. Arrive several minutes before scheduled time. Have exact fare ready (drivers do not make change).

- Not all stops are listed on a public timetable.
- If you are unfamiliar with your stop, sit or stand behind the line near the front of the bus and ask the bus driver to notify you when your stop is approaching.
- Ask the bus driver if you are not sure if the bus goes to your stop.
- If you have internet access (at home or somewhere else, such as a public library), it may be easier for you to use an online trip planner rather than a paper timetable.
- Be mindful of changes in the schedule, for holidays or bad weather.
- Please observe the following rules for all patrons: No eating, drinking, or smoking.
- Electronic devices may be played with earphones set at *low level*.

HOW TO READ A TIMETABLE

- Find the schedule for the day of the week and the direction you wish to ride.
- Find the timepoints closest to your origin and destination. The timepoints are shown on the route map and indicate the time the bus is scheduled to be at the particular location. Your nearest bus stop may be between timepoints.
- Read down the column to see the times when a trip will be at the given timepoint. Read the times across to the right to see when the trip reaches other timepoints. If no time is shown, that trip does not serve that timepoint.

FARES

Effective July 1, 2021

Regular Fare, Token, or SmarTrip®	\$2.00
SmarTrip® Fare Transfer from MetroRail	\$1.50
Seniors age 65 years or older with a Senior SmarTrip® card or valid Medicare Card and Photo ID	FREE
Person with disability with Metro Disabled ID Card	
Person with disability with Metro Disability ID Card – Attendant Eligible Attendant also rides free.	
MetroAccess - Certified Customer with ID MetroAccess - Companion	
Children under age 5	FREE
Local Bus Transfer with SmarTrip®	
Children 5 to 18 with a Youth Cruiser SmarTrip® Card or student ID Anytime	

GUARANTEED RIDE HOME

When you take Metrobus, Metrorail and Ride On to work, you are eligible to participate in the free Commuter Connections Guaranteed Ride Home Program. To register and to receive program details call: Commuter Services at **301-770-POOL(7665)**.

METROACCESS

Alternative paratransit service to this Ride On route for people with certified disabilities is available. Call MetroAccess at **301-562-5360**.

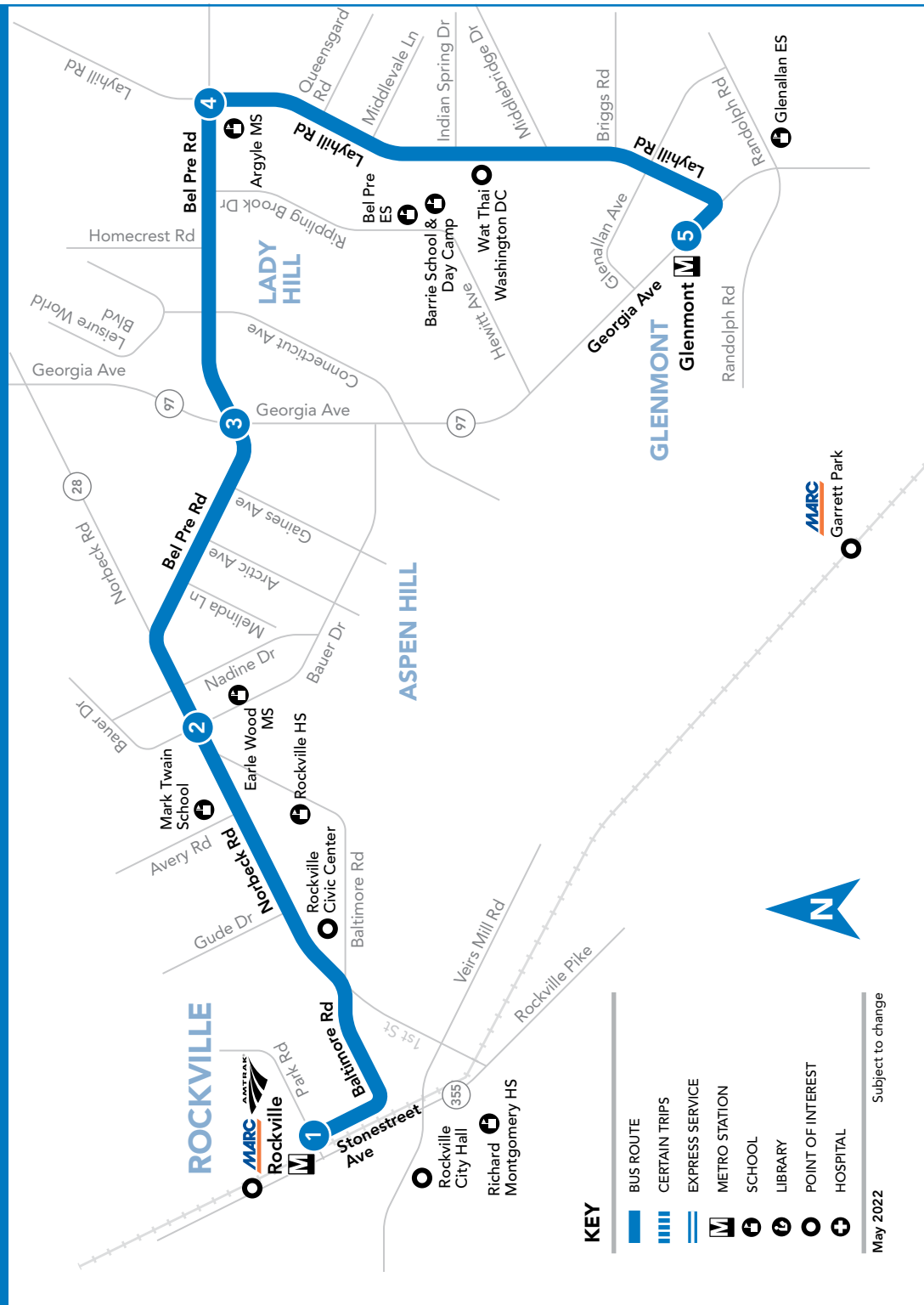
SEE REVERSE FOR SUNDAY SERVICE

Please arrive at your stop several minutes ahead of your bus' scheduled arrival. Since safe service is a priority at Ride On, buses may be delayed due to traffic or weather.

SEE REVERSE FOR SUNDAY SERVICE

Montgomery County assures that no person shall, on the grounds of race, color, or national origin, as provided by Title VI of the Civil Rights Act of 1964 and the Civil Rights Act of 1987, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity. For more information or to file a complaint, please contact the Montgomery County Office of Human Rights.





49 To Glenmont M

SUNDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

Rockville (East) M	Norbeck Rd & Bauer Dr	Bel Pre Rd & Georgia Ave	Bel Pre & Layhill Rds	Glenmont M
1	2	3	4	5
5:45	5:50	5:56	6:02	6:07
6:25	6:30	6:36	6:42	6:47
7:05	7:10	7:16	7:22	7:27
7:45	7:50	7:56	8:02	8:07
8:20	8:25	8:31	8:37	8:42
8:50	8:55	9:01	9:07	9:12
9:20	9:25	9:31	9:37	9:42
9:50	9:55	10:01	10:07	10:12
10:20	10:26	10:33	10:40	10:45
10:50	10:56	11:03	11:10	11:15
11:20	11:26	11:33	11:40	11:45
11:50	11:56	12:03	12:10	12:15
12:20	12:26	12:33	12:40	12:45
12:50	12:56	1:03	1:10	1:15
1:20	1:26	1:33	1:40	1:45
1:50	1:56	2:03	2:10	2:15
2:20	2:26	2:33	2:40	2:45
2:50	2:56	3:03	3:10	3:15
3:20	3:26	3:33	3:40	3:45
3:50	3:56	4:03	4:10	4:15
4:20	4:26	4:33	4:40	4:45
4:50	4:56	5:03	5:10	5:15
5:25	5:31	5:38	5:45	5:50
6:00	6:06	6:13	6:20	6:25
6:35	6:40	6:46	6:53	6:58
7:10	7:15	7:21	7:28	7:33
7:45	7:50	7:56	8:03	8:08
8:25	8:30	8:36	8:43	8:48
9:05	9:10	9:16	9:23	9:28
9:45	9:50	9:56	10:03	10:08

NOTES: AM PM

49 To Rockville M

SUNDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

Glenmont M	Bel Pre & Layhill Rds	Bel Pre Rd & Georgia Ave	Norbeck Rd & Bauer Dr	Rockville (East) M
5	4	3	2	1
5:40	5:46	5:52	5:59	6:04
6:20	6:26	6:32	6:39	6:44
7:00	7:06	7:12	7:19	7:24
7:40	7:46	7:52	7:59	8:04
8:20	8:26	8:32	8:39	8:44
8:55	9:01	9:07	9:14	9:19
9:25	9:31	9:37	9:44	9:49
9:55	10:01	10:07	10:14	10:19
10:25	10:31	10:37	10:44	10:49
10:55	11:01	11:07	11:14	11:19
11:25	11:31	11:37	11:44	11:49
11:55	12:02	12:09	12:16	12:22
12:25	12:32	12:39	12:46	12:52
12:55	1:02	1:09	1:16	1:22
1:25	1:32	1:39	1:46	1:52
1:55	2:02	2:09	2:16	2:22
2:25	2:32	2:39	2:46	2:52
2:55	3:02	3:09	3:16	3:22
3:25	3:32	3:39	3:46	3:52
3:55	4:02	4:09	4:16	4:22
4:25	4:32	4:39	4:46	4:52
4:55	5:02	5:09	5:16	5:22
5:25	5:32	5:39	5:46	5:52
6:00	6:07	6:14	6:21	6:27
6:35	6:42	6:48	6:55	7:00
7:10	7:17	7:23	7:30	7:35
7:45	7:52	7:58	8:05	8:10
8:20	8:27	8:33	8:40	8:45
9:00	9:07	9:13	9:20	9:25
9:40	9:47	9:53	10:00	10:05

NOTES: AM PM

WELCOME TO RIDE ON

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Visit our web site at: www.rideonbus.com
Real Time information is available at: www.rideonrealtime.com
Regular Mailing Address: Montgomery County DOT Division of Transit Services 101 Monroe Street, 5th Floor Rockville, MD 20850

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MONTGOMERY RIDEON to 468311

[YouTube](https://www.youtube.com/RideOnMCT)
[Instagram](https://www.instagram.com/RideOnMCT)

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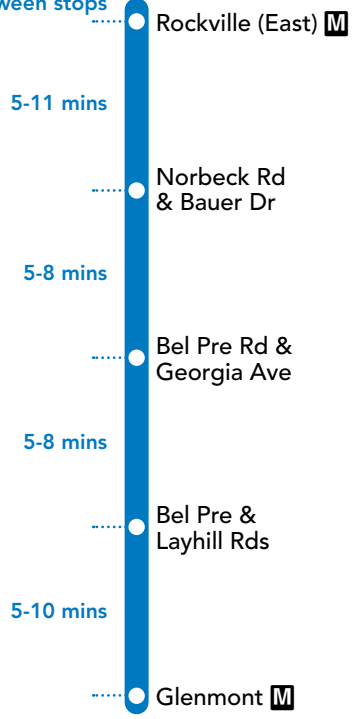
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EFFECTIVE: MAY 8, 2022



49

Approximate travel time between stops



SERVICE DAYS

DAILY

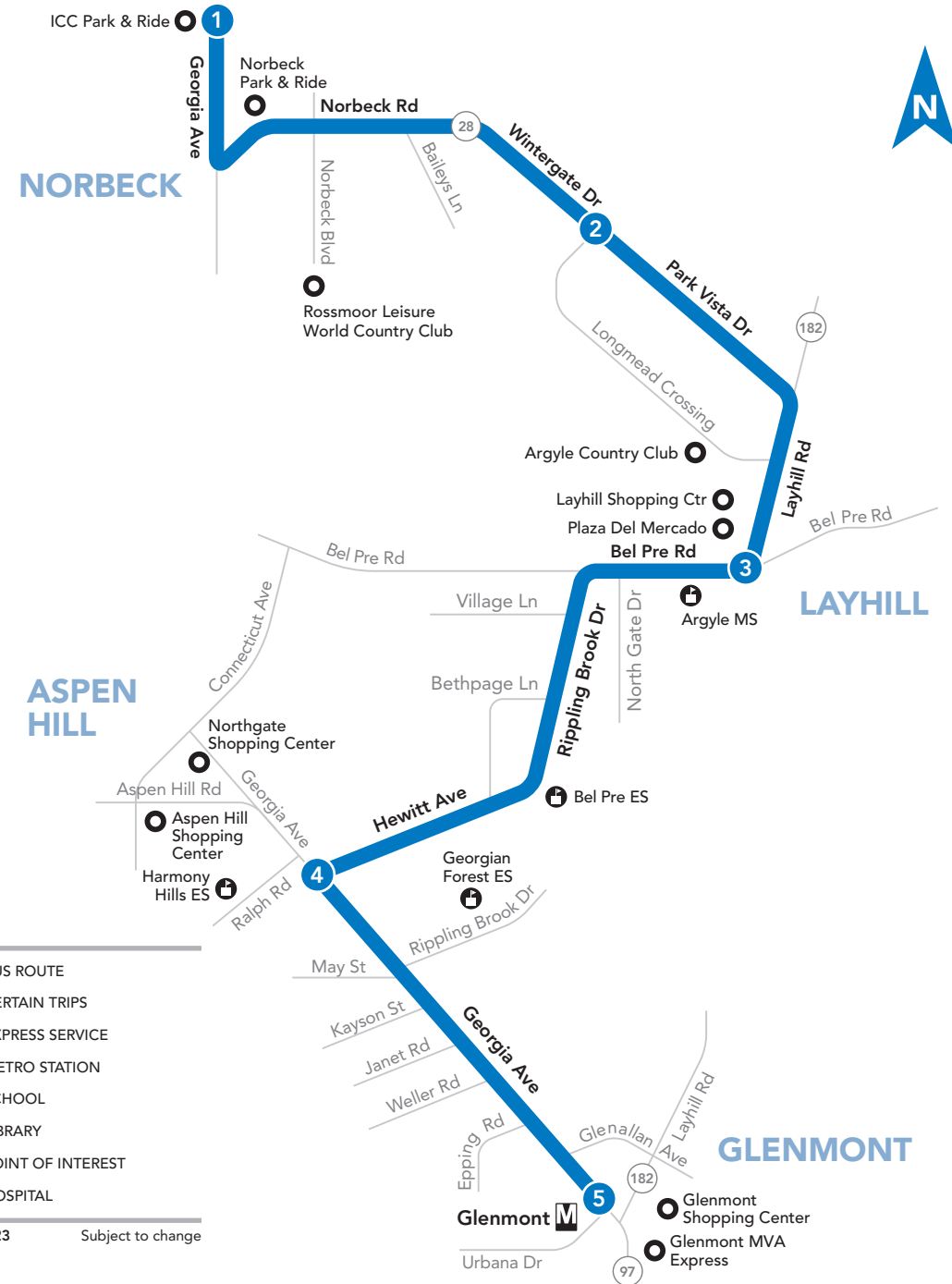


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Online at www.rideonbus.com
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51

ICC Park & Ride - Layhill Rd - Rippling Brook Dr - Glenmont **M**



KEY

- BUS ROUTE
- CERTAIN TRIPS
- EXPRESS SERVICE
- METRO STATION
- SCHOOL
- LIBRARY
- POINT OF INTEREST
- HOSPITAL

January 2023 Subject to change

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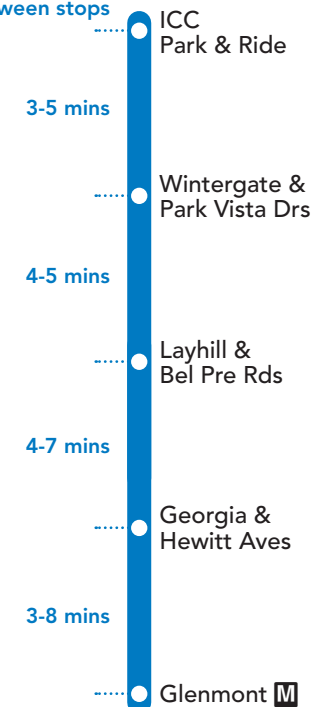
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EFFECTIVE: JANUARY 29, 2023



51

Approximate travel time between stops



SERVICE DAYS

MONDAY - FRIDAY



Telephone **311**

Online at www.rideonbus.com

Real Time Info at www.rideonrealtime.com

51 To Glenmont

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

1	2	3	4	5
5:45	5:50	5:55	6:03	6:07
6:20	6:28	6:35	6:43	6:48
6:55	7:03	7:10	7:18	7:23
7:25	7:33	7:40	7:48	7:53
7:55	8:03	8:10	8:18	8:23
8:35	8:43	8:50	8:58	9:03
9:20	9:27	9:34	9:42	9:46
3:20	3:27	3:34	3:42	3:46
4:00	4:07	4:12	4:19	4:22
4:40	4:47	4:52	4:59	5:02
5:10	5:17	5:22	5:29	5:32
5:40	5:47	5:52	5:59	6:02
6:15	6:22	6:27	6:34	6:37

NOTES: AM PM

51 To ICC Park & Ride

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

5	4	3	2	1
6:25	6:28	6:35	6:40	6:47
6:55	6:58	7:05	7:10	7:17
7:25	7:28	7:35	7:40	7:47
8:05	8:11	8:18	8:23	8:30
8:50	8:56	9:03	9:08	9:16
2:45	2:51	2:58	3:03	3:11
3:25	3:31	3:39	3:44	3:53
4:05	4:11	4:19	4:24	4:33
4:35	4:41	4:49	4:54	5:03
5:05	5:11	5:19	5:24	5:33
5:40	5:46	5:54	5:59	6:08
6:25	6:30	6:37	6:42	6:50
7:10	7:15	7:22	7:27	7:35

NOTES: AM PM

HOW TO RIDE A BUS

Check schedule for timepoint nearest your location. Wait at the blue and white **RIDE ON** bus stop sign. Arrive several minutes before scheduled time. Have exact fare ready (drivers do not make change).

- Not all stops are listed on a public timetable.
- If you are unfamiliar with your stop, sit or stand behind the line near the front of the bus and ask the bus driver to notify you when your stop is approaching.
- Ask the bus driver if you are not sure if the bus goes to your stop.
- If you have internet access (at home or somewhere else, such as a public library), it may be easier for you to use an online trip planner rather than a paper timetable.
- Be mindful of changes in the schedule, for holidays or bad weather.
- Please observe the following rules for all patrons: No eating, drinking, or smoking.
- Electronic devices may be played with earphones set *at low level*.

HOW TO READ A TIMETABLE

- Find the schedule for the day of the week and the direction you wish to ride.
- Find the timepoints closest to your origin and destination. The timepoints are shown on the route map and indicate the time the bus is scheduled to be at the particular location. Your nearest bus stop may be between timepoints.
- Read down the column to see the times when a trip will be at the given timepoint. Read the times across to the right to see when the trip reaches other timepoints.

FARES

Effective August 2022

Regular Fare, Token, or SmarTrip®	\$1.00
Transfer from MetroRail to Ride On buses	\$1.00
SmarTrip® Transfer from MetroRail to Metrobus	FREE
Ride On Bus-to-Bus Transfer with SmarTrip®	FREE
Ride On to Metrobus Transfer with SmarTrip®	\$1.00
Metrobus to Ride On Transfer with SmarTrip®	FREE
Seniors age 65 years or older with a Senior SmarTrip® card or valid Medicare Card and Photo ID	FREE
Person with disability with Metro Disabled ID Card	
Person with disability with Metro Disability ID Card – Attendant Eligible Attendant also rides free.	FREE
MetroAccess - Certified Customer with ID MetroAccess - Companion	
Children under age 5	FREE
Children 5 to 18 with a Youth Cruiser SmarTrip® Card or student ID Anytime	

GUARANTEED RIDE HOME

When you take Metrobus, Metrorail and Ride On to work, you are eligible to participate in the free Commuter Connections Guaranteed Ride Home Program. To register and to receive program details call: Commuter Services at **301-770-POOL(7665)**.

METROACCESS

Alternative paratransit service to this Ride On route for people with certified disabilities is available. Call MetroAccess at **301-562-5360**.



Please arrive at your stop several minutes ahead of your bus' scheduled arrival. Since safe service is a priority at Ride On, buses may be delayed due to traffic or weather.

There is **NO Saturday or Sunday service on this route**

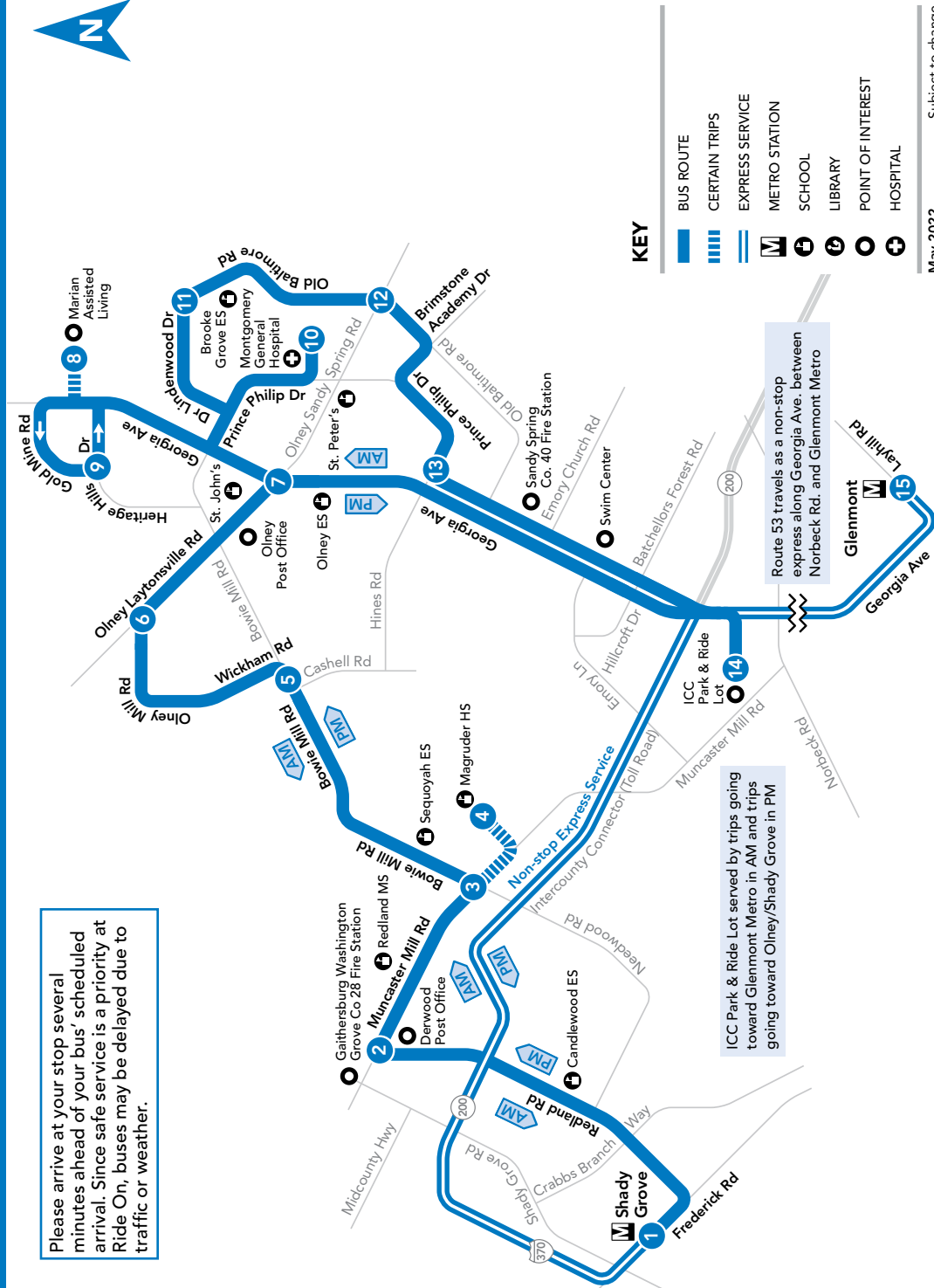
Montgomery County assures that no person shall, on the grounds of race, color, or national origin, as provided by Title VI of the Civil Rights Act of 1964 and the Civil Rights Act of 1987, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity. For more information or to file a complaint, please contact the Montgomery County Office of Human Rights.

53

Shady Grove **M** - MD 115 & Bowie Mill Rd - Gold Mine Rd - Lindenwood Dr - Montgomery General Hospital - Prince Phillip Dr - ICC Park & Ride Lot - Georgia Ave - Norbeck Rd - Glenmont **M**

Ride On
Montgomery County Transit

Please arrive at your stop several minutes ahead of your bus' scheduled arrival. Since safe service is a priority at Ride On, buses may be delayed due to traffic or weather.



KEY

- BUS ROUTE
- CERTAIN TRIPS
- EXPRESS SERVICE
- METRO STATION
- SCHOOL
- LIBRARY
- POINT OF INTEREST
- HOSPITAL

May 2022 Subject to change

Route 53 travels as a non-stop express along Georgia Ave. between Norbeck Rd. and Glenmont Metro

ICC Park & Ride Lot served by trips going toward Glenmont Metro in AM and trips going toward Olney/Shady Grove in PM

WELCOME TO RIDE ON

RIDE ON is a community bus service operated by the Montgomery County Department of Transportation. **RIDE ON** operates over 75 routes that serve all 13 Montgomery County Metrorail stations and 7 MARC stations. For detailed information, or to have timetables mailed, call **311**. Outside Montgomery County **240-777-0311**

Visit our web site at: www.rideonbus.com
Real Time information is available at: www.rideonrealtime.com

Regular Mailing Address:
Montgomery County DOT
Division of Transit Services
101 Monroe Street, 5th
Floor Rockville, MD 20850

For more information, or to request this document in an alternate format or translated into another language, please call 311, or outside Montgomery County 240-777-0311.

Para más información o para pedir este documento en un formato diferente o traducido a otro idioma, por favor, llame al 311 o de fuera del Condado de Montgomery al 240-777-0311.

如需更多信息、需要以其它格式提供本文档或需要将本文档翻译成其它语言、请拨打311。如果您不在蒙哥马利郡、请拨打240-777-0311。

자세한 정보를 원하시거나 본 문서를 다른 형식 또는 다른 언어로의 번역본으로 원하실 경우, 전화번호 311, 또는 몽고메리 카운티 이외의 지역에서는 240-777-0311로 연락하시기 바랍니다.

ለተጨማሪ መረጃ፣ ወይም ደህንነት ደብዳቤ ለተለያዩ መልክ ለመጠየቅ ወይም ወደሌላ ቋንቋ ለማስተርጎም፣ ከባለቤቱን በ 311 ወይም ከሞንትጎመሪ ካውንቲ ውጪ 240-777-0311 ይደውሉ።

Pour plus d'informations ou pour recevoir un exemplaire de ce document sous un format différent ou traduit dans une autre langue, veuillez composer le 311 ou le 240-777-0311, à l'extérieur du comté de Montgomery.

Để tìm hiểu thêm, hoặc để yêu cầu cung cấp tài liệu này theo định dạng khác hay chuyển ngữ sang ngôn ngữ khác, vui lòng gọi 311 hoặc số 240-777-0311 nếu gọi từ bên ngoài Quận Montgomery.

HOLIDAY SCHEDULE

Weekday Schedule operates on Indigenous Peoples' Day
Saturday Schedule operates on Independence Day
Sunday Schedule operates on New Year's Day, Memorial Day, Labor Day, Thanksgiving Day, Christmas Day
Special Schedule operates on MLK, Jr. Day, Presidents' Day, Juneteenth, Veterans Day

- Like us on Facebook facebook.com/RideOnMCT
- Follow us on Twitter twitter.com/RideOnMCT
- Subscribe to email alerts at www.montgomerycountymd.gov/govdelivery
- Subscribe to text alerts by texting MONTGOMERY RIDEON to 468311
- YouTube youtube.com/RideOnMCT
- Instagram instagram.com/RideOnMCT

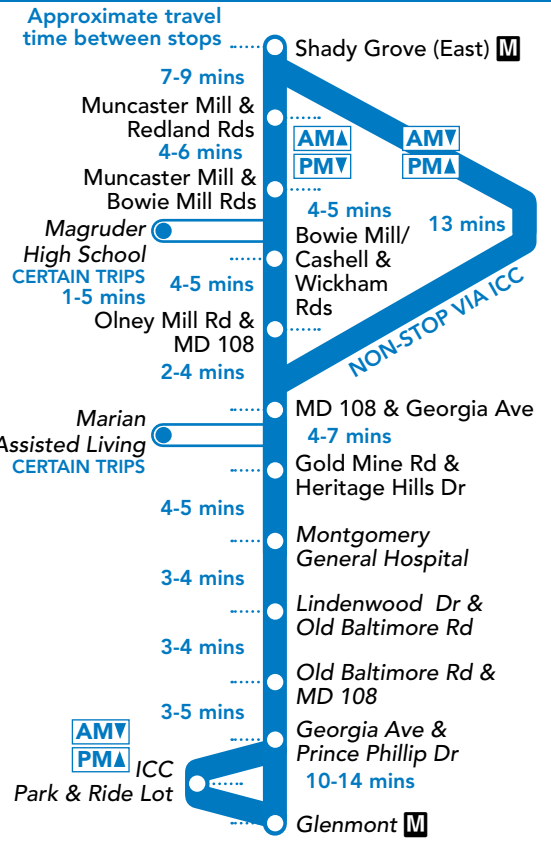
Thank You for Riding with Us!

Printed on recycled paper with soy-based ink

EFFECTIVE: MAY 8, 2022



53



SERVICE DAYS
MONDAY - FRIDAY

Ride On
Montgomery County Transit

Telephone 311
Online at www.rideonbus.com
Real Time Info at www.rideonrealtime.com

53 To Glenmont **M**

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

Table with 15 columns representing stops and rows representing departure times from 5:05 AM to 8:20 PM.

53 To Shady Grove **M**

MONDAY THROUGH FRIDAY

SEE TIMEPOINT LOCATION ON ROUTE MAP

Table with 15 columns representing stops and rows representing departure times from 5:00 AM to 8:41 PM.

HOW TO RIDE A BUS

Check schedule for timepoint nearest your location. Wait at the blue and white RIDE ON bus stop sign.

- Not all stops are listed on a public timetable.
If you are unfamiliar with your stop, sit or stand behind the line near the front of the bus and ask the bus driver to notify you when your stop is approaching.
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HOW TO READ A TIMETABLE

- Find the schedule for the day of the week and the direction you wish to ride.
Find the timepoints closest to your origin and destination. The timepoints are shown on the route map and indicate the time the bus is scheduled to be at the particular location. Your nearest bus stop may be between timepoints.
Read down the column to see the times when a trip will be at the given timepoint. Read the times across to the right to see when the trip reaches other timepoints.

FARES

Effective July 1, 2021

Fares table with columns for fare type and amount. Includes Regular Fare (\$2.00), SmarTrip® Fare Transfer (\$1.50), Children under age 5 (FREE), and Local Bus Transfer with SmarTrip® (FREE).

GUARANTEED RIDE HOME

When you take Metrobus, Metrorail and Ride On to work, you are eligible to participate in the free Commuter Connections Guaranteed Ride Home Program.

METROACCESS

Alternative paratransit service to this Ride On route for people with certified disabilities is available. Call MetroAccess at 301-562-5360.



Montgomery County assures that no person shall, on the grounds of race, color, or national origin, as provided by Title VI of the Civil Rights Act of 1964 and the Civil Rights Act of 1987, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity.

How to use this timetable

- Use the map to find the stops closest to where you will get on and off the bus.
- Select the schedule (Weekday, Saturday, Sunday) for when you will travel. Along the top of the schedule, find the stop at or nearest the point where you will get on the bus. Follow that column down to the time you want to leave.
- Use the same method to find the times the bus is scheduled to arrive at the stop where you will get off the bus.
- If the bus stop is not listed, use the time shown for the bus stop before it as the time to wait at the stop.
- The end-of-the-line or last stop is listed in ALL CAPS on the schedule.

Cómo Usar este Horario

- Use este mapa para localizar las paradas más cercanas a donde se subirá y bajará del autobús.
- Seleccione el horario (Entre semana, sábado, domingo) de cuando viajará. A lo largo de la parte superior del horario, localice la parada o el punto más cercano a la parada en la que se subirá al autobús. Siga esa columna hacia abajo hasta la hora en la que desee salir.
- Utilice el mismo método para localizar las horas en que el autobús está programado para llegar a la parada en donde desea bajarse del autobús.
- Si la parada del autobús no está listada use la hora que se muestra en la parada anterior como la hora de espera en la parada.
- El final de la ruta o la última parada del autobús aparece en letras MAYÚSCULAS en el horario.

English-Español

Effective 9-11-22

C8

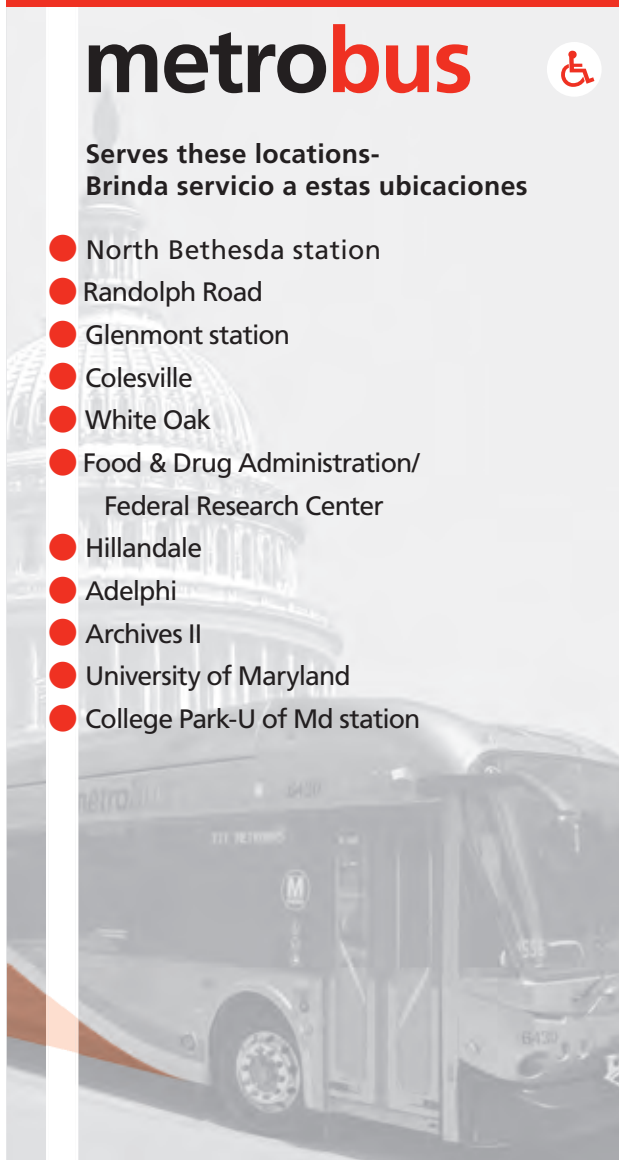
College Park - North Bethesda Line

metrobus



Serves these locations-
Brinda servicio a estas ubicaciones

- North Bethesda station
- Randolph Road
- Glenmont station
- Colesville
- White Oak
- Food & Drug Administration/
Federal Research Center
- Hillandale
- Adelphi
- Archives II
- University of Maryland
- College Park-U of Md station



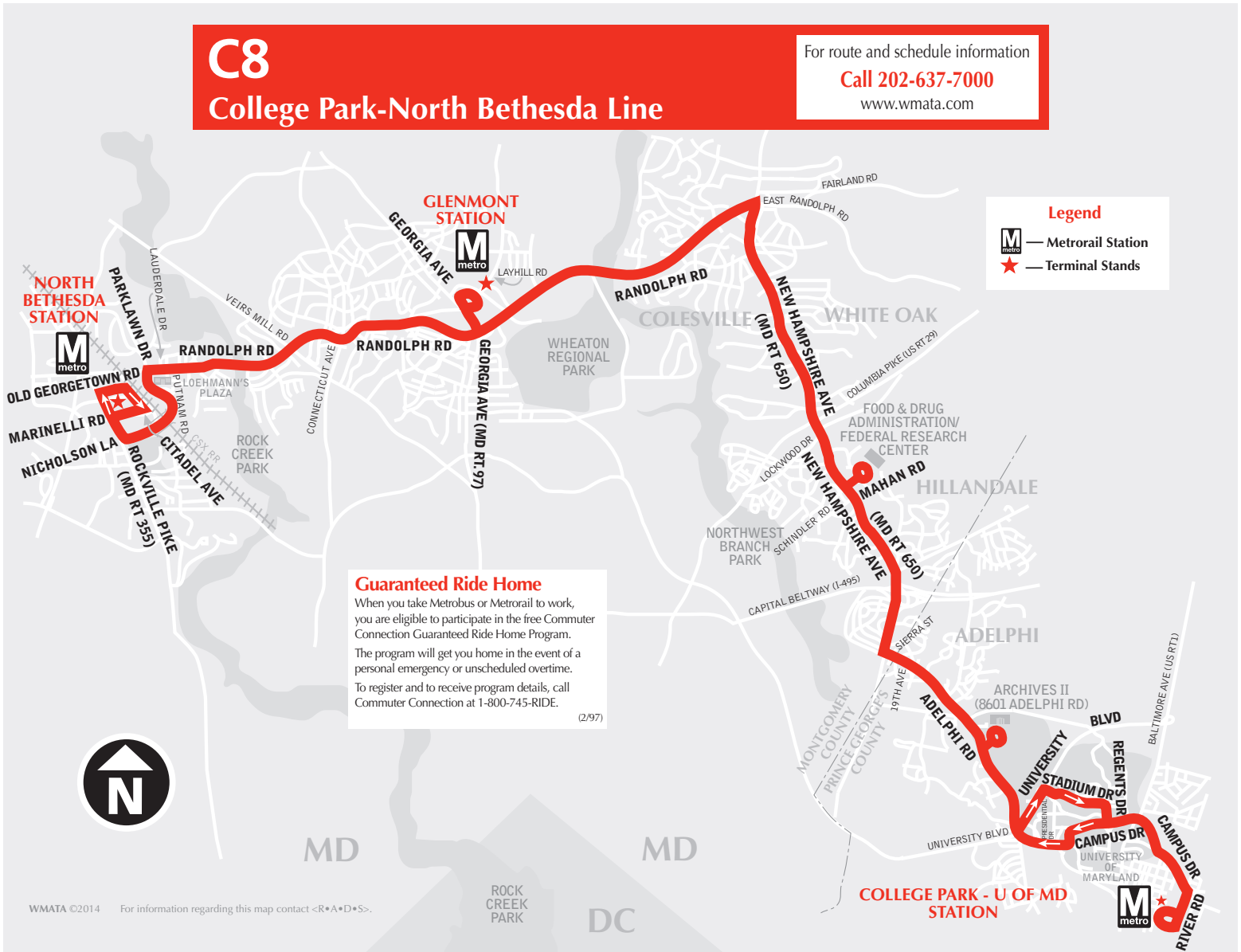
www.wmata.com

Information Anytime 202-637-7000 TTY 202-962-2033



**Washington
Metropolitan Area
Transit Authority**

*A District of Columbia,
Maryland and Virginia
Transit Partnership*





► Eastbound To College Park-U of MD station

Monday thru Friday — De Lunes a viernes

Route Number	North Bethesda 	Randolph Rd. & Putnam Rd. (Loehmann's Plaza)	Randolph Rd. & Veirs Mill Rd.	Glennmont 	New Hampshire Ave. & Randolph Rd. (Colesville)	New Hampshire Ave. & Lockwood Dr. (White Oak)	FDA/FRC	Adelphi Rd. & Sierra St. (New Hampshire Ave.)	Archives II	Stadium Dr. & University Blvd.	COLLEGE PARK-U of MD
AM Service — Servicio matutino											
C8	4:57	5:02	5:09	5:20	5:30	5:37	5:41	5:48	5:53	6:00	6:07
C8	5:27	5:32	5:39	5:50	6:00	6:07	6:11	6:18	6:23	6:30	6:37
C8	5:56	6:02	6:09	6:20	6:32	6:39	6:43	6:51	6:57	7:04	7:12
C8	6:23	6:31	6:38	6:50	7:04	7:13	7:17	7:26	7:32	7:40	7:48
C8	6:53	7:01	7:08	7:20	7:34	7:43	7:47	7:56	8:02	8:10	8:18
C8	7:23	7:31	7:38	7:50	8:04	8:13	8:17	8:26	8:32	8:40	8:48
C8	7:53	8:01	8:08	8:20	8:34	8:43	8:47	8:56	9:02	9:10	9:18
C8	8:23	8:31	8:38	8:50	9:04	9:13	9:17	9:26	9:32	9:40	9:48
C8	8:55	9:03	9:09	9:20	9:31	9:39	9:43	9:51	9:56	10:03	10:11
C8	9:25	9:33	9:39	9:50	10:01	10:09	10:13	10:21	10:26	10:33	10:41
C8	9:55	10:03	10:09	10:20	10:31	10:39	10:43	10:51	10:56	11:03	11:11
C8	10:25	10:33	10:39	10:50	11:01	11:09	11:13	11:21	11:26	11:33	11:41
C8	10:55	11:03	11:09	11:20	11:31	11:39	11:43	11:51	11:56	12:03	12:11
C8	11:25	11:33	11:39	11:50	12:01	12:09	12:13	12:21	12:26	12:33	12:41
C8	11:55	12:03	12:09	12:20	12:31	12:39	12:43	12:51	12:56	1:03	1:11
PM Service — Servicio vespertino											
C8	12:25	12:33	12:39	12:50	1:01	1:09	1:13	1:21	1:26	1:33	1:41
C8	12:55	1:03	1:09	1:20	1:31	1:39	1:43	1:51	1:56	2:03	2:11
C8	1:25	1:33	1:39	1:50	2:01	2:09	2:13	2:21	2:26	2:33	2:41
C8	1:55	2:03	2:09	2:20	2:31	2:39	2:43	2:51	2:56	3:03	3:11
C8	2:18	2:28	2:36	2:50	3:02	3:11	3:15	3:27	3:34	3:42	3:50
C8	2:48	2:58	3:06	3:20	3:32	3:41	3:45	3:57	4:04	4:12	4:20
C8	3:18	3:28	3:36	3:50	4:02	4:11	4:15	4:27	4:34	4:42	4:50
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C8	5:48	6:01	6:08	6:20	6:31	6:38	-	6:47	6:53	7:00	7:07
C8	6:21	6:34	6:41	6:53	7:04	7:11	-	7:20	7:26	7:33	7:40
C8	6:54	7:02	7:09	7:20	7:30	7:37	-	7:46	7:52	7:58	8:05
C8	7:24	7:32	7:39	7:50	8:00	8:07	-	8:16	8:22	8:28	8:35
C8	7:54	8:02	8:09	8:20	8:30	8:37	-	8:46	8:52	8:58	9:05



▶ Westbound To North Bethesda station

Monday thru Friday — De Lunes a viernes

Route Number	College Park- U of Md	Campus Dr. & Regents Circle	Campus Dr. & Presidential Dr.	Archives II	Adelphi Rd. & Sierra St. (New Hampshire Ave.)	FDA/FRC	New Hampshire Ave. & Lockwood Dr. (White Oak)	Randolph Rd. & New Hampshire Ave. (Colesville)	Glenmont	Randolph Rd. & Veirs Mill Rd.	Randolph Rd. & Lauderdale Dr. (opposite Loehmann's Plaza)	NORTH BETHESDA
AM Service — Servicio matutino												
C8	5:36	5:46	5:49	5:54	6:00	6:08	6:11	6:18	6:30	6:40	6:45	6:48
C8	5:54	6:03	6:07	6:12	6:19	6:29	6:33	6:43	7:00	7:12	7:18	7:21
C8	6:24	6:33	6:37	6:42	6:49	6:59	7:03	7:13	7:30	7:42	7:48	7:51
C8	6:54	7:03	7:07	7:12	7:19	7:29	7:33	7:43	8:00	8:12	8:18	8:21
C8	7:27	7:36	7:41	7:47	7:54	8:03	8:07	8:16	8:30	8:40	8:45	8:49
C8	7:57	8:06	8:11	8:17	8:24	8:33	8:37	8:46	9:00	9:10	9:15	9:19
C8	8:27	8:36	8:41	8:47	8:54	9:03	9:07	9:16	9:30	9:40	9:45	9:49
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C8	9:31	9:40	9:45	9:50	9:56	10:04	10:08	10:17	10:30	10:39	10:44	10:48
C8	10:01	10:10	10:15	10:20	10:26	10:34	10:38	10:47	11:00	11:09	11:14	11:18
C8	10:31	10:40	10:45	10:50	10:56	11:04	11:08	11:17	11:30	11:39	11:44	11:48
C8	11:01	11:10	11:15	11:20	11:26	11:34	11:38	11:47	12:00	12:09	12:14	12:18
C8	11:31	11:40	11:45	11:50	11:56	12:04	12:08	12:17	12:30	12:39	12:44	12:48
PM Service — Servicio vespertino												
C8	12:01	12:10	12:15	12:20	12:26	12:34	12:38	12:47	1:00	1:09	1:14	1:18
C8	12:31	12:40	12:45	12:50	12:56	1:04	1:08	1:17	1:30	1:39	1:44	1:48
C8	1:01	1:10	1:15	1:20	1:26	1:34	1:38	1:47	2:00	2:09	2:14	2:18
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C8	8:42	8:51	8:54	8:59	9:04	-	9:13	9:20	9:30	9:37	9:41	9:44
C8	9:12	9:21	9:24	9:29	9:34	-	9:43	9:50	10:00	10:07	10:11	10:14

How to use this timetable

- Use the map to find the stops closest to where you will get on and off the bus.
- Select the schedule (Weekday, Saturday, Sunday) for when you will travel. Along the top of the schedule, find the stop at or nearest the point where you will get on the bus. Follow that column down to the time you want to leave.
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- The end-of-the-line or last stop is listed in ALL CAPS on the schedule.

Cómo Usar este Horario

- Use este mapa para localizar las paradas más cercanas a donde se subirá y bajará del autobús.
- Seleccione el horario (Entre semana, sábado, domingo) de cuando viajará. A lo largo de la parte superior del horario, localice la parada o el punto más cercano a la parada en la que se subirá al autobús. Siga esa columna hacia abajo hasta la hora en la que desee salir.
- Utilice el mismo método para localizar las horas en que el autobús está programado para llegar a la parada en donde desea bajarse del autobús.
- Si la parada del autobús no está listada use la hora que se muestra en la parada anterior como la hora de espera en la parada.
- El final de la ruta o la última parada del autobús aparece en letras MAYÚSCULAS en el horario.

English-Español

Effective 12-26-21

Y2,7,8

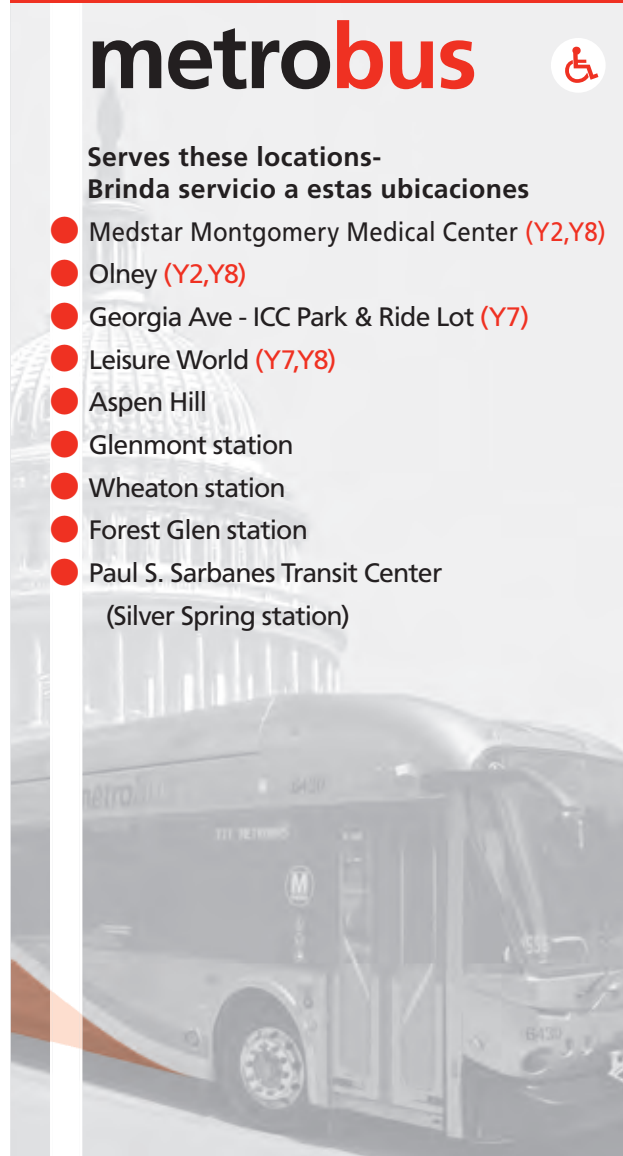
Georgia Avenue-Maryland Line

metrobus



Serves these locations-
Brinda servicio a estas ubicaciones

- Medstar Montgomery Medical Center (Y2,Y8)
- Olney (Y2,Y8)
- Georgia Ave - ICC Park & Ride Lot (Y7)
- Leisure World (Y7,Y8)
- Aspen Hill
- Glenmont station
- Wheaton station
- Forest Glen station
- Paul S. Sarbanes Transit Center
(Silver Spring station)



www.wmata.com

Information Anytime 202-637-7000 TTY 202-962-2033



**Washington
Metropolitan Area
Transit Authority**

*A District of Columbia,
Maryland and Virginia
Transit Partnership*

Y2,7,8

Georgia Avenue-Maryland Line

Effective Sunday, December 26, 2021

A partir del domingo, 26 de diciembre de 2021

Y2,Y7,Y8

Georgia Ave. - Maryland Line

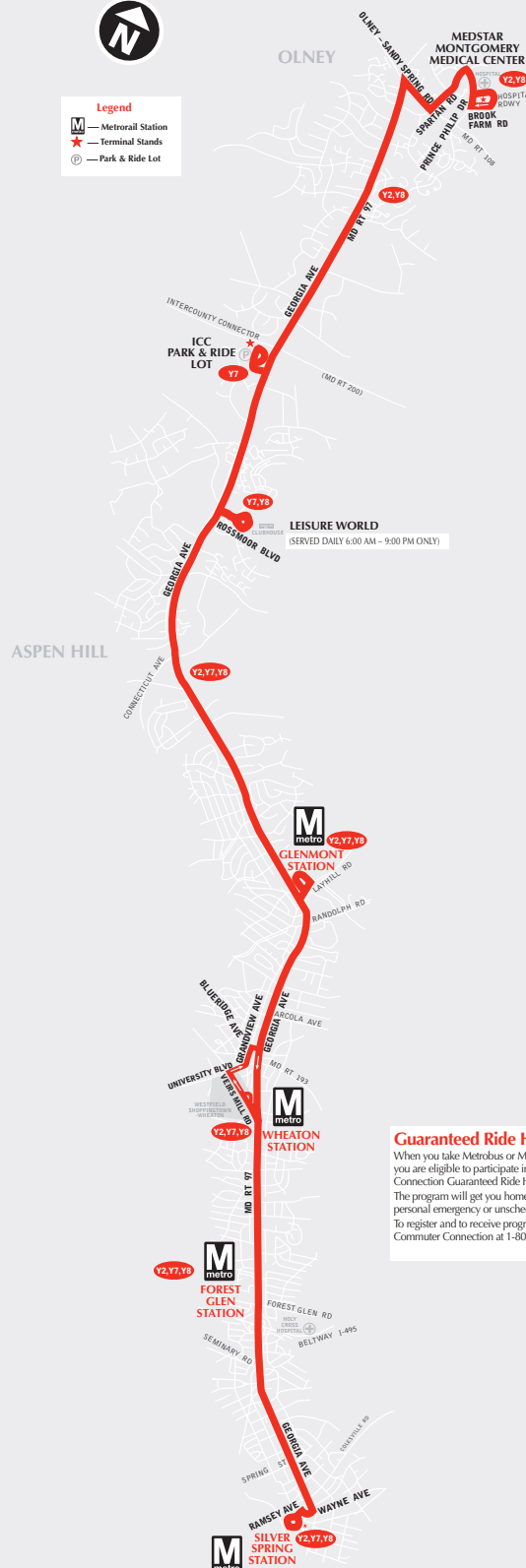
For route and schedule information

Call 202-637-7000
www.wmata.com



Legend

- Metro rail Station
- Terminal Stands
- Park & Ride Lot







Guaranteed Ride Home

When you take Metrobus or Metrorail to work, you are eligible to participate in the free Commuter Connection Guaranteed Ride Home Program. The program will get you home in the event of a personal emergency or unscheduled overtime. To register and to receive program details, call Commuter Connection at 1-800-745-RIDE.

(2/97)





▶ Southbound to Silver Spring station

Monday thru Friday — De Lunes a viernes

Route Number	Medstar Montgomery Medical Center	Georgia Ave. & Rt. 108 (Olney)	ICC Park & Ride Lot	Georgia Ave. & Norbeck Rd.	Leisure World (club-house)	Georgia & Connecticut Aves. (Aspen Hill)	Glenmont 	Georgia Ave. & Randolph Rd. (Glenmont)	Wheaton 	Georgia Ave. & Forest Glen (Forest Glen) 	Georgia Ave. & Spring St. Paul S. Sarbanes Transit Center	(SILVER SPRING) 
AM Service — Servicio matutino												
Y2	4:18	4:25	-	4:30	-	4:36	4:46	4:48	4:57	5:05	5:11	5:15
Y2	4:40	4:47	-	4:52	-	4:58	5:08	5:10	5:19	5:27	5:33	5:37
Y2	5:00	5:07	-	5:12	-	5:18	5:28	5:30	5:39	5:47	5:53	5:57
Y2	5:20	5:27	-	5:32	-	5:38	5:48	5:50	5:59	6:07	6:13	6:17
Y2	5:35	5:42	-	5:47	-	5:53	6:03	6:05	6:14	6:22	6:28	6:32
Y7	-	-	5:53	5:58	6:02	6:08	6:18	6:20	6:29	6:37	6:43	6:47
Y2	6:05	6:12	-	6:17	-	6:23	6:33	6:35	6:44	6:52	6:58	7:02
Y7	-	-	6:21	6:26	6:30	6:36	6:46	6:48	6:57	7:05	7:11	7:15
Y2	6:30	6:37	-	6:42	-	6:48	6:58	7:00	7:09	7:17	7:23	7:27
Y7	-	-	6:43	6:48	6:52	6:58	7:08	7:10	7:19	7:27	7:33	7:37
Y2	6:46	6:54	-	7:01	-	7:08	7:18	7:20	7:30	7:39	7:45	7:49
Y7	-	-	7:01	7:06	7:10	7:17	7:27	7:29	7:39	7:48	7:54	7:58
Y2	7:05	7:13	-	7:20	-	7:27	7:37	7:39	7:49	7:58	8:04	8:08
Y7	-	-	7:21	7:26	7:30	7:37	7:47	7:49	7:59	8:08	8:14	8:18
Y2	7:25	7:33	-	7:40	-	7:47	7:57	7:59	8:09	8:18	8:24	8:28
Y7	-	-	7:41	7:46	7:50	7:57	8:07	8:09	8:19	8:28	8:34	8:38
Y2	7:45	7:53	-	8:00	-	8:07	8:17	8:19	8:29	8:38	8:44	8:48
Y7	-	-	8:01	8:06	8:10	8:17	8:27	8:29	8:39	8:48	8:54	8:58
Y2	8:05	8:13	-	8:20	-	8:27	8:37	8:39	8:49	8:58	9:04	9:08
Y7	-	-	8:21	8:26	8:30	8:37	8:48	8:50	9:00	9:09	9:15	9:20
Y2	8:22	8:30	-	8:39	-	8:46	8:57	8:59	9:09	9:18	9:24	9:29
Y7	-	-	8:40	8:45	8:49	8:56	9:07	9:09	9:19	9:28	9:34	9:39
Y2	8:42	8:50	-	8:59	-	9:06	9:17	9:19	9:29	9:38	9:44	9:49
Y7	-	-	9:00	9:05	9:09	9:16	9:27	9:29	9:39	9:48	9:54	9:59
Y2	9:02	9:10	-	9:19	-	9:26	9:37	9:39	9:49	9:58	10:04	10:09
Y7	-	-	9:20	9:25	9:29	9:36	9:47	9:49	9:59	10:08	10:14	10:19
Y8	9:18	9:26	-	9:35	9:39	9:46	9:57	9:59	10:09	10:18	10:24	10:29
Y7	-	-	9:45	9:50	9:54	10:01	10:12	10:14	10:24	10:33	10:39	10:44
Y8	9:48	9:56	-	10:05	10:09	10:16	10:27	10:29	10:39	10:48	10:54	10:59
Y7	-	-	10:15	10:20	10:24	10:31	10:42	10:44	10:54	11:03	11:09	11:14
Y8	10:18	10:26	-	10:35	10:39	10:46	10:57	10:59	11:09	11:18	11:24	11:29
Y7	-	-	10:45	10:50	10:54	11:01	11:12	11:14	11:24	11:33	11:39	11:44
Y8	10:48	10:56	-	11:05	11:09	11:16	11:27	11:29	11:39	11:48	11:54	11:59
Y7	-	-	11:15	11:20	11:24	11:31	11:42	11:44	11:54	12:03	12:09	12:14
Y8	11:18	11:26	-	11:35	11:39	11:46	11:57	11:59	12:09	12:18	12:24	12:29
Y7	-	-	11:45	11:50	11:54	12:01	12:12	12:14	12:24	12:33	12:39	12:44
Y8	11:48	11:56	-	12:05	12:09	12:16	12:27	12:29	12:39	12:48	12:54	12:59





▶ Southbound to Silver Spring station

Monday thru Friday — De Lunes a viernes

Route Number	Medstar Montgomery Medical Center	Georgia Ave. & Rt. 108 (Olney)	ICC Park & Ride Lot	Georgia Ave. & Norbeck Rd.	Leisure World (club-house)	Georgia & Connecticut Aves. (Aspen Hill)	Glenmont 	Georgia Ave. & Randolph Rd. (Glenmont)	Wheaton 	Georgia Ave. & Forest Glen Rd. (Forest Glen) 	Georgia Ave. & Spring St. Paul S. Sarbanes Transit Center	(SILVER SPRING) 
PM Service — Servicio vespertino												
Y7	-	-	12:15	12:20	12:24	12:31	12:42	12:44	12:54	1:03	1:09	1:14
Y8	12:18	12:26	-	12:35	12:39	12:46	12:57	12:59	1:09	1:18	1:24	1:29
Y7	-	-	12:45	12:50	12:54	1:01	1:12	1:14	1:24	1:33	1:39	1:44
Y8	12:48	12:56	-	1:05	1:09	1:16	1:27	1:29	1:39	1:48	1:54	1:59
Y7	-	-	1:15	1:20	1:24	1:31	1:42	1:44	1:54	2:03	2:09	2:14
Y8	1:18	1:26	-	1:35	1:39	1:46	1:57	1:59	2:09	2:18	2:24	2:29
Y7	-	-	1:45	1:50	1:54	2:01	2:12	2:14	2:24	2:33	2:39	2:44
Y8	1:48	1:56	-	2:05	2:09	2:16	2:27	2:29	2:39	2:48	2:54	2:59
Y7	-	-	2:15	2:20	2:24	2:31	2:42	2:44	2:54	3:03	3:09	3:14
Y8	2:17	2:26	-	2:36	2:41	2:48	2:59	3:01	3:12	3:21	3:27	3:32
Y7	-	-	2:46	2:51	2:56	3:03	3:14	3:16	3:27	3:36	3:42	3:47
Y2	2:52	3:01	-	3:11	-	3:18	3:29	3:31	3:42	3:51	3:57	4:02
Y7	-	-	3:16	3:21	3:26	3:33	3:44	3:46	3:57	4:06	4:12	4:17
Y8	3:17	3:26	-	3:36	3:41	3:48	3:59	4:01	4:12	4:21	4:27	4:32
Y7	-	-	3:41	3:46	3:51	3:58	4:09	4:11	4:22	4:31	4:37	4:42
Y2	3:42	3:51	-	4:01	-	4:08	4:19	4:21	4:32	4:41	4:47	4:52
Y7	-	-	4:01	4:06	4:11	4:18	4:29	4:31	4:42	4:51	4:57	5:02
Y8	3:57	4:06	-	4:16	4:21	4:28	4:39	4:41	4:52	5:01	5:07	5:12
Y7	-	-	4:21	4:26	4:31	4:38	4:49	4:51	5:02	5:11	5:17	5:22
Y2	4:24	4:32	-	4:43	-	4:50	5:01	5:03	5:13	5:22	5:27	5:32
Y7	-	-	4:42	4:47	4:53	5:00	5:11	5:13	5:23	5:32	5:37	5:42
Y8	4:38	4:46	-	4:57	5:03	5:10	5:21	5:23	5:33	5:42	5:47	5:52
Y7	-	-	5:02	5:07	5:13	5:20	5:31	5:33	5:43	5:52	5:57	6:02
Y2	5:04	5:12	-	5:23	-	5:30	5:41	5:43	5:53	6:02	6:07	6:12
Y7	-	-	5:22	5:27	5:33	5:40	5:51	5:53	6:03	6:12	6:17	6:22
Y8	5:18	5:26	-	5:37	5:43	5:50	6:01	6:03	6:13	6:22	6:27	6:32
Y7	-	-	5:43	5:48	5:54	6:00	6:09	6:11	6:20	6:27	6:32	6:37
Y2	5:50	5:57	-	6:05	-	6:11	6:20	6:22	6:31	6:38	6:43	6:48
Y7	-	-	6:06	6:11	6:17	6:23	6:32	6:34	6:43	6:50	6:55	7:00
Y8	6:06	6:13	-	6:21	6:27	6:33	6:42	6:44	6:53	7:00	7:05	7:10
Y7	-	-	6:26	6:31	6:37	6:43	6:52	6:54	7:03	7:10	7:15	7:20
Y2	6:32	6:39	-	6:47	-	6:53	7:02	7:04	7:13	7:20	7:25	7:30
Y7	-	-	6:51	6:56	7:02	7:08	7:17	7:19	7:28	7:35	7:40	7:45
Y8	6:56	7:03	-	7:11	7:17	7:23	7:32	7:34	7:43	7:50	7:55	8:00
Y7	-	-	7:21	7:26	7:32	7:38	7:47	7:49	7:58	8:05	8:10	8:15
Y2	7:32	7:39	-	7:47	-	7:53	8:02	8:04	8:13	8:20	8:25	8:30
Y7	-	-	7:51	7:56	8:02	8:08	8:17	8:19	8:28	8:35	8:40	8:45
Y8	7:56	8:03	-	8:11	8:17	8:23	8:32	8:34	8:43	8:50	8:55	9:00
Y7	-	-	8:21	8:26	8:32	8:38	8:47	8:49	8:58	9:05	9:10	9:15
Y2	8:41	8:48	-	8:56	-	9:02	9:11	9:13	9:22	9:29	9:34	9:39
Y2	9:01	9:08	-	9:16	-	9:22	9:31	9:33	9:42	9:49	9:54	9:59
Y2	9:30	9:36	-	9:42	-	9:47	9:54	9:56	10:03	10:08	10:12	10:16
Y2	9:55	10:01	-	10:07	-	10:12	10:19	10:21	10:28	10:33	10:37	10:41
Y2	10:28	10:34	-	10:40	-	10:45	10:52	10:54	11:01	11:06	11:10	11:14
Y2	10:58	11:04	-	11:10	-	11:15	11:22	11:24	11:31	11:36	11:40	11:44
Y2	11:28	11:34	-	11:40	-	11:45	11:52	11:54	12:01	12:06	12:10	12:14
Y2	11:58	12:04	-	12:10	-	12:15	12:22	12:24	12:31	12:36	12:40	12:44
After Midnight Service — Servicio después de la medianoche												
Y2	12:28	12:34	-	12:40	-	12:45	12:52	12:54	1:01	1:06	1:10	1:14
Y2	12:58	1:04	-	1:10	-	1:15	1:22	1:24	1:31	1:36	1:40	1:44
Y2	1:28	1:34	-	1:40	-	1:45	1:52	1:54	2:01	2:06	2:10	2:14
Y2	1:58	2:04	-	2:10	-	2:15	2:22	2:24	2:31	2:36	2:40	2:44

▶ Northbound to Olney

Monday thru Friday — De Lunes a viernes

Route Number	Paul S. Sarbanes Transit Center (Silver Spring) 	Georgia Ave. & Spring St.	Georgia Ave. & Forest Glen Rd. (Forest Glen) 	Wheaton 	Georgia Ave. & Randolph Rd. (Glenmont)	Glenmont 	Georgia Ave. & Connecticut Ave. (Aspen Hill)	Leisure World (club-house)	Georgia Ave. & Norbeck Rd.	ICC PARK & RIDE Lot	Georgia Ave. & Rt. 108 (Olney)	MEDSTAR MONT-GOMERY MEDICAL CENTER
AM Service — Servicio matutino												
Y2	4:55	5:01	5:05	5:12	5:21	5:24	5:31	-	5:36	-	5:43	5:47
Y2	5:25	5:31	5:35	5:42	5:51	5:54	6:01	-	6:06	-	6:13	6:17
Y2	5:55	6:01	6:05	6:12	6:21	6:24	6:31	-	6:36	-	6:43	6:47
Y2	6:10	6:16	6:20	6:27	6:36	6:39	6:46	-	6:51	-	6:58	7:02
Y8	6:25	6:31	6:35	6:42	6:51	6:54	7:01	7:06	7:09	-	7:16	7:20
Y7	6:40	6:46	6:50	6:57	7:06	7:09	7:16	7:21	7:24	7:27	-	-
Y8	6:50	6:56	7:00	7:07	7:16	7:19	7:26	7:31	7:34	-	7:41	7:45
Y7	7:00	7:06	7:10	7:17	7:26	7:29	7:36	7:41	7:44	7:47	-	-
Y8	7:10	7:16	7:20	7:27	7:36	7:39	7:46	7:51	7:54	-	8:01	8:05
Y7	7:20	7:26	7:30	7:37	7:46	7:49	7:56	8:01	8:04	8:07	-	-
Y8	7:30	7:37	7:41	7:49	7:58	8:01	8:08	8:13	8:16	-	8:23	8:27
Y7	7:40	7:47	7:51	7:59	8:08	8:11	8:18	8:23	8:26	8:30	-	-
Y8	7:55	8:02	8:06	8:14	8:23	8:26	8:33	8:38	8:41	-	8:48	8:52
Y7	8:10	8:17	8:21	8:29	8:38	8:41	8:48	8:53	8:56	9:00	-	-
Y8	8:25	8:32	8:36	8:44	8:53	8:56	9:03	9:08	9:11	-	9:18	9:22
Y7	8:40	8:47	8:51	8:59	9:08	9:11	9:18	9:23	9:26	9:30	-	-
Y8	8:55	9:02	9:06	9:14	9:23	9:26	9:33	9:38	9:41	-	9:48	9:52
Y7	9:10	9:17	9:21	9:29	9:38	9:41	9:48	9:53	9:56	10:00	-	-
Y8	9:25	9:32	9:36	9:44	9:53	9:56	10:03	10:08	10:11	-	10:18	10:22
Y7	9:40	9:47	9:51	9:59	10:08	10:11	10:18	10:23	10:26	10:30	-	-
Y8	9:55	10:02	10:06	10:14	10:23	10:26	10:33	10:38	10:41	-	10:48	10:52
Y7	10:10	10:17	10:21	10:29	10:38	10:41	10:48	10:53	10:56	11:00	-	-
Y8	10:25	10:32	10:36	10:44	10:53	10:56	11:03	11:08	11:11	-	11:18	11:22
Y7	10:40	10:47	10:51	10:59	11:08	11:11	11:18	11:23	11:26	11:30	-	-
Y8	10:55	11:02	11:06	11:14	11:23	11:26	11:33	11:38	11:41	-	11:48	11:52
Y7	11:10	11:17	11:21	11:29	11:38	11:41	11:48	11:53	11:56	12:00	-	-
Y8	11:25	11:32	11:36	11:44	11:53	11:56	12:03	12:08	12:11	-	12:18	12:22
Y7	11:40	11:47	11:51	11:59	12:08	12:11	12:18	12:23	12:26	12:30	-	-
Y8	11:55	12:02	12:06	12:14	12:23	12:26	12:33	12:38	12:41	-	12:48	12:52

► Northbound to Olney

Monday thru Friday — De Lunes a viernes

Route Number	Paul S. Sarbanes Transit Center (Silver Spring)	Georgia Ave. & Spring St.	Georgia Ave. & Forest Glen Rd. (Forest Glen)	Wheaton	Georgia Ave. & Randolph Rd. (Glenmont)	Glenmont	Georgia Ave. & Connecticut Ave. (Aspen Hill)	Leisure World (clubhouse)	Georgia Ave. & Norbeck Rd.	ICC PARK & RIDE Lot	Georgia Ave. & Rt. 108 (Olney)	MEDSTAR MONTGOMERY MEDICAL CENTER
PM Service — Servicio vespertino												
Y7	12:10	12:17	12:21	12:29	12:40	12:43	12:51	12:58	1:00	1:03	-	-
Y8	12:25	12:32	12:36	12:44	12:55	12:58	1:06	1:13	1:15	-	1:22	1:26
Y7	12:40	12:47	12:51	12:59	1:10	1:13	1:21	1:28	1:30	1:33	-	-
Y8	12:55	1:02	1:06	1:14	1:25	1:28	1:36	1:43	1:45	-	1:52	1:56
Y7	1:10	1:17	1:21	1:29	1:40	1:43	1:51	1:58	2:00	2:03	-	-
Y8	1:25	1:32	1:36	1:44	1:55	1:58	2:06	2:13	2:15	-	2:22	2:26
Y7	1:40	1:47	1:51	1:59	2:10	2:13	2:21	2:28	2:30	2:33	-	-
Y8	1:55	2:02	2:06	2:14	2:25	2:28	2:36	2:43	2:45	-	2:52	2:56
Y7	2:10	2:18	2:25	2:34	2:47	2:50	2:59	3:05	3:07	3:09	-	-
Y8	2:20	2:28	2:35	2:44	2:57	3:00	3:08	3:14	3:16	-	3:23	3:27
Y7	2:30	2:38	2:45	2:54	3:07	3:10	3:19	3:25	3:27	3:29	-	-
Y8	2:40	2:48	2:55	3:04	3:17	3:20	3:28	3:34	3:36	-	3:43	3:47
Y7	2:50	2:58	3:05	3:14	3:27	3:30	3:39	3:45	3:47	3:49	-	-
Y8	3:00	3:08	3:15	3:24	3:37	3:40	3:48	3:54	3:56	-	4:03	4:07
Y7	3:10	3:18	3:25	3:34	3:47	3:50	3:59	4:05	4:07	4:09	-	-
Y8	3:20	3:28	3:35	3:44	3:57	4:00	4:08	4:14	4:16	-	4:23	4:27
Y7	3:30	3:38	3:45	3:54	4:07	4:10	4:19	4:25	4:27	4:29	-	-
Y8	3:40	3:48	3:55	4:04	4:17	4:20	4:28	4:34	4:36	-	4:43	4:47
Y7	3:50	3:58	4:05	4:14	4:27	4:30	4:39	4:45	4:47	4:49	-	-
Y2	4:00	4:08	4:16	4:25	4:40	4:43	4:51	-	4:56	-	5:04	5:08
Y7	4:10	4:18	4:26	4:35	4:50	4:53	5:01	5:10	5:13	5:15	-	-
Y2	4:20	4:28	4:36	4:45	5:00	5:03	5:11	-	5:16	-	5:24	5:28
Y7	4:30	4:38	4:46	4:55	5:10	5:13	5:21	5:30	5:33	5:35	-	-
Y8	4:40	4:48	4:56	5:05	5:20	5:23	5:31	5:40	5:43	-	5:51	5:55
Y7	4:50	4:58	5:06	5:15	5:30	5:33	5:41	5:50	5:53	5:55	-	-
Y2	5:00	5:08	5:16	5:25	5:40	5:43	5:51	-	5:56	-	6:04	6:08
Y7	5:10	5:18	5:26	5:35	5:50	5:53	6:01	6:10	6:13	6:15	-	-
Y2	5:20	5:28	5:36	5:45	6:00	6:03	6:11	-	6:16	-	6:24	6:28
Y7	5:30	5:38	5:46	5:55	6:10	6:13	6:21	6:30	6:33	6:35	-	-
Y8	5:40	5:48	5:56	6:05	6:20	6:23	6:31	6:40	6:43	-	6:51	6:55
Y7	5:50	5:58	6:06	6:15	6:30	6:33	6:41	6:50	6:53	6:55	-	-
Y2	6:00	6:08	6:16	6:25	6:40	6:43	6:51	-	6:56	-	7:04	7:08
Y7	6:10	6:18	6:26	6:35	6:50	6:53	7:01	7:10	7:13	7:15	-	-
Y2	6:20	6:28	6:36	6:45	7:00	7:03	7:11	-	7:16	-	7:24	7:28
Y7	6:30	6:37	6:42	6:50	7:01	7:04	7:11	7:17	7:19	7:23	-	-
Y8	6:40	6:47	6:52	7:00	7:11	7:14	7:21	7:27	7:29	-	7:37	7:41
Y7	6:55	7:02	7:07	7:15	7:26	7:29	7:36	7:42	7:44	7:48	-	-
Y2	7:10	7:17	7:22	7:30	7:41	7:44	7:51	-	7:57	-	8:05	8:09
Y7	7:25	7:32	7:37	7:45	7:56	7:59	8:06	8:12	8:14	8:18	-	-
Y8	7:40	7:47	7:52	8:00	8:11	8:14	8:21	8:27	8:29	-	8:37	8:41
Y7	7:55	8:02	8:07	8:15	8:26	8:29	8:36	8:42	8:44	8:48	-	-
Y2	8:05	8:12	8:17	8:25	8:36	8:39	8:46	-	8:52	-	9:00	9:04
Y2	8:25	8:32	8:37	8:45	8:56	8:59	9:06	-	9:12	-	9:20	9:24
Y2	8:40	8:46	8:50	8:56	9:05	9:08	9:15	-	9:20	-	9:27	9:31
Y2	8:55	9:01	9:05	9:11	9:20	9:23	9:30	-	9:35	-	9:42	9:46
Y2	9:10	9:16	9:20	9:26	9:35	9:38	9:45	-	9:50	-	9:57	10:01
Y2	9:25	9:31	9:35	9:41	9:50	9:53	10:00	-	10:05	-	10:12	10:16
Y2	9:45	9:51	9:55	10:01	10:10	10:13	10:20	-	10:25	-	10:32	10:36
Y2	10:05	10:11	10:15	10:21	10:30	10:33	10:40	-	10:45	-	10:52	10:56
Y2	10:30	10:36	10:39	10:45	10:54	10:57	11:03	-	11:08	-	11:15	11:18
Y2	10:55	11:01	11:04	11:10	11:19	11:22	11:28	-	11:33	-	11:40	11:43
Y2	11:25	11:30	11:33	11:39	11:48	11:51	11:57	-	12:01	-	12:08	12:11
Y2	11:55	12:00	12:03	12:09	12:18	12:21	12:27	-	12:31	-	12:38	12:41
After Midnight Service — Servicio después de la medianoche												
Y2	12:25	12:30	12:33	12:39	12:48	12:51	12:57	-	1:01	-	1:08	1:11
Y2	12:55	1:00	1:03	1:09	1:18	1:21	1:27	-	1:31	-	1:38	1:41
Y2	1:25	1:30	1:33	1:39	1:48	1:51	1:57	-	2:01	-	2:08	2:11
Y2	1:55	2:00	2:03	2:09	2:18	2:21	2:27	-	2:31	-	2:38	2:41

► Southbound to Silver Spring station

Saturday — Sábados





Route Number	Medstar Montgomery Medical Center	Georgia Ave. & Rt. 108 (Olney)	Georgia Ave. & Norbeck Rd.	Leisure World	Georgia Ave. & Connecticut Ave. (Aspen Hill)	Glenmont (M)	Georgia Ave. & Randolph Rd. (Glenmont)	Wheaton (M)	Georgia Ave. & Forest Glen Rd. (Forest Glen) (M)	Georgia Ave. & Spring St. Paul S. Sarbanes Transit Center	(SILVER SPRING) (M)
AM Service — Servicio matutino											
Y2	4:56	5:01	5:07	-	5:11	5:18	5:20	5:27	5:33	5:37	5:40
Y2	5:18	5:23	5:29	-	5:33	5:40	5:42	5:49	5:55	5:59	6:02
Y2	5:40	5:45	5:51	-	5:55	6:02	6:04	6:11	6:17	6:21	6:24
Y8	5:58	6:03	6:09	6:13	6:17	6:24	6:26	6:33	6:39	6:43	6:46
Y2	6:22	6:27	6:33	-	6:37	6:44	6:46	6:53	6:59	7:03	7:06
Y8	6:35	6:40	6:46	6:50	6:57	7:05	7:07	7:14	7:21	7:26	7:29
Y2	6:47	6:52	6:58	-	7:02	7:09	7:11	7:18	7:24	7:28	7:31
Y8	6:55	7:00	7:06	7:10	7:17	7:25	7:27	7:34	7:41	7:46	7:49
Y2	7:21	7:26	7:32	-	7:37	7:47	7:49	7:56	8:03	8:08	8:11
Y8	7:35	7:40	7:46	7:50	7:57	8:05	8:07	8:14	8:21	8:26	8:29
Y2	8:01	8:06	8:12	-	8:17	8:27	8:29	8:36	8:43	8:48	8:51
Y8	8:15	8:20	8:26	8:30	8:37	8:45	8:47	8:54	9:01	9:06	9:09
Y2	8:41	8:46	8:52	-	8:57	9:07	9:09	9:16	9:23	9:28	9:31
Y8	8:53	8:58	9:06	9:10	9:17	9:27	9:29	9:38	9:45	9:53	9:56
Y2	9:19	9:24	9:32	-	9:37	9:47	9:49	9:58	10:05	10:13	10:16
Y8	9:33	9:38	9:46	9:50	9:57	10:07	10:09	10:18	10:25	10:33	10:36
Y2	9:59	10:04	10:12	-	10:17	10:27	10:29	10:38	10:45	10:53	10:56
Y8	10:13	10:18	10:26	10:30	10:37	10:47	10:49	10:58	11:05	11:13	11:16
Y2	10:39	10:44	10:52	-	10:57	11:07	11:09	11:18	11:25	11:33	11:36
Y8	10:51	10:57	11:06	11:10	11:17	11:27	11:29	11:39	11:47	11:52	11:56
Y2	11:16	11:22	11:31	-	11:37	11:47	11:49	11:59	12:07	12:13	12:17
Y8	11:31	11:37	11:46	11:50	11:57	12:07	12:09	12:19	12:27	12:32	12:36
Y2	11:56	12:02	12:11	-	12:17	12:27	12:29	12:39	12:47	12:53	12:57
PM Service — Servicio vespertino											
Y8	12:11	12:17	12:26	12:30	12:37	12:47	12:49	12:59	1:07	1:12	1:16
Y2	12:36	12:42	12:51	-	12:57	1:07	1:09	1:19	1:27	1:33	1:37
Y8	12:51	12:57	1:06	1:10	1:17	1:27	1:29	1:39	1:47	1:52	1:56
Y2	1:16	1:22	1:31	-	1:37	1:47	1:49	1:59	2:07	2:13	2:17
Y8	1:31	1:37	1:46	1:50	1:57	2:07	2:09	2:19	2:27	2:32	2:36
Y2	1:56	2:02	2:11	-	2:17	2:27	2:29	2:39	2:47	2:53	2:57
Y8	2:11	2:17	2:26	2:30	2:37	2:47	2:49	2:59	3:07	3:12	3:16
Y2	2:36	2:42	2:51	-	2:57	3:07	3:09	3:19	3:27	3:33	3:37
Y8	2:51	2:57	3:06	3:10	3:17	3:27	3:29	3:39	3:47	3:52	3:56
Y2	3:16	3:22	3:31	-	3:37	3:47	3:49	3:59	4:07	4:13	4:17
Y8	3:31	3:37	3:46	3:50	3:57	4:07	4:09	4:19	4:27	4:32	4:36
Y2	3:56	4:02	4:11	-	4:17	4:27	4:29	4:39	4:47	4:53	4:57
Y8	4:11	4:17	4:26	4:30	4:37	4:47	4:49	4:59	5:07	5:12	5:16
Y2	4:36	4:42	4:51	-	4:57	5:07	5:09	5:19	5:27	5:33	5:37
Y8	4:51	4:57	5:06	5:10	5:17	5:27	5:29	5:39	5:47	5:52	5:56
Y2	5:16	5:22	5:31	-	5:37	5:47	5:49	5:59	6:07	6:13	6:17
Y8	5:32	5:38	5:46	5:50	5:57	6:07	6:09	6:18	6:25	6:30	6:33
Y2	5:58	6:03	6:11	-	6:17	6:26	6:28	6:37	6:44	6:49	6:52
Y8	6:12	6:18	6:26	6:30	6:37	6:47	6:49	6:58	7:05	7:10	7:13
Y2	6:38	6:43	6:51	-	6:57	7:06	7:08	7:17	7:24	7:29	7:32
Y8	6:54	7:00	7:07	7:11	7:17	7:27	7:29	7:38	7:45	7:50	7:53
Y2	7:19	7:24	7:31	-	7:37	7:46	7:48	7:56	8:03	8:08	8:11
Y8	7:34	7:40	7:47	7:51	7:57	8:07	8:09	8:18	8:25	8:30	8:33
Y2	7:59	8:04	8:11	-	8:17	8:26	8:28	8:36	8:43	8:48	8:51
Y2	8:19	8:24	8:31	-	8:37	8:46	8:48	8:56	9:03	9:08	9:11
Y2	8:39	8:44	8:51	-	8:57	9:06	9:08	9:16	9:23	9:28	9:31
Y2	9:01	9:06	9:13	-	9:19	9:27	9:29	9:37	9:44	9:48	9:51
Y2	9:23	9:28	9:35	-	9:41	9:49	9:51	9:59	10:06	10:10	10:13
Y2	9:45	9:50	9:57	-	10:03	10:11	10:13	10:21	10:28	10:32	10:35
Y2	10:12	10:17	10:23	-	10:27	10:34	10:36	10:44	10:50	10:54	10:57
Y2	10:34	10:39	10:45	-	10:49	10:56	10:58	11:06	11:12	11:16	11:19
Y2	10:56	11:01	11:07	-	11:11	11:18	11:20	11:28	11:34	11:38	11:41
Y2	11:21	11:26	11:32	-	11:36	11:43	11:45	11:53	11:59	12:03	12:06
Y2	11:51	11:56	12:02	-	12:06	12:13	12:15	12:23	12:29	12:33	12:36
After Midnight Service — Servicio después de la medianoche											
Y2	12:21	12:26	12:32	-	12:36	12:43	12:45	12:53	12:59	1:03	1:06
Y2	12:51	12:56	1:02	-	1:06	1:13	1:15	1:23	1:29	1:33	1:36
Y2	1:21	1:26	1:32	-	1:36	1:43	1:45	1:53	1:59	2:03	2:06
Y2	1:51	1:56	2:02	-	2:06	2:13	2:15	2:23	2:29	2:33	2:36

On five Federal holidays, Juneteenth, Columbus Day, Veterans' Day, Martin Luther King, Jr. Day, and Presidents' Day, the Saturday schedule will be in effect.

Metrobus proveerá servicio con horario de sábado durante los cinco días festivos de Juneteenth, Columbus Day, Veterans Day, Martin Luther King Jr. Day, y Presidents' Day.

▶ Northbound to Olney

Saturday — Sábados





Route Number	Paul S. Sarbanes Transit Center (Silver Spring) 	Georgia Ave. & Spring St.	Georgia Ave. & Forest Glen (Forest Glen) 	Wheaton 	Georgia Ave. & Randolph Rd. (Glenmont)	Glenmont 	Georgia Ave. & Connecticut Ave. (Aspen Hill)	Leisure World	Georgia Ave. & Norbeck Rd.	Georgia Ave. & Rt.108 (Olney)	MEDSTAR MONT-GOMERY MEDICAL CENTER
AM Service — Servicio matutino											
Y2	5:55	5:59	6:03	6:09	6:18	6:20	6:26	-	6:31	6:38	6:41
Y2	6:18	6:22	6:26	6:32	6:41	6:43	6:49	-	6:54	7:01	7:04
Y2	6:40	6:44	6:48	6:54	7:03	7:05	7:11	-	7:16	7:23	7:26
Y8	7:00	7:05	7:09	7:15	7:24	7:26	7:32	7:38	7:40	7:47	7:50
Y2	7:20	7:24	7:28	7:34	7:43	7:45	7:51	-	7:56	8:03	8:06
Y8	7:40	7:45	7:49	7:55	8:04	8:06	8:12	8:18	8:20	8:27	8:30
Y2	8:00	8:04	8:08	8:15	8:25	8:27	8:34	-	8:40	8:47	8:51
Y8	8:20	8:25	8:29	8:35	8:45	8:47	8:55	9:01	9:03	9:10	9:14
Y2	8:40	8:44	8:48	8:55	9:05	9:07	9:14	-	9:20	9:27	9:31
Y8	9:00	9:05	9:09	9:15	9:25	9:27	9:35	9:41	9:43	9:50	9:54
Y2	9:20	9:25	9:30	9:37	9:49	9:51	9:58	-	10:04	10:12	10:15
Y8	9:40	9:45	9:50	9:57	10:09	10:11	10:19	10:25	10:27	10:35	10:38
Y8	10:00	10:05	10:10	10:17	10:29	10:31	10:39	10:45	10:47	10:55	10:58
Y2	10:20	10:25	10:30	10:37	10:49	10:51	10:58	-	11:04	11:12	11:15
Y8	10:40	10:45	10:50	10:57	11:09	11:11	11:19	11:25	11:27	11:35	11:38
Y2	11:00	11:05	11:10	11:17	11:29	11:31	11:38	-	11:44	11:52	11:55
Y8	11:20	11:25	11:30	11:37	11:49	11:51	11:59	12:05	12:07	12:15	12:18
Y2	11:40	11:45	11:50	11:57	12:09	12:11	12:18	-	12:24	12:32	12:35
PM Service — Servicio vespertino											
Y8	12:00	12:05	12:10	12:18	12:32	12:34	12:42	12:48	12:50	12:58	1:01
Y2	12:20	12:25	12:30	12:38	12:52	12:55	1:03	-	1:09	1:17	1:20
Y8	12:40	12:45	12:50	12:58	1:12	1:14	1:22	1:28	1:30	1:38	1:41
Y2	1:00	1:05	1:10	1:18	1:32	1:35	1:43	-	1:49	1:57	2:00
Y8	1:20	1:25	1:30	1:38	1:52	1:54	2:02	2:08	2:10	2:18	2:21
Y2	1:40	1:45	1:50	1:58	2:12	2:15	2:23	-	2:29	2:37	2:40
Y8	2:00	2:05	2:10	2:18	2:32	2:34	2:42	2:48	2:50	2:58	3:01
Y2	2:20	2:25	2:30	2:38	2:52	2:55	3:03	-	3:09	3:17	3:20
Y8	2:40	2:45	2:50	2:58	3:12	3:14	3:22	3:28	3:30	3:38	3:41
Y2	3:00	3:05	3:10	3:18	3:32	3:35	3:43	-	3:49	3:57	4:00
Y8	3:20	3:25	3:30	3:38	3:52	3:54	4:02	4:08	4:10	4:18	4:21
Y2	3:40	3:45	3:50	3:58	4:12	4:15	4:23	-	4:29	4:37	4:40
Y8	4:00	4:05	4:10	4:18	4:32	4:34	4:42	4:48	4:50	4:58	5:01
Y2	4:20	4:25	4:30	4:38	4:52	4:55	5:03	-	5:09	5:17	5:20
Y8	4:40	4:45	4:50	4:58	5:12	5:14	5:22	5:28	5:30	5:38	5:41
Y2	5:00	5:05	5:10	5:18	5:32	5:35	5:43	-	5:49	5:57	6:00
Y8	5:20	5:25	5:30	5:38	5:52	5:54	6:02	6:08	6:10	6:18	6:21
Y2	5:40	5:45	5:50	5:58	6:12	6:15	6:23	-	6:29	6:37	6:40
Y8	6:00	6:05	6:10	6:18	6:32	6:34	6:42	6:48	6:50	6:58	7:01
Y2	6:20	6:25	6:29	6:37	6:50	6:53	7:00	-	7:06	7:13	7:16
Y8	6:40	6:45	6:49	6:57	7:10	7:12	7:20	7:26	7:28	7:35	7:39
Y8	7:00	7:05	7:09	7:17	7:30	7:32	7:40	7:46	7:48	7:55	7:59
Y2	7:20	7:25	7:29	7:37	7:50	7:53	8:00	-	8:06	8:13	8:16
Y8	7:40	7:45	7:49	7:57	8:10	8:12	8:20	8:26	8:28	8:35	8:39
Y2	8:00	8:05	8:10	8:17	8:29	8:31	8:38	-	8:43	8:50	8:53
Y2	8:20	8:25	8:30	8:37	8:49	8:51	8:58	-	9:03	9:10	9:13
Y2	8:40	8:45	8:50	8:57	9:09	9:11	9:18	-	9:23	9:30	9:33
Y2	9:00	9:05	9:10	9:17	9:29	9:31	9:38	-	9:43	9:50	9:53
Y2	9:20	9:25	9:30	9:37	9:49	9:51	9:58	-	10:03	10:10	10:13
Y2	9:40	9:45	9:50	9:57	10:09	10:11	10:18	-	10:23	10:30	10:33
Y2	10:03	10:08	10:13	10:20	10:32	10:34	10:41	-	10:46	10:53	10:56
Y2	10:28	10:32	10:36	10:42	10:52	10:54	11:00	-	11:05	11:11	11:14
Y2	10:51	10:55	10:59	11:05	11:15	11:17	11:23	-	11:28	11:34	11:37
Y2	11:13	11:17	11:21	11:27	11:37	11:39	11:45	-	11:50	11:56	11:59
Y2	11:36	11:40	11:44	11:50	12:00	12:02	12:08	-	12:13	12:19	12:22
Y2	11:58	12:02	12:06	12:12	12:22	12:24	12:30	-	12:35	12:41	12:44
After Midnight Service — Servicio después de la medianoche											
Y2	12:25	12:29	12:33	12:39	12:49	12:51	12:57	-	1:02	1:08	1:11
Y2	12:55	12:59	1:03	1:09	1:19	1:21	1:27	-	1:32	1:38	1:41
Y2	1:25	1:29	1:33	1:39	1:49	1:51	1:57	-	2:02	2:08	2:11
Y2	1:55	1:59	2:03	2:09	2:19	2:21	2:27	-	2:32	2:38	2:41

On five Federal holidays, Juneteenth, Columbus Day, Veterans' Day, Martin Luther King, Jr. Day, and Presidents' Day, the Saturday schedule will be in effect.

Metrobus proveerá servicio con horario de sábado durante los cinco días festivos de Juneteenth, Columbus Day, Veterans Day, Martin Luther King Jr. Day, y Presidents' Day.







▶ Southbound to Silver Spring station

Sunday — Domingos

Route Number	Medstar Montgomery Medical Center	Georgia Ave. & Rt. 108 (Olney)	Georgia Ave. & Norbeck Rd.	Leisure World (club-house)	Georgia Ave. & Connecticut Ave. (Aspen Hill)	Glenmont 	Georgia Ave. & Randolph Rd. (Glenmont)	Wheaton 	Georgia Ave. & Forest Glen Rd. (Forest Glen) 	Georgia Ave. & Spring St.	Paul S. Sarbanes Transit Center (SILVER SPRING) 
AM Service — Servicio matutino											
Y2	4:56	5:03	5:08	-	5:11	5:19	5:21	5:29	5:34	5:39	5:42
Y2	5:18	5:25	5:30	-	5:33	5:41	5:43	5:51	5:56	6:01	6:04
Y2	5:40	5:47	5:52	-	5:55	6:03	6:05	6:13	6:18	6:23	6:26
Y8	5:55	6:02	6:07	6:11	6:17	6:25	6:27	6:35	6:40	6:45	6:48
Y2	6:22	6:29	6:34	-	6:37	6:45	6:47	6:55	7:00	7:05	7:08
Y8	6:32	6:39	6:44	6:48	6:54	7:02	7:04	7:12	7:17	7:22	7:25
Y2	6:59	7:06	7:11	-	7:14	7:22	7:24	7:32	7:37	7:42	7:45
Y8	7:11	7:18	7:24	7:28	7:34	7:43	7:45	7:53	7:58	8:04	8:07
Y2	7:36	7:43	7:49	-	7:54	8:03	8:05	8:13	8:18	8:24	8:27
Y8	7:51	7:58	8:04	8:08	8:14	8:23	8:25	8:33	8:38	8:44	8:47
Y2	8:16	8:23	8:29	-	8:34	8:43	8:45	8:53	8:58	9:04	9:07
Y8	8:31	8:38	8:44	8:48	8:54	9:03	9:05	9:13	9:18	9:24	9:27
Y2	8:56	9:03	9:09	-	9:14	9:23	9:25	9:33	9:38	9:44	9:47
Y8	9:08	9:15	9:22	9:27	9:34	9:43	9:46	9:54	10:01	10:08	10:11
Y2	9:33	9:40	9:47	-	9:54	10:03	10:06	10:14	10:21	10:28	10:31
Y8	9:48	9:55	10:02	10:07	10:14	10:23	10:26	10:34	10:41	10:48	10:51
Y2	10:13	10:20	10:27	-	10:34	10:43	10:46	10:54	11:01	11:08	11:11
Y8	10:28	10:35	10:42	10:47	10:54	11:03	11:06	11:14	11:21	11:28	11:31
Y2	10:53	11:00	11:07	-	11:14	11:23	11:26	11:34	11:41	11:48	11:51
Y8	11:07	11:14	11:22	11:27	11:34	11:43	11:47	11:56	12:06	12:14	12:18
Y2	11:32	11:39	11:47	-	11:54	12:03	12:07	12:16	12:26	12:34	12:38
Y8	11:47	11:54	12:02	12:07	12:14	12:23	12:27	12:36	12:46	12:54	12:58
PM Service — Servicio vespertino											
Y2	12:12	12:19	12:27	-	12:34	12:43	12:47	12:56	1:06	1:14	1:18
Y8	12:27	12:34	12:42	12:47	12:54	1:03	1:07	1:16	1:26	1:34	1:38
Y2	12:52	12:59	1:07	-	1:14	1:23	1:27	1:36	1:46	1:54	1:58
Y8	1:07	1:14	1:22	1:27	1:34	1:43	1:47	1:56	2:06	2:14	2:18
Y2	1:32	1:39	1:47	-	1:54	2:03	2:07	2:16	2:26	2:34	2:38
Y8	1:47	1:54	2:02	2:07	2:14	2:23	2:27	2:36	2:46	2:54	2:58
Y2	2:12	2:19	2:27	-	2:34	2:43	2:47	2:56	3:06	3:14	3:18
Y8	2:27	2:34	2:42	2:47	2:54	3:03	3:07	3:16	3:26	3:34	3:38
Y2	2:52	2:59	3:07	-	3:14	3:23	3:27	3:36	3:46	3:54	3:58
Y8	3:07	3:14	3:22	3:27	3:34	3:43	3:47	3:56	4:06	4:14	4:18
Y2	3:32	3:39	3:47	-	3:54	4:03	4:07	4:16	4:26	4:34	4:38
Y8	3:47	3:54	4:02	4:07	4:14	4:23	4:27	4:36	4:46	4:54	4:58
Y2	4:12	4:19	4:27	-	4:34	4:43	4:47	4:56	5:06	5:14	5:18
Y8	4:27	4:34	4:42	4:47	4:54	5:03	5:07	5:16	5:26	5:34	5:38
Y2	4:52	4:59	5:07	-	5:14	5:23	5:27	5:36	5:46	5:54	5:58
Y8	5:09	5:15	5:22	5:27	5:34	5:42	5:47	5:56	6:06	6:14	6:18
Y2	5:35	5:41	5:48	-	5:54	6:02	6:07	6:16	6:26	6:34	6:38
Y8	5:49	5:55	6:02	6:07	6:14	6:22	6:27	6:36	6:46	6:54	6:58
Y2	6:15	6:21	6:28	-	6:34	6:42	6:47	6:56	7:06	7:14	7:18
Y8	6:29	6:35	6:42	6:47	6:54	7:02	7:07	7:16	7:26	7:34	7:38
Y2	6:56	7:02	7:08	-	7:14	7:22	7:26	7:34	7:44	7:51	7:54
Y8	7:12	7:18	7:24	7:28	7:34	7:42	7:46	7:54	8:04	8:11	8:14
Y2	7:36	7:42	7:48	-	7:54	8:02	8:06	8:14	8:24	8:31	8:34
Y8	7:52	7:58	8:04	8:08	8:14	8:22	8:26	8:34	8:44	8:51	8:54
Y2	8:16	8:22	8:28	-	8:34	8:42	8:46	8:54	9:04	9:11	9:14
Y2	8:37	8:43	8:49	-	8:54	9:00	9:03	9:09	9:16	9:22	9:25
Y2	8:57	9:03	9:09	-	9:14	9:20	9:23	9:29	9:36	9:42	9:45
Y2	9:19	9:25	9:31	-	9:36	9:42	9:45	9:51	9:58	10:04	10:07
Y2	9:41	9:47	9:53	-	9:58	10:04	10:07	10:13	10:20	10:26	10:29
Y2	10:01	10:07	10:13	-	10:18	10:24	10:27	10:33	10:40	10:46	10:49
Y2	10:23	10:29	10:35	-	10:40	10:46	10:49	10:55	11:02	11:08	11:11
Y2	10:42	10:48	10:54	-	10:59	11:05	11:08	11:14	11:21	11:27	11:30
Y2	11:07	11:13	11:19	-	11:24	11:30	11:33	11:39	11:46	11:52	11:55
Y2	11:32	11:38	11:44	-	11:49	11:55	11:58	12:04	12:11	12:17	12:20
After Midnight Service — Servicio después de la medianoche											
Y2	12:02	12:08	12:14	-	12:19	12:25	12:28	12:34	12:41	12:47	12:50
Y2	12:32	12:38	12:44	-	12:49	12:55	12:58	1:04	1:11	1:17	1:20
Y2	1:02	1:08	1:14	-	1:19	1:25	1:28	1:34	1:41	1:47	1:50
Y2	1:32	1:38	1:44	-	1:49	1:55	1:58	2:04	2:11	2:17	2:20

▶ Northbound to Olney

Sunday — Domingos

Route Number	Paul S. Sarbanes Transit Center (Silver Spring) 	Georgia Ave. & Spring St.	Georgia Ave. & Forest Glen Rd. (Forest Glen) 	Wheaton 	Georgia Ave. & Randolph Rd. (Glenmont) 	Glenmont 	Georgia Ave. & Connecticut Ave. (Aspen Hill) 	Leisure World (club-house)	Georgia Ave. & Norbeck Rd.	Georgia Ave. & Rt.108 (Olney) MEDSTAR MONT-GOMERY	MEDICAL CENTER
AM Service — Servicio matutino											
Y2	5:55	5:59	6:04	6:09	6:16	6:18	6:23	-	6:27	6:34	6:37
Y2	6:18	6:22	6:27	6:32	6:39	6:41	6:46	-	6:50	6:57	7:00
Y2	6:40	6:44	6:49	6:54	7:01	7:03	7:08	-	7:12	7:19	7:22
Y8	7:00	7:04	7:09	7:14	7:21	7:23	7:28	7:33	7:35	7:43	7:46
Y2	7:20	7:24	7:29	7:34	7:41	7:43	7:48	-	7:52	7:59	8:02
Y8	7:40	7:44	7:49	7:54	8:01	8:03	8:08	8:13	8:15	8:23	8:26
Y2	8:00	8:05	8:10	8:16	8:23	8:25	8:30	-	8:35	8:42	8:45
Y8	8:20	8:25	8:30	8:36	8:43	8:45	8:50	8:55	8:57	9:06	9:09
Y2	8:40	8:45	8:50	8:56	9:03	9:05	9:10	-	9:15	9:22	9:25
Y8	9:00	9:05	9:10	9:16	9:23	9:25	9:30	9:35	9:37	9:46	9:49
Y2	9:20	9:25	9:30	9:36	9:43	9:45	9:50	-	9:55	10:02	10:05
Y8	9:40	9:45	9:50	9:57	10:08	10:10	10:17	10:22	10:24	10:34	10:38
Y2	10:00	10:05	10:10	10:17	10:28	10:30	10:37	-	10:42	10:50	10:54
Y8	10:20	10:25	10:30	10:37	10:48	10:50	10:57	11:02	11:04	11:14	11:18
Y2	10:40	10:45	10:50	10:57	11:08	11:10	11:17	-	11:22	11:30	11:34
Y8	11:00	11:05	11:10	11:17	11:28	11:30	11:37	11:42	11:44	11:54	11:58
Y2	11:20	11:25	11:30	11:37	11:48	11:50	11:57	-	12:02	12:10	12:14
Y8	11:40	11:45	11:50	11:57	12:08	12:10	12:17	12:22	12:24	12:34	12:38
PM Service — Servicio vespertino											
Y2	12:00	12:06	12:11	12:18	12:30	12:33	12:40	-	12:45	12:54	12:58
Y8	12:20	12:26	12:31	12:38	12:50	12:53	1:00	1:06	1:08	1:18	1:22
Y2	12:40	12:46	12:51	12:58	1:10	1:13	1:20	-	1:25	1:34	1:38
Y8	1:00	1:06	1:11	1:18	1:30	1:33	1:40	1:46	1:48	1:58	2:02
Y2	1:20	1:26	1:31	1:38	1:50	1:53	2:00	-	2:05	2:14	2:18
Y8	1:40	1:46	1:51	1:58	2:10	2:13	2:20	2:26	2:28	2:38	2:42
Y2	2:00	2:06	2:11	2:18	2:30	2:33	2:40	-	2:45	2:54	2:58
Y8	2:20	2:26	2:31	2:38	2:50	2:53	3:00	3:06	3:08	3:18	3:22
Y2	2:40	2:46	2:51	2:58	3:10	3:13	3:20	-	3:25	3:34	3:38
Y8	3:00	3:06	3:11	3:18	3:30	3:33	3:40	3:46	3:48	3:58	4:02
Y2	3:20	3:26	3:31	3:38	3:50	3:53	4:00	-	4:05	4:14	4:18
Y8	3:40	3:46	3:51	3:58	4:10	4:13	4:20	4:26	4:28	4:38	4:42
Y2	4:00	4:06	4:11	4:18	4:30	4:33	4:40	-	4:45	4:54	4:58
Y8	4:20	4:26	4:31	4:38	4:50	4:53	5:00	5:06	5:08	5:18	5:22
Y2	4:40	4:46	4:51	4:58	5:10	5:13	5:20	-	5:25	5:34	5:38
Y8	5:00	5:06	5:11	5:18	5:30	5:33	5:40	5:46	5:48	5:58	6:02
Y2	5:20	5:26	5:31	5:38	5:50	5:53	6:00	-	6:05	6:14	6:18
Y8	5:40	5:46	5:51	5:58	6:10	6:13	6:20	6:26	6:28	6:38	6:42
Y2	6:00	6:06	6:11	6:18	6:30	6:33	6:40	-	6:45	6:54	6:58
Y8	6:20	6:27	6:32	6:39	6:48	6:50	6:57	7:02	7:04	7:12	7:16
Y2	6:40	6:47	6:52	6:59	7:08	7:10	7:17	-	7:22	7:30	7:34
Y8	7:00	7:07	7:12	7:19	7:28	7:30	7:37	7:42	7:44	7:52	7:56
Y2	7:20	7:27	7:32	7:39	7:48	7:50	7:57	-	8:02	8:10	8:14
Y8	7:40	7:47	7:52	7:59	8:08	8:10	8:17	8:22	8:24	8:32	8:36
Y2	8:00	8:05	8:09	8:16	8:25	8:27	8:33	-	8:38	8:46	8:49
Y2	8:20	8:25	8:29	8:36	8:45	8:47	8:53	-	8:58	9:06	9:09
Y2	8:40	8:45	8:49	8:56	9:05	9:07	9:13	-	9:18	9:26	9:29
Y2	9:00	9:05	9:09	9:16	9:25	9:27	9:33	-	9:38	9:46	9:49
Y2	9:18	9:23	9:27	9:34	9:43	9:45	9:51	-	9:56	10:04	10:07
Y2	9:40	9:45	9:49	9:56	10:05	10:07	10:13	-	10:18	10:26	10:29
Y2	10:03	10:08	10:12	10:19	10:28	10:30	10:36	-	10:41	10:49	10:52
Y2	10:28	10:33	10:37	10:43	10:51	10:53	10:58	-	11:02	11:09	11:12
Y2	10:51	10:56	11:00	11:06	11:14	11:16	11:21	-	11:25	11:32	11:35
Y2	11:13	11:18	11:22	11:28	11:36	11:38	11:43	-	11:47	11:54	11:57
Y2	11:36	11:41	11:45	11:51	11:59	12:01	12:06	-	12:10	12:17	12:20
Y2	11:58	12:03	12:07	12:13	12:21	12:23	12:28	-	12:32	12:39	12:42
After Midnight Service — Servicio después de la medianoche											
Y2	12:25	12:30	12:34	12:40	12:48	12:50	12:55	-	12:59	1:06	1:09
Y2	12:55	1:00	1:04	1:10	1:18	1:20	1:25	-	1:29	1:36	1:39
Y2	1:25	1:30	1:34	1:40	1:48	1:50	1:55	-	1:59	2:06	2:09
Y2	1:55	2:00	2:04	2:10	2:18	2:20	2:25	-	2:29	2:36	2:39

APPENDIX C
COUNTS



National Data & Surveying Services Intersection Turning Movement Count

Location: Livingston St & Randolph Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Livingston St			Livingston St			Randolph Rd			Randolph Rd			TOTAL
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	0 NL	1 NT	0 NR	0 SL	1 ST	0 SR	1 EL	3 ET	0 ER	1 WL	3 WT	0 WR	
AM													
6:30 AM	2	0	9	2	1	1	3	104	1	8	242	2	375
6:45 AM	2	0	10	5	0	2	2	119	1	13	292	2	448
7:00 AM	2	1	6	3	4	6	2	151	0	23	337	1	536
7:15 AM	3	0	15	5	5	7	4	201	0	19	381	2	642
7:30 AM	4	0	15	6	5	6	4	253	1	26	384	3	707
7:45 AM	0	2	5	4	3	4	2	226	4	31	312	0	593
8:00 AM	0	1	7	2	8	1	2	212	2	35	327	0	597
8:15 AM	2	2	11	3	5	3	1	207	1	29	353	3	620
8:30 AM	7	0	12	5	1	1	4	181	0	33	363	4	611
8:45 AM	5	1	14	4	1	2	0	197	4	18	338	3	587
9:00 AM	1	1	10	0	0	1	5	192	1	10	246	3	470
9:15 AM	2	0	8	5	1	2	2	167	1	10	261	2	461
TOTAL VOLUMES :	30	8	122	44	34	36	31	2210	16	255	3836	25	6647
APPROACH %'s :	18.75%	5.00%	76.25%	38.60%	29.82%	31.58%	1.37%	97.92%	0.71%	6.20%	93.20%	0.61%	
PEAK HR :	07:15 AM - 08:15 AM												
PEAK HR VOL :	7	3	42	17	21	18	12	892	7	111	1404	5	2539
PEAK HR FACTOR :	0.438	0.375	0.700	0.708	0.656	0.643	0.750	0.881	0.438	0.793	0.914	0.417	0.898
		0.684			0.824			0.883			0.920		

NS/EW Streets:	Livingston St			Livingston St			Randolph Rd			Randolph Rd			TOTAL
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	0 NL	1 NT	0 NR	0 SL	1 ST	0 SR	1 EL	3 ET	0 ER	1 WL	3 WT	0 WR	
PM													
4:00 PM	7	1	10	1	3	2	4	355	3	28	238	2	654
4:15 PM	1	3	14	3	2	2	3	342	5	16	188	4	583
4:30 PM	3	0	9	0	1	2	9	358	3	20	238	1	644
4:45 PM	3	2	5	2	4	0	6	372	2	23	225	5	649
5:00 PM	2	0	10	1	4	5	9	398	1	12	211	4	657
5:15 PM	6	1	13	1	3	1	5	351	1	24	227	2	635
5:30 PM	1	1	11	3	0	2	7	377	4	22	211	4	643
5:45 PM	1	1	9	2	2	1	4	372	1	21	205	3	622
6:00 PM	2	1	9	2	1	2	8	384	1	19	215	1	645
6:15 PM	3	2	5	1	2	2	7	333	9	18	197	2	581
6:30 PM	3	1	10	3	2	0	8	323	4	14	172	3	543
6:45 PM	3	1	10	2	4	1	6	254	4	26	142	1	454
TOTAL VOLUMES :	35	14	115	21	28	20	76	4219	38	243	2469	32	7310
APPROACH %'s :	21.34%	8.54%	70.12%	30.43%	40.58%	28.99%	1.75%	97.37%	0.88%	8.86%	89.98%	1.17%	
PEAK HR :	04:30 PM - 05:30 PM												
PEAK HR VOL :	14	3	37	4	12	8	29	1479	7	79	901	12	2585
PEAK HR FACTOR :	0.583	0.375	0.712	0.500	0.750	0.400	0.806	0.929	0.583	0.823	0.946	0.600	0.984
		0.675			0.600			0.928			0.958		

National Data & Surveying Services Intersection Turning Movement Count

Location: Livingston St & Randolph Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Livingston St			Livingston St			Randolph Rd			Randolph Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	1 NT	0 NR	0 SL	1 ST	0 SR	1 EL	3 ET	0 ER	1 WL	3 WT	0 WR	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL
APPROACH %'s :													0
PEAK HR :	07:15 AM - 08:15 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	1 NT	0 NR	0 SL	1 ST	0 SR	1 EL	3 ET	0 ER	1 WL	3 WT	0 WR	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	1	0	0	TOTAL
APPROACH %'s :										100.00%	0.00%	0.00%	1
PEAK HR :	04:30 PM - 05:30 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250

National Data & Surveying Services Intersection Turning Movement Count

Location: Livingston St & Randolph Rd
City: Silver Spring

Project ID: 22-280035-001
Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Livingston St		Livingston St		Randolph Rd		Randolph Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	0	0	1	1	0	0	0	0	2
6:45 AM	0	0	0	0	2	0	2	0	4
7:00 AM	0	0	0	1	1	1	1	0	4
7:15 AM	1	0	0	1	1	0	1	0	4
7:30 AM	1	1	0	0	1	1	1	0	5
7:45 AM	1	1	0	0	3	0	0	0	5
8:00 AM	0	0	0	0	0	0	1	0	1
8:15 AM	0	1	0	0	1	0	2	1	5
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	1	0	0	0	1
9:15 AM	0	0	1	0	1	0	0	0	2
TOTAL VOLUMES :	3	3	2	3	11	2	8	1	33
APPROACH %'s :	50.00%	50.00%	40.00%	60.00%	84.62%	15.38%	88.89%	11.11%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	3	2	0	1	5	1	3	0	15
PEAK HR FACTOR :	0.750	0.500	0.250		0.417	0.250	0.750	0.750	0.750

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	1	0	0	1	0	0	0	2
4:15 PM	0	0	0	0	0	1	2	0	3
4:30 PM	0	0	0	0	0	0	1	1	2
4:45 PM	0	1	0	0	0	0	0	0	1
5:00 PM	2	3	1	1	1	5	2	6	21
5:15 PM	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	1	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	1	1	0	1	2	0	5
6:15 PM	0	0	0	1	0	2	0	2	5
6:30 PM	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	1	0	2	0	3
TOTAL VOLUMES :	2	5	2	3	3	10	10	10	45
APPROACH %'s :	28.57%	71.43%	40.00%	60.00%	23.08%	76.92%	50.00%	50.00%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	2	4	1	1	1	5	4	7	25
PEAK HR FACTOR :	0.250	0.333	0.250	0.250	0.250	0.250	0.500	0.292	0.298

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Randolph Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Georgia Ave			Georgia Ave			Randolph Rd			Randolph Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	2 NL	3 NT	1 NR	2 SL	3 ST	1 SR	1.5 EL	0.5 ET	1 ER	2.5 WL	0.5 WT	1 WR	
6:30 AM	15	90	20	8	234	20	29	5	18	84	8	15	546
6:45 AM	25	90	26	18	289	28	29	6	35	98	4	18	666
7:00 AM	33	128	21	9	369	25	21	11	26	171	12	17	843
7:15 AM	52	153	52	19	411	36	47	23	38	128	12	27	998
7:30 AM	51	187	44	15	410	29	43	7	62	149	14	36	1047
7:45 AM	39	215	47	11	380	23	44	12	58	185	12	33	1059
8:00 AM	29	207	43	18	396	30	40	14	59	207	9	34	1086
8:15 AM	33	177	44	11	392	30	47	5	32	192	16	28	1007
8:30 AM	30	164	44	9	349	39	50	14	31	135	14	25	904
8:45 AM	26	152	42	13	342	54	39	6	30	154	13	43	914
9:00 AM	18	136	54	13	310	27	41	11	29	122	16	27	804
9:15 AM	28	151	50	23	286	28	34	10	40	103	13	24	790
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	379	1850	487	167	4168	369	464	124	458	1728	143	327	10664
	13.95%	68.11%	17.93%	3.55%	88.61%	7.84%	44.36%	11.85%	43.79%	78.62%	6.51%	14.88%	
PEAK HR :	07:30 AM - 08:30 AM												TOTAL
PEAK HR VOL :	152	786	178	55	1578	112	174	38	211	733	51	131	4199
PEAK HR FACTOR :	0.745	0.914	0.947	0.764	0.962	0.933	0.926	0.679	0.851	0.885	0.797	0.910	0.967
		0.927			0.961			0.928			0.915		

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	2 NL	3 NT	1 NR	2 SL	3 ST	1 SR	1.5 EL	0.5 ET	1 ER	2.5 WL	0.5 WT	1 WR	
4:00 PM	39	335	64	21	244	27	63	9	35	84	22	17	960
4:15 PM	32	371	103	19	225	34	56	20	39	71	10	17	997
4:30 PM	52	321	86	16	232	27	52	11	41	83	7	34	962
4:45 PM	50	371	89	20	280	37	60	11	35	95	17	35	1100
5:00 PM	38	318	104	22	223	41	83	14	35	86	10	33	1007
5:15 PM	37	363	71	26	232	42	67	13	44	93	13	29	1030
5:30 PM	34	371	85	22	259	30	60	10	31	73	19	27	1021
5:45 PM	28	384	79	16	264	28	80	8	42	97	14	25	1065
6:00 PM	39	338	74	18	251	41	75	15	29	93	9	21	1003
6:15 PM	35	332	83	21	249	25	54	12	21	75	20	22	949
6:30 PM	28	317	55	23	212	29	77	8	29	88	11	25	902
6:45 PM	29	324	71	17	239	31	70	10	47	69	10	28	945
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	441	4145	964	241	2910	392	797	141	428	1007	162	313	11941
	7.95%	74.68%	17.37%	6.80%	82.13%	11.06%	58.35%	10.32%	31.33%	67.95%	10.93%	21.12%	
PEAK HR :	04:45 PM - 05:45 PM												TOTAL
PEAK HR VOL :	159	1423	349	90	994	150	270	48	145	347	59	124	4158
PEAK HR FACTOR :	0.795	0.959	0.839	0.865	0.888	0.893	0.813	0.857	0.824	0.913	0.776	0.886	0.945
		0.947			0.915			0.877			0.901		

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Randolph Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Georgia Ave			Georgia Ave			Randolph Rd			Randolph Rd				
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	2 NL	3 NT	1 NR	2 SL	3 ST	1 SR	1.5 EL	0.5 ET	1 ER	2.5 WL	0.5 WT	1 WR		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	0	0	0	1	0	0	0	0	0	0	0	0	TOTAL	1
APPROACH %'s :				100.00%	0.00%	0.00%								
PEAK HR :	07:30 AM - 08:30 AM												TOTAL	
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	2 NL	3 NT	1 NR	2 SL	3 ST	1 SR	1.5 EL	0.5 ET	1 ER	2.5 WL	0.5 WT	1 WR		
4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	1	0	0	0	0	1	0	0	2	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	
6:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	
TOTAL VOLUMES :	0	3	0	0	2	0	1	0	0	2	0	0	TOTAL	8
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%		
PEAK HR :	04:45 PM - 05:45 PM												TOTAL	
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	TOTAL	1
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.250

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Randolph Rd
City: Silver Spring

Project ID: 22-280035-002
Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Georgia Ave		Georgia Ave		Randolph Rd		Randolph Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	0	0	0	0	5	1	1	0	7
6:45 AM	1	3	0	0	7	2	0	0	13
7:00 AM	1	2	0	0	3	1	0	0	7
7:15 AM	0	4	1	0	10	2	2	1	20
7:30 AM	3	1	0	0	3	1	2	0	10
7:45 AM	0	3	1	0	6	5	1	0	16
8:00 AM	1	1	1	0	2	4	2	1	12
8:15 AM	0	3	0	0	3	2	0	2	10
8:30 AM	0	0	1	2	3	2	2	2	12
8:45 AM	0	2	0	0	4	3	0	2	11
9:00 AM	0	0	0	0	1	4	1	0	6
9:15 AM	0	3	0	1	4	2	0	1	11
TOTAL VOLUMES :	6	22	4	3	51	29	11	9	135
APPROACH %'s :	21.43%	78.57%	57.14%	42.86%	63.75%	36.25%	55.00%	45.00%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	4	8	2	0	14	12	5	3	48
PEAK HR FACTOR :	0.333	0.667	0.500		0.583	0.600	0.625	0.375	0.750
	0.750		0.500		0.591		0.667		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	3	1	0	12	8	0	0	24
4:15 PM	0	1	2	0	1	3	3	3	13
4:30 PM	0	1	0	1	12	13	3	1	31
4:45 PM	2	3	0	1	3	10	0	1	20
5:00 PM	1	0	2	2	1	13	4	2	25
5:15 PM	0	0	0	0	3	3	1	1	8
5:30 PM	0	3	1	0	1	4	1	2	12
5:45 PM	0	0	0	0	3	4	0	0	7
6:00 PM	2	0	0	1	8	11	2	0	24
6:15 PM	1	1	1	2	1	2	0	0	8
6:30 PM	0	0	0	1	1	4	0	2	8
6:45 PM	0	2	0	0	7	8	2	2	21
TOTAL VOLUMES :	6	14	7	8	53	83	16	14	201
APPROACH %'s :	30.00%	70.00%	46.67%	53.33%	38.97%	61.03%	53.33%	46.67%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	3	6	3	3	8	30	6	6	65
PEAK HR FACTOR :	0.375	0.500	0.375	0.375	0.667	0.577	0.375	0.750	0.650
	0.450		0.375		0.679		0.500		

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenmont Cir & Randolph Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Glenmont Cir				Glenmont Cir				Randolph Rd			Randolph Rd				EASTBOUND2		TOTAL
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND			WESTBOUND				E2L2	E2T2	
	0.5	0.5	1	0	0	2	0	0	0	1	0	1	4	0	0	0	0	0
	NL	NT	NR	NL2	SL	ST	SR	SR2	EL	ET	ER	WL	WT	WR	WT2	E2L2	E2T2	TOTAL
6:30 AM	11	0	4	8	8	0	2	0	0	32	0	3	84	2	213	2	60	429
6:45 AM	8	1	3	2	8	0	1	0	0	43	0	3	115	6	226	1	95	512
7:00 AM	7	4	4	5	5	3	2	1	0	35	0	1	186	5	288	0	94	640
7:15 AM	8	2	2	10	11	5	9	2	0	84	0	4	152	9	279	3	148	728
7:30 AM	13	1	7	7	11	1	9	2	0	59	0	6	178	4	296	5	149	748
7:45 AM	9	1	5	3	9	2	6	0	0	61	1	2	210	11	264	5	156	745
8:00 AM	7	6	3	3	7	1	14	1	0	66	0	5	234	7	283	5	146	788
8:15 AM	7	1	2	7	15	3	13	1	0	53	0	6	211	8	303	3	132	765
8:30 AM	10	7	10	1	18	0	8	1	0	60	0	11	159	11	312	3	120	731
8:45 AM	6	4	1	3	19	5	13	1	0	55	0	15	179	10	271	3	150	735
9:00 AM	9	2	4	2	16	2	18	1	0	66	0	13	147	12	206	7	135	640
9:15 AM	9	1	1	3	20	3	13	2	0	78	0	3	113	7	193	4	118	568
TOTAL VOLUMES :	NL	NT	NR	NL2	SL	ST	SR	SR2	EL	ET	ER	WL	WT	WR	WT2	E2L2	E2T2	TOTAL
APPROACH %'s :	104	30	46	54	147	25	108	12	0	692	1	72	1968	92	3134	41	1503	8029
	44.44%	12.82%	19.66%	23.08%	50.34%	8.56%	36.99%	4.11%	0.00%	99.86%	0.14%	1.37%	37.37%	1.75%	59.51%	2.66%	97.34%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL	
PEAK HR VOL :	36	9	17	20	42	7	42	4	0	239	1	19	833	30	1146	18	583	3046
PEAK HR FACTOR :	0.692	0.375	0.607	0.714	0.700	0.583	0.750	0.500	0.000	0.905	0.250	0.792	0.890	0.682	0.946	0.900	0.934	0.966
	0.732				0.742				0.909			0.958						

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND			WESTBOUND				E2L2	E2T2	TOTAL
	0.5	0.5	1	0	0	2	0	0	0	1	0	1	4	0	0	0	0	
	NL	NT	NR	NL2	SL	ST	SR	SR2	EL	ET	ER	WL	WT	WR	WT2	E2L2	E2T2	TOTAL
4:00 PM	7	3	2	1	20	2	21	2	0	88	1	9	90	29	181	3	281	740
4:15 PM	8	6	6	4	24	6	21	6	0	112	0	7	70	12	128	10	254	674
4:30 PM	9	6	4	1	12	0	11	4	0	98	1	6	98	23	168	5	262	708
4:45 PM	13	4	4	1	20	6	19	7	0	104	0	6	121	18	164	8	249	744
5:00 PM	10	2	5	4	19	7	15	3	0	107	3	9	95	17	127	14	294	731
5:15 PM	12	5	2	4	23	4	23	7	0	107	0	9	97	21	167	4	275	760
5:30 PM	14	8	1	2	15	9	23	3	0	103	1	7	90	19	150	8	268	721
5:45 PM	9	11	3	5	22	1	26	3	0	82	0	9	96	22	164	7	274	734
6:00 PM	9	5	2	5	19	6	16	4	0	95	1	7	93	21	139	9	281	712
6:15 PM	10	6	3	5	27	7	22	5	0	102	0	4	87	14	138	8	261	699
6:30 PM	10	6	1	10	15	2	19	2	0	75	0	11	90	16	110	5	214	586
6:45 PM	12	4	4	3	17	4	17	10	0	87	0	5	76	15	104	11	166	535
TOTAL VOLUMES :	NL	NT	NR	NL2	SL	ST	SR	SR2	EL	ET	ER	WL	WT	WR	WT2	E2L2	E2T2	TOTAL
APPROACH %'s :	123	66	37	45	233	54	233	56	0	1160	7	89	1103	227	1740	92	3079	8344
	45.39%	24.35%	13.65%	16.61%	40.45%	9.38%	40.45%	9.72%	0.00%	99.40%	0.60%	2.82%	34.92%	7.19%	55.08%	2.90%	97.10%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL	
PEAK HR VOL :	49	19	12	11	77	26	80	20	0	421	4	31	403	75	608	34	1086	2956
PEAK HR FACTOR :	0.875	0.594	0.600	0.688	0.837	0.722	0.870	0.714	0.000	0.984	0.333	0.861	0.833	0.893	0.910	0.607	0.923	0.972
	0.910				0.890				0.966			0.904						

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenmont Cir & Randolph Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Glenmont Cir				Glenmont Cir				Randolph Rd			Randolph Rd						
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND			WESTBOUND				EASTBOUND2		TOTAL
	0.5 NL	0.5 NT	1 NR	0 NL2	0 SL	2 ST	0 SR	0 SR2	0 EL	1 ET	0 ER	1 WL	4 WT	0 WR	0 WT2	0 E2L2	0 E2T2	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NL2	SL	ST	SR	SR2	EL	ET	ER	WL	WT	WR	WT2	E2L2	E2T2	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0.00%	100.00%	0.00%	0	0	0	0	0	0	1
PEAK HR :	07:30 AM - 08:30 AM																	
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND			WESTBOUND				EASTBOUND2		TOTAL
	0.5 NL	0.5 NT	1 NR	0 NL2	0 SL	2 ST	0 SR	0 SR2	0 EL	1 ET	0 ER	1 WL	4 WT	0 WR	0 WT2	0 E2L2	0 E2T2	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:45 PM	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	3
TOTAL VOLUMES :	NL	NT	NR	NL2	SL	ST	SR	SR2	EL	ET	ER	WL	WT	WR	WT2	E2L2	E2T2	TOTAL
APPROACH %'s :	0	2	0	0	1	1	1	0	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	7
PEAK HR :	04:45 PM - 05:45 PM																	
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenmont Cir & Randolph Rd
City: Silver Spring

Project ID: 22-280035-003
Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Glenmont Cir		Glenmont Cir		Randolph Rd		Randolph Rd				
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		WEST LEG 2		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	
6:30 AM	0	1	0	0	6	0	0	0	0	0	7
6:45 AM	2	2	1	0	6	0	0	0	0	0	11
7:00 AM	1	2	1	0	3	1	0	0	0	0	8
7:15 AM	1	0	0	3	6	1	0	0	0	0	11
7:30 AM	1	0	2	0	5	0	0	0	0	0	8
7:45 AM	1	0	0	0	0	0	0	0	0	0	1
8:00 AM	2	0	3	0	1	0	0	0	0	0	6
8:15 AM	0	1	0	1	4	2	0	0	0	0	8
8:30 AM	0	1	1	0	0	0	0	0	0	0	2
8:45 AM	2	3	0	2	2	2	0	0	0	0	11
9:00 AM	0	1	1	0	4	2	0	0	0	0	8
9:15 AM	0	0	1	1	2	0	0	1	0	1	6
TOTAL VOLUMES :	10	11	10	7	39	8	0	1	0	1	TOTAL 87
APPROACH %'s :	47.62%	52.38%	58.82%	41.18%	82.98%	17.02%	0.00%	100.00%	0.00%	100.00%	
PEAK HR :	07:30 AM - 08:30 AM										TOTAL 23
PEAK HR VOL :	4	1	5	1	10	2	0	0	0	0	
PEAK HR FACTOR :	0.500	0.250	0.417	0.250	0.500	0.250					0.719
	0.625		0.500		0.500						

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		WEST LEG 2		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	
4:00 PM	0	2	0	1	3	1	0	0	0	0	7
4:15 PM	0	0	1	2	3	3	0	0	0	0	9
4:30 PM	1	0	0	1	1	4	0	0	0	0	7
4:45 PM	3	0	0	4	11	3	0	0	0	0	21
5:00 PM	2	0	1	0	6	5	0	0	0	0	14
5:15 PM	2	0	2	0	3	7	0	1	0	1	16
5:30 PM	2	0	1	1	3	6	0	0	0	0	13
5:45 PM	0	1	0	0	3	2	0	0	0	0	6
6:00 PM	4	0	0	0	2	4	0	0	0	0	10
6:15 PM	0	2	0	1	1	4	0	0	0	0	8
6:30 PM	1	0	0	0	3	2	0	0	0	0	6
6:45 PM	4	0	0	0	0	3	0	0	0	0	7
TOTAL VOLUMES :	19	5	5	10	39	44	0	1	0	1	TOTAL 124
APPROACH %'s :	79.17%	20.83%	33.33%	66.67%	46.99%	53.01%	0.00%	100.00%	0.00%	100.00%	
PEAK HR :	04:45 PM - 05:45 PM										TOTAL 64
PEAK HR VOL :	9	0	4	5	23	21	0	1	0	1	
PEAK HR FACTOR :	0.750		0.500	0.313	0.523	0.750		0.250		0.250	0.762
	0.750		0.563		0.786		0.250		0.250		

National Data & Surveying Services Intersection Turning Movement Count

Location: Residential Dwy/Universal Hardwood & Painting Dwy & Randolph Rd
 City: Silver Spring
 Control: 1-Way Stop(NB)

Project ID: 22-280035-
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Residential Dwy/Universal Hardwood & Painting Dwy			Residential Dwy/Universal Hardwood & Painting Dwy			Randolph Rd			Randolph Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
6:30 AM	0	0	9	0	0	0	0	102	1	0	0	0	112
6:45 AM	0	0	6	0	0	0	0	150	1	0	0	0	157
7:00 AM	0	0	8	0	0	0	0	132	0	0	0	0	140
7:15 AM	0	0	10	0	0	0	0	248	0	0	0	0	258
7:30 AM	0	0	11	0	0	0	0	227	2	0	0	0	240
7:45 AM	0	0	4	0	0	0	0	227	0	0	0	0	231
8:00 AM	0	0	7	0	0	0	0	226	0	0	0	0	233
8:15 AM	0	0	5	0	0	0	0	196	1	0	0	0	202
8:30 AM	0	0	20	0	0	0	0	213	1	0	0	0	234
8:45 AM	0	0	8	0	0	0	0	222	1	0	0	0	231
9:00 AM	0	0	2	0	0	0	0	220	0	0	0	0	222
9:15 AM	0	0	3	0	0	0	0	219	0	0	0	0	222
TOTAL VOLUMES :	0	0	93	0	0	0	0	2382	7	0	0	0	2482
APPROACH %'s :	0.00%	0.00%	100.00%				0.00%	99.71%	0.29%				
PEAK HR :	07:15 AM - 08:15 AM												TOTAL
PEAK HR VOL :	0	0	32	0	0	0	0	928	2	0	0	0	962
PEAK HR FACTOR :	0.000	0.000	0.727	0.000	0.000	0.000	0.000	0.935	0.250	0.000	0.000	0.000	0.932
			0.727					0.938					
PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	0	0	5	0	0	0	0	395	2	0	0	0	402
4:15 PM	0	0	6	0	0	0	0	390	3	0	0	0	399
4:30 PM	0	0	6	0	0	0	0	379	2	0	0	0	387
4:45 PM	0	0	9	0	0	0	0	370	1	0	0	0	380
5:00 PM	0	0	7	0	0	0	0	428	3	0	0	0	438
5:15 PM	0	0	7	0	0	0	0	402	4	0	0	0	413
5:30 PM	0	0	6	0	0	0	0	387	4	0	0	0	397
5:45 PM	0	0	3	0	0	0	0	378	3	0	0	0	384
6:00 PM	0	0	3	0	0	0	0	395	5	0	0	0	403
6:15 PM	0	0	4	0	0	0	0	389	4	0	0	0	397
6:30 PM	0	0	2	0	0	0	0	301	3	0	0	0	306
6:45 PM	0	0	3	0	0	0	0	275	4	0	0	0	282
TOTAL VOLUMES :	0	0	61	0	0	0	0	4489	38	0	0	0	4588
APPROACH %'s :	0.00%	0.00%	100.00%				0.00%	99.16%	0.84%				
PEAK HR :	05:00 PM - 06:00 PM												TOTAL
PEAK HR VOL :	0	0	23	0	0	0	0	1595	14	0	0	0	1632
PEAK HR FACTOR :	0.000	0.000	0.821	0.000	0.000	0.000	0.000	0.932	0.875	0.000	0.000	0.000	0.932
			0.821					0.933					

National Data & Surveying Services Intersection Turning Movement Count

Location: Residential Dwy/Universal Hardwood & Painting Dwy & Randolph Rd
 City: Silver Spring
 Control: 1-Way Stop(NB)

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Residential Dwy/Universal Hardwood & Painting Dwy			Residential Dwy/Universal Hardwood & Painting Dwy			Randolph Rd			Randolph Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	1 NT	0 NR	0 SL	0 ST	0 SR	0 EL	3 ET	0 ER	0 WL	4 WT	0 WR	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	0	0	0	0	0	1	0	0	0	0	TOTAL
APPROACH %'s :							0.00%	100.00%	0.00%				1
PEAK HR :	07:15 AM - 08:15 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	1 NT	0 NR	0 SL	0 ST	0 SR	0 EL	3 ET	0 ER	0 WL	4 WT	0 WR	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES :	0	0	0	0	0	0	0	2	0	0	1	0	TOTAL
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	3
PEAK HR :	05:00 PM - 06:00 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

National Data & Surveying Services Intersection Turning Movement Count

Location: Residential Dwy/Universal Hardwood & Painting Dwy & Randolph Rd Project ID: 22-280035-004
City: Silver Spring Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Residential Dwy/Universal Hardwood & Painting Dwy		Residential Dwy/Universal Hardwood & Painting Dwy		Randolph Rd		Randolph Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0	1
7:30 AM	0	0	4	0	0	0	0	0	4
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	1	0	0	0	0	3
8:15 AM	0	0	0	0	1	0	0	0	1
8:30 AM	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	4	0	0	0	0	4
9:00 AM	0	0	1	1	0	0	0	0	2
9:15 AM	0	0	1	0	0	0	0	0	1
TOTAL VOLUMES :	0	0	10	6	1	0	0	0	17
APPROACH %'s :			62.50%	37.50%	100.00%	0.00%			
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	7	1	0	0	0	0	8
PEAK HR FACTOR :			0.438	0.250					0.500

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	3	0	0	0	0	0	3
4:15 PM	0	0	1	2	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	1	0	2
5:30 PM	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	5	2	0	0	1	1	9
APPROACH %'s :			71.43%	28.57%			50.00%	50.00%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	0	0	1	0	0	0	1	1	3
PEAK HR FACTOR :			0.250	0.250			0.250	0.250	0.375

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenallan Ave & Randolph Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Glenallan Ave			Glenallan Ave			Randolph Rd			Randolph Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	1 NT	0 NR	0 SL	2 ST	0 SR	1 EL	3 ET	0 ER	1 WL	3 WT	0 WR	
6:30 AM	3	3	0	34	4	15	3	109	1	0	280	54	506
6:45 AM	6	4	0	42	4	21	7	144	3	1	307	49	588
7:00 AM	7	1	1	57	9	25	7	134	1	1	398	43	684
7:15 AM	10	2	1	88	12	25	9	232	8	1	397	48	833
7:30 AM	13	22	0	69	14	24	6	229	13	0	459	51	900
7:45 AM	12	44	0	83	15	13	6	216	9	0	479	66	943
8:00 AM	18	24	0	74	8	25	14	208	7	1	479	46	904
8:15 AM	12	16	0	62	18	24	7	186	6	1	506	35	873
8:30 AM	16	10	1	58	14	20	7	216	16	1	424	37	820
8:45 AM	30	25	0	67	11	21	5	212	8	2	408	37	826
9:00 AM	11	6	1	40	9	19	8	215	4	1	349	40	703
9:15 AM	4	2	2	57	12	14	6	203	11	1	307	31	650
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	142	159	6	731	130	246	85	2304	87	10	4793	537	9230
	46.25%	51.79%	1.95%	66.03%	11.74%	22.22%	3.43%	93.05%	3.51%	0.19%	89.76%	10.06%	
PEAK HR :	07:30 AM - 08:30 AM												TOTAL
PEAK HR VOL :	55	106	0	288	55	86	33	839	35	2	1923	198	3620
PEAK HR FACTOR :	0.764	0.602	0.000	0.867	0.764	0.860	0.589	0.916	0.673	0.500	0.950	0.750	0.960
		0.719			0.966			0.914			0.974		

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	1 NT	0 NR	0 SL	2 ST	0 SR	1 EL	3 ET	0 ER	1 WL	3 WT	0 WR	
4:00 PM	9	10	1	49	8	19	11	388	8	0	305	51	859
4:15 PM	5	15	0	52	7	5	14	369	11	0	189	29	696
4:30 PM	6	5	2	83	4	12	13	362	5	2	272	42	808
4:45 PM	7	4	0	44	7	16	17	358	11	2	281	71	818
5:00 PM	8	8	0	74	6	21	27	396	5	0	226	49	820
5:15 PM	10	9	3	50	8	15	19	388	9	1	281	51	844
5:30 PM	14	15	2	56	4	18	25	358	6	3	217	56	774
5:45 PM	7	8	3	39	3	22	17	362	6	1	292	70	830
6:00 PM	9	4	0	63	9	27	18	369	5	1	219	49	773
6:15 PM	6	3	0	49	6	17	20	368	10	1	218	43	741
6:30 PM	3	9	0	46	1	11	18	269	4	2	200	58	621
6:45 PM	5	1	1	43	1	10	15	264	9	1	177	43	570
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	89	91	12	648	64	193	214	4251	89	14	2877	612	9154
	46.35%	47.40%	6.25%	71.60%	7.07%	21.33%	4.70%	93.35%	1.95%	0.40%	82.13%	17.47%	
PEAK HR :	04:30 PM - 05:30 PM												TOTAL
PEAK HR VOL :	31	26	5	251	25	64	76	1504	30	5	1060	213	3290
PEAK HR FACTOR :	0.775	0.722	0.417	0.756	0.781	0.762	0.704	0.949	0.682	0.625	0.943	0.750	0.975
		0.705			0.842			0.940			0.903		

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenallan Ave & Randolph Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Glenallan Ave			Glenallan Ave			Randolph Rd			Randolph Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	1 NT	0 NR	0 SL	2 ST	0 SR	1 EL	3 ET	0 ER	1 WL	3 WT	0 WR	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	0	1	0	0	0	1	0	0	0	0	TOTAL
APPROACH %'s :				100.00%	0.00%	0.00%	0.00%	100.00%	0.00%				2
PEAK HR :	07:30 AM - 08:30 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	1 NT	0 NR	0 SL	2 ST	0 SR	1 EL	3 ET	0 ER	1 WL	3 WT	0 WR	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	1	0	0	1	0	0	0	1	0	0	0	1	TOTAL
APPROACH %'s :	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	4
PEAK HR :	04:30 PM - 05:30 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	0	0	0	1	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.500

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenallan Ave & Randolph Rd
City: Silver Spring

Project ID: 22-280035-005
Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Glenallan Ave		Glenallan Ave		Randolph Rd		Randolph Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	0	0	1	0	0	0	0	0	1
6:45 AM	1	0	0	2	0	0	2	0	5
7:00 AM	4	1	0	0	0	0	1	0	6
7:15 AM	4	0	5	0	2	3	1	0	15
7:30 AM	5	0	10	0	1	0	2	0	18
7:45 AM	2	0	0	0	0	1	0	0	3
8:00 AM	1	1	1	1	0	1	2	0	7
8:15 AM	2	0	4	1	0	9	0	0	16
8:30 AM	0	3	40	3	3	65	0	0	114
8:45 AM	4	3	22	22	25	11	1	0	88
9:00 AM	4	1	1	1	1	4	0	0	12
9:15 AM	1	4	0	2	4	0	1	0	12
TOTAL VOLUMES :	EB 28	WB 13	EB 84	WB 32	NB 36	SB 94	NB 10	SB 0	TOTAL 297
APPROACH %'s :	68.29%	31.71%	72.41%	27.59%	27.69%	72.31%	100.00%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	10	1	15	2	1	11	4	0	44
PEAK HR FACTOR :	0.500	0.250	0.375	0.500	0.250	0.306	0.500	0.500	0.611
	0.550		0.425		0.333		0.500		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	5	2	1	0	1	1	3	1	14
4:15 PM	2	2	2	2	0	0	0	2	10
4:30 PM	1	1	0	0	0	2	0	0	4
4:45 PM	0	1	0	0	0	0	0	0	1
5:00 PM	2	6	0	2	0	0	1	0	11
5:15 PM	4	0	0	0	0	0	0	0	4
5:30 PM	1	0	0	0	0	0	0	1	2
5:45 PM	0	1	0	3	0	0	0	0	4
6:00 PM	3	1	0	0	0	1	0	0	5
6:15 PM	0	3	0	0	2	0	0	1	6
6:30 PM	2	0	1	1	0	0	0	1	5
6:45 PM	2	0	0	1	0	0	0	0	3
TOTAL VOLUMES :	EB 22	WB 17	EB 4	WB 9	NB 3	SB 4	NB 4	SB 6	TOTAL 69
APPROACH %'s :	56.41%	43.59%	30.77%	69.23%	42.86%	57.14%	40.00%	60.00%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	7	8	0	2	0	2	1	0	20
PEAK HR FACTOR :	0.438	0.333	0	0.250	0	0.250	0.250	0.250	0.455
	0.469		0.250		0.250		0.250		

National Data & Surveying Services Intersection Turning Movement Count

Location: Garden Gate Rd/Middlevale Ln & Randolph Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Garden Gate Rd/Middlevale Ln			Garden Gate Rd/Middlevale Ln			Randolph Rd			Randolph Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	2 NT	0 NR	0 SL	2 ST	0 SR	1 EL	3 ET	0 ER	1 WL	3 WT	0 WR	
6:30 AM	2	0	5	9	1	3	3	130	0	4	342	17	516
6:45 AM	6	2	2	14	0	8	5	171	3	4	359	11	585
7:00 AM	11	1	2	30	1	20	5	192	4	10	489	9	774
7:15 AM	12	0	0	50	3	38	24	279	3	16	454	14	893
7:30 AM	11	3	5	54	2	32	36	279	4	24	441	27	918
7:45 AM	5	2	2	39	3	16	4	289	1	28	566	44	999
8:00 AM	7	5	2	30	5	5	4	256	8	14	535	22	893
8:15 AM	8	7	7	29	5	6	6	235	1	8	540	36	888
8:30 AM	12	5	2	43	1	12	1	224	1	14	473	17	805
8:45 AM	18	12	21	28	7	12	3	237	4	4	386	19	751
9:00 AM	10	4	5	17	1	6	7	262	2	2	329	18	663
9:15 AM	3	2	3	16	1	8	4	249	1	3	333	18	641
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	105	43	56	359	30	166	102	2803	32	131	5247	252	9326
	51.47%	21.08%	27.45%	64.68%	5.41%	29.91%	3.47%	95.44%	1.09%	2.33%	93.20%	4.48%	
PEAK HR :	07:15 AM - 08:15 AM												TOTAL
PEAK HR VOL :	35	10	9	173	13	91	68	1103	16	82	1996	107	3703
PEAK HR FACTOR :	0.729	0.500	0.450	0.801	0.650	0.599	0.472	0.954	0.500	0.732	0.882	0.608	0.927
		0.711			0.761			0.930			0.856		

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	2 NT	0 NR	0 SL	2 ST	0 SR	1 EL	3 ET	0 ER	1 WL	3 WT	0 WR	
4:00 PM	3	5	3	21	4	5	5	398	9	4	344	42	843
4:15 PM	9	3	3	22	1	9	2	401	2	8	180	42	682
4:30 PM	7	2	5	26	2	8	7	413	6	9	312	48	845
4:45 PM	5	0	3	28	2	9	5	403	7	9	318	33	822
5:00 PM	6	0	2	30	1	5	11	437	9	11	321	31	864
5:15 PM	6	5	3	27	1	5	2	433	8	6	294	35	825
5:30 PM	5	3	5	19	0	4	3	393	7	4	281	54	778
5:45 PM	9	1	2	28	2	6	5	411	6	6	310	38	824
6:00 PM	7	7	1	20	1	5	6	403	4	6	264	26	750
6:15 PM	9	5	2	11	1	13	5	384	8	3	254	29	724
6:30 PM	2	0	1	21	1	1	4	325	9	7	240	36	647
6:45 PM	6	2	1	8	2	6	3	285	6	6	184	27	536
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	74	33	31	261	18	76	58	4686	81	79	3302	441	9140
	53.62%	23.91%	22.46%	73.52%	5.07%	21.41%	1.20%	97.12%	1.68%	2.07%	86.39%	11.54%	
PEAK HR :	04:30 PM - 05:30 PM												TOTAL
PEAK HR VOL :	24	7	13	111	6	27	25	1686	30	35	1245	147	3356
PEAK HR FACTOR :	0.857	0.350	0.650	0.925	0.750	0.750	0.568	0.965	0.833	0.795	0.970	0.766	0.971
		0.786			0.923			0.952			0.967		

National Data & Surveying Services Intersection Turning Movement Count

Location: Garden Gate Rd/Middlevale Ln & Randolph Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Garden Gate Rd/Middlevale Ln			Garden Gate Rd/Middlevale Ln			Randolph Rd			Randolph Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	0	0	0	0	0	1	0	0	0	0	1
APPROACH %'s :							0.00%	100.00%	0.00%				
PEAK HR :	07:15 AM - 08:15 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	0	0	0	1	1	0	0	0	0	0	2
APPROACH %'s :				0.00%	0.00%	100.00%	100.00%	0.00%	0.00%				
PEAK HR :	04:30 PM - 05:30 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250

National Data & Surveying Services Intersection Turning Movement Count

Location: Garden Gate Rd/Middlevale Ln & Randolph Rd
City: Silver Spring

Project ID: 22-280035-006
Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Garden Gate Rd/Middlevale Ln		Garden Gate Rd/Middlevale Ln		Randolph Rd		Randolph Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	1	0	1	0	3	0	0	0	5
6:45 AM	1	0	7	0	8	0	0	0	16
7:00 AM	6	0	0	1	0	0	0	0	7
7:15 AM	13	1	4	0	5	0	0	0	23
7:30 AM	82	2	5	0	25	0	43	0	157
7:45 AM	12	2	3	0	8	0	0	0	25
8:00 AM	8	0	19	0	19	0	4	0	50
8:15 AM	8	0	2	0	2	0	5	3	20
8:30 AM	6	0	1	0	1	0	4	0	12
8:45 AM	2	0	1	1	4	0	1	0	9
9:00 AM	0	0	1	0	0	0	0	0	1
9:15 AM	4	0	2	0	2	0	1	0	9
TOTAL VOLUMES :	143	5	46	2	77	0	58	3	334
APPROACH %'s :	96.62%	3.38%	95.83%	4.17%	100.00%	0.00%	95.08%	4.92%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	115	5	31	0	57	0	47	0	255
PEAK HR FACTOR :	0.351	0.625	0.408		0.570		0.273		0.406
	0.357		0.408		0.570		0.273		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	4	3	0	0	0	0	4	1	12
4:15 PM	0	2	0	1	0	0	0	2	5
4:30 PM	1	1	0	0	0	0	1	0	3
4:45 PM	0	4	0	0	0	0	1	0	5
5:00 PM	1	0	0	0	0	1	0	0	2
5:15 PM	0	0	0	1	0	1	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0
6:15 PM	1	0	2	0	2	0	1	1	7
6:30 PM	0	2	0	0	0	0	0	0	2
6:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	7	12	2	2	2	3	7	4	39
APPROACH %'s :	36.84%	63.16%	50.00%	50.00%	40.00%	60.00%	63.64%	36.36%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	2	5	0	1	0	2	2	0	12
PEAK HR FACTOR :	0.500	0.313		0.250		0.500	0.500		0.600
	0.438		0.250		0.500		0.500		

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Layhill Rd/Judson Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Georgia Ave			Georgia Ave			Layhill Rd/Judson Rd			Layhill Rd/Judson Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	2.5 NT	0.5 NR	1 SL	3 ST	0 SR	0.5 EL	0.5 ET	1 ER	0 WL	2 WT	1 WR	
6:30 AM	0	98	42	12	195	0	0	1	8	95	0	5	456
6:45 AM	0	92	43	8	174	0	0	1	2	148	0	2	470
7:00 AM	0	107	51	13	243	0	0	0	3	176	0	6	599
7:15 AM	0	130	68	14	287	0	2	0	2	223	0	3	729
7:30 AM	0	191	68	14	238	0	5	2	4	224	0	7	753
7:45 AM	0	192	110	14	195	0	1	2	3	219	0	6	742
8:00 AM	0	161	86	12	245	0	3	2	3	217	0	11	740
8:15 AM	0	142	113	13	273	0	0	1	5	206	0	6	759
8:30 AM	0	139	84	8	204	0	2	0	4	172	0	4	617
8:45 AM	0	166	59	20	254	0	2	0	1	182	0	6	690
9:00 AM	0	131	66	17	228	0	1	2	7	140	0	3	595
9:15 AM	0	131	66	12	216	0	1	1	0	130	0	4	561
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	0	1680	856	157	2752	0	17	12	42	2132	0	63	7711
	0.00%	66.25%	33.75%	5.40%	94.60%	0.00%	23.94%	16.90%	59.15%	97.13%	0.00%	2.87%	
PEAK HR :	07:30 AM - 08:30 AM												TOTAL
PEAK HR VOL :	0	686	377	53	951	0	9	7	15	866	0	30	2994
PEAK HR FACTOR :	0.000	0.893	0.834	0.946	0.871	0.000	0.450	0.875	0.750	0.967	0.000	0.682	0.986
		0.880			0.878			0.705			0.970		

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	2.5 NT	0.5 NR	1 SL	3 ST	0 SR	0.5 EL	0.5 ET	1 ER	0 WL	2 WT	1 WR	
4:00 PM	0	264	148	26	208	0	1	2	2	105	0	5	761
4:15 PM	0	277	171	20	180	0	4	4	2	127	0	12	797
4:30 PM	0	246	137	27	188	0	1	2	1	125	0	5	732
4:45 PM	0	289	178	25	223	0	5	5	1	133	0	15	874
5:00 PM	0	251	161	30	170	0	4	3	3	142	0	6	770
5:15 PM	0	293	145	21	179	0	3	9	2	125	0	16	793
5:30 PM	0	308	154	31	225	0	1	1	1	115	0	11	847
5:45 PM	0	278	176	17	181	0	2	3	1	139	0	13	810
6:00 PM	0	258	169	25	203	0	5	0	3	125	0	17	805
6:15 PM	0	233	140	22	192	0	1	2	1	128	0	12	731
6:30 PM	0	242	157	26	164	0	2	2	3	114	0	14	724
6:45 PM	0	273	140	23	199	0	0	2	3	107	0	13	760
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	0	3212	1876	293	2312	0	29	35	23	1485	0	139	9404
	0.00%	63.13%	36.87%	11.25%	88.75%	0.00%	33.33%	40.23%	26.44%	91.44%	0.00%	8.56%	
PEAK HR :	04:45 PM - 05:45 PM												TOTAL
PEAK HR VOL :	0	1141	638	107	797	0	13	18	7	515	0	48	3284
PEAK HR FACTOR :	0.000	0.926	0.896	0.863	0.886	0.000	0.650	0.500	0.583	0.907	0.000	0.750	0.939
		0.952			0.883			0.679			0.951		

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Layhill Rd/Judson Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Georgia Ave			Georgia Ave			Layhill Rd/Judson Rd			Layhill Rd/Judson Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	2.5 NT	0.5 NR	1 SL	3 ST	0 SR	0.5 EL	0.5 ET	1 ER	0 WL	2 WT	1 WR	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	0	0	1	0	0	0	1	0	0	0	TOTAL
APPROACH %'s :				0.00%	100.00%	0.00%	0.00%	0.00%	100.00%				2
PEAK HR :	07:30 AM - 08:30 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	1	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	2.5 NT	0.5 NR	1 SL	3 ST	0 SR	0.5 EL	0.5 ET	1 ER	0 WL	2 WT	1 WR	
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	1	1	1	0	2	1	0	0	0	0	0	0	TOTAL
APPROACH %'s :	33.33%	33.33%	33.33%	0.00%	66.67%	33.33%							6
PEAK HR :	04:45 PM - 05:45 PM												TOTAL
PEAK HR VOL :	0	1	0	0	1	0	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Layhill Rd/Judson Rd
City: Silver Spring

Project ID: 22-280035-007
Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Georgia Ave		Georgia Ave		Layhill Rd/Judson Rd		Layhill Rd/Judson Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	0	2	0	0	4	2	0	0	8
6:45 AM	0	3	0	0	4	2	1	0	10
7:00 AM	2	1	0	0	4	3	1	0	11
7:15 AM	0	1	0	0	1	4	1	0	7
7:30 AM	0	1	0	0	5	4	1	1	12
7:45 AM	1	0	0	0	1	4	1	0	7
8:00 AM	1	2	0	1	1	5	0	1	11
8:15 AM	1	2	0	0	2	0	1	2	8
8:30 AM	2	1	0	0	4	4	2	1	14
8:45 AM	0	1	0	0	3	3	1	0	8
9:00 AM	0	0	0	0	2	2	0	0	4
9:15 AM	0	0	0	0	2	1	1	0	4
TOTAL VOLUMES :	EB 7	WB 14	EB 0	WB 1	NB 33	SB 34	NB 10	SB 5	TOTAL 104
APPROACH %'s :	33.33%	66.67%	0.00%	100.00%	49.25%	50.75%	66.67%	33.33%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	3	5	0	1	9	13	3	4	38
PEAK HR FACTOR :	0.750	0.625	0.250		0.450	0.650	0.750	0.500	0.792
	0.667				0.611		0.583		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	4	0	0	3	5	0	2	14
4:15 PM	0	4	0	0	7	6	0	3	20
4:30 PM	0	2	1	0	3	4	1	0	11
4:45 PM	1	0	0	0	3	4	0	1	9
5:00 PM	4	2	0	0	1	5	2	1	15
5:15 PM	4	2	0	0	0	4	1	2	13
5:30 PM	2	0	0	0	2	6	0	1	11
5:45 PM	0	2	0	0	2	3	0	2	9
6:00 PM	1	4	0	0	1	3	0	0	9
6:15 PM	0	2	0	0	2	3	0	1	8
6:30 PM	1	1	0	0	1	7	0	1	11
6:45 PM	3	1	0	0	1	6	0	0	11
TOTAL VOLUMES :	EB 16	WB 24	EB 1	WB 0	NB 26	SB 56	NB 4	SB 14	TOTAL 141
APPROACH %'s :	40.00%	60.00%	100.00%	0.00%	31.71%	68.29%	22.22%	77.78%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	11	4	0	0	6	19	3	5	48
PEAK HR FACTOR :	0.688	0.500			0.500	0.792	0.375	0.625	0.800
	0.625				0.781		0.667		

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Glenmont Cir
 City: Silver Spring
 Control: 1-Way Stop(WB)

Project ID: 22-280035-
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Georgia Ave			Georgia Ave			Glenmont Cir			Glenmont Cir			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
6:30 AM	0	120	2	0	0	0	0	0	0	0	0	9	131
6:45 AM	0	133	2	0	0	0	0	0	0	0	0	4	139
7:00 AM	0	180	2	0	0	0	0	0	0	0	0	9	191
7:15 AM	0	243	1	0	0	0	0	0	0	0	0	7	251
7:30 AM	0	272	4	0	0	0	0	0	0	0	0	12	288
7:45 AM	0	293	7	0	0	0	0	0	0	0	0	6	306
8:00 AM	0	274	4	0	0	0	0	0	0	0	0	8	286
8:15 AM	0	242	5	0	0	0	0	0	0	0	0	10	257
8:30 AM	0	230	5	0	0	0	0	0	0	0	0	13	248
8:45 AM	0	205	7	0	0	0	0	0	0	0	0	9	221
9:00 AM	0	205	4	0	0	0	0	0	0	0	0	5	214
9:15 AM	0	221	7	0	0	0	0	0	0	0	0	6	234
TOTAL VOLUMES :	0	2618	50	0	0	0	0	0	0	0	0	98	2766
APPROACH %'s :	0.00%	98.13%	1.87%								0.00%	0.00%	100.00%
PEAK HR :	07:30 AM - 08:30 AM												
PEAK HR VOL :	0	1081	20	0	0	0	0	0	0	0	0	36	1137
PEAK HR FACTOR :	0.000	0.922	0.714	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.929

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	0	441	10	0	0	0	0	0	0	0	0	9	460
4:15 PM	0	486	13	0	0	0	0	0	0	0	0	8	507
4:30 PM	0	470	15	0	0	0	0	0	0	0	0	4	489
4:45 PM	0	488	4	0	0	0	0	0	0	0	0	7	499
5:00 PM	0	461	7	0	0	0	0	0	0	0	0	4	472
5:15 PM	0	463	12	0	0	0	0	0	0	0	0	4	479
5:30 PM	0	489	14	0	0	0	0	0	0	0	0	6	509
5:45 PM	0	481	5	0	0	0	0	0	0	0	0	5	491
6:00 PM	0	451	11	0	0	0	0	0	0	0	0	5	467
6:15 PM	0	435	17	0	0	0	0	0	0	0	0	12	464
6:30 PM	0	391	8	0	0	0	0	0	0	0	0	6	405
6:45 PM	0	424	7	0	0	0	0	0	0	0	0	7	438
TOTAL VOLUMES :	0	5480	123	0	0	0	0	0	0	0	0	77	5680
APPROACH %'s :	0.00%	97.80%	2.20%								0.00%	0.00%	100.00%
PEAK HR :	04:15 PM - 05:15 PM												
PEAK HR VOL :	0	1905	39	0	0	0	0	0	0	0	0	23	1967
PEAK HR FACTOR :	0.000	0.976	0.650	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.719	0.970

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Glenmont Cir
 City: Silver Spring
 Control: 1-Way Stop(WB)

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Georgia Ave			Georgia Ave			Glenmont Cir			Glenmont Cir				
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	0 NL	3 NT	0 NR	0 SL	3 ST	0 SR	0 EL	0 ET	0 ER	0 WL	0 WT	1 WR		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL	0
APPROACH %'s :														
PEAK HR :	07:30 AM - 08:30 AM												TOTAL	0
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0		0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	0 NL	3 NT	0 NR	0 SL	3 ST	0 SR	0 EL	0 ET	0 ER	0 WL	0 WT	1 WR		
4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	0	4	0	0	0	0	0	0	0	0	0	0	TOTAL	4
APPROACH %'s :	0.00%	100.00%	0.00%											
PEAK HR :	04:15 PM - 05:15 PM												TOTAL	0
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0		0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0

National Data & Surveying Services **Intersection Turning** Movement Count

Location: Georgia Ave & Glenmont Cir
City: Silver Spring

Project ID: 22-280035-008
Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Georgia Ave		Georgia Ave		Glenmont Cir		Glenmont Cir		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	0	0	0	0	3	2	0	0	5
6:45 AM	0	0	0	0	7	1	0	0	8
7:00 AM	0	0	0	0	4	1	0	0	5
7:15 AM	0	0	0	0	10	2	0	0	12
7:30 AM	0	0	0	0	3	0	0	0	3
7:45 AM	0	0	0	0	3	0	0	0	3
8:00 AM	0	0	0	0	1	1	0	0	2
8:15 AM	0	0	0	0	1	1	0	0	2
8:30 AM	0	0	0	0	3	4	0	0	7
8:45 AM	0	0	0	0	2	5	0	0	7
9:00 AM	0	0	0	0	3	4	0	0	7
9:15 AM	0	0	0	0	3	1	0	0	4
TOTAL VOLUMES :	0	0	0	0	43	22	0	0	65
APPROACH %'s :					66.15%	33.85%			
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	8	2	0	0	10
PEAK HR FACTOR :					0.667	0.500			0.833

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	9	6	0	0	15
4:15 PM	0	0	0	0	2	4	0	0	6
4:30 PM	0	0	0	0	7	8	0	0	15
4:45 PM	0	0	0	0	2	7	0	0	9
5:00 PM	0	0	0	0	0	5	0	0	5
5:15 PM	0	0	0	0	1	4	0	0	5
5:30 PM	0	0	1	0	1	1	0	0	3
5:45 PM	0	0	0	0	1	4	0	0	5
6:00 PM	0	0	0	0	5	4	0	0	9
6:15 PM	0	0	0	0	0	2	0	0	2
6:30 PM	0	0	0	0	1	1	0	0	2
6:45 PM	0	0	0	0	3	9	0	0	12
TOTAL VOLUMES :	0	0	1	0	32	55	0	0	88
APPROACH %'s :			100.00%	0.00%	36.78%	63.22%			
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	0	0	0	0	11	24	0	0	35
PEAK HR FACTOR :					0.393	0.750			0.583

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Shorefield Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Georgia Ave			Georgia Ave			Shorefield Rd			Shorefield Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	3 NT	0 NR	1 SL	3 ST	0 SR	0 EL	1 ET	0 ER	0 WL	2 WT	0 WR	
6:30 AM	0	98	1	5	345	1	4	0	1	16	0	12	483
6:45 AM	0	113	1	11	428	0	2	0	0	16	0	9	580
7:00 AM	0	170	4	4	547	7	6	2	1	23	0	15	779
7:15 AM	0	216	3	11	597	0	3	1	1	33	0	10	875
7:30 AM	0	232	3	17	591	1	4	0	0	26	0	14	888
7:45 AM	0	270	4	14	647	0	5	1	2	17	0	15	975
8:00 AM	1	243	11	15	643	0	2	1	1	17	0	17	951
8:15 AM	0	225	4	21	562	4	5	1	0	15	0	18	855
8:30 AM	0	181	7	20	479	0	6	1	0	19	0	23	736
8:45 AM	0	176	7	37	518	1	7	3	0	28	0	17	794
9:00 AM	0	188	8	28	443	2	4	3	0	30	0	17	723
9:15 AM	0	209	11	30	375	1	4	2	1	34	1	20	688
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	0.04%	97.28%	2.68%	3.33%	96.41%	0.27%	70.27%	20.27%	9.46%	59.31%	0.22%	40.48%	9327
PEAK HR :	07:15 AM - 08:15 AM												TOTAL
PEAK HR VOL :	1	961	21	57	2478	1	14	3	4	93	0	56	3689
PEAK HR FACTOR :	0.250	0.890	0.477	0.838	0.957	0.250	0.700	0.750	0.500	0.705	0.000	0.824	0.946
					0.959			0.656			0.866		

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	0 NL	3 NT	0 NR	1 SL	3 ST	0 SR	0 EL	1 ET	0 ER	0 WL	2 WT	0 WR	
4:00 PM	0	405	13	35	311	3	16	4	3	33	0	40	863
4:15 PM	0	445	7	47	305	3	2	4	1	42	2	40	898
4:30 PM	0	438	10	41	306	4	10	3	1	31	0	34	878
4:45 PM	0	444	12	37	373	8	7	8	1	44	1	24	959
5:00 PM	0	444	12	28	310	5	10	6	4	45	0	32	896
5:15 PM	0	463	14	29	327	4	7	5	2	37	1	32	921
5:30 PM	0	425	15	38	331	10	8	6	0	30	1	39	903
5:45 PM	1	455	10	36	341	16	14	1	2	31	0	27	934
6:00 PM	0	391	9	37	335	8	10	10	1	36	3	34	874
6:15 PM	0	394	13	40	304	6	13	2	2	37	0	26	837
6:30 PM	0	336	10	34	277	2	13	3	0	36	1	36	748
6:45 PM	0	397	13	30	291	9	6	4	0	33	1	24	808
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	0.02%	97.31%	2.67%	10.00%	88.20%	1.81%	61.38%	29.63%	8.99%	52.22%	1.20%	46.58%	10519
PEAK HR :	04:45 PM - 05:45 PM												TOTAL
PEAK HR VOL :	0	1776	53	132	1341	27	32	25	7	156	3	127	3679
PEAK HR FACTOR :	0.000	0.959	0.883	0.868	0.899	0.675	0.800	0.781	0.438	0.867	0.750	0.814	0.959
		0.959			0.897			0.800			0.929		

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Shorefield Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Georgia Ave			Georgia Ave			Shorefield Rd			Shorefield Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	0	1	1	0	0	0	0	0	0	0	TOTAL
APPROACH %'s :				50.00%	50.00%	0.00%							2
PEAK HR :	07:15 AM - 08:15 AM												TOTAL
PEAK HR VOL :	0	0	0	1	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	2	0	1	1	0	0	0	0	0	0	1	TOTAL
APPROACH %'s :	0.00%	100.00%	0.00%	50.00%	50.00%	0.00%				0.00%	0.00%	100.00%	5
PEAK HR :	04:45 PM - 05:45 PM												TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	1	2
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Shorefield Rd
City: Silver Spring

Project ID: 22-280035-009
Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Georgia Ave		Georgia Ave		Shorefield Rd		Shorefield Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	0	1	0	0	1	0	0	0	2
6:45 AM	3	1	0	0	0	0	0	0	4
7:00 AM	2	4	0	0	0	0	0	0	6
7:15 AM	0	5	0	0	1	0	0	0	6
7:30 AM	2	4	0	3	0	3	3	1	16
7:45 AM	0	2	2	0	1	0	3	1	9
8:00 AM	1	1	0	0	1	0	0	1	4
8:15 AM	2	5	0	0	0	0	0	0	7
8:30 AM	4	3	1	0	2	0	0	0	10
8:45 AM	0	3	1	0	0	0	0	2	6
9:00 AM	0	1	2	0	3	3	2	1	12
9:15 AM	0	3	0	0	1	1	2	0	7
TOTAL VOLUMES :	EB 14	WB 33	EB 6	WB 3	NB 10	SB 7	NB 10	SB 6	TOTAL 89
APPROACH %'s :	29.79%	70.21%	66.67%	33.33%	58.82%	41.18%	62.50%	37.50%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	3	12	2	3	3	3	6	3	35
PEAK HR FACTOR :	0.375	0.600	0.250	0.250	0.750	0.250	0.500	0.750	0.547
	0.625		0.417		0.500		0.563		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	2	3	0	0	0	3	0	1	9
4:15 PM	0	3	0	3	4	5	4	2	21
4:30 PM	4	3	1	2	0	2	2	1	15
4:45 PM	5	1	0	0	2	2	1	0	11
5:00 PM	6	5	0	0	1	1	3	0	16
5:15 PM	3	2	0	1	4	2	3	2	17
5:30 PM	1	3	0	0	1	4	1	1	11
5:45 PM	1	1	0	3	2	0	4	1	12
6:00 PM	0	3	0	1	0	0	0	1	5
6:15 PM	5	0	0	0	0	1	0	0	6
6:30 PM	2	1	0	0	1	3	0	0	7
6:45 PM	1	2	0	1	0	4	0	0	8
TOTAL VOLUMES :	EB 30	WB 27	EB 1	WB 11	NB 15	SB 27	NB 18	SB 9	TOTAL 138
APPROACH %'s :	52.63%	47.37%	8.33%	91.67%	35.71%	64.29%	66.67%	33.33%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	15	11	0	1	8	9	8	3	55
PEAK HR FACTOR :	0.625	0.550	0.250	0.250	0.500	0.563	0.667	0.375	0.809
	0.591		0.250		0.708		0.550		

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenallan Ave & Layhill Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Glenallan Ave			Glenallan Ave			Layhill Rd			Layhill Rd			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	1 NL	2 NT	0 NR	1 SL	1 ST	1 SR	1 EL	3 ET	0 ER	1 WL	2 WT	1 WR	
6:30 AM	1	46	13	12	28	5	1	37	4	10	107	23	287
6:45 AM	4	39	11	19	39	10	5	47	6	7	137	27	351
7:00 AM	6	42	10	21	60	9	4	54	7	23	190	42	468
7:15 AM	6	50	7	24	62	14	10	70	4	34	225	60	566
7:30 AM	1	79	15	34	70	14	5	64	10	29	199	83	603
7:45 AM	5	112	9	32	54	12	5	106	8	21	237	72	673
8:00 AM	8	76	14	40	72	8	11	86	6	21	211	62	615
8:15 AM	5	51	11	23	56	13	8	122	4	32	201	45	571
8:30 AM	4	54	9	27	41	14	8	88	7	22	161	38	473
8:45 AM	2	48	8	18	42	8	8	62	6	27	174	34	437
9:00 AM	4	38	9	16	44	11	10	68	9	18	130	26	383
9:15 AM	2	34	5	17	38	6	8	69	7	26	108	14	334
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	48	669	121	283	606	124	83	873	78	270	2080	526	5761
	5.73%	79.83%	14.44%	27.94%	59.82%	12.24%	8.03%	84.43%	7.54%	9.39%	72.32%	18.29%	
PEAK HR :	07:30 AM - 08:30 AM												TOTAL
PEAK HR VOL :	19	318	49	129	252	47	29	378	28	103	848	262	2462
PEAK HR FACTOR :	0.594	0.710	0.817	0.806	0.875	0.839	0.659	0.775	0.700	0.805	0.895	0.789	0.915
		0.766			0.892			0.812			0.919		

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	1 NL	2 NT	0 NR	1 SL	1 ST	1 SR	1 EL	3 ET	0 ER	1 WL	2 WT	1 WR	
4:00 PM	5	39	19	38	47	11	16	179	12	16	101	21	504
4:15 PM	4	41	15	43	40	12	20	174	9	17	103	18	496
4:30 PM	4	41	11	34	67	16	16	161	10	24	124	21	529
4:45 PM	10	62	17	55	59	12	25	166	8	20	105	32	571
5:00 PM	5	48	15	38	60	9	20	184	10	25	130	31	575
5:15 PM	7	59	18	43	60	16	12	156	12	16	104	25	528
5:30 PM	5	47	18	46	48	11	19	190	13	16	120	35	568
5:45 PM	11	68	21	51	50	20	20	171	15	21	111	28	587
6:00 PM	6	46	19	58	59	10	18	168	10	27	113	16	550
6:15 PM	3	39	15	44	55	15	18	140	8	19	97	26	479
6:30 PM	4	49	14	39	39	6	27	173	15	12	105	20	503
6:45 PM	3	34	12	47	42	7	21	137	7	11	84	20	425
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	67	573	194	536	626	145	232	1999	129	224	1297	293	6315
	8.03%	68.71%	23.26%	41.01%	47.90%	11.09%	9.83%	84.70%	5.47%	12.35%	71.50%	16.15%	
PEAK HR :	05:00 PM - 06:00 PM												TOTAL
PEAK HR VOL :	28	222	72	178	218	56	71	701	50	78	465	119	2258
PEAK HR FACTOR :	0.636	0.816	0.857	0.873	0.908	0.700	0.888	0.922	0.833	0.780	0.894	0.850	0.962
		0.805			0.934			0.926			0.890		

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenallan Ave & Layhill Rd
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Glenallan Ave			Glenallan Ave			Layhill Rd			Layhill Rd				
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	1 NL	2 NT	0 NR	1 SL	1 ST	1 SR	1 EL	3 ET	0 ER	1 WL	2 WT	1 WR		
6:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	0	0	0	0	1	0	0	1	0	0	1	2	TOTAL	5
APPROACH %'s :				0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	33.33%	66.67%		
PEAK HR :	07:30 AM - 08:30 AM												TOTAL	2
PEAK HR VOL :	0	0	0	0	0	0	0	1	0	0	0	1		
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250		0.500

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	1 NL	2 NT	0 NR	1 SL	1 ST	1 SR	1 EL	3 ET	0 ER	1 WL	2 WT	1 WR		
4:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	0	0	0	0	0	0	0	1	0	0	1	0	TOTAL	2
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%		
PEAK HR :	05:00 PM - 06:00 PM												TOTAL	0
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0		
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenallan Ave & Layhill Rd
City: Silver Spring

Project ID: 22-280035-010
Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Glenallan Ave		Glenallan Ave		Layhill Rd		Layhill Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
6:30 AM	0	2	0	0	0	0	3	0	5
6:45 AM	0	0	1	3	0	0	8	0	12
7:00 AM	0	4	1	2	2	1	6	1	17
7:15 AM	1	1	1	3	2	2	3	0	13
7:30 AM	0	1	0	3	2	1	8	1	16
7:45 AM	1	1	2	2	0	1	4	1	12
8:00 AM	0	2	1	0	0	0	5	2	10
8:15 AM	0	0	0	0	0	1	1	2	4
8:30 AM	0	0	0	2	0	0	1	0	3
8:45 AM	0	0	1	1	0	0	3	0	5
9:00 AM	0	2	2	1	1	0	5	1	12
9:15 AM	1	0	0	1	0	3	2	0	7
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
	3	13	9	18	7	9	49	8	116
APPROACH %'s :	18.75%	81.25%	33.33%	66.67%	43.75%	56.25%	85.96%	14.04%	
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	1	4	3	5	2	3	18	6	42
PEAK HR FACTOR :	0.250	0.500	0.375	0.417	0.250	0.750	0.563	0.750	0.656
	0.625		0.500		0.417		0.667		

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
4:00 PM	0	0	3	2	2	0	1	0	8
4:15 PM	1	1	3	4	0	2	3	7	21
4:30 PM	0	1	4	1	2	1	0	6	15
4:45 PM	3	0	1	0	1	3	0	0	8
5:00 PM	2	3	0	0	0	0	1	3	9
5:15 PM	3	1	6	1	2	1	1	3	18
5:30 PM	0	0	1	2	0	0	0	4	7
5:45 PM	2	0	1	0	0	1	1	3	8
6:00 PM	5	0	6	1	0	5	1	6	24
6:15 PM	3	0	4	1	1	4	1	4	18
6:30 PM	4	0	0	0	0	1	0	0	5
6:45 PM	0	0	0	0	1	2	0	1	4
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
	23	6	29	12	9	20	9	37	145
APPROACH %'s :	79.31%	20.69%	70.73%	29.27%	31.03%	68.97%	19.57%	80.43%	
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	7	4	8	3	2	2	3	13	42
PEAK HR FACTOR :	0.583	0.333	0.333	0.375	0.250	0.500	0.750	0.813	0.583
	0.550		0.393		0.333		1.000		

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Arcola Ave
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Georgia Ave			Georgia Ave			Arcola Ave			Arcola Ave			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	1 NL	3 NT	0 NR	1 SL	3 ST	0 SR	1 EL	1 ET	0 ER	1 WL	1 WT	1 WR	
6:30 AM	2	81	2	50	340	4	3	5	8	8	11	19	533
6:45 AM	3	79	1	65	351	3	5	16	8	20	11	32	594
7:00 AM	3	122	5	86	470	6	7	15	13	20	19	48	814
7:15 AM	6	163	4	100	542	6	6	24	10	18	29	60	968
7:30 AM	7	147	9	86	533	3	9	30	6	33	46	88	997
7:45 AM	7	169	15	96	564	3	13	35	2	46	59	99	1108
8:00 AM	10	154	9	92	548	7	5	22	12	48	36	97	1040
8:15 AM	4	161	8	67	398	8	15	33	2	23	31	74	824
8:30 AM	4	125	13	63	478	6	5	28	5	25	21	60	833
8:45 AM	10	150	10	81	466	1	10	28	8	27	23	54	868
9:00 AM	7	157	11	86	418	1	7	32	6	20	14	52	811
9:15 AM	2	160	14	66	322	1	6	24	8	30	26	76	735
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	65	1668	101	938	5430	49	91	292	88	318	326	759	10125
	3.54%	90.95%	5.51%	14.62%	84.62%	0.76%	19.32%	62.00%	18.68%	22.67%	23.24%	54.10%	
PEAK HR :	07:15 AM - 08:15 AM												TOTAL
PEAK HR VOL :	30	633	37	374	2187	19	33	111	30	145	170	344	4113
PEAK HR FACTOR :	0.750	0.936	0.617	0.935	0.969	0.679	0.635	0.793	0.625	0.755	0.720	0.869	0.928
		0.916			0.973			0.870			0.808		

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	1 NL	3 NT	0 NR	1 SL	3 ST	0 SR	1 EL	1 ET	0 ER	1 WL	1 WT	1 WR	
4:00 PM	5	366	14	66	278	2	8	39	4	22	37	110	951
4:15 PM	13	352	11	76	269	5	14	26	7	14	29	89	905
4:30 PM	13	374	7	56	244	6	8	30	4	17	34	85	878
4:45 PM	20	389	15	59	344	0	15	21	1	24	33	91	1012
5:00 PM	11	339	17	62	265	9	12	29	4	28	34	111	921
5:15 PM	13	441	18	58	321	6	10	31	5	20	30	85	1038
5:30 PM	9	344	17	58	279	3	13	25	8	21	22	105	904
5:45 PM	7	370	13	53	319	4	9	31	4	15	35	87	947
6:00 PM	10	393	15	46	293	6	7	17	4	26	30	85	932
6:15 PM	12	321	15	55	264	5	8	20	4	16	24	78	822
6:30 PM	5	313	14	40	276	2	8	11	5	21	22	56	773
6:45 PM	8	377	15	57	274	2	4	24	4	20	25	78	888
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	126	4379	171	686	3426	50	116	304	54	244	355	1060	10971
	2.69%	93.65%	3.66%	16.48%	82.32%	1.20%	24.47%	64.14%	11.39%	14.71%	21.40%	63.89%	
PEAK HR :	04:45 PM - 05:45 PM												TOTAL
PEAK HR VOL :	53	1513	67	237	1209	18	50	106	18	93	119	392	3875
PEAK HR FACTOR :	0.663	0.858	0.931	0.956	0.879	0.500	0.833	0.855	0.563	0.830	0.875	0.883	0.933
		0.865			0.908			0.946			0.873		

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Arcola Ave
 City: Silver Spring
 Control: Signalized

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Georgia Ave			Georgia Ave			Arcola Ave			Arcola Ave				
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	1 NL	3 NT	0 NR	1 SL	3 ST	0 SR	1 EL	1 ET	0 ER	1 WL	1 WT	1 WR		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL	0
APPROACH %'s :														
PEAK HR :	07:15 AM - 08:15 AM												TOTAL	
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	1 NL	3 NT	0 NR	1 SL	3 ST	0 SR	1 EL	1 ET	0 ER	1 WL	1 WT	1 WR		
4:00 PM	0	2	0	0	1	0	0	0	0	0	0	0	3	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	1	2	0	0	1	0	0	1	0	0	0	0	TOTAL	5
APPROACH %'s :	33.33%	66.67%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM												TOTAL	
PEAK HR VOL :	1	0	0	0	0	0	0	0	0	0	0	0	TOTAL	1
PEAK HR FACTOR :	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.250

National Data & Surveying Services Intersection Turning Movement Count

Location: Georgia Ave & Arcola Ave
City: Silver Spring

Project ID: 22-280035-011
Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Georgia Ave		Georgia Ave		Arcola Ave		Arcola Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:30 AM	1	0	0	0	0	0	0	0	1
6:45 AM	2	0	0	0	0	1	0	0	3
7:00 AM	0	0	1	1	1	0	0	0	3
7:15 AM	0	0	0	1	0	0	1	0	2
7:30 AM	0	1	0	1	0	2	0	0	4
7:45 AM	0	0	0	0	0	2	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	1	2	4
8:30 AM	1	0	0	0	0	0	0	0	1
8:45 AM	0	0	1	1	4	1	1	1	9
9:00 AM	5	0	0	0	1	0	2	1	9
9:15 AM	1	0	0	0	0	2	0	1	4
TOTAL VOLUMES :	EB 10	WB 1	EB 2	WB 4	NB 7	SB 8	NB 5	SB 5	TOTAL 42
APPROACH %'s :	90.91%	9.09%	33.33%	66.67%	46.67%	53.33%	50.00%	50.00%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	1	0	2	0	4	1	0	8
PEAK HR FACTOR :	0.250		0.500		0.500		0.250		0.500

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	4	5	0	0	0	0	1	4	14
4:15 PM	7	1	0	0	4	1	1	0	14
4:30 PM	2	5	0	0	1	1	0	0	9
4:45 PM	1	1	0	0	0	0	0	1	3
5:00 PM	0	3	0	0	0	3	0	0	6
5:15 PM	0	3	0	0	2	0	2	1	8
5:30 PM	2	1	0	0	1	0	0	1	5
5:45 PM	1	3	0	0	0	1	0	0	5
6:00 PM	0	1	0	1	0	1	1	0	4
6:15 PM	0	0	0	0	1	1	0	3	5
6:30 PM	3	0	0	0	1	0	0	0	4
6:45 PM	0	1	0	0	0	0	0	0	1
TOTAL VOLUMES :	EB 20	WB 24	EB 0	WB 1	NB 10	SB 8	NB 5	SB 10	TOTAL 78
APPROACH %'s :	45.45%	54.55%	0.00%	100.00%	55.56%	44.44%	33.33%	66.67%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	3	8	0	0	3	3	2	3	22
PEAK HR FACTOR :	0.917				0.500		0.417		0.688

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenmont Cir & Glenmont Cir/Universal Hardwood & Painting Dwy
 City: Silver Spring
 Control: 2-Way Stop(EB/WB)

Project ID: 22-280035-
 Date: 10/4/2022

Data - Total

NS/EW Streets:	Glenmont Cir			Glenmont Cir			Glenmont Cir/Universal Hardwood & Painting Dwy			Glenmont Cir/Universal Hardwood & Painting Dwy			
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
6:30 AM	0	10	0	1	2	0	1	1	0	0	0	11	26
6:45 AM	0	5	0	1	1	0	0	3	1	1	0	9	21
7:00 AM	0	13	1	1	3	0	0	1	3	1	0	7	30
7:15 AM	0	7	0	4	5	0	0	5	4	1	0	15	41
7:30 AM	0	13	1	5	2	0	2	2	1	0	0	14	40
7:45 AM	0	9	0	1	4	0	2	3	2	1	0	6	28
8:00 AM	0	9	1	2	4	0	4	1	1	1	0	6	29
8:15 AM	0	6	0	3	5	0	2	2	0	0	0	9	27
8:30 AM	0	16	3	3	8	0	7	1	4	1	0	5	48
8:45 AM	0	3	1	10	10	0	2	2	2	2	0	9	41
9:00 AM	0	6	0	7	8	0	5	2	2	0	0	6	36
9:15 AM	0	7	1	1	5	0	2	1	2	1	0	5	25
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	0	104	8	39	57	0	27	24	22	9	0	102	392
	0.00%	92.86%	7.14%	40.63%	59.38%	0.00%	36.99%	32.88%	30.14%	8.11%	0.00%	91.89%	
PEAK HR :	08:15 AM - 09:15 AM												TOTAL
PEAK HR VOL :	0	31	4	23	31	0	16	7	8	3	0	29	152
PEAK HR FACTOR :	0.000	0.484	0.333	0.575	0.775	0.000	0.571	0.875	0.500	0.375	0.000	0.806	0.792
		0.461			0.675			0.646			0.727		

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	0	5	2	8	4	0	2	5	3	2	0	7	38
4:15 PM	0	9	2	4	7	0	6	5	6	1	0	8	48
4:30 PM	0	7	2	4	3	0	4	8	1	0	0	9	38
4:45 PM	0	10	2	3	9	0	6	7	5	0	0	6	48
5:00 PM	0	7	1	13	6	0	3	10	2	1	0	10	53
5:15 PM	0	8	1	5	6	0	3	3	2	0	0	11	39
5:30 PM	0	10	1	8	7	0	8	6	5	0	0	8	53
5:45 PM	0	15	1	4	5	0	3	7	2	0	0	9	46
6:00 PM	0	9	0	5	7	0	4	6	4	1	0	9	45
6:15 PM	0	7	0	5	6	0	4	7	4	0	0	12	45
6:30 PM	0	12	1	8	4	0	4	5	5	2	0	11	52
6:45 PM	0	11	1	1	6	0	4	6	3	0	0	9	41
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	0	110	14	68	70	0	51	75	42	7	0	109	546
	0.00%	88.71%	11.29%	49.28%	50.72%	0.00%	30.36%	44.64%	25.00%	6.03%	0.00%	93.97%	
PEAK HR :	04:45 PM - 05:45 PM												TOTAL
PEAK HR VOL :	0	35	5	29	28	0	20	26	14	1	0	35	193
PEAK HR FACTOR :	0.000	0.875	0.625	0.558	0.778	0.000	0.625	0.650	0.700	0.250	0.000	0.795	0.910
		0.833			0.750			0.789			0.818		

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenmont Cir & Glenmont Cir/Universal Hardwood & Painting Dwy
 City: Silver Spring
 Control: 2-Way Stop(EB/WB)

Project ID: 22-280035-
 Date: 10/4/2022

Data - Bikes

NS/EW Streets:	Glenmont Cir			Glenmont Cir			Glenmont Cir/Universal Hardwood & Painting Dwy			Glenmont Cir/Universal Hardwood & Painting Dwy				
AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	0 NL	1 NT	0 NR	0 SL	1 ST	0 SR	0 EL	1 ET	0 ER	0 WL	1 WT	0 WR		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL	0
APPROACH %'s :														
PEAK HR :	08:15 AM - 09:15 AM												TOTAL	0
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0		0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	0 NL	1 NT	0 NR	0 SL	1 ST	0 SR	0 EL	1 ET	0 ER	0 WL	1 WT	0 WR		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	
6:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	
TOTAL VOLUMES :	0	2	0	0	1	0	0	0	0	0	0	0	TOTAL	3
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%								
PEAK HR :	04:45 PM - 05:45 PM												TOTAL	0
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0		0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000

National Data & Surveying Services Intersection Turning Movement Count

Location: Glenmont Cir & Glenmont Cir/Universal Hardwood & Painting Dwy
 City: Silver Spring

Project ID: 22-280035-103
 Date: 10/4/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Glenmont Cir		Glenmont Cir		Glenmont Cir/Universal Hardwood & Painting Dwy		Glenmont Cir/Universal Hardwood & Painting Dwy				TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SCRAMBLE (NE/SW)		
AM	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	
6:30 AM	0	0	0	0	4	0	0	0	0	0	4
6:45 AM	0	0	0	0	3	0	0	0	0	0	3
7:00 AM	0	0	0	0	1	1	0	0	0	0	2
7:15 AM	0	0	0	0	6	0	0	0	0	1	7
7:30 AM	0	0	0	0	2	0	0	0	0	1	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	2	1	0	0	0	0	3
8:15 AM	0	0	0	0	3	1	0	0	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	1	1	0	0	0	0	2
9:00 AM	0	0	0	0	0	2	0	0	0	0	2
9:15 AM	0	0	0	1	1	0	0	1	0	1	4
TOTAL VOLUMES :	0	0	0	1	23	6	0	1	0	3	34
APPROACH %'s :			0.00%	100.00%	79.31%	20.69%	0.00%	100.00%	0.00%	100.00%	
PEAK HR :	08:15 AM - 09:15 AM										
PEAK HR VOL :	0	0	0	0	4	4	0	0	0	0	8
PEAK HR FACTOR :					0.333	0.500					0.500

NS/EW Streets:	Glenmont Cir		Glenmont Cir		Glenmont Cir/Universal Hardwood & Painting Dwy		Glenmont Cir/Universal Hardwood & Painting Dwy				TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SCRAMBLE (NE/SW)		
PM	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	6	0	0	0	0	0	6
4:15 PM	0	0	0	1	2	3	0	0	0	0	6
4:30 PM	0	0	1	0	4	3	0	0	0	0	8
4:45 PM	0	0	0	0	9	2	0	2	0	0	13
5:00 PM	0	0	0	0	5	6	0	0	0	0	11
5:15 PM	0	0	0	0	3	6	0	0	0	0	9
5:30 PM	0	0	0	0	1	5	0	0	0	0	6
5:45 PM	0	0	0	0	3	2	0	0	0	0	5
6:00 PM	0	0	0	0	2	5	0	0	0	0	7
6:15 PM	0	0	0	0	2	3	0	0	0	2	7
6:30 PM	0	0	0	0	2	1	0	0	0	0	3
6:45 PM	0	0	0	0	1	3	0	0	0	0	4
TOTAL VOLUMES :	0	0	1	1	40	39	0	2	0	2	85
APPROACH %'s :			50.00%	50.00%	50.63%	49.37%	0.00%	100.00%	0.00%	100.00%	
PEAK HR :	04:45 PM - 05:45 PM										
PEAK HR VOL :	0	0	0	0	18	19	0	2	0	0	39
PEAK HR FACTOR :					0.500	0.792		0.250			0.750

National Data & Surveying Services Intersection Turning Movement Count

Location: Randolph Rd & Heurich Rd
City: Silver Spring

Project ID: 22-280038-001
Date: 12/8/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Randolph Rd		Randolph Rd		Heurich Rd		Heurich Rd		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
6:00 AM	0	0	0	0	0	0	0	4	4
6:15 AM	0	0	0	1	0	0	0	0	1
6:30 AM	0	0	1	0	0	0	0	0	1
6:45 AM	1	0	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	0	4	0	4	1	9
7:30 AM	0	0	0	0	7	0	6	0	13
7:45 AM	0	0	0	0	1	0	3	1	5
8:00 AM	0	0	0	0	1	0	1	2	4
8:15 AM	0	1	0	0	1	0	3	0	5
8:30 AM	0	0	14	5	1	0	4	4	28
8:45 AM	0	0	10	6	0	0	0	1	17
9:00 AM	0	0	2	1	0	0	0	0	3
9:15 AM	0	0	0	0	0	1	0	0	1
9:30 AM	0	0	0	1	0	0	0	0	1
9:45 AM	0	0	1	0	1	0	1	1	4
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	1	1	28	14	16	1	22	15	98
	50.00%	50.00%	66.67%	33.33%	94.12%	5.88%	59.46%	40.54%	
PEAK HR :	07:15 AM - 08:15 AM								TOTAL
PEAK HR VOL :	0	0	0	0	13	0	14	4	31
PEAK HR FACTOR :					0.464		0.583	0.500	0.596
					0.464		0.750		
NOON	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
10:00 AM	0	0	0	0	0	0	1	0	1
10:15 AM	0	0	0	0	0	0	0	1	1
10:30 AM	0	0	0	0	0	0	0	6	6
10:45 AM	0	0	0	0	1	0	1	4	6
11:00 AM	0	0	0	0	0	0	0	2	2
11:15 AM	0	0	0	0	0	1	1	3	5
11:30 AM	0	0	0	1	0	1	4	3	9
11:45 AM	0	0	1	0	1	1	2	0	5
12:00 PM	0	0	1	0	5	2	6	5	19
12:15 PM	0	0	1	1	0	0	0	0	2
12:30 PM	0	0	0	1	0	2	2	0	5
12:45 PM	0	1	0	2	0	0	1	0	4
1:00 PM	0	0	0	0	0	0	2	4	6
1:15 PM	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	2	0	0	0	0	2
1:45 PM	0	0	0	1	0	0	2	1	4
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	1	3	8	7	7	22	29	77
	0.00%	100.00%	27.27%	72.73%	50.00%	50.00%	43.14%	56.86%	
PEAK HR :	01:00 PM - 02:00 PM								TOTAL
PEAK HR VOL :	0	0	0	3	0	0	4	5	12
PEAK HR FACTOR :				0.375			0.500	0.313	0.500
				0.375			0.375		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
2:00 PM	0	0	0	0	0	0	1	2	3
2:15 PM	0	0	0	0	0	1	2	0	3
2:30 PM	0	0	0	0	0	8	0	53	61
2:45 PM	0	0	0	0	2	0	0	5	7
3:00 PM	0	0	4	0	0	0	0	2	6
3:15 PM	0	0	6	5	1	0	0	0	12
3:30 PM	0	0	1	13	0	0	0	0	14
3:45 PM	0	0	0	3	3	0	2	1	9
4:00 PM	0	0	0	0	0	0	0	3	3
4:15 PM	0	0	1	2	0	0	0	0	3
4:30 PM	0	0	0	2	0	0	0	0	2
4:45 PM	0	0	0	0	0	1	3	0	4
5:00 PM	0	0	0	1	2	3	0	1	7
5:15 PM	0	0	0	2	0	1	0	0	3
5:30 PM	0	0	2	0	0	0	0	1	3
5:45 PM	0	0	0	0	1	0	0	0	1
6:00 PM	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	2	2	0	0	0	0	4
6:30 PM	0	0	1	0	0	0	0	1	2
6:45 PM	0	0	0	2	1	0	1	0	4
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	17	32	10	14	9	69	151
			34.69%	65.31%	41.67%	58.33%	11.54%	88.46%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	5	2	5	3	1	16
PEAK HR FACTOR :				0.625	0.250	0.417	0.250	0.250	0.571
				0.625	0.350		0.333		

APPENDIX D
SIGNAL TIMINGS









RANDOLPH RD
 RUNS IN A
 EAST- WEST
 DIRECTION

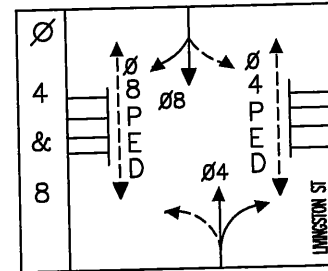
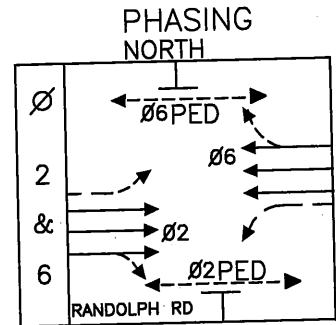
SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 921-A
 SHT. 1 OF 1

INTERSECTION: RANDOLPH ROAD AND LIVINGSTON STREET

SIGNAL NO.	SIGNAL HEAD INDICATIONS			
	1,2,3,4,5,6,7,8			9,10,11,12 13,14,15,16
TOTAL:	8			8
LEGEND	   12"		 16" LED	
 OPTICALLY LIMITED R RED Y YELLOW G GREEN  ARROW F FLASHING				



SIGNAL NO.	SEQUENCE OF OPERATION										FLASH	
	INTERVAL											
	1	2	3	4	5	6	7	8	9			
1	G	G	Y	R	R	R	R	R	R			Y
2	G	G	Y	R	R	R	R	R	R			Y
3	G	G	Y	R	R	R	R	R	R			Y
4	G	G	Y	R	R	R	R	R	R			Y
5	R	R	R	R	G	G	G	Y	R			R
6	R	R	R	R	G	G	G	Y	R			R
7	R	R	R	R	G	G	G	Y	R			R
8	R	R	R	R	G	G	G	Y	R			R
9	W	FDW	DW	DW	DW	DW	DW	DW	DW			DARK
10	W	FDW	DW	DW	DW	DW	DW	DW	DW			DARK
11	W	FDW	DW	DW	DW	DW	DW	DW	DW			DARK
12	W	FDW	DW	DW	DW	DW	DW	DW	DW			DARK
13	DW	DW	DW	DW	W	FDW	DW	DW	DW			DARK
14	DW	DW	DW	DW	W	FDW	DW	DW	DW			DARK
15	DW	DW	DW	DW	W	FDW	DW	DW	DW			DARK
16	DW	DW	DW	DW	W	FDW	DW	DW	DW			DARK
PHASE	2 & 6				ALL RED				4 & 8		ALL RED	

NOTES: A.O NEW SIGNAL. APS, CPS,

SUBMITTED: TSET 7-23-18 CHECKED: K. Hamud 10/9/18 APPROVED: K. Hamud 10/9/18
 IN SERVICE BY: 766/768/784/793 DATE: 10/12/18 TIME: 1027

SIG#0921 Hub-IE

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE		X		X		X		X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	0	10	0	7	5	10	0	7	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	10	0	20	0	10	0	20	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	0.0	0.0	0.0	5.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	0	50	0	30	0	50	0	30	0	0	0	0	0	0	0	0
MAX2	0	60	0	50	0	60	0	50	0	0	0	0	0	0	0	0
MAX3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	0.0	4.0	0.0	3.5	0.0	4.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED CLR	0.0	2.0	0.0	3.0	0.0	2.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	120	SEQUENCE	1
OFFSET VAL	100	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	0	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	120	ACT WALK REST	
OFFSET VAL	71	PHASE RESERVICE	

NextEdit

COORDINATOR PATTERN 2

MAX SELECT	NONE	FORCE OFF	NONE
STD (COS)	0	VEH PERM 1	0
DWELL/ADD TIME	0	VEH PERM 2	0
TIMING PLAN	1	VEH PERM 2 - DISP	0
SEQUENCE	1	XART PTRN.	0
ACTION PLAN	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	120	SEQUENCE	1
OFFSET VAL	0	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	0	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4	TIMING PLAN	1
CYCLE	120	SEQUENCE	1
OFFSET VAL	71	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	0	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 5

USE SPLIT PATTERN	5	PHASE RESERVICE	
CYCLE	100	MAX SELECT	NONE
OFFSET VAL	0	STD (COS)	0
ACTUATED COORD		DWELL/ADD TIME	0
ACT WALK REST		TIMING PLAN	1

COORDINATOR PATTERN 5

SEQUENCE	1	VEH PERM 2	0
ACTION PLAN	0	VEH PERM 2 - DISP	0
FORCE OFF	NONE	XART PTRN.	0
VEH PERM 1	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	84	0	36	0	84	0	36
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	79	0	41	0	79	0	41
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16	PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0	COORD								

NextEdit

Split 2

PHASE	9	10	11	12	13	14	15	16
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	84	0	36	0	84	0	36
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	79	0	41	0	79	0	41
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT

Split 5

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	64	0	36	0	64	0	36
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 5

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT	OMIT

ACTION PLAN 1

PATTERN	1	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH		DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	E	E	E	.	.	.	.	.	.	.	.
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	E	E	E	.	.	.	.	.	.	.	.
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	E	E	E	.	.	.	.	.	.	.	.
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 4

PATTERN	4	VEH DET DIAG PLN	0	DET LOG	0	PED PR RETURN	
TIMING PLAN	1	DIMMING ENABLE		RED REST		QUEUE DELAY	
VEH DET PLAN	0	SYS OVERRIDE		PED DET DIAG PLN	0	PMT COND DELAY	
FLASH		SEQUENCE	1	PRIORITY RETURN			

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	E	E	E	.	.	.	.	.	.	.	.
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 5

PATTERN	5	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	E	E	E	.	.	.	.	.	.	.	.
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	6	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	6	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

SIG#0921 Hub-IE

Day Plan 7

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SEQUENCE OF OPERATION SHEET

MD 97
RUNS IN A
NORTH-SOUTH
DIRECTION

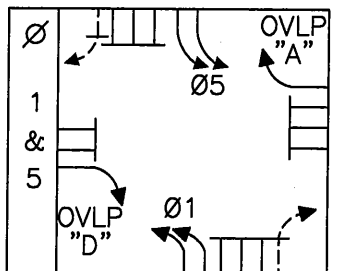
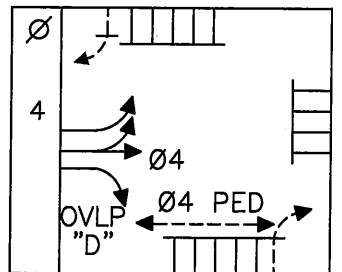
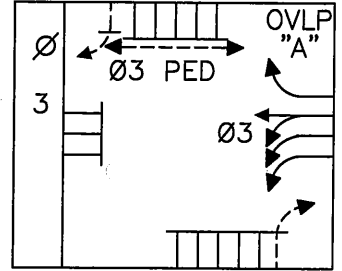
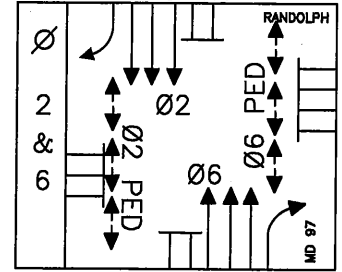
TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 210 - 0
1 OF 3

INTERSECTION: GEORGIA AVENUE (MD 97) & RANDOLPH ROAD

PHASING
NORTH

SIGNAL NO.	SIGNAL HEAD INDICATIONS				
	5,6,11,12 15,19,58,59	1,2,3,4 7,8,9,10	48,49,50 51,52,53	13,14,16 17,18,20	21-32 54-57
TOTAL:	8	8	6	6	16
LEGEND	(R)	(←R)	(R→)	(R)	(R→)
○ OPTICALLY LIMITED	(Y)	(←Y)	(Y→)	(Y)	(Y→)
R RED	(G)	(←G)	(G→)	(G)	(G→)
Y YELLOW	12"				
G GREEN	12"				
← ARROW	12"				
F FLASHING	12"				



SIGNAL NO.	SEQUENCE OF OPERATION																	FLASH		
	INTERVAL																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
1&2	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	
3&4	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	
5&6	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
58	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
7&8	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	
9&10	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	
11&12	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
59	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
13&14	R	R	R	R	R	R	R	R	R	⊘	⊘	⊘	Y	R	R	R	R	R	R	
15	R	R	R	R	R	R	R	R	R	⊘	⊘	⊘	Y	R	R	R	R	R	R	
16	R	R	R	R	R	R	R	R	R	⊘	⊘	⊘	Y	R	R	R	R	R	R	
17&18	R	R	R	R	⊘	⊘	⊘	Y	R	R	R	R	R	R	R	R	R	R	R	
19	R	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	
20	R	R	R	R	⊘	⊘	⊘	Y	R	R	R	R	R	R	R	R	R	R	R	
48&49	→R	→R	→R	→R	→R	→R	→R	→R	→R	⊘	⊘	⊘	Y	→R	→R	→R	→R	→R	→R	
50	→R	→R	→R	→R	→R	→R	→R	→R	→R	⊘	⊘	⊘	Y	→R	→R	→R	→R	→R	→R	
51&52	→R	→R	→R	→R	⊘	⊘	⊘	Y	→R	→R	→R	→R	→R	→R	→R	→R	→R	→R	→R	
53	→R	→R	→R	→R	⊘	⊘	⊘	Y	→R	→R	→R	→R	→R	→R	→R	→R	→R	→R	→R	
22&27	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
24&25	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
55&56	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
23&26	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
21&28	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
54&57	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
29&32	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
30&31	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	
PHASE	2 & 6		ALL RED	3				ALL RED	4				ALL RED	1 & 5		ALL RED				

NOTES: 0 = ULTIMATE TRAFFIC SIGNAL. OPENS DOUBLE LEFTS ON MAINLINE
 EBRT = OVERLAP "D"
 WBRT = OVERLAP "A"
 Ø2 PED IS ON LS 9 + Ø2 PED IS ON LS 14 = (OVLP "B")
 Ø6 PED IS ON LS 11 + Ø6 PED IS ON LS 15 = (OVLP "C")

SUBMITTED: <u>VP 09/04/2018</u>	CHECKED: <u>KHamud 9/15/18</u>	APPROVED: <u>KHamud 9/15/18</u>
IN SERVICE BY: <u>766/767/774</u>	DATE: <u>10/25/2018</u>	TIME: <u>10:05 AM</u>

SEQUENCE OF OPERATION SHEET

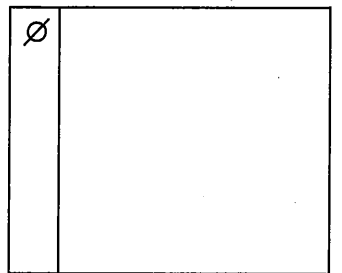
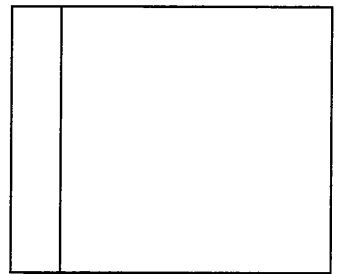
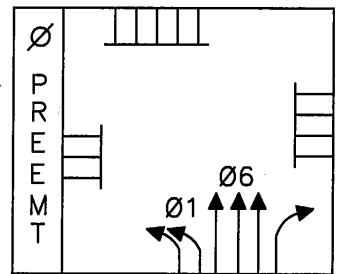
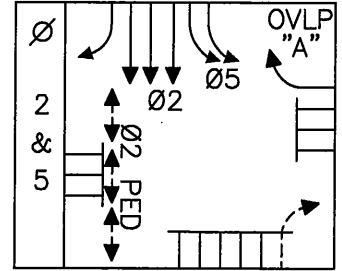
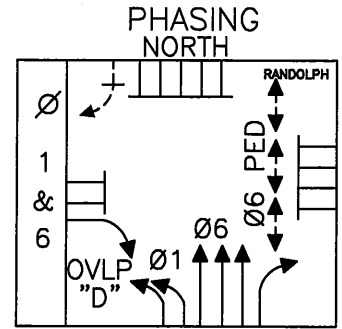
MD 97
RUNS IN A
NORTH-SOUTH
DIRECTION

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 210 - 0
2 OF 3

INTERSECTION: GEORGIA AVENUE (MD 97) & RANDOLPH ROAD

SIGNAL NO.	SIGNAL HEAD INDICATIONS				
	5,6,11,12 15,19,58,59	1,2,3,4 7,8,9,10	48,49,50 51,52,53	13,14,16 17,18,20	21-32 54-57
TOTAL:	8	8	6	6	16
LEGEND	(R)	(←R)	(R→)	(R)	(R) (Y) (G)
OPTICALLY LIMITED	(Y)	(←Y)	(Y→)	(Y)	(G) (Y) (R)
R RED	(G)	(←G)	(G→)	(G)	(G) (Y) (R)
Y YELLOW					12" 16"
G GREEN					
← ARROW	12"	12"	12"	12"	
F FLASHING					



SIGNAL NO.	SEQUENCE OF OPERATION																FLASH		
	INTERVAL																		
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
1&2	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
3&4	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
5&6	G	G	G	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R
58	G	G	G	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R
7&8	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
9&10	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
11&12	R	R	R	G	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
59	R	R	R	G	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R
13&14	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
15	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
16	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
17&18	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
19	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
20	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
48&49	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
50	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
51&52	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
53	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R
22&27	W	W	W	DW	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
24&25	W	W	W	DW	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
55&56	W	W	W	DW	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
23&26	DW	DW	DW	W	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
21&28	DW	DW	DW	W	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
54&57	DW	DW	DW	W	W	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
29&32	DW	DW	DW	DW	DW	DW	DW	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW
30&31	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW
PHASE	1 & 6	ALL RED	2 & 5	ALL RED	2&6		3 CLEAR TO PREEMPT					4		1&5					

NOTES: O = ULTIMATE TRAFFIC SIGNAL. OPENS DOUBLE LEFTS ON MAINLINE
 EBRT = OVERLAP "D"
 WBRT = OVERLAP "A"
 Ø2 PED IS ON LS 9 + Ø2 PED IS ON LS 14 = (OVLDP "B")
 Ø6 PED IS ON LS 11 + Ø6 PED IS ON LS 15 = (OVLDP "C")

SUBMITTED: <u>VP 09/04/2018</u>	CHECKED: _____	APPROVED: _____
IN SERVICE BY: _____	DATE: _____	D-15 TIME: _____

SEQUENCE OF OPERATION SHEET

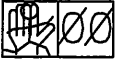
MD 97
 RUNS IN A
 NORTH-SOUTH
 DIRECTION

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 210 - 0
 3 OF 3

INTERSECTION: GEORGIA AVENUE (MD 97) & RANDOLPH ROAD

PHASING
 NORTH

SIGNAL NO.	SIGNAL HEAD INDICATIONS				
	5,6,11,12 15,19,58,59	1,2,3,4 7,8,9,10	48,49,50 51,52,53	13,14,16 17,18,20	21-32 54-57
TOTAL:	8	8	6	6	16
LEGEND	(R)	(←R)	(R→)	(R)	 12" 16"
○ OPTICALLY LIMITED R RED Y YELLOW G GREEN ← ARROW F FLASHING	(Y)	(←Y)	(Y→)	(Y)	
	(G)	(←G)	(G→)	(G)	
	12"	12"	12"	12"	

SIGNAL NO.	SEQUENCE OF OPERATION												FLASH
	INTERVAL												
	35	36	37	38	39	40	41	42					
1&2	←G	←Y	←R	←R	←R	←G	←Y	←R					←R
3&4	←G	←Y	←R	←R	←R	←G	←Y	←R					←R
5&6	G	G	R	R	R	G	G	G					R
58	G	G	R	R	R	G	G	G					R
7&8	←R	←R	←G	←Y	←R	←R	←R	←R					←R
9&10	←R	←R	←G	←Y	←R	←R	←R	←R					←R
11&12	R	R	G	Y	R	R	R	R					R
59	R	R	G	Y	R	R	R	R					R
13&14	R	R	R	R	R	R	R	R					R
15	R	R	R	R	R	R	R	R					R
16	R	R	R	R	R	R	R	R					R
17&18	R	R	R	R	R	R	R	R					R
19	R	R	R	R	R	R	R	R					R
20	R	R	R	R	R	R	R	R					R
48&49	→G	→Y	→R	→R	→R	→R	→R	→R					→R
50	→G	→Y	→R	→R	→R	→R	→R	→R					→R
51&52	→R	→R	→G	→Y	→R	→R	→R	→R					→R
53	→R	→R	→G	→Y	→R	→R	→R	→R					→R
22&27	FDW	DW	DW	DW	DW	DW	DW	DW					DARK
24&25	FDW	DW	DW	DW	DW	DW	DW	DW					DARK
55&56	FDW	DW	DW	DW	DW	DW	DW	DW					DARK
23&26	DW	DW	FDW	DW	DW	DW	DW	DW					DARK
21&28	DW	DW	FDW	DW	DW	DW	DW	DW					DARK
54&57	DW	DW	FDW	DW	DW	DW	DW	DW					DARK
29&32	DW	DW	DW	DW	DW	DW	DW	DW					DARK
30&31	DW	DW	DW	DW	DW	DW	DW	DW					DARK
PHASE	1&6 CLEAR TO PREEMPT	2&5 CLEAR TO PREEMPT	PMT	CLEAR PMT									

NOTES: Ø = ULTIMATE TRAFFIC SIGNAL. OPENS DOUBLE LEFTS ON MAINLINE
 EBRT = OVERLAP "D"
 WBRT = OVERLAP "A"
 Ø2 PED IS ON LS 9 + Ø2 PED IS ON LS 14 = (OVLP "B")
 Ø6 PED IS ON LS 11 + Ø6 PED IS ON LS 15 = (OVLP "C")

SUBMITTED: <u>VP 09/04/2018</u>	CHECKED: _____	APPROVED: _____
IN SERVICE BY: _____	DATE: _____	TIME: _____

SIG#0210 Hub-IE

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X	X	X	X	X										
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	8	10	10	10	8	10	0	0	5	5	5	5	5	5	5	5
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	7	7	0	7	0	0	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	16	33	30	0	16	0	0	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	4.0	0.0	3.0	3.5	4.0	0.0	0.0	0.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	16	60	40	40	16	60	0	0	35	35	35	35	35	35	35	35
MAX2	20	60	30	25	20	60	0	0	40	40	40	40	40	40	40	40
MAX3	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.0	4.0	4.0	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED CLR	3.5	5.0	8.0	8.0	3.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	180	SEQUENCE	1
OFFSET VAL	77	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP	0	0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	150	ACT WALK REST	
OFFSET VAL	147	PHASE RESERVICE	

NextEdit

COORDINATOR PATTERN 2

MAX SELECT	NONE	FORCE OFF	NONE
STD (COS)	121	VEH PERM 1	0
DWELL/ADD TIME	0	VEH PERM 2	0
TIMING PLAN	1	VEH PERM 2 - DISP	0
SEQUENCE	1	XART PTRN.	0
ACTION PLAN	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	180	SEQUENCE	1
OFFSET VAL	69	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	131	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	147	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	141	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	21	58	52	49	31	48	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SIG#0210 Hub-IE

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	22	35	52	41	22	35	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	39	40	52	49	22	57	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	22	35	52	41	22	35	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PREEMPT PLAN 1

VEH/PED (OVERLAP)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
TRKCLR V
TRKCLR O

NextEdit

PREEMPT PLAN 1

VEH/PED (OVERLAP)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ENA TRL																
DWEL VEH	X	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.
DWEL PED																
DWEL OLP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYC VEH	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYC PED																
CYC OLP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EXIT PH		X				X										
EXIT CAL	X		X	X	X											
SP FUNC																

OPTIONS

ENABLE	S1
DET LOCK	X
OVERIDE FL	X
TERM OLP	X
PED DARK	
X TMG PLN	0
PMT OVRIDE	X
DELAY	0
DURATION	45
PC>YEL	
TC RESERV	

OPTIONS

X FLCOLR	GRN	TERM PH	
RE-SERV	0	DWELL FL	OFF
INTERLOCK		EXIT OPT	OFF
INHIBIT	0	FLT TYPE	HARD
CLR>GRN		PMT ACTIVE OUT	ON

FREE DUR PMT

Ring	1	2	3	4
FREE DUR PMT				

Times

ENTRANCE TM - WALK	0	TRACK CLEAR - MIN GR	0	DWL/CYC-EXIT - MIN DL	45
ENTRANCE TM - PED CL	28	TRACK CLEAR - EXT GR	0	DWL/CYC-EXIT - PMT EXT	0.0
ENTRANCE TM - MN GR	0	TRACK CLEAR - MX GR	0	DWL/CYC-EXIT - MX TM	90
ENTRANCE TM - YEL	4.0	TRACK CLEAR - YEL	4.0	DWL/CYC-EXIT - YEL	4.0
ENTRANCE TM - RED	2.0	TRACK CLEAR - RED	2.0	DWL/CYC-EXIT - RED	2.0

ACTION PLAN 1

PATTERN	1	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

SIG#0210 Hub-IE

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 30

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MAX 2																
MAX 3	X															
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	1	2	30	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	1	2	30	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	1	2	30	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
START TIME - HH	0	6	9	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	1	2	30	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	1	2	30	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	10	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

RANDOLPH RD
 RUNS IN A
 EAST-WEST
 DIRECTION

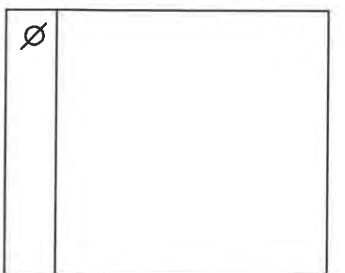
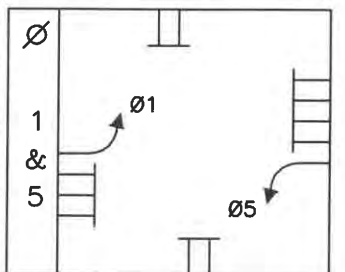
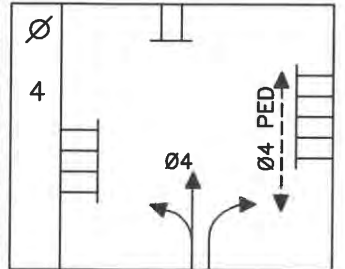
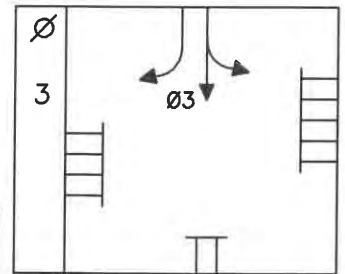
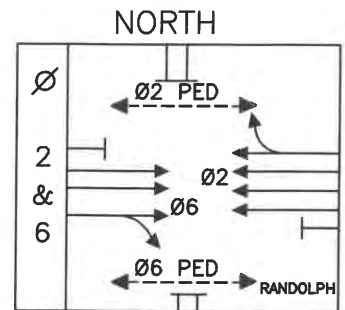
SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 218-I
 SHT. 1 OF 3
 PHASING

INTERSECTION: RANDOLPH ROAD AND GLENMONT CIRCLE

SIGNAL NO.	SIGNAL HEAD INDICATIONS			
	1,2,6,7	3,4,5,8,9 10,13,16	11,12,14,15	17-22
TOTAL:	4	8	4	6
LEGEND				
OPTICALLY LIMITED				
R RED				
Y YELLOW				
G GREEN				
ARROW				
F FLASHING				
	12"	12"	12"	16"



SIGNAL NO.	SEQUENCE OF OPERATION															FLASH		
	INTERVAL																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
1	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R			←R
2	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R			←R
3	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R			Y
4	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R			Y
5	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R			Y
6	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R			←R
7	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R			←R
8	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R			Y
9	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R			Y
10	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R			Y
11	R	R	R	R	R	R	R	←G	←G	←G	Y	R	R	R	R			R
12	R	R	R	R	R	R	R	←G	←G	←G	Y	R	R	R	R			R
13	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R			R
14	R	R	R	R	←G	Y	R	R	R	R	R	R	R	R	R			R
15	R	R	R	R	←G	Y	R	R	R	R	R	R	R	R	R			R
16	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R			R
17	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			DARK
18	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			DARK
19	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			DARK
20	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW			DARK
21	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW			DARK
22	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW			DARK
PHASE	2 & 6	ALL RED	3	ALL RED	4				ALL RED	1 & 5	ALL RED							

NOTES: I = ADD PREEMPTION PHASE 4

Changed Ped signals to 16" CDP 8/26/20

SUBMITTED: KMH. 1-29-20 CHECKED: *KHamud 2/20/20* APPROVED: *KHamud 2/20/20*
 IN SERVICE BY: *789/761* DATE: *2/21/20* TIME: *12:00 Noon*

RANDOLPH RD
 RUNS IN A
 EAST-WEST
 DIRECTION

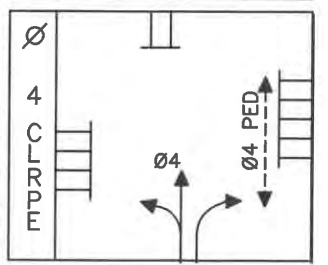
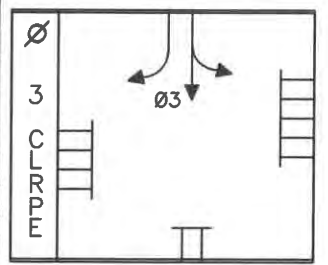
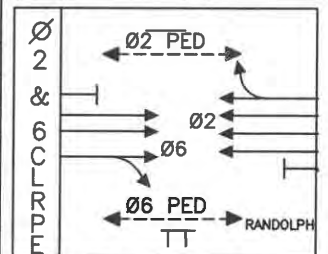
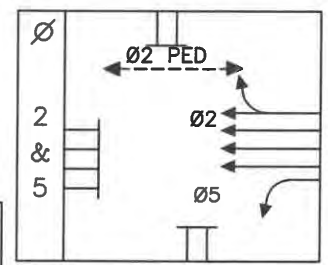
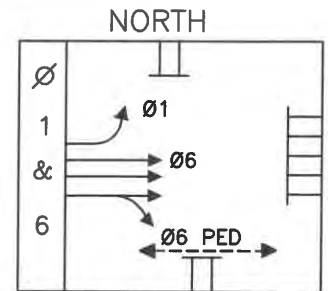
SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 218-1
 SHT. 2 OF 3
 PHASING

INTERSECTION: RANDOLPH ROAD AND GLENMONT CIRCLE

SIGNAL NO.	SIGNAL HEAD INDICATIONS			
	1,2,6,7	3,4,5,8,9 10,13,16	11,12,14,15	17-22
TOTAL:	4	8	4	6
LEGEND				
OPTICALLY LIMITED				
R RED				
Y YELLOW				
G GREEN				
ARROW				
F FLASHING				
	12"	12"	12"	12" 16"



SIGNAL NO.	SEQUENCE OF OPERATION														FLASH		
	INTERVAL																
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
1	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R					←R
2	←G	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R					←R
3	G	G	G	R	R	R	Y	R	R	R	R	R					Y
4	G	G	G	R	R	R	Y	R	R	R	R	R					Y
5	G	G	G	R	R	R	Y	R	R	R	R	R					Y
6	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←R	←R					←R
7	←R	←R	←R	←G	←Y	←R	←R	←R	←R	←R	←R	←R					←R
8	R	R	R	G	G	G	Y	R	R	R	R	R					Y
9	R	R	R	G	G	G	Y	R	R	R	R	R					Y
10	R	R	R	G	G	G	Y	R	R	R	R	R					Y
11	R	R	R	R	R	R	R	R	R	R	Y	R					R
12	R	R	R	R	R	R	R	R	R	R	Y	R					R
13	R	R	R	R	R	R	R	R	R	R	Y	R					R
14	R	R	R	R	R	R	R	R	Y	R	R	R					R
15	R	R	R	R	R	R	R	R	Y	R	R	R					R
16	R	R	R	R	R	R	R	R	Y	R	R	R					R
17	DW	DW	DW	W	W	W	FDW	DW	DW	DW	DW	DW					DARK
18	W	W	W	DW	DW	DW	FDW	DW	DW	DW	DW	DW					DARK
19	W	W	W	DW	DW	DW	FDW	DW	DW	DW	DW	DW					DARK
20	DW	DW	DW	W	W	W	FDW	DW	DW	DW	DW	DW					DARK
21	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	FDW	DW					DARK
22	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	FDW	DW					DARK
PHASE	1 & 6	ALL RED	2 & 5	ALL RED	CLR TO PE 2 & 6	CLR PE 3	CLR PE 4										

NOTES: I = ADD PREEMPTION PHASE 4

SUBMITTED: KMH. 1-29-20 CHECKED: KHameda/2/20/20 APPROVED: KHameda/2/20/20
 IN SERVICE BY: _____ DATE: _____ TIME: _____

RANDOLPH RD
 RUNS IN A
 EAST-WEST
 DIRECTION

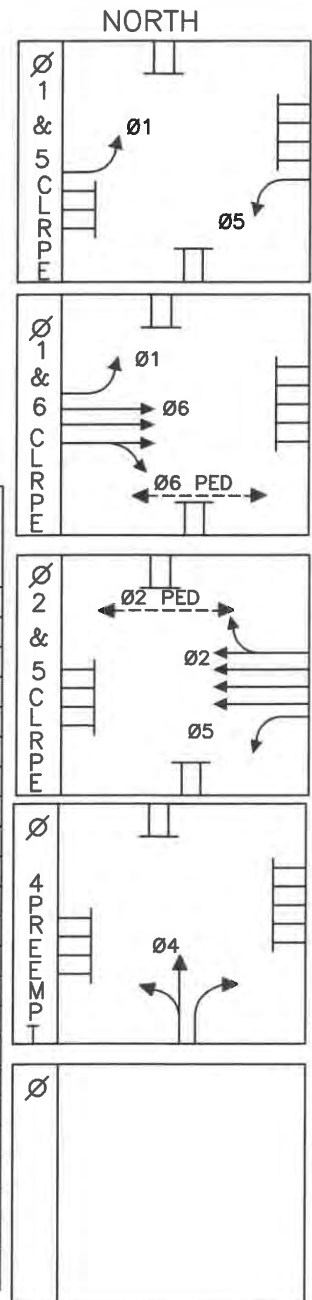
SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 218-1
 SHT. 3 OF 3
 PHASING

INTERSECTION: RANDOLPH ROAD AND GLENMONT CIRCLE

SIGNAL NO.	SIGNAL HEAD INDICATIONS			
	1,2,6,7	3,4,5,8,9 10,13,16	11,12,14,15	17-22
TOTAL:	4	8	4	6
LEGEND				
OPTICALLY LIMITED				
R RED				
Y YELLOW				
G GREEN				
ARROW				
FLASHING				
	12"	12"	12"	12" 16"



SIGNAL NO.	SEQUENCE OF OPERATION													FLASH		
	INTERVAL															
	28	29	30	31	32	33	34	35	36	37	38	39				
1	←Y	←R	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R				←R
2	←Y	←R	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R				←R
3	R	R	Y	R	R	R	G	R	R	R	R	R				Y
4	R	R	Y	R	R	R	G	R	R	R	R	R				Y
5	R	R	Y	R	R	R	G	R	R	R	R	R				Y
6	←Y	←R	←R	←R	←Y	←R	←R	←R	←R	←R	←R	←R				←R
7	←Y	←R	←R	←R	←Y	←R	←R	←R	←R	←R	←R	←R				←R
8	R	R	R	R	Y	G	R	R	R	R	R	R				Y
9	R	R	R	R	Y	G	R	R	R	R	R	R				Y
10	R	R	R	R	Y	G	R	R	R	R	R	R				Y
11	R	R	R	R	R	R	R	G	G	G	Y	R				R
12	R	R	R	R	R	R	R	G	G	G	Y	R				R
13	R	R	R	R	R	R	R	G	G	G	Y	R				R
14	R	R	R	R	R	R	R	R	R	R	R	R				R
15	R	R	R	R	R	R	R	R	R	R	R	R				R
16	R	R	R	R	R	R	R	R	R	R	R	R				R
17	DW	DW	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW				DARK
18	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW				DARK
19	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW				DARK
20	DW	DW	DW	DW	FDW	DW	DW	DW	DW	DW	DW	DW				DARK
21	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW				DARK
22	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW				DARK
PHASE	CLR PE 1 & 5	CLR PE 1 & 6	CLR PE 2 & 5	PREEMPT 4				ALL RED								

NOTES: I= ADD PREEMPTION PHASE 4

SUBMITTED: KMH. 1-29-20 CHECKED: KHamud 2/20/20 APPROVED: KHamud 2/20/20
 IN SERVICE BY: _____ DATE: _____ TIME: _____

SIG#0218 Hub-IE

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X	X	X	X	X										
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	7	5	5	5	7	0	0	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	0	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	12	0	29	0	12	0	0	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	0.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	10	60	20	20	10	60	0	0	0	0	0	0	0	0	0	0
MAX2	30	60	20	25	30	60	0	0	0	0	0	0	0	0	0	0
MAX3	30	60	20	25	30	60	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.0	3.5	3.5	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED CLR	2.5	2.0	3.5	3.5	2.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET			X	X	X											
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	4	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP	0	0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	135	ACT WALK REST	
OFFSET VAL	115	PHASE RESERVICE	

NextEdit

COORDINATOR PATTERN 2

MAX SELECT	NONE	FORCE OFF	NONE
STD (COS)	121	VEH PERM 1	0
DWELL/ADD TIME	0	VEH PERM 2	0
TIMING PLAN	1	VEH PERM 2 - DISP	0
SEQUENCE	1	XART PTRN.	0
ACTION PLAN	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	134	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	131	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4	TIMING PLAN	1
CYCLE	135	SEQUENCE	1
OFFSET VAL	115	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	141	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	20	67	20	43	20	67	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

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Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	20	47	25	43	20	47	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	20	63	24	43	20	63	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	20	47	25	43	20	47	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PREEMPT PLAN 1

VEH/PED (OVERLAP)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
TRKCLR V
TRKCLR O

NextEdit

PREEMPT PLAN 1																
VEH/PED (OVERLAP)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ENA TRL																
DWEL VEH	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
DWEL PED																
DWEL OLP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYC VEH	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CYC PED																
CYC OLP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EXIT PH	X					X										
EXIT CAL	X	X	X		X	X										
SP FUNC																

OPTIONS	
ENABLE	S1
DET LOCK	X
OVERIDE FL	X
TERM OLP	
PED DARK	
X TMG PLN	0
PMT OVRIDE	X
DELAY	15
DURATION	25
PC>YEL	
TC RESERV	

OPTIONS			
X FLCOLR	GRN	TERM PH	
RE-SERV	0	DWELL FL	OFF
INTERLOCK		EXIT OPT	OFF
INHIBIT	0	FLT TYPE	HARD
CLR>GRN		PMT ACTIVE OUT	ON

FREE DUR PMT				
Ring	1	2	3	4
FREE DUR PMT				

Times			
ENTRANCE TM - WALK	0	TRACK CLEAR - MIN GR	0
ENTRANCE TM - PED CL	18	TRACK CLEAR - EXT GR	0
ENTRANCE TM - MN GR	0	TRACK CLEAR - MX GR	0
ENTRANCE TM - YEL	0.0	TRACK CLEAR - YEL	0.0
ENTRANCE TM - RED	0.0	TRACK CLEAR - RED	0.0

DWL/CYC-EXIT - MIN DL	6
DWL/CYC-EXIT - PMT EXT	0.0
DWL/CYC-EXIT - MX TM	0
DWL/CYC-EXIT - YEL	4.0
DWL/CYC-EXIT - RED	1.0

ACTION PLAN 1			
PATTERN	1	SYS OVERRIDE	
TIMING PLAN	1	SEQUENCE	1
VEH DET PLAN	0	DET LOG	0
FLASH		RED REST	
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE		PRIORITY RETURN	

PED PR RETURN	
QUEUE DELAY	
PMT COND DELAY	

PHASE TABLE																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
ACTION PLAN	4	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

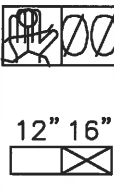


RANDOLPH RD
 RUNS IN A
 EAST-WEST
 DIRECTION

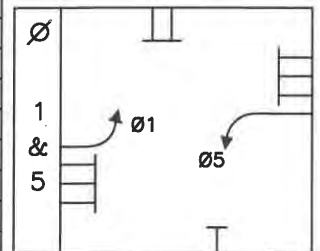
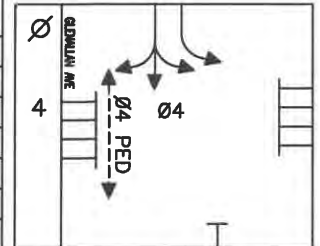
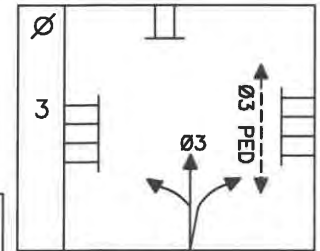
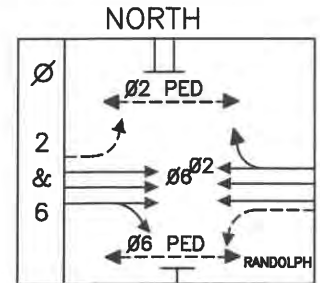
SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 219-E
 SHT. 1 OF 2
 PHASING

INTERSECTION: RANDOLPH ROAD AND GLENALLAN AVENUE

SIGNAL NO.	SIGNAL HEAD INDICATIONS			
	3,6,9,12	7,8,10,11	1,2,4,5	13-20
TOTAL:	4	4	4	8
LEGEND	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	
 OPTICALLY LIMITED R RED Y YELLOW G GREEN  ARROW F FLASHING	12"	12"	12"	



SIGNAL NO.	SEQUENCE OF OPERATION																FLASH			
	INTERVAL																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
1	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	G	R	Y	R	Y	
2	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	G	R	Y	R	Y	
3	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	G	R	Y	R	Y	
4	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	G	R	Y	R	Y	
5	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	G	R	Y	R	Y	
6	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	G	R	Y	R	Y	
7	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	
8	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	
9	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	
10	R	R	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	
11	R	R	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	
12	R	R	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	
13	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
14	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
15	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
16	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
17	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	
18	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
19	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	
20	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	
PHASE	2 & 6	ALL RED	3					ALL RED	4					ALL RED	1 & 5	ALL RED				

NOTES: E-SIGNAL REBUILD. ADD MAINLINE EP LEFT TURN Ø'S 1 & 5. NEW TS2 CAB, APS/CPS, VIDEO DETECTION
 CHANGE Ø3 TO NB AND Ø4 TO SB

SUBMITTED: VP 03/08/2021 CHECKED: *R Ham* 6/17/21 APPROVED: *R Ham* 6/17/2021
 IN SERVICE BY: *766/782* DATE: *6/17/21* TIME: *1250*


RANDOLPH RD
 RUNS IN A
 EAST-WEST
 DIRECTION

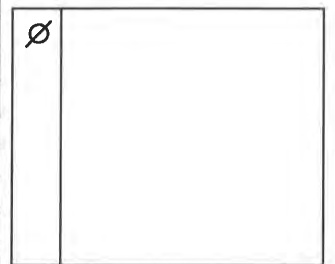
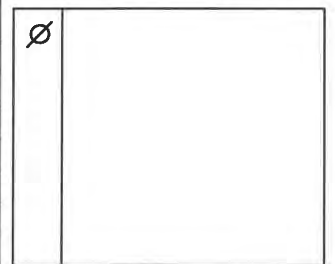
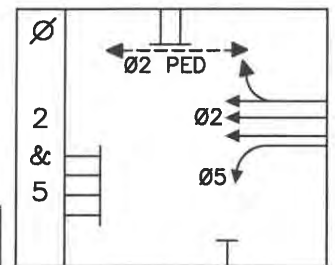
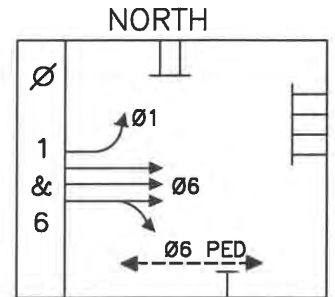
SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 219-E
 SHT. 2 OF 2
 PHASING

INTERSECTION: RANDOLPH ROAD AND GLENALLAN AVENUE

SIGNAL NO.	SIGNAL HEAD INDICATIONS			
	3,6,9,12	7,8,10,11	1,2,4,5	13-20
TOTAL:	4	4	4	8
LEGEND	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	 12" 16"
○ OPTICALLY LIMITED R RED Y YELLOW G GREEN ← ARROW F FLASHING	12"	12"	12"	



SIGNAL NO.	SEQUENCE OF OPERATION																			FLASH	
	INTERVAL																				
	18	19	20	21	22	23															
1	G	G	G	R	R	R															Y
2	G	G	G	R	R	R															Y
3	G	G	G	R	R	R															Y
4	R	R	R	G	G	G															Y
5	R	R	R	G	G	G															Y
6	R	R	R	G	G	G															Y
7	R	R	R	R	R	R															R
8	R	R	R	R	R	R															R
9	R	R	R	R	R	R															R
10	R	R	R	R	R	R															R
11	R	R	R	R	R	R															R
12	R	R	R	R	R	R															R
13	DW	DW	DW	W	W	W															DARK
14	W	W	W	DW	DW	DW															DARK
15	W	W	W	DW	DW	DW															DARK
16	DW	DW	DW	W	W	W															DARK
17	DW	DW	DW	DW	DW	DW															DARK
18	DW	DW	DW	DW	DW	DW															DARK
19	DW	DW	DW	DW	DW	DW															DARK
20	DW	DW	DW	DW	DW	DW															DARK
PHASE	1 & 6	ALL RED	2 & 5	ALL RED																	

NOTES: E-SIGNAL REBUILD. ADD MAINLINE EP LEFT TURN Ø'S 1 & 5. NEW TS2 CAB, APS/CPS, VIDEO DETECTION
 CHANGE Ø3 TO NB AND Ø4 TO SB

SUBMITTED: VP 03/08/2021 CHECKED: _____ APPROVED: _____
 IN SERVICE BY: _____ DATE: _____ TIME: _____

SIG#0219 Hub-IE

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X	X	X	X	X										
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	30	5	6	5	30	0	0	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	7	7	0	7	0	0	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	14	26	26	0	14	0	0	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	5.0	3.0	3.0	3.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	20	40	20	20	15	40	0	0	0	0	0	0	0	0	0	0
MAX2	25	60	25	40	20	60	0	0	0	0	0	0	0	0	0	0
MAX3	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	60	30	40	0	60	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	20.0	5.0	10.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.5	3.5	4.0	3.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED CLR	2.0	2.0	3.5	3.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL		X			X											
PD RCALL		X			X											
MX RCALL																
SF RCALL																
NO REST																
AI CALC																

NextEdit

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	0	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP	0	0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	135	ACT WALK REST	
OFFSET VAL	0	PHASE RESERVICE	

NextEdit

COORDINATOR PATTERN 2

MAX SELECT	NONE	FORCE OFF	NONE
STD (COS)	121	VEH PERM 1	0
DWELL/ADD TIME	0	VEH PERM 2	0
TIMING PLAN	1	VEH PERM 2 - DISP	0
SEQUENCE	1	XART PTRN.	0
ACTION PLAN	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	0	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	131	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

PHASE MODES								
Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES								
Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT								
PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4	
USE SPLIT PATTERN	4
CYCLE	135
OFFSET VAL	0
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	141
DWELL/ADD TIME	0
TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG														
RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES								
Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES								
Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT								
PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1								
PHASE	1	2	3	4	5	6	7	8
SPLIT	18	52	40	40	18	52	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SIG#0219 Hub-IE

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	18	37	40	40	18	37	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	18	52	40	40	18	52	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	18	37	40	40	18	37	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	FLASH		SYS OVERRIDE		RED REST	
TIMING PLAN	1	VEH DET DIAG PLN	0	SEQUENCE	1	PED DET DIAG PLN	0
VEH DET PLAN	0	DIMMING ENABLE		DET LOG	0	PRIORITY RETURN	

NextEdit

SIG#0219 Hub-IE

ACTION PLAN 1

PED PR RETURN		QUEUE DELAY		PMT COND DELAY	
---------------	--	-------------	--	----------------	--

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

SIG#0219 Hub-IE

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 99

PATTERN	FREE	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 100

PATTERN	FLSH	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH	X	DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75

NextEdit

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 76-90
LP 91-100

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	1	2	3	4	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	1	2	3	4	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	1	2	3	4	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	1	2	3	4	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	1	2	3	4	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	2	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	2	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

RANDOLPH RD
 RUNS IN A
 EAST-WEST
 DIRECTION

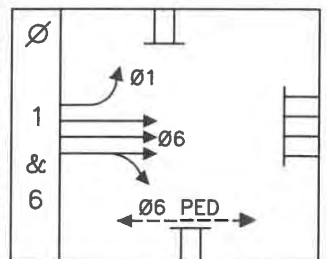
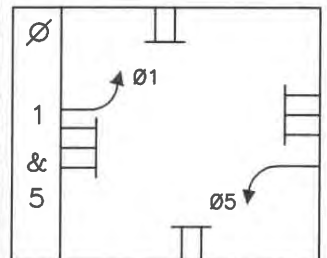
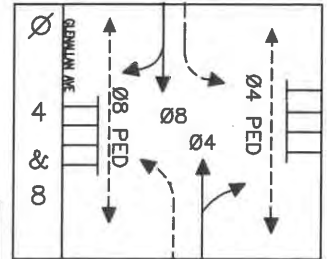
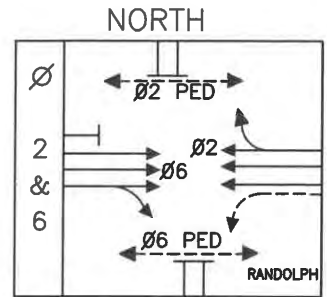
SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 220-G
 SHT. 1 OF 2
 PHASING

INTERSECTION: RANDOLPH ROAD AND MIDDLEVALE ROAD GARDEN GATE ROAD

SIGNAL NO.	SIGNAL HEAD INDICATIONS			
	3,4,7-11	5,6	1,2	12-19
TOTAL:	7	2	2	8
LEGEND	(R)	(R)	(←R)	
OPTICALLY LIMITED	(Y)	(←Y) (Y)	(←Y)	
R RED	(G)	(←G) (G)	(←G)	12" 16"
Y YELLOW				
G GREEN				
← ARROW				
F FLASHING				



SIGNAL NO.	SEQUENCE OF OPERATION															FLASH
	INTERVAL															
1	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←G	←Y	←R	←R
2	←R	←R	←R	←R	←R	←R	←R	←R	←R	←G	←Y	←R	←G	←Y	←R	←R
3	G	G	Y	R	R	R	R	R	R	R	R	R	G	G	G	Y
4	G	G	Y	R	R	R	R	R	R	R	R	R	G	G	G	Y
5	G	G	Y	R	R	R	R	R	R	←R	←Y	←R	R	R	R	Y
6	G	G	Y	R	R	R	R	R	R	←R	←Y	←R	R	R	R	Y
7	G	G	Y	R	R	R	R	R	R	←R	←Y	←R	R	R	R	Y
8	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R
9	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R
10	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R
11	R	R	R	R	G	G	G	Y	R	R	R	R	R	R	R	R
12	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
13	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DW
14	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DW
15	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
16	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
17	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
18	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
19	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE	2 & 6	ALL RED	4 & 8	ALL RED	1 & 5	ALL RED	1 & 6	ALL RED								

NOTES: G: ADD EBLT EXCLUSIVE

SUBMITTED: VP 07/13/2022 CHECKED: KHAMUD 8/2/2022 APPROVED: KHAMUD 8/2/2022
 IN SERVICE BY: 766/781 DATE: 8/23/22 TIME: 1030

RANDOLPH RD
 RUNS IN A
 EAST-WEST
 DIRECTION

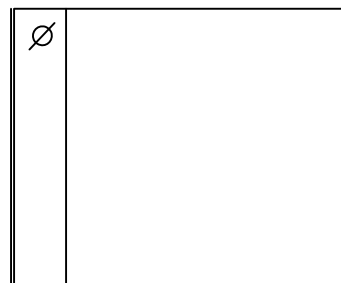
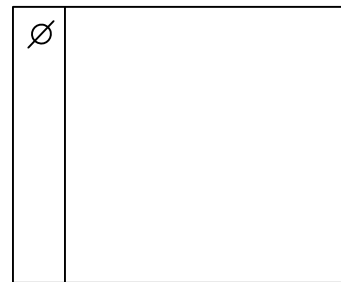
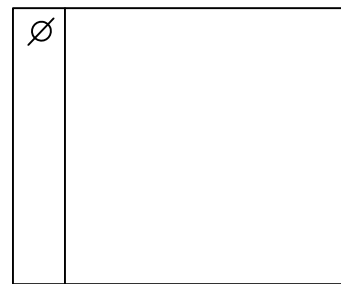
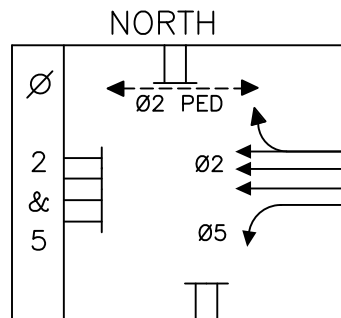
SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 220-G
 SHT. 2 OF 2
 PHASING

INTERSECTION: RANDOLPH ROAD AND MIDDLEVALE ROAD GARDEN GATE ROAD

SIGNAL NO.	SIGNAL HEAD INDICATIONS				
	3,4,7-11	5,6	1,2		12-19
TOTAL:	7	2	2		8
LEGEND	 12"	 12"	 12"		 12" 16"



SIGNAL NO.	SEQUENCE OF OPERATION															FLASH		
	INTERVAL																	
	16	17	18															
1	←R	←R	←R															←R
2	←R	←R	←R															←R
3	R	R	R															Y
4	R	R	R															Y
5	←S	←G	←Y	G														Y
6	←S	←G	←Y	G														Y
7	G	G	G															Y
8	R	R	R															R
9	R	R	R															R
10	R	R	R															R
11	R	R	R															R
12	W	W	W															DARK
13	DW	DW	DW															DARK
14	DW	DW	DW															DARK
15	W	W	W															DARK
16	DW	DW	DW															DARK
17	DW	DW	DW															DARK
18	DW	DW	DW															DARK
19	DW	DW	DW															DARK
PHASE	2 & 5	ALL RED																

NOTES: G: ADD EBLT EXCLUSIVE

SUBMITTED: <u>VP 07/13/2022</u>	CHECKED: _____	APPROVED: _____
IN SERVICE BY: _____	DATE: _____	D-56 TIME: _____

SIG#0220 Hub-IE

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X		X	X	X		X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	7	0	5	5	7	0	5	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	10	0	29	0	10	0	29	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	4.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	10	60	0	30	10	60	0	30	0	0	0	0	0	0	0	0
MAX2	30	60	0	40	30	60	0	50	0	0	0	0	0	0	0	0
MAX3	30	60	0	40	30	60	0	40	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.5	0.0	3.5	3.5	4.5	0.0	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	2.0	2.0	0.0	4.0	2.0	2.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	2.0	5.0	5.0	5.0	2.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET				X				X								
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	120	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP	0	0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	135	ACT WALK REST	
OFFSET VAL	69	PHASE RESERVICE	

NextEdit

COORDINATOR PATTERN 2

MAX SELECT	NONE	FORCE OFF	NONE
STD (COS)	121	VEH PERM 1	0
DWELL/ADD TIME	0	VEH PERM 2	0
TIMING PLAN	1	VEH PERM 2 - DISP	0
SEQUENCE	1	XART PTRN.	0
ACTION PLAN	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	10	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	131	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4	TIMING PLAN	1
CYCLE	135	SEQUENCE	1
OFFSET VAL	69	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	141	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 5

USE SPLIT PATTERN	5	PHASE RESERVICE	
CYCLE	100	MAX SELECT	NONE
OFFSET VAL	69	STD (COS)	151
ACTUATED COORD		DWELL/ADD TIME	0
ACT WALK REST		TIMING PLAN	1

NextEdit

COORDINATOR PATTERN 5

SEQUENCE	1	VEH PERM 2	0
ACTION PLAN	0	VEH PERM 2 - DISP	0
FORCE OFF	NONE	XART PTRN.	0
VEH PERM 1	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	27	73	0	50	27	73	0	50
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	20	72	0	43	30	62	0	43
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16	PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0	COORD								

NextEdit

Split 2

PHASE	9	10	11	12	13	14	15	16
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	22	85	0	43	22	85	0	43
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	40	52	0	43	30	62	0	43
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 5

PHASE	1	2	3	4	5	6	7	8
SPLIT	20	37	0	43	20	37	0	43
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 5

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH		DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 4

PATTERN	4	VEH DET DIAG PLN	0	DET LOG	0	PED PR RETURN	
TIMING PLAN	1	DIMMING ENABLE		RED REST		QUEUE DELAY	
VEH DET PLAN	0	SYS OVERRIDE		PED DET DIAG PLN	0	PMT COND DELAY	
FLASH		SEQUENCE	1	PRIORITY RETURN			

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 5

PATTERN	5	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 100

PATTERN	FLSH	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH	X	DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	5	100	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
ACTION PLAN	5	100	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
ACTION PLAN	5	100	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
ACTION PLAN	5	100	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
ACTION PLAN	5	100	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	5	100	5	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	5	100	5	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MD 97
 RUNS IN A
 NORTH-SOUTH
 DIRECTION

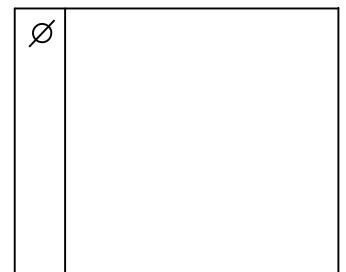
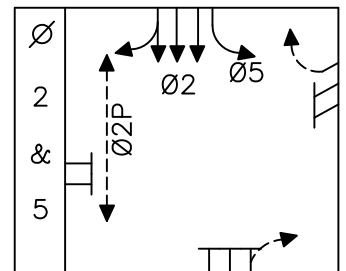
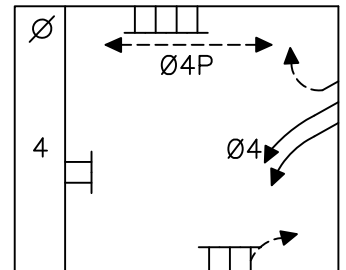
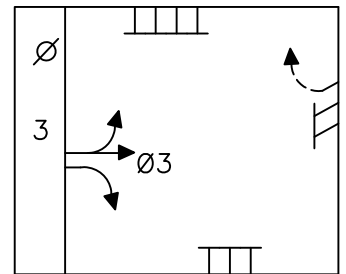
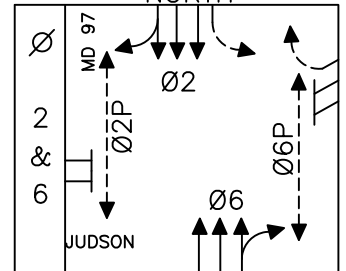
SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 211-G
 SHEET 1 OF 1
 PHASING
 NORTH

INTERSECTION: GEORGIA AVE. (MD 97) & LAYHILL RD. (MD 182)

SIGNAL NO.	SIGNAL HEAD INDICATIONS				
		1-3,6,9,11	7,8,10,12	4,5	13-18
TOTAL:		6	4	2	6
LEGEND					
OPTICALLY LIMITED					
R RED					
Y YELLOW					
G GREEN					
← ARROW					
F FLASHING					
	12"	12"	12"	12"	12" 16"



SIGNAL NO.	SEQUENCE OF OPERATION															FLASH
	INTERVAL															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	Y
2	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	Y
3	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	Y
4	G	G	Y	R	R	R	R	R	R	R	R	R	G	G	G	Y
5	G	G	Y	R	R	R	R	R	R	R	R	R	G	G	G	Y
6	G	G	Y	R	R	R	R	R	R	R	R	R	G	G	G	Y
7	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R
8	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R
9	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R
10	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R
11	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R
12	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R
13	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DARK
14	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
15	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
16	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	DARK
17	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DARK
18	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DARK
PHASE	2 & 6		ALL RED	3	ALL RED	4				ALL RED	2 & 5		ALL RED			

NOTES: G - REMOVES S-CAB. INSTALL TS-2

SUBMITTED: VP 01/02/2018 CHECKED: _____ APPROVED: _____
 IN SERVICE BY: _____ DATE: _____ TIME: _____

SIG#0211 Hub-IE

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE		X	X	X	X	X										
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	0	7	5	5	5	7	0	0	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	0	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	31	0	24	0	31	0	0	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	0.0	0.0	3.0	5.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	0	70	15	25	15	70	0	0	0	0	0	0	0	0	0	0
MAX2	0	60	10	70	15	60	0	0	0	0	0	0	0	0	0	0
MAX3	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	0.0	4.0	3.5	4.0	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED CLR	0.0	2.5	3.0	2.5	2.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	2.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	180	SEQUENCE	1
OFFSET VAL	39	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	1
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP	0	0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	150	ACT WALK REST	
OFFSET VAL	126	PHASE RESERVICE	

NextEdit

COORDINATOR PATTERN 2

MAX SELECT	NONE	FORCE OFF	NONE
STD (COS)	121	VEH PERM 1	1
DWELL/ADD TIME	0	VEH PERM 2	0
TIMING PLAN	1	VEH PERM 2 - DISP	0
SEQUENCE	1	XART PTRN.	0
ACTION PLAN	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	180	SEQUENCE	1
OFFSET VAL	8	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	1
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	131	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

PHASE MODES								
Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES								
Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT								
PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4	
USE SPLIT PATTERN	4
CYCLE	150
OFFSET VAL	126
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	141
DWELL/ADD TIME	0
TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	1
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG														
RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES								
Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES									SF OUT								
Phase	9	10	11	12	13	14	15	16	PHASE	1	2	3	4	5	6	7	8
COORD									SF OUT								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE									

COORDINATOR PATTERN 5	
USE SPLIT PATTERN	5
CYCLE	120
OFFSET VAL	88
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	151
DWELL/ADD TIME	0
TIMING PLAN	1

NextEdit

COORDINATOR PATTERN 5

SEQUENCE	1	VEH PERM 2	0
ACTION PLAN	0	VEH PERM 2 - DISP	0
FORCE OFF	NONE	XART PTRN.	0
VEH PERM 1	1		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	107	23	50	32	75	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	95	17	38	22	73	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16	PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0	COORD								

NextEdit

SIG#0211 Hub-IE

Split 2

PHASE	9	10	11	12	13	14	15	16
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	117	25	38	25	92	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	95	17	38	22	73	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 5

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	63	17	40	16	47	0	0
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 5

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH		DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 4

PATTERN	4	VEH DET DIAG PLN	0	DET LOG	0	PED PR RETURN	
TIMING PLAN	1	DIMMING ENABLE		RED REST		QUEUE DELAY	
VEH DET PLAN	0	SYS OVERRIDE		PED DET DIAG PLN	0	PMT COND DELAY	
FLASH		SEQUENCE	1	PRIORITY RETURN			

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 5

PATTERN	5	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3				X												
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	5	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	10	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	5	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	11	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

SIG#0211 Hub-IE

Day Plan 7

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MD 97
 RUNS IN A
 North - South
 DIRECTION

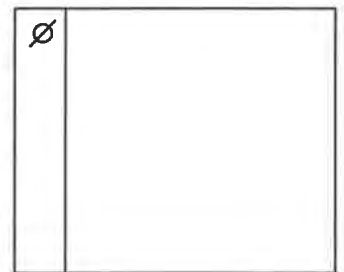
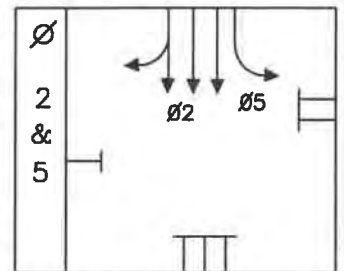
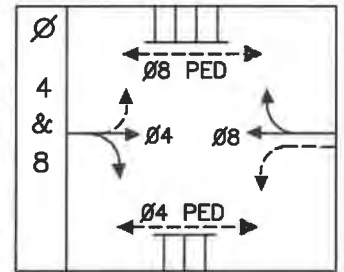
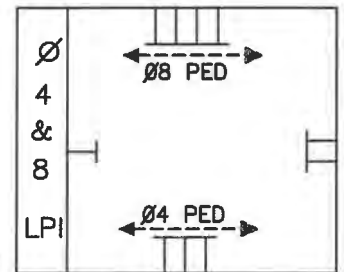
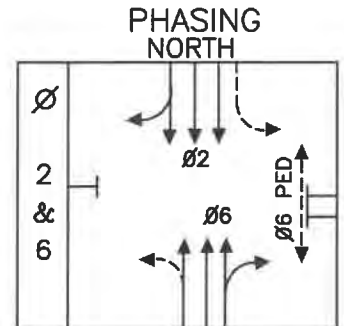
SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 209 - E
 SHT. 1 OF 1

INTERSECTION: Georgia Ave. (MD 97) & Shorefield Road

SIGNAL NO.	SIGNAL HEAD INDICATIONS				
	1,2,5-9	4	3		10-15
TOTAL:	7	1	1		6
LEGEND	(R)	(R)	(R)		(R)
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 15px; height: 15px; margin-right: 5px;"></div> OPTICALLY LIMITED </div> R RED Y YELLOW G GREEN ← ARROW F FLASHING	(Y)	←(Y) (Y)	←(Y) (Y)		(Y)
	(G)	←(G) (G)	←(G) (G)		(G)
	12"	12"	12"	8"	
					 12" 16"



SIGNAL NO.	SEQUENCE OF OPERATION																		FLASH
	INTERVAL																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	G	G	Y	R	R	R	R	R	R	R	R	R	R						Y
2	G	G	Y	R	R	R	R	R	R	R	R	R	R						Y
3	G	G	Y	R	R	R	R	R	R	R	G	Y	G	G					Y
4	G	G	Y	R	R	R	R	R	R	R	G	Y	G	G					Y
5	G	G	Y	R	R	R	R	R	R	R	G	G	G						R
6	R	R	R	R	R	G	G	G	Y	R	R	R	R						R
7	R	R	R	R	R	G	G	G	Y	R	R	R	R						R
8	R	R	R	R	R	G	G	G	Y	R	R	R	R						R
9	R	R	R	R	R	G	G	G	Y	R	R	R	R						R
P10	W	DWF	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW						DARK
P11	W	DWF	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW						DARK
P12	DW	DW	DW	DW	W	W	DWF	DW	DW	DW	DW	DW	DW						DARK
P13	DW	DW	DW	DW	W	W	DWF	DW	DW	DW	DW	DW	DW						DARK
P14	DW	DW	DW	DW	W	W	DWF	DW	DW	DW	DW	DW	DW						DARK
P15	DW	DW	DW	DW	W	W	DWF	DW	DW	DW	DW	DW	DW						DARK
16																			
17																			
18																			
19																			
20																			
PHASE	2 & 6	ALL RED	4&8 LPI	4 & 8	ALL RED	2 & 5	ALL RED												F

NOTES: E - ADDED LPI PHASE 4 AND 8

SUBMITTED: <u>LMB 01/22/2020</u>	CHECKED: <u>VP 1/23/2020</u>	APPROVED: <u>VP 1/23/2020</u>
IN SERVICE BY: <u>769</u>	DATE: <u>01/23/2020</u>	TIME: <u>10:76am</u>

SIG#0209 Hub-IE

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE		X		X	X	X		X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	0	7	0	5	5	7	0	5	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0
WALK	0	0	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	0	0	19	0	10	0	19	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	0.0	0.0	0.0	3.0	3.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	0	80	0	20	10	80	0	20	0	0	0	0	0	0	0	0
MAX2	0	70	0	60	40	70	0	100	0	0	0	0	0	0	0	0
MAX3	0	0	0	0	60	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.0	4.0	3.0	3.5	3.5	4.0	3.0	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	0.0	1.0	0.0	2.5	1.0	1.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	99	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP	0	0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	150	ACT WALK REST	
OFFSET VAL	126	PHASE RESERVICE	

NextEdit

COORDINATOR PATTERN 2

MAX SELECT	NONE	FORCE OFF	NONE
STD (COS)	121	VEH PERM 1	0
DWELL/ADD TIME	0	VEH PERM 2	0
TIMING PLAN	1	VEH PERM 2 - DISP	0
SEQUENCE	1	XART PTRN.	0
ACTION PLAN	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	99	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	131	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

PHASE MODES								
Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES								
Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT								
PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4	
USE SPLIT PATTERN	4
CYCLE	150
OFFSET VAL	126
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	141
DWELL/ADD TIME	0
TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG														
RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES								
Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES									SF OUT								
Phase	9	10	11	12	13	14	15	16	PHASE	1	2	3	4	5	6	7	8
COORD									SF OUT								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE									

COORDINATOR PATTERN 5	
USE SPLIT PATTERN	5
CYCLE	120
OFFSET VAL	16
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	151
DWELL/ADD TIME	0
TIMING PLAN	1

NextEdit

COORDINATOR PATTERN 5

SEQUENCE	1	VEH PERM 2	0
ACTION PLAN	0	VEH PERM 2 - DISP	0
FORCE OFF	NONE	XART PTRN.	0
VEH PERM 1	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	113	0	37	17	96	0	37
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	113	0	37	29	84	0	37
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16	PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0	COORD								

NextEdit

Split 2

PHASE	9	10	11	12	13	14	15	16
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	110	0	40	17	93	0	40
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	113	0	37	29	84	0	37
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 5

PHASE	1	2	3	4	5	6	7	8
SPLIT	0	85	0	35	16	69	0	35
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 5

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH		DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 4

PATTERN	4	VEH DET DIAG PLN	0	DET LOG	0	PED PR RETURN	
TIMING PLAN	1	DIMMING ENABLE		RED REST		QUEUE DELAY	
VEH DET PLAN	0	SYS OVERRIDE		PED DET DIAG PLN	0	PMT COND DELAY	
FLASH		SEQUENCE	1	PRIORITY RETURN			

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 5

PATTERN	5	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 100

PATTERN	FLSH	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH	X	DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	5	100	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	5	100	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	5	100	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	5	100	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	5	100	5	1	2	3	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
START TIME - MM	0	30	30	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
ACTION PLAN	5	100	5	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	10	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
ACTION PLAN	5	100	5	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	11	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0











MD 182
 RUNS IN A
 NORTH-SOUTH
 DIRECTION

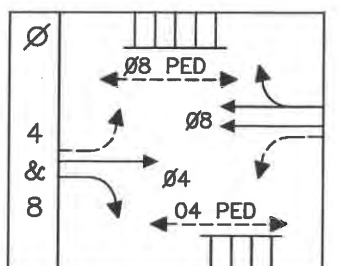
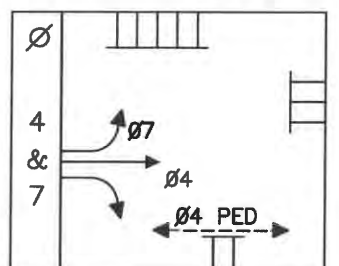
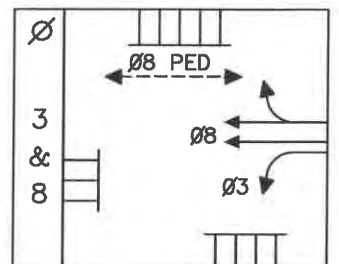
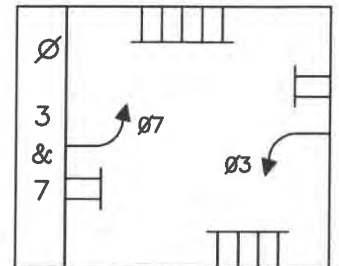
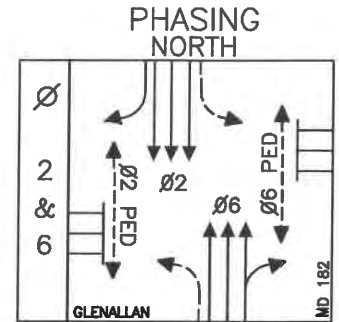
SEQUENCE OF OPERATION SHEET

















TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 222-G
 SHT. 1 OF 2

INTERSECTION: LAYHILL ROAD (MD 182) & GLENALLAN AVENUE

SIGNAL NO.	SIGNAL HEAD INDICATIONS				
	1,2,4,5,7,8,10,11	3,6,9,12			18,20
TOTAL:	8	4			2
LEGEND	(R)	(R)			
 OPTICALLY LIMITED					
R RED					
Y YELLOW					
G GREEN					
 ARROW					
F FLASHING					
	12"	12"			12" 16" 



SIGNAL NO.	SEQUENCE OF OPERATION INTERVAL																	FLASH	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		18
1	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
2	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
3	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
4	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
5	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
6	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
7	R	R	R	R			R			G	R	R	R	G	G	G	Y	R	R
8	R	R	R	R			R			G	R	R	R	G	G	G	Y	R	R
9	R	R	R	R	R	R	R	R	R	G	R	R	R	G	G	G	Y	R	R
10	R	R	R	R			R	R	R	R			G	G	G	G	Y	R	R
11	R	R	R	R			R	R	R	R			G	G	G	G	Y	R	R
12	R	R	R	R	R	R	R	R	R	G	R	R	R	G	G	G	Y	R	R
13	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
14	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
15	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
16	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
17	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DARK
18	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	FDW	DW	DW	DW	DW	DARK
19	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	FDW	DW	DW	DW	DW	DARK
20	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	W	W	W	FDW	DW	DW	DW	DW	DARK
PHASE	2 & 6	ALL RED	3 & 7	ALL RED	3 & 8	ALL RED	4 & 7	ALL RED	4 & 8	ALL RED									

NOTES: G = SIGNAL RECONSTRUCTION, INSTALLS LED SIGNALS APS, VIDEO DETECTION & S CABINET

SUBMITTED: SES 10/22/2014	CHECKED: <u>KHamud 10/20/14</u>	APPROVED: <u>KHamud 10/20/14</u>
IN SERVICE BY: <u>775/761</u>	DATE: <u>10/14/15</u>	TIME: <u>1:00 PM</u>

MD 182
 RUNS IN A
 NORTH-SOUTH
 DIRECTION









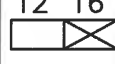
SEQUENCE OF OPERATION SHEET

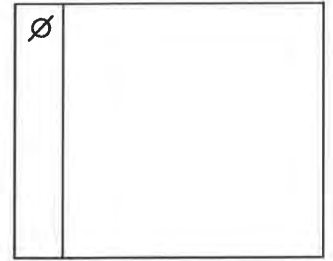
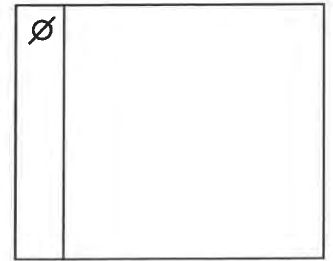
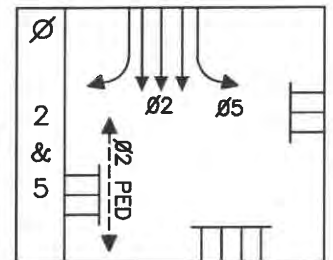
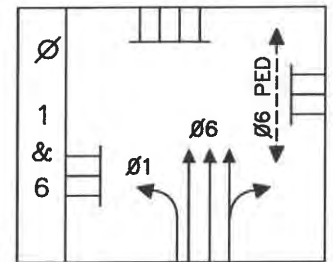
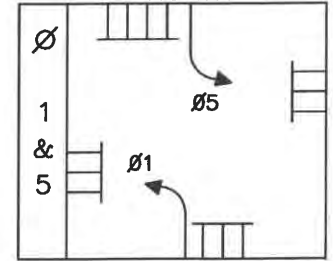
TRAFFIC OPERATIONS SECTION
 DIVISION OF TRAFFIC ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

NO. 222-G
 SHT. 2 OF 2

PHASING
 NORTH

INTERSECTION: LAYHILL ROAD (MD 182) & GLENALLAN AVENUE

SIGNAL NO.	SIGNAL HEAD INDICATIONS				
	1,2,4,5,7,8,10,11	3,6,9,12			18,20
TOTAL:	8	4			2
LEGEND	(R)	(R)			
 OPTICALLY LIMITED					
R RED					
Y YELLOW					
G GREEN					
← ARROW					
F FLASHING					
	12"	12"			12" 16" 



SIGNAL NO.	SEQUENCE OF OPERATION																	FLASH				
	INTERVAL																					
	19	20	21	22	23	24	25	26	27													
1	←S R	←Y R	R	←S G	←Y G	G	R	R	R												Y	
2	←S R	←Y R	R	←S G	←Y G	G	R	R	R													Y
3	R	R	R	G	G	G	R	R	R													Y
4	←S R	←Y R	R	R	R	R	←S G	←Y G	G													Y
5	←S R	←Y R	R	R	R	R	←S G	←Y G	G													Y
6	R	R	R	R	R	R	G	G	G													Y
7	R	R	R	R	R	R	R	R	R													R
8	R	R	R	R	R	R	R	R	R													R
9	R	R	R	R	R	R	R	R	R													R
10	R	R	R	R	R	R	R	R	R													R
11	R	R	R	R	R	R	R	R	R													R
12	R	R	R	R	R	R	R	R	R													R
13	DW	DW	DW	W	W	W	DW	DW	DW													DARK
14	DW	DW	DW	W	W	W	DW	DW	DW													DARK
15	DW	DW	DW	DW	DW	DW	W	W	W													DARK
16	DW	DW	DW	DW	DW	DW	W	W	W													DARK
17	DW	DW	DW	DW	DW	DW	DW	DW	DW													DARK
18	DW	DW	DW	DW	DW	DW	DW	DW	DW													DARK
19	DW	DW	DW	DW	DW	DW	DW	DW	DW													DARK
20	DW	DW	DW	DW	DW	DW	DW	DW	DW													DARK
PHASE	1 & 5	ALL RED	1 & 6	ALL RED	2 & 5	ALL RED																

NOTES: G = SIGNAL RECONSTRUCTION, INSTALLS LED SIGNALS, APS, VIDEO DETECTION & S CABINET

SUBMITTED: SES 10/22/2014 CHECKED: [Signature] 10/20/14 APPROVED: [Signature] 10/20/14
 IN SERVICE BY: 775/761 DATE: 10/14/15 TIME: 1:00 pm

SIG#0222 Hub-IE

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X	X	X	X	X	X	X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	3	10	3	7	3	10	3	7	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	18	0	29	0	18	0	29	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	0.0	3.0	5.0	3.0	0.0	3.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	15	40	15	26	15	40	15	26	0	0	0	0	0	0	0	0
MAX2	30	99	50	30	30	99	50	30	0	0	0	0	0	0	0	0
MAX3	0	0	0	60	0	0	0	60	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	4.0	4.0	3.5	3.5	4.0	4.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	2.0	2.0	3.0	3.5	2.0	2.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	120	SEQUENCE	1
OFFSET VAL	67	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP	0	0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	120	ACT WALK REST	
OFFSET VAL	22	PHASE RESERVICE	

NextEdit

COORDINATOR PATTERN 2

MAX SELECT	NONE	FORCE OFF	NONE
STD (COS)	121	VEH PERM 1	0
DWELL/ADD TIME	0	VEH PERM 2	0
TIMING PLAN	1	VEH PERM 2 - DISP	0
SEQUENCE	1	XART PTRN.	0
ACTION PLAN	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	120	SEQUENCE	1
OFFSET VAL	24	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	131	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

PHASE MODES								
Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES								
Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT								
PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4	
USE SPLIT PATTERN	4
CYCLE	120
OFFSET VAL	74
ACTUATED COORD	
ACT WALK REST	
PHASE RESERVICE	
MAX SELECT	NONE
STD (COS)	141
DWELL/ADD TIME	0
TIMING PLAN	1
SEQUENCE	1
ACTION PLAN	0
FORCE OFF	NONE
VEH PERM 1	0
VEH PERM 2	0
VEH PERM 2 - DISP	0
XART PTRN.	0

RING CONFIG														
RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES								
Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES								
Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT								
PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1								
PHASE	1	2	3	4	5	6	7	8
SPLIT	16	44	17	43	16	44	17	43
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SIG#0222 Hub-IE

Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	16	44	17	43	16	44	17	43
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	16	35	17	52	16	35	26	43
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	18	39	20	43	18	39	20	43
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1

PATTERN	1	FLASH		SYS OVERRIDE		RED REST	
TIMING PLAN	1	VEH DET DIAG PLN	0	SEQUENCE	1	PED DET DIAG PLN	0
VEH DET PLAN	0	DIMMING ENABLE		DET LOG	0	PRIORITY RETURN	

NextEdit

SIG#0222 Hub-IE

ACTION PLAN 1

PED PR RETURN		QUEUE DELAY		PMT COND DELAY	
---------------	--	-------------	--	----------------	--

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

SIG#0222 Hub-IE

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	1	2	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	6	9	15	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SEQUENCE OF OPERATION SHEET

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

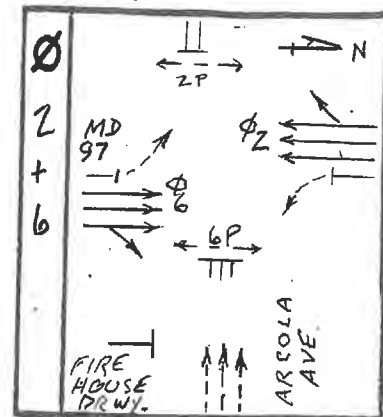
1 of 3

NO. 208-I

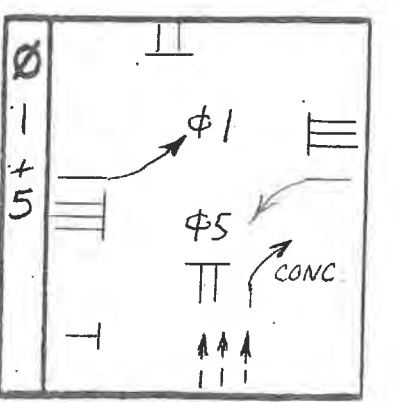
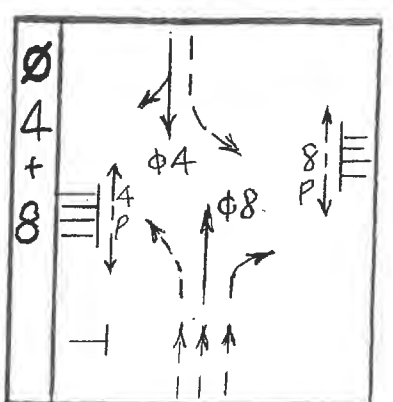
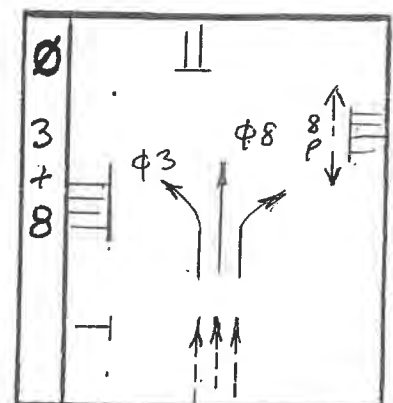
INTERSECTION: Arcola Ave. Georgia Ave. (MD 97) & Wheaton

Vol. F.H. PHASING

SIGNAL NO.	SIGNAL HEAD INDICATIONS					
	3,4,9-13,16	5, 6, 14, 15	16, 17	1, 2, 7, 8	18	19-26
TOTAL:	8	4	2	4	1	8
LEGEND	(R)	(R)	(R)	←(R)	(R)	
OPTICALLY LIMITED	(Y)	(Y)	←(Y) (Y)	←(Y)	(Y) (Y)	16" PEDESTRIAN COUNTERDOWN SIGNAL HEAD "LED" TYPE
R - RED	(G)	(Y)	←(G) (G)	←(G)	(G) (G)	APS
Y - YELLOW						Push Buttons
G - GREEN	←					
ARROW	12"	12" 8"	12"	12"	12"	
F - FLASHING						



SIGNAL NO.	SEQUENCE OF OPERATION																FLASH								
	INTERVAL																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16									
1	←R	←R	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R								
2	←R	←R	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R								
3	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	Y								
4	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	Y								
5	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR								
6	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR	FR								
7	←R	←R	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R								
8	←R	←R	←Y	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R	←R								
9	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	Y								
10	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	Y								
11	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R								
12	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R								
13	R	R	R	R	R	R	R	G	G	G	Y	R	R	R	R	R	R								
14	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	-								
15	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	8FY	-								
16	R	R	R	R	←G	←G	G	G	G	G	Y	R	R	R	R	R	R								
17	R	R	R	R	←G	←G	G	G	G	G	Y	R	R	R	R	R	R								
18	R	R	R	R	G	G	G	G	G	G	Y	R	R	R	R	R	R								
19	W	DWF	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW								
20	W	DWF	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW								
21	W	DWF	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW								
22	W	DWF	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW								
23	DW	DW	DW	DW	W	W	W	W	W	DWF	DW	DW	DW	DW	DW	DW	DW								
24	DW	DW	DW	DW	DW	DW	DW	W	W	DWF	DW	DW	DW	DW	DW	DW	DW								
25	DW	DW	DW	DW	DW	DW	DW	W	W	DWF	DW	DW	DW	DW	DW	DW	DW								
26	DW	DW	DW	DW	W	W	W	W	W	DWF	DW	DW	DW	DW	DW	DW	DW								
PHASE	2+6			ALL RED			3+8			ALL RED			4+8			ALL RED			1+5			ALL RED			F



NOTES:

SUBMITTED: CR 5/2/19 CHECKED: KHamud 5/2/19 APPROVED: KHamud 5/2/19
 IN SERVICE BY: 789+782 DATE: 5/8/19 TIME: 1305

SEQUENCE OF OPERATION SHEET

2 of 3

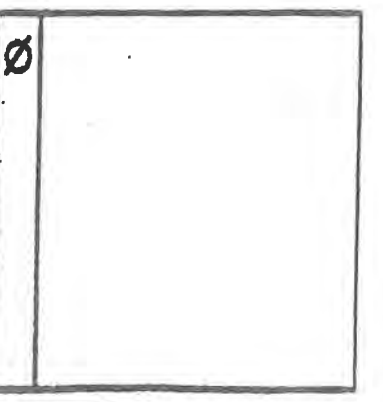
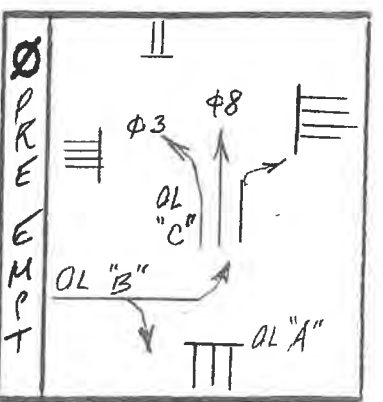
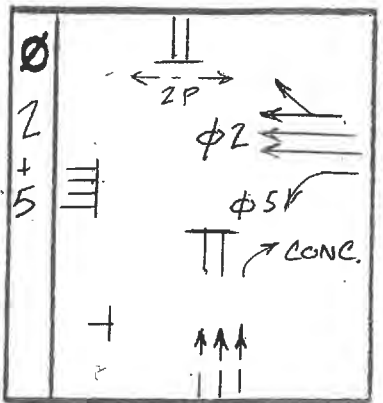
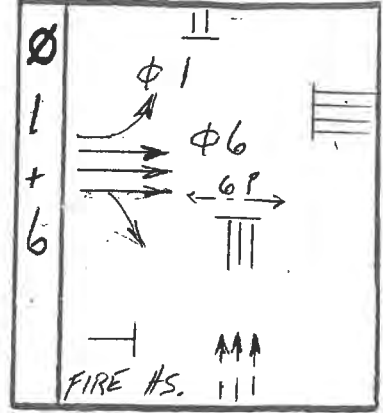
TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 208-I

INTERSECTION: Arcola Ave., Georgia Ave. (MD 97) & Wheaton

Vol. F.N. PHASING

SIGNAL NO.	SIGNAL HEAD INDICATIONS					
	3,4,9-13,16	5,6,14,15	16,17	1,2,7,8	18	19-26
TOTAL:	8	4	2	4	1	8
LEGEND	(R)	(R)	(R)	←(R)→	(R)	
OPTICALLY LIMITED	(Y)	(Y)	←(Y)→	←(Y)→	(Y) (Y)	16" PEDESTRIAN COUNTDOWN SIGNAL HEAD "LED" TYPE
R - RED	(G)	(Y)	←(G)→	←(G)→	(G) (G)	APS
Y - YELLOW						Push Buttons
G - GREEN	12"	12"/8"	12"	12"	12"	
ARROW						
F - FLASHING						



SIGNAL NO.	SEQUENCE OF OPERATION																ISALF
	INTERVAL																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	←G→	←R→	←R→	←R→	←R→	←R→		←R→	←R→	←R→			←R→	←R→	←R→		
2	←G→	←R→	←R→	←R→	←R→	←R→		←R→	←R→	←R→			←R→	←R→	←R→		
3	G	G	G	R	R	R		R	R	R			G	Y	R		
4	G	G	G	R	R	R		R	R	R			G	Y	R		
5	FR	FR	FR	FR	FR	FR		8FY	12Y	R			FR	R	R		
6	FR	FR	FR	FR	FR	FR		8FY	12Y	R			FR	R	R		
7	←R→	←R→	←R→	←G→	←Y→	←R→		←R→	←R→	←R→			←R→	←R→	←R→		
8	←R→	←R→	←R→	←G→	←Y→	←R→		←R→	←R→	←R→			←R→	←R→	←R→		
9	R	R	R	G	G	G		R	R	R			G	Y	R		
10	R	R	R	G	G	G		R	R	R			G	Y	R		
11	R	R	R	R	R	R		R	R	R			R	R	R		
12	R	R	R	R	R	R		R	R	R			R	R	R		
13	R	R	R	R	R	R		R	R	R			R	R	R		
14	8FY	8FY	8FY	8FY	8FY	8FY		R	R	R			8FY	12Y	R		
15	8FY	8FY	8FY	8FY	8FY	8FY		R	R	R			8FY	12Y	R		
16	R	R	R	R	R	R		←GG→	←Y→	R			R	R	R		
17	R	R	R	R	R	R		←GG→	←Y→	R			R	R	R		
18	R	R	R	RG	RY	R		G	Y	R			R	R	R		
19	DW	DW	DW	W	W	W		DW	DW	DW			DWF	DW	DW		
20	W	W	W	DW	DW	DW		DW	DW	DW			DWF	DW	DW		
21	W	W	W	DW	DW	DW		DW	DW	DW			DWF	DW	DW		
22	DW	DW	DW	W	W	W		DW	DW	DW			DWF	DW	DW		
23	DW	DW	DW	DW	DW	DW		DW	DW	DW			DWF	DW	DW		
24	DW	DW	DW	DW	DW	DW		DW	DW	DW			DW	DW	DW		
25	DW	DW	DW	DW	DW	DW		DW	DW	DW			DW	DW	DW		
26	DW	DW	DW	DW	DW	DW		DW	DW	DW			DW	DW	DW		
PHASE	1+6	ALL RED		2+5	ALL RED			PRE-EMPT	ALL RED				2+6				

NOTES: ³¹ LED NLT SIGN is ON during clear to pre-empt and throughout pre-empt.
* Indicates Sign #31 is ON.

CLEAR TO P. E. FROM φ 2+φ 6
* SIGN 31 ON

SUBMITTED: _____ CHECKED: _____ APPROVED: _____
IN SERVICE BY: _____ DATE: _____ TIME: _____

SEQUENCE OF OPERATION SHEET


3 of 3

TRAFFIC OPERATIONS SECTION
DIVISION OF TRAFFIC ENGINEERING
MONTGOMERY COUNTY, MARYLAND

NO. 208-I

INTERSECTION: Arcola Ave., Georgia Ave. (MD 97) & Wheaton

Vol. F.H. PHASING

SIGNAL NO.	SIGNAL HEAD INDICATIONS					
	3, 4, 9, 13, 16	5, 6, 14, 15	16, 17	1, 2, 7, 8	18	19-26
TOTAL:	8	4	2	4	1	8
LEGEND	(R) (Y) (G)	(R) (Y) (Y)	(R) (Y) (Y) (G) (G)	←(R)→ ←(Y)→ ←(G)→	(R) (Y) (Y) (G) (G)	 16" PEDESTRIAN COUNTERDOWN SIGNAL HEAD "LED" TYPE APS Push Buttons
	12"	12" 8"	12"	12"	12"	

SIGNAL NO.	SEQUENCE OF OPERATION																FLASH
	INTERVAL																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	←R	←R	←R	←R	←R	←R	←R	←R	←Y	←R							
2	←R	←R	←R	←R	←R	←R	←R	←R	←Y	←R							
3	R	R	R	R	R	R	R	R	R	R							
4	R	R	R	R	R	R	R	R	R	R							
5	FR	FR	R	R	FR	FR	R	R	B	R							
6	FR	FR	R	R	FR	FR	R	R	R	R							
7	←R	←R	←R	←R	←R	←R	←R	←R	←Y	←R							
8	←R	←R	←R	←R	←R	←R	←R	←R	←Y	←R							
9	R	R	R	R	R	R	R	R	R	R							
10	R	R	R	R	R	R	R	R	R	R							
11	R	R	R	R	G	G	Y	R	R	R							
12	R	R	R	R	G	G	Y	R	R	R							
13	R	R	R	R	G	G	Y	R	R	R							
14	BFY	BFY	12Y	R	BFY	BFY	12Y	R	12Y	R							
15	BFY	BFY	12Y	R	BFY	BFY	12Y	R	12Y	R							
16	←G	←G	←Y	R	G	G	Y	R	R	B							
17	←G	←G	←Y	R	G	G	Y	R	B	R							
18	G	G	Y	R	G	G	Y	R	R	R							
19	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW							
20	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW							
21	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW							
22	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW							
23	DWF	DW	DW	DW	DWF	DW	DW	DW	DW	DW							
24	DW	DW	DW	DW	DWF	DW	DW	DW	DW	DW							
25	DW	DW	DW	DW	DWF	DW	DW	DW	DW	DW							
26	DWF	DW	DW	DW	DWF	DW	DW	DW	DW	DW							
PHASE	3+8 CLEAR TO P.E.				4+8 CLEAR TO P.E.				1+5 CLEAR								

NOTES: * SIGN 31 ON * SIGN 31 ON * 31 ON

LED NLT SIGN is ON during clear to pre-empt and throughout pre-empt.
* Indicates Sign #31 is ON.

SUBMITTED:	CHECKED:	APPROVED:	
IN SERVICE BY: <u>782/782</u>	DATE: <u>5/9/15</u>	TIME: <u>1:20</u>	

NOTE: MD 97 IS ASSIGNED TO THIS SIGN AT NORTH-SOUTH DIRECTION.

34 FIREHOUSE SIGNAL

35 NORTH 97

36 SOUTH 97

37 SOUTH 97

38 SOUTH 97

39 SOUTH 97

40 SOUTH 97

41 SOUTH 97

42 SOUTH 97

43 SOUTH 97

44 SOUTH 97

45 SOUTH 97

46 SOUTH 97

47 SOUTH 97

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98 SOUTH 97

99 SOUTH 97

100 SOUTH 97

EXISTING SIGNS TO REMAIN

30 Arcola 47

31 Georgia 48

32 Georgia 49

33 Georgia 50

34 Georgia 51

35 Georgia 52

36 Georgia 53

37 Georgia 54

38 Georgia 55

39 Georgia 56

40 Georgia 57

41 Georgia 58

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80 Georgia 97

81 Georgia 98

82 Georgia 99

83 Georgia 100

EXISTING VIDEO DETECTION TO REMAIN

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PROPOSED LED SIGNAL HEAD MODULES

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EXISTING ACCESSIBLE PUSHBUTTON AND SIGNS TO REMAIN

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NOTES: PHASES ASSOCIATED WITH THESE SIGNAL HEADS ARE SHOWN ON THE PLAN.

PEPCO 785442 1810

PEPCO 785442 1801

PEPCO 785441 1565

PEPCO 785441 1573

PEPCO 785441 1578

PEPCO 785441 1585

PEPCO 785441 1592

PEPCO 785441 1600

PEPCO 785441 1608

PEPCO 785441 1616

PEPCO 785441 1624

PEPCO 785441 1632

PEPCO 785441 1640

PEPCO 785441 1648

PEPCO 785441 1656

PEPCO 785441 1664

PEPCO 785441 1672

PEPCO 785441 1680

PEPCO 785441 1688

PEPCO 785441 1696

PEPCO 785441 1704

PEPCO 785441 1712

PEPCO 785441 1720

PEPCO 785441 1728

PEPCO 785441 1736

PEPCO 785441 1744

PEPCO 785441 1752

PEPCO 785441 1760

PEPCO 785441 1768

PEPCO 785441 1776

PEPCO 785441 1784

PEPCO 785441 1792

PEPCO 785441 1800

PEPCO 785441 1808

PEPCO 785441 1816

PEPCO 785441 1824

PEPCO 785441 1832

PEPCO 785441 1840

PEPCO 785441 1848

PEPCO 785441 1856

PEPCO 785441 1864

PEPCO 785441 1872

PEPCO 785441 1880

PEPCO 785441 1888

PEPCO 785441 1896

PEPCO 785441 1904

PEPCO 785441 1912

PEPCO 785441 1920

PEPCO 785441 1928

PEPCO 785441 1936

PEPCO 785441 1944

PEPCO 785441 1952

PEPCO 785441 1960

PEPCO 785441 1968

PEPCO 785441 1976

PEPCO 785441 1984

PEPCO 785441 1992

PEPCO 785441 2000

RIGHT OF WAY LINE

MD 97 (GEORGIA AVENUE)

RIGHT OF WAY LINE

EXISTING OVERHEAD 1/2" SOUTH TO BLUERIDGE AVE.

TO MD 88

PEPCO 785441 1578

PEPCO 785441 1585

PEPCO 785441 1592

PEPCO 785441 1600

PEPCO 785441 1608

PEPCO 785441 1616

PEPCO 785441 1624

PEPCO 785441 1632

PEPCO 785441 1640

PEPCO 785441 1648

PEPCO 785441 1656

PEPCO 785441 1664

PEPCO 785441 1672

PEPCO 785441 1680

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PEPCO 785441 1704

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PEPCO 785441 1760

PEPCO 785441 1768

PEPCO 785441 1776

PEPCO 785441 1784

PEPCO 785441 1792

PEPCO 785441 1800

PEPCO 785441 1808

PEPCO 785441 1816

PEPCO 785441 1824

PEPCO 785441 1832

PEPCO 785441 1840

PEPCO 785441 1848

PEPCO 785441 1856

PEPCO 785441 1864

PEPCO 785441 1872

PEPCO 785441 1880

PEPCO 785441 1888

PEPCO 785441 1896

PEPCO 785441 1904

PEPCO 785441 1912

PEPCO 785441 1920

PEPCO 785441 1928

PEPCO 785441 1936

PEPCO 785441 1944

PEPCO 785441 1952

PEPCO 785441 1960

PEPCO 785441 1968

PEPCO 785441 1976

PEPCO 785441 1984

PEPCO 785441 1992

PEPCO 785441 2000

RIGHT OF WAY LINE

MD 97 (GEORGIA AVENUE)

GENERAL NOTES

1. MAINTENANCE OF TRAFFIC WILL BE HANDLED IN STANDARD TYPICALS FOR TRAFFIC CONTROL.
2. VIDEO CAMERA LOCATION / ALIGNING SHALL BE THE SHA ENGINEER. MONTGOMERY COUNTY WILL REPROGRAMMING CAMERA 'A' TO PICK UP NDR DETECTION.
3. ALL EXISTING TRAFFIC SIGNAL EQUIPMENT IS PROPERTY OF THE SIGNAL CONTRACTOR UPON MODIFICATION.
4. MONTGOMERY COUNTY WILL BE RESPONSIBLE FOR ALL SIGNAL CABLES.
5. THE CONTRACTOR SHALL REMOVE AND DISPOSE CABLES.

CONSTRUCTION DETAILS

- A. REMOVE EXISTING TRAFFIC SIGNAL HEADS AND INSTALL NEW 5 SECTION TRAFFIC SIGNAL HEADS.
- B. REMOVE EXISTING BLANK OUT SIGN AND INSTALL NEW LED BLANK OUT SIGN

208-I

SIG#0208 Hub-ID

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X	X	X	X	X	X	X	X							
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	7	5	6	5	7	0	6	6	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	11	0	18	0	11	0	18	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	0.0	3.0	5.0	3.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	20	60	15	25	25	60	0	35	0	0	0	0	0	0	0	0
MAX2	30	60	30	40	80	60	0	40	0	0	0	0	0	0	0	0
MAX3	50	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.0	3.5	4.0	3.5	4.0	0.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
RED CLR	1.5	2.0	1.5	2.5	1.5	2.0	0.0	2.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET																
VE RCALL																
PD RCALL		X				X										
MX RCALL		X				X										
SF RCALL																
NO REST																
AI CALC																

NextEdit

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	121	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP	0	0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	135	ACT WALK REST	
OFFSET VAL	124	PHASE RESERVICE	

NextEdit

COORDINATOR PATTERN 2

MAX SELECT	NONE	FORCE OFF	NONE
STD (COS)	121	VEH PERM 1	0
DWELL/ADD TIME	0	VEH PERM 2	0
TIMING PLAN	1	VEH PERM 2 - DISP	0
SEQUENCE	1	XART PTRN.	0
ACTION PLAN	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	89	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	131	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 4

USE SPLIT PATTERN	4	TIMING PLAN	1
CYCLE	135	SEQUENCE	1
OFFSET VAL	126	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	141	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1

PHASE	1	2	3	4	5	6	7	8
SPLIT	25	76	17	32	40	61	0	49
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

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Split 1

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	1	2	3	4	5	6	7	8
SPLIT	30	58	15	32	30	58	0	47
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	1	2	3	4	5	6	7	8
SPLIT	30	71	17	32	30	71	0	49
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	1	2	3	4	5	6	7	8
SPLIT	30	58	15	32	30	58	0	47
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 4

PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PREEMPT PLAN 1

VEH/PED (OVERLAP)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
TRKCLR V	.	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.
TRKCLR O	F2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

NextEdit

PREEMPT PLAN 1

VEH/PED (OVERLAP)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ENA TRL																
DWEL VEH	.	.	X	.	.	.	X	X	.	.	.	.	.	.	.	.
DWEL PED																
DWEL OLP	.	F1	X	.	.	.	.	.	.	.	.	.	.	.	.	.
CYC VEH
CYC PED																
CYC OLP
EXIT PH		X				X										
EXIT CAL				X				X								
SP FUNC																

OPTIONS

ENABLE	S1
DET LOCK	X
OVERIDE FL	X
TERM OLP	
PED DARK	
X TMG PLN	0
PMT OVRIDE	X
DELAY	5
DURATION	60
PC>YEL	
TC RESERV	

OPTIONS

X FLCOLR	GRN	TERM PH	
RE-SERV	0	DWELL FL	OFF
INTERLOCK		EXIT OPT	OFF
INHIBIT	0	FLT TYPE	HARD
CLR>GRN		PMT ACTIVE OUT	ON

FREE DUR PMT

Ring	1	2	3	4
FREE DUR PMT				

Times

ENTRANCE TM - WALK	0	TRACK CLEAR - MIN GR	10	DWL/CYC-EXIT - MIN DL	30
ENTRANCE TM - PED CL	25	TRACK CLEAR - EXT GR	0	DWL/CYC-EXIT - PMT EXT	0.0
ENTRANCE TM - MN GR	0	TRACK CLEAR - MX GR	10	DWL/CYC-EXIT - MX TM	70
ENTRANCE TM - YEL	4.0	TRACK CLEAR - YEL	4.0	DWL/CYC-EXIT - YEL	7.0
ENTRANCE TM - RED	2.0	TRACK CLEAR - RED	3.0	DWL/CYC-EXIT - RED	6.0

ACTION PLAN 1

PATTERN	1	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

SIG#0208 Hub-ID

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 4

PATTERN	4	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																

NextEdit

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	4	1	2	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	4	1	2	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	4	1	2	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
START TIME - HH	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	4	1	2	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	4	1	2	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	4	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	5	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
ACTION PLAN	4	4	4	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SIG#0973 Hub-IE

PHASE IN USE/PED

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IN USE	X	X		X	X	X		X								
EXCLUSIVE PED																

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MIN GRN	5	30	5	5	5	30	0	5	0	0	0	0	0	0	0	0
BK MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS MGRN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLY GRN	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0
WALK	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
WALK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WLK MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CLR	0	11	0	29	0	11	0	29	0	0	0	0	0	0	0	0
PD CLR2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PC MAX	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PED CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VEH EXT	3.0	5.0	0.0	3.0	3.0	5.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VH EXT2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX1	20	40	0	20	20	40	0	20	0	0	0	0	0	0	0	0
MAX2	20	60	0	40	20	60	0	40	0	0	0	0	0	0	0	0
MAX3	0	80	0	0	0	80	0	0	0	0	0	0	0	0	0	0
DYM MAX	0	80	0	0	0	80	0	0	0	0	0	0	0	0	0	0
DYM STP	0.0	20.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOW	3.5	4.5	0.0	3.5	3.5	4.5	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED CLR	2.0	2.0	0.0	4.0	2.0	2.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED MAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED RVT	5.0	2.0	5.0	5.0	5.0	2.0	5.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX INT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARS WT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDUC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTREDUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIN GAP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PLAN 1

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCK DET				X				X								
VE RCALL		X			X											
PD RCALL		X			X											
MX RCALL																
SF RCALL																
NO REST																
AI CALC																

NextEdit

COORDINATOR OPTIONS

MANUAL PATTERN	AUTO	ECPI COORD	X
SYSTEM SOURCE	SYS	SYSTEM FORMAT	STD
SPLITS IN	SECONDS	OFFSET IN	SECONDS
TRANSITION	SMOOTH	MAX SELECT	MAX2
DWELL/ADD TIME	255	FORCE OFF	FIXED
DLY COORD WK-LZ		CAL USE PED TM	X
OFFSET REF	LAG	PED RESERVE	
PED RECALL	X	FO ADD INI GRN	
LOCAL ZERO OVRD		MULTISYNC	
RE-SYNC COUNT	1		

COORDINATOR PATTERN 1

USE SPLIT PATTERN	1	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	125	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	111	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP	0	0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 2

USE SPLIT PATTERN	2	ACTUATED COORD	
CYCLE	135	ACT WALK REST	
OFFSET VAL	106	PHASE RESERVICE	

NextEdit

COORDINATOR PATTERN 2

MAX SELECT	NONE	FORCE OFF	NONE
STD (COS)	121	VEH PERM 1	0
DWELL/ADD TIME	0	VEH PERM 2	0
TIMING PLAN	1	VEH PERM 2 - DISP	0
SEQUENCE	1	XART PTRN.	0
ACTION PLAN	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES

Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES

Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT

PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 3

USE SPLIT PATTERN	3	TIMING PLAN	1
CYCLE	150	SEQUENCE	1
OFFSET VAL	25	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVICE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	131	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG

RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

PHASE MODES								
Phase	1	2	3	4	5	6	7	8
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES								
Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT								
PHASE	1	2	3	4	5	6	7	8
SF OUT								

COORDINATOR PATTERN 99			
USE SPLIT PATTERN	0	TIMING PLAN	0
CYCLE	0	SEQUENCE	0
OFFSET VAL	0	ACTION PLAN	0
ACTUATED COORD		FORCE OFF	NONE
ACT WALK REST		VEH PERM 1	0
PHASE RESERVE		VEH PERM 2	0
MAX SELECT	NONE	VEH PERM 2 - DISP	0
STD (COS)	544	XART PTRN.	0
DWELL/ADD TIME	0		

RING CONFIG														
RING	1	2	3	4	RING	1	2	3	4	RING	1	2	3	4
SPLT EXT	0	0	0	0	SPLIT DEMAND PTRN.	0	0			RING DISP		0	0	0

SPLIT PREF PHASES																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PREF 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PREF 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE MODES								
Phase	1	2	3	4	5	6	7	8
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

PHASE MODES								
Phase	9	10	11	12	13	14	15	16
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SF OUT								
PHASE	1	2	3	4	5	6	7	8
SF OUT								

Split 1								
PHASE	1	2	3	4	5	6	7	8
SPLIT	22	84	0	44	22	84	0	44
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

SIG#0973 Hub-IE

Split 1								
PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2								
PHASE	1	2	3	4	5	6	7	8
SPLIT	21	70	0	44	21	70	0	44
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 2								
PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3								
PHASE	1	2	3	4	5	6	7	8
SPLIT	22	84	0	44	22	84	0	44
COORD		X				X		
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 3								
PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 99								
PHASE	1	2	3	4	5	6	7	8
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

Split 99								
PHASE	9	10	11	12	13	14	15	16
SPLIT	0	0	0	0	0	0	0	0
COORD								
PHASE MODE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

ACTION PLAN 1			
PATTERN	1	FLASH	
TIMING PLAN	1	VEH DET DIAG PLN	0
VEH DET PLAN	0	DIMMING ENABLE	
		SYS OVERRIDE	
		SEQUENCE	1
		DET LOG	0
		RED REST	
		PED DET DIAG PLN	0
		PRIORITY RETURN	

NextEdit

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ACTION PLAN 1

PED PR RETURN		QUEUE DELAY		PMT COND DELAY	
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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 2

PATTERN	2	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																

NextEdit

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PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 3

PATTERN	3	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

ACTION PLAN 99

PATTERN	FREE	SYS OVERRIDE		PED PR RETURN	
TIMING PLAN	1	SEQUENCE	1	QUEUE DELAY	
VEH DET PLAN	0	DET LOG	0	PMT COND DELAY	
FLASH		RED REST			
VEH DET DIAG PLN	0	PED DET DIAG PLN	0		
DIMMING ENABLE		PRIORITY RETURN			

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Day Plan 1

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	1	2	3	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 1

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	1	2	3	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 2

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 2

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	1	2	3	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 3

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	1	2	3	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 4

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	1	2	3	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	6	9	15	19	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 5

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NextEdit

Day Plan 6

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 6

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ACTION PLAN	99	100	99	99	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	5	9	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan 7

EVENT	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
ACTION PLAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - HH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
START TIME - MM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ACTION PLAN 100

PATTERN	FLSH	DIMMING ENABLE		PED DET DIAG PLN	0
TIMING PLAN	1	SYS OVERRIDE		PRIORITY RETURN	
VEH DET PLAN	0	SEQUENCE	1	PED PR RETURN	
FLASH	X	DET LOG	0	QUEUE DELAY	
VEH DET DIAG PLN	0	RED REST		PMT COND DELAY	

PHASE TABLE

PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PED RCL																
WALK 2																
VEX 2																
VEH RCL																
MAX RCL																
MAX 2																
MAX 3																
CS INH																
OMIT																
SPC FCT																
AUX FCT																

LP TABLE

LP Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

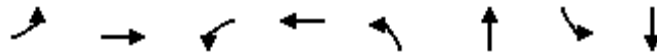
APPENDIX E
EXISTING CONDITIONS CAPACITY ANALYSES

Queues

Existing Conditions

6: Garden Gate Road/Middlevale Lane & Randolph Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	1203	88	2261	38	21	186	112
v/c Ratio	0.50	0.40	0.28	0.81	0.15	0.06	0.67	0.28
Control Delay	93.6	9.8	11.1	30.2	46.5	29.1	65.5	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.6	9.8	11.1	30.2	46.5	29.1	65.5	12.5
Queue Length 50th (ft)	0	88	28	661	29	8	163	11
Queue Length 95th (ft)	132	100	49	790	63	32	250	62
Internal Link Dist (ft)		805		1479		200		276
Turn Bay Length (ft)	300		235					
Base Capacity (vph)	253	3029	460	2793	339	478	365	500
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.40	0.19	0.81	0.11	0.04	0.51	0.22

Intersection Summary

HCM 6th Signalized Intersection Summary
 6: Garden Gate Road/Middlevale Lane & Randolph Road

Existing Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶		↶	↶	
Traffic Volume (veh/h)	68	1103	16	82	1996	107	35	10	9	173	13	91
Future Volume (veh/h)	68	1103	16	82	1996	107	35	10	9	173	13	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	0.98		0.90	0.95		0.93	0.93		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	1186	17	88	2146	115	38	11	10	186	14	98
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	3125	45	375	2885	153	256	202	184	337	44	308
Arrive On Green	0.10	1.00	1.00	0.03	0.59	0.59	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	5178	74	1781	4932	262	1211	867	788	1294	189	1321
Grp Volume(v), veh/h	73	780	423	88	1475	786	38	0	21	186	0	112
Grp Sat Flow(s),veh/h/ln	1781	1702	1848	1781	1702	1790	1211	0	1655	1294	0	1509
Q Serve(g_s), s	6.0	0.0	0.0	3.0	47.6	48.7	4.0	0.0	1.5	19.6	0.0	9.2
Cycle Q Clear(g_c), s	6.0	0.0	0.0	3.0	47.6	48.7	13.2	0.0	1.5	21.0	0.0	9.2
Prop In Lane	1.00		0.04	1.00		0.15	1.00		0.48	1.00		0.88
Lane Grp Cap(c), veh/h	93	2055	1115	375	1992	1047	256	0	385	337	0	352
V/C Ratio(X)	0.79	0.38	0.38	0.23	0.74	0.75	0.15	0.00	0.05	0.55	0.00	0.32
Avail Cap(c_a), veh/h	255	2055	1115	570	1992	1047	317	0	469	402	0	428
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.4	0.0	0.0	11.5	22.8	23.0	53.2	0.0	44.7	52.9	0.0	47.7
Incr Delay (d2), s/veh	17.8	0.5	0.9	0.3	2.5	5.0	0.3	0.0	0.1	1.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.1	0.3	1.2	18.9	21.0	1.3	0.0	0.6	6.5	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	0.5	0.9	11.8	25.3	28.0	53.4	0.0	44.8	54.3	0.0	48.2
LnGrp LOS	F	A	A	B	C	C	D	A	D	D	A	D
Approach Vol, veh/h		1276			2349			59				298
Approach Delay, s/veh		5.4			25.7			50.3				52.0
Approach LOS		A			C			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.3	94.3		42.4	10.5	97.0		42.4				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	21.5	66.5		42.5	21.5	66.5		42.5				
Max Q Clear Time (g_c+I1), s	8.0	0.0		15.2	5.0	0.0		23.0				
Green Ext Time (p_c), s	0.2	0.0		0.2	0.2	0.0		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				21.5								
HCM 6th LOS				C								

HCM 6th TWSC
8: Georgia Avenue & Glenmont Circle

Existing Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑ ↑↑	↑↑↑			↑↑↑
Traffic Vol, veh/h	0	36	1081	20	0	2522
Future Vol, veh/h	0	36	1081	20	0	2522
Conflicting Peds, #/hr	0	0	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	40	1215	22	0	2834

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	629	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	7.14	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.92	-
Pot Cap-1 Maneuver	0	364	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	361	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	361
HCM Lane V/C Ratio	-	-	0.112
HCM Control Delay (s)	-	-	16.2
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.4

Queues

9: Georgia Avenue & Commercial Driveway/Shorefield Road

Existing Conditions

AM Peak Hour



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	22	98	59	1035	60	2609
v/c Ratio	0.12	0.56	0.24	0.30	0.14	0.64
Control Delay	48.2	72.1	14.4	17.0	4.6	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	72.1	14.4	17.0	4.6	7.8
Queue Length 50th (ft)	16	92	0	190	10	312
Queue Length 95th (ft)	43	148	42	330	25	461
Internal Link Dist (ft)	68	646		2085		1312
Turn Bay Length (ft)					290	
Base Capacity (vph)	296	283	363	3501	468	4058
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.35	0.16	0.30	0.13	0.64
Intersection Summary						

HCM 6th Signalized Intersection Summary
 9: Georgia Avenue & Commercial Driveway/Shorefield Road

Existing Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕↕↕		↕	↕↕↕	
Traffic Volume (veh/h)	14	3	4	93	0	56	1	961	21	57	2478	1
Future Volume (veh/h)	14	3	4	93	0	56	1	961	21	57	2478	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.98		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	3	4	98	0	59	1	1012	22	60	2608	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	19	16	213	0	193	24	3694	80	506	4226	2
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	1.00	1.00	1.00	0.03	0.80	0.80
Sat Flow, veh/h	404	154	124	1316	0	1539	0	4985	108	1781	5272	2
Grp Volume(v), veh/h	22	0	0	98	0	59	379	315	342	60	1684	925
Grp Sat Flow(s),veh/h/ln	682	0	0	1316	0	1539	1863	1549	1682	1781	1702	1870
Q Serve(g_s), s	1.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	1.1	29.1	29.1
Cycle Q Clear(g_c), s	11.9	0.0	0.0	10.9	0.0	5.2	0.0	0.0	0.0	1.1	29.1	29.1
Prop In Lane	0.68		0.18	1.00		1.00	0.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h	126	0	0	213	0	193	1405	1148	1246	506	2729	1499
V/C Ratio(X)	0.18	0.00	0.00	0.46	0.00	0.31	0.27	0.27	0.27	0.12	0.62	0.62
Avail Cap(c_a), veh/h	241	0	0	325	0	318	1405	1148	1246	600	2729	1499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.3	0.0	0.0	62.2	0.0	59.7	0.0	0.0	0.0	3.6	5.8	5.8
Incr Delay (d2), s/veh	0.7	0.0	0.0	3.3	0.0	1.9	0.4	0.6	0.5	0.1	1.1	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	3.8	0.0	2.2	0.2	0.2	0.2	0.4	9.4	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.9	0.0	0.0	65.5	0.0	61.6	0.4	0.6	0.5	3.7	6.9	7.8
LnGrp LOS	E	A	A	E	A	E	A	A	A	A	A	A
Approach Vol, veh/h		22			157			1035			2669	
Approach Delay, s/veh		62.9			64.0			0.5			7.1	
Approach LOS		E			E			A			A	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		125.2		24.8	9.1	116.1		24.8				
Change Period (Y+Rc), s		5.0		6.0	4.5	5.0		6.0				
Max Green Setting (Gmax), s		108.0		31.0	12.5	91.0		31.0				
Max Q Clear Time (g_c+I1), s		0.0		13.9	3.1	0.0		12.9				
Green Ext Time (p_c), s		0.0		0.0	0.1	0.0		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				8.0								
HCM 6th LOS				A								

Queues
11: Georgia Avenue & Arcola Avenue

Existing Conditions
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	151	156	183	370	32	721	402	2372
v/c Ratio	0.23	0.64	0.61	0.41	0.56	0.26	0.28	0.72	0.75
Control Delay	60.6	70.9	56.2	50.2	7.5	18.4	22.7	14.9	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	70.9	56.2	50.2	7.5	18.4	22.7	14.9	17.4
Queue Length 50th (ft)	31	135	126	152	0	9	141	69	632
Queue Length 95th (ft)	66	204	185	216	82	26	212	100	780
Internal Link Dist (ft)		260		916			1249		2085
Turn Bay Length (ft)			180			155		235	
Base Capacity (vph)	202	312	258	527	707	285	2566	675	3174
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.48	0.60	0.35	0.52	0.11	0.28	0.60	0.75
Intersection Summary									

HCM 6th Signalized Intersection Summary
 11: Georgia Avenue & Arcola Avenue

Existing Conditions
 AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	111	30	145	170	344	30	633	37	374	2187	19
Future Volume (veh/h)	33	111	30	145	170	344	30	633	37	374	2187	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	119	32	156	183	370	32	681	40	402	2352	20
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	202	54	269	478	404	164	2385	139	598	3149	27
Arrive On Green	0.14	0.14	0.14	0.08	0.26	0.26	0.02	0.48	0.48	0.29	1.00	1.00
Sat Flow, veh/h	853	1418	381	1781	1870	1581	1781	4933	288	1781	5222	44
Grp Volume(v), veh/h	35	0	151	156	183	370	32	469	252	402	1532	840
Grp Sat Flow(s),veh/h/ln	853	0	1800	1781	1870	1581	1781	1702	1817	1781	1702	1862
Q Serve(g_s), s	5.5	0.0	11.8	11.0	12.1	34.1	1.3	12.4	12.5	18.4	0.0	0.0
Cycle Q Clear(g_c), s	5.5	0.0	11.8	11.0	12.1	34.1	1.3	12.4	12.5	18.4	0.0	0.0
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.16	1.00		0.02
Lane Grp Cap(c), veh/h	169	0	256	269	478	404	164	1646	879	598	2053	1123
V/C Ratio(X)	0.21	0.00	0.59	0.58	0.38	0.92	0.20	0.28	0.29	0.67	0.75	0.75
Avail Cap(c_a), veh/h	193	0	306	269	530	448	358	1646	879	756	2053	1123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	57.5	0.0	60.2	48.7	46.1	54.2	18.5	23.2	23.2	11.9	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	4.6	3.1	1.1	24.0	0.6	0.4	0.8	1.2	1.8	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	5.7	5.2	5.8	16.3	0.6	5.1	5.6	5.1	0.5	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	0.0	64.8	51.8	47.1	78.2	19.1	23.6	24.1	13.0	1.8	3.3
LnGrp LOS	E	A	E	D	D	E	B	C	C	B	A	A
Approach Vol, veh/h		186			709			753			2774	
Approach Delay, s/veh		63.6			64.4			23.6			3.9	
Approach LOS		E			E			C			A	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	96.5	17.0	27.9	26.6	78.5		44.9				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.5	5.0	6.0		6.5				
Max Green Setting (Gmax), s	20.0	70.0	12.0	25.5	35.0	55.0		42.5				
Max Q Clear Time (g_c+I1), s	3.3	0.0	13.0	13.8	20.4	0.0		36.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	1.2	0.0		2.3				
Intersection Summary												
HCM 6th Ctrl Delay			19.5									
HCM 6th LOS			B									

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	0	222	115	1
Future Vol, veh/h	1	0	0	222	115	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	0	288	149	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	438	150	150	0	0
Stage 1	150	-	-	-	-
Stage 2	288	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	576	896	1431	-	-
Stage 1	878	-	-	-	-
Stage 2	761	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	576	896	1431	-	-
Mov Cap-2 Maneuver	576	-	-	-	-
Stage 1	878	-	-	-	-
Stage 2	761	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1431	-	576	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	0	-	11.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Queues
13: Heurich Road & Randolph Road

Existing Conditions
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	18	1233	29	2176	27	31
v/c Ratio	0.12	0.34	0.09	0.59	0.11	0.13
Control Delay	18.1	16.8	6.2	6.8	29.0	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	16.8	6.2	6.8	29.0	35.6
Queue Length 50th (ft)	4	107	4	110	11	16
Queue Length 95th (ft)	m26	299	m9	202	38	45
Internal Link Dist (ft)		1077		805	410	241
Turn Bay Length (ft)	300		300			
Base Capacity (vph)	263	3646	436	3674	374	366
Starvation Cap Reductn	0	0	0	79	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.34	0.07	0.61	0.07	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
13: Heurich Road & Randolph Road

Existing Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕				↕
Traffic Volume (veh/h)	17	1093	41	27	1930	72	11	2	12	16	4	9
Future Volume (veh/h)	17	1093	41	27	1930	72	11	2	12	16	4	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.96		0.96	0.96		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1188	45	29	2098	78	12	2	13	17	4	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	3555	135	408	3588	133	116	28	102	143	38	68
Arrive On Green	0.04	1.00	1.00	0.05	1.00	1.00	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	5049	191	1781	5053	187	574	198	716	740	265	479
Grp Volume(v), veh/h	18	801	432	29	1411	765	27	0	0	31	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1836	1781	1702	1837	1487	0	0	1485	0	0
Q Serve(g_s), s	0.4	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.7	0.0	0.0	2.1	0.0	0.0	2.4	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.10	0.44		0.48	0.55		0.32
Lane Grp Cap(c), veh/h	207	2397	1293	408	2417	1304	247	0	0	249	0	0
V/C Ratio(X)	0.09	0.33	0.33	0.07	0.58	0.59	0.11	0.00	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	371	2397	1293	562	2417	1304	394	0	0	395	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.50	0.50	0.50	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.8	0.0	0.0	5.5	0.0	0.0	56.1	0.0	0.0	56.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.3	0.6	0.0	0.5	1.0	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.2	0.2	0.2	0.4	0.9	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.9	0.3	0.6	5.6	0.5	1.0	56.2	0.0	0.0	56.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	A
Approach Vol, veh/h		1251			2205			27				31
Approach Delay, s/veh		0.5			0.7			56.2				56.4
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	113.0		28.9	9.0	112.1		28.9				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	77.5		36.5	16.5	77.5		36.5				
Max Q Clear Time (g_c+I1), s	2.4	2.0		4.4	2.7	2.0		4.1				
Green Ext Time (p_c), s	0.0	61.6		0.1	0.0	25.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				1.6								
HCM 6th LOS				A								

Queues
6: Garden Gate Road/Middlevale Lane & Randolph Road

Existing Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	1769	36	1436	25	20	114	34
v/c Ratio	0.25	0.49	0.17	0.41	0.14	0.09	0.62	0.14
Control Delay	68.2	10.4	7.6	11.1	54.5	28.8	74.3	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	10.4	7.6	11.1	54.5	28.8	74.3	21.2
Queue Length 50th (ft)	27	100	6	201	22	6	109	5
Queue Length 95th (ft)	m58	301	24	349	46	28	155	35
Internal Link Dist (ft)		805		1479		200		276
Turn Bay Length (ft)	300		235					
Base Capacity (vph)	194	3580	320	3533	327	409	331	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.49	0.11	0.41	0.08	0.05	0.34	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 6: Garden Gate Road/Middlevale Lane & Randolph Road

Existing Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↖	↑		↗	↑	
Traffic Volume (veh/h)	25	1686	30	35	1245	147	24	7	13	111	6	27
Future Volume (veh/h)	25	1686	30	35	1245	147	24	7	13	111	6	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	1738	31	36	1284	152	25	7	13	114	6	28
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	3752	67	290	3378	400	183	69	128	196	34	157
Arrive On Green	0.04	1.00	1.00	0.03	0.73	0.73	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	5165	92	1781	4625	548	1369	584	1085	1386	286	1336
Grp Volume(v), veh/h	26	1145	624	36	945	491	25	0	20	114	0	34
Grp Sat Flow(s),veh/h/ln	1781	1702	1853	1781	1702	1769	1369	0	1669	1386	0	1622
Q Serve(g_s), s	2.2	0.0	0.0	0.8	15.5	15.5	2.5	0.0	1.6	12.0	0.0	2.8
Cycle Q Clear(g_c), s	2.2	0.0	0.0	0.8	15.5	15.5	5.3	0.0	1.6	13.6	0.0	2.8
Prop In Lane	1.00		0.05	1.00		0.31	1.00		0.65	1.00		0.82
Lane Grp Cap(c), veh/h	39	2473	1346	290	2486	1292	183	0	196	196	0	191
V/C Ratio(X)	0.66	0.46	0.46	0.12	0.38	0.38	0.14	0.00	0.10	0.58	0.00	0.18
Avail Cap(c_a), veh/h	196	2473	1346	440	2486	1292	351	0	400	366	0	389
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	71.1	0.0	0.0	4.7	7.6	7.6	62.1	0.0	59.1	65.2	0.0	59.6
Incr Delay (d2), s/veh	21.5	0.6	1.0	0.2	0.4	0.9	0.3	0.0	0.2	2.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	0.4	0.3	5.3	5.7	0.9	0.0	0.7	4.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.7	0.6	1.0	4.9	8.0	8.4	62.4	0.0	59.3	67.9	0.0	60.1
LnGrp LOS	F	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1795			1472			45				148
Approach Delay, s/veh		2.1			8.1			61.0				66.1
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	116.0		25.1	9.4	115.5		25.1				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	78.0		36.0	16.5	78.0		36.0				
Max Q Clear Time (g_c+I1), s	4.2	0.0		7.3	2.8	0.0		15.6				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				8.1								
HCM 6th LOS				A								

HCM 6th TWSC
8: Georgia Avenue & Glenmont Circle

Existing Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑ ↑ ↑	↑ ↑ ↑			↑ ↑ ↑
Traffic Vol, veh/h	0	23	1905	39	0	1484
Future Vol, veh/h	0	23	1905	39	0	1484
Conflicting Peds, #/hr	0	0	0	35	35	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	2323	48	0	1810

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	1221	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	147	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	142	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	36.5	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	142
HCM Lane V/C Ratio	-	-	0.198
HCM Control Delay (s)	-	-	36.5
HCM Lane LOS	-	-	E
HCM 95th %tile Q(veh)	-	-	0.7

Queues

9: Georgia Avenue & Commercial Driveway/Shorefield Road

Existing Conditions

PM Peak Hour



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	66	166	132	1905	138	1425
v/c Ratio	0.31	0.74	0.36	0.57	0.65	0.37
Control Delay	52.7	78.2	10.1	17.6	30.2	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	78.2	10.1	17.6	30.2	7.1
Queue Length 50th (ft)	54	156	0	231	33	156
Queue Length 95th (ft)	96	228	57	475	118	221
Internal Link Dist (ft)	68	646		2085		1312
Turn Bay Length (ft)					290	
Base Capacity (vph)	281	293	440	3326	240	3823
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.57	0.30	0.57	0.57	0.37
Intersection Summary						

HCM 6th Signalized Intersection Summary
 9: Georgia Avenue & Commercial Driveway/Shorefield Road

Existing Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕↕↕		↕	↕↕↕	
Traffic Volume (veh/h)	32	25	7	156	3	127	0	1776	53	132	1341	27
Future Volume (veh/h)	32	25	7	156	3	127	0	1776	53	132	1341	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	26	7	162	3	132	0	1850	55	138	1397	28
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	46	9	247	4	318	0	3305	98	272	3701	74
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.00	1.00	1.00	0.04	0.72	0.72
Sat Flow, veh/h	146	219	43	958	18	1526	0	5262	151	1781	5151	103
Grp Volume(v), veh/h	66	0	0	165	0	132	0	1236	669	138	923	502
Grp Sat Flow(s),veh/h/ln	408	0	0	975	0	1526	0	1702	1841	1781	1702	1850
Q Serve(g_s), s	4.2	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	3.8	15.7	15.7
Cycle Q Clear(g_c), s	29.2	0.0	0.0	25.1	0.0	11.2	0.0	0.0	0.0	3.8	15.7	15.7
Prop In Lane	0.50		0.11	0.98		1.00	0.00		0.08	1.00		0.06
Lane Grp Cap(c), veh/h	121	0	0	251	0	318	0	2209	1194	272	2445	1329
V/C Ratio(X)	0.55	0.00	0.00	0.66	0.00	0.42	0.00	0.56	0.56	0.51	0.38	0.38
Avail Cap(c_a), veh/h	148	0	0	276	0	346	0	2209	1194	350	2445	1329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.71	0.71	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.3	0.0	0.0	56.9	0.0	51.5	0.0	0.0	0.0	7.3	8.2	8.2
Incr Delay (d2), s/veh	3.8	0.0	0.0	7.5	0.0	1.8	0.0	0.7	1.4	1.5	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	6.6	0.0	4.5	0.0	0.2	0.4	1.5	5.8	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	0.0	0.0	64.4	0.0	53.3	0.0	0.7	1.4	8.7	8.6	9.0
LnGrp LOS	E	A	A	E	A	D	A	A	A	A	A	A
Approach Vol, veh/h		66			297			1905			1563	
Approach Delay, s/veh		65.1			59.5			1.0			8.7	
Approach LOS		E			E			A			A	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		112.8		37.2	10.4	102.3		37.2				
Change Period (Y+Rc), s		5.0		6.0	4.5	5.0		6.0				
Max Green Setting (Gmax), s		105.0		34.0	12.5	88.0		34.0				
Max Q Clear Time (g_c+I1), s		0.0		31.2	5.8	0.0		27.1				
Green Ext Time (p_c), s		0.0		0.0	0.2	0.0		1.2				
Intersection Summary												
HCM 6th Ctrl Delay				9.8								
HCM 6th LOS				A								

Queues
11: Georgia Avenue & Arcola Avenue
























Existing Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	133	100	128	422	57	1699	255	1319
v/c Ratio	0.37	0.61	0.40	0.31	0.73	0.21	0.64	0.80	0.42
Control Delay	67.0	71.6	50.0	49.2	21.5	11.7	28.8	63.5	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	71.6	50.0	49.2	21.5	11.7	28.8	63.5	12.7
Queue Length 50th (ft)	50	121	79	104	103	16	438	179	186
Queue Length 95th (ft)	93	186	127	158	225	36	573	289	215
Internal Link Dist (ft)		260		916			1249		2085
Turn Bay Length (ft)			180			155		235	
Base Capacity (vph)	210	314	257	527	654	482	2638	372	3152
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.42	0.39	0.24	0.65	0.12	0.64	0.69	0.42
Intersection Summary									

HCM 6th Signalized Intersection Summary
 11: Georgia Avenue & Arcola Avenue

Existing Conditions
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	106	18	93	119	392	53	1513	67	237	1209	18
Future Volume (veh/h)	50	106	18	93	119	392	53	1513	67	237	1209	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	114	19	100	128	422	57	1627	72	255	1300	19
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	297	49	307	525	440	316	2583	114	285	2968	43
Arrive On Green	0.19	0.19	0.19	0.06	0.28	0.28	0.03	0.52	0.52	0.17	1.00	1.00
Sat Flow, veh/h	851	1558	260	1781	1870	1566	1781	5011	222	1781	5185	76
Grp Volume(v), veh/h	54	0	133	100	128	422	57	1105	594	255	854	465
Grp Sat Flow(s),veh/h/ln	851	0	1818	1781	1870	1566	1781	1702	1829	1781	1702	1856
Q Serve(g_s), s	8.2	0.0	9.6	6.6	7.9	39.8	2.3	34.9	35.0	10.4	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	9.6	6.6	7.9	39.8	2.3	34.9	35.0	10.4	0.0	0.0
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.12	1.00		0.04
Lane Grp Cap(c), veh/h	210	0	346	307	525	440	316	1754	943	285	1949	1063
V/C Ratio(X)	0.26	0.00	0.38	0.33	0.24	0.96	0.18	0.63	0.63	0.90	0.44	0.44
Avail Cap(c_a), veh/h	210	0	346	348	530	444	559	1754	943	426	1949	1063
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	52.5	0.0	53.0	43.9	41.7	53.1	16.0	26.1	26.1	24.0	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	1.5	0.6	0.5	32.9	0.3	1.7	3.2	14.4	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	4.6	3.0	3.8	19.7	1.0	14.4	15.9	5.5	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	0.0	54.5	44.5	42.2	86.0	16.3	27.8	29.3	38.4	0.7	1.2
LnGrp LOS	D	A	D	D	D	F	B	C	C	D	A	A
Approach Vol, veh/h		187			650			1756			1574	
Approach Delay, s/veh		54.3			71.0			27.9			6.9	
Approach LOS		D			E			C			A	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	91.9	13.5	35.1	18.1	83.3		48.6				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.5	5.0	6.0		6.5				
Max Green Setting (Gmax), s	25.0	65.0	12.0	25.5	25.0	65.0		42.5				
Max Q Clear Time (g_c+I1), s	4.3	0.0	8.6	11.6	12.4	0.0		41.8				
Green Ext Time (p_c), s	0.1	0.0	0.1	1.1	0.6	0.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				27.9								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	2	0	0	100	120	1
Future Vol, veh/h	2	0	0	100	120	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	0	0	130	156	1

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	287	157	157	0	-	0
Stage 1	157	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	703	889	1423	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	703	889	1423	-	-	-
Mov Cap-2 Maneuver	703	-	-	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1423	-	703	-	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s)	0	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Queues
13: Heurich Road & Randolph Road

Existing Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	38	1854	26	1329	54	35
v/c Ratio	0.11	0.46	0.12	0.33	0.36	0.24
Control Delay	1.1	1.8	2.6	2.1	37.2	35.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.1	1.8	2.6	2.1	37.2	35.5
Queue Length 50th (ft)	0	99	1	31	24	15
Queue Length 95th (ft)	m3	113	4	42	58	44
Internal Link Dist (ft)		1077		805	410	241
Turn Bay Length (ft)	300		300			
Base Capacity (vph)	440	4024	328	3971	375	377
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.46	0.08	0.33	0.14	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
13: Heurich Road & Randolph Road

Existing Conditions
PM Peak Hour



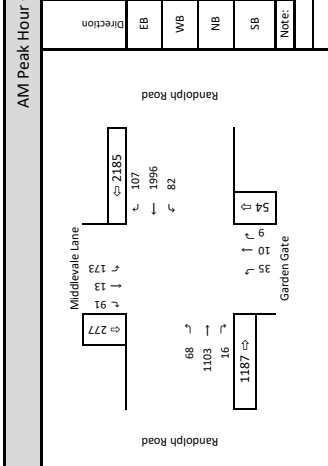
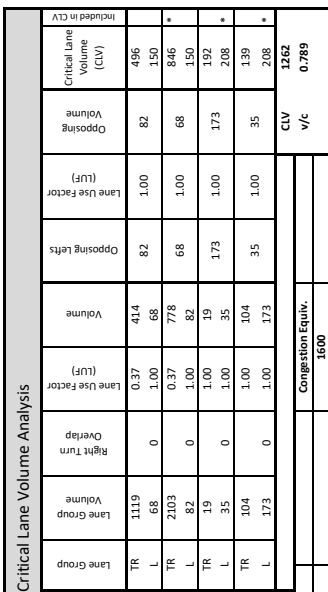
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↕	
Traffic Volume (veh/h)	37	1767	31	25	1268	21	21	3	28	14	2	18
Future Volume (veh/h)	37	1767	31	25	1268	21	21	3	28	14	2	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.98		0.98	0.98		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	1822	32	26	1307	22	22	3	29	14	2	19
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	407	3936	69	275	3916	66	75	20	71	75	21	74
Arrive On Green	0.05	1.00	1.00	0.04	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1781	5167	91	1781	5171	87	473	234	819	478	240	853
Grp Volume(v), veh/h	38	1200	654	26	860	469	54	0	0	35	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1854	1781	1702	1854	1526	0	0	1571	0	0
Q Serve(g_s), s	0.7	0.0	0.0	0.5	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	0.0	0.5	0.0	0.0	4.8	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.05	0.41		0.54	0.40		0.54
Lane Grp Cap(c), veh/h	407	2593	1412	275	2578	1404	165	0	0	169	0	0
V/C Ratio(X)	0.09	0.46	0.46	0.09	0.33	0.33	0.33	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	556	2593	1412	432	2578	1404	398	0	0	401	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	0.92	0.92	0.92	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.5	0.0	0.0	3.6	0.0	0.0	64.7	0.0	0.0	64.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.9	0.1	0.3	0.6	1.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.4	0.2	0.1	0.2	2.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.6	0.5	0.9	3.8	0.3	0.6	65.9	0.0	0.0	64.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	A
Approach Vol, veh/h		1892			1355			54				35
Approach Delay, s/veh		0.7			0.5			65.9				64.6
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	120.1		20.4	8.8	120.8		20.4				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	77.5		36.5	16.5	77.5		36.5				
Max Q Clear Time (g_c+I1), s	2.7	2.0		4.9	2.5	2.0		6.8				
Green Ext Time (p_c), s	0.0	30.7		0.1	0.0	48.8		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				2.3								
HCM 6th LOS				A								



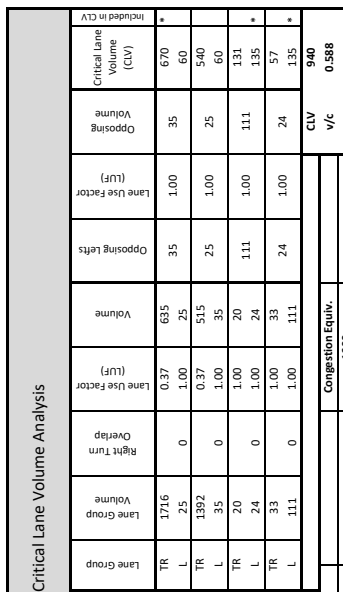
WELLS + ASSOCIATES

Intersection: 06- Randolph Road / Middlevale Lane / Garden Gate Road
 Jurisdiction: Montgomery County, MD
 Scenario/Design Year: Existing Conditions
 Computed by: W+A

6
 Critical Lane Volume
 and
 Level of Service Calculations



Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Oposing Lefts	Lane Use Factor (LUF)	Critical Lane Volume (CLV)	
EB	TR	1119		0.37	414	82	1.00	496	
	L	68	0	1.00	68			150	
WB	TR	2103		0.37	778	68	1.00	846	
	L	82	0	1.00	82			150	
NB	TR	19		1.00	19	173	1.00	192	
	L	35	0	1.00	35			208	
SB	TR	104		1.00	104	35	1.00	139	
	L	173	0	1.00	173			208	
Note: Congestion Equiv. 1600								CLV	1262
								v/c	0.789



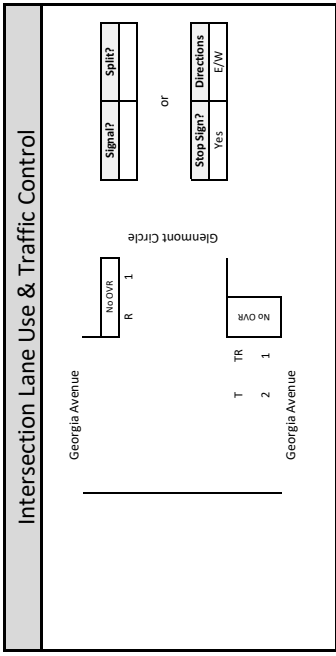
Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Oposing Lefts	Lane Use Factor (LUF)	Critical Lane Volume (CLV)	
EB	TR	1716		0.37	635	35	1.00	670	
	L	25	0	1.00	25			60	
WB	TR	1392		0.37	515	25	1.00	540	
	L	35	0	1.00	35			60	
NB	TR	20		1.00	20	111	1.00	131	
	L	24	0	1.00	24			135	
SB	TR	33		1.00	33	24	1.00	57	
	L	111	0	1.00	111			135	
Note: Congestion Equiv. 1600								CLV	940
								v/c	0.588

Approach	Excl. Right	Right Vol.	Adj. Right	PMI	AM	PMI	AM	LUF	PM	AM	PM	Overlap
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0

Right Turn Overlap		
Approach	Right Turn	Through
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

Montgomery County LATR		
Number of Lanes	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

Approach	Excl. Right	Right Vol.	Adj. Right	PMI	AM	PMI	AM	LUF	PM	AM	PM	Overlap
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0	0



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	R	36	0	1.00	36	0	0	0	0
WB	TR	1101	0	0.37	407	0	0	0	407
NB									0
SB									0
Note: Congestion Equiv. 1800									CLV v/c 443 0.246

Approach	Left Turn	Through	Right Turn
Eastbound			
Westbound			
Northbound			
Southbound			

PM Peak Hour Critical Lane Volume Analysis

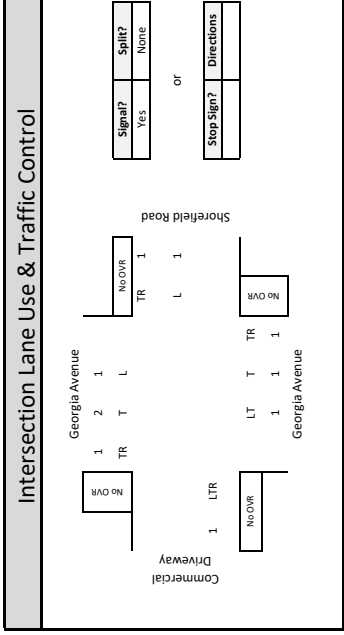
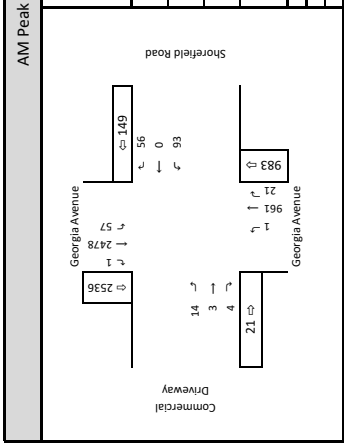
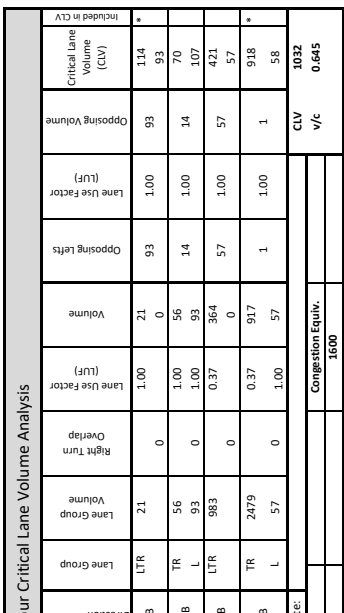
Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	R	23	0	1.00	23	0	0	0	0
WB	TR	1944	0	0.37	719	0	0	0	719
NB									0
SB									0
Note: Congestion Equiv. 1800									CLV v/c 742 0.412

Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	PM	AM	PM	AM	PM	AM
Eastbound	n/a	n/a	n/a	n/a	0	0
Westbound	n/a	n/a	n/a	n/a	0	0
Northbound	n/a	n/a	n/a	n/a	0	0
Southbound	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

Number of Lanes	Lane Use Factors		Through LUF
	Left Turn LUF	Right Turn LUF	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	



Right Turn Overlap

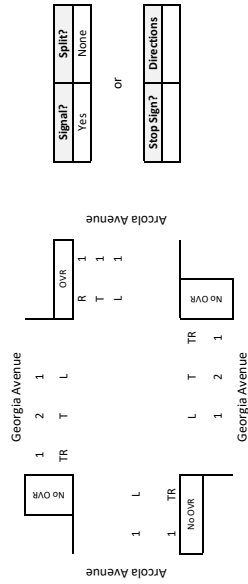
Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	Excl. Right	Right	AM	PM	LUF	AM
Eastbound	No	n/a	n/a	n/a	n/a	0
Westbound	No	n/a	n/a	n/a	n/a	0
Northbound	No	n/a	n/a	n/a	n/a	0
Southbound	No	n/a	n/a	n/a	n/a	0

Montgomery County LATR

	Lane Use Factors		
	Number of Lanes	Left Turn LUF	Through LUF
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	



Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	141	0	1.00	141	145	1.00	145	286
	L	33	0	1.00	33				178
WB	R	170	344	1.00	170	33	1.00	33	203
	L	344		1.00	0				33
NB	TR	670	0	0.37	248	374	1.00	374	622
	L	30	0	1.00	30				404
SB	TR	2206	0	0.37	816	30	1.00	30	846
	L	374	0	1.00	374				404
Note: Congestion Equiv. 1600									CLV v/c
									1132 0.708

Approach	Excl. Right	Right Vol.	PM	LUF	AM	PM	LUF	AM	PM	Overlap
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Westbound	Yes	344	302	1.00	374	237	1.00	344	237	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0

PM Peak Hour Critical Lane Volume Analysis

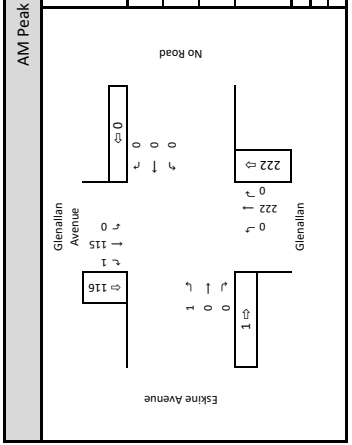
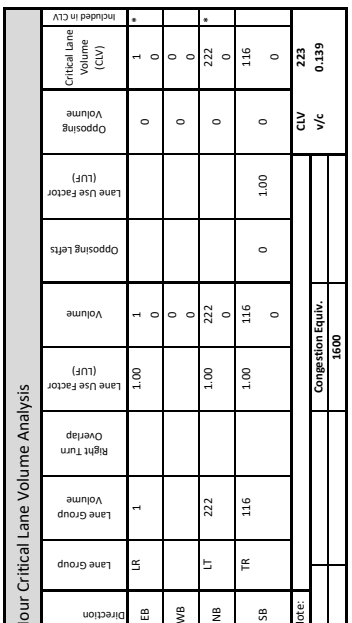
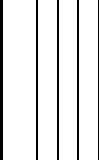
Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	124	0	1.00	124	93	1.00	93	217
	L	50	0	1.00	50				143
WB	R	119	0	1.00	119	50	1.00	50	169
	L	392		1.00	392				442
NB	TR	1580	0	0.37	585	237	1.00	237	822
	L	53	0	1.00	53				290
SB	TR	1227	0	0.37	454	53	1.00	53	507
	L	237	0	1.00	237				290
Note: Congestion Equiv. 1600									CLV v/c
									1264 0.790

Right Turn Overlap

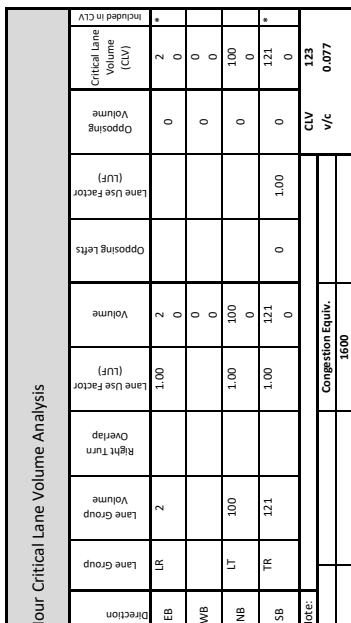
Approach	Excl. Right	Right Vol.	PM	LUF	AM	PM	LUF	AM	PM	Overlap
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Westbound	Yes	344	302	1.00	374	237	1.00	344	237	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25



Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LR	1		1.00	1			0	1
WB					0			0	0
NB	LT	222		1.00	222			0	222
SB	TR	116		1.00	116	0	1.00	0	116
					0			0	0
Note: Congestion Equiv. 1600									CLV v/c 0.139

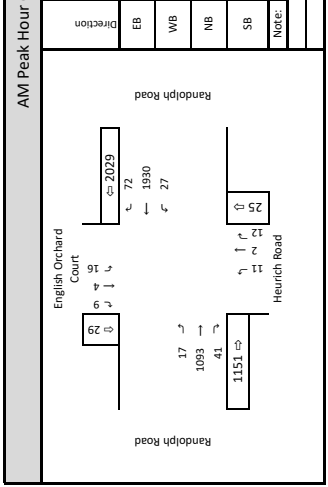
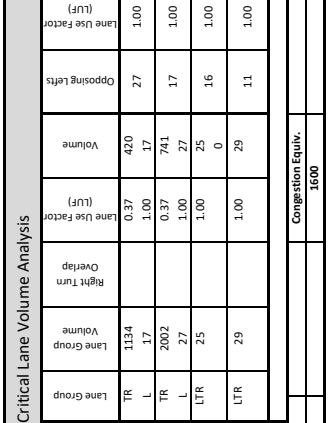


Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LR	2		1.00	2			0	2
WB					0			0	0
NB	LT	100		1.00	100			0	100
SB	TR	121		1.00	121	0	1.00	0	121
					0			0	0
Note: Congestion Equiv. 1600									CLV v/c 0.077

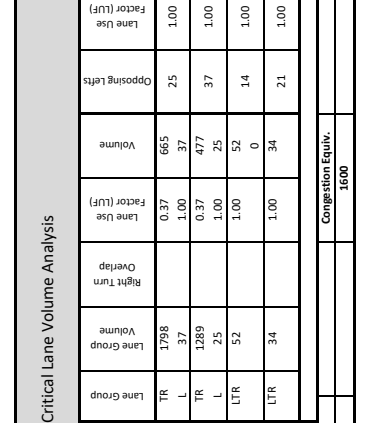
Approach	Excl. Right	Right Vol.			Adjacent Overlap Vol.			Overlap	
		PM	LUF	AM	PM	LUF	AM	PM	
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0

Approach	Lane Use Factors		Through LUF
	Number of Lanes	Left Turn LUF	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	

Montgomery County LATR			



Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	
EB	TR	1134		0.37	420	27	1.00	27	447	
	L	17		1.00	17	17	1.00	17	44	
	TR	2002		0.37	741	17	1.00	17	758	
	L	27		1.00	27	17	1.00	17	44	
WB	L	25		1.00	25	16	1.00	16	41	
	TR	29		1.00	29	11	1.00	11	40	
NB	LTR	29		1.00	29	11	1.00	11	40	
	T	17		1.00	17	11	1.00	11	40	
SB	LTR	29		1.00	29	11	1.00	11	40	
	T	17		1.00	17	11	1.00	11	40	
Note: Congestion Equiv. 1600									CLV	799
v/c										0.489



Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	
EB	TR	1798		0.37	665	25	1.00	25	690	
	L	37		1.00	37	37	1.00	37	62	
	TR	1289		0.37	477	37	1.00	37	514	
	L	25		1.00	25	37	1.00	37	62	
WB	L	52		1.00	52	14	1.00	14	66	
	TR	34		1.00	34	21	1.00	21	55	
NB	LTR	34		1.00	34	21	1.00	21	55	
	T	17		1.00	17	21	1.00	21	55	
SB	LTR	34		1.00	34	21	1.00	21	55	
	T	17		1.00	17	21	1.00	21	55	
Note: Congestion Equiv. 1600									CLV	756
v/c										0.473

Approach	Excl. Right	Right Vol.	Adj. Overlap Vol.	Overlap
AM	PM	LUF	AM	PM
Eastbound	No	n/a	n/a	n/a
Westbound	No	n/a	n/a	n/a
Northbound	No	n/a	n/a	n/a
Southbound	No	n/a	n/a	n/a

Right Turn Overlap			
Number of Lanes	Left Turn LUF	Through LUF	Overlap
1	1	1.00	0
2	0.53	0.53	0
3	0.37	0.37	0
4	0.30	0.30	0
5	0.25	0.25	0

Montgomery County LATR		
Number of Lanes	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

APPENDIX F
RED POLICY AREA
CAPACITY ANALYSIS



Table F-1
 Glenmont Forest
 Levels of Service Summary ¹

Approach/ Lane Group	Policy Standard (s)	Existing Conditions		Background Conditions		Total Future Conditions (with Randolph Road Access)		Total Future Conditions (without Randolph Road Access)	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
		Delay (s)	Delay (s)	Delay (s)	Delay (s)	Delay (s)	Delay (s)	Delay (s)	Delay (s)
1. Randolph Road/Livingston Street (Signalized) ² - Red Zone Overall	120	5.7	5.5	5.7	5.6	5.7	5.6	5.7	5.6
2. Randolph Road/Georgia Avenue (Signalized) ^{2,3} - Red Zone Overall	120	65.7	48.3	70.6	56.7	92.3	66.4	92.3	66.4
3. Randolph Road/Glenmont Circle (Signalized) ² - Red Zone Overall	120	8.5	21.3	8.5	21.3	21.1	25.1	21.1	25.1
4. Randolph Road/Residential Driveway (Unsignalized) ^{2,3} - Red Zone Overall	120	0.1	0.2	0.1	0.2	0.3	0.3	n/a	n/a
5. Randolph Road/Glenallen Avenue (Signalized) ² - Red Zone Overall	120	21.6	10.0	25.2	12.8	26.7	13.3	27.5	13.8
6. Randolph Road/Middlevale Lane/Garden Gate Road (Signalized) - Orange Zone Overall	80	21.5	8.1	21.8	8.0	21.6	8.0	21.6	8.0
7. Georgia Avenue/Layhill Road (Signalized) ² - Red Zone Overall	120	8.9	2.4	9.5	2.1	10.1	2.1	10.1	2.1
8. Georgia Avenue/Glenmont Circle (Unsignalized) - Orange Zone Overall	80	0.2	0.2	0.2	0.3	1.5	3.2	1.5	3.2
9. Georgia Avenue/Shorefield Road (Signalized) - Orange Zone Overall	80	8.0	9.8	8.3	9.8	9.1	9.7	9.1	9.7
10. Layhill Road/Glenallen Avenue (Signalized) ² - Red Zone Overall	120	36.4	32.6	36.1	32.7	36.2	32.6	36.2	32.6
11. Georgia Avenue/Arcola Avenue (Signalized) - Orange Zone Overall	80	19.5	27.9	19.6	28.7	20.1	30.8	20.1	30.8
12. Glenallen Avenue/Eskine Avenue (Unsignalized) ² - Orange Zone Overall	80	0.0	0.1	0.0	0.1	0.9	0.5	2.5	1.4
13. Randolph Road/Heurich Road (Signalized) - Orange Zone Overall	80	1.6	2.3	1.5	2.3	1.5	2.2	1.5	2.2

Note(s):

- Capacity analysis based on Highway Capacity Manual 6th Edition methodology where available, using Synchro 11.
- Intersection is in Red policy area and does not require motor vehicle adequacy analysis.
- HCM 6th Edition report not available, HCM 2000 used.

EXISTING

Queues

1: Livingston Street & Randolph Road

Existing Conditions

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	13	999	123	1566	58	62
v/c Ratio	0.06	0.24	0.29	0.38	0.27	0.32
Control Delay	5.6	3.9	7.1	4.6	19.0	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.6	3.9	7.1	4.6	19.0	37.8
Queue Length 50th (ft)	2	54	19	98	8	32
Queue Length 95th (ft)	11	127	77	224	42	65
Internal Link Dist (ft)		1892		1561	753	616
Turn Bay Length (ft)	70		75			
Base Capacity (vph)	217	4137	417	4137	415	404
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.24	0.29	0.38	0.14	0.15
Intersection Summary						

HCM 6th Signalized Intersection Summary
 1: Livingston Street & Randolph Road

Existing Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗			↕			↕	
Traffic Volume (veh/h)	12	892	7	111	1404	5	7	3	42	17	21	18
Future Volume (veh/h)	12	892	7	111	1404	5	7	3	42	17	21	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	0.98		0.98	0.98		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	991	8	123	1560	6	8	3	47	19	23	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	4219	34	490	4240	16	43	17	112	68	70	47
Arrive On Green	0.81	0.81	0.81	0.81	0.81	0.81	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	328	5225	42	564	5250	20	106	192	1271	324	792	531
Grp Volume(v), veh/h	13	646	353	123	1011	555	58	0	0	62	0	0
Grp Sat Flow(s),veh/h/ln	328	1702	1863	564	1702	1866	1569	0	0	1647	0	0
Q Serve(g_s), s	1.4	5.4	5.4	8.0	9.8	9.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.1	5.4	5.4	13.4	9.8	9.8	4.1	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.01	0.14		0.81	0.31		0.32
Lane Grp Cap(c), veh/h	298	2749	1504	490	2749	1507	173	0	0	185	0	0
V/C Ratio(X)	0.04	0.23	0.23	0.25	0.37	0.37	0.34	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	298	2749	1504	490	2749	1507	414	0	0	432	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.7	2.7	2.7	4.3	3.2	3.2	51.8	0.0	0.0	51.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.2	0.4	1.2	0.4	0.7	2.4	0.0	0.0	2.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.3	1.5	0.9	2.4	2.7	1.8	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.0	2.9	3.1	5.6	3.5	3.9	54.2	0.0	0.0	54.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1012			1689			58				62
Approach Delay, s/veh		3.0			3.8			54.2				54.0
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		102.9		17.1		102.9		17.1				
Change Period (Y+Rc), s		6.0		6.5		6.0		6.5				
Max Green Setting (Gmax), s		78.0		29.5		78.0		29.5				
Max Q Clear Time (g_c+I1), s		0.0		6.1		0.0		6.0				
Green Ext Time (p_c), s		0.0		0.3		0.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				5.7								
HCM 6th LOS				A								

Queues
2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Existing Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	111	218	537	272	135	157	810	184	57	1627	115
v/c Ratio	0.57	0.58	0.46	0.85	0.85	0.29	0.60	0.38	0.25	0.31	0.81	0.18
Control Delay	85.7	86.1	19.9	82.6	92.9	3.9	90.5	39.5	3.6	72.7	72.7	42.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.7	86.1	19.9	82.6	92.9	3.9	90.5	39.5	3.6	72.7	72.7	42.8
Queue Length 50th (ft)	130	135	65	339	343	0	93	237	0	35	724	78
Queue Length 95th (ft)	183	189	133	404	462	22	137	348	39	m54	#950	m134
Internal Link Dist (ft)		604			602			403			821	
Turn Bay Length (ft)			200			200	200		175	250		275
Base Capacity (vph)	345	352	492	715	362	621	276	2115	735	457	1999	644
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.32	0.44	0.75	0.75	0.22	0.57	0.38	0.25	0.12	0.81	0.18

























Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Existing Conditions
AM Peak Hour

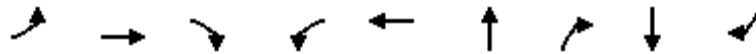
													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	174	38	211	733	51	131	152	786	178	55	1578	112	
Future Volume (vph)	174	38	211	733	51	131	152	786	178	55	1578	112	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	12.0	12.0	12.0	12.0	12.0	12.0	7.0	9.0	9.0	7.0	9.0	9.0	
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1681	1714	1583	3221	1629	1583	3433	5085	1470	3433	5085	1553	
Flt Permitted	0.95	0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1681	1714	1583	3221	1629	1583	3433	5085	1470	3433	5085	1553	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	179	39	218	756	53	135	157	810	184	57	1627	115	
RTOR Reduction (vph)	0	0	113	0	0	101	0	0	107	0	0	34	
Lane Group Flow (vph)	107	111	105	537	272	34	157	810	77	57	1627	81	
Confl. Peds. (#/hr)	2					2	3		26	26		3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	4	4	4 1	3	3	3 5	1	6		5	2		
Permitted Phases									6			2	
Actuated Green, G (s)	20.1	20.1	45.8	35.4	35.4	45.0	13.7	74.9	74.9	9.6	70.8	70.8	
Effective Green, g (s)	20.1	20.1	45.8	35.4	35.4	45.0	13.7	74.9	74.9	9.6	70.8	70.8	
Actuated g/C Ratio	0.11	0.11	0.25	0.20	0.20	0.25	0.08	0.42	0.42	0.05	0.39	0.39	
Clearance Time (s)	12.0	12.0		12.0	12.0		7.0	9.0	9.0	7.0	9.0	9.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0		4.0	0.2	0.2	4.0	0.2	0.2	
Lane Grp Cap (vph)	187	191	402	633	320	395	261	2115	611	183	2000	610	
v/s Ratio Prot	0.06	c0.06	0.07	0.17	c0.17	0.02	c0.05	c0.16		0.02	c0.32		
v/s Ratio Perm									0.05			0.05	
v/c Ratio	0.57	0.58	0.26	0.85	0.85	0.09	0.60	0.38	0.13	0.31	0.81	0.13	
Uniform Delay, d1	75.9	76.0	53.6	69.7	69.7	51.7	80.5	36.5	32.4	82.0	48.7	35.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.84	1.45	1.94	
Incremental Delay, d2	4.5	4.7	0.4	10.3	18.6	0.1	4.5	0.5	0.4	1.1	3.2	0.4	
Delay (s)	80.4	80.7	54.0	80.0	88.3	51.8	85.0	37.0	32.8	70.3	73.7	68.2	
Level of Service	F	F	D	E	F	D	F	D	C	E	E	E	
Approach Delay (s)		67.3			78.4			42.9			73.3		
Approach LOS		E			E			D			E		
Intersection Summary													
HCM 2000 Control Delay			65.7									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.77										
Actuated Cycle Length (s)			180.0									Sum of lost time (s)	40.0
Intersection Capacity Utilization			86.7%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Queues

Existing Conditions

3: Glenmont Circle/Shopping Center & Randolph Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	19	847	33	20	2071	67	18	50	47
v/c Ratio	0.23	0.25	0.03	0.24	0.49	0.29	0.06	0.44	0.22
Control Delay	74.4	16.6	0.1	81.7	11.9	57.3	0.4	78.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.4	16.6	0.1	81.7	11.9	57.3	0.4	78.9	2.5
Queue Length 50th (ft)	18	123	0	21	101	64	0	48	0
Queue Length 95th (ft)	47	240	0	m23	204	97	0	92	0
Internal Link Dist (ft)		622			388	289		392	
Turn Bay Length (ft)	110			270			30		
Base Capacity (vph)	165	3344	1039	165	4207	428	458	154	243
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.25	0.03	0.12	0.49	0.16	0.04	0.32	0.19

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 3: Glenmont Circle/Shopping Center & Randolph Road

Existing Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑			↘	↗		↘	↗
Traffic Volume (veh/h)	18	822	32	19	1979	30	56	9	17	42	7	46
Future Volume (veh/h)	18	822	32	19	1979	30	56	9	17	42	7	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.96	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	847	0	20	2040	31	58	9	18	43	7	47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	3426		34	4415	67	142	22	140	70	11	66
Arrive On Green	0.02	0.67	0.00	0.04	1.00	1.00	0.09	0.09	0.09	0.05	0.05	0.05
Sat Flow, veh/h	1781	5106	1585	1781	6575	100	1552	241	1523	1542	251	1459
Grp Volume(v), veh/h	19	847	0	20	1497	574	67	0	18	50	0	47
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1609	1849	1793	0	1523	1793	0	1459
Q Serve(g_s), s	1.6	9.8	0.0	1.7	0.0	0.0	5.3	0.0	1.6	4.1	0.0	4.8
Cycle Q Clear(g_c), s	1.6	9.8	0.0	1.7	0.0	0.0	5.3	0.0	1.6	4.1	0.0	4.8
Prop In Lane	1.00		1.00	1.00		0.05	0.87		1.00	0.86		1.00
Lane Grp Cap(c), veh/h	32	3426		34	3241	1242	165	0	140	81	0	66
V/C Ratio(X)	0.59	0.25		0.60	0.46	0.46	0.41	0.00	0.13	0.62	0.00	0.71
Avail Cap(c_a), veh/h	166	3426		166	3241	1242	430	0	365	155	0	126
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.1	9.7	0.0	71.6	0.0	0.0	64.3	0.0	62.6	70.3	0.0	70.7
Incr Delay (d2), s/veh	15.6	0.2	0.0	15.7	0.5	1.2	1.6	0.0	0.4	7.5	0.0	13.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.6	0.0	0.9	0.1	0.4	2.5	0.0	0.7	2.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.7	9.9	0.0	87.3	0.5	1.2	65.9	0.0	63.0	77.8	0.0	84.1
LnGrp LOS	F	A		F	A	A	E	A	E	E	A	F
Approach Vol, veh/h		866			2091			85				97
Approach Delay, s/veh		11.6			1.5			65.3				80.8
Approach LOS		B			A			E				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	106.7		13.8	8.8	106.6		20.8				
Change Period (Y+Rc), s	6.0	6.0		7.0	6.0	6.0		7.0				
Max Green Setting (Gmax), s	14.0	61.0		13.0	14.0	61.0		36.0				
Max Q Clear Time (g_c+I1), s	3.6	0.0		6.8	3.7	0.0		7.3				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Notes

User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
4: Residential Driveway & Randolph Road

Existing Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	928	2	0	2064	0	32
Future Vol, veh/h	928	2	0	2064	0	32
Conflicting Peds, #/hr	0	0	8	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	998	2	0	2219	0	34

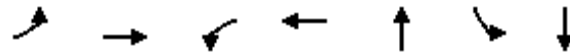
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	500
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	442
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	442
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	442	-	-	-
HCM Lane V/C Ratio	0.078	-	-	-
HCM Control Delay (s)	13.8	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Queues
5: Glenallan Avenue & Randolph Road

Existing Conditions
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	34	910	2	2209	167	228	219
v/c Ratio	0.26	0.34	0.01	0.93	0.60	0.80	0.75
Control Delay	40.5	14.4	5.0	23.5	67.0	80.1	68.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	14.4	5.0	23.5	67.0	80.1	68.9
Queue Length 50th (ft)	8	83	0	138	160	228	196
Queue Length 95th (ft)	45	107	m1	#1107	217	314	281
Internal Link Dist (ft)		391		1077	286		473
Turn Bay Length (ft)	250		290				
Base Capacity (vph)	194	2657	382	2368	402	369	373
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.34	0.01	0.93	0.42	0.62	0.59

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
5: Glenallan Avenue & Randolph Road

Existing Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑	↗	↖	↕	
Traffic Volume (veh/h)	33	839	35	2	1923	198	55	106	0	288	55	86
Future Volume (veh/h)	33	839	35	2	1923	198	55	106	0	288	55	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	874	36	2	2003	206	57	110	0	224	164	90
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	2803	115	390	2624	267	81	157	205	313	197	108
Arrive On Green	0.00	1.00	1.00	0.00	0.74	0.74	0.13	0.13	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1781	5022	206	1781	4701	479	628	1211	1585	1781	1120	615
Grp Volume(v), veh/h	34	592	318	2	1445	764	167	0	0	224	0	254
Grp Sat Flow(s),veh/h/ln	1781	1702	1824	1781	1702	1775	1839	0	1585	1781	0	1735
Q Serve(g_s), s	0.1	0.0	0.0	0.1	37.7	38.9	13.0	0.0	0.0	17.8	0.0	21.2
Cycle Q Clear(g_c), s	0.1	0.0	0.0	0.1	37.7	38.9	13.0	0.0	0.0	17.8	0.0	21.2
Prop In Lane	1.00		0.11	1.00		0.27	0.34		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	102	1900	1018	390	1900	991	238	0	205	313	0	305
V/C Ratio(X)	0.33	0.31	0.31	0.01	0.76	0.77	0.70	0.00	0.00	0.72	0.00	0.83
Avail Cap(c_a), veh/h	249	1900	1018	537	1900	991	405	0	349	392	0	382
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.5	0.0	0.0	14.6	13.4	13.5	62.5	0.0	0.0	58.3	0.0	59.7
Incr Delay (d2), s/veh	1.9	0.4	0.8	0.0	2.3	4.6	3.7	0.0	0.0	4.6	0.0	12.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.1	0.2	0.0	12.0	13.6	6.4	0.0	0.0	8.5	0.0	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	0.4	0.8	14.6	15.7	18.1	66.3	0.0	0.0	62.9	0.0	71.8
LnGrp LOS	D	A	A	B	B	B	E	A	A	E	A	E
Approach Vol, veh/h		944			2211			167				478
Approach Delay, s/veh		2.2			16.5			66.3				67.6
Approach LOS		A			B			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	90.2		26.4	0.0	90.2		33.4				
Change Period (Y+Rc), s	5.5	6.5		7.0	5.5	6.5		7.0				
Max Green Setting (Gmax), s	12.5	45.5		33.0	12.5	45.5		33.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0		15.0	0.0	0.0		23.2				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		1.2				

Intersection Summary

HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Queues
7: Georgia Avenue & Layhill Road

Existing Conditions
AM Peak Hour




























Lane Group	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	16	15	875	30	693	381	54	961
v/c Ratio	0.22	0.10	0.83	0.06	0.27	0.47	0.14	0.33
Control Delay	90.3	1.3	65.8	0.2	33.8	35.4	18.0	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.3	1.3	65.8	0.2	33.8	35.4	18.0	21.1
Queue Length 50th (ft)	19	0	508	0	101	136	28	221
Queue Length 95th (ft)	48	0	#630	0	290	427	52	254
Internal Link Dist (ft)	216				821		521	
Turn Bay Length (ft)				840		25	140	
Base Capacity (vph)	166	228	1059	541	2587	819	513	2874
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.07	0.83	0.06	0.27	0.47	0.11	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
7: Georgia Avenue & Layhill Road

Existing Conditions
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  			  	
Traffic Volume (veh/h)	9	7	15	866	0	30	0	686	377	53	951	0
Future Volume (veh/h)	9	7	15	866	0	30	0	686	377	53	951	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	9	7	15	875	0	0	0	693	0	54	961	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	22	17	32	0	0	0	0	4337	0	646	4626	0
Arrive On Green	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.28	0.00	0.03	0.91	0.00
Sat Flow, veh/h	1023	796	1448		0		0	5274	1585	1781	5274	0
Grp Volume(v), veh/h	16	0	15		0.0		0	693	0	54	961	0
Grp Sat Flow(s),veh/h/ln	1819	0	1448				0	1702	1585	1781	1702	0
Q Serve(g_s), s	1.6	0.0	1.8				0.0	18.4	0.0	0.6	3.9	0.0
Cycle Q Clear(g_c), s	1.6	0.0	1.8				0.0	18.4	0.0	0.6	3.9	0.0
Prop In Lane	0.56		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	40	0	32				0	4337	0	646	4626	0
V/C Ratio(X)	0.40	0.00	0.47				0.00	0.16	0.00	0.08	0.21	0.00
Avail Cap(c_a), veh/h	167	0	133				0	4337	0	862	4626	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.93	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	86.9	0.0	87.0				0.0	16.4	0.0	2.4	1.0	0.0
Incr Delay (d2), s/veh	6.4	0.0	10.6				0.0	0.1	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.8				0.0	8.5	0.0	0.2	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.3	0.0	97.6				0.0	16.4	0.0	2.5	1.1	0.0
LnGrp LOS	F	A	F				A	B		A	A	A
Approach Vol, veh/h		31						693			1015	
Approach Delay, s/veh		95.4						16.4			1.2	
Approach LOS		F						B			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		169.6		10.4	10.2	159.4						
Change Period (Y+Rc), s		6.5		6.5	5.5	6.5						
Max Green Setting (Gmax), s		100.5		16.5	26.5	68.5						
Max Q Clear Time (g_c+I1), s		5.9		3.8	2.6	20.4						
Green Ext Time (p_c), s		1.6		0.0	0.1	1.1						
Intersection Summary												
HCM 6th Ctrl Delay			8.9									
HCM 6th LOS			A									
Notes												
User approved changes to right turn type.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Queues
10: Glenallan Avenue & Layhill Road

Existing Conditions
AM Peak Hour

























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	32	441	112	922	285	21	399	140	274	51
v/c Ratio	0.18	0.33	0.30	0.79	0.41	0.04	0.31	0.32	0.33	0.07
Control Delay	22.2	34.6	23.7	42.8	5.3	18.7	28.5	20.5	25.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	34.6	23.7	42.8	5.3	18.7	28.5	20.5	25.9	0.2
Queue Length 50th (ft)	14	93	50	339	0	9	120	63	134	0
Queue Length 95th (ft)	33	124	87	428	61	24	165	106	245	0
Internal Link Dist (ft)		1003		925			1154		446	
Turn Bay Length (ft)	290		170		300	140		140		
Base Capacity (vph)	229	1518	380	1160	702	537	1275	446	836	761
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.29	0.29	0.79	0.41	0.04	0.31	0.31	0.33	0.07

Intersection Summary

HCM 6th Signalized Intersection Summary
10: Glenallan Avenue & Layhill Road

Existing Conditions
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	378	28	103	848	262	19	318	49	129	252	47
Future Volume (veh/h)	29	378	28	103	848	262	19	318	49	129	252	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	411	30	112	922	285	21	346	53	140	274	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	1222	88	343	1047	461	467	1273	193	499	861	719
Arrive On Green	0.02	0.25	0.25	0.06	0.29	0.29	0.01	0.41	0.41	0.06	0.46	0.46
Sat Flow, veh/h	1781	4857	350	1781	3554	1564	1781	3085	468	1781	1870	1560
Grp Volume(v), veh/h	32	287	154	112	922	285	21	198	201	140	274	51
Grp Sat Flow(s),veh/h/ln	1781	1702	1803	1781	1777	1564	1781	1777	1776	1781	1870	1560
Q Serve(g_s), s	1.6	8.3	8.4	5.5	29.7	18.9	0.8	8.8	9.0	5.2	11.1	2.2
Cycle Q Clear(g_c), s	1.6	8.3	8.4	5.5	29.7	18.9	0.8	8.8	9.0	5.2	11.1	2.2
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	117	856	454	343	1047	461	467	733	733	499	861	719
V/C Ratio(X)	0.27	0.33	0.34	0.33	0.88	0.62	0.04	0.27	0.27	0.28	0.32	0.07
Avail Cap(c_a), veh/h	238	1021	541	387	1066	469	593	733	733	539	861	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	36.7	36.8	30.0	40.3	36.5	20.2	23.3	23.3	17.7	20.5	18.1
Incr Delay (d2), s/veh	1.1	0.4	0.9	0.5	9.2	3.6	0.0	0.9	0.9	0.3	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.5	3.8	2.4	14.2	7.6	0.3	3.9	4.0	2.2	5.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	37.1	37.6	30.5	49.6	40.1	20.2	24.2	24.3	18.0	21.4	18.2
LnGrp LOS	D	D	D	C	D	D	C	C	C	B	C	B
Approach Vol, veh/h		473			1319			420			465	
Approach Delay, s/veh		37.2			45.9			24.0			20.0	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	61.3	14.0	37.2	13.3	55.5	8.9	42.4				
Change Period (Y+Rc), s	6.0	6.0	6.5	7.0	6.0	6.0	6.5	7.0				
Max Green Setting (Gmax), s	10.0	38.0	10.5	36.0	10.0	38.0	10.5	36.0				
Max Q Clear Time (g_c+I1), s	2.8	13.1	7.5	10.4	7.2	11.0	3.6	31.7				
Green Ext Time (p_c), s	0.0	0.3	0.1	5.3	0.1	0.4	0.0	3.5				
Intersection Summary												
HCM 6th Ctrl Delay			36.4									
HCM 6th LOS			D									

Queues

1: Livingston Street & Randolph Road

Existing Conditions

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	30	1516	81	931	55	24
v/c Ratio	0.07	0.38	0.37	0.23	0.24	0.11
Control Delay	6.1	5.7	13.1	4.8	20.3	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	5.7	13.1	4.8	20.3	30.9
Queue Length 50th (ft)	3	83	12	43	13	12
Queue Length 95th (ft)	19	214	72	117	46	33
Internal Link Dist (ft)		1892		1561	753	616
Turn Bay Length (ft)	70		75			
Base Capacity (vph)	435	4039	221	4034	403	418
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.38	0.37	0.23	0.14	0.06
Intersection Summary						

HCM 6th Signalized Intersection Summary
1: Livingston Street & Randolph Road

Existing Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕				↕
Traffic Volume (veh/h)	29	1479	7	79	901	12	14	3	37	4	12	8
Future Volume (veh/h)	29	1479	7	79	901	12	14	3	37	4	12	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	0.97		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	1509	7	81	919	12	14	3	38	4	12	8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	506	4136	19	302	4094	53	63	26	115	49	108	61
Arrive On Green	0.79	0.79	0.79	0.79	0.79	0.79	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	601	5246	24	345	5192	68	234	244	1070	127	1004	565
Grp Volume(v), veh/h	30	979	537	81	602	329	55	0	0	24	0	0
Grp Sat Flow(s),veh/h/ln	601	1702	1866	345	1702	1856	1548	0	0	1696	0	0
Q Serve(g_s), s	1.6	10.3	10.3	11.0	5.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	10.3	10.3	21.2	5.5	5.5	3.7	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.04	0.25		0.69	0.17		0.33
Lane Grp Cap(c), veh/h	506	2684	1471	302	2684	1463	204	0	0	217	0	0
V/C Ratio(X)	0.06	0.36	0.36	0.27	0.22	0.22	0.27	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	506	2684	1471	302	2684	1463	411	0	0	444	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.2	3.8	3.8	6.9	3.3	3.3	49.5	0.0	0.0	48.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.4	0.7	2.2	0.2	0.4	1.5	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.7	3.1	0.9	1.4	1.6	1.6	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.4	4.2	4.5	9.1	3.5	3.6	51.0	0.0	0.0	48.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1546			1012			55				24
Approach Delay, s/veh		4.3			4.0			51.0				48.9
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		100.6		19.4		100.6		19.4				
Change Period (Y+Rc), s		6.0		6.5		6.0		6.5				
Max Green Setting (Gmax), s		78.0		29.5		78.0		29.5				
Max Q Clear Time (g_c+I1), s		0.0		5.7		0.0		3.5				
Green Ext Time (p_c), s		0.0		0.3		0.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				5.5								
HCM 6th LOS				A								

Queues
2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Existing Conditions
PM Peak Hour



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	161	166	149	276	143	128	164	1467	360	93	1025	155
v/c Ratio	0.67	0.67	0.30	0.63	0.64	0.32	0.58	0.66	0.49	0.44	0.49	0.23
Control Delay	85.4	85.8	15.5	79.3	85.7	4.1	87.4	44.1	23.3	100.3	32.5	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.4	85.8	15.5	79.3	85.7	4.1	87.4	44.1	23.3	100.3	32.5	16.1
Queue Length 50th (ft)	193	200	36	173	179	0	97	495	156	57	183	21
Queue Length 95th (ft)	265	272	90	217	257	19	138	682	320	m87	395	m76
Internal Link Dist (ft)		604			602			403			821	
Turn Bay Length (ft)			200			200	200		175	250		275
Base Capacity (vph)	345	351	633	715	366	549	610	2213	735	286	2108	687
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	40	0	10	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.47	0.24	0.39	0.39	0.25	0.27	0.67	0.49	0.33	0.49	0.23

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
 2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Existing Conditions
 PM Peak Hour

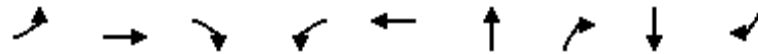
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	48	145	347	59	124	159	1423	349	90	994	150
Future Volume (vph)	270	48	145	347	59	124	159	1423	349	90	994	150
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	12.0	12.0	12.0	12.0	12.0	12.0	7.0	9.0	9.0	7.0	9.0	9.0
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1709	1583	3221	1648	1583	3433	5085	1470	3433	5085	1553
Flt Permitted	0.95	0.97	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1709	1583	3221	1648	1583	3433	5085	1470	3433	5085	1553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	278	49	149	358	61	128	164	1467	360	93	1025	155
RTOR Reduction (vph)	0	0	77	0	0	103	0	0	96	0	0	44
Lane Group Flow (vph)	161	166	72	276	143	25	164	1467	264	93	1025	111
Confl. Peds. (#/hr)	2					2	3		26	26		3
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	4 1	3	3	3 5	1	6		5	2	
Permitted Phases									6			2
Actuated Green, G (s)	25.9	25.9	52.8	24.6	24.6	35.8	14.9	78.3	78.3	11.2	74.6	74.6
Effective Green, g (s)	25.9	25.9	52.8	24.6	24.6	35.8	14.9	78.3	78.3	11.2	74.6	74.6
Actuated g/C Ratio	0.14	0.14	0.29	0.14	0.14	0.20	0.08	0.43	0.43	0.06	0.41	0.41
Clearance Time (s)	12.0	12.0		12.0	12.0		7.0	9.0	9.0	7.0	9.0	9.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	241	245	464	440	225	314	284	2211	639	213	2107	643
v/s Ratio Prot	0.10	c0.10	0.05	0.09	c0.09	0.02	c0.05	c0.29		0.03	0.20	
v/s Ratio Perm									0.18			0.07
v/c Ratio	0.67	0.68	0.16	0.63	0.64	0.08	0.58	0.66	0.41	0.44	0.49	0.17
Uniform Delay, d1	73.0	73.1	47.1	73.4	73.5	58.7	79.5	40.4	35.0	81.4	38.7	33.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.17	0.77	0.75
Incremental Delay, d2	9.0	9.3	0.3	3.9	7.9	0.2	3.4	1.6	2.0	1.8	0.7	0.5
Delay (s)	81.9	82.4	47.4	77.3	81.4	58.9	82.9	42.0	37.0	96.8	30.5	25.5
Level of Service	F	F	D	E	F	E	F	D	D	F	C	C
Approach Delay (s)		71.3			74.1			44.4			34.7	
Approach LOS		E			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			48.3								HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			180.0								Sum of lost time (s)	40.0
Intersection Capacity Utilization			73.7%								ICU Level of Service	D
Analysis Period (min)			15									
c Critical Lane Group												

Queues

Existing Conditions

3: Glenmont Circle/Shopping Center & Randolph Road

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	35	1554	66	29	1119	82	12	106	103
v/c Ratio	0.35	0.60	0.08	0.31	0.36	0.23	0.03	0.65	0.41
Control Delay	77.2	30.5	0.2	84.9	27.4	48.8	0.2	83.9	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.2	30.5	0.2	84.9	27.4	48.8	0.2	83.9	12.6
Queue Length 50th (ft)	34	443	0	29	108	64	0	102	0
Queue Length 95th (ft)	72	536	0	m61	271	114	0	166	47
Internal Link Dist (ft)		622			388	289		392	
Turn Bay Length (ft)	110			270			30		
Base Capacity (vph)	165	2608	828	165	3121	431	468	203	282
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.60	0.08	0.18	0.36	0.19	0.03	0.52	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 3: Glenmont Circle/Shopping Center & Randolph Road

Existing Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑			↗	↗		↗	↗
Traffic Volume (veh/h)	34	1507	64	28	1011	75	60	19	12	77	26	100
Future Volume (veh/h)	34	1507	64	28	1011	75	60	19	12	77	26	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.92	1.00		0.85
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	1554	0	29	1042	77	62	20	12	79	27	103
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	2790		42	3345	245	227	73	244	121	41	122
Arrive On Green	0.03	0.55	0.00	0.05	1.00	1.00	0.17	0.17	0.17	0.09	0.09	0.09
Sat Flow, veh/h	1781	5106	1585	1781	6146	451	1363	440	1460	1344	459	1352
Grp Volume(v), veh/h	35	1554	0	29	816	303	82	0	12	106	0	103
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1609	1771	1802	0	1460	1803	0	1352
Q Serve(g_s), s	2.9	29.8	0.0	2.4	0.0	0.0	6.0	0.0	1.0	8.5	0.0	11.3
Cycle Q Clear(g_c), s	2.9	29.8	0.0	2.4	0.0	0.0	6.0	0.0	1.0	8.5	0.0	11.3
Prop In Lane	1.00		1.00	1.00		0.25	0.76		1.00	0.75		1.00
Lane Grp Cap(c), veh/h	46	2790		42	2626	964	301	0	244	162	0	122
V/C Ratio(X)	0.77	0.56		0.70	0.31	0.31	0.27	0.00	0.05	0.65	0.00	0.85
Avail Cap(c_a), veh/h	166	2790		166	2626	964	433	0	350	204	0	153
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	72.6	22.2	0.0	71.0	0.0	0.0	54.5	0.0	52.5	66.0	0.0	67.2
Incr Delay (d2), s/veh	23.1	0.8	0.0	18.8	0.3	0.9	0.5	0.0	0.1	5.0	0.0	28.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	11.8	0.0	1.3	0.1	0.2	2.8	0.0	0.4	4.2	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.8	23.0	0.0	89.8	0.3	0.9	55.0	0.0	52.6	71.0	0.0	95.4
LnGrp LOS	F	C		F	A	A	E	A	D	E	A	F
Approach Vol, veh/h		1589			1148			94			209	
Approach Delay, s/veh		24.6			2.7			54.7			83.0	
Approach LOS		C			A			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	87.6		20.5	9.5	88.0		32.0				
Change Period (Y+Rc), s	6.0	6.0		7.0	6.0	6.0		7.0				
Max Green Setting (Gmax), s	14.0	57.0		17.0	14.0	57.0		36.0				
Max Q Clear Time (g_c+I1), s	4.9	0.0		13.3	4.4	0.0		8.0				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Notes

User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
4: Residential Driveway & Randolph Road

Existing Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	1595	14	0	1155	0	23
Future Vol, veh/h	1595	14	0	1155	0	23
Conflicting Peds, #/hr	0	1	1	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1715	15	0	1242	0	25

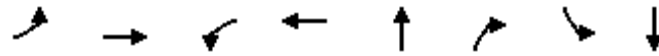
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	866
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	255
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	255
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	255	-	-	-
HCM Lane V/C Ratio	0.097	-	-	-
HCM Control Delay (s)	20.6	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Queues
5: Glenallan Avenue & Randolph Road

Existing Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	78	1566	5	1299	59	5	177	170
v/c Ratio	0.30	0.49	0.03	0.48	0.35	0.02	0.72	0.67
Control Delay	12.3	7.1	19.2	20.2	66.0	0.2	76.4	65.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	7.1	19.2	20.2	66.0	0.2	76.4	65.6
Queue Length 50th (ft)	7	59	2	167	57	0	177	150
Queue Length 95th (ft)	m29	354	m6	228	89	0	245	218
Internal Link Dist (ft)		391		1077	286			473
Turn Bay Length (ft)	250		290			25		
Base Capacity (vph)	299	3168	272	2696	399	433	369	371
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.49	0.02	0.48	0.15	0.01	0.48	0.46

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
5: Glenallan Avenue & Randolph Road

Existing Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑	↗	↖	↕	
Traffic Volume (veh/h)	76	1504	30	5	1060	213	31	26	5	251	25	64
Future Volume (veh/h)	76	1504	30	5	1060	213	31	26	5	251	25	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	1535	31	5	1082	217	32	27	5	174	141	65
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	335	3473	70	270	2872	575	50	42	79	246	167	77
Arrive On Green	0.00	1.00	1.00	0.00	1.00	1.00	0.05	0.05	0.05	0.14	0.14	0.14
Sat Flow, veh/h	1781	5148	104	1781	4257	853	988	833	1566	1781	1204	555
Grp Volume(v), veh/h	78	1015	551	5	865	434	59	0	5	174	0	206
Grp Sat Flow(s),veh/h/ln	1781	1702	1848	1781	1702	1706	1821	0	1566	1781	0	1759
Q Serve(g_s), s	0.1	0.0	0.0	0.1	0.0	0.0	4.8	0.0	0.5	14.0	0.0	17.1
Cycle Q Clear(g_c), s	0.1	0.0	0.0	0.1	0.0	0.0	4.8	0.0	0.5	14.0	0.0	17.1
Prop In Lane	1.00		0.06	1.00		0.50	0.54		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	335	2297	1247	270	2297	1151	92	0	79	246	0	243
V/C Ratio(X)	0.23	0.44	0.44	0.02	0.38	0.38	0.64	0.00	0.06	0.71	0.00	0.85
Avail Cap(c_a), veh/h	482	2297	1247	418	2297	1151	401	0	345	392	0	387
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.6	0.0	0.0	7.9	0.0	0.0	69.9	0.0	67.9	61.7	0.0	63.1
Incr Delay (d2), s/veh	0.4	0.6	1.1	0.0	0.4	0.9	7.3	0.0	0.3	3.7	0.0	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.2	0.4	0.1	0.1	0.3	2.4	0.0	0.2	6.6	0.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	0.6	1.1	8.0	0.4	0.9	77.3	0.0	68.2	65.4	0.0	72.6
LnGrp LOS	A	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1644			1304			64				380
Approach Delay, s/veh		1.2			0.6			76.5				69.3
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	107.7		14.5	0.0	107.7		27.8				
Change Period (Y+Rc), s	5.5	6.5		7.0	5.5	6.5		7.0				
Max Green Setting (Gmax), s	12.5	45.5		33.0	12.5	45.5		33.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0		6.8	0.0	0.0		19.1				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		1.1				

Intersection Summary

HCM 6th Ctrl Delay	10.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Queues
7: Georgia Avenue & Layhill Road



























Existing Conditions
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	7	548	51	1214	679	114	848
v/c Ratio	0.38	0.04	0.80	0.13	0.42	0.75	0.40	0.26
Control Delay	94.3	0.4	77.6	0.7	29.2	40.8	16.6	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
Total Delay	94.3	0.4	77.6	0.7	29.2	41.7	16.6	13.9
Queue Length 50th (ft)	39	0	318	0	452	658	50	154
Queue Length 95th (ft)	80	0	388	0	543	823	84	190
Internal Link Dist (ft)	216				821		521	
Turn Bay Length (ft)				840		25	140	
Base Capacity (vph)	187	247	694	383	2900	910	364	3305
Starvation Cap Reductn	0	0	0	0	0	68	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.03	0.79	0.13	0.42	0.81	0.31	0.26
Intersection Summary								

HCM 6th Signalized Intersection Summary
7: Georgia Avenue & Layhill Road

Existing Conditions
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				  				  			  	
Traffic Volume (veh/h)	13	18	7	515	0	48	0	1141	638	107	797	0
Future Volume (veh/h)	13	18	7	515	0	48	0	1141	638	107	797	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.84	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	14	19	7	548	0	0	0	1214	0	114	848	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	20	27	34	0	0		0	4310		477	4607	0
Arrive On Green	0.03	0.03	0.03	0.00	0.00	0.00	0.00	1.00	0.00	0.03	0.90	0.00
Sat Flow, veh/h	777	1055	1328		0		0	5274	1585	1781	5274	0
Grp Volume(v), veh/h	33	0	7		0.0		0	1214	0	114	848	0
Grp Sat Flow(s),veh/h/ln	1832	0	1328				0	1702	1585	1781	1702	0
Q Serve(g_s), s	3.2	0.0	0.9				0.0	0.0	0.0	1.4	3.5	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.9				0.0	0.0	0.0	1.4	3.5	0.0
Prop In Lane	0.42		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	47	0	34				0	4310		477	4607	0
V/C Ratio(X)	0.71	0.00	0.21				0.00	0.28		0.24	0.18	0.00
Avail Cap(c_a), veh/h	188	0	137				0	4310		620	4607	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.73	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	87.0	0.0	85.9				0.0	0.0	0.0	1.3	1.0	0.0
Incr Delay (d2), s/veh	17.8	0.0	3.0				0.0	0.1	0.0	0.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.4				0.0	0.0	0.0	0.4	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.8	0.0	88.9				0.0	0.1	0.0	1.6	1.1	0.0
LnGrp LOS	F	A	F				A	A		A	A	A
Approach Vol, veh/h		40						1214			962	
Approach Delay, s/veh		102.0						0.1			1.2	
Approach LOS		F						A			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		168.9		11.1	10.5	158.4						
Change Period (Y+Rc), s		6.5		6.5	5.5	6.5						
Max Green Setting (Gmax), s		110.5		18.5	19.5	85.5						
Max Q Clear Time (g_c+I1), s		5.5		5.2	3.4	2.0						
Green Ext Time (p_c), s		1.4		0.1	0.2	2.1						
Intersection Summary												
HCM 6th Ctrl Delay			2.4									
HCM 6th LOS			A									
Notes												
User approved changes to right turn type.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Queues
10: Glenallan Avenue & Layhill Road



























Existing Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	74	782	81	484	124	29	306	185	227	58
v/c Ratio	0.25	0.61	0.34	0.53	0.23	0.06	0.24	0.33	0.26	0.07
Control Delay	24.3	40.4	26.3	39.9	1.1	18.5	26.4	19.1	25.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	40.4	26.3	39.9	1.1	18.5	26.4	19.1	25.3	0.2
Queue Length 50th (ft)	36	193	40	169	0	11	77	77	118	0
Queue Length 95th (ft)	60	217	65	206	1	31	134	142	210	0
Internal Link Dist (ft)		1003		925			1154		446	
Turn Bay Length (ft)	290		170		300	140		140		
Base Capacity (vph)	423	1890	258	1072	608	574	1301	567	864	821
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.41	0.31	0.45	0.20	0.05	0.24	0.33	0.26	0.07
Intersection Summary										

HCM 6th Signalized Intersection Summary
10: Glenallan Avenue & Layhill Road

Existing Conditions
PM Peak Hour

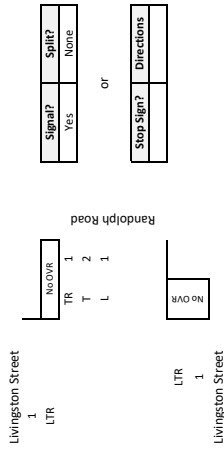
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	71	701	50	78	465	119	28	222	72	178	218	56
Future Volume (veh/h)	71	701	50	78	465	119	28	222	72	178	218	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.98	0.99		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	730	52	81	484	124	29	231	75	185	227	58
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	1239	88	234	928	405	515	1079	341	566	872	731
Arrive On Green	0.04	0.25	0.25	0.05	0.26	0.26	0.02	0.41	0.41	0.08	0.47	0.47
Sat Flow, veh/h	1781	4863	344	1781	3554	1552	1781	2649	836	1781	1870	1569
Grp Volume(v), veh/h	74	510	272	81	484	124	29	153	153	185	227	58
Grp Sat Flow(s),veh/h/ln	1781	1702	1803	1781	1777	1552	1781	1777	1708	1781	1870	1569
Q Serve(g_s), s	3.6	15.8	15.9	4.0	14.0	7.7	1.1	6.7	7.0	7.0	8.9	2.5
Cycle Q Clear(g_c), s	3.6	15.8	15.9	4.0	14.0	7.7	1.1	6.7	7.0	7.0	8.9	2.5
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	255	868	460	234	928	405	515	724	696	566	872	731
V/C Ratio(X)	0.29	0.59	0.59	0.35	0.52	0.31	0.06	0.21	0.22	0.33	0.26	0.08
Avail Cap(c_a), veh/h	466	1277	676	300	1066	466	635	724	696	581	872	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	39.2	39.2	31.5	37.9	35.6	20.3	23.1	23.1	17.2	19.5	17.8
Incr Delay (d2), s/veh	0.4	0.9	1.7	0.9	1.0	0.9	0.0	0.7	0.7	0.3	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	6.7	7.3	1.8	6.2	3.0	0.5	3.0	3.0	2.9	4.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	40.1	41.0	32.4	38.9	36.5	20.3	23.7	23.9	17.5	20.2	18.0
LnGrp LOS	C	D	D	C	D	D	C	C	C	B	C	B
Approach Vol, veh/h		856			689			335			470	
Approach Delay, s/veh		39.7			37.7			23.5			18.9	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	61.9	12.5	37.6	15.0	54.9	11.8	38.3				
Change Period (Y+Rc), s	6.0	6.0	6.5	7.0	6.0	6.0	6.5	7.0				
Max Green Setting (Gmax), s	10.0	29.0	10.5	45.0	10.0	29.0	19.5	36.0				
Max Q Clear Time (g_c+I1), s	3.1	10.9	6.0	17.9	9.0	9.0	5.6	16.0				
Green Ext Time (p_c), s	0.0	0.2	0.1	10.2	0.1	0.3	0.1	6.5				
Intersection Summary												
HCM 6th Ctrl Delay			32.6									
HCM 6th LOS			C									



Intersection: 01- Randolph Road / Livingston Street
 Jurisdiction: Montgomery County, MD
 Scenario/Design Year: Existing Conditions
 Computed by: W+A

1
 Critical Lane Volume
 and
 Level of Service Calculations

Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	899		0.37	333	111	1.00	111	444
	L	12		1.00	12				123
WB	TR	1409		0.37	521	12	1.00	12	533
	L	111		1.00	111				123
NB	LTR	52		1.00	0	17	1.00	17	69
	TR	56		1.00	56	7	1.00	7	63
Note: Congestion Equiv. 1800									CLV 602 v/c 0.334

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1486		0.37	550	79	1.00	79	629
	L	29		1.00	29				108
WB	TR	913		0.37	338	29	1.00	29	367
	L	79		1.00	79				108
NB	LTR	54		1.00	0	4	1.00	4	58
	TR	24		1.00	24	14	1.00	14	38
Note: Congestion Equiv. 1800									CLV 687 v/c 0.382

Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	Excl. Right	Incl. Right	AM	PM	LUF	PM
Approach	No	n/a	n/a	n/a	n/a	0
Eastbound	No	n/a	n/a	n/a	n/a	0
Westbound	No	n/a	n/a	n/a	n/a	0
Northbound	No	n/a	n/a	n/a	n/a	0
Southbound	No	n/a	n/a	n/a	n/a	0

Montgomery County LATR

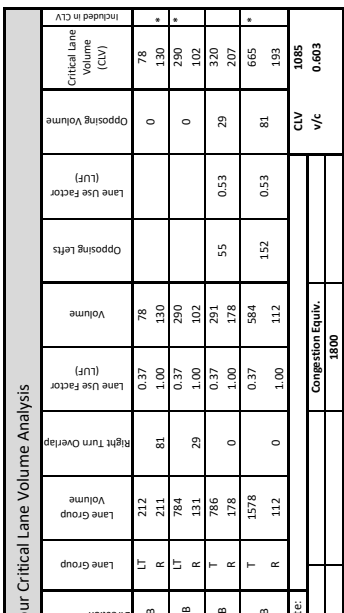
Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

2
Critical Lane Volume
and
Level of Service Calculations

Intersection: 02. Georgia Avenue / Randolph Road
Jurisdiction: Montgomery County, MD
Scenario/Design Year: Existing Conditions
Computed by: W+A

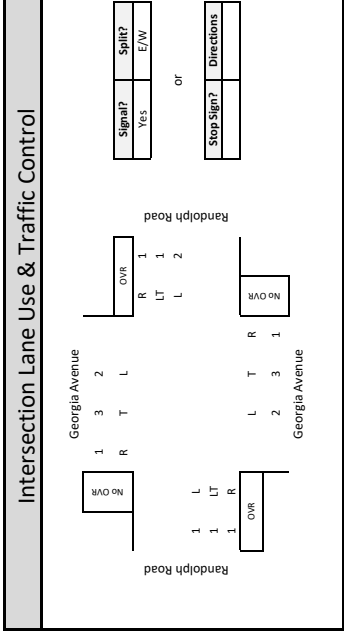


WELLS + ASSOCIATES



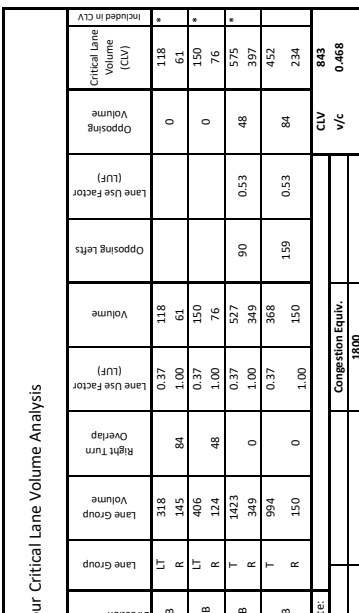
Intersection Lane Use & Traffic Control

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Oposing Lefts	Lane Use Factor (LUF)	Oposing Volume	Critical Lane Volume (CLV)
EB	LT	212	0	0.37	78	0	0.37	0	78
	R	211	81	1.00	130		1.00	0	130
WB	LT	784	0	0.37	290		0.37	0	290
	R	131	29	1.00	102		1.00	0	102
NB	T	786	0	0.37	291	55	0.53	29	320
	R	178	0	1.00	178		1.00	0	207
SB	T	1578	0	0.37	584	152	0.53	81	665
	R	112	0	1.00	112		1.00	0	193
Note: Congestion Equiv. 1800									1085
									v/c
									0.603



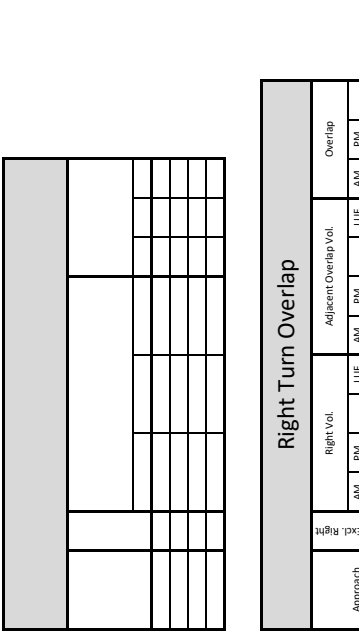
PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Oposing Lefts	Lane Use Factor (LUF)	Oposing Volume	Critical Lane Volume (CLV)
EB	LT	318	0	0.37	118	0	0.37	0	118
	R	145	84	1.00	61		1.00	0	61
WB	LT	406	0	0.37	150		0.37	0	150
	R	124	48	1.00	76		1.00	0	76
NB	T	1423	0	0.37	527	90	0.53	48	575
	R	349	0	1.00	349		1.00	0	397
SB	T	994	0	0.37	368	159	0.53	84	452
	R	150	0	1.00	150		1.00	0	234
Note: Congestion Equiv. 1800									843
									v/c
									0.468



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Oposing Lefts	Lane Use Factor (LUF)	Oposing Volume	Critical Lane Volume (CLV)
EB	LT	318	0	0.37	118	0	0.37	0	118
	R	145	84	1.00	61		1.00	0	61
WB	LT	406	0	0.37	150		0.37	0	150
	R	124	48	1.00	76		1.00	0	76
NB	T	1423	0	0.37	527	90	0.53	48	575
	R	349	0	1.00	349		1.00	0	397
SB	T	994	0	0.37	368	159	0.53	84	452
	R	150	0	1.00	150		1.00	0	234
Note: Congestion Equiv. 1800									843
									v/c
									0.468



PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Oposing Lefts	Lane Use Factor (LUF)	Oposing Volume	Critical Lane Volume (CLV)
EB	LT	318	0	0.37	118	0	0.37	0	118
	R	145	84	1.00	61		1.00	0	61
WB	LT	406	0	0.37	150		0.37	0	150
	R	124	48	1.00	76		1.00	0	76
NB	T	1423	0	0.37	527	90	0.53	48	575
	R	349	0	1.00	349		1.00	0	397
SB	T	994	0	0.37	368	159	0.53	84	452
	R	150	0	1.00	150		1.00	0	234
Note: Congestion Equiv. 1800									843
									v/c
									0.468

Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.		Overlap		
	AM	PM	AM	PM	LUF	AM	
Eastbound	Yes	211	145	152	159	0.53	81
Westbound	Yes	311	124	100	55	0.53	29
Northbound	No	n/a	n/a	n/a	n/a	n/a	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	0

Montgomery County LATR

Number of Lanes	Lane Use Factors		Through LUF
	Left Turn LUF	Right Turn LUF	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	

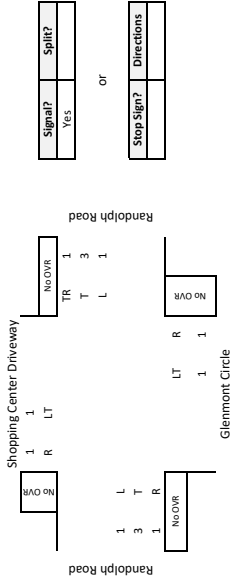


WELLS + ASSOCIATES

Intersection: 03- Randolph Road / Glenmont Circle
 Jurisdiction: Montgomery County, MD
 Scenario/Design Year: Existing Conditions
 Computed by: W+A

3 Critical Lane Volume and Level of Service Calculations

Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LT	837		0.30	251	18	1.00	18	269
	R	32		1.00	32			50	50
WB	TR	2009		0.30	603	15	1.00	15	618
	L	18		1.00	18			33	33
NB	LT	65		1.00	65	42	1.00	42	107
	R	17		1.00	17			59	59
SB	LT	49		1.00	49	56	1.00	56	105
	R	46		1.00	46			102	102
Note: Congestion Equiv. 1800								CLV v/c	725 0.403

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LT	1539		0.30	462	28	1.00	28	490
	R	64		1.00	64			32	92
WB	TR	1086		0.30	326	32	1.00	32	358
	L	28		1.00	28			60	60
NB	LT	79		1.00	79	77	1.00	77	156
	R	12		1.00	12			89	89
SB	LT	103		1.00	103	60	1.00	60	163
	R	100		1.00	100			160	160
Note: Congestion Equiv. 1800								CLV v/c	653 0.363

Right Turn Overlap


Approach	Excl. Right	Right Vol.		Adjacent Overlap Vol.		Overlap	
		PM	LUF	AM	PM	LUF	PM
Eastbound	No	n/a	n/a	n/a	n/a	n/a	0 0
Westbound	No	n/a	n/a	n/a	n/a	n/a	0 0
Northbound	No	n/a	n/a	n/a	n/a	n/a	0 0
Southbound	No	n/a	n/a	n/a	n/a	n/a	0 0

Montgomery County LATR

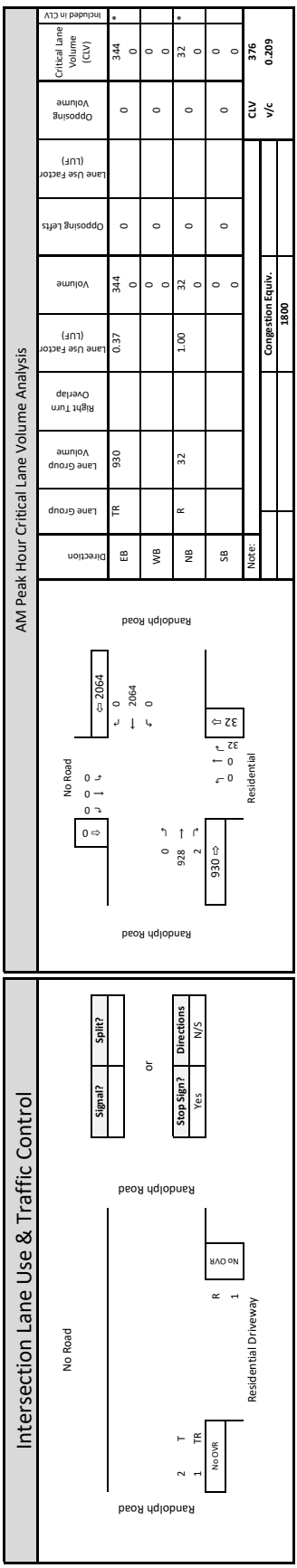
Number of Lanes	Lane Use Factors		Through LUF
	Left Turn LUF	Right Turn LUF	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	

4
Critical Lane Volume and Level of Service Calculations

Intersection: 04 - Randolph Road / Residential Driveway
Jurisdiction: Montgomery County, MD
Scenario/Design Year: Existing Conditions
Computed by: W+A



WELLS + ASSOCIATES



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Critical Lane Volume (CLV)	
EB	TR	930		0.37	344	0		344	
	WB				0	0		0	
NB	R	32		1.00	32	0		32	
	SB				0	0		0	
Note: Congestion Equiv. 1800								CLV	376
								v/c	0.209

PM Peak Hour Critical Lane Volume Analysis

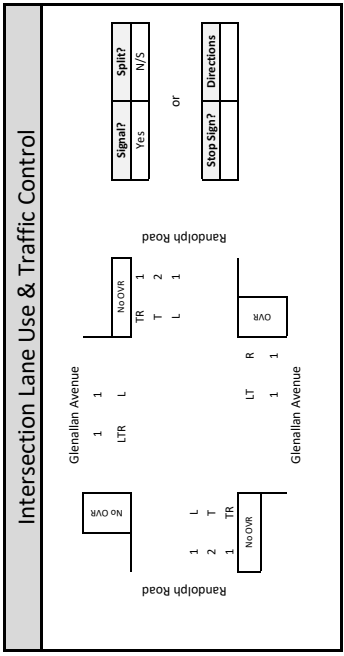
Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Critical Lane Volume (CLV)	
EB	TR	1609		0.37	595	0		595	
	WB				0	0		0	
NB	R	23		1.00	23	0		23	
	SB				0	0		0	
Note: Congestion Equiv. 1800								CLV	618
								v/c	0.343

Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	Excl. Right	Incl. Right	PM	AM	LUF	PM
Eastbound	No	n/a	n/a	n/a	n/a	0
Westbound	No	n/a	n/a	n/a	n/a	0
Northbound	No	n/a	n/a	n/a	n/a	0
Southbound	No	n/a	n/a	n/a	n/a	0

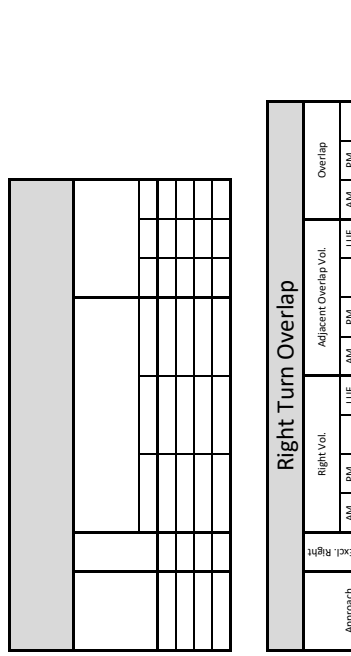
Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Oposing Lefts	Lane Use Factor (LUF)	Volume	Critical Lane Volume (CLV)
EB	TR	874	0	0.37	323	2	1.00	2	325
	L	33	0	1.00	33				35
WB	TR	2121	0	0.37	785	33	1.00	33	818
	L	2	0	1.00	2				35
NB	LT	161	0	1.00	161	288	0.53	153	314
	R	0	0	1.00	0				153
SB	LTR	429	0	0.53	227	55	1.00	55	282
	L	288	0	1.00	288				343
Note: Congestion Equiv. 1800									CLV 1475 v/c 0.819



PM Peak Hour Critical Lane Volume Analysis

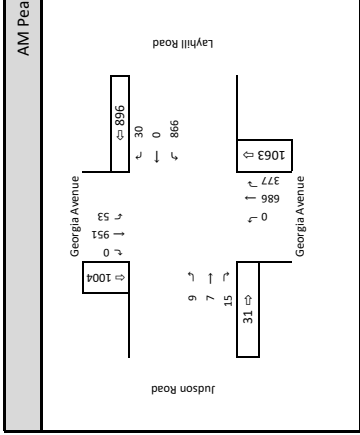
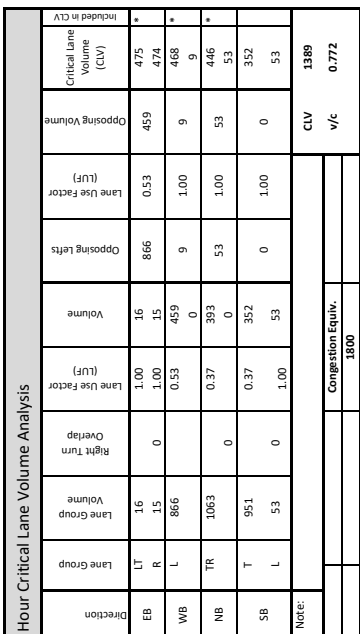
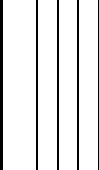
Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Oposing Lefts	Lane Use Factor (LUF)	Volume	Critical Lane Volume (CLV)
EB	TR	1584	0	0.37	568	5	1.00	5	573
	L	76	0	1.00	76				81
WB	TR	1273	0	0.37	471	76	1.00	76	547
	L	5	0	1.00	5				81
NB	LT	57	5	1.00	57	251	0.53	133	190
	R	5	5	1.00	0				133
SB	LTR	340	0	0.53	180	31	1.00	31	211
	L	251	0	1.00	251				282
Note: Congestion Equiv. 1800									CLV 1045 v/c 0.581

Right Turn Overlap

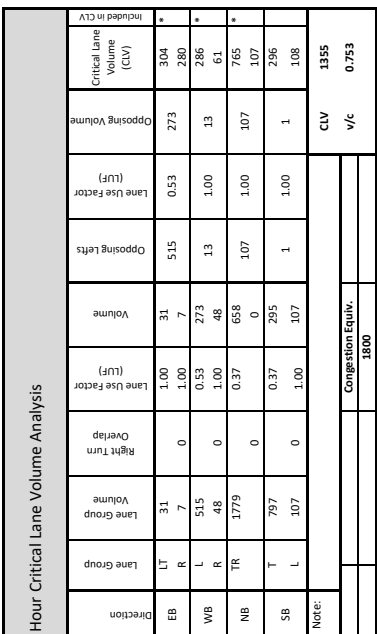
Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	AM	PM	AM	PM	AM	PM
Eastbound	n/a	n/a	n/a	n/a	0	0
Westbound	n/a	n/a	n/a	n/a	0	0
Northbound	5	5	1.00	2	1.00	0
Southbound	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

Number of Lanes	Lane Use Factors		Through LUF
	Left Turn LUF	Through LUF	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	



Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LT	16	0	1.00	16	866	0.53	459	475
EB	R	15	0	1.00	15	0	1.00	474	474
WB	L	866	0	0.53	459	9	1.00	9	468
WB	TR	1063	0	0.37	393	53	1.00	53	446
NB	T	951	0	0.37	352	0	1.00	0	352
NB	L	53	0	1.00	53	0	1.00	0	53
Note: CLV									1389
Congestion Equiv.									1800
v/c									0.772



Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LT	31	0	1.00	31	515	0.53	273	304
EB	R	7	0	1.00	7	0	1.00	280	280
WB	L	515	0	0.53	273	13	1.00	13	286
WB	R	48	0	1.00	48	61	1.00	61	61
NB	TR	1779	0	0.37	658	107	1.00	107	765
NB	T	797	0	0.37	295	1	1.00	1	296
NB	L	107	0	1.00	107	0	1.00	0	108
Note: CLV									1355
Congestion Equiv.									1800
v/c									0.753

Right Turn Overlap

Approach	Excl. Right	Right Vol.		Adjacent Overlap Vol.		Overlap			
		AM	PM	AM	PM	AM	PM		
Eastbound	Yes	15	7	1.00	0	1	0.00	0	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0

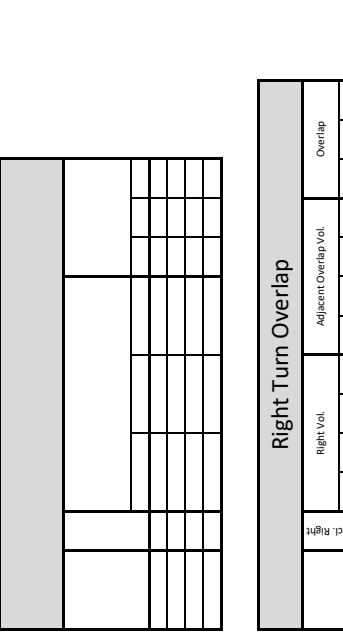
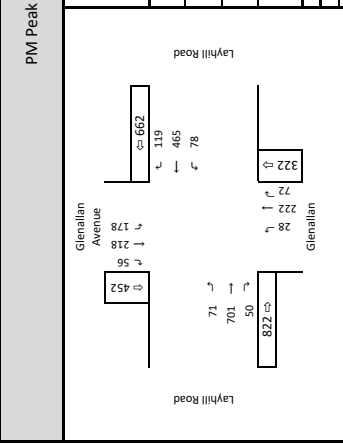
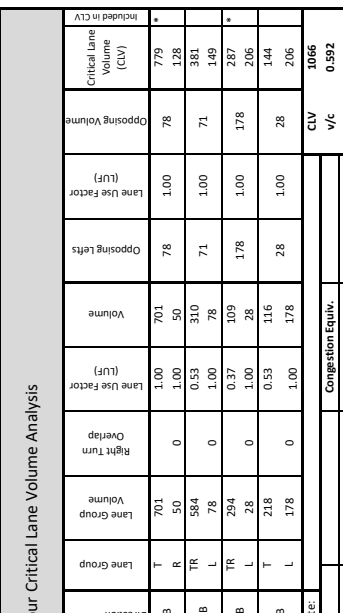
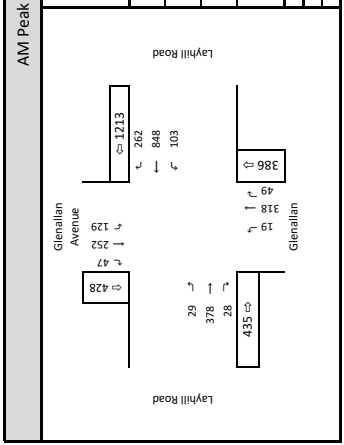
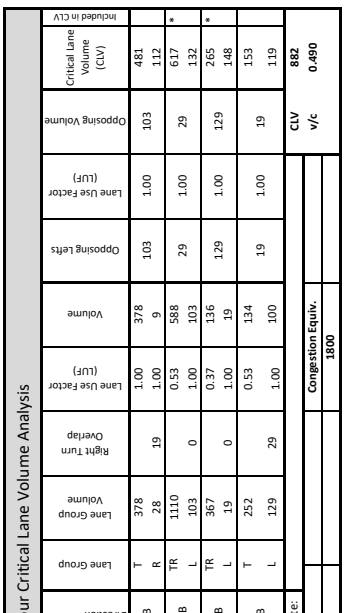
Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25



10
Critical Lane Volume
and
Level of Service Calculations

Intersection: 10. Layhill Road / Glenallan Avenue
Jurisdiction: Montgomery County, MD
Scenario/Design Year: Existing Conditions
Computed by: W+A



BACKGROUND

Queues
1: Livingston Street & Randolph Road

Background Conditions
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	13	1079	123	1729	58	62
v/c Ratio	0.07	0.26	0.32	0.42	0.27	0.32
Control Delay	6.0	4.0	7.9	4.9	19.0	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.0	4.0	7.9	4.9	19.0	37.8
Queue Length 50th (ft)	2	59	20	114	8	32
Queue Length 95th (ft)	12	139	82	257	42	65
Internal Link Dist (ft)		1892		1561	753	616
Turn Bay Length (ft)	70		75			
Base Capacity (vph)	178	4137	382	4137	415	404
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.26	0.32	0.42	0.14	0.15
Intersection Summary						

HCM 6th Signalized Intersection Summary
1: Livingston Street & Randolph Road

Background Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↕	
Traffic Volume (veh/h)	12	964	7	111	1551	5	7	3	42	17	21	18
Future Volume (veh/h)	12	964	7	111	1551	5	7	3	42	17	21	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	0.98		0.98	0.98		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	1071	8	123	1723	6	8	3	47	19	23	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	4222	32	456	4242	15	43	17	112	68	70	47
Arrive On Green	0.81	0.81	0.81	0.81	0.81	0.81	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	280	5228	39	523	5252	18	106	192	1271	324	792	531
Grp Volume(v), veh/h	13	697	382	123	1117	612	58	0	0	62	0	0
Grp Sat Flow(s),veh/h/ln	280	1702	1863	523	1702	1867	1569	0	0	1647	0	0
Q Serve(g_s), s	1.7	5.9	5.9	8.9	11.3	11.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.9	5.9	5.9	14.9	11.3	11.3	4.1	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.01	0.14		0.81	0.31		0.32
Lane Grp Cap(c), veh/h	260	2749	1505	456	2749	1507	173	0	0	185	0	0
V/C Ratio(X)	0.05	0.25	0.25	0.27	0.41	0.41	0.34	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	260	2749	1505	456	2749	1507	414	0	0	432	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.2	2.8	2.8	4.6	3.3	3.3	51.8	0.0	0.0	51.7	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.4	1.5	0.4	0.8	2.4	0.0	0.0	2.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.4	1.6	0.9	2.7	3.1	1.8	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	3.0	3.2	6.0	3.8	4.1	54.2	0.0	0.0	54.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1092			1852			58				62
Approach Delay, s/veh		3.1			4.0			54.2				54.0
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		102.9		17.1		102.9		17.1				
Change Period (Y+Rc), s		6.0		6.5		6.0		6.5				
Max Green Setting (Gmax), s		78.0		29.5		78.0		29.5				
Max Q Clear Time (g_c+I1), s		0.0		6.1		0.0		6.0				
Green Ext Time (p_c), s		0.0		0.3		0.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				5.7								
HCM 6th LOS				A								

Queues
2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Background Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	144	144	221	542	274	141	157	960	186	59	1837	232
v/c Ratio	0.68	0.66	0.44	0.85	0.85	0.30	0.60	0.47	0.26	0.32	0.96	0.35
Control Delay	89.3	88.2	19.5	82.4	92.4	4.4	90.5	43.2	3.8	71.3	80.4	41.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.3	88.2	19.5	82.4	92.4	4.4	90.5	43.2	3.8	71.3	80.4	41.5
Queue Length 50th (ft)	175	175	66	340	343	0	93	306	0	36	821	162
Queue Length 95th (ft)	238	238	136	409	465	25	137	422	40	m55	#1138	m255
Internal Link Dist (ft)		604			602			403			821	
Turn Bay Length (ft)			200			200	200		175	250		275
Base Capacity (vph)	345	351	508	715	362	621	276	2026	713	457	1912	654
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.41	0.44	0.76	0.76	0.23	0.57	0.47	0.26	0.13	0.96	0.35

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

2: MD 97 Georgia Ave. & Randolph Rd. Ramps

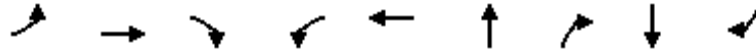
Background Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗	↘	↖↗	↗	↘	↖↗	↑↑↑	↘	↖↗	↑↑↑	↘	
Traffic Volume (vph)	241	39	214	740	51	137	152	931	180	57	1782	225	
Future Volume (vph)	241	39	214	740	51	137	152	931	180	57	1782	225	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	12.0	12.0	12.0	12.0	12.0	12.0	7.0	9.0	9.0	7.0	9.0	9.0	
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1681	1708	1583	3221	1629	1583	3433	5085	1470	3433	5085	1553	
Flt Permitted	0.95	0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1681	1708	1583	3221	1629	1583	3433	5085	1470	3433	5085	1553	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	248	40	221	763	53	141	157	960	186	59	1837	232	
RTOR Reduction (vph)	0	0	111	0	0	106	0	0	112	0	0	70	
Lane Group Flow (vph)	144	144	110	542	274	35	157	960	74	59	1837	162	
Confl. Peds. (#/hr)	2					2	3		26	26		3	
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm	
Protected Phases	4	4	4 1	3	3	3 5	1	6		5	2		
Permitted Phases									6			2	
Actuated Green, G (s)	22.9	22.9	48.6	35.7	35.7	45.3	13.7	71.8	71.8	9.6	67.7	67.7	
Effective Green, g (s)	22.9	22.9	48.6	35.7	35.7	45.3	13.7	71.8	71.8	9.6	67.7	67.7	
Actuated g/C Ratio	0.13	0.13	0.27	0.20	0.20	0.25	0.08	0.40	0.40	0.05	0.38	0.38	
Clearance Time (s)	12.0	12.0		12.0	12.0		7.0	9.0	9.0	7.0	9.0	9.0	
Vehicle Extension (s)	3.5	3.5		3.0	3.0		4.0	0.2	0.2	4.0	0.2	0.2	
Lane Grp Cap (vph)	213	217	427	638	323	398	261	2028	586	183	1912	584	
v/s Ratio Prot	c0.09	0.08	0.07	c0.17	0.17	0.02	c0.05	c0.19		0.02	c0.36		
v/s Ratio Perm									0.05			0.10	
v/c Ratio	0.68	0.66	0.26	0.85	0.85	0.09	0.60	0.47	0.13	0.32	0.96	0.28	
Uniform Delay, d1	75.0	74.9	51.5	69.6	69.5	51.6	80.5	40.1	34.2	82.1	54.9	39.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	1.35	1.77	
Incremental Delay, d2	8.5	7.7	0.4	10.3	18.3	0.1	4.5	0.8	0.4	1.1	11.2	0.9	
Delay (s)	83.5	82.6	51.9	79.8	87.8	51.7	85.0	40.9	34.7	69.0	85.1	70.0	
Level of Service	F	F	D	E	F	D	F	D	C	E	F	E	
Approach Delay (s)		69.5			78.0			45.3			83.0		
Approach LOS		E			E			D			F		
Intersection Summary													
HCM 2000 Control Delay			70.6									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.86										
Actuated Cycle Length (s)			180.0									Sum of lost time (s)	40.0
Intersection Capacity Utilization			91.0%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Queues
3: Glenmont Circle/Shopping Center & Randolph Road

Background Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	19	853	33	20	2083	67	18	50	47
v/c Ratio	0.23	0.26	0.03	0.24	0.50	0.29	0.06	0.44	0.22
Control Delay	74.4	16.6	0.1	80.4	12.6	57.3	0.4	78.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.4	16.6	0.1	80.4	12.6	57.3	0.4	78.9	2.5
Queue Length 50th (ft)	18	124	0	21	127	64	0	48	0
Queue Length 95th (ft)	47	242	0	m23	m196	97	0	92	0
Internal Link Dist (ft)		622			388	289		392	
Turn Bay Length (ft)	110			270			30		
Base Capacity (vph)	165	3344	1039	165	4207	428	458	154	243
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.26	0.03	0.12	0.50	0.16	0.04	0.32	0.19

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 3: Glenmont Circle/Shopping Center & Randolph Road

Background Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑			↘	↗		↘	↗
Traffic Volume (veh/h)	18	827	32	19	1990	30	56	9	17	42	7	46
Future Volume (veh/h)	18	827	32	19	1990	30	56	9	17	42	7	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.96	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	853	0	20	2052	31	58	9	18	43	7	47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	3426		34	4416	67	142	22	140	70	11	66
Arrive On Green	0.02	0.67	0.00	0.04	1.00	1.00	0.09	0.09	0.09	0.05	0.05	0.05
Sat Flow, veh/h	1781	5106	1585	1781	6575	99	1552	241	1523	1542	251	1459
Grp Volume(v), veh/h	19	853	0	20	1506	577	67	0	18	50	0	47
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1609	1849	1793	0	1523	1793	0	1459
Q Serve(g_s), s	1.6	9.9	0.0	1.7	0.0	0.0	5.3	0.0	1.6	4.1	0.0	4.8
Cycle Q Clear(g_c), s	1.6	9.9	0.0	1.7	0.0	0.0	5.3	0.0	1.6	4.1	0.0	4.8
Prop In Lane	1.00		1.00	1.00		0.05	0.87		1.00	0.86		1.00
Lane Grp Cap(c), veh/h	32	3426		34	3241	1242	165	0	140	81	0	66
V/C Ratio(X)	0.59	0.25		0.60	0.46	0.46	0.41	0.00	0.13	0.62	0.00	0.71
Avail Cap(c_a), veh/h	166	3426		166	3241	1242	430	0	365	155	0	126
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.1	9.7	0.0	71.6	0.0	0.0	64.3	0.0	62.6	70.3	0.0	70.7
Incr Delay (d2), s/veh	15.6	0.2	0.0	15.7	0.5	1.3	1.6	0.0	0.4	7.5	0.0	13.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.6	0.0	0.9	0.1	0.4	2.5	0.0	0.7	2.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.7	9.9	0.0	87.3	0.5	1.3	65.9	0.0	63.0	77.8	0.0	84.1
LnGrp LOS	F	A		F	A	A	E	A	E	E	A	F
Approach Vol, veh/h		872			2103			85				97
Approach Delay, s/veh		11.6			1.5			65.3				80.8
Approach LOS		B			A			E				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	106.7		13.8	8.8	106.6		20.8				
Change Period (Y+Rc), s	6.0	6.0		7.0	6.0	6.0		7.0				
Max Green Setting (Gmax), s	14.0	61.0		13.0	14.0	61.0		36.0				
Max Q Clear Time (g_c+I1), s	3.6	0.0		6.8	3.7	0.0		7.3				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Notes

User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
4: Residential Driveway & Randolph Road

Background Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	933	2	0	2075	0	32
Future Vol, veh/h	933	2	0	2075	0	32
Conflicting Peds, #/hr	0	0	8	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1003	2	0	2231	0	34

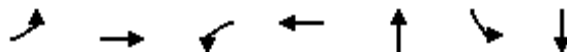
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	503
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	440
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	440
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	440	-	-	-
HCM Lane V/C Ratio	0.078	-	-	-
HCM Control Delay (s)	13.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Queues
5: Glenallan Avenue & Randolph Road

Background Conditions
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	34	915	2	2271	167	261	253
v/c Ratio	0.26	0.35	0.01	0.99	0.60	0.85	0.81
Control Delay	40.6	15.1	5.0	33.6	67.0	82.7	73.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	15.1	5.0	33.6	67.0	82.7	73.9
Queue Length 50th (ft)	8	84	0	259	160	261	234
Queue Length 95th (ft)	45	107	m1	#1154	217	361	333
Internal Link Dist (ft)		391		1077	286		473
Turn Bay Length (ft)	250		290				
Base Capacity (vph)	193	2585	371	2287	402	369	371
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.35	0.01	0.99	0.42	0.71	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
5: Glenallan Avenue & Randolph Road

Background Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑	↗	↖	↕	
Traffic Volume (veh/h)	33	844	35	2	1934	246	55	106	0	352	55	86
Future Volume (veh/h)	33	844	35	2	1934	246	55	106	0	352	55	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	879	36	2	2015	256	57	110	0	257	211	90
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	2709	111	377	2473	310	81	157	205	347	240	102
Arrive On Green	0.00	1.00	1.00	0.00	0.72	0.72	0.13	0.13	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1781	5023	205	1781	4586	574	628	1211	1585	1781	1231	525
Grp Volume(v), veh/h	34	595	320	2	1488	783	167	0	0	257	0	301
Grp Sat Flow(s),veh/h/ln	1781	1702	1824	1781	1702	1756	1839	0	1585	1781	0	1756
Q Serve(g_s), s	0.1	0.0	0.0	0.1	44.3	46.4	13.0	0.0	0.0	20.4	0.0	25.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	0.1	44.3	46.4	13.0	0.0	0.0	20.4	0.0	25.0
Prop In Lane	1.00		0.11	1.00		0.33	0.34		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	87	1836	984	377	1836	947	238	0	205	347	0	342
V/C Ratio(X)	0.39	0.32	0.33	0.01	0.81	0.83	0.70	0.00	0.00	0.74	0.00	0.88
Avail Cap(c_a), veh/h	234	1836	984	524	1836	947	405	0	349	392	0	386
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.76	0.76	0.76	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.4	0.0	0.0	15.9	16.0	16.3	62.5	0.0	0.0	56.8	0.0	58.7
Incr Delay (d2), s/veh	2.8	0.5	0.9	0.0	3.1	6.4	3.7	0.0	0.0	6.5	0.0	18.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.1	0.2	0.0	14.9	16.9	6.4	0.0	0.0	9.8	0.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	0.5	0.9	15.9	19.1	22.7	66.3	0.0	0.0	63.3	0.0	77.5
LnGrp LOS	E	A	A	B	B	C	E	A	A	E	A	E
Approach Vol, veh/h		949			2273			167			558	
Approach Delay, s/veh		2.6			20.3			66.3			71.0	
Approach LOS		A			C			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	87.4		26.4	0.0	87.4		36.2				
Change Period (Y+Rc), s	5.5	6.5		7.0	5.5	6.5		7.0				
Max Green Setting (Gmax), s	12.5	45.5		33.0	12.5	45.5		33.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0		15.0	0.0	0.0		27.0				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		1.1				

Intersection Summary

HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Queues
7: Georgia Avenue & Layhill Road

Background Conditions
AM Peak Hour




























Lane Group	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	16	15	931	30	878	416	54	1225
v/c Ratio	0.22	0.10	0.85	0.05	0.35	0.52	0.17	0.44
Control Delay	90.3	1.3	65.5	0.2	39.7	40.1	19.0	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.3	1.3	65.5	0.2	39.7	40.1	19.0	23.8
Queue Length 50th (ft)	19	0	553	0	195	215	28	302
Queue Length 95th (ft)	48	0	#701	0	351	453	52	339
Internal Link Dist (ft)	216				821			521
Turn Bay Length (ft)				840		25	140	
Base Capacity (vph)	166	228	1101	559	2524	799	449	2812
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.07	0.85	0.05	0.35	0.52	0.12	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
7: Georgia Avenue & Layhill Road

Background Conditions
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  			  	
Traffic Volume (veh/h)	9	7	15	922	0	30	0	869	412	53	1213	0
Future Volume (veh/h)	9	7	15	922	0	30	0	869	412	53	1213	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	9	7	15	931	0	0	0	878	0	54	1225	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	22	17	32	0	0	0	0	4337	0	540	4626	0
Arrive On Green	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.28	0.00	0.03	0.91	0.00
Sat Flow, veh/h	1023	796	1448		0		0	5274	1585	1781	5274	0
Grp Volume(v), veh/h	16	0	15		0.0		0	878	0	54	1225	0
Grp Sat Flow(s),veh/h/ln	1819	0	1448				0	1702	1585	1781	1702	0
Q Serve(g_s), s	1.6	0.0	1.8				0.0	23.6	0.0	0.6	5.3	0.0
Cycle Q Clear(g_c), s	1.6	0.0	1.8				0.0	23.6	0.0	0.6	5.3	0.0
Prop In Lane	0.56		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	40	0	32				0	4337	0	540	4626	0
V/C Ratio(X)	0.40	0.00	0.47				0.00	0.20	0.00	0.10	0.26	0.00
Avail Cap(c_a), veh/h	167	0	133				0	4337	0	756	4626	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.87	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	86.9	0.0	87.0				0.0	18.3	0.0	3.2	1.0	0.0
Incr Delay (d2), s/veh	6.4	0.0	10.6				0.0	0.1	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.8				0.0	10.9	0.0	0.3	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.3	0.0	97.6				0.0	18.3	0.0	3.3	1.2	0.0
LnGrp LOS	F	A	F				A	B		A	A	A
Approach Vol, veh/h		31						878			1279	
Approach Delay, s/veh		95.4						18.3			1.3	
Approach LOS		F						B			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		169.6		10.4	10.2	159.4						
Change Period (Y+Rc), s		6.5		6.5	5.5	6.5						
Max Green Setting (Gmax), s		100.5		16.5	26.5	68.5						
Max Q Clear Time (g_c+I1), s		7.3		3.8	2.6	25.6						
Green Ext Time (p_c), s		2.1		0.0	0.1	1.5						
Intersection Summary												
HCM 6th Ctrl Delay			9.5									
HCM 6th LOS			A									
Notes												
User approved changes to right turn type.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Queues
10: Glenallan Avenue & Layhill Road

Background Conditions
AM Peak Hour





























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	67	448	112	924	290	21	446	146	343	104
v/c Ratio	0.35	0.31	0.29	0.84	0.43	0.05	0.37	0.36	0.43	0.14
Control Delay	25.2	33.3	22.8	47.2	5.6	19.2	30.6	22.0	28.5	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	33.3	22.8	47.2	5.6	19.2	30.6	22.0	28.5	1.7
Queue Length 50th (ft)	29	94	50	348	0	9	137	66	175	0
Queue Length 95th (ft)	58	126	87	#451	64	24	185	110	311	14
Internal Link Dist (ft)		1003		925			1154		446	
Turn Bay Length (ft)	290		170		300	140		140		
Base Capacity (vph)	218	1533	394	1095	682	461	1217	408	807	739
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.29	0.28	0.84	0.43	0.05	0.37	0.36	0.43	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
10: Glenallan Avenue & Layhill Road

Background Conditions
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	62	385	28	103	850	267	19	362	49	134	316	96
Future Volume (veh/h)	62	385	28	103	850	267	19	362	49	134	316	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	418	30	112	924	290	21	393	53	146	343	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	1324	94	361	1048	461	378	1223	164	457	825	687
Arrive On Green	0.04	0.27	0.27	0.06	0.29	0.29	0.01	0.39	0.39	0.06	0.44	0.44
Sat Flow, veh/h	1781	4864	345	1781	3554	1564	1781	3142	420	1781	1870	1559
Grp Volume(v), veh/h	67	291	157	112	924	290	21	221	225	146	343	104
Grp Sat Flow(s),veh/h/ln	1781	1702	1805	1781	1777	1564	1781	1777	1785	1781	1870	1559
Q Serve(g_s), s	3.2	8.2	8.3	5.4	29.7	19.3	0.9	10.4	10.6	5.7	15.1	4.8
Cycle Q Clear(g_c), s	3.2	8.2	8.3	5.4	29.7	19.3	0.9	10.4	10.6	5.7	15.1	4.8
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	152	926	491	361	1048	461	378	692	695	457	825	687
V/C Ratio(X)	0.44	0.31	0.32	0.31	0.88	0.63	0.06	0.32	0.32	0.32	0.42	0.15
Avail Cap(c_a), veh/h	237	1021	541	406	1066	469	504	692	695	491	825	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	34.8	34.8	28.7	40.3	36.6	22.1	25.6	25.6	19.1	23.0	20.1
Incr Delay (d2), s/veh	1.8	0.4	0.7	0.5	9.4	3.8	0.1	1.2	1.2	0.4	1.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.4	3.8	2.4	14.2	7.8	0.4	4.6	4.7	2.4	7.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	35.1	35.5	29.2	49.7	40.5	22.1	26.8	26.8	19.5	24.5	20.6
LnGrp LOS	C	D	D	C	D	D	C	C	C	B	C	C
Approach Vol, veh/h		515			1326			467			593	
Approach Delay, s/veh		35.2			45.9			26.6			22.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	58.9	13.9	39.7	13.7	52.7	11.2	42.4				
Change Period (Y+Rc), s	6.0	6.0	6.5	7.0	6.0	6.0	6.5	7.0				
Max Green Setting (Gmax), s	10.0	38.0	10.5	36.0	10.0	38.0	10.5	36.0				
Max Q Clear Time (g_c+I1), s	2.9	17.1	7.4	10.3	7.7	12.6	5.2	31.7				
Green Ext Time (p_c), s	0.0	0.3	0.1	5.4	0.1	0.5	0.0	3.4				
Intersection Summary												
HCM 6th Ctrl Delay			36.1									
HCM 6th LOS			D									

Queues
1: Livingston Street & Randolph Road

Background Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	30	1610	81	1113	55	24
v/c Ratio	0.08	0.40	0.41	0.28	0.24	0.11
Control Delay	6.4	5.8	15.5	5.0	20.3	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	5.8	15.5	5.0	20.3	30.9
Queue Length 50th (ft)	3	91	13	55	13	12
Queue Length 95th (ft)	20	232	83	144	46	33
Internal Link Dist (ft)		1892		1561	753	616
Turn Bay Length (ft)	70		75			
Base Capacity (vph)	354	4040	198	4035	403	418
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.40	0.41	0.28	0.14	0.06
Intersection Summary						

HCM 6th Signalized Intersection Summary
1: Livingston Street & Randolph Road

Background Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕				↕
Traffic Volume (veh/h)	29	1571	7	79	1079	12	14	3	37	4	12	8
Future Volume (veh/h)	29	1571	7	79	1079	12	14	3	37	4	12	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	0.97		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	1603	7	81	1101	12	14	3	38	4	12	8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	430	4137	18	279	4104	45	63	26	115	49	108	61
Arrive On Green	0.79	0.79	0.79	0.79	0.79	0.79	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	506	5247	23	315	5206	57	234	244	1070	127	1004	565
Grp Volume(v), veh/h	30	1040	570	81	720	393	55	0	0	24	0	0
Grp Sat Flow(s),veh/h/ln	506	1702	1866	315	1702	1858	1548	0	0	1696	0	0
Q Serve(g_s), s	2.0	11.2	11.2	12.7	6.8	6.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.8	11.2	11.2	23.8	6.8	6.8	3.7	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.03	0.25		0.69	0.17		0.33
Lane Grp Cap(c), veh/h	430	2684	1471	279	2684	1465	204	0	0	217	0	0
V/C Ratio(X)	0.07	0.39	0.39	0.29	0.27	0.27	0.27	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	430	2684	1471	279	2684	1465	411	0	0	444	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.6	3.9	3.9	7.5	3.4	3.4	49.5	0.0	0.0	48.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.4	0.8	2.6	0.2	0.4	1.5	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.9	3.4	0.9	1.8	2.0	1.6	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.9	4.3	4.6	10.1	3.7	3.9	51.0	0.0	0.0	48.9	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1640			1194			55				24
Approach Delay, s/veh		4.4			4.2			51.0				48.9
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		100.6		19.4		100.6		19.4				
Change Period (Y+Rc), s		6.0		6.5		6.0		6.5				
Max Green Setting (Gmax), s		78.0		29.5		78.0		29.5				
Max Q Clear Time (g_c+I1), s		0.0		5.7		0.0		3.5				
Green Ext Time (p_c), s		0.0		0.3		0.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				5.6								
HCM 6th LOS				A								

Queues
2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Background Conditions
PM Peak Hour



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	214	149	281	141	132	168	1681	365	103	1368	334
v/c Ratio	0.73	0.74	0.28	0.64	0.63	0.33	0.58	0.82	0.52	0.46	0.70	0.48
Control Delay	84.8	85.3	14.2	79.8	85.1	4.4	87.4	51.9	26.1	96.5	51.8	29.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	84.8	85.3	14.2	79.8	85.1	4.5	87.4	52.0	26.1	96.5	51.8	29.4
Queue Length 50th (ft)	250	256	35	176	176	0	100	639	171	62	427	122
Queue Length 95th (ft)	333	341	87	221	252	21	141	#934	338	m96	#693	m256
Internal Link Dist (ft)		604			602			403			821	
Turn Bay Length (ft)			200			200	200		175	250		275
Base Capacity (vph)	351	356	651	715	366	549	610	2061	697	286	1966	699
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	41	0	26	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.60	0.23	0.39	0.39	0.26	0.28	0.83	0.52	0.36	0.70	0.48

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

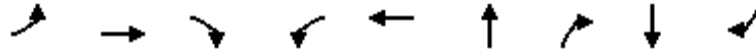
HCM Signalized Intersection Capacity Analysis
2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Background Conditions
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	363	48	145	349	60	128	163	1631	354	100	1327	324
Future Volume (vph)	363	48	145	349	60	128	163	1631	354	100	1327	324
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	12.0	12.0	12.0	12.0	12.0	12.0	7.0	9.0	9.0	7.0	9.0	9.0
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1704	1583	3221	1649	1583	3433	5085	1470	3433	5085	1553
Flt Permitted	0.95	0.96	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1704	1583	3221	1649	1583	3433	5085	1470	3433	5085	1553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	374	49	149	360	62	132	168	1681	365	103	1368	334
RTOR Reduction (vph)	0	0	74	0	0	105	0	0	101	0	0	99
Lane Group Flow (vph)	209	214	75	281	141	27	168	1681	264	103	1368	235
Confl. Peds. (#/hr)	2					2	3		26	26		3
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	4 1	3	3	3 5	1	6		5	2	
Permitted Phases									6			2
Actuated Green, G (s)	30.7	30.7	57.8	24.6	24.6	36.3	15.1	73.0	73.0	11.7	69.6	69.6
Effective Green, g (s)	30.7	30.7	57.8	24.6	24.6	36.3	15.1	73.0	73.0	11.7	69.6	69.6
Actuated g/C Ratio	0.17	0.17	0.32	0.14	0.14	0.20	0.08	0.41	0.41	0.06	0.39	0.39
Clearance Time (s)	12.0	12.0		12.0	12.0		7.0	9.0	9.0	7.0	9.0	9.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	286	290	508	440	225	319	287	2062	596	223	1966	600
v/s Ratio Prot	0.12	c0.13	0.05	c0.09	0.09	0.02	c0.05	c0.33		0.03	0.27	
v/s Ratio Perm									0.18			0.15
v/c Ratio	0.73	0.74	0.15	0.64	0.63	0.08	0.59	0.82	0.44	0.46	0.70	0.39
Uniform Delay, d1	70.7	70.8	43.5	73.5	73.4	58.3	79.4	47.5	38.8	81.1	46.3	39.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.12	1.04	1.18
Incremental Delay, d2	11.1	11.3	0.3	4.2	7.5	0.2	3.6	3.7	2.4	1.8	1.8	1.6
Delay (s)	81.8	82.2	43.8	77.7	80.9	58.6	83.0	51.2	41.1	93.0	50.2	48.7
Level of Service	F	F	D	E	F	E	F	D	D	F	D	D
Approach Delay (s)		72.1			73.9			52.0			52.3	
Approach LOS		E			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			56.7									E
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			180.0						40.0			
Intersection Capacity Utilization			80.3%									D
Analysis Period (min)			15									
c Critical Lane Group												

Queues
3: Glenmont Circle/Shopping Center & Randolph Road

Background Conditions
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	35	1568	66	29	1126	82	12	106	103
v/c Ratio	0.35	0.60	0.08	0.31	0.36	0.23	0.03	0.65	0.41
Control Delay	77.2	30.6	0.2	82.5	27.8	48.8	0.2	83.9	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.2	30.6	0.2	82.5	27.8	48.8	0.2	83.9	12.6
Queue Length 50th (ft)	34	450	0	29	117	64	0	102	0
Queue Length 95th (ft)	72	542	0	m54	272	114	0	166	47
Internal Link Dist (ft)		622			388	289		392	
Turn Bay Length (ft)	110			270			30		
Base Capacity (vph)	165	2608	828	165	3121	431	468	203	282
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.60	0.08	0.18	0.36	0.19	0.03	0.52	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 3: Glenmont Circle/Shopping Center & Randolph Road

Background Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑			↑	↗		↗	↗
Traffic Volume (veh/h)	34	1521	64	28	1018	75	60	19	12	77	26	100
Future Volume (veh/h)	34	1521	64	28	1018	75	60	19	12	77	26	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.92	1.00		0.85
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	1568	0	29	1049	77	62	20	12	79	27	103
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	2790		42	3347	244	227	73	244	121	41	122
Arrive On Green	0.03	0.55	0.00	0.05	1.00	1.00	0.17	0.17	0.17	0.09	0.09	0.09
Sat Flow, veh/h	1781	5106	1585	1781	6149	448	1363	440	1460	1344	459	1352
Grp Volume(v), veh/h	35	1568	0	29	822	304	82	0	12	106	0	103
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1609	1772	1802	0	1460	1803	0	1352
Q Serve(g_s), s	2.9	30.1	0.0	2.4	0.0	0.0	6.0	0.0	1.0	8.5	0.0	11.3
Cycle Q Clear(g_c), s	2.9	30.1	0.0	2.4	0.0	0.0	6.0	0.0	1.0	8.5	0.0	11.3
Prop In Lane	1.00		1.00	1.00		0.25	0.76		1.00	0.75		1.00
Lane Grp Cap(c), veh/h	46	2790		42	2626	964	301	0	244	162	0	122
V/C Ratio(X)	0.77	0.56		0.70	0.31	0.32	0.27	0.00	0.05	0.65	0.00	0.85
Avail Cap(c_a), veh/h	166	2790		166	2626	964	433	0	350	204	0	153
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	72.6	22.3	0.0	71.0	0.0	0.0	54.5	0.0	52.5	66.0	0.0	67.2
Incr Delay (d2), s/veh	23.1	0.8	0.0	18.8	0.3	0.9	0.5	0.0	0.1	5.0	0.0	28.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	12.0	0.0	1.3	0.1	0.2	2.8	0.0	0.4	4.2	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.8	23.1	0.0	89.8	0.3	0.9	55.0	0.0	52.6	71.0	0.0	95.4
LnGrp LOS	F	C		F	A	A	E	A	D	E	A	F
Approach Vol, veh/h		1603			1155			94			209	
Approach Delay, s/veh		24.7			2.7			54.7			83.0	
Approach LOS		C			A			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	87.6		20.5	9.5	88.0		32.0				
Change Period (Y+Rc), s	6.0	6.0		7.0	6.0	6.0		7.0				
Max Green Setting (Gmax), s	14.0	57.0		17.0	14.0	57.0		36.0				
Max Q Clear Time (g_c+I1), s	4.9	0.0		13.3	4.4	0.0		8.0				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

Notes

User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
4: Residential Driveway & Randolph Road

Background Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	1609	14	0	1162	0	23
Future Vol, veh/h	1609	14	0	1162	0	23
Conflicting Peds, #/hr	0	1	1	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1730	15	0	1249	0	25

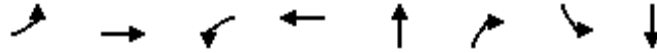
Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 874
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 7.14
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.92
Pot Cap-1 Maneuver	-	-	0 - 0 252
Stage 1	-	-	0 - 0
Stage 2	-	-	0 - 0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 252
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	252	-	-	-
HCM Lane V/C Ratio	0.098	-	-	-
HCM Control Delay (s)	20.8	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Queues
5: Glenallan Avenue & Randolph Road

Background Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	78	1580	5	1391	59	5	238	231
v/c Ratio	0.34	0.52	0.03	0.55	0.35	0.02	0.82	0.79
Control Delay	19.8	7.6	21.4	22.6	66.0	0.2	80.8	74.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	7.6	21.4	22.6	66.0	0.2	80.8	74.2
Queue Length 50th (ft)	8	61	2	175	57	0	237	218
Queue Length 95th (ft)	m45	358	m6	#263	89	0	328	307
Internal Link Dist (ft)		391		1077	286			473
Turn Bay Length (ft)	250		290			25		
Base Capacity (vph)	267	3031	259	2540	399	433	369	369
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.52	0.02	0.55	0.15	0.01	0.64	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

5: Glenallan Avenue & Randolph Road

Background Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑	↗	↖	↕	
Traffic Volume (veh/h)	76	1518	30	5	1067	296	31	26	5	370	25	64
Future Volume (veh/h)	76	1518	30	5	1067	296	31	26	5	370	25	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	1549	31	5	1089	302	32	27	5	234	227	65
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	3249	65	253	2501	693	50	42	79	324	253	73
Arrive On Green	0.00	1.00	1.00	0.00	1.00	1.00	0.05	0.05	0.05	0.18	0.18	0.18
Sat Flow, veh/h	1781	5149	103	1781	3962	1099	988	833	1566	1781	1392	399
Grp Volume(v), veh/h	78	1024	556	5	936	455	59	0	5	234	0	292
Grp Sat Flow(s),veh/h/ln	1781	1702	1848	1781	1702	1657	1821	0	1566	1781	0	1791
Q Serve(g_s), s	0.1	0.0	0.0	0.1	0.0	0.0	4.8	0.0	0.5	18.6	0.0	23.9
Cycle Q Clear(g_c), s	0.1	0.0	0.0	0.1	0.0	0.0	4.8	0.0	0.5	18.6	0.0	23.9
Prop In Lane	1.00		0.06	1.00		0.66	0.54		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	294	2148	1166	253	2148	1046	92	0	79	324	0	326
V/C Ratio(X)	0.27	0.48	0.48	0.02	0.44	0.44	0.64	0.00	0.06	0.72	0.00	0.90
Avail Cap(c_a), veh/h	441	2148	1166	401	2148	1046	401	0	345	392	0	394
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	0.0	10.2	0.0	0.0	69.9	0.0	67.9	57.8	0.0	60.0
Incr Delay (d2), s/veh	0.5	0.8	1.4	0.0	0.6	1.2	7.3	0.0	0.3	5.1	0.0	19.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	0.5	0.1	0.2	0.4	2.4	0.0	0.2	8.9	0.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.0	0.8	1.4	10.3	0.6	1.2	77.3	0.0	68.2	62.9	0.0	79.9
LnGrp LOS	B	A	A	B	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1658			1396			64				526
Approach Delay, s/veh		1.6			0.8			76.5				72.3
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	101.2		14.5	0.0	101.2		34.3				
Change Period (Y+Rc), s	5.5	6.5		7.0	5.5	6.5		7.0				
Max Green Setting (Gmax), s	12.5	45.5		33.0	12.5	45.5		33.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0		6.8	0.0	0.0		25.9				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		1.1				

Intersection Summary

HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- User approved changes to right turn type.

Queues
7: Georgia Avenue & Layhill Road

Background Conditions
PM Peak Hour





























Lane Group	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	7	638	51	1474	743	114	1307
v/c Ratio	0.38	0.04	0.79	0.12	0.54	0.87	0.53	0.42
Control Delay	94.3	0.4	73.3	0.6	33.0	46.9	22.9	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0
Total Delay	94.3	0.4	73.3	0.6	33.0	50.6	22.9	18.0
Queue Length 50th (ft)	39	0	372	0	550	711	53	284
Queue Length 95th (ft)	80	0	#477	0	656	#1008	84	318
Internal Link Dist (ft)	216				821			521
Turn Bay Length (ft)				840		25	140	
Base Capacity (vph)	187	247	803	428	2724	857	296	3137
Starvation Cap Reductn	0	0	0	0	0	60	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.03	0.79	0.12	0.54	0.93	0.39	0.42

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
7: Georgia Avenue & Layhill Road

Background Conditions
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				  				  			  	
Traffic Volume (veh/h)	13	18	7	600	0	48	0	1386	698	107	1229	0
Future Volume (veh/h)	13	18	7	600	0	48	0	1386	698	107	1229	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.84	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	14	19	7	638	0	0	0	1474	0	114	1307	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	20	27	34	0	0		0	4310		392	4607	0
Arrive On Green	0.03	0.03	0.03	0.00	0.00	0.00	0.00	1.00	0.00	0.03	0.90	0.00
Sat Flow, veh/h	777	1055	1328		0		0	5274	1585	1781	5274	0
Grp Volume(v), veh/h	33	0	7		0.0		0	1474	0	114	1307	0
Grp Sat Flow(s),veh/h/ln	1832	0	1328				0	1702	1585	1781	1702	0
Q Serve(g_s), s	3.2	0.0	0.9				0.0	0.0	0.0	1.4	6.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.9				0.0	0.0	0.0	1.4	6.0	0.0
Prop In Lane	0.42		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	47	0	34				0	4310		392	4607	0
V/C Ratio(X)	0.71	0.00	0.21				0.00	0.34		0.29	0.28	0.00
Avail Cap(c_a), veh/h	188	0	137				0	4310		535	4607	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.54	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	87.0	0.0	85.9				0.0	0.0	0.0	1.3	1.2	0.0
Incr Delay (d2), s/veh	17.8	0.0	3.0				0.0	0.1	0.0	0.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.4				0.0	0.0	0.0	0.4	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.8	0.0	88.9				0.0	0.1	0.0	1.7	1.3	0.0
LnGrp LOS	F	A	F				A	A		A	A	A
Approach Vol, veh/h		40						1474			1421	
Approach Delay, s/veh		102.0						0.1			1.3	
Approach LOS		F						A			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		168.9		11.1	10.5	158.4						
Change Period (Y+Rc), s		6.5		6.5	5.5	6.5						
Max Green Setting (Gmax), s		110.5		18.5	19.5	85.5						
Max Q Clear Time (g_c+I1), s		8.0		5.2	3.4	2.0						
Green Ext Time (p_c), s		2.3		0.1	0.2	2.7						
Intersection Summary												
HCM 6th Ctrl Delay			2.1									
HCM 6th LOS			A									
Notes												
User approved changes to right turn type.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Queues
10: Glenallan Avenue & Layhill Road



























Background Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	131	784	81	490	132	29	393	197	351	145
v/c Ratio	0.42	0.56	0.32	0.59	0.26	0.07	0.32	0.40	0.42	0.18
Control Delay	26.8	38.3	25.3	43.2	1.8	19.0	29.7	20.8	28.7	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	38.3	25.3	43.2	1.8	19.0	29.7	20.8	28.7	1.4
Queue Length 50th (ft)	66	193	40	177	0	11	110	82	198	0
Queue Length 95th (ft)	94	213	63	214	7	32	179	154	338	10
Internal Link Dist (ft)		1003		925			1154		446	
Turn Bay Length (ft)	290		170		300	140		140		
Base Capacity (vph)	413	1890	276	1061	604	484	1232	494	826	794
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.41	0.29	0.46	0.22	0.06	0.32	0.40	0.42	0.18
Intersection Summary										

HCM 6th Signalized Intersection Summary
10: Glenallan Avenue & Layhill Road

Background Conditions
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	126	703	50	78	470	127	28	305	72	189	337	139
Future Volume (veh/h)	126	703	50	78	470	127	28	305	72	189	337	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	131	732	52	81	490	132	29	318	75	197	351	145
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	1241	88	235	831	362	395	1147	266	523	869	729
Arrive On Green	0.07	0.26	0.26	0.05	0.23	0.23	0.02	0.40	0.40	0.08	0.46	0.46
Sat Flow, veh/h	1781	4864	344	1781	3554	1548	1781	2855	663	1781	1870	1569
Grp Volume(v), veh/h	131	511	273	81	490	132	29	196	197	197	351	145
Grp Sat Flow(s),veh/h/ln	1781	1702	1803	1781	1777	1548	1781	1777	1742	1781	1870	1569
Q Serve(g_s), s	6.6	15.8	15.9	4.1	14.7	8.6	1.2	8.9	9.2	7.5	14.8	6.5
Cycle Q Clear(g_c), s	6.6	15.8	15.9	4.1	14.7	8.6	1.2	8.9	9.2	7.5	14.8	6.5
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	278	869	460	235	831	362	395	714	700	523	869	729
V/C Ratio(X)	0.47	0.59	0.59	0.34	0.59	0.36	0.07	0.27	0.28	0.38	0.40	0.20
Avail Cap(c_a), veh/h	438	1277	676	300	1066	464	515	714	700	530	869	729
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	39.2	39.2	33.0	40.9	38.5	20.9	24.1	24.2	17.7	21.2	18.9
Incr Delay (d2), s/veh	0.6	0.7	1.3	0.9	1.4	1.3	0.1	1.0	1.0	0.4	1.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.7	7.2	1.8	6.6	3.4	0.5	3.9	4.0	3.1	6.8	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	39.8	40.5	33.8	42.3	39.8	21.0	25.1	25.2	18.1	22.6	19.6
LnGrp LOS	C	D	D	C	D	D	C	C	C	B	C	B
Approach Vol, veh/h		915			703			422			693	
Approach Delay, s/veh		39.0			40.9			24.9			20.7	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	61.8	12.6	37.6	15.5	54.2	15.2	35.1				
Change Period (Y+Rc), s	6.0	6.0	6.5	7.0	6.0	6.0	6.5	7.0				
Max Green Setting (Gmax), s	10.0	29.0	10.5	45.0	10.0	29.0	19.5	36.0				
Max Q Clear Time (g_c+I1), s	3.2	16.8	6.1	17.9	9.5	11.2	8.6	16.7				
Green Ext Time (p_c), s	0.0	0.3	0.1	10.3	0.0	0.4	0.2	6.5				
Intersection Summary												
HCM 6th Ctrl Delay			32.7									
HCM 6th LOS			C									

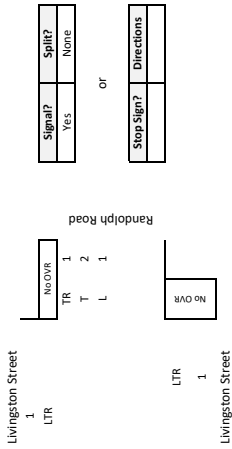


Intersection: 01- Randolph Road / Livingston Street

Jurisdiction: Montgomery County, MD
 Scenario/Design Year: Background Conditions
 Computed by: W+A

1
 Critical Lane Volume
 and
 Level of Service Calculations

Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	971		0.37	359	111	1.00	111	470
	L	12		1.00	12				123
WB	TR	1516		0.37	561	12	1.00	12	573
	L	111		1.00	111				123
NB	LTR	52		1.00	52	17	1.00	17	69
	SB	56		1.00	56	7	1.00	7	63
Note: Congestion Equiv. = 1.800									CIV V/c 642 0.357

PM Peak Hour Critical Lane Volume Analysis

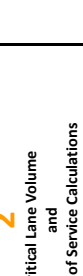
Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1578		0.37	584	79	1.00	79	663
	L	29		1.00	29				108
WB	TR	1091		0.37	404	29	1.00	29	433
	L	79		1.00	79				108
NB	LTR	54		1.00	54	4	1.00	4	58
	SB	24		1.00	24	14	1.00	14	38
Note: Congestion Equiv. = 1.800									CIV V/c 721 0.401

Right Turn Overlap

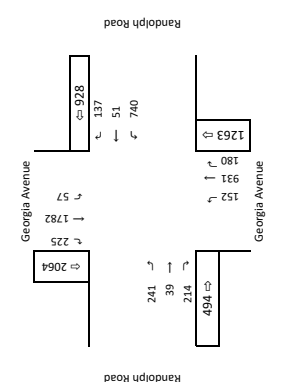
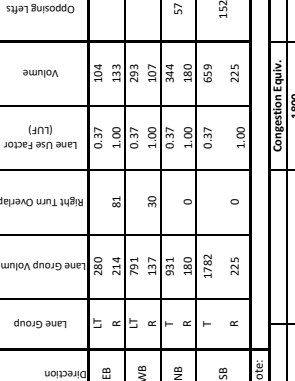
Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	PM	LUF	AM	LUF	AM	PM
Eastbound	n/a	n/a	n/a	n/a	0	0
Westbound	n/a	n/a	n/a	n/a	0	0
Northbound	n/a	n/a	n/a	n/a	0	0
Southbound	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

Number of Lanes	Lane Use Factors		Through LUF
	Left Turn LUF	Through LUF	
1	1	1.00	
2	0.53	0.37	
3	0.37	0.30	
4		0.25	
5			



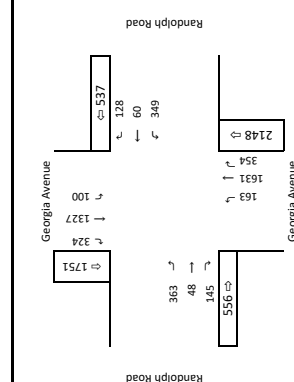
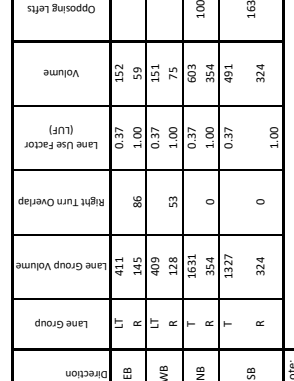
Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	LT	280		0.37	104			0	104	*
	R	214		1.00	133			0	133	*
WB	LT	791		0.37	293			0	293	*
	R	137		1.00	107			0	107	*
NB	T	991		0.37	344	57	0.53	30	374	*
	R	180		1.00	180				210	*
SB	T	1782		0.37	659	152	0.53	81	740	*
	R	225		1.00	225				306	*
Note:									CLV	1166
Congestion Equiv.										1.800
									V/c	0.648

PM Peak Hour Critical Lane Volume Analysis



Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	LT	411		0.37	152			0	152	*
	R	145		1.00	59			0	59	*
WB	LT	409		0.37	151			0	151	*
	R	128		1.00	75			0	75	*
NB	T	1631		0.37	603	100	0.53	53	656	*
	R	354		1.00	354				407	*
SB	T	1327		0.37	491	163	0.53	86	577	*
	R	324		1.00	324				410	*
Note:									CLV	959
Congestion Equiv.										1.800
									V/c	0.533

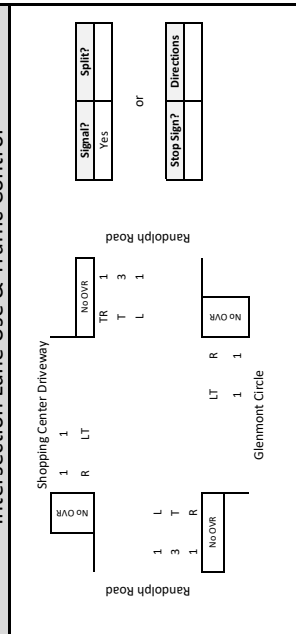
Right Turn Overlap

Approach	Kvl. Right	Right Vol.		Adjacent Overlap Vol.		Overlap			
		PM	AM	PM	AM	LUF	PM		
Eastbound	Yes	214	145	1.00	152	163	0.53	81	86
Westbound	Yes	137	128	1.00	57	100	0.53	30	53
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

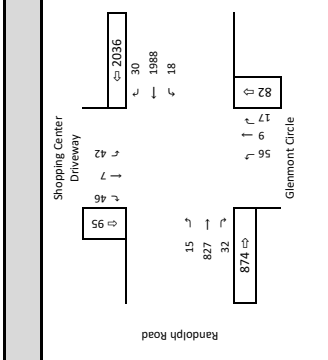
Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction		Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	R	LT	882		0.30	253	18	1.00	18	271	*
		TR	32		1.00	32				50	
WB	L	TR	2018		0.30	605	15	1.00	15	620	*
		L	18		1.00	18				33	
NB	R	LT	65		1.00	65	42	1.00	42	107	*
		TR	17		1.00	17				59	
SB	R	LT	49		1.00	49	56	1.00	56	105	
		TR	46		1.00	46				102	

Note: **CV** 727
V/c 0.404



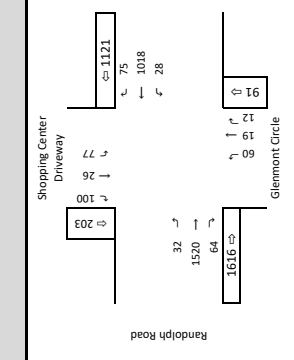
Congestion Equiv.		1800
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Approach	Excl. Right	Right Vol.	Adjacent Overlap Vol.	Overlap
AM		PM	AM	PM
AM		LUF	AM	LUF
AM		n/a	n/a	n/a
AM		n/a	n/a	n/a
AM		n/a	n/a	n/a
AM		n/a	n/a	n/a

PM Peak Hour Critical Lane Volume Analysis

Direction		Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	R	LT	1552		0.30	466	28	1.00	28	494	*
		TR	64		1.00	64				92	
WB	L	TR	1093		0.30	328	32	1.00	32	360	*
		L	28		1.00	28				60	
NB	R	LT	79		1.00	79	77	1.00	77	156	*
		TR	12		1.00	12				89	
SB	R	LT	103		1.00	103	60	1.00	60	163	*
		TR	100		1.00	100				160	

Note: **CV** 657
V/c 0.365

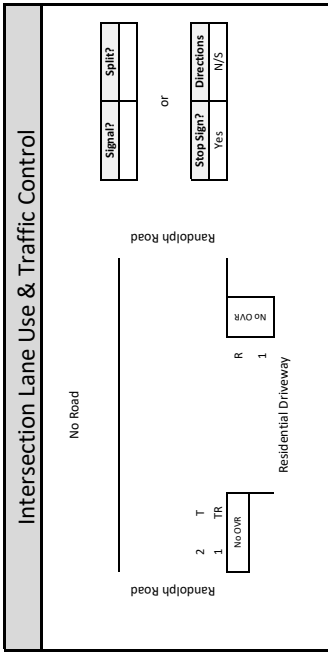


Congestion Equiv.		1800
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Right Turn Overlap

Approach	Excl. Right	Right Vol.		Adjacent Overlap Vol.		Overlap	
		PM	LUF	AM	PM	AM	PM
Eastbound	No	n/a	n/a	n/a	n/a	0	0
Westbound	No	n/a	n/a	n/a	n/a	0	0
Northbound	No	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR			
Number of Lanes	Lane Use Factors		Through LUF
	Left Turn	Right Turn	
1	1	1	1.00
2	0.53	0.53	0.53
3	0.37	0.37	0.37
4	0.30	0.30	0.30
5	0.25	0.25	0.25



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn	Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	TR	935			0.37	346	0		0	346	*
WB						0	0		0	0	
NB	R	32			1.00	32	0		0	32	*
SB						0	0		0	0	
Notes:										CLV	378
										v/c	0.210
										Congestion Equiv.	1800

Approach	Excl. Right	Right Vol.	PM	LUF	AM	PM	LUF	AM	PM	Overlap
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn	Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	TR	1623			0.37	601	0		0	601	*
WB						0	0		0	0	
NB	R	23			1.00	23	0		0	23	*
SB						0	0		0	0	
Notes:										CLV	624
										v/c	0.347
										Congestion Equiv.	1800

Right Turn Overlap

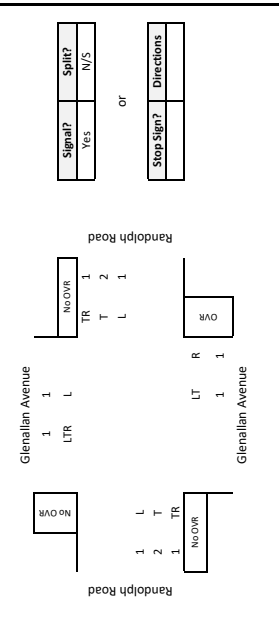
Approach	Excl. Right	Right Vol.	PM	LUF	AM	PM	LUF	AM	PM	Overlap
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0

Montgomery County LATR

Number of Lanes	Lane Use Factors		Through LUF
	Left Turn LUF	Through LUF	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	



Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	
EB	TR	879	0	1.00	325	2	1.00	2	327	
	L	33	0	1.00	33				35	
WB	TR	2160	0	0.37	807	33	1.00	33	840	
	L	2	0	1.00	2				35	
NB	LT	161	0	1.00	161	352	0.53	187	348	
	R	0	0	1.00	0				187	
SB	LTR	493	0	0.53	261	55	1.00	55	316	
	L	352	0	1.00	352				407	
Note: Congestion Equiv. = 1.800									CIV	1595
									V/c	0.886

Right Turn Overlap

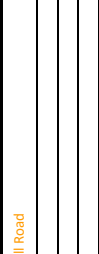
Approach	Excl. Right	Right Vol.		Adjacent Overlap Vol.		Overlap	
		AM	PM	AM	PM	AM	PM
Eastbound	No	n/a	n/a	n/a	n/a	n/a	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	0
Northbound	Yes	0	5	1.00	2	1.00	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	0

PM Peak Hour Critical Lane Volume Analysis

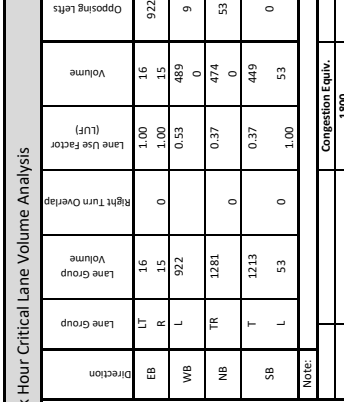
Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	
EB	TR	1548	0	0.37	573	5	1.00	5	578	
	L	76	0	1.00	76				81	
WB	TR	1363	0	0.37	504	76	1.00	76	580	
	L	5	0	1.00	5				81	
NB	LT	57	5	1.00	57	370	0.53	196	253	
	R	0	0	1.00	0				196	
SB	LTR	459	0	0.53	243	31	1.00	31	274	
	L	370	0	1.00	370				401	
Note: Congestion Equiv. = 1.800									CIV	1234
									V/c	0.686

Montgomery County LATR

Number of Lanes	Lane Use Factors		Through LUF
	Left Turn	Through	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	



Intersection Lane Use & Traffic Control



Approach	Excl. Right	Right Vol.	Adj. Overlap Vol.	Overlap
	AM	PM	AM	PM
Approach	Yes	15	7	0
Eastbound	No	n/a	n/a	n/a
Westbound	No	n/a	n/a	n/a
Northbound	No	n/a	n/a	n/a
Southbound	No	n/a	n/a	n/a

AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LT	16	0	1.00	16	922	0.53	489	505
	R	15	0	1.00	15	922	1.00	9	504
WB	L	922	0	0.53	489	0	1.00	9	498
	TR	1281	0	0.37	474	53	1.00	53	527
SB	T	1213	0	0.37	449	0	1.00	0	449
	L	53	0	1.00	53	0	1.00	0	53
Notes:									CLV
Congestion Equiv.									1800
									V/c
									0.850

Right Turn Overlap

Approach	Excl. Right	Right Vol.	Adj. Overlap Vol.	Overlap
	AM	PM	AM	PM
Approach	Yes	15	7	0
Eastbound	No	n/a	n/a	n/a
Westbound	No	n/a	n/a	n/a
Northbound	No	n/a	n/a	n/a
Southbound	No	n/a	n/a	n/a

PM Peak Hour Critical Lane Volume Analysis

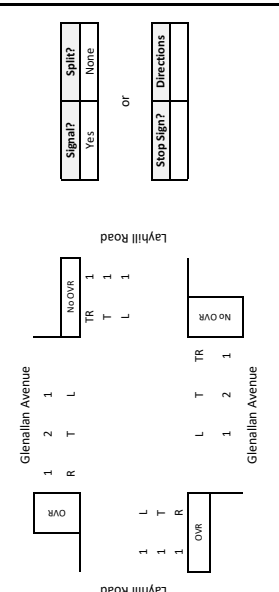
Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LT	31	0	1.00	31	600	0.53	318	349
	R	7	0	1.00	7	600	1.00	13	325
WB	L	600	0	0.53	318	13	1.00	13	331
	TR	2084	0	0.37	771	107	1.00	107	878
SB	T	1229	0	0.37	455	1	1.00	1	456
	L	107	0	1.00	107	0	1.00	0	108
Notes:									CLV
Congestion Equiv.									1800
									V/c
									0.866

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25



Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	T	385	0	1.00	385	103	1.00	103	488	*
	R	28	19	1.00	9	62	1.00	62	112	*
WB	TR	1117	0	0.53	592	62	1.00	62	654	*
	L	103	0	1.00	103	134	1.00	134	165	*
NB	TR	415	0	0.37	154	134	1.00	134	288	*
	L	19	0	1.00	19	19	1.00	19	153	*
SB	T	316	0	0.53	167	19	1.00	19	186	*
	L	134	62	1.00	72	19	1.00	19	91	*
Notes:									CLV	942
Congestion Equiv.									V/c	0.523
									1800	

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	T	703	0	1.00	703	78	1.00	78	781	*
	R	50	0	1.00	50	126	1.00	126	128	*
WB	TR	597	0	0.53	316	78	1.00	78	442	*
	L	78	0	1.00	78	189	1.00	189	204	*
NB	TR	377	0	0.37	139	28	1.00	28	328	*
	L	28	0	1.00	28	217	1.00	217	217	*
SB	T	337	0	0.53	179	28	1.00	28	207	*
	L	189	0	1.00	189	28	1.00	28	217	*
Notes:									CLV	1109
Congestion Equiv.									V/c	0.616
									1800	

Right Turn Overlap

Approach	Excl. Right	Right Vol.		Adjacent Overlap Vol.		Overlap	
		AM	PM	AM	PM	LUF	AM
Eastbound	Yes	28	50	1.00	19	1.00	19
Westbound	No	n/a	n/a	n/a	n/a	n/a	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	0
Southbound	Yes	95	139	1.00	62	1.00	62

Montgomery County LATR

Number of Lanes	Lane Use Factors		Through LUF
	Left Turn LUF	Through LUF	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	

TOTAL FUTURE

Queues

1: Livingston Street & Randolph Road

Total Future Conditions

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	13	1126	123	1845	58	62
v/c Ratio	0.08	0.27	0.34	0.45	0.27	0.32
Control Delay	6.4	4.0	8.4	5.1	19.0	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	4.0	8.4	5.1	19.0	37.8
Queue Length 50th (ft)	2	63	20	126	8	32
Queue Length 95th (ft)	12	146	86	284	42	65
Internal Link Dist (ft)		1892		1561	753	616
Turn Bay Length (ft)	70		75			
Base Capacity (vph)	155	4137	362	4142	415	404
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.27	0.34	0.45	0.14	0.15
Intersection Summary						

HCM 6th Signalized Intersection Summary
1: Livingston Street & Randolph Road

Total Future Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↕	
Traffic Volume (veh/h)	12	1006	7	111	1655	5	7	3	42	17	21	18
Future Volume (veh/h)	12	1006	7	111	1655	5	7	3	42	17	21	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	0.98		0.98	0.98		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	1118	8	123	1839	6	8	3	47	19	23	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	4224	30	438	4243	14	43	17	112	68	70	47
Arrive On Green	0.81	0.81	0.81	0.81	0.81	0.81	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	251	5230	37	500	5254	17	106	192	1271	324	792	531
Grp Volume(v), veh/h	13	728	398	123	1191	654	58	0	0	62	0	0
Grp Sat Flow(s),veh/h/ln	251	1702	1863	500	1702	1867	1569	0	0	1647	0	0
Q Serve(g_s), s	1.9	6.3	6.3	9.6	12.4	12.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.4	6.3	6.3	15.9	12.4	12.4	4.1	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.01	0.14		0.81	0.31		0.32
Lane Grp Cap(c), veh/h	236	2749	1505	438	2749	1508	173	0	0	185	0	0
V/C Ratio(X)	0.06	0.26	0.26	0.28	0.43	0.43	0.34	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	236	2749	1505	438	2749	1508	414	0	0	432	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.5	2.8	2.8	4.8	3.4	3.4	51.8	0.0	0.0	51.7	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.4	1.6	0.5	0.9	2.4	0.0	0.0	2.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.5	1.7	1.0	3.0	3.4	1.8	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	3.1	3.3	6.4	3.9	4.3	54.2	0.0	0.0	54.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1139			1968			58				62
Approach Delay, s/veh		3.2			4.2			54.2				54.0
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		102.9		17.1		102.9		17.1				
Change Period (Y+Rc), s		6.0		6.5		6.0		6.5				
Max Green Setting (Gmax), s		78.0		29.5		78.0		29.5				
Max Q Clear Time (g_c+I1), s		0.0		6.1		0.0		6.0				
Green Ext Time (p_c), s		0.0		0.3		0.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				5.7								
HCM 6th LOS				A								

Queues
2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Total Future Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	156	158	221	720	362	141	216	1048	186	85	1837	232
v/c Ratio	0.70	0.69	0.42	1.01	1.00	0.27	0.70	0.57	0.28	0.41	1.09	0.39
Control Delay	89.5	88.7	18.3	103.3	115.8	4.0	90.9	49.1	4.0	73.4	116.3	44.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.5	88.7	18.3	103.3	115.8	4.0	90.9	49.1	4.0	73.4	116.3	44.2
Queue Length 50th (ft)	190	192	63	~478	~478	0	128	360	0	52	~892	163
Queue Length 95th (ft)	257	258	136	#627	#728	25	#200	474	40	m75	#1138	m255
Internal Link Dist (ft)		604			602			403			821	
Turn Bay Length (ft)			200			200	200		175	250		275
Base Capacity (vph)	345	353	528	715	361	621	312	1840	667	457	1685	590
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.45	0.42	1.01	1.00	0.23	0.69	0.57	0.28	0.19	1.09	0.39

Intersection Summary

























~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
 2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Total Future Conditions
 AM Peak Hour

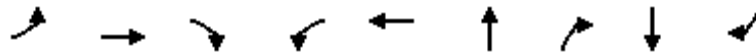
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	64	214	998	51	137	210	1017	180	82	1782	225
Future Volume (vph)	241	64	214	998	51	137	210	1017	180	82	1782	225
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	12.0	12.0	12.0	12.0	12.0	12.0	7.0	9.0	9.0	7.0	9.0	9.0
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1720	1583	3221	1626	1583	3433	5085	1470	3433	5085	1553
Flt Permitted	0.95	0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1720	1583	3221	1626	1583	3433	5085	1470	3433	5085	1553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	248	66	221	1029	53	141	216	1048	186	85	1837	232
RTOR Reduction (vph)	0	0	108	0	0	101	0	0	119	0	0	76
Lane Group Flow (vph)	156	158	113	720	362	40	216	1048	67	85	1837	156
Confl. Peds. (#/hr)	2					2	3		26	26		3
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	4 1	3	3	3 5	1	6		5	2	
Permitted Phases									6			2
Actuated Green, G (s)	24.0	24.0	52.3	40.0	40.0	50.8	16.3	65.2	65.2	10.8	59.7	59.7
Effective Green, g (s)	24.0	24.0	52.3	40.0	40.0	50.8	16.3	65.2	65.2	10.8	59.7	59.7
Actuated g/C Ratio	0.13	0.13	0.29	0.22	0.22	0.28	0.09	0.36	0.36	0.06	0.33	0.33
Clearance Time (s)	12.0	12.0		12.0	12.0		7.0	9.0	9.0	7.0	9.0	9.0
Vehicle Extension (s)	3.5	3.5		3.0	3.0		4.0	0.2	0.2	4.0	0.2	0.2
Lane Grp Cap (vph)	224	229	459	715	361	446	310	1841	532	205	1686	515
v/s Ratio Prot	c0.09	0.09	0.07	c0.22	0.22	0.03	c0.06	c0.21		0.02	c0.36	
v/s Ratio Perm									0.05			0.10
v/c Ratio	0.70	0.69	0.25	1.01	1.00	0.09	0.70	0.57	0.13	0.41	1.09	0.30
Uniform Delay, d1	74.5	74.4	48.8	70.0	70.0	47.6	79.5	46.1	38.4	81.6	60.1	44.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	1.30	1.72
Incremental Delay, d2	9.4	8.7	0.3	35.4	48.1	0.1	7.2	1.3	0.5	1.5	48.8	1.2
Delay (s)	83.9	83.1	49.1	105.4	118.1	47.7	86.6	47.4	38.9	70.4	126.8	78.3
Level of Service	F	F	D	F	F	D	F	D	D	E	F	E
Approach Delay (s)		69.3			102.5			52.1			119.3	
Approach LOS		E			F			D			F	
Intersection Summary												
HCM 2000 Control Delay			92.3									F
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			180.0						40.0			
Intersection Capacity Utilization			95.4%									F
Analysis Period (min)			15									
c Critical Lane Group												

Queues

Total Future Conditions

3: Glenmont Circle/Shopping Center & Randolph Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	19	878	76	20	2083	421	47	50	47
v/c Ratio	0.23	0.34	0.09	0.24	0.64	0.92	0.10	0.44	0.22
Control Delay	74.4	24.3	0.7	86.2	16.1	80.8	0.4	78.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.4	24.3	0.7	86.2	16.1	80.8	0.4	78.9	2.5
Queue Length 50th (ft)	18	205	0	21	155	401	0	48	0
Queue Length 95th (ft)	47	249	4	m23	m192	#637	0	92	0
Internal Link Dist (ft)		622			388	289		392	
Turn Bay Length (ft)	110			270			30		
Base Capacity (vph)	165	2574	828	165	3240	456	482	154	243
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.34	0.09	0.12	0.64	0.92	0.10	0.32	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 3: Glenmont Circle/Shopping Center & Randolph Road

Total Future Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑			↘	↗		↘	↗
Traffic Volume (veh/h)	18	852	74	19	1990	30	400	9	46	42	7	46
Future Volume (veh/h)	18	852	74	19	1990	30	400	9	46	42	7	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.99	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	878	0	20	2052	31	412	9	47	43	7	47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	2669		34	3441	52	419	9	375	70	11	66
Arrive On Green	0.02	0.52	0.00	0.04	1.00	1.00	0.24	0.24	0.24	0.05	0.05	0.05
Sat Flow, veh/h	1781	5106	1585	1781	6575	99	1745	38	1561	1542	251	1459
Grp Volume(v), veh/h	19	878	0	20	1506	577	421	0	47	50	0	47
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1609	1849	1783	0	1561	1793	0	1459
Q Serve(g_s), s	1.6	14.9	0.0	1.7	0.0	0.0	35.2	0.0	3.5	4.1	0.0	4.8
Cycle Q Clear(g_c), s	1.6	14.9	0.0	1.7	0.0	0.0	35.2	0.0	3.5	4.1	0.0	4.8
Prop In Lane	1.00		1.00	1.00		0.05	0.98		1.00	0.86		1.00
Lane Grp Cap(c), veh/h	32	2669		34	2525	968	428	0	375	81	0	66
V/C Ratio(X)	0.59	0.33		0.60	0.60	0.60	0.98	0.00	0.13	0.62	0.00	0.71
Avail Cap(c_a), veh/h	166	2669		166	2525	968	428	0	375	155	0	126
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.1	20.6	0.0	71.6	0.0	0.0	56.7	0.0	44.7	70.3	0.0	70.7
Incr Delay (d2), s/veh	15.6	0.3	0.0	15.7	1.0	2.7	39.1	0.0	0.1	7.5	0.0	13.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.9	0.0	0.9	0.2	0.7	20.5	0.0	1.4	2.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.7	21.0	0.0	87.3	1.0	2.7	95.8	0.0	44.8	77.8	0.0	84.1
LnGrp LOS	F	C		F	A	A	F	A	D	E	A	F
Approach Vol, veh/h		897			2103			468				97
Approach Delay, s/veh		22.4			2.3			90.7				80.8
Approach LOS		C			A			F				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	84.5		13.8	8.8	84.4		43.0				
Change Period (Y+Rc), s	6.0	6.0		7.0	6.0	6.0		7.0				
Max Green Setting (Gmax), s	14.0	61.0		13.0	14.0	61.0		36.0				
Max Q Clear Time (g_c+I1), s	3.6	0.0		6.8	3.7	0.0		37.2				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

Notes

User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
4: Residential Driveway & Randolph Road

Total Future Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	962	27	0	2075	0	60
Future Vol, veh/h	962	27	0	2075	0	60
Conflicting Peds, #/hr	0	0	8	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1034	29	0	2231	0	65

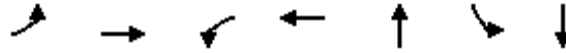
Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	532
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.92
Pot Cap-1 Maneuver	-	-	0	-	421
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	421
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	421	-	-	-
HCM Lane V/C Ratio	0.153	-	-	-
HCM Control Delay (s)	15.1	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.5	-	-	-

Queues
5: Glenallan Avenue & Randolph Road

Total Future Conditions
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	34	975	20	2271	198	264	260
v/c Ratio	0.26	0.41	0.08	1.02	0.67	0.85	0.83
Control Delay	37.2	17.0	4.8	40.1	69.5	82.8	75.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	17.0	4.8	40.1	69.5	82.8	75.8
Queue Length 50th (ft)	8	101	1	~855	189	264	244
Queue Length 95th (ft)	42	124	m9	#1154	255	366	345
Internal Link Dist (ft)		391		1077	286		473
Turn Bay Length (ft)	250		290				
Base Capacity (vph)	196	2358	333	2235	404	369	372
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.41	0.06	1.02	0.49	0.72	0.70

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
5: Glenallan Avenue & Randolph Road

Total Future Conditions
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑	↗	↖	↕	
Traffic Volume (veh/h)	33	901	35	19	1934	246	55	135	0	352	64	86
Future Volume (veh/h)	33	901	35	19	1934	246	55	135	0	352	64	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	939	36	20	2015	256	57	141	0	262	214	90
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	2645	101	351	2408	302	76	187	226	349	242	102
Arrive On Green	0.00	1.00	1.00	0.00	0.70	0.70	0.14	0.14	0.00	0.20	0.20	0.20
Sat Flow, veh/h	1781	5038	193	1781	4585	574	531	1313	1585	1781	1237	520
Grp Volume(v), veh/h	34	634	341	20	1488	783	198	0	0	262	0	304
Grp Sat Flow(s),veh/h/ln	1781	1702	1827	1781	1702	1756	1844	0	1585	1781	0	1757
Q Serve(g_s), s	0.1	0.0	0.0	0.1	47.3	49.5	15.5	0.0	0.0	20.8	0.0	25.2
Cycle Q Clear(g_c), s	0.1	0.0	0.0	0.1	47.3	49.5	15.5	0.0	0.0	20.8	0.0	25.2
Prop In Lane	1.00		0.11	1.00		0.33	0.29		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	81	1787	959	351	1787	922	263	0	226	349	0	344
V/C Ratio(X)	0.42	0.35	0.36	0.06	0.83	0.85	0.75	0.00	0.00	0.75	0.00	0.88
Avail Cap(c_a), veh/h	229	1787	959	498	1787	922	406	0	349	392	0	387
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.75	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.4	0.0	0.0	17.4	17.9	18.2	61.8	0.0	0.0	56.9	0.0	58.6
Incr Delay (d2), s/veh	3.4	0.6	1.0	0.1	3.6	7.4	4.4	0.0	0.0	7.0	0.0	19.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.1	0.3	0.4	16.4	18.7	7.6	0.0	0.0	10.1	0.0	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.8	0.6	1.0	17.4	21.5	25.6	66.2	0.0	0.0	63.9	0.0	77.9
LnGrp LOS	E	A	A	B	C	C	E	A	A	E	A	E
Approach Vol, veh/h		1009			2291			198				566
Approach Delay, s/veh		2.8			22.9			66.2				71.4
Approach LOS		A			C			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	85.3		28.4	0.0	85.3		36.4				
Change Period (Y+Rc), s	5.5	6.5		7.0	5.5	6.5		7.0				
Max Green Setting (Gmax), s	12.5	45.5		33.0	12.5	45.5		33.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0		17.5	0.0	0.0		27.2				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		1.1				

Intersection Summary

HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- User approved changes to right turn type.

Queues
7: Georgia Avenue & Layhill Road

Total Future Conditions
AM Peak Hour




























Lane Group	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	16	15	931	30	965	416	54	1251
v/c Ratio	0.22	0.10	0.85	0.05	0.38	0.52	0.19	0.44
Control Delay	90.3	1.3	65.5	0.2	49.2	48.3	19.3	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.3	1.3	65.5	0.2	49.2	48.3	19.3	24.0
Queue Length 50th (ft)	19	0	553	0	277	280	28	310
Queue Length 95th (ft)	48	0	#701	0	390	463	52	348
Internal Link Dist (ft)	216				821			521
Turn Bay Length (ft)				840		25	140	
Base Capacity (vph)	166	228	1101	559	2524	799	427	2812
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.07	0.85	0.05	0.38	0.52	0.13	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
7: Georgia Avenue & Layhill Road

Total Future Conditions
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  			  	
Traffic Volume (veh/h)	9	7	15	922	0	30	0	955	412	53	1238	0
Future Volume (veh/h)	9	7	15	922	0	30	0	955	412	53	1238	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	9	7	15	931	0	0	0	965	0	54	1251	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	22	17	32	0	0	0	0	4337	0	496	4626	0
Arrive On Green	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.28	0.00	0.03	0.91	0.00
Sat Flow, veh/h	1023	796	1448		0		0	5274	1585	1781	5274	0
Grp Volume(v), veh/h	16	0	15		0.0		0	965	0	54	1251	0
Grp Sat Flow(s),veh/h/ln	1819	0	1448				0	1702	1585	1781	1702	0
Q Serve(g_s), s	1.6	0.0	1.8				0.0	26.1	0.0	0.6	5.5	0.0
Cycle Q Clear(g_c), s	1.6	0.0	1.8				0.0	26.1	0.0	0.6	5.5	0.0
Prop In Lane	0.56		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	40	0	32				0	4337		496	4626	0
V/C Ratio(X)	0.40	0.00	0.47				0.00	0.22		0.11	0.27	0.00
Avail Cap(c_a), veh/h	167	0	133				0	4337		712	4626	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.81	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	86.9	0.0	87.0				0.0	19.1	0.0	3.6	1.1	0.0
Incr Delay (d2), s/veh	6.4	0.0	10.6				0.0	0.1	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.8				0.0	12.1	0.0	0.3	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.3	0.0	97.6				0.0	19.2	0.0	3.7	1.2	0.0
LnGrp LOS	F	A	F				A	B		A	A	A
Approach Vol, veh/h		31						965			1305	
Approach Delay, s/veh		95.4						19.2			1.3	
Approach LOS		F						B			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		169.6		10.4	10.2	159.4						
Change Period (Y+Rc), s		6.5		6.5	5.5	6.5						
Max Green Setting (Gmax), s		100.5		16.5	26.5	68.5						
Max Q Clear Time (g_c+I1), s		7.5		3.8	2.6	28.1						
Green Ext Time (p_c), s		2.2		0.0	0.1	1.6						
Intersection Summary												
HCM 6th Ctrl Delay			10.1									
HCM 6th LOS			B									
Notes												
User approved changes to right turn type.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Queues
10: Glenallan Avenue & Layhill Road

Total Future Conditions
AM Peak Hour

























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	67	448	122	924	290	21	483	146	343	104
v/c Ratio	0.35	0.32	0.32	0.84	0.43	0.05	0.40	0.38	0.43	0.14
Control Delay	25.2	33.4	23.2	47.2	5.6	19.2	30.6	22.3	28.5	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	33.4	23.2	47.2	5.6	19.2	30.6	22.3	28.5	1.7
Queue Length 50th (ft)	29	95	55	348	0	9	148	66	175	0
Queue Length 95th (ft)	58	126	95	#451	64	24	198	110	311	14
Internal Link Dist (ft)		1003		925			1154		446	
Turn Bay Length (ft)	290		170		300	140		140		
Base Capacity (vph)	218	1527	393	1095	682	461	1211	391	807	739
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.29	0.31	0.84	0.43	0.05	0.40	0.37	0.43	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
10: Glenallan Avenue & Layhill Road

Total Future Conditions
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	385	28	112	850	267	19	366	78	134	316	96
Future Volume (veh/h)	62	385	28	112	850	267	19	366	78	134	316	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	418	30	122	924	290	21	398	85	146	343	104
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	1304	92	364	1048	461	378	1132	239	439	824	687
Arrive On Green	0.04	0.27	0.27	0.07	0.29	0.29	0.01	0.39	0.39	0.06	0.44	0.44
Sat Flow, veh/h	1781	4864	345	1781	3554	1564	1781	2908	615	1781	1870	1559
Grp Volume(v), veh/h	67	291	157	122	924	290	21	242	241	146	343	104
Grp Sat Flow(s),veh/h/ln	1781	1702	1805	1781	1777	1564	1781	1777	1746	1781	1870	1559
Q Serve(g_s), s	3.2	8.2	8.4	5.9	29.7	19.3	0.9	11.5	11.8	5.7	15.1	4.8
Cycle Q Clear(g_c), s	3.2	8.2	8.4	5.9	29.7	19.3	0.9	11.5	11.8	5.7	15.1	4.8
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	152	912	484	364	1048	461	378	691	679	439	824	687
V/C Ratio(X)	0.44	0.32	0.32	0.34	0.88	0.63	0.06	0.35	0.36	0.33	0.42	0.15
Avail Cap(c_a), veh/h	237	1021	541	402	1066	469	504	691	679	473	824	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	35.2	35.2	28.9	40.3	36.6	22.1	25.9	26.0	19.3	23.0	20.1
Incr Delay (d2), s/veh	1.8	0.4	0.7	0.5	9.4	3.8	0.1	1.4	1.5	0.4	1.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.5	3.8	2.6	14.2	7.8	0.4	5.2	5.2	2.4	7.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	35.5	35.9	29.4	49.7	40.5	22.1	27.3	27.4	19.7	24.5	20.6
LnGrp LOS	D	D	D	C	D	D	C	C	C	B	C	C
Approach Vol, veh/h		515			1336			504			593	
Approach Delay, s/veh		35.6			45.8			27.1			22.7	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	58.9	14.4	39.2	13.7	52.7	11.2	42.4				
Change Period (Y+Rc), s	6.0	6.0	6.5	7.0	6.0	6.0	6.5	7.0				
Max Green Setting (Gmax), s	10.0	38.0	10.5	36.0	10.0	38.0	10.5	36.0				
Max Q Clear Time (g_c+I1), s	2.9	17.1	7.9	10.4	7.7	13.8	5.2	31.7				
Green Ext Time (p_c), s	0.0	0.3	0.1	5.4	0.1	0.5	0.0	3.4				
Intersection Summary												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									

Queues

1: Livingston Street & Randolph Road

Total Future Conditions

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	30	1703	81	1173	55	24
v/c Ratio	0.09	0.42	0.46	0.29	0.24	0.11
Control Delay	6.6	6.1	19.2	5.1	23.6	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	6.1	19.2	5.1	23.6	30.9
Queue Length 50th (ft)	4	102	14	60	17	12
Queue Length 95th (ft)	20	252	99	154	50	33
Internal Link Dist (ft)		1892		1561	753	616
Turn Bay Length (ft)	70		75			
Base Capacity (vph)	330	4036	177	4030	398	418
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.42	0.46	0.29	0.14	0.06
Intersection Summary						

HCM 6th Signalized Intersection Summary
 1: Livingston Street & Randolph Road

Total Future Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕				↕
Traffic Volume (veh/h)	29	1662	7	79	1138	12	14	3	37	4	12	8
Future Volume (veh/h)	29	1662	7	79	1138	12	14	3	37	4	12	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	0.97		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	1696	7	81	1161	12	14	3	38	4	12	8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	4138	17	258	4107	42	63	26	115	49	108	61
Arrive On Green	0.79	0.79	0.79	0.79	0.79	0.79	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	478	5249	22	288	5209	54	234	244	1070	127	1004	565
Grp Volume(v), veh/h	30	1100	603	81	759	414	55	0	0	24	0	0
Grp Sat Flow(s),veh/h/ln	478	1702	1866	288	1702	1859	1548	0	0	1696	0	0
Q Serve(g_s), s	2.2	12.1	12.1	14.7	7.3	7.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.5	12.1	12.1	26.8	7.3	7.3	3.7	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.03	0.25		0.69	0.17		0.33
Lane Grp Cap(c), veh/h	408	2684	1471	258	2684	1466	204	0	0	217	0	0
V/C Ratio(X)	0.07	0.41	0.41	0.31	0.28	0.28	0.27	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	408	2684	1471	258	2684	1466	411	0	0	444	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.7	4.0	4.0	8.2	3.5	3.5	49.5	0.0	0.0	48.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.5	0.8	3.2	0.3	0.5	1.5	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.2	3.6	1.0	1.9	2.2	1.6	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	4.4	4.8	11.3	3.7	3.9	51.0	0.0	0.0	48.9	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1733			1254			55				24
Approach Delay, s/veh		4.6			4.3			51.0				48.9
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		100.6		19.4		100.6		19.4				
Change Period (Y+Rc), s		6.0		6.5		6.0		6.5				
Max Green Setting (Gmax), s		78.0		29.5		78.0		29.5				
Max Q Clear Time (g_c+I1), s		0.0		5.7		0.0		3.5				
Green Ext Time (p_c), s		0.0		0.3		0.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				5.6								
HCM 6th LOS				A								

Queues
2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Total Future Conditions
PM Peak Hour



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	236	244	149	352	180	132	192	1719	365	159	1368	334
v/c Ratio	0.77	0.78	0.26	0.68	0.68	0.29	0.62	0.95	0.58	0.60	0.78	0.52
Control Delay	86.4	86.9	13.5	77.0	83.2	3.6	87.3	66.7	30.7	103.7	59.8	33.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.5	0.0	0.0	0.0	0.0
Total Delay	86.4	86.9	13.5	77.0	83.2	3.7	87.3	68.2	30.7	103.7	59.8	33.8
Queue Length 50th (ft)	281	290	33	219	224	0	114	735	191	100	543	127
Queue Length 95th (ft)	382	393	87	264	306	19	157	#1024	351	m141	#768	m289
Internal Link Dist (ft)		604			602			403			821	
Turn Bay Length (ft)			200			200	200		175	250		275
Base Capacity (vph)	351	359	675	715	364	551	610	1810	632	290	1743	638
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	41	0	31	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.68	0.22	0.49	0.49	0.26	0.31	0.97	0.58	0.55	0.78	0.52

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
 2: MD 97 Georgia Ave. & Randolph Rd. Ramps

Total Future Conditions
 PM Peak Hour

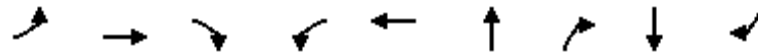
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	363	103	145	456	60	128	186	1667	354	154	1327	324
Future Volume (vph)	363	103	145	456	60	128	186	1667	354	154	1327	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	12.0	12.0	12.0	12.0	12.0	12.0	7.0	9.0	9.0	7.0	9.0	9.0
Lane Util. Factor	0.95	0.95	1.00	0.91	0.91	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1681	1721	1583	3221	1641	1583	3433	5085	1470	3433	5085	1553
Flt Permitted	0.95	0.97	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1681	1721	1583	3221	1641	1583	3433	5085	1470	3433	5085	1553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	374	106	149	470	62	132	192	1719	365	159	1368	334
RTOR Reduction (vph)	0	0	72	0	0	100	0	0	109	0	0	106
Lane Group Flow (vph)	236	244	77	352	180	32	192	1719	256	159	1368	228
Confl. Peds. (#/hr)	2					2	3		26	26		3
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	4 1	3	3	3 5	1	6		5	2	
Permitted Phases									6			2
Actuated Green, G (s)	32.8	32.8	61.1	29.1	29.1	43.0	16.3	64.2	64.2	13.9	61.8	61.8
Effective Green, g (s)	32.8	32.8	61.1	29.1	29.1	43.0	16.3	64.2	64.2	13.9	61.8	61.8
Actuated g/C Ratio	0.18	0.18	0.34	0.16	0.16	0.24	0.09	0.36	0.36	0.08	0.34	0.34
Clearance Time (s)	12.0	12.0		12.0	12.0		7.0	9.0	9.0	7.0	9.0	9.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	306	313	537	520	265	378	310	1813	524	265	1745	533
v/s Ratio Prot	0.14	c0.14	0.05	0.11	c0.11	0.02	c0.06	c0.34		0.05	0.27	
v/s Ratio Perm									0.17			0.15
v/c Ratio	0.77	0.78	0.14	0.68	0.68	0.08	0.62	0.95	0.49	0.60	0.78	0.43
Uniform Delay, d1	70.0	70.2	41.3	71.0	71.1	53.2	78.9	56.3	45.1	80.4	53.1	45.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.19	1.06	1.18
Incremental Delay, d2	13.2	13.4	0.3	4.5	8.7	0.2	4.2	12.0	3.2	3.6	3.1	2.1
Delay (s)	83.2	83.6	41.5	75.6	79.8	53.4	83.0	68.3	48.3	99.2	59.2	55.7
Level of Service	F	F	D	E	E	D	F	E	D	F	E	E
Approach Delay (s)		73.5			72.3			66.3			62.0	
Approach LOS		E			E			E			E	
Intersection Summary												
HCM 2000 Control Delay			66.4									E
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			180.0						40.0			
Intersection Capacity Utilization			82.4%									E
Analysis Period (min)			15									
c Critical Lane Group												

Queues

3: Glenmont Circle/Shopping Center & Randolph Road

Total Future Conditions

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	35	1624	160	29	1126	229	25	106	103
v/c Ratio	0.35	0.64	0.20	0.31	0.37	0.60	0.06	0.65	0.42
Control Delay	77.2	31.9	8.2	81.9	28.4	59.3	0.3	83.9	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.2	31.9	8.2	81.9	28.4	59.3	0.3	83.9	12.7
Queue Length 50th (ft)	34	473	20	29	120	197	0	102	0
Queue Length 95th (ft)	72	570	71	m52	271	288	0	166	46
Internal Link Dist (ft)		622			388	289		392	
Turn Bay Length (ft)	110			270			30		
Base Capacity (vph)	165	2546	811	165	3044	427	443	203	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.64	0.20	0.18	0.37	0.54	0.06	0.52	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 3: Glenmont Circle/Shopping Center & Randolph Road

Total Future Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑			↗	↗		↗	↗
Traffic Volume (veh/h)	34	1575	155	28	1018	75	203	19	24	77	26	100
Future Volume (veh/h)	34	1575	155	28	1018	75	203	19	24	77	26	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.93	1.00		0.85
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	1624	0	29	1049	77	209	20	25	79	27	103
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	2626		42	3148	229	325	31	295	121	41	122
Arrive On Green	0.03	0.51	0.00	0.05	1.00	1.00	0.20	0.20	0.20	0.09	0.09	0.09
Sat Flow, veh/h	1781	5106	1585	1781	6149	448	1633	156	1480	1344	459	1352
Grp Volume(v), veh/h	35	1624	0	29	822	304	229	0	25	106	0	103
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1609	1771	1789	0	1480	1803	0	1352
Q Serve(g_s), s	2.9	34.0	0.0	2.4	0.0	0.0	17.6	0.0	2.1	8.5	0.0	11.3
Cycle Q Clear(g_c), s	2.9	34.0	0.0	2.4	0.0	0.0	17.6	0.0	2.1	8.5	0.0	11.3
Prop In Lane	1.00		1.00	1.00		0.25	0.91		1.00	0.75		1.00
Lane Grp Cap(c), veh/h	46	2626		42	2471	907	356	0	295	162	0	122
V/C Ratio(X)	0.77	0.62		0.70	0.33	0.34	0.64	0.00	0.08	0.65	0.00	0.85
Avail Cap(c_a), veh/h	166	2626		166	2471	907	429	0	355	204	0	153
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	72.6	26.0	0.0	71.0	0.0	0.0	55.2	0.0	48.9	66.0	0.0	67.2
Incr Delay (d2), s/veh	23.1	1.1	0.0	18.8	0.4	1.0	2.4	0.0	0.1	5.0	0.0	28.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	13.7	0.0	1.3	0.1	0.3	8.2	0.0	0.8	4.2	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.8	27.1	0.0	89.8	0.4	1.0	57.6	0.0	49.1	71.0	0.0	95.4
LnGrp LOS	F	C		F	A	A	E	A	D	E	A	F
Approach Vol, veh/h		1659			1155			254			209	
Approach Delay, s/veh		28.5			2.8			56.7			83.0	
Approach LOS		C			A			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	82.8		20.5	9.5	83.1		36.9				
Change Period (Y+Rc), s	6.0	6.0		7.0	6.0	6.0		7.0				
Max Green Setting (Gmax), s	14.0	57.0		17.0	14.0	57.0		36.0				
Max Q Clear Time (g_c+I1), s	4.9	0.0		13.3	4.4	0.0		19.6				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.7				

Intersection Summary

HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
4: Residential Driveway & Randolph Road

Total Future Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑		↑
Traffic Vol, veh/h	1621	68	0	1162	0	35
Future Vol, veh/h	1621	68	0	1162	0	35
Conflicting Peds, #/hr	0	1	1	0	2	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1743	73	0	1249	0	38

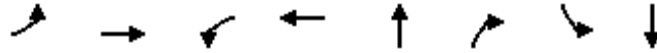
Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 909
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 7.14
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.92
Pot Cap-1 Maneuver	-	-	0 - 0 238
Stage 1	-	-	0 - 0 -
Stage 2	-	-	0 - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 238
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	22.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	238	-	-	-
HCM Lane V/C Ratio	0.158	-	-	-
HCM Control Delay (s)	22.9	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-

Queues
5: Glenallan Avenue & Randolph Road

Total Future Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	78	1604	43	1391	71	5	246	241
v/c Ratio	0.36	0.61	0.25	0.58	0.40	0.02	0.83	0.80
Control Delay	21.2	10.1	25.7	24.3	67.1	0.2	81.4	75.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	10.1	25.7	24.3	67.1	0.2	81.4	75.7
Queue Length 50th (ft)	8	68	14	175	68	0	246	229
Queue Length 95th (ft)	m44	#674	49	#270	104	0	340	322
Internal Link Dist (ft)		391		1077	286			473
Turn Bay Length (ft)	250		290			25		
Base Capacity (vph)	261	2626	234	2415	400	433	369	370
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.61	0.18	0.58	0.18	0.01	0.67	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary

5: Glenallan Avenue & Randolph Road

Total Future Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷↷↷		↶	↷↷↷			↷	↷	↶	↷	
Traffic Volume (veh/h)	76	1542	30	42	1067	296	31	38	5	370	43	64
Future Volume (veh/h)	76	1542	30	42	1067	296	31	38	5	370	43	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	1573	31	43	1089	302	32	39	5	244	232	65
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	3201	63	246	2462	683	47	58	90	329	258	72
Arrive On Green	0.00	1.00	1.00	0.00	1.00	1.00	0.06	0.06	0.06	0.18	0.18	0.18
Sat Flow, veh/h	1781	5151	101	1781	3962	1099	824	1005	1569	1781	1400	392
Grp Volume(v), veh/h	78	1040	564	43	936	455	71	0	5	244	0	297
Grp Sat Flow(s),veh/h/ln	1781	1702	1848	1781	1702	1657	1829	0	1569	1781	0	1792
Q Serve(g_s), s	0.1	0.0	0.0	0.1	0.0	0.0	5.7	0.0	0.5	19.4	0.0	24.3
Cycle Q Clear(g_c), s	0.1	0.0	0.0	0.1	0.0	0.0	5.7	0.0	0.5	19.4	0.0	24.3
Prop In Lane	1.00		0.05	1.00		0.66	0.45		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	290	2115	1148	246	2115	1030	105	0	90	329	0	331
V/C Ratio(X)	0.27	0.49	0.49	0.18	0.44	0.44	0.68	0.00	0.06	0.74	0.00	0.90
Avail Cap(c_a), veh/h	437	2115	1148	393	2115	1030	402	0	345	392	0	394
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	0.0	12.2	0.0	0.0	69.3	0.0	66.8	57.8	0.0	59.8
Incr Delay (d2), s/veh	0.5	0.8	1.5	0.3	0.6	1.3	7.3	0.0	0.3	6.1	0.0	20.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	0.5	0.6	0.2	0.4	2.9	0.0	0.2	9.4	0.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	0.8	1.5	12.5	0.6	1.3	76.6	0.0	67.1	63.9	0.0	80.2
LnGrp LOS	B	A	A	B	A	A	E	A	E	E	A	F
Approach Vol, veh/h		1682			1434			76				541
Approach Delay, s/veh		1.6			1.2			76.0				72.9
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	99.7		15.6	0.0	99.7		34.7				
Change Period (Y+Rc), s	5.5	6.5		7.0	5.5	6.5		7.0				
Max Green Setting (Gmax), s	12.5	45.5		33.0	12.5	45.5		33.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0		7.7	0.0	0.0		26.3				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		1.1				

Intersection Summary

HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Queues
7: Georgia Avenue & Layhill Road

Total Future Conditions
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	7	638	51	1513	743	114	1365
v/c Ratio	0.38	0.04	0.79	0.12	0.56	0.87	0.55	0.44
Control Delay	94.3	0.4	73.3	0.6	31.8	44.5	23.8	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0
Total Delay	94.3	0.4	73.3	0.6	31.8	51.2	23.8	18.3
Queue Length 50th (ft)	39	0	372	0	597	749	53	302
Queue Length 95th (ft)	80	0	#477	0	m692	m893	84	336
Internal Link Dist (ft)	216				821			521
Turn Bay Length (ft)				840		25	140	
Base Capacity (vph)	187	247	803	428	2720	854	289	3137
Starvation Cap Reductn	0	0	0	0	0	81	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.03	0.79	0.12	0.56	0.96	0.39	0.44

Intersection Summary



























95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
7: Georgia Avenue & Layhill Road

Total Future Conditions
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				  				  			  	
Traffic Volume (veh/h)	13	18	7	600	0	48	0	1422	698	107	1283	0
Future Volume (veh/h)	13	18	7	600	0	48	0	1422	698	107	1283	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.84	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	14	19	7	638	0	0	0	1513	0	114	1365	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	20	27	34	0	0		0	4310		381	4607	0
Arrive On Green	0.03	0.03	0.03	0.00	0.00	0.00	0.00	1.00	0.00	0.03	0.90	0.00
Sat Flow, veh/h	777	1055	1328		0		0	5274	1585	1781	5274	0
Grp Volume(v), veh/h	33	0	7		0.0		0	1513	0	114	1365	0
Grp Sat Flow(s),veh/h/ln	1832	0	1328				0	1702	1585	1781	1702	0
Q Serve(g_s), s	3.2	0.0	0.9				0.0	0.0	0.0	1.4	6.4	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.9				0.0	0.0	0.0	1.4	6.4	0.0
Prop In Lane	0.42		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	47	0	34				0	4310		381	4607	0
V/C Ratio(X)	0.71	0.00	0.21				0.00	0.35		0.30	0.30	0.00
Avail Cap(c_a), veh/h	188	0	137				0	4310		524	4607	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.34	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	87.0	0.0	85.9				0.0	0.0	0.0	1.3	1.2	0.0
Incr Delay (d2), s/veh	17.8	0.0	3.0				0.0	0.1	0.0	0.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.4				0.0	0.0	0.0	0.4	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.8	0.0	88.9				0.0	0.1	0.0	1.8	1.3	0.0
LnGrp LOS	F	A	F				A	A		A	A	A
Approach Vol, veh/h		40						1513			1479	
Approach Delay, s/veh		102.0						0.1			1.4	
Approach LOS		F						A			A	
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		168.9		11.1	10.5	158.4						
Change Period (Y+Rc), s		6.5		6.5	5.5	6.5						
Max Green Setting (Gmax), s		110.5		18.5	19.5	85.5						
Max Q Clear Time (g_c+I1), s		8.4		5.2	3.4	2.0						
Green Ext Time (p_c), s		2.5		0.1	0.2	2.8						
Intersection Summary												
HCM 6th Ctrl Delay			2.1									
HCM 6th LOS			A									
Notes												
User approved changes to right turn type.												
Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

Queues
10: Glenallan Avenue & Layhill Road



























Total Future Conditions
PM Peak Hour

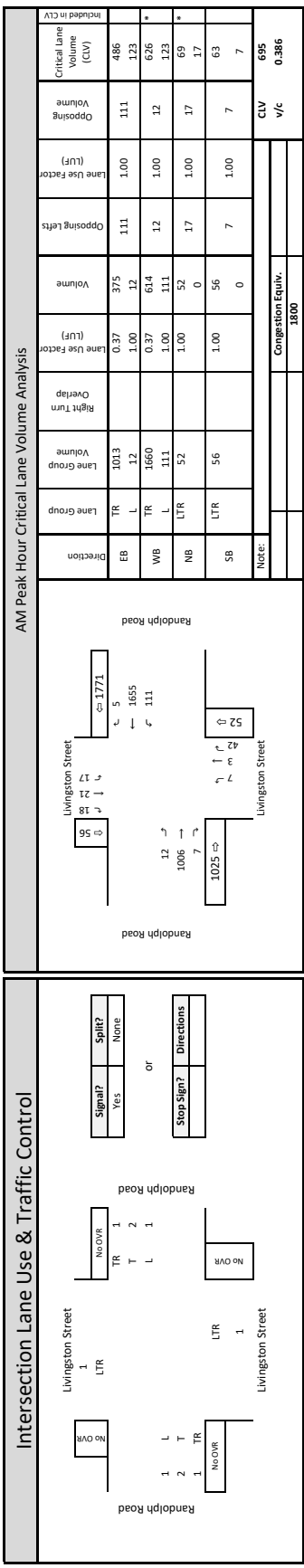


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	131	784	100	490	132	29	406	197	351	145
v/c Ratio	0.41	0.60	0.40	0.57	0.25	0.07	0.34	0.41	0.43	0.19
Control Delay	26.3	40.0	26.8	42.1	1.7	19.2	30.0	21.3	29.3	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	40.0	26.8	42.1	1.7	19.2	30.0	21.3	29.3	1.4
Queue Length 50th (ft)	65	193	49	175	0	11	114	84	201	0
Queue Length 95th (ft)	94	213	75	214	7	32	183	154	338	10
Internal Link Dist (ft)		1003		925			1154		446	
Turn Bay Length (ft)	290		170		300	140		140		
Base Capacity (vph)	424	1890	268	1061	604	476	1200	482	811	783
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.41	0.37	0.46	0.22	0.06	0.34	0.41	0.43	0.19
Intersection Summary										

HCM 6th Signalized Intersection Summary
 10: Glenallan Avenue & Layhill Road

Total Future Conditions
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	126	703	50	96	470	127	28	305	84	189	337	139
Future Volume (veh/h)	126	703	50	96	470	127	28	305	84	189	337	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	131	732	52	100	490	132	29	318	88	197	351	145
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	1241	88	249	860	375	387	1083	295	508	855	717
Arrive On Green	0.07	0.26	0.26	0.06	0.24	0.24	0.02	0.39	0.39	0.08	0.46	0.46
Sat Flow, veh/h	1781	4864	344	1781	3554	1549	1781	2753	749	1781	1870	1568
Grp Volume(v), veh/h	131	511	273	100	490	132	29	203	203	197	351	145
Grp Sat Flow(s),veh/h/ln	1781	1702	1803	1781	1777	1549	1781	1777	1725	1781	1870	1568
Q Serve(g_s), s	6.5	15.8	15.9	5.0	14.5	8.5	1.2	9.4	9.7	7.6	15.1	6.6
Cycle Q Clear(g_c), s	6.5	15.8	15.9	5.0	14.5	8.5	1.2	9.4	9.7	7.6	15.1	6.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	285	869	460	249	860	375	387	699	678	508	855	717
V/C Ratio(X)	0.46	0.59	0.59	0.40	0.57	0.35	0.07	0.29	0.30	0.39	0.41	0.20
Avail Cap(c_a), veh/h	446	1277	676	300	1066	465	506	699	678	513	855	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.48	0.48	0.48	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	39.2	39.2	32.1	40.0	37.7	21.5	24.9	25.0	18.3	21.8	19.5
Incr Delay (d2), s/veh	0.6	0.7	1.3	1.0	1.3	1.2	0.1	1.1	1.1	0.5	1.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.7	7.2	2.2	6.5	3.4	0.5	4.2	4.2	3.2	6.9	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	39.8	40.5	33.1	41.3	38.9	21.6	26.0	26.2	18.7	23.2	20.1
LnGrp LOS	C	D	D	C	D	D	C	C	C	B	C	C
Approach Vol, veh/h		915			722			435			693	
Approach Delay, s/veh		38.9			39.7			25.8			21.3	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	60.8	13.6	37.6	15.6	53.2	15.1	36.0				
Change Period (Y+Rc), s	6.0	6.0	6.5	7.0	6.0	6.0	6.5	7.0				
Max Green Setting (Gmax), s	10.0	29.0	10.5	45.0	10.0	29.0	19.5	36.0				
Max Q Clear Time (g_c+I1), s	3.2	17.1	7.0	17.9	9.6	11.7	8.5	16.5				
Green Ext Time (p_c), s	0.0	0.3	0.1	10.3	0.0	0.4	0.2	6.5				
Intersection Summary												
HCM 6th Ctrl Delay			32.6									
HCM 6th LOS			C									



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1013		0.37	375	111	1.00	111	486
	L	12		1.00	12	123			123
WB	TR	1660		0.37	614	12	1.00	12	626
	L	111		1.00	111	123			123
NB	LTR	52		1.00	52	17	1.00	17	69
	T	7							17
SB	LTR	56		1.00	56	7	1.00	7	63
	T	0							7
Note: Congestion Equiv. 1800								CLV	695
								v/c	0.386

PM Peak Hour Critical Lane Volume Analysis

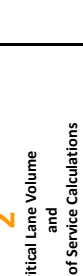
Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1669		0.37	618	79	1.00	79	697
	L	29		1.00	29	108			108
WB	TR	1150		0.37	426	29	1.00	29	455
	L	79		1.00	79	108			108
NB	LTR	54		1.00	54	4	1.00	4	58
	T	0							4
SB	LTR	24		1.00	24	14	1.00	14	38
	T	0							14
Note: Congestion Equiv. 1800								CLV	755
								v/c	0.419

Right Turn Overlap

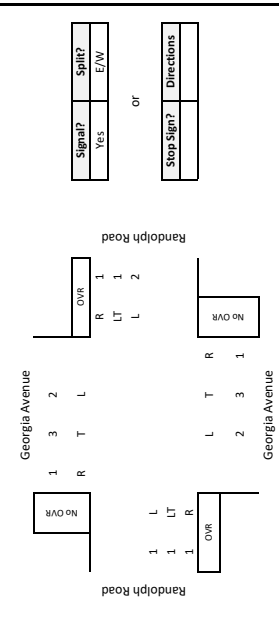
Approach	Excl. Right	Right Vol.			Adjacent Overlap Vol.			Overlap		
		AM	PM	n/a	AM	PM	n/a	LUF	AM	PM
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

Number of Lanes	Lane Use Factors		Through LUF
	Left Turn LUF	Through LUF	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	



Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	LT	305		0.37	113			0	113	*
	R	214	111	1.00	103			0	103	*
WB	LT	1049		0.37	388			0	388	*
	R	137	43	1.00	94			0	94	*
NB	T	1017		0.37	376	82	0.53	43	419	*
	R	180	0	1.00	180			223	223	*
SB	T	1782		0.37	659	210	0.53	111	770	*
	R	225	0	1.00	225			111	336	*
Note: Congestion Equiv. 1800									1271	0.706

Right Turn Overlap

Approach	Excl. Right	Right Vol.		Adjacent Overlap Vol.		Overlap			
		AM	PM	AM	PM	LUF	AM		
Eastbound	Yes	214	145	1.00	210	186	0.53	111	99
Westbound	Yes	137	128	1.00	82	154	0.53	43	82
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0

PM Peak Hour Critical Lane Volume Analysis


Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	LT	466		0.37	172			0	172	*
	R	345	99	1.00	46			0	46	*
WB	LT	516		0.37	191			0	191	*
	R	128	82	1.00	46			0	46	*
NB	T	1667		0.37	617	154	0.53	82	699	*
	R	354	0	1.00	354			82	436	*
SB	T	1327		0.37	491	186	0.53	99	590	*
	R	324	0	1.00	324			99	423	*
Note: Congestion Equiv. 1800									1062	0.590

Montgomery County LATR

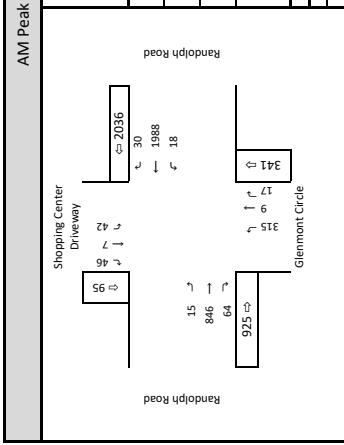
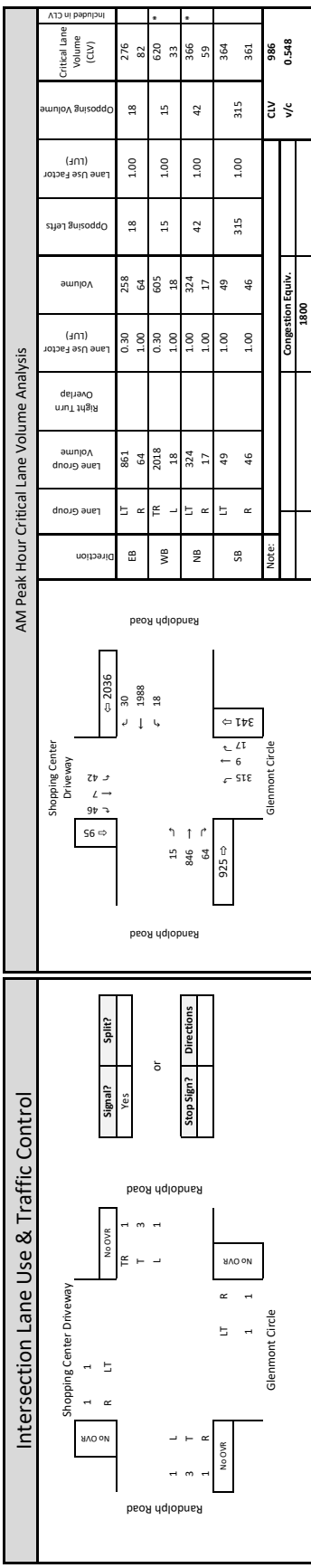
Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

3 Critical Lane Volume and Level of Service Calculations

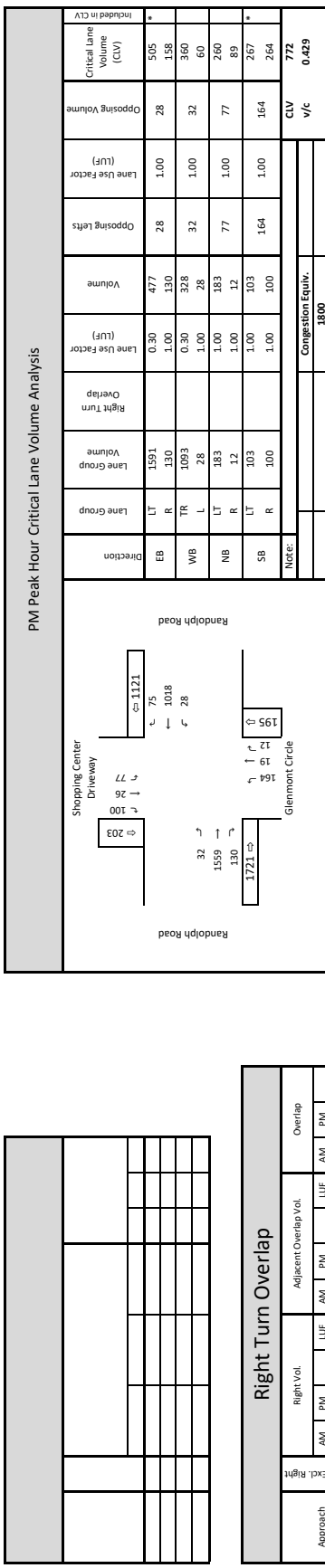
Intersection: 03- Randolph Road / Glenmont Circle
 Jurisdiction: Montgomery County, MD
 Scenario/Design Year: Total Future Conditions
 Computed by: W+A



WELLS + ASSOCIATES



Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LT	851		0.30	258	18	1.00	18	276
	RT	64		1.00	64				62
WB	LT	2018		0.30	605	15	1.00	15	620
	RT	18		1.00	18				33
NB	LT	324		1.00	324	42	1.00	42	366
	RT	17		1.00	17				59
SB	LT	49		1.00	49	315	1.00	315	364
	RT	46		1.00	46				361
Note: Congestion Equiv. 1800									CLV v/c 986 0.548



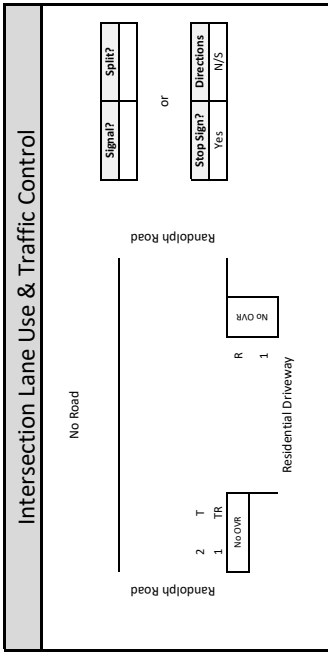
Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LT	1591		0.30	477	28	1.00	28	505
	RT	130		1.00	130				158
WB	LT	1083		0.30	328	32	1.00	32	360
	RT	28		1.00	28				60
NB	LT	183		1.00	183	77	1.00	77	260
	RT	12		1.00	12				89
SB	LT	103		1.00	103	164	1.00	164	267
	RT	100		1.00	100				264
Note: Congestion Equiv. 1800									CLV v/c 772 0.429

Right Turn Overlap

Approach	Right Vol.			Adjacent Overlap Vol.			Overlap	
	AM	PM	LUF	AM	PM	LUF	AM	PM
Eastbound	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Westbound	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Northbound	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	n/a	n/a	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

Number of Lanes	Lane Use Factors		Through LUF
	Left Turn LUF	Through LUF	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4		0.30	
5		0.25	



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	989		0.37	366	0		0	366
	WB				0	0		0	0
NB	R	60		1.00	60	0		0	60
	SB				0	0		0	0
Note: Congestion Equiv. 1800									CLV 426
									v/c 0.237

Approach	Right Vol.	Excl. Right	PM	AM	PM	AM	PM	AM
Eastbound	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Westbound	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	n/a	n/a	n/a	n/a	n/a	n/a	0	0

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1689		0.37	625	0		0	625
	WB				0	0		0	0
NB	R	35		1.00	35	0		0	35
	SB				0	0		0	0
Note: Congestion Equiv. 1800									CLV 660
									v/c 0.367

Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.				Overlap	
	PM	AM	PM	AM	LUF	PM	AM	
Eastbound	n/a	n/a	n/a	n/a	n/a	0	0	
Westbound	n/a	n/a	n/a	n/a	n/a	0	0	
Southbound	n/a	n/a	n/a	n/a	n/a	0	0	

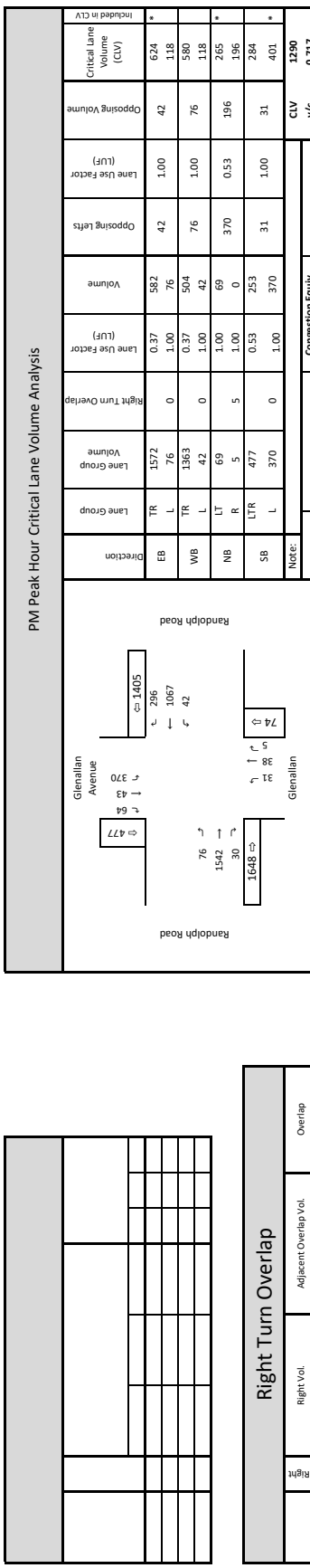
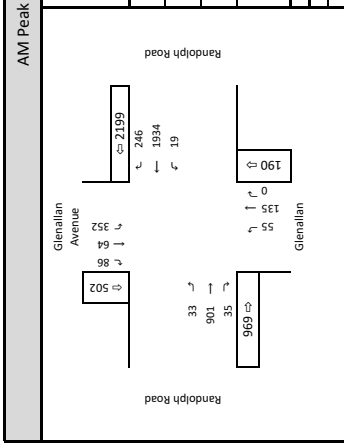
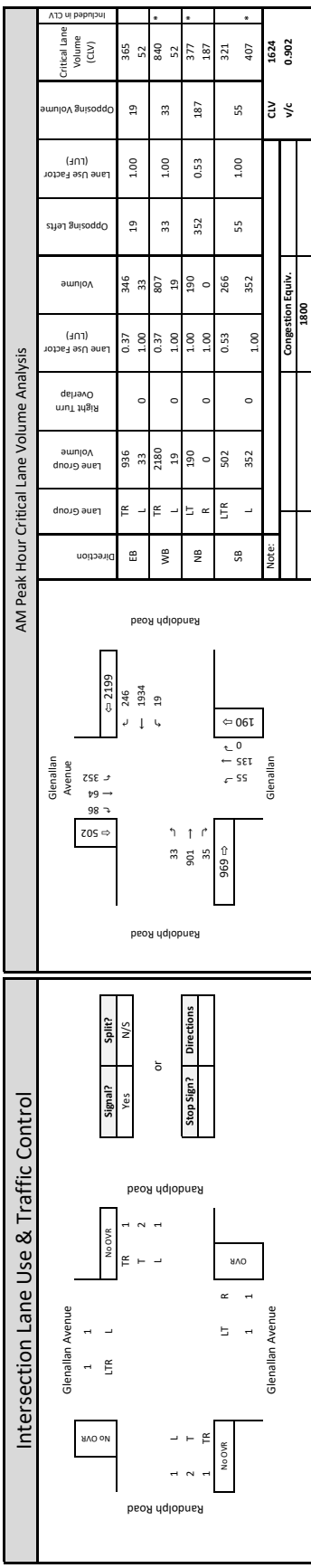
Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

5
Critical Lane Volume and Level of Service Calculations

Intersection: 05- Randolph Road / Glenallan Avenue
Jurisdiction: Montgomery County, MD
Scenario/Design Year: Total Future Conditions
Computed by: W+A

WMA WELLS + ASSOCIATES



Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	Excl. Right	Incl. Right	AM	PM	LUF	AM
Eastbound	No	n/a	n/a	n/a	n/a	0
Westbound	No	n/a	n/a	n/a	n/a	0
Northbound	Yes	0	1.00	19	42	1.00
Southbound	No	n/a	n/a	n/a	n/a	0

Montgomery County LATR

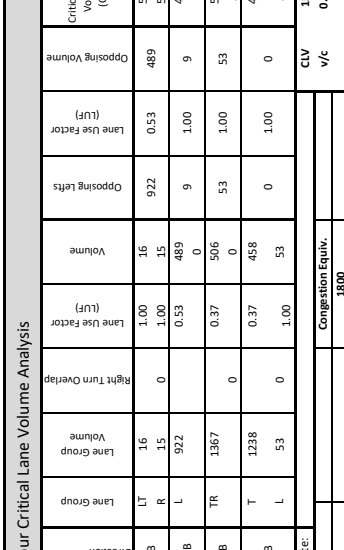
Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

7
Critical Lane Volume
and
Level of Service Calculations

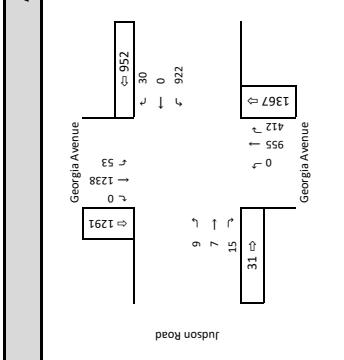
Intersection: 07- Georgia Avenue / Layhill Road
Jurisdiction: Montgomery County, MD
Scenario/Design Year: Total Future Conditions
Computed by: W+A



Intersection Lane Use & Traffic Control

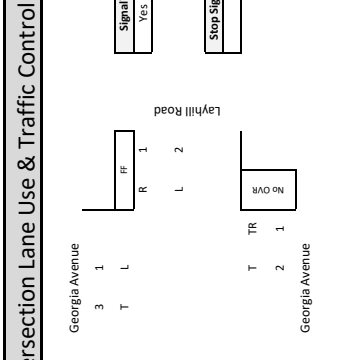


AM Peak Hour Critical Lane Volume Analysis



Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	
EB	LT	16		1.00	16	922	0.53	489	505	
	R	15	0	1.00	15		1.00	504	504	
WB	L	922		0.53	489	9	1.00	9	498	
	TR	1367	0	0.37	506	53	1.00	53	559	
SB	T	1238	0	0.37	458	0	1.00	0	458	
	L	53	0	1.00	53		1.00	0	53	
Note: Congestion Equiv. 1800									CLV	1562
									v/c	0.868

PM Peak Hour Critical Lane Volume Analysis



Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	
EB	LT	31		1.00	31	600	0.53	318	349	
	R	7	0	1.00	7		1.00	325	325	
WB	L	600		0.53	318	13	1.00	13	331	
	R	48	0	1.00	48		1.00	61	61	
NB	TR	2120	0	0.37	784	107	1.00	107	891	
	T	1283	0	0.37	475	1	1.00	1	476	
SB	L	107	0	1.00	107		1.00	1	108	
Note: Congestion Equiv. 1800									CLV	1571
									v/c	0.873

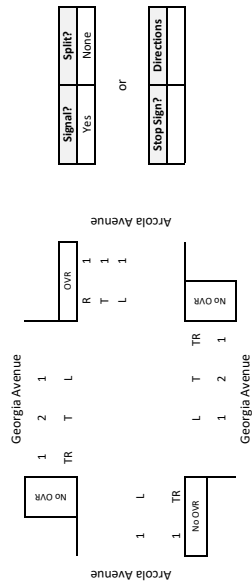
Right Turn Overlap

Approach	Excl. Right	Right Vol.		Adjacent Overlap Vol.		Overlap			
		AM	PM	AM	PM	AM	PM		
Eastbound	Yes	15	7	1.00	0	1	5.00	0	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	141	0	1.00	141	145	1.00	145	286
	L	33	0	1.00	33	0	1.00	0	178
WB	T	170	0	1.00	170	33	1.00	33	203
	R	344	344	1.00	0	0	1.00	0	33
NB	TR	889	0	0.37	329	374	1.00	374	703
	L	30	0	1.00	30	0	1.00	0	404
SB	TR	2680	0	0.37	992	30	1.00	30	1022
	L	374	0	1.00	374	0	1.00	0	404
Note: Congestion Equiv. 1600								CLV	1308
								v/c	0.818

Approach	Excl. Right	Right Vol.	PM	LUF	AM	PM	LUF	AM	PM	Overlap
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0
Westbound	Yes	344	1.00	374	237	1.00	344	237	0	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	124	0	1.00	124	93	1.00	93	217
	L	50	0	1.00	50	0	1.00	0	143
WB	T	119	0	1.00	119	50	1.00	50	169
	R	392	0	1.00	392	0	1.00	0	442
NB	TR	1959	0	0.37	725	237	1.00	237	962
	L	53	0	1.00	53	0	1.00	0	290
SB	TR	1667	0	0.37	617	53	1.00	53	670
	L	237	0	1.00	237	0	1.00	0	290
Note: Congestion Equiv. 1600								CLV	1404
								v/c	0.878

Right Turn Overlap

Approach	Excl. Right	Right Vol.	PM	LUF	AM	PM	LUF	AM	PM	Overlap
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0
Westbound	Yes	344	1.00	374	237	1.00	344	237	0	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0

Montgomery County LATR

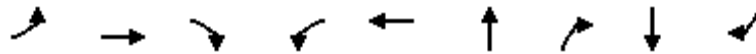
Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

Queues

Total Future Conditions (ADJ)

3: Glenmont Circle/Shopping Center & Randolph Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	19	878	76	20	2083	421	47	50	47
v/c Ratio	0.23	0.34	0.09	0.24	0.64	0.92	0.10	0.44	0.22
Control Delay	74.4	24.3	0.7	86.5	16.1	80.8	0.4	78.9	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.4	24.3	0.7	86.5	16.1	80.8	0.4	78.9	2.5
Queue Length 50th (ft)	18	205	0	21	148	401	0	48	0
Queue Length 95th (ft)	47	249	4	m20	m186	#637	0	92	0
Internal Link Dist (ft)		622			388	289		392	
Turn Bay Length (ft)	110			270			30		
Base Capacity (vph)	165	2574	828	165	3240	456	482	154	243
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.34	0.09	0.12	0.64	0.92	0.10	0.32	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 3: Glenmont Circle/Shopping Center & Randolph Road

Total Future Conditions (ADJ)
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑			↘	↗		↘	↗
Traffic Volume (veh/h)	18	852	74	19	1990	30	400	9	46	42	7	46
Future Volume (veh/h)	18	852	74	19	1990	30	400	9	46	42	7	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.99	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	878	0	20	2052	31	412	9	47	43	7	47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	2669		34	3441	52	419	9	375	70	11	66
Arrive On Green	0.02	0.52	0.00	0.04	1.00	1.00	0.24	0.24	0.24	0.05	0.05	0.05
Sat Flow, veh/h	1781	5106	1585	1781	6575	99	1745	38	1561	1542	251	1459
Grp Volume(v), veh/h	19	878	0	20	1506	577	421	0	47	50	0	47
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1609	1849	1783	0	1561	1793	0	1459
Q Serve(g_s), s	1.6	14.9	0.0	1.7	0.0	0.0	35.2	0.0	3.5	4.1	0.0	4.8
Cycle Q Clear(g_c), s	1.6	14.9	0.0	1.7	0.0	0.0	35.2	0.0	3.5	4.1	0.0	4.8
Prop In Lane	1.00		1.00	1.00		0.05	0.98		1.00	0.86		1.00
Lane Grp Cap(c), veh/h	32	2669		34	2525	968	428	0	375	81	0	66
V/C Ratio(X)	0.59	0.33		0.60	0.60	0.60	0.98	0.00	0.13	0.62	0.00	0.71
Avail Cap(c_a), veh/h	166	2669		166	2525	968	428	0	375	155	0	126
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.1	20.6	0.0	71.6	0.0	0.0	56.7	0.0	44.7	70.3	0.0	70.7
Incr Delay (d2), s/veh	15.6	0.3	0.0	15.7	1.0	2.7	39.1	0.0	0.1	7.5	0.0	13.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.9	0.0	0.9	0.2	0.7	20.5	0.0	1.4	2.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.7	21.0	0.0	87.3	1.0	2.7	95.8	0.0	44.8	77.8	0.0	84.1
LnGrp LOS	F	C		F	A	A	F	A	D	E	A	F
Approach Vol, veh/h		897			2103			468				97
Approach Delay, s/veh		22.4			2.3			90.7				80.8
Approach LOS		C			A			F				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	84.5		13.8	8.8	84.4		43.0				
Change Period (Y+Rc), s	6.0	6.0		7.0	6.0	6.0		7.0				
Max Green Setting (Gmax), s	14.0	61.0		13.0	14.0	61.0		36.0				
Max Q Clear Time (g_c+I1), s	3.6	0.0		6.8	3.7	0.0		37.2				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.0				

Intersection Summary

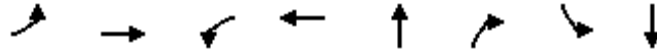
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

Notes

User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Queues
5: Glenallan Avenue & Randolph Road

Total Future Conditions (ADJ)
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	34	941	20	2271	198	63	264	260
v/c Ratio	0.26	0.40	0.07	1.02	0.67	0.18	0.85	0.83
Control Delay	41.6	15.1	4.7	40.1	69.5	1.2	82.8	75.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	15.1	4.7	40.1	69.5	1.2	82.8	75.8
Queue Length 50th (ft)	8	79	1	~855	189	0	264	244
Queue Length 95th (ft)	46	93	m9	#1154	255	0	366	345
Internal Link Dist (ft)		391		1077	286			473
Turn Bay Length (ft)	250		290			25		
Base Capacity (vph)	196	2344	342	2235	404	429	369	372
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.40	0.06	1.02	0.49	0.15	0.72	0.70

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
5: Glenallan Avenue & Randolph Road

Total Future Conditions (ADJ)
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑	↗	↖	↕	
Traffic Volume (veh/h)	33	841	62	19	1934	246	55	135	60	352	64	86
Future Volume (veh/h)	33	841	62	19	1934	246	55	135	60	352	64	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	876	65	20	2015	256	57	141	62	262	214	90
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	2534	187	360	2403	301	76	188	222	349	242	102
Arrive On Green	0.00	1.00	1.00	0.00	0.70	0.70	0.14	0.14	0.14	0.20	0.20	0.20
Sat Flow, veh/h	1781	4837	358	1781	4585	574	531	1313	1545	1781	1237	520
Grp Volume(v), veh/h	34	616	325	20	1488	783	198	0	62	262	0	304
Grp Sat Flow(s),veh/h/ln	1781	1702	1790	1781	1702	1756	1844	0	1545	1781	0	1757
Q Serve(g_s), s	0.1	0.0	0.0	0.1	47.5	49.8	15.5	0.0	5.4	20.8	0.0	25.2
Cycle Q Clear(g_c), s	0.1	0.0	0.0	0.1	47.5	49.8	15.5	0.0	5.4	20.8	0.0	25.2
Prop In Lane	1.00		0.20	1.00		0.33	0.29		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	81	1784	938	360	1784	920	264	0	222	349	0	344
V/C Ratio(X)	0.42	0.35	0.35	0.06	0.83	0.85	0.75	0.00	0.28	0.75	0.00	0.88
Avail Cap(c_a), veh/h	228	1784	938	507	1784	920	406	0	340	392	0	387
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.75	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.8	0.0	0.0	17.5	18.0	18.4	61.6	0.0	57.3	56.9	0.0	58.6
Incr Delay (d2), s/veh	3.4	0.5	1.0	0.0	3.6	7.5	4.2	0.0	0.7	7.0	0.0	19.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.1	0.3	0.4	16.5	18.8	7.6	0.0	2.2	10.1	0.0	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	0.5	1.0	17.5	21.7	25.9	65.9	0.0	58.0	63.9	0.0	77.9
LnGrp LOS	E	A	A	B	C	C	E	A	E	E	A	E
Approach Vol, veh/h		975			2291			260			566	
Approach Delay, s/veh		2.8			23.1			64.0			71.4	
Approach LOS		A			C			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	85.1		28.5	0.0	85.1		36.4				
Change Period (Y+Rc), s	5.5	6.5		7.0	5.5	6.5		7.0				
Max Green Setting (Gmax), s	12.5	45.5		33.0	12.5	45.5		33.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0		17.5	0.0	0.0		27.2				
Green Ext Time (p_c), s	0.0	0.0		0.7	0.0	0.0		1.1				

Intersection Summary

HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

Notes

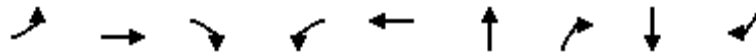
User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.

Queues

Total Future Conditions (ADJ)

3: Glenmont Circle/Shopping Center & Randolph Road

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	35	1624	160	29	1126	229	25	106	103
v/c Ratio	0.35	0.64	0.20	0.31	0.37	0.60	0.06	0.65	0.42
Control Delay	77.2	31.9	8.2	82.0	28.5	59.3	0.3	83.9	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.2	31.9	8.2	82.0	28.5	59.3	0.3	83.9	12.7
Queue Length 50th (ft)	34	473	20	29	115	197	0	102	0
Queue Length 95th (ft)	72	570	71	m51	272	288	0	166	46
Internal Link Dist (ft)		622			388	289		392	
Turn Bay Length (ft)	110			270			30		
Base Capacity (vph)	165	2546	811	165	3044	427	443	203	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.64	0.20	0.18	0.37	0.54	0.06	0.52	0.37

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 3: Glenmont Circle/Shopping Center & Randolph Road

Total Future Conditions (ADJ)
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑			↗	↗		↗	↗
Traffic Volume (veh/h)	34	1575	155	28	1018	75	203	19	24	77	26	100
Future Volume (veh/h)	34	1575	155	28	1018	75	203	19	24	77	26	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.93	1.00		0.85
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	1624	0	29	1049	77	209	20	25	79	27	103
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	2626		42	3148	229	325	31	295	121	41	122
Arrive On Green	0.03	0.51	0.00	0.05	1.00	1.00	0.20	0.20	0.20	0.09	0.09	0.09
Sat Flow, veh/h	1781	5106	1585	1781	6149	448	1633	156	1480	1344	459	1352
Grp Volume(v), veh/h	35	1624	0	29	822	304	229	0	25	106	0	103
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1609	1771	1789	0	1480	1803	0	1352
Q Serve(g_s), s	2.9	34.0	0.0	2.4	0.0	0.0	17.6	0.0	2.1	8.5	0.0	11.3
Cycle Q Clear(g_c), s	2.9	34.0	0.0	2.4	0.0	0.0	17.6	0.0	2.1	8.5	0.0	11.3
Prop In Lane	1.00		1.00	1.00		0.25	0.91		1.00	0.75		1.00
Lane Grp Cap(c), veh/h	46	2626		42	2471	907	356	0	295	162	0	122
V/C Ratio(X)	0.77	0.62		0.70	0.33	0.34	0.64	0.00	0.08	0.65	0.00	0.85
Avail Cap(c_a), veh/h	166	2626		166	2471	907	429	0	355	204	0	153
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	72.6	26.0	0.0	71.0	0.0	0.0	55.2	0.0	48.9	66.0	0.0	67.2
Incr Delay (d2), s/veh	23.1	1.1	0.0	18.8	0.4	1.0	2.4	0.0	0.1	5.0	0.0	28.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	13.7	0.0	1.3	0.1	0.3	8.2	0.0	0.8	4.2	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.8	27.1	0.0	89.8	0.4	1.0	57.6	0.0	49.1	71.0	0.0	95.4
LnGrp LOS	F	C		F	A	A	E	A	D	E	A	F
Approach Vol, veh/h		1659			1155			254			209	
Approach Delay, s/veh		28.5			2.8			56.7			83.0	
Approach LOS		C			A			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	82.8		20.5	9.5	83.1		36.9				
Change Period (Y+Rc), s	6.0	6.0		7.0	6.0	6.0		7.0				
Max Green Setting (Gmax), s	14.0	57.0		17.0	14.0	57.0		36.0				
Max Q Clear Time (g_c+I1), s	4.9	0.0		13.3	4.4	0.0		19.6				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.7				

Intersection Summary

HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

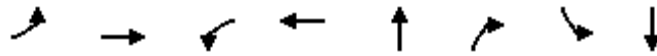
User approved changes to right turn type.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Queues

Total Future Conditions (ADJ)

5: Glenallan Avenue & Randolph Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	78	1638	43	1391	71	41	246	241
v/c Ratio	0.36	0.63	0.26	0.58	0.40	0.16	0.83	0.80
Control Delay	22.6	9.2	26.7	24.3	67.1	1.3	81.4	75.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	9.2	26.7	24.3	67.1	1.3	81.4	75.7
Queue Length 50th (ft)	6	52	14	175	68	0	246	229
Queue Length 95th (ft)	m43	#702	50	#270	104	0	340	322
Internal Link Dist (ft)		391		1077	286			473
Turn Bay Length (ft)	250		290			25		
Base Capacity (vph)	261	2609	229	2415	400	433	369	370
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.63	0.19	0.58	0.18	0.09	0.67	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
5: Glenallan Avenue & Randolph Road

Total Future Conditions (ADJ)
PM Peak Hour



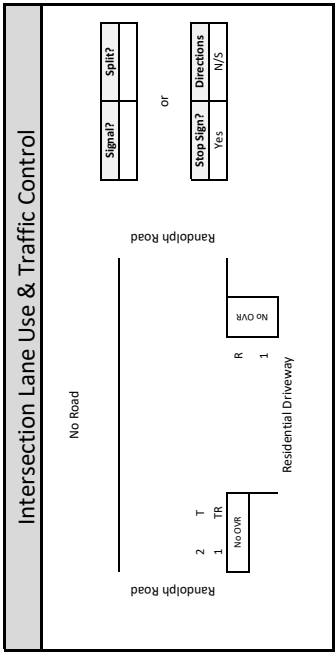
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	1507	98	42	1067	296	31	38	40	370	43	64
Future Volume (veh/h)	76	1507	98	42	1067	296	31	38	40	370	43	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	1538	100	43	1089	302	32	39	41	244	232	65
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	3025	197	239	2453	680	49	60	94	329	258	72
Arrive On Green	0.00	1.00	1.00	0.00	1.00	1.00	0.06	0.06	0.06	0.18	0.18	0.18
Sat Flow, veh/h	1781	4887	318	1781	3962	1099	824	1005	1569	1781	1400	392
Grp Volume(v), veh/h	78	1071	567	43	936	455	71	0	41	244	0	297
Grp Sat Flow(s),veh/h/ln	1781	1702	1801	1781	1702	1657	1829	0	1569	1781	0	1792
Q Serve(g_s), s	0.1	0.0	0.0	0.1	0.0	0.0	5.7	0.0	3.8	19.4	0.0	24.3
Cycle Q Clear(g_c), s	0.1	0.0	0.0	0.1	0.0	0.0	5.7	0.0	3.8	19.4	0.0	24.3
Prop In Lane	1.00		0.18	1.00		0.66	0.45		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	289	2107	1115	239	2107	1026	109	0	94	329	0	331
V/C Ratio(X)	0.27	0.51	0.51	0.18	0.44	0.44	0.65	0.00	0.44	0.74	0.00	0.90
Avail Cap(c_a), veh/h	437	2107	1115	386	2107	1026	402	0	345	392	0	394
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	12.4	0.0	0.0	69.0	0.0	68.1	57.8	0.0	59.8
Incr Delay (d2), s/veh	0.5	0.9	1.7	0.3	0.6	1.3	6.3	0.0	3.2	6.1	0.0	20.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.3	0.5	0.6	0.2	0.4	2.9	0.0	1.6	9.4	0.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.9	0.9	1.7	12.8	0.6	1.3	75.3	0.0	71.2	63.9	0.0	80.2
LnGrp LOS	B	A	A	B	A	A	E	A	E	E	A	F
Approach Vol, veh/h		1716			1434			112			541	
Approach Delay, s/veh		1.7			1.2			73.8			72.9	
Approach LOS		A			A			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	99.4		16.0	0.0	99.4		34.7				
Change Period (Y+Rc), s	5.5	6.5		7.0	5.5	6.5		7.0				
Max Green Setting (Gmax), s	12.5	45.5		33.0	12.5	45.5		33.0				
Max Q Clear Time (g_c+I1), s	0.0	0.0		7.7	0.0	0.0		26.3				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	0.0		1.1				

Intersection Summary

HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
User approved changes to right turn type.



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	989		0.37	366	0		0	366
WB					0	0		0	0
NB	R	0		1.00	0	0		0	0
SB					0	0		0	0
Note: Congestion Equiv. 1800									CLV 366 v/c 0.203

Approach	Excl. Right	Right Vol.	Adj. Overlap Vol.	Overlap
AM	PM	LUF	AM	PM
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a

PM Peak Hour Critical Lane Volume Analysis

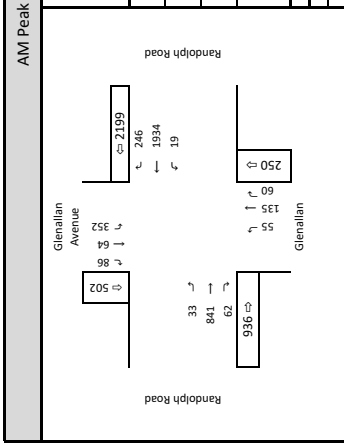
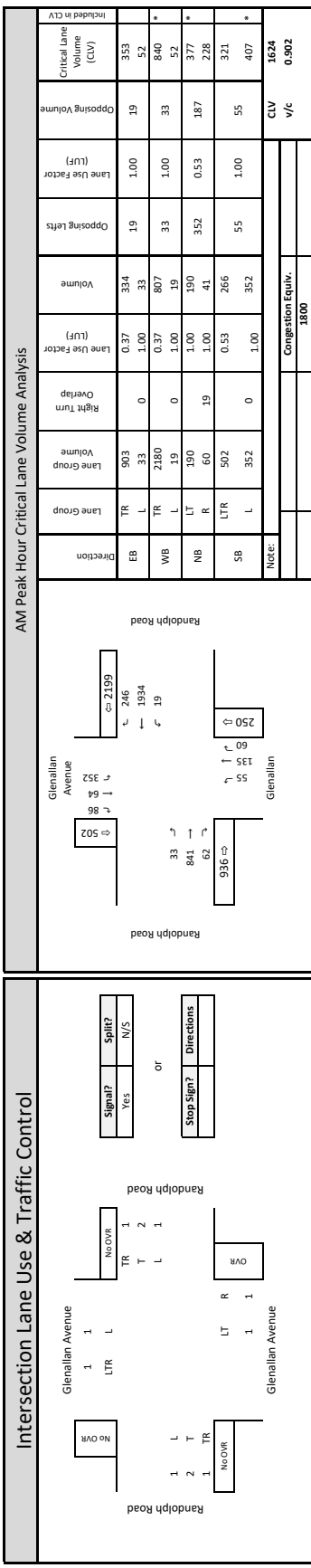
Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1689		0.37	625	0		0	625
WB					0	0		0	0
NB	R	0		1.00	0	0		0	0
SB					0	0		0	0
Note: Congestion Equiv. 1800									CLV 625 v/c 0.347

Right Turn Overlap

Approach	Excl. Right	Right Vol.	Adj. Overlap Vol.	Overlap
AM	PM	LUF	AM	PM
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	
2	0.53	
3	0.37	
4	0.30	
5	0.25	



Right Turn Overlap

Approach	Excl. Right		Right		Adjacent Overlap Vol.		Overlap	
	AM	PM	LUF	PMI	AM	PM	LUF	PM
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0
Northbound	Yes	60	1.00	19	42	1.00	19	40
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Volume	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	903	0	0.37	334	19	1.00	19	353	*
	L	33	0	1.00	33	33	1.00	33	52	*
WB	TR	2180	0	0.37	807	33	1.00	33	840	*
	L	19	0	1.00	19	52	1.00	52	52	*
NB	LT	190	19	1.00	190	352	0.53	187	377	*
	R	60	19	1.00	41	228	1.00	228	228	*
SB	LTR	502	0	0.53	266	55	1.00	55	321	*
	L	352	0	1.00	352	55	1.00	55	407	*
Note: Congestion Equiv. 1800									CLV v/c	1624 0.902

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Volume	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1605	0	0.37	584	42	1.00	42	636	*
	L	76	0	1.00	76	42	1.00	42	118	*
WB	TR	1363	0	0.37	504	76	1.00	76	580	*
	L	42	0	1.00	42	42	1.00	42	118	*
NB	LT	69	40	1.00	69	370	0.53	196	265	*
	R	40	40	1.00	0	284	1.00	284	196	*
SB	LTR	477	0	0.53	253	31	1.00	31	284	*
	L	370	0	1.00	370	31	1.00	31	401	*
Note: Congestion Equiv. 1800									CLV v/c	1302 0.723

APPENDIX G
FORECASTING



WITH ACCESS TO RANDOLPH ROAD

01. Randolph Road / Livingston Street																		
Component	Period	Inbound	Outbound	Southbound				Westbound				Northbound				Eastbound		Total
				SBR	SBT	SBL	SBL	WBR	WBT	WBL	WBL	NBR	NBT	NBL	EBR	EBT	EBL	
Pipeline Trip Distribution																		
Glenmont Metrocenter (Commercial Use)		x															16%	
Glenmont Metrocenter (Residential Use)		x															30%	
4010 Randolph Road		x															20%	
Kaiser Permanente Aspen Hill		x															2%	
Wheaton Gateway		x																
Site Trip Distribution																		
Site Trip Distribution		x															25%	

01. Randolph Road / Livingston Street																		
Component	Period	IN	OUT	Southbound				Westbound				Northbound				Eastbound		Total
				SBR	SBT	SBL	SBL	WBR	WBT	WBL	WBL	NBR	NBT	NBL	EBR	EBT	EBL	
Existing 2022 Traffic Volumes	AM			18	21	17	5	1,404	111	42	3	7	7	892	12		2,539	
	PM			8	12	4	12	901	79	37	3	14	7	1,479	29		2,585	
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	0	0	19	0	0	0	0	0	30	0		49	
	PM	373	404	0	0	0	0	65	0	0	0	0	0	60	0		125	
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	0	0	96	0	0	0	0	0	29	0		125	
	PM	230	147	0	0	0	0	44	0	0	0	0	0	69	0		113	
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	16	0	0	0	0	0	5	0		21	
	PM	14	42	0	0	0	0	3	0	0	0	0	0	8	0		11	
4010 Randolph Road	AM	30	61	0	0	0	0	6	0	0	0	0	0	12	0		18	
	PM	51	37	0	0	0	0	10	0	0	0	0	0	7	0		17	
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	2	0	0	0	0	0	6	0		8	
	PM	214	500	0	0	0	0	10	0	0	0	0	0	4	0		14	
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	0	0	0	0	0	0	0	0		0	
	PM	14	43	0	0	0	0	0	0	0	0	0	0	0	0		0	
Wheaton Gateway	AM	188	50	0	0	0	0	0	0	0	0	0	0	0	0		0	
	PM	57	133	0	0	0	0	0	0	0	0	0	0	0	0		0	
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	0	0	107	0	0	0	0	0	72	0		179	
	PM	897	1,136	0	0	0	0	178	0	0	0	0	0	92	0		270	
Future Background Volumes	AM			18	21	17	5	1,511	111	42	3	7	7	964	12		2,718	
	PM			8	12	4	12	1,079	79	37	3	14	7	1,571	29		2,855	
Site Trip Assignments	AM	169	574	0	0	0	0	144	0	0	0	0	0	42	0		186	
	PM	363	238	0	0	0	0	59	0	0	0	0	0	91	0		150	
Total Future Volumes	AM			18	21	17	5	1,655	111	42	3	7	7	1,006	12		2,904	
	PM			8	12	4	12	1,138	79	37	3	14	7	1,662	29		3,005	

02. Georgia Avenue / Randolph Road																		
Component	Period	Inbound	Outbound	Southbound				Westbound				Northbound				Eastbound		Total
				SBR	SBT	SBL	SBR	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL		
Pipeline Trip Distribution																		
Glenmont Metrocenter (Commercial Use)		x			16%	36%								36%			16%	
Glenmont Metrocenter (Residential Use)		x			30%	41%							41%				30%	
4010 Randolph Road		x			7%			4%						9%			7%	
Kaiser Permanente Aspen Hill		x			2%	10%	2%	2%					10%			4%	2%	
Wheaton Gateway		x			15%				5%	15%								
Site Trip Distribution																		
Site Trip Distribution		x			15%			45%					15%			10%	15%	

02. Georgia Avenue / Randolph Road																		
Component	Period	IN	OUT	Southbound				Westbound				Northbound				Eastbound		Total
				SBR	SBT	SBL	SBR	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL		
Existing 2022 Traffic Volumes	AM				112	1,578	55	131	51	733	178	786	152	211	38	174	4,199	
	PM				150	994	90	124	59	347	349	1,423	159	145	48	270	4,158	
Glenmont Metrocenter (Commercial Use)	AM	189	116		19	42	0	0	0	0	0	68	0	0	0	30	159	
	PM	373	404		65	145	0	0	0	0	134	0	0	0	0	60	404	
Glenmont Metrocenter (Residential Use)	AM	95	320		96	131	0	0	0	0	39	0	0	0	0	29	295	
	PM	230	147		44	60	0	0	0	0	94	0	0	0	0	69	267	
4010 Randolph Road (Existing Trip Credit)	AM	82	27		6	0	0	0	1	0	0	0	0	0	0	2	15	
	PM	14	42		1	0	0	0	1	0	0	0	0	0	0	3	10	
4010 Randolph Road	AM	30	61		2	0	0	0	1	0	0	0	0	0	0	2	17	
	PM	51	37		4	0	0	0	2	0	0	0	0	0	0	3	18	
Kaiser Permanente Aspen Hill	AM	317	84		2	8	2	6	0	0	0	32	0	0	0	6	56	
	PM	214	500		10	50	10	4	0	0	0	21	0	0	0	4	99	
Wheaton Gateway (Existing Trip Credit)	AM	32	11		0	5	0	0	0	2	1	2	0	0	0	0	10	
	PM	14	43		0	2	0	0	0	0	1	2	6	0	0	0	11	
Wheaton Gateway	AM	188	50		0	28	0	0	0	9	3	8	0	0	0	0	48	
	PM	57	133		0	9	0	0	0	3	7	20	0	0	0	0	39	
Subtotal Pipeline Trip Assignments	AM	705	593		113	204	2	6	0	7	2	145	0	3	1	67	550	
	PM	897	1,136		174	333	10	4	1	2	5	208	4	0	0	93	834	
Future Background Volumes	AM				225	1,782	57	137	51	740	180	931	152	214	39	241	4,749	
	PM				324	1,327	100	128	60	349	354	1,631	163	145	48	363	4,992	
Site Trip Assignments	AM	169	574		0	0	25	0	0	258	0	86	58	0	25	0	452	
	PM	363	238		0	0	54	0	0	107	0	36	23	0	55	0	275	
Total Future Volumes	AM				225	1,782	82	137	51	998	180	1,017	210	214	64	241	5,201	
	PM				324	1,327	154	128	60	456	354	1,667	186	145	103	363	5,267	

Component	03. Randolph Road / Glenmont Circle																Total
	Southbound				Westbound				Northbound				Eastbound				
	Shopping Center Driveway		Randolph Road		Glenmont Circle		Randolph Road		Glenmont Circle		Randolph Road		Eastbound 2 (Tunnel)				
SBR1	SBR2	SBT	SBL	WBR	WBT1	WBT2	WBL	NBR	NBT	NBL1	NBL2	EBR1	EBR2	EBT	E2T2	E2L2	
Pipeline Trip Distribution																	
Glenmont Metrocenter (Commercial Use)			x														
Glenmont Metrocenter (Residential Use)			x														
4010 Randolph Road			x		4%									4%			
Kaiser Permanente Aspen Hill			x		2%									2%			
Wheaton Gateway			x		5%									5%			
Site Trip Distribution																	
Site Trip Distribution			x					5%			45%			25%		10%	

Component	03. Randolph Road / Glenmont Circle																Total
	Southbound				Westbound				Northbound				Eastbound				
	Shopping Center Driveway		Randolph Road		Glenmont Circle		Randolph Road		Glenmont Circle		Randolph Road		Eastbound 2 (Tunnel)				
SBR1	SBR2	SBT	SBL	WBR	WBT1	WBT2	WBL	NBR	NBT	NBL1	NBL2	EBR1	EBR2	EBT	E2T2	E2L2	
G-4																	
Existing 2022 Traffic Volumes	42	4	7	42	30	833	1,146	19	17	9	36	20	1	31	239	18	3,077
	80	20	26	77	75	403	608	31	12	19	49	11	4	60	421	34	3,016
Glenmont Metrocenter (Commercial Use)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glenmont Metrocenter (Residential Use)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road (Existing Trip Credit)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	3
Kaiser Permanente Aspen Hill	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	3
Wheaton Gateway (Existing Trip Credit)	0	0	0	0	0	6	0	0	0	0	0	0	0	0	2	0	8
Wheaton Gateway	0	0	0	0	0	4	0	0	0	0	0	0	0	0	10	0	14
Subtotal Pipeline Trip Assignments	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	3
Future Background Volumes	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	10
Site Trip Assignments	0	0	0	0	0	9	0	0	0	0	0	0	0	0	3	0	12
Total Future Volumes	0	0	0	0	0	3	0	0	0	0	0	0	0	0	7	0	10
	0	0	0	0	0	11	0	0	0	0	0	0	0	0	5	0	16
	0	0	0	0	0	7	0	0	0	0	0	0	0	0	14	0	21
	42	4	7	42	30	844	1,146	19	17	9	36	20	1	31	244	18	3,093
	80	20	26	77	75	410	608	31	12	19	49	11	4	60	435	34	3,037
	0	0	0	0	0	0	0	0	0	0	0	0	0	42	8	17	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	91	18	36	0
	42	4	7	42	30	844	1,146	19	46	9	294	106	1	73	252	600	18
	80	20	26	77	75	410	608	31	24	19	156	47	4	151	453	1,122	34

04. Randolph Road / Residential Driveway															
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Total		
				No Road	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT		NBL	Eastbound
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Pipeline Trip Distribution															
Glenmont Metrocenter (Commercial Use)		x	x												
Glenmont Metrocenter (Residential Use)		x	x												
4010 Randolph Road		x	x				4%							4%	
Kaiser Permanente Aspen Hill		x	x				2%							2%	
Wheaton Gateway		x	x				5%							5%	
Site Trip Distribution													15%		
Site Trip Distribution		x	x							5%					5%

04. Randolph Road / Residential Driveway															
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Total		
				No Road	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT		NBL	Eastbound
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2022 Traffic Volumes	AM			0	0	0	0	2,064	0	32	0	0	2	928	0
	PM			0	0	0	0	1,155	0	23	0	0	14	1,595	0
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	0	0	0	0	0	0	0	0	0	0
	PM	373	404	0	0	0	0	0	0	0	0	0	0	0	0
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	0	0	0	0	0	0	0	0	0	0
	PM	230	147	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	3	0	0	0	0	0	1	0
	PM	14	42	0	0	0	0	1	0	0	0	0	0	2	0
4010 Randolph Road	AM	30	61	0	0	0	0	1	0	0	0	0	0	2	0
	PM	51	37	0	0	0	0	2	0	0	0	0	0	1	0
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	6	0	0	0	0	0	2	0
	PM	214	500	0	0	0	0	4	0	0	0	0	0	10	0
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	2	0	0	0	0	0	1	0
	PM	14	43	0	0	0	0	1	0	0	0	0	0	2	0
Wheaton Gateway	AM	188	50	0	0	0	0	9	0	0	0	0	0	3	0
	PM	57	133	0	0	0	0	3	0	0	0	0	0	7	0
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	0	0	11	0	0	0	0	0	5	0
	PM	897	1,136	0	0	0	0	7	0	0	0	0	0	14	0
Future Background Volumes	AM			0	0	0	0	2,075	0	32	0	0	2	933	0
	PM			0	0	0	0	1,162	0	23	0	0	14	1,609	0
Site Trip Assignments	AM	169	574	0	0	0	0	0	0	28	0	0	25	29	0
	PM	363	238	0	0	0	0	0	0	12	0	0	54	12	0
Total Future Volumes	AM			0	0	0	0	2,075	0	60	0	0	27	962	0
	PM			0	0	0	0	1,162	0	35	0	0	68	1,621	0

05. Randolph Road / Glenallan Avenue														
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound	Total
				Glenallan Avenue	Randolph Road	Randolph Road	WBR	WBT	WBL	Glenallan Avenue	NBR	NBT			NBL	EBR	EBT	EBL
Pipeline Trip Distribution														
Glenmont Metrocenter (Commercial Use)		x	x			19%	19%	19%						
Glenmont Metrocenter (Residential Use)		x	x			13%	13%	13%						
4010 Randolph Road		x	x			4%	4%	4%					4%	
Kaiser Permanente Aspen Hill		x	x			2%	2%	2%					2%	
Wheaton Gateway		x	x			5%	5%	5%					5%	
Site Trip Distribution														
Site Trip Distribution		x	x			5%	5%	10%					5%	10%

05. Randolph Road / Glenallan Avenue																
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound	Total		
				Glenallan Avenue	Randolph Road	Randolph Road	WBR	WBT	WBL	Glenallan Avenue	NBR	NBT			NBL	EBR	EBT	EBL
Existing 2022 Traffic Volumes	AM			86	55	288	198	1,923	2	0	106	55	35	839	33	3,620
	PM			64	25	251	213	1,060	5	5	26	31	30	1,504	76	3,290
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	22	36	0	0	0	0	0	0	0	0	58
	PM	373	404	0	0	77	71	0	0	0	0	0	0	0	0	148
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	42	12	0	0	0	0	0	0	0	0	54
	PM	230	147	0	0	19	30	0	0	0	0	0	0	0	0	49
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	3	0	0	0	0	0	1	0	4
	PM	14	42	0	0	0	0	1	0	0	0	0	0	2	0	3
4010 Randolph Road	AM	30	61	0	0	0	0	1	0	0	0	0	0	2	0	3
	PM	51	37	0	0	0	0	2	0	0	0	0	0	1	0	3
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	6	0	0	0	0	0	2	0	8
	PM	214	500	0	0	0	0	4	0	0	0	0	0	10	0	14
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	2	0	0	0	0	0	1	0	3
	PM	14	43	0	0	0	0	1	0	0	0	0	0	2	0	3
Wheaton Gateway	AM	188	50	0	0	0	0	9	0	0	0	0	0	3	0	12
	PM	57	133	0	0	0	0	3	0	0	0	0	0	7	0	10
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	64	48	11	0	0	0	0	0	5	0	128
	PM	897	1,136	0	0	119	83	7	0	0	0	0	0	14	0	223
Future Background Volumes	AM			86	55	352	246	1,934	2	0	106	55	35	844	33	3,748
	PM			64	25	370	296	1,067	5	5	26	31	30	1,518	76	3,513
Site Trip Assignments	AM	169	574	0	9	0	0	0	17	0	29	0	0	57	0	112
	PM	363	238	0	18	0	0	0	37	0	12	0	0	24	0	91
Total Future Volumes	AM			86	64	352	246	1,934	19	0	135	55	35	901	33	3,860
	PM			64	43	370	296	1,067	42	5	38	31	30	1,542	76	3,604

06. Randolph Road / Middlevale Lane / Garden Gate Road															
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound		
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Total
Pipeline Trip Distribution															
Glenmont Metrocenter (Commercial Use)		x	x					19%							19%
Glenmont Metrocenter (Residential Use)		x	x					13%							13%
4010 Randolph Road		x	x					4%							4%
Kaiser Permanente Aspen Hill		x	x					2%							2%
Wheaton Gateway		x	x					5%							5%
Site Trip Distribution															
Site Trip Distribution		x	x					10%							10%

06. Randolph Road / Middlevale Lane / Garden Gate Road																	
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound				
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Total	
Existing 2022 Traffic Volumes	AM			91	13	173	107	1,996	82	35	13	7	24	30	1,686	25	3,356
	PM			27	6	111	147	1,245	35	13	7	24	30	1,686	25	3,356	
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	0	0	36	0	0	0	0	0	0	22	0	58
	PM	373	404	0	0	0	0	71	0	0	0	0	0	0	77	0	148
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	0	0	12	0	0	0	0	0	0	42	0	54
	PM	230	147	0	0	0	0	30	0	0	0	0	0	0	19	0	49
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	3	0	0	0	0	0	0	1	0	4
	PM	14	42	0	0	0	0	1	0	0	0	0	0	0	2	0	3
4010 Randolph Road	AM	30	61	0	0	0	0	1	0	0	0	0	0	0	2	0	3
	PM	51	37	0	0	0	0	2	0	0	0	0	0	0	1	0	3
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	6	0	0	0	0	0	0	2	0	8
	PM	214	500	0	0	0	0	4	0	0	0	0	0	0	10	0	14
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	2	0	0	0	0	0	0	1	0	3
	PM	14	43	0	0	0	0	1	0	0	0	0	0	0	2	0	3
Wheaton Gateway	AM	188	50	0	0	0	0	9	0	0	0	0	0	0	3	0	12
	PM	57	133	0	0	0	0	3	0	0	0	0	0	0	7	0	10
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	0	0	59	0	0	0	0	0	0	69	0	128
	PM	897	1,136	0	0	0	0	90	0	0	0	0	0	0	133	0	223
Future Background Volumes	AM			91	13	173	107	2,055	82	35	13	7	24	30	1,172	68	3,831
	PM			27	6	111	147	1,335	35	13	7	24	30	1,819	25	3,579	
Site Trip Assignments	AM	169	574	0	0	0	0	17	0	0	0	0	0	0	57	0	74
	PM	363	238	0	0	0	0	37	0	0	0	0	0	0	24	0	61
Total Future Volumes	AM			91	13	173	107	2,072	82	35	13	7	24	30	1,229	68	3,905
	PM			27	6	111	147	1,372	35	13	7	24	30	1,843	25	3,640	

07. Georgia Avenue / Layhill Road															
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound		
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Pipeline Trip Distribution															
Glenmont Metrocenter (Commercial Use)		x	x						12%						
Glenmont Metrocenter (Residential Use)		x	x						11%						
4010 Randolph Road		x	x												
Kaiser Permanente Aspen Hill		x	x												
Wheaton Gateway		x	x						5%						
Site Trip Distribution															
Site Trip Distribution		x	x											15%	

07. Georgia Avenue / Layhill Road																	
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound				
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL		
Existing 2022 Traffic Volumes	AM			0	951	53	30	0	866	0	377	686	0	15	7	9	2,994
	PM			0	797	107	48	0	515	638	1,141	1	7	18	13		3,285
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	46	0	0	0	14	23	76	0	0	0	0	0	159
	PM	373	404	0	162	0	0	0	48	45	149	0	0	0	0	0	404
Glenmont Metrocenter (Residential Use)	AM	95	320	0	192	0	0	0	35	10	57	0	0	0	0	0	294
	PM	230	147	0	88	0	0	0	16	25	138	0	0	0	0	0	267
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	6	0	0	0	0	0	2	0	0	0	0	0	8
	PM	14	42	0	1	0	0	0	0	0	3	0	0	0	0	0	4
4010 Randolph Road	AM	30	61	0	2	0	0	0	0	0	4	0	0	0	0	0	6
	PM	51	37	0	4	0	0	0	0	0	3	0	0	0	0	0	7
Kaiser Permanente Aspen Hill	AM	317	84	0	12	0	0	0	0	0	44	0	0	0	0	0	56
	PM	214	500	0	70	0	0	0	0	0	30	0	0	0	0	0	100
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	3	0	0	0	2	1	1	0	0	0	0	0	7
	PM	14	43	0	1	0	0	0	1	2	4	0	0	0	0	0	8
Wheaton Gateway	AM	188	50	0	19	0	0	0	9	3	5	0	0	0	0	0	36
	PM	57	133	0	6	0	0	0	3	7	13	0	0	0	0	0	29
Subtotal Pipeline Trip Assignments	AM	705	593	0	262	0	0	0	56	35	183	0	0	0	0	0	536
	PM	897	1,136	0	432	0	0	0	85	60	245	0	0	0	0	0	822
Future Background Volumes	AM			0	1,213	53	30	0	922	412	869	0	15	7	9		3,530
	PM			0	1,229	107	48	0	600	698	1,386	1	7	18	13		4,107
Site Trip Assignments	AM	169	574	0	25	0	0	0	0	0	86	0	0	0	0	0	111
	PM	363	238	0	54	0	0	0	0	0	36	0	0	0	0	0	90
Total Future Volumes	AM			0	1,238	53	30	0	922	412	955	0	15	7	9		3,641
	PM			0	1,283	107	48	0	600	698	1,422	1	7	18	13		4,197

08. Georgia Avenue / Glenmont Circle																		
Component	Period	Inbound	Outbound	Southbound				Westbound				Northbound				Eastbound		Total
				SBR	SBT	SBL	SBR	SBL	SBR	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR		EBT	EBL
Pipeline Trip Distribution																		
Glenmont Metrocenter (Commercial Use)		x																
Glenmont Metrocenter (Residential Use)		x				36%												36%
4010 Randolph Road		x				41%												41%
Kaiser Permanente Aspen Hill		x				9%												9%
Wheaton Gateway		x				10%												10%
		x				20%												20%
Site Trip Distribution																		
Site Trip Distribution		x				45%												45%
																		25%

08. Georgia Avenue / Glenmont Circle																				
Component	Period	IN	OUT	Southbound				Westbound				Northbound				Eastbound		Total		
				SBR	SBT	SBL	SBR	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL			
Existing 2022 Traffic Volumes	AM					0	2,522	0	36	0	0	0	0	20	1,081	0	0	0	0	3,659
	PM					0	1,486	0	23	0	0	0	0	39	1,905	0	0	0	0	3,453
Glenmont Metrocenter (Commercial Use)	AM	189	116			0	42	0	0	0	0	0	0	0	68	0	0	0	0	110
	PM	373	404			0	145	0	0	0	0	0	0	0	134	0	0	0	0	279
Glenmont Metrocenter (Residential Use)	AM	95	320			0	131	0	0	0	0	0	0	0	39	0	0	0	0	170
	PM	230	147			0	60	0	0	0	0	0	0	0	94	0	0	0	0	154
4010 Randolph Road (Existing Trip Credit)	AM	82	27			0	2	0	0	0	0	0	0	0	7	0	0	0	0	9
	PM	14	42			0	4	0	0	0	0	0	0	0	1	0	0	0	0	5
4010 Randolph Road	AM	30	61			0	5	0	0	0	0	0	0	0	3	0	0	0	0	8
	PM	51	37			0	3	0	0	0	0	0	0	0	5	0	0	0	0	8
Kaiser Permanente Aspen Hill	AM	317	84			0	8	0	0	0	0	0	0	0	32	0	0	0	0	40
	PM	214	500			0	50	0	0	0	0	0	0	0	21	0	0	0	0	71
Wheaton Gateway (Existing Trip Credit)	AM	32	11			0	6	0	0	0	0	0	0	0	2	0	0	0	0	8
	PM	14	43			0	3	0	0	0	0	0	0	0	9	0	0	0	0	12
Wheaton Gateway	AM	188	50			0	38	0	0	0	0	0	0	0	10	0	0	0	0	48
	PM	57	133			0	11	0	0	0	0	0	0	0	27	0	0	0	0	38
Subtotal Pipeline Trip Assignments	AM	705	593			0	216	0	0	0	0	0	0	0	143	0	0	0	0	359
	PM	897	1,136			0	333	0	0	0	0	0	0	0	216	0	0	0	0	549
Future Background Volumes	AM					0	2,738	0	36	0	0	0	0	20	1,224	0	0	0	0	4,018
	PM					0	1,819	0	23	0	0	0	0	39	2,121	0	0	0	0	4,002
Site Trip Assignments	AM	169	574			0	258	0	144	0	0	0	0	76	0	0	0	0	0	478
	PM	363	238			0	107	0	59	0	0	0	0	163	0	0	0	0	0	329
Total Future Volumes	AM					0	2,996	0	180	0	0	0	0	96	1,224	0	0	0	0	4,496
	PM					0	1,926	0	82	0	0	0	0	202	2,121	0	0	0	0	4,331

Component	09. Georgia Avenue / Shorefield Road														Total				
	Period	Inbound	Outbound	Southbound				Westbound				Northbound				Eastbound			
				SBR	SBT	SBL	SBR	WBR	WBT	WBL	NBR	NBT	NBL	EBR		EBT	EBL		
Pipeline Trip Distribution																			
Glenmont Metrocenter (Commercial Use)		x					36%												
Glenmont Metrocenter (Residential Use)		x					41%												
4010 Randolph Road		x					9%												
Kaiser Permanente Aspen Hill		x					10%												
Wheaton Gateway		x					20%												
Site Trip Distribution																			
Site Trip Distribution		x					45%												

Component	09. Georgia Avenue / Shorefield Road														Total					
	Period	IN	OUT	Southbound				Westbound				Northbound				Eastbound				
				SBR	SBT	SBL	SBR	WBR	WBT	WBL	NBR	NBT	NBL	EBR		EBT	EBL			
Existing 2022 Traffic Volumes	AM						1	2,478	57	93	0	0	0	21	961	1	4	3	14	3,689
	PM						27	1,341	132	127	3	156	53	1,776	0	7	25	32		3,679
Glenmont Metrocenter (Commercial Use)	AM	189	116				0	42	0	0	0	0	0	68	0	0	0	0	0	110
	PM	373	404				0	145	0	0	0	0	0	134	0	0	0	0	0	279
Glenmont Metrocenter (Residential Use)	AM	95	320				0	131	0	0	0	0	0	39	0	0	0	0	0	170
	PM	230	147				0	60	0	0	0	0	0	94	0	0	0	0	0	154
4010 Randolph Road (Existing Trip Credit)	AM	82	27				0	2	0	0	0	0	0	7	0	0	0	0	0	9
	PM	14	42				0	4	0	0	0	0	0	1	0	0	0	0	0	5
4010 Randolph Road	AM	30	61				0	5	0	0	0	0	0	3	0	0	0	0	0	8
	PM	51	37				0	3	0	0	0	0	0	5	0	0	0	0	0	8
Kaiser Permanente Aspen Hill	AM	317	84				0	8	0	0	0	0	0	32	0	0	0	0	0	40
	PM	214	500				0	50	0	0	0	0	0	21	0	0	0	0	0	71
Wheaton Gateway (Existing Trip Credit)	AM	32	11				0	6	0	0	0	0	0	2	0	0	0	0	0	8
	PM	14	43				0	3	0	0	0	0	0	9	0	0	0	0	0	12
Wheaton Gateway	AM	188	50				0	38	0	0	0	0	0	10	0	0	0	0	0	48
	PM	57	133				0	11	0	0	0	0	0	27	0	0	0	0	0	38
Subtotal Pipeline Trip Assignments	AM	705	593				0	216	0	0	0	0	0	143	0	0	0	0	0	359
	PM	897	1,136				0	333	0	0	0	0	0	216	0	0	0	0	0	549
Future Background Volumes	AM						1	2,694	57	56	0	93	21	1,104	1	4	3	14	4,048	
	PM						27	1,674	132	127	3	156	53	1,992	0	7	25	32	4,228	
Site Trip Assignments	AM	169	574				0	258	0	0	0	0	0	76	0	0	0	0	0	334
	PM	363	238				0	107	0	0	0	0	0	163	0	0	0	0	0	270
Total Future Volumes	AM						1	2,952	57	56	0	93	21	1,180	1	4	3	14	4,382	
	PM						27	1,781	132	127	3	156	53	2,155	0	7	25	32	4,498	

10. Layhill Road / Glenallan Avenue																
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound			
				Glenallan Avenue	Layhill Road	Total	Layhill Road	Total	Glenallan Avenue	Total	Layhill Road	Total				
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Total
Pipeline Trip Distribution																
Glenmont Metrocenter (Commercial Use)		x					2%			19%					12%	
Glenmont Metrocenter (Residential Use)		x	x		12%	19%	2%			13%					11%	
4010 Randolph Road		x														
Kaiser Permanente Aspen Hill		x														
Wheaton Gateway		x							5%							5%
Site Trip Distribution																
Site Trip Distribution		x	x						5%							

10. Layhill Road / Glenallan Avenue																
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound			
				Glenallan Avenue	Layhill Road	Total	Layhill Road	Total	Glenallan Avenue	Total	Layhill Road	Total				
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Total
Existing 2022 Traffic Volumes																
	AM			47	252	129	262	848	103	49	318	19	28	378	29	2,462
	PM			56	218	178	119	465	78	72	222	28	50	701	71	2,258
Glenmont Metrocenter (Commercial Use)	AM	189	116	14	22	2	4	0	0	0	36	0	0	0	23	101
	PM	373	404	48	77	8	7	0	0	71	0	0	0	0	45	256
Glenmont Metrocenter (Residential Use)	AM	95	320	35	42	3	1	0	0	12	0	0	0	0	10	103
	PM	230	147	16	19	1	2	0	0	30	0	0	0	0	25	93
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	14	42	0	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road	AM	30	61	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	51	37	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	214	500	0	0	0	0	0	0	0	0	0	0	0	0	0
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	1	0	0	0	0	0	2	0	3
	PM	14	43	0	0	0	0	2	0	0	0	0	0	1	0	3
Wheaton Gateway	AM	188	50	0	0	0	0	3	0	0	0	0	0	9	0	12
	PM	57	133	0	0	0	0	7	0	0	0	0	0	3	0	10
Subtotal Pipeline Trip Assignments	AM	705	593	49	64	5	5	2	0	48	0	0	0	7	33	213
	PM	897	1,136	83	119	11	8	5	0	83	0	0	0	2	55	366
Future Background Volumes	AM			96	316	134	267	850	103	49	366	19	28	385	62	2,675
	PM			139	337	189	127	470	78	72	305	28	50	703	126	2,624
Site Trip Assignments	AM	169	574	0	0	0	0	0	9	29	0	0	0	0	0	38
	PM	363	238	0	0	0	0	0	18	12	0	0	0	0	0	30
Total Future Volumes	AM			96	316	134	267	850	112	78	366	19	28	385	62	2,713
	PM			139	337	189	127	470	96	84	305	28	50	703	126	2,654

11. Georgia Avenue / Arcola Avenue																		
Component	Period	Inbound	Outbound	Southbound				Westbound				Northbound				Eastbound		Total
				SBR	SBT	SBL	SBL	WBR	WBT	WBL	Arcola Avenue	NBR	NBT	NBL	EBR	EBT	EBL	
Pipeline Trip Distribution																		
Glenmont Metrocenter (Commercial Use)		x																
Glenmont Metrocenter (Residential Use)		x																
4010 Randolph Road		x																
Kaiser Permanente Aspen Hill		x																
Wheaton Gateway		x																
Site Trip Distribution																		
Site Trip Distribution		x																

11. Georgia Avenue / Arcola Avenue																		
Component	Period	IN	OUT	Southbound				Westbound				Northbound				Eastbound		Total
				SBR	SBT	SBL	SBL	WBR	WBT	WBL	Arcola Avenue	NBR	NBT	NBL	EBR	EBT	EBL	
Existing 2022 Traffic Volumes	AM			19	2,187	374	344	170	145	37	633	30	30	111	33	4,113		
	PM			18	1,209	237	392	119	93	67	1,513	53	18	106	50	3,875		
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	42	0	0	0	0	0	68	0	0	0	0	110		
	PM	373	404	0	145	0	0	0	0	134	0	0	0	0	279			
Glenmont Metrocenter (Residential Use)	AM	95	320	0	131	0	0	0	0	39	0	0	0	0	170			
	PM	230	147	0	60	0	0	0	0	94	0	0	0	0	154			
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	2	0	0	0	0	7	0	0	0	0	9			
	PM	14	42	0	4	0	0	0	0	1	0	0	0	0	5			
4010 Randolph Road	AM	30	61	0	5	0	0	0	0	3	0	0	0	0	8			
	PM	51	37	0	3	0	0	0	0	5	0	0	0	0	8			
Kaiser Permanente Aspen Hill	AM	317	84	0	8	0	0	0	0	32	0	0	0	0	40			
	PM	214	500	0	50	0	0	0	0	21	0	0	0	0	71			
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	6	0	0	0	0	2	0	0	0	0	8			
	PM	14	43	0	3	0	0	0	0	9	0	0	0	0	12			
Wheaton Gateway	AM	188	50	0	38	0	0	0	0	10	0	0	0	0	48			
	PM	57	133	0	11	0	0	0	0	27	0	0	0	0	38			
Subtotal Pipeline Trip Assignments	AM	705	593	0	216	0	0	0	0	143	0	0	0	0	359			
	PM	897	1,136	0	333	0	0	0	0	216	0	0	0	0	549			
Future Background Volumes	AM			19	2,403	374	344	170	145	37	776	30	30	111	33	4,472		
	PM			18	1,542	237	392	119	93	67	1,729	53	18	106	50	4,424		
Site Trip Assignments	AM	169	574	0	258	0	0	0	0	76	0	0	0	0	334			
	PM	363	238	0	107	0	0	0	0	163	0	0	0	0	270			
Total Future Volumes	AM			19	2,661	374	344	170	145	37	852	30	30	111	33	4,806		
	PM			18	1,649	237	392	119	93	67	1,892	53	18	106	50	4,694		

12. Glenallan Avenue / Eskine Avenue																	
Component	Period	Inbound	Outbound	Southbound				Westbound				Northbound		Eastbound		Total	
				Glenallan Avenue	SBR	SBT	SBL	No Road	WBR	WBT	WBL	Glenallan Avenue	NBR	NBT	NBL		Eskine Avenue	EBR	EBT	EBL
Pipeline Trip Distribution																	
Glenmont Metrocenter (Commercial Use)		x															
Glenmont Metrocenter (Residential Use)		x															
4010 Randolph Road		x															
Kaiser Permanente Aspen Hill		x															
Wheaton Gateway		x															
Site Trip Distribution																	
Site Trip Distribution		x															5%

12. Glenallan Avenue / Eskine Avenue																		
Component	Period	IN	OUT	Southbound				Westbound				Northbound		Eastbound		Total		
				Glenallan Avenue	SBR	SBT	SBL	No Road	WBR	WBT	WBL	Glenallan Avenue	NBR	NBT	NBL		Eskine Avenue	EBR	EBT	EBL
Existing 2022 Traffic Volumes	AM				1	115	0	0	0	0	0	0	0	0	0	0	1	339
	PM				1	120	0	0	0	0	0	0	0	0	0	0	2	224
Glenmont Metrocenter (Commercial Use)	AM	189	116		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	373	404		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glenmont Metrocenter (Residential Use)	AM	95	320		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	230	147		0	0	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road (Existing Trip Credit)	AM	82	27		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	14	42		0	0	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road	AM	30	61		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	51	37		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaiser Permanente Aspen Hill	AM	317	84		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	214	500		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wheaton Gateway (Existing Trip Credit)	AM	32	11		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	14	43		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wheaton Gateway	AM	188	50		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	57	133		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal Pipeline Trip Assignments	AM	705	593		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	897	1,136		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Background Volumes	AM				1	115	0	0	0	0	0	0	0	0	0	0	1	339
	PM				1	120	0	0	0	0	0	0	0	0	0	0	2	224
Site Trip Assignments	AM	169	574		26	0	0	0	0	0	0	0	0	0	0	0	29	55
	PM	363	238		55	0	0	0	0	0	0	0	0	0	0	0	12	67
Total Future Volumes	AM				27	115	0	0	0	0	0	0	0	0	0	0	30	394
	PM				56	120	0	0	0	0	0	0	0	0	0	0	14	291

13. Randolph Road / Heurich Road																							
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound										
				English Orchard Court	Randolph Road	Heurich Road	Randolph Road	WBL	WBR	WBT	WBL	NBR	NBT	NBL	Randolph Road	EBT	EBL						
Pipeline Trip Distribution																							
Glenmont Metrocenter (Commercial Use)		x	x						19%												19%		
Glenmont Metrocenter (Residential Use)		x	x						13%												13%		
4010 Randolph Road		x	x						4%												4%		
Kaiser Permanente Aspen Hill		x	x						2%												2%		
Wheaton Gateway		x	x						5%												5%		
Site Trip Distribution																							
Site Trip Distribution		x	x						10%												10%		

13. Randolph Road / Heurich Road																						
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound									
				English Orchard Court	Randolph Road	Heurich Road	Randolph Road	WBL	WBR	WBT	WBL	NBR	NBT	NBL	Randolph Road	EBT	EBL					
Existing 2022 Traffic Volumes	AM			9	4	16	72	1,930	27	12	2	11	41	1,093	17							3,234
	PM			18	2	14	21	1,268	25	28	3	21	31	1,767	37							3,235
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	0	0	36	0	0	0	0	0	22	0							58
	PM	373	404	0	0	0	0	71	0	0	0	0	0	77	0							148
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	0	0	12	0	0	0	0	0	42	0							54
	PM	230	147	0	0	0	0	30	0	0	0	0	0	19	0							49
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	3	0	0	0	0	0	1	0							4
	PM	14	42	0	0	0	0	1	0	0	0	0	0	2	0							3
4010 Randolph Road	AM	30	61	0	0	0	0	1	0	0	0	0	0	2	0							3
	PM	51	37	0	0	0	0	2	0	0	0	0	0	1	0							3
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	6	0	0	0	0	0	2	0							8
	PM	214	500	0	0	0	0	4	0	0	0	0	0	10	0							14
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	2	0	0	0	0	0	1	0							3
	PM	14	43	0	0	0	0	1	0	0	0	0	0	2	0							3
Wheaton Gateway	AM	188	50	0	0	0	0	9	0	0	0	0	0	3	0							12
	PM	57	133	0	0	0	0	3	0	0	0	0	0	7	0							10
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	0	0	59	0	0	0	0	0	69	0							128
	PM	897	1,136	0	0	0	0	90	0	0	0	0	0	133	0							223
Future Background Volumes	AM			9	4	16	72	1,989	27	12	2	11	41	1,162	17							3,362
	PM			18	2	14	21	1,358	25	28	3	21	31	1,900	37							3,458
Site Trip Assignments	AM	169	574	0	0	0	0	17	0	0	0	0	0	57	0							74
	PM	363	238	0	0	0	0	37	0	0	0	0	0	24	0							61
Total Future Volumes	AM			9	4	16	72	2,006	27	12	2	11	41	1,219	17							3,436
	PM			18	2	14	21	1,395	25	28	3	21	31	1,924	37							3,519

WITHOUT ACCESS TO RANDOLPH ROAD

01. Randolph Road / Livingston Street																							
Component	Period	Inbound	Outbound	Southbound				Westbound				Northbound				Eastbound							
				Livingston Street		Randolph Road		Randolph Road		Livingston Street		Livingston Street		Randolph Road		Randolph Road		Randolph Road					
				SBR	SBT	SBL	SBR	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Total						
Pipeline Trip Distribution																							
Glenmont Metrocenter (Commercial Use)		x	x																		16%		
Glenmont Metrocenter (Residential Use)		x	x																			30%	
4010 Randolph Road		x	x																			20%	
Kaiser Permanente Aspen Hill		x	x																			2%	
Wheaton Gateway		x	x																				
Site Trip Distribution																							
Site Trip Distribution		x	x																				25%

01. Randolph Road / Livingston Street																			
Component	Period	IN	OUT	Southbound				Westbound				Northbound				Eastbound			
				Livingston Street		Randolph Road		Randolph Road		Livingston Street		Livingston Street		Randolph Road		Randolph Road			
				SBR	SBT	SBL	SBR	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Total		
Existing 2022 Traffic Volumes	AM			18	21	17	5	1,404	111	42	3	7	7	892	12	2,539			
	PM			8	12	4	12	901	79	37	3	14	7	1,479	29	2,585			
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	0	0	19	0	0	0	0	0	30	0	49			
	PM	373	404	0	0	0	0	65	0	0	0	0	0	60	0	125			
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	0	0	96	0	0	0	0	0	29	0	125			
	PM	230	147	0	0	0	0	44	0	0	0	0	0	69	0	113			
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	16	0	0	0	0	0	5	0	21			
	PM	14	42	0	0	0	0	3	0	0	0	0	0	8	0	11			
4010 Randolph Road	AM	30	61	0	0	0	0	6	0	0	0	0	0	12	0	18			
	PM	51	37	0	0	0	0	10	0	0	0	0	0	7	0	17			
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	2	0	0	0	0	0	6	0	8			
	PM	214	500	0	0	0	0	10	0	0	0	0	0	4	0	14			
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	0	0	0	0	0	0	0	0	0			
	PM	14	43	0	0	0	0	0	0	0	0	0	0	0	0	0			
Wheaton Gateway	AM	188	50	0	0	0	0	0	0	0	0	0	0	0	0	0			
	PM	57	133	0	0	0	0	0	0	0	0	0	0	0	0	0			
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	0	0	107	0	0	0	0	0	72	0	179			
	PM	897	1,136	0	0	0	0	178	0	0	0	0	0	92	0	270			
Future Background Volumes	AM	18	21	17	5	1,511	111	42	3	7	7	964	12	2,718					
	PM	8	12	4	12	1,079	79	37	3	14	7	1,571	29	2,855					
Site Trip Assignments	AM	169	574	0	0	0	0	144	0	0	0	0	0	42	0	186			
	PM	363	238	0	0	0	0	59	0	0	0	0	0	91	0	150			
Traffic ADJ	AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total Future Volumes	AM	18	21	17	5	1,655	111	42	3	7	7	1,006	12	2,904					
	PM	8	12	4	12	1,138	79	37	3	14	7	1,662	29	3,005					

02. Georgia Avenue / Randolph Road																		
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound					
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL			
Pipeline Trip Distribution Glennmont Metrocenter (Commercial Use) Glennmont Metrocenter (Residential Use) 4010 Randolph Road Kaiser Permanente Aspen Hill Wheaton Gateway																		
		x		x	16%	36%				36%								16%
		x		x	30%	41%				41%								30%
		x		x	7%			4%			9%							7%
		x		x	2%	10%	2%		2%	10%								2%
Site Trip Distribution Site Trip Distribution		x				15%				15%								15%
				x				45%										

02. Georgia Avenue / Randolph Road																
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound			
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	
Existing 2022 Traffic Volumes	AM			112	1,578	55	131	51	733	178	786	152	211	38	174	4,199
	PM			150	994	90	124	59	347	349	1,423	159	145	48	270	4,158
Glennmont Metrocenter (Commercial Use)	AM	189	116	19	42	0	0	0	0	68	0	0	0	0	30	159
	PM	373	404	65	145	0	0	0	0	134	0	0	0	0	60	404
Glennmont Metrocenter (Residential Use)	AM	95	320	96	131	0	0	0	0	39	0	0	0	0	29	295
	PM	230	147	44	60	0	0	0	0	94	0	0	0	0	69	267
4010 Randolph Road (Existing Trip Credit)	AM	82	27	6	0	0	0	1	0	0	0	3	2	1	2	15
	PM	14	42	1	0	0	0	1	0	0	0	1	3	1	3	10
4010 Randolph Road	AM	30	61	2	0	0	0	1	0	0	0	3	5	2	4	17
	PM	51	37	4	0	0	0	2	0	0	0	5	3	1	3	18
Kaiser Permanente Aspen Hill	AM	317	84	2	8	2	6	0	0	32	0	0	0	0	6	56
	PM	214	500	10	50	10	4	0	0	21	0	0	0	0	4	99
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	5	0	0	0	0	2	0	0	0	0	0	10
	PM	14	43	0	2	0	0	0	0	6	0	0	0	0	0	11
Wheaton Gateway	AM	188	50	0	28	0	0	0	0	8	0	0	0	0	0	48
	PM	57	133	0	9	0	0	0	0	7	0	0	0	0	0	39
Subtotal Pipeline Trip Assignments	AM	705	593	113	204	2	6	0	7	2	145	0	3	1	67	550
	PM	897	1,136	174	333	10	4	1	2	5	208	4	0	0	93	834
Future Background Volumes	AM			225	1,782	57	137	51	740	180	931	152	214	39	241	4,749
	PM			324	1,327	100	128	60	349	354	1,631	163	145	48	363	4,992
Site Trip Assignments	AM	169	574	0	0	25	0	0	258	0	86	58	0	25	0	452
	PM	363	238	0	0	54	0	0	107	0	36	23	0	55	0	275
Traffic ADJ	AM			0	0	0	0	0	0	0	0	0	0	0	0	0
	PM			0	0	0	0	0	0	0	0	0	0	0	0	0
Total Future Volumes	AM			225	1,782	82	137	51	998	180	1,017	210	214	64	241	5,201
	PM			324	1,327	154	128	60	456	354	1,667	186	145	103	363	5,267

03. Randolph Road / Glenmont Circle																			
Component	Period	Inbound	Outbound	Southbound				Westbound				Northbound			Eastbound			Eastbound 2 (Tunnel)	
				Shopping Center Driveway				Randolph Road				Glenmont Circle			Randolph Road			Randolph Road (Tunnel)	
				SBR1	SBR2	SBT	SBL	WBR	WBT1	WBT2	WBL	NBR	NBT	NBL1	NBL2	EBR1	EBR2	EBT	E2T2	E2L2	Total
Pipeline Trip Distribution Glenmont Metrocenter (Commercial Use) Glenmont Metrocenter (Residential Use) 4010 Randolph Road Kaiser Permanente Aspen Hill Wheaton Gateway																			
		x	x	x	x														
		x	x	x	x														
		x	x	x	x														
		x	x	x	x														
Site Trip Distribution Site Trip Distribution		x	x																

03. Randolph Road / Glenmont Circle																					
Component	Period	IN	OUT	Southbound				Westbound				Northbound			Eastbound			Eastbound 2 (Tunnel)			
				Shopping Center Driveway				Randolph Road				Glenmont Circle			Randolph Road			Randolph Road (Tunnel)			
				SBR1	SBR2	SBT	SBL	WBR	WBT1	WBT2	WBL	NBR	NBT	NBL1	NBL2	EBR1	EBR2	EBT	E2T2	E2L2	Total
Existing 2022 Traffic Volumes	AM			42	4	7	42	30	833	1,146	19	17	9	36	20	1	31	239	583	18	3,077
	PM			80	20	26	77	75	403	608	31	12	19	49	11	4	60	421	1,086	34	3,016
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	373	404	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	230	147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	4
	PM	14	42	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	3
4010 Randolph Road	AM	30	61	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	3
	PM	51	37	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	3
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	0	6	0	0	0	0	0	0	0	0	2	0	0	8
	PM	214	500	0	0	0	0	4	4	0	0	0	0	0	0	0	0	10	0	0	14
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	3
	PM	14	43	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	3
Wheaton Gateway	AM	188	50	0	0	0	0	9	0	0	0	0	0	0	0	0	0	3	0	0	12
	PM	57	133	0	0	0	0	3	0	0	0	0	0	0	0	0	0	7	0	0	10
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	0	0	11	0	0	0	0	0	0	0	0	0	5	0	0	16
	PM	897	1,136	0	0	0	0	7	0	0	0	0	0	0	0	0	0	14	0	0	21
Future Background Volumes	AM	42	4	7	42	30	844	1,146	19	17	9	36	20	1	31	244	583	18	3,093		
	PM	80	20	26	77	75	410	608	31	12	19	49	11	4	60	435	1,086	34	3,037		
Site Trip Assignments	AM	169	574	0	0	0	0	0	0	0	0	0	0	258	86	0	42	8	17	0	423
	PM	363	238	0	0	0	0	0	0	0	0	0	0	107	36	0	91	18	36	0	264
Traffic ADJ	AM			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Future Volumes	AM	42	4	7	42	30	844	1,146	19	46	9	294	106	1	73	252	600	18	3,533		
	PM	80	20	26	77	75	410	608	31	24	19	156	47	4	151	453	1,122	34	3,337		

04. Randolph Road / Residential Driveway															
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound		
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Pipeline Trip Distribution															
Glenmont Metrocenter (Commercial Use)		x	x												
Glenmont Metrocenter (Residential Use)		x	x												
4010 Randolph Road		x	x					4%							4%
Kaiser Permanente Aspen Hill		x	x					2%							2%
Wheaton Gateway		x	x					5%							5%
Site Trip Distribution															
Site Trip Distribution		x	x												15%
															5%
Total															

04. Randolph Road / Residential Driveway															
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound		
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2022 Traffic Volumes	AM			0	0	0	0	2,064	0	32	0	0	2	928	0
	PM			0	0	0	0	1,155	0	23	0	0	14	1,595	0
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	0	0	0	0	0	0	0	0	0	0
	PM	373	404	0	0	0	0	0	0	0	0	0	0	0	0
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	0	0	0	0	0	0	0	0	0	0
	PM	230	147	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	3	0	0	0	0	0	1	0
	PM	14	42	0	0	0	0	1	0	0	0	0	0	2	0
4010 Randolph Road	AM	30	61	0	0	0	0	1	0	0	0	0	0	2	0
	PM	51	37	0	0	0	0	2	0	0	0	0	0	1	0
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	6	0	0	0	0	0	2	0
	PM	214	500	0	0	0	0	4	0	0	0	0	0	10	0
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	2	0	0	0	0	0	1	0
	PM	14	43	0	0	0	0	1	0	0	0	0	0	2	0
Wheaton Gateway	AM	188	50	0	0	0	0	9	0	0	0	0	0	3	0
	PM	57	133	0	0	0	0	3	0	0	0	0	0	7	0
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	0	0	11	0	0	0	0	0	5	0
	PM	897	1,136	0	0	0	0	7	0	0	0	0	0	14	0
Future Background Volumes	AM			0	0	0	0	2,075	0	32	0	0	2	933	0
	PM			0	0	0	0	1,162	0	23	0	0	14	1,609	0
Site Trip Assignments	AM	169	574	0	0	0	0	0	0	0	0	0	0	54	0
	PM	363	238	0	0	0	0	0	0	0	0	0	0	66	0
Traffic ADI	AM			0	0	0	0	0	0	-32	0	0	-2	2	0
	PM			0	0	0	0	0	0	-23	0	0	-14	14	0
Total Future Volumes	AM			0	0	0	0	2,075	0	0	0	0	0	989	0
	PM			0	0	0	0	1,162	0	0	0	0	0	1,689	0
Total															

05. Randolph Road / Glenallan Avenue																
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound			
				Glenallan Avenue	Randolph Road	Randolph Road	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	
Pipeline Trip Distribution Glenmont Metrocenter (Commercial Use) Glenmont Metrocenter (Residential Use) 4010 Randolph Road Kaiser Permanente Aspen Hill Wheaton Gateway																
		x		x	19%	19%										
		x		x	13%	13%										
		x		x		4%									4%	
		x		x		2%									2%	
	x		x		5%									5%		
Site Trip Distribution Site Trip Distribution		x	x	5%	10%						5%	5%	15%			

05. Randolph Road / Glenallan Avenue																
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound			
				Glenallan Avenue	Randolph Road	Randolph Road	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	
Existing 2022 Traffic Volumes	AM			86	55	288	198	1,923	2	0	106	55	35	839	33	3,620
	PM			64	25	251	213	1,060	5	5	26	31	30	1,504	76	3,290
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	22	36	0	0	0	0	0	0	0	0	58
	PM	373	404	0	0	77	71	0	0	0	0	0	0	0	0	148
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	42	12	0	0	0	0	0	0	0	0	54
	PM	230	147	0	0	19	30	0	0	0	0	0	0	0	0	49
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	3	0	0	0	0	0	0	1	4
	PM	14	42	0	0	0	0	1	0	0	0	0	0	0	2	3
4010 Randolph Road	AM	30	61	0	0	0	0	1	0	0	0	0	0	0	2	0
	PM	51	37	0	0	0	0	2	0	0	0	0	0	0	1	0
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	6	0	0	0	0	0	0	2	0
	PM	214	500	0	0	0	0	4	0	0	0	0	0	0	10	0
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	2	0	0	0	0	0	0	1	0
	PM	14	43	0	0	0	0	1	0	0	0	0	0	0	2	0
Wheaton Gateway	AM	188	50	0	0	0	0	9	0	0	0	0	0	0	3	0
	PM	57	133	0	0	0	0	3	0	0	0	0	0	0	7	0
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	64	48	11	0	0	0	0	0	0	5	0
	PM	897	1,136	0	0	119	83	7	0	0	0	0	0	0	14	0
Future Background Volumes	AM	86	55	352	246	1,934	2	0	106	55	35	844	33	3,748		
	PM	64	25	370	296	1,067	5	5	26	31	30	1,518	76	3,513		
Site Trip Assignments	AM	169	574	0	9	0	0	0	17	28	29	0	25	29	0	137
	PM	363	238	0	18	0	0	0	37	12	12	0	54	12	0	145
Traffic ADJ	AM	0	0	0	0	0	0	0	0	32	0	0	2	-32	0	2
	PM	0	0	0	0	0	0	0	0	23	0	0	14	-23	0	14
Total Future Volumes	AM	86	64	352	246	1,934	19	60	135	55	62	841	33	3,887		
	PM	64	43	370	296	1,067	42	40	38	31	98	1,507	76	3,672		

06. Randolph Road / Middlevale Lane / Garden Gate Road															
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound		
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Pipeline Trip Distribution															
Glenmont Metrocenter (Commercial Use)		x	x					19%							19%
Glenmont Metrocenter (Residential Use)		x	x					13%							13%
4010 Randolph Road		x	x					4%							4%
Kaiser Permanente Aspen Hill		x	x					2%							2%
Wheaton Gateway		x	x					5%							5%
Site Trip Distribution															
Site Trip Distribution		x	x					10%							10%
Total															

06. Randolph Road / Middlevale Lane / Garden Gate Road																
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound			
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	
Existing 2022 Traffic Volumes	AM			91	13	173	107	1,996	82	9	10	35	16	1,103	68	3,703
	PM			27	6	111	147	1,245	35	13	7	24	30	1,686	25	3,356
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	0	0	36	0	0	0	0	0	22	0	58
	PM	373	404	0	0	0	0	71	0	0	0	0	0	77	0	148
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	0	0	12	0	0	0	0	0	42	0	54
	PM	230	147	0	0	0	0	30	0	0	0	0	0	19	0	49
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	3	0	0	0	0	0	1	0	4
	PM	14	42	0	0	0	0	1	0	0	0	0	0	2	0	3
4010 Randolph Road	AM	30	61	0	0	0	0	1	0	0	0	0	0	2	0	3
	PM	51	37	0	0	0	0	2	0	0	0	0	0	1	0	3
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	6	0	0	0	0	0	2	0	8
	PM	214	500	0	0	0	0	4	0	0	0	0	0	10	0	14
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	2	0	0	0	0	0	1	0	3
	PM	14	43	0	0	0	0	1	0	0	0	0	0	2	0	3
Wheaton Gateway	AM	188	50	0	0	0	0	9	0	0	0	0	0	3	0	12
	PM	57	133	0	0	0	0	3	0	0	0	0	0	7	0	10
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	0	0	59	0	0	0	0	0	69	0	128
	PM	897	1,136	0	0	0	0	90	0	0	0	0	0	133	0	223
Future Background Volumes	AM	91	13	173	107	2,055	82	9	10	35	16	1,172	68	3,831		
	PM	27	6	111	147	1,335	35	13	7	24	30	1,819	25	3,579		
Site Trip Assignments	AM	169	574	0	0	0	0	17	0	0	0	0	0	57	0	74
	PM	363	238	0	0	0	0	37	0	0	0	0	0	24	0	61
Traffic ADJ	AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Future Volumes	AM	91	13	173	107	2,072	82	9	10	35	16	1,229	68	3,905		
	PM	27	6	111	147	1,372	35	13	7	24	30	1,843	25	3,640		

07. Georgia Avenue / Layhill Road																
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound			
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	Judson Road	EBT	EBL	Total
Pipeline Trip Distribution																
Glenmont Metrocenter (Commercial Use)		x	x													
Glenmont Metrocenter (Residential Use)		x	x													
4010 Randolph Road		x	x													
Kaiser Permanente Aspen Hill		x	x													
Wheaton Gateway		x	x													
Site Trip Distribution																
Site Trip Distribution		x	x													

07. Georgia Avenue / Layhill Road																	
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound				
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	Judson Road	EBT	EBL	Total	
Existing 2022 Traffic Volumes	AM			0	951	53	30	0	866	0	377	686	0	15	7	9	2,994
	PM			0	797	107	48	0	515	0	638	1,141	1	7	18	13	3,285
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	46	0	0	0	14	23	76	0	0	0	0	0	159
	PM	373	404	0	162	0	0	0	48	45	149	0	0	0	0	0	404
Glenmont Metrocenter (Residential Use)	AM	95	320	0	192	0	0	0	35	10	57	0	0	0	0	0	294
	PM	230	147	0	88	0	0	0	16	25	138	0	0	0	0	0	267
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	6	0	0	0	0	2	0	0	0	0	0	0	8
	PM	14	42	0	1	0	0	0	0	3	0	0	0	0	0	0	4
4010 Randolph Road	AM	30	61	0	2	0	0	0	0	4	0	0	0	0	0	0	6
	PM	51	37	0	4	0	0	0	0	3	0	0	0	0	0	0	7
Kaiser Permanente Aspen Hill	AM	317	84	0	12	0	0	0	0	44	0	0	0	0	0	0	56
	PM	214	500	0	70	0	0	0	0	30	0	0	0	0	0	0	100
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	3	0	0	0	2	1	1	0	0	0	0	0	7
	PM	14	43	0	1	0	0	0	1	2	4	0	0	0	0	0	8
Wheaton Gateway	AM	188	50	0	19	0	0	0	9	3	5	0	0	0	0	0	36
	PM	57	133	0	6	0	0	0	3	7	13	0	0	0	0	0	29
Subtotal Pipeline Trip Assignments	AM	705	593	0	262	0	0	0	56	35	183	0	0	0	0	0	536
	PM	897	1,136	0	432	0	0	0	85	60	245	0	0	0	0	0	822
Future Background Volumes	AM			0	1,213	53	30	0	922	412	869	0	15	7	18	13	3,530
	PM			0	1,229	107	48	0	600	698	1,386	1	7	18	13	13	4,107
Site Trip Assignments	AM	169	574	0	25	0	0	0	0	0	86	0	0	0	0	0	111
	PM	363	238	0	54	0	0	0	0	0	36	0	0	0	0	0	90
Traffic ADJ	AM			0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Future Volumes	AM			0	1,238	53	30	0	922	412	955	0	15	7	18	13	3,641
	PM			0	1,283	107	48	0	600	698	1,422	1	7	18	13	13	4,197

08. Georgia Avenue / Glenmont Circle																	
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound				
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL		
Pipeline Trip Distribution Glenmont Metrocenter (Commercial Use) Glenmont Metrocenter (Residential Use) 4010 Randolph Road Kaiser Permanente Aspen Hill Wheaton Gateway																	
		x		x	36%				36%								
		x		x	41%				41%								
		x		x	9%				9%								
		x		x	10%				10%								
	x		x	20%				20%									
Site Trip Distribution Site Trip Distribution		x	x	45%				25%						45%			

08. Georgia Avenue / Glenmont Circle																	
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound				
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL		
Existing 2022 Traffic Volumes	AM			0	2,522	0	36	0	0	20	1,081	0	0	0	0	0	3,659
	PM			0	1,486	0	23	0	0	39	1,905	0	0	0	0	0	3,453
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	42	0	0	0	0	0	68	0	0	0	0	0	110
	PM	373	404	0	145	0	0	0	0	0	134	0	0	0	0	0	279
Glenmont Metrocenter (Residential Use)	AM	95	320	0	131	0	0	0	0	0	39	0	0	0	0	0	170
	PM	230	147	0	60	0	0	0	0	0	94	0	0	0	0	0	154
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	2	0	0	0	0	0	7	0	0	0	0	0	9
	PM	14	42	0	4	0	0	0	0	0	1	0	0	0	0	0	5
4010 Randolph Road	AM	30	61	0	5	0	0	0	0	0	3	0	0	0	0	0	8
	PM	51	37	0	3	0	0	0	0	0	5	0	0	0	0	0	8
Kaiser Permanente Aspen Hill	AM	317	84	0	8	0	0	0	0	0	32	0	0	0	0	0	40
	PM	214	500	0	50	0	0	0	0	0	21	0	0	0	0	0	71
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	6	0	0	0	0	0	2	0	0	0	0	0	8
	PM	14	43	0	3	0	0	0	0	0	9	0	0	0	0	0	12
Wheaton Gateway	AM	188	50	0	38	0	0	0	0	0	10	0	0	0	0	0	48
	PM	57	133	0	11	0	0	0	0	0	27	0	0	0	0	0	38
Subtotal Pipeline Trip Assignments	AM	705	593	0	216	0	0	0	0	0	143	0	0	0	0	0	359
	PM	897	1,136	0	333	0	0	0	0	0	216	0	0	0	0	0	549
Future Background Volumes	AM			0	2,738	0	36	0	0	20	1,224	0	0	0	0	0	4,018
	PM			0	1,819	0	23	0	0	39	2,121	0	0	0	0	0	4,002
Site Trip Assignments	AM	169	574	0	258	0	144	0	0	76	0	0	0	0	0	0	478
	PM	363	238	0	107	0	59	0	0	163	0	0	0	0	0	0	329
Traffic ADJ	AM			0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Future Volumes	AM			0	2,996	0	180	0	0	96	1,224	0	0	0	0	0	4,496
	PM			0	1,926	0	82	0	0	202	2,121	0	0	0	0	0	4,331

09. Georgia Avenue / Shorefield Road													
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Total
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL		EBR	EBT	EBL
Pipeline Trip Distribution													
Glenmont Metrocenter (Commercial Use)		x	x			36%					36%		
Glenmont Metrocenter (Residential Use)		x	x			41%					41%		
4010 Randolph Road		x	x			9%					9%		
Kaiser Permanente Aspen Hill		x	x			10%					10%		
Wheaton Gateway		x	x			20%					20%		
Site Trip Distribution													
Site Trip Distribution		x	x			45%					45%		

09. Georgia Avenue / Shorefield Road																
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Total			
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL		EBR	EBT	EBL
Existing 2022 Traffic Volumes	AM			1	2,478	57	56	0	93	21	961	1	4	3	14	3,689
	PM			27	1,341	132	127	3	156	53	1,776	0	7	25	32	3,679
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	42	0	0	0	0	0	68	0	0	0	0	110
	PM	373	404	0	145	0	0	0	0	0	134	0	0	0	0	279
Glenmont Metrocenter (Residential Use)	AM	95	320	0	131	0	0	0	0	0	39	0	0	0	0	170
	PM	230	147	0	60	0	0	0	0	0	94	0	0	0	0	154
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	2	0	0	0	0	0	7	0	0	0	0	9
	PM	14	42	0	4	0	0	0	0	0	1	0	0	0	0	5
4010 Randolph Road	AM	30	61	0	5	0	0	0	0	0	3	0	0	0	0	8
	PM	51	37	0	3	0	0	0	0	0	5	0	0	0	0	8
Kaiser Permanente Aspen Hill	AM	317	84	0	8	0	0	0	0	0	32	0	0	0	0	40
	PM	214	500	0	50	0	0	0	0	0	21	0	0	0	0	71
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	6	0	0	0	0	0	2	0	0	0	0	8
	PM	14	43	0	3	0	0	0	0	0	9	0	0	0	0	12
Wheaton Gateway	AM	188	50	0	38	0	0	0	0	0	10	0	0	0	0	48
	PM	57	133	0	11	0	0	0	0	0	27	0	0	0	0	38
Subtotal Pipeline Trip Assignments	AM	705	593	0	216	0	0	0	0	0	143	0	0	0	0	359
	PM	897	1,136	0	333	0	0	0	0	0	216	0	0	0	0	549
Future Background Volumes	AM			1	2,694	57	56	0	93	21	1,104	1	4	3	14	4,048
	PM			27	1,674	132	127	3	156	53	1,992	0	7	25	32	4,228
Site Trip Assignments	AM	169	574	0	258	0	0	0	0	0	76	0	0	0	0	334
	PM	363	238	0	107	0	0	0	0	0	163	0	0	0	0	270
Traffic ADJ	AM			0	0	0	0	0	0	0	0	0	0	0	0	0
	PM			0	0	0	0	0	0	0	0	0	0	0	0	0
Total Future Volumes	AM			1	2,952	57	56	0	93	21	1,180	1	4	3	14	4,382
	PM			27	1,781	132	127	3	156	53	2,155	0	7	25	32	4,498

10. Layhill Road / Glenallan Avenue																
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound			
				Glenallan Avenue	Layhill Road	Layhill Road	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	
Pipeline Trip Distribution Glenmont Metrocenter (Commercial Use) Glenmont Metrocenter (Residential Use) 4010 Randolph Road Kaiser Permanente Aspen Hill Wheaton Gateway				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	Total
		x			12%	19%	2%	2%		19%					12%	
		x	x	x	11%	13%	1%	1%		13%					11%	
		x	x	x				5%					5%			
Site Trip Distribution Site Trip Distribution		x	x						5%							

10. Layhill Road / Glenallan Avenue																
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound			
				Glenallan Avenue	Layhill Road	Layhill Road	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	
Existing 2022 Traffic Volumes	AM			47	252	129	262	848	103	49	318	19	28	378	29	2,462
	PM			56	218	178	119	465	78	72	222	28	50	701	71	2,258
Glenmont Metrocenter (Commercial Use)	AM	189	116	14	22	2	4	0	0	0	36	0	0	0	23	101
	PM	373	404	48	77	8	7	0	0	0	71	0	0	0	45	256
Glenmont Metrocenter (Residential Use)	AM	95	320	35	42	3	1	0	0	12	0	0	0	0	10	103
	PM	230	147	16	19	1	2	0	0	30	0	0	0	0	25	93
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	14	42	0	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road	AM	30	61	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	51	37	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	214	500	0	0	0	0	0	0	0	0	0	0	0	0	0
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	1	0	0	0	0	0	2	0	3
	PM	14	43	0	0	0	0	2	0	0	0	0	0	1	0	3
Wheaton Gateway	AM	188	50	0	0	0	0	3	0	0	0	0	0	9	0	12
	PM	57	133	0	0	0	0	7	0	0	0	0	0	3	0	10
Subtotal Pipeline Trip Assignments	AM	705	593	49	64	5	5	2	0	0	48	0	0	7	33	213
	PM	897	1,136	83	119	11	8	5	0	83	0	0	2	55	366	
Future Background Volumes	AM	96	316	134	267	850	103	49	366	19	28	385	62	2,675		
	PM	139	337	189	127	470	78	72	305	28	50	703	126	2,624		
Site Trip Assignments	AM	169	574	0	0	0	0	0	9	29	0	0	0	0	38	
	PM	363	238	0	0	0	0	0	18	12	0	0	0	0	30	
Traffic ADJ	AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Future Volumes	AM	96	316	134	267	850	112	78	366	19	28	385	62	2,713		
	PM	139	337	189	127	470	96	84	305	28	50	703	126	2,654		

11. Georgia Avenue / Arcola Avenue													
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Total
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL		EBR	EBT	EBL
Pipeline Trip Distribution Glennmont Metrocenter (Commercial Use) Glennmont Metrocenter (Residential Use) 4010 Randolph Road Kaiser Permanente Aspen Hill Wheaton Gateway													
		x		x	36%					36%			
		x		x	41%					41%			
		x		x	9%					9%			
		x		x	10%					10%			
Site Trip Distribution Site Trip Distribution		x			45%					45%			

11. Georgia Avenue / Arcola Avenue																
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Total			
				SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL		EBR	EBT	EBL
Existing 2022 Traffic Volumes	AM			19	2,187	374	344	170	145	37	633	30	30	111	33	4,113
	PM			18	1,209	237	392	119	93	67	1,513	53	18	106	50	3,875
Glennmont Metrocenter (Commercial Use)	AM	189	116	0	42	0	0	0	0	0	68	0	0	0	0	110
	PM	373	404	0	145	0	0	0	0	0	134	0	0	0	0	279
Glennmont Metrocenter (Residential Use)	AM	95	320	0	131	0	0	0	0	0	39	0	0	0	0	170
	PM	230	147	0	60	0	0	0	0	0	94	0	0	0	0	154
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	2	0	0	0	0	0	7	0	0	0	0	9
	PM	14	42	0	4	0	0	0	0	0	1	0	0	0	0	5
4010 Randolph Road	AM	30	61	0	5	0	0	0	0	0	3	0	0	0	0	8
	PM	51	37	0	3	0	0	0	0	0	5	0	0	0	0	8
Kaiser Permanente Aspen Hill	AM	317	84	0	8	0	0	0	0	0	32	0	0	0	0	40
	PM	214	500	0	50	0	0	0	0	0	21	0	0	0	0	71
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	6	0	0	0	0	0	2	0	0	0	0	8
	PM	14	43	0	3	0	0	0	0	0	9	0	0	0	0	12
Wheaton Gateway	AM	188	50	0	38	0	0	0	0	0	10	0	0	0	0	48
	PM	57	133	0	11	0	0	0	0	0	27	0	0	0	0	38
Subtotal Pipeline Trip Assignments	AM	705	593	0	216	0	0	0	0	0	143	0	0	0	0	359
	PM	897	1,136	0	333	0	0	0	0	0	216	0	0	0	0	549
Future Background Volumes	AM			19	2,403	374	344	170	145	37	776	30	30	111	33	4,472
	PM			18	1,542	237	392	119	93	67	1,729	53	18	106	50	4,424
Site Trip Assignments	AM	169	574	0	258	0	0	0	0	0	76	0	0	0	0	334
	PM	363	238	0	107	0	0	0	0	0	163	0	0	0	0	270
Traffic ADJ	AM			0	0	0	0	0	0	0	0	0	0	0	0	0
	PM			0	0	0	0	0	0	0	0	0	0	0	0	0
Total Future Volumes	AM			19	2,661	374	344	170	145	37	852	30	30	111	33	4,806
	PM			18	1,649	237	392	119	93	67	1,892	53	18	106	50	4,694

12. Glenallan Avenue / Eskine Avenue																	
Component	Period	Inbound	Outbound	Southbound				Westbound				Northbound		Eastbound		Total	
				Glenallan Avenue SBR	SBT	SBL	SBL	WBR	WBT	WBL	WBL	NBR	NBT	NBL	Eskine Avenue EBR		EBT	EBL
Pipeline Trip Distribution																	
Glenmont Metrocenter (Commercial Use)		x	x														
Glenmont Metrocenter (Residential Use)		x	x														
4010 Randolph Road		x	x														
Kaiser Permanente Aspen Hill		x	x														
Wheaton Gateway		x	x														
Site Trip Distribution																	
Site Trip Distribution		x	x														10%

12. Glenallan Avenue / Eskine Avenue																		
Component	Period	IN	OUT	Southbound				Westbound				Northbound		Eastbound		Total		
				Glenallan Avenue SBR	SBT	SBL	SBL	WBR	WBT	WBL	WBL	NBR	NBT	NBL	Eskine Avenue EBR		EBT	EBL
Existing 2022 Traffic Volumes	AM			1	115	0	0	0	0	0	0	0	0	222	0	0	1	339
	PM			1	120	0	1	0	0	0	0	0	0	100	0	0	2	224
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	373	404	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	230	147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	14	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4010 Randolph Road	AM	30	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	51	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	214	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	14	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wheaton Gateway	AM	188	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	57	133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	PM	897	1,136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Background Volumes	AM			1	115	0	0	0	0	0	0	0	0	222	0	0	1	339
	PM			1	120	0	1	0	0	0	0	0	0	100	0	0	2	224
Site Trip Assignments	AM	169	574	51	0	0	0	0	0	0	0	0	0	0	0	0	57	108
	PM	363	238	109	0	0	0	0	0	0	0	0	0	0	0	0	24	133
Traffic ADJ	AM			2	0	0	0	0	0	0	0	0	0	0	0	0	0	34
	PM			14	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Total Future Volumes	AM			54	115	0	0	0	0	0	0	0	0	222	0	0	90	481
	PM			124	120	0	1	0	0	0	0	0	0	100	0	0	49	394

13. Randolph Road / Heurich Road															
Component	Period	Inbound	Outbound	Southbound			Westbound			Northbound			Eastbound		
				English Orchard Court	WBR	WBT	WBL	Heurich Road	NBR	NBT	NBL	Randolph Road	EBR	EBT	EBL
Pipeline Trip Distribution															
Glenmont Metrocenter (Commercial Use)		x	x				19%								19%
Glenmont Metrocenter (Residential Use)		x	x				13%								13%
4010 Randolph Road		x	x				4%								4%
Kaiser Permanente Aspen Hill		x	x				2%								2%
Wheaton Gateway		x	x				5%								5%
Site Trip Distribution															
Site Trip Distribution		x	x				10%								10%
Total															

13. Randolph Road / Heurich Road																
Component	Period	IN	OUT	Southbound			Westbound			Northbound			Eastbound			
				English Orchard Court	WBR	WBT	WBL	Heurich Road	NBR	NBT	NBL	Randolph Road	EBR	EBT	EBL	
Existing 2022 Traffic Volumes	AM			9	4	16	72	1,930	27	12	2	11	41	1,093	17	3,234
	PM			18	2	14	21	1,268	25	28	3	21	31	1,767	37	3,235
Glenmont Metrocenter (Commercial Use)	AM	189	116	0	0	0	0	36	0	0	0	0	0	22	0	58
	PM	373	404	0	0	0	0	71	0	0	0	0	0	77	0	148
Glenmont Metrocenter (Residential Use)	AM	95	320	0	0	0	0	12	0	0	0	0	0	42	0	54
	PM	230	147	0	0	0	0	30	0	0	0	0	0	19	0	49
4010 Randolph Road (Existing Trip Credit)	AM	82	27	0	0	0	0	3	0	0	0	0	0	1	0	4
	PM	14	42	0	0	0	0	1	0	0	0	0	0	2	0	3
4010 Randolph Road	AM	30	61	0	0	0	0	1	0	0	0	0	0	2	0	3
	PM	51	37	0	0	0	0	2	0	0	0	0	0	1	0	3
Kaiser Permanente Aspen Hill	AM	317	84	0	0	0	0	6	0	0	0	0	0	2	0	8
	PM	214	500	0	0	0	0	4	0	0	0	0	0	10	0	14
Wheaton Gateway (Existing Trip Credit)	AM	32	11	0	0	0	0	2	0	0	0	0	0	1	0	3
	PM	14	43	0	0	0	0	1	0	0	0	0	0	2	0	3
Wheaton Gateway	AM	188	50	0	0	0	0	9	0	0	0	0	0	3	0	12
	PM	57	133	0	0	0	0	3	0	0	0	0	0	7	0	10
Subtotal Pipeline Trip Assignments	AM	705	593	0	0	0	0	59	0	0	0	0	0	69	0	128
	PM	897	1,136	0	0	0	0	90	0	0	0	0	0	133	0	223
Future Background Volumes	AM			9	4	16	72	1,989	27	12	2	11	41	1,162	17	3,362
	PM			18	2	14	21	1,358	25	28	3	21	31	1,900	37	3,458
Site Trip Assignments	AM	169	574	0	0	0	0	17	0	0	0	0	0	57	0	74
	PM	363	238	0	0	0	0	37	0	0	0	0	0	24	0	61
Traffic ADJ	AM			0	0	0	0	0	0	0	0	0	0	0	0	0
	PM			0	0	0	0	0	0	0	0	0	0	0	0	0
Total Future Volumes	AM			9	4	16	72	2,006	27	12	2	11	41	1,219	17	3,436
	PM			18	2	14	21	1,395	25	28	3	21	31	1,924	37	3,519

APPENDIX H
FUTURE BACKGROUND CONDITIONS CAPACITY ANALYSES

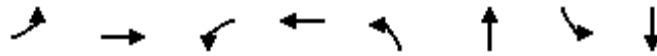


Queues

Background Conditions

6: Garden Gate Road/Middlevale Lane & Randolph Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	1277	88	2325	38	21	186	112
v/c Ratio	0.50	0.42	0.31	0.83	0.15	0.06	0.67	0.28
Control Delay	93.4	10.1	11.6	31.1	46.5	29.1	65.5	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.4	10.1	11.6	31.1	46.5	29.1	65.5	12.5
Queue Length 50th (ft)	0	88	28	696	29	8	163	11
Queue Length 95th (ft)	134	97	49	830	63	32	250	62
Internal Link Dist (ft)		805		1479		200		276
Turn Bay Length (ft)	300		235					
Base Capacity (vph)	253	3030	440	2798	339	478	365	500
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.42	0.20	0.83	0.11	0.04	0.51	0.22
Intersection Summary								

HCM 6th Signalized Intersection Summary
 6: Garden Gate Road/Middlevale Lane & Randolph Road

Background Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶		↶	↶	
Traffic Volume (veh/h)	68	1172	16	82	2055	107	35	10	9	173	13	91
Future Volume (veh/h)	68	1172	16	82	2055	107	35	10	9	173	13	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	0.98		0.90	0.95		0.93	0.93		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	1260	17	88	2210	115	38	11	10	186	14	98
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	3129	42	357	2891	149	256	202	184	337	44	308
Arrive On Green	0.10	1.00	1.00	0.03	0.59	0.59	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	5183	70	1781	4941	255	1211	867	788	1294	189	1321
Grp Volume(v), veh/h	73	827	450	88	1515	810	38	0	21	186	0	112
Grp Sat Flow(s),veh/h/ln	1781	1702	1849	1781	1702	1792	1211	0	1655	1294	0	1509
Q Serve(g_s), s	6.0	0.0	0.0	3.0	49.9	51.3	4.0	0.0	1.5	19.6	0.0	9.2
Cycle Q Clear(g_c), s	6.0	0.0	0.0	3.0	49.9	51.3	13.2	0.0	1.5	21.0	0.0	9.2
Prop In Lane	1.00		0.04	1.00		0.14	1.00		0.48	1.00		0.88
Lane Grp Cap(c), veh/h	93	2055	1116	357	1992	1048	256	0	385	337	0	352
V/C Ratio(X)	0.79	0.40	0.40	0.25	0.76	0.77	0.15	0.00	0.05	0.55	0.00	0.32
Avail Cap(c_a), veh/h	255	2055	1116	553	1992	1048	317	0	469	402	0	428
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.4	0.0	0.0	11.5	23.3	23.6	53.2	0.0	44.7	52.9	0.0	47.7
Incr Delay (d2), s/veh	17.7	0.6	1.0	0.4	2.8	5.5	0.3	0.0	0.1	1.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.2	0.3	1.2	19.8	22.2	1.3	0.0	0.6	6.5	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.1	0.6	1.0	11.8	26.1	29.1	53.4	0.0	44.8	54.3	0.0	48.2
LnGrp LOS	F	A	A	B	C	C	D	A	D	D	A	D
Approach Vol, veh/h		1350			2413			59				298
Approach Delay, s/veh		5.2			26.6			50.3				52.0
Approach LOS		A			C			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.3	94.3		42.4	10.5	97.0		42.4				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	21.5	66.5		42.5	21.5	66.5		42.5				
Max Q Clear Time (g_c+I1), s	8.0	0.0		15.2	5.0	0.0		23.0				
Green Ext Time (p_c), s	0.2	0.0		0.2	0.2	0.0		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				21.8								
HCM 6th LOS				C								

HCM 6th TWSC
8: Georgia Avenue & Glenmont Circle

Background Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑ ↑↑	↑↑↑			↑↑↑
Traffic Vol, veh/h	0	36	1224	20	0	2738
Future Vol, veh/h	0	36	1224	20	0	2738
Conflicting Peds, #/hr	0	0	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	40	1375	22	0	3076

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	709	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	323	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	320	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	320
HCM Lane V/C Ratio	-	-	0.126
HCM Control Delay (s)	-	-	17.9
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.4

Queues

9: Georgia Avenue & Commercial Driveway/Shorefield Road

Background Conditions

AM Peak Hour



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	22	98	59	1185	60	2837
v/c Ratio	0.12	0.56	0.24	0.34	0.17	0.70
Control Delay	48.2	72.1	14.4	18.4	4.9	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	72.1	14.4	18.4	4.9	8.8
Queue Length 50th (ft)	16	92	0	263	10	374
Queue Length 95th (ft)	43	148	42	394	25	549
Internal Link Dist (ft)	68	646		2085		1312
Turn Bay Length (ft)					290	
Base Capacity (vph)	296	283	363	3502	417	4058
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.35	0.16	0.34	0.14	0.70
Intersection Summary						

HCM 6th Signalized Intersection Summary
 9: Georgia Avenue & Commercial Driveway/Shorefield Road

Background Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔↔↔		↔	↔↔↔	
Traffic Volume (veh/h)	14	3	4	93	0	56	1	1104	21	57	2694	1
Future Volume (veh/h)	14	3	4	93	0	56	1	1104	21	57	2694	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.98		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	3	4	98	0	59	1	1162	22	60	2836	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	19	16	213	0	193	24	3705	70	453	4226	1
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	1.00	1.00	1.00	0.03	0.80	0.80
Sat Flow, veh/h	404	154	124	1316	0	1539	0	5000	95	1781	5272	2
Grp Volume(v), veh/h	22	0	0	98	0	59	433	360	392	60	1831	1006
Grp Sat Flow(s),veh/h/ln	682	0	0	1316	0	1539	1862	1549	1684	1781	1702	1870
Q Serve(g_s), s	1.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	1.1	34.6	34.7
Cycle Q Clear(g_c), s	11.9	0.0	0.0	10.9	0.0	5.2	0.0	0.0	0.0	1.1	34.6	34.7
Prop In Lane	0.68		0.18	1.00		1.00	0.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h	126	0	0	213	0	193	1404	1148	1248	453	2729	1499
V/C Ratio(X)	0.18	0.00	0.00	0.46	0.00	0.31	0.31	0.31	0.31	0.13	0.67	0.67
Avail Cap(c_a), veh/h	241	0	0	325	0	318	1404	1148	1248	547	2729	1499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.3	0.0	0.0	62.2	0.0	59.7	0.0	0.0	0.0	3.6	6.4	6.4
Incr Delay (d2), s/veh	0.7	0.0	0.0	3.3	0.0	1.9	0.5	0.7	0.6	0.1	1.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	3.8	0.0	2.2	0.2	0.2	0.2	0.4	11.2	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.9	0.0	0.0	65.5	0.0	61.6	0.5	0.7	0.6	3.7	7.7	8.8
LnGrp LOS	E	A	A	E	A	E	A	A	A	A	A	A
Approach Vol, veh/h		22			157			1185			2897	
Approach Delay, s/veh		62.9			64.0			0.6			8.0	
Approach LOS		E			E			A			A	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		125.2		24.8	9.1	116.1		24.8				
Change Period (Y+Rc), s		5.0		6.0	4.5	5.0		6.0				
Max Green Setting (Gmax), s		108.0		31.0	12.5	91.0		31.0				
Max Q Clear Time (g_c+I1), s		0.0		13.9	3.1	0.0		12.9				
Green Ext Time (p_c), s		0.0		0.0	0.1	0.0		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				8.3								
HCM 6th LOS				A								

Queues
11: Georgia Avenue & Arcola Avenue
























Background Conditions
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	151	156	183	370	32	874	402	2604
v/c Ratio	0.23	0.64	0.61	0.41	0.56	0.25	0.35	0.78	0.82
Control Delay	60.6	70.9	56.2	50.2	7.5	20.4	25.3	22.5	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	70.9	56.2	50.2	7.5	20.4	25.3	22.5	19.2
Queue Length 50th (ft)	31	135	126	152	0	9	180	68	755
Queue Length 95th (ft)	66	204	185	216	82	28	281	192	927
Internal Link Dist (ft)		260		916			1249		2085
Turn Bay Length (ft)			180			155		235	
Base Capacity (vph)	202	312	258	527	707	286	2504	624	3174
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.48	0.60	0.35	0.52	0.11	0.35	0.64	0.82
Intersection Summary									

HCM 6th Signalized Intersection Summary
 11: Georgia Avenue & Arcola Avenue

Background Conditions
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	111	30	145	170	344	30	776	37	374	2403	19
Future Volume (veh/h)	33	111	30	145	170	344	30	776	37	374	2403	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	119	32	156	183	370	32	834	40	402	2584	20
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	202	54	269	478	404	149	2413	115	545	3152	24
Arrive On Green	0.14	0.14	0.14	0.08	0.26	0.26	0.02	0.48	0.48	0.29	1.00	1.00
Sat Flow, veh/h	853	1418	381	1781	1870	1581	1781	4991	239	1781	5227	40
Grp Volume(v), veh/h	35	0	151	156	183	370	32	568	306	402	1682	922
Grp Sat Flow(s),veh/h/ln	853	0	1800	1781	1870	1581	1781	1702	1826	1781	1702	1863
Q Serve(g_s), s	5.5	0.0	11.8	11.0	12.1	34.1	1.3	15.5	15.6	18.4	0.0	0.0
Cycle Q Clear(g_c), s	5.5	0.0	11.8	11.0	12.1	34.1	1.3	15.5	15.6	18.4	0.0	0.0
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.13	1.00		0.02
Lane Grp Cap(c), veh/h	169	0	256	269	478	404	149	1646	883	545	2053	1124
V/C Ratio(X)	0.21	0.00	0.59	0.58	0.38	0.92	0.21	0.35	0.35	0.74	0.82	0.82
Avail Cap(c_a), veh/h	193	0	306	269	530	448	343	1646	883	704	2053	1124
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.65	0.65	0.65
Uniform Delay (d), s/veh	57.5	0.0	60.2	48.7	46.1	54.2	18.5	24.0	24.0	12.6	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	4.6	3.1	1.1	24.0	0.7	0.6	1.1	1.9	2.5	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	5.7	5.2	5.8	16.3	0.6	6.4	7.0	5.1	0.7	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	0.0	64.8	51.8	47.1	78.2	19.2	24.6	25.1	14.5	2.5	4.5
LnGrp LOS	E	A	E	D	D	E	B	C	C	B	A	A
Approach Vol, veh/h		186			709			906			3006	
Approach Delay, s/veh		63.6			64.4			24.6			4.7	
Approach LOS		E			E			C			A	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	96.5	17.0	27.9	26.6	78.5		44.9				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.5	5.0	6.0		6.5				
Max Green Setting (Gmax), s	20.0	70.0	12.0	25.5	35.0	55.0		42.5				
Max Q Clear Time (g_c+I1), s	3.3	0.0	13.0	13.8	20.4	0.0		36.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	1.2	0.0		2.3				
Intersection Summary												
HCM 6th Ctrl Delay				19.6								
HCM 6th LOS				B								

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	0	222	115	1
Future Vol, veh/h	1	0	0	222	115	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	0	288	149	1

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	438	150	150	0	-	0
Stage 1	150	-	-	-	-	-
Stage 2	288	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	576	896	1431	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	576	896	1431	-	-	-
Mov Cap-2 Maneuver	576	-	-	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	761	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1431	-	576	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	0	-	11.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Queues
13: Heurich Road & Randolph Road

Background Conditions
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	18	1308	29	2240	27	31
v/c Ratio	0.13	0.36	0.09	0.61	0.11	0.13
Control Delay	17.4	16.0	6.6	7.1	29.0	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	16.0	6.6	7.2	29.0	35.6
Queue Length 50th (ft)	4	108	3	113	11	16
Queue Length 95th (ft)	m24	300	m8	208	38	45
Internal Link Dist (ft)		1077		805	410	241
Turn Bay Length (ft)	300		300			
Base Capacity (vph)	257	3646	414	3674	374	366
Starvation Cap Reductn	0	0	0	76	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.36	0.07	0.62	0.07	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
13: Heurich Road & Randolph Road

Background Conditions
AM Peak Hour



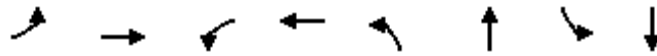
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕				↕
Traffic Volume (veh/h)	17	1162	41	27	1989	72	11	2	12	16	4	9
Future Volume (veh/h)	17	1162	41	27	1989	72	11	2	12	16	4	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.96		0.96	0.96		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1263	45	29	2162	78	12	2	13	17	4	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	3564	127	386	3592	129	116	28	102	143	38	68
Arrive On Green	0.04	1.00	1.00	0.05	1.00	1.00	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	5062	180	1781	5060	182	574	198	716	740	265	479
Grp Volume(v), veh/h	18	849	459	29	1452	788	27	0	0	31	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1838	1781	1702	1838	1487	0	0	1485	0	0
Q Serve(g_s), s	0.4	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.7	0.0	0.0	2.1	0.0	0.0	2.4	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.10	0.44		0.48	0.55		0.32
Lane Grp Cap(c), veh/h	199	2397	1294	386	2417	1305	247	0	0	249	0	0
V/C Ratio(X)	0.09	0.35	0.35	0.08	0.60	0.60	0.11	0.00	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	364	2397	1294	540	2417	1305	394	0	0	395	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.46	0.46	0.46	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.8	0.0	0.0	5.5	0.0	0.0	56.1	0.0	0.0	56.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.4	0.7	0.0	0.5	1.0	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.2	0.2	0.2	0.3	0.9	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.9	0.4	0.7	5.6	0.5	1.0	56.2	0.0	0.0	56.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	A
Approach Vol, veh/h		1326			2269			27				31
Approach Delay, s/veh		0.5			0.7			56.2				56.4
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	113.0		28.9	9.0	112.1		28.9				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	77.5		36.5	16.5	77.5		36.5				
Max Q Clear Time (g_c+I1), s	2.4	2.0		4.4	2.7	2.0		4.1				
Green Ext Time (p_c), s	0.0	63.2		0.1	0.0	27.7		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				1.5								
HCM 6th LOS				A								

Queues

Background Conditions

6: Garden Gate Road/Middlevale Lane & Randolph Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	1906	36	1528	25	20	114	34
v/c Ratio	0.25	0.53	0.20	0.43	0.14	0.09	0.62	0.14
Control Delay	70.6	10.0	8.2	11.4	54.5	28.8	74.3	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.6	10.0	8.2	11.4	54.5	28.8	74.3	21.2
Queue Length 50th (ft)	27	101	6	220	22	6	109	5
Queue Length 95th (ft)	m54	305	24	380	46	28	155	35
Internal Link Dist (ft)		805		1479		200		276
Turn Bay Length (ft)	300		235					
Base Capacity (vph)	194	3583	299	3537	327	409	331	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.53	0.12	0.43	0.08	0.05	0.34	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 6: Garden Gate Road/Middlevale Lane & Randolph Road

Background Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶		↶	↶	
Traffic Volume (veh/h)	25	1819	30	35	1335	147	24	7	13	111	6	27
Future Volume (veh/h)	25	1819	30	35	1335	147	24	7	13	111	6	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	1875	31	36	1376	152	25	7	13	114	6	28
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	3758	62	266	3406	376	183	69	128	196	34	157
Arrive On Green	0.04	1.00	1.00	0.03	0.73	0.73	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	5173	85	1781	4664	515	1369	584	1085	1386	286	1336
Grp Volume(v), veh/h	26	1233	673	36	1004	524	25	0	20	114	0	34
Grp Sat Flow(s),veh/h/ln	1781	1702	1854	1781	1702	1775	1369	0	1669	1386	0	1622
Q Serve(g_s), s	2.2	0.0	0.0	0.8	16.9	16.9	2.5	0.0	1.6	12.0	0.0	2.8
Cycle Q Clear(g_c), s	2.2	0.0	0.0	0.8	16.9	16.9	5.3	0.0	1.6	13.6	0.0	2.8
Prop In Lane	1.00		0.05	1.00		0.29	1.00		0.65	1.00		0.82
Lane Grp Cap(c), veh/h	39	2473	1347	266	2486	1296	183	0	196	196	0	191
V/C Ratio(X)	0.66	0.50	0.50	0.14	0.40	0.40	0.14	0.00	0.10	0.58	0.00	0.18
Avail Cap(c_a), veh/h	196	2473	1347	415	2486	1296	351	0	400	366	0	389
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	71.1	0.0	0.0	4.7	7.7	7.7	62.1	0.0	59.1	65.2	0.0	59.6
Incr Delay (d2), s/veh	20.9	0.6	1.1	0.2	0.5	0.9	0.3	0.0	0.2	2.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	0.4	0.3	5.8	6.2	0.9	0.0	0.7	4.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.0	0.6	1.1	4.9	8.2	8.7	62.4	0.0	59.3	67.9	0.0	60.1
LnGrp LOS	F	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1932			1564			45				148
Approach Delay, s/veh		2.0			8.3			61.0				66.1
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	116.0		25.1	9.4	115.5		25.1				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	78.0		36.0	16.5	78.0		36.0				
Max Q Clear Time (g_c+I1), s	4.2	0.0		7.3	2.8	0.0		15.6				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				8.0								
HCM 6th LOS				A								

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑ ↑ ↑	↑ ↑ ↑			↑ ↑ ↑
Traffic Vol, veh/h	0	23	2121	39	0	1819
Future Vol, veh/h	0	23	2121	39	0	1819
Conflicting Peds, #/hr	0	0	0	35	35	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	2587	48	0	2218

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	1353	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	120	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	116	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	45.7	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	116
HCM Lane V/C Ratio	-	-	0.242
HCM Control Delay (s)	-	-	45.7
HCM Lane LOS	-	-	E
HCM 95th %tile Q(veh)	-	-	0.9

Queues

Background Conditions

9: Georgia Avenue & Commercial Driveway/Shorefield Road

PM Peak Hour



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	66	166	132	2130	138	1772
v/c Ratio	0.31	0.74	0.36	0.65	0.70	0.46
Control Delay	52.7	78.2	10.1	21.3	46.5	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	78.2	10.1	21.3	46.5	7.9
Queue Length 50th (ft)	54	156	0	335	66	214
Queue Length 95th (ft)	96	228	57	558	#158	300
Internal Link Dist (ft)	68	646		2085		1312
Turn Bay Length (ft)					290	
Base Capacity (vph)	281	293	440	3277	216	3828
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.57	0.30	0.65	0.64	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 9: Georgia Avenue & Commercial Driveway/Shorefield Road

Background Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕↕↕		↕	↕↕↕	
Traffic Volume (veh/h)	32	25	7	156	3	127	0	1992	53	132	1674	27
Future Volume (veh/h)	32	25	7	156	3	127	0	1992	53	132	1674	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	26	7	162	3	132	0	2075	55	138	1744	28
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	46	9	247	4	318	0	3317	88	241	3718	60
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.00	1.00	1.00	0.04	0.72	0.72
Sat Flow, veh/h	146	219	43	958	18	1526	0	5281	135	1781	5175	83
Grp Volume(v), veh/h	66	0	0	165	0	132	0	1380	750	138	1147	625
Grp Sat Flow(s),veh/h/ln	408	0	0	975	0	1526	0	1702	1844	1781	1702	1854
Q Serve(g_s), s	4.2	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	3.8	21.5	21.5
Cycle Q Clear(g_c), s	29.2	0.0	0.0	25.1	0.0	11.2	0.0	0.0	0.0	3.8	21.5	21.5
Prop In Lane	0.50		0.11	0.98		1.00	0.00		0.07	1.00		0.04
Lane Grp Cap(c), veh/h	121	0	0	251	0	318	0	2209	1196	241	2445	1332
V/C Ratio(X)	0.55	0.00	0.00	0.66	0.00	0.42	0.00	0.62	0.63	0.57	0.47	0.47
Avail Cap(c_a), veh/h	148	0	0	276	0	346	0	2209	1196	319	2445	1332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.62	0.62	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.3	0.0	0.0	56.9	0.0	51.5	0.0	0.0	0.0	7.3	9.0	9.0
Incr Delay (d2), s/veh	3.8	0.0	0.0	7.5	0.0	1.8	0.0	0.8	1.6	2.1	0.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	6.6	0.0	4.5	0.0	0.3	0.5	1.6	7.9	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	0.0	0.0	64.4	0.0	53.3	0.0	0.8	1.6	9.4	9.6	10.2
LnGrp LOS	E	A	A	E	A	D	A	A	A	A	A	B
Approach Vol, veh/h		66			297			2130				1910
Approach Delay, s/veh		65.1			59.5			1.1				9.8
Approach LOS		E			E			A				A
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		112.8		37.2	10.4	102.3		37.2				
Change Period (Y+Rc), s		5.0		6.0	4.5	5.0		6.0				
Max Green Setting (Gmax), s		105.0		34.0	12.5	88.0		34.0				
Max Q Clear Time (g_c+I1), s		0.0		31.2	5.8	0.0		27.1				
Green Ext Time (p_c), s		0.0		0.0	0.2	0.0		1.2				
Intersection Summary												
HCM 6th Ctrl Delay				9.8								
HCM 6th LOS				A								

Queues
11: Georgia Avenue & Arcola Avenue
























Background Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	133	100	128	422	57	1931	255	1677
v/c Ratio	0.37	0.61	0.40	0.31	0.73	0.28	0.73	0.88	0.53
Control Delay	67.0	71.6	50.0	49.2	21.8	13.9	31.6	79.8	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	71.6	50.0	49.2	21.8	13.9	31.6	79.8	14.0
Queue Length 50th (ft)	50	121	79	104	105	16	535	205	248
Queue Length 95th (ft)	93	186	127	158	227	36	696	313	274
Internal Link Dist (ft)		260		916			1249		2085
Turn Bay Length (ft)			180			155		235	
Base Capacity (vph)	210	314	257	527	653	408	2638	347	3143
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.42	0.39	0.24	0.65	0.14	0.73	0.73	0.53
Intersection Summary									

HCM 6th Signalized Intersection Summary
 11: Georgia Avenue & Arcola Avenue

Background Conditions
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	106	18	93	119	392	53	1729	67	237	1542	18
Future Volume (veh/h)	50	106	18	93	119	392	53	1729	67	237	1542	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	114	19	100	128	422	57	1859	72	255	1658	19
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	297	49	307	525	440	250	2528	98	277	2979	34
Arrive On Green	0.19	0.19	0.19	0.06	0.28	0.28	0.03	0.50	0.50	0.20	1.00	1.00
Sat Flow, veh/h	851	1558	260	1781	1870	1566	1781	5043	195	1781	5204	60
Grp Volume(v), veh/h	54	0	133	100	128	422	57	1254	677	255	1085	592
Grp Sat Flow(s),veh/h/ln	851	0	1818	1781	1870	1566	1781	1702	1834	1781	1702	1859
Q Serve(g_s), s	8.2	0.0	9.6	6.6	7.9	39.8	2.3	43.6	43.8	12.6	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	9.6	6.6	7.9	39.8	2.3	43.6	43.8	12.6	0.0	0.0
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.11	1.00		0.03
Lane Grp Cap(c), veh/h	210	0	346	307	525	440	250	1706	919	277	1949	1064
V/C Ratio(X)	0.26	0.00	0.38	0.33	0.24	0.96	0.23	0.73	0.74	0.92	0.56	0.56
Avail Cap(c_a), veh/h	210	0	346	348	530	444	493	1706	919	393	1949	1064
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	52.5	0.0	53.0	43.9	41.7	53.1	17.0	29.5	29.6	31.7	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	1.5	0.6	0.5	32.9	0.5	2.9	5.2	19.4	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	4.6	3.0	3.8	19.7	1.0	18.2	20.3	9.8	0.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	0.0	54.5	44.5	42.2	86.0	17.5	32.4	34.8	51.1	1.0	1.9
LnGrp LOS	D	A	D	D	D	F	B	C	C	D	A	A
Approach Vol, veh/h		187			650			1988			1932	
Approach Delay, s/veh		54.3			71.0			32.8			7.9	
Approach LOS		D			E			C			A	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	91.9	13.5	35.1	20.2	81.2		48.6				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.5	5.0	6.0		6.5				
Max Green Setting (Gmax), s	25.0	65.0	12.0	25.5	25.0	65.0		42.5				
Max Q Clear Time (g_c+I1), s	4.3	0.0	8.6	11.6	14.6	0.0		41.8				
Green Ext Time (p_c), s	0.1	0.0	0.1	1.1	0.6	0.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				28.7								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	2	0	0	100	120	1
Future Vol, veh/h	2	0	0	100	120	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	0	0	130	156	1

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	287	157	157	0	-	0
Stage 1	157	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	703	889	1423	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	703	889	1423	-	-	-
Mov Cap-2 Maneuver	703	-	-	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1423	-	703	-	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s)	0	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Queues
13: Heurich Road & Randolph Road

Background Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	38	1991	26	1422	54	35
v/c Ratio	0.12	0.49	0.14	0.36	0.36	0.24
Control Delay	1.2	2.1	3.0	2.1	37.2	35.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.2	2.1	3.0	2.1	37.2	35.5
Queue Length 50th (ft)	0	140	1	32	24	15
Queue Length 95th (ft)	m3	159	4	43	58	44
Internal Link Dist (ft)		1077		805	410	241
Turn Bay Length (ft)	300		300			
Base Capacity (vph)	414	4029	306	3971	375	377
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.49	0.08	0.36	0.14	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
13: Heurich Road & Randolph Road

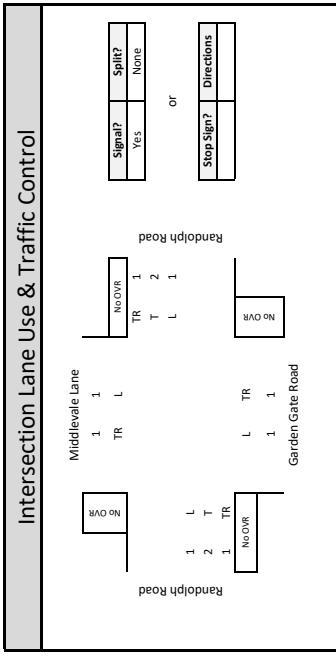
Background Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↑			↘	↙
Traffic Volume (veh/h)	37	1900	31	25	1358	21	21	3	28	14	2	18
Future Volume (veh/h)	37	1900	31	25	1358	21	21	3	28	14	2	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.98		0.98	0.98		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	1959	32	26	1400	22	22	3	29	14	2	19
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	3942	64	252	3921	62	75	20	71	75	21	74
Arrive On Green	0.05	1.00	1.00	0.04	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1781	5174	84	1781	5178	81	473	234	819	478	240	853
Grp Volume(v), veh/h	38	1288	703	26	920	502	54	0	0	35	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1855	1781	1702	1855	1526	0	0	1571	0	0
Q Serve(g_s), s	0.7	0.0	0.0	0.5	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	0.0	0.5	0.0	0.0	4.8	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.04	0.41		0.54	0.40		0.54
Lane Grp Cap(c), veh/h	381	2593	1413	252	2578	1405	165	0	0	169	0	0
V/C Ratio(X)	0.10	0.50	0.50	0.10	0.36	0.36	0.33	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	529	2593	1413	408	2578	1405	398	0	0	401	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.81	0.91	0.91	0.91	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.5	0.0	0.0	3.6	0.0	0.0	64.7	0.0	0.0	64.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.6	1.0	0.2	0.4	0.6	1.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.4	0.2	0.1	0.3	2.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.6	0.6	1.0	3.8	0.4	0.6	65.9	0.0	0.0	64.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	A
Approach Vol, veh/h		2029			1448			54				35
Approach Delay, s/veh		0.8			0.5			65.9				64.6
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	120.1		20.4	8.8	120.8		20.4				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	77.5		36.5	16.5	77.5		36.5				
Max Q Clear Time (g_c+I1), s	2.7	2.0		4.9	2.5	2.0		6.8				
Green Ext Time (p_c), s	0.0	34.4		0.1	0.0	53.6		0.3				

Intersection Summary

HCM 6th Ctrl Delay	2.3
HCM 6th LOS	A



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	TR	1188	0	0.37	440	82	1.00	82	522	*
	L	68	0	1.00	68				150	*
WB	TR	2102	0	0.37	800	68	1.00	68	868	*
	L	82	0	1.00	82				150	*
NB	TR	19	0	1.00	19	173	1.00	173	192	*
	L	35	0	1.00	35				208	*
SB	TR	104	0	1.00	104	35	1.00	35	139	*
	L	173	0	1.00	173				208	*
Note:								CLV	1284	
Congestion Equiv.								V/c	0.803	
								1.600		

Approach	Excl. Right	Right Vol.	PM	LUF	AM	PM	LUF	AM	PM	Overlap
Eastbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	n/a	0	0	0

PM Peak Hour Critical Lane Volume Analysis

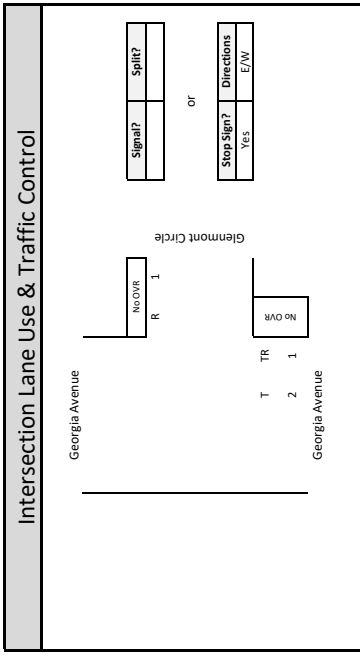
Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	TR	1849	0	0.37	684	35	1.00	35	719	*
	L	25	0	1.00	25				60	*
WB	TR	1482	0	0.37	548	25	1.00	25	573	*
	L	35	0	1.00	35				60	*
NB	TR	20	0	1.00	20	111	1.00	111	131	*
	L	24	0	1.00	24				135	*
SB	TR	33	0	1.00	33	24	1.00	24	57	*
	L	111	0	1.00	111				135	*
Note:								CLV	989	
Congestion Equiv.								V/c	0.618	
								1.600		

Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	PM	LUF	PM	LUF	AM	PM
Eastbound	n/a	n/a	n/a	n/a	0	0
Westbound	n/a	n/a	n/a	n/a	0	0
Northbound	n/a	n/a	n/a	n/a	0	0
Southbound	n/a	n/a	n/a	n/a	0	0

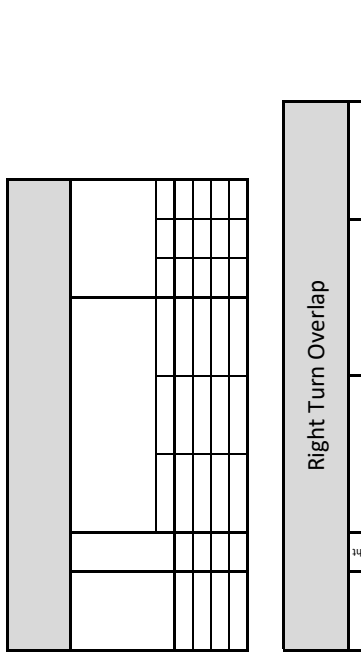
Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	
2	0.53	
3	0.37	
4	0.30	
5	0.25	



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	
EB					0	0		0	0	
WB	R	36		1.00	36	0		0	36	
NB	TR	1244		0.37	460	0		0	460	
SB					0	0		0	0	
Note:									CLV	496
Congestion Equiv.									1800	0.276

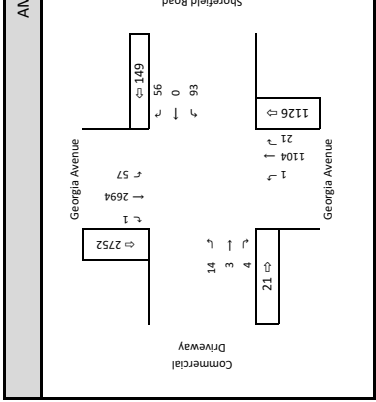
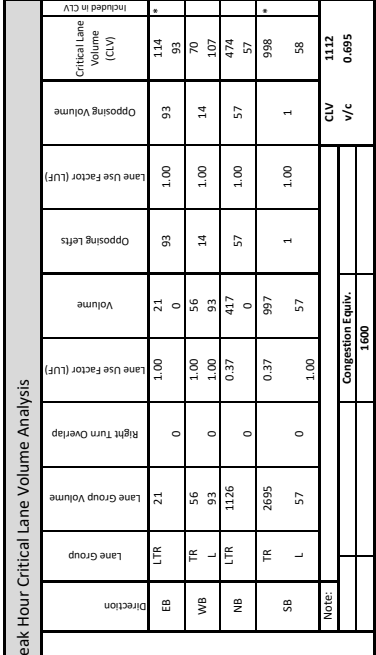
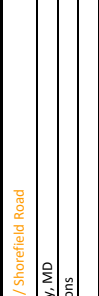


PM Peak Hour Critical Lane Volume Analysis

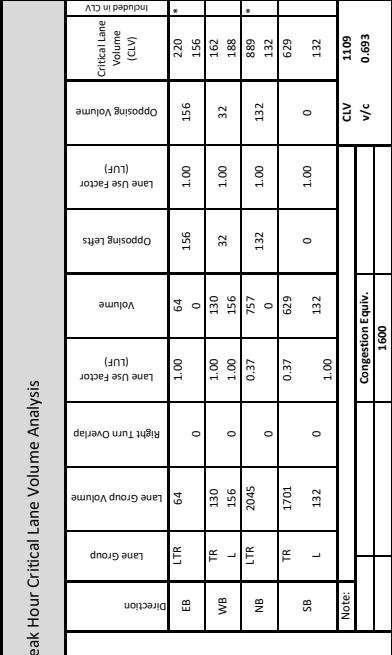
Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	
EB					0	0		0	0	
WB	R	23		1.00	23	0		0	23	
NB	TR	2160		0.37	799	0		0	799	
SB					0	0		0	0	
Note:									CLV	822
Congestion Equiv.									1800	0.457

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25



Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LTR	21	0	1.00	21	93	1.00	93	114
WB	L	56	0	1.00	56	14	1.00	14	70
NB	LTR	1126	0	0.37	417	57	1.00	57	474
SB	L	57	0	1.00	57	1	1.00	1	58
Notes:									1112
Congestion Equiv.:									0.695
									1.00



Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LTR	64	0	1.00	64	156	1.00	156	220
WB	L	130	0	1.00	130	32	1.00	32	162
NB	LTR	2045	0	0.37	757	132	1.00	132	889
SB	L	132	0	1.00	132	0	1.00	0	132
Notes:									1109
Congestion Equiv.:									0.693
									1.00

Right Turn Overlap

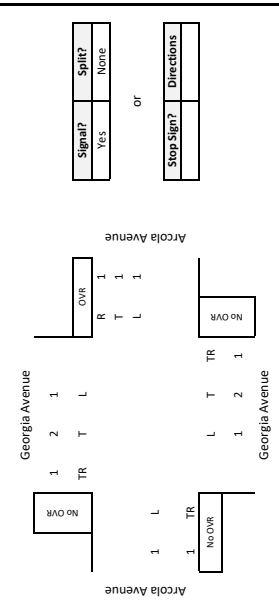
Approach	Kvl. Right	Right Vol.				Adjacent Overlap Vol.				Overlap		
		AM	PM	LUF	AM	PM	LUF	AM	PM	AM	PM	
Backboard	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Westboard	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Northboard	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0
Southboard	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25



Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	141		1.00	141	145	1.00	145	286
	L	33	0	1.00	33				178
WB	R	170		1.00	170	33	1.00	33	203
	L	344	344	1.00	0				33
NB	TR	813		0.37	301	374	1.00	374	675
	L	30	0	1.00	30				404
SB	TR	2422		0.37	896	30	1.00	30	926
	L	374	0	1.00	374				404
Notes:								CLV	1212
Congestion Equiv.								V/c	0.758
									1.600

PM Peak Hour Critical Lane Volume Analysis

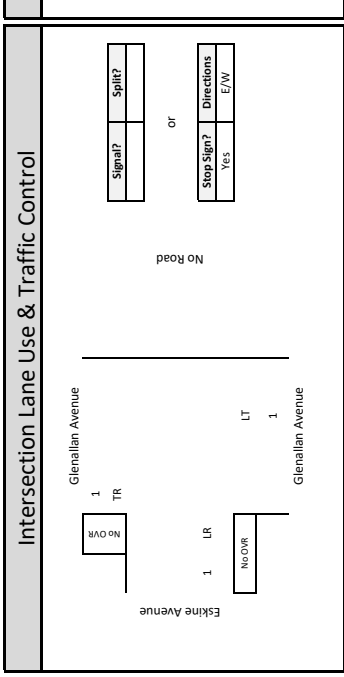
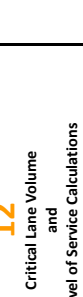
Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	124		1.00	124	93	1.00	93	217
	L	50	0	1.00	50				143
WB	R	119		1.00	119	50	1.00	50	169
	L	392	0	1.00	392				442
NB	TR	1796		0.37	665	237	1.00	237	902
	L	53	0	1.00	53				290
SB	TR	1560		0.37	577	53	1.00	53	630
	L	237	0	1.00	237				290
Notes:								CLV	1344
Congestion Equiv.								V/c	0.840
									1.600

Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	AM	PM	AM	PM	AM	PM
Yes	n/a	n/a	n/a	n/a	n/a	0
Yes	344	392	1.00	374	1.00	344
Yes	n/a	n/a	n/a	n/a	n/a	0
Yes	n/a	n/a	n/a	n/a	n/a	0
Yes	n/a	n/a	n/a	n/a	n/a	0
Yes	n/a	n/a	n/a	n/a	n/a	0

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	0
2	0.53	0.53
3	0.37	0.30
4	0.30	0.25
5	0.25	0



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	LR	1		1.00	1			0	1	*
WB					0			0	0	
NB	LT	222		1.00	222			0	222	*
SB	TR	116		1.00	116			0	116	*
Notes:									CLV	223
Congestion Equiv.									V/c	0.189
										1.600

Approach	Right	Left	Thru	Overlap
AM				
PM				
PM				
AM				
PM				
AM				
PM				
AM				
PM				

PM Peak Hour Critical Lane Volume Analysis

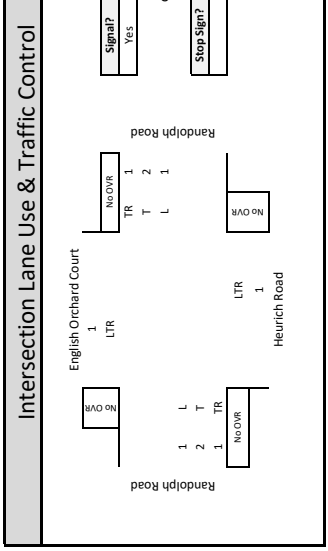
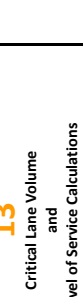
Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	LR	2		1.00	2			0	2	*
WB					0			0	0	
NB	LT	100		1.00	100			0	100	*
SB	TR	121		1.00	121			0	121	*
Notes:									CLV	123
Congestion Equiv.									V/c	0.077
										1.600

Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	PM	AM	PM	AM	LUF	PM
Eastbound	n/a	n/a	n/a	n/a	n/a	0
Westbound	n/a	n/a	n/a	n/a	n/a	0
Northbound	n/a	n/a	n/a	n/a	n/a	0
Southbound	n/a	n/a	n/a	n/a	n/a	0

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4		0.30
5		0.25



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1203		0.37	445	27	1.00	27	472
	L	17		1.00	17				44
WB	TR	2061		0.37	763	17	1.00	17	780
	L	27		1.00	27				44
NB	LTR	25		1.00	25	16	1.00	16	41
	TR	29		1.00	29	11	1.00	11	40
Note: Congestion Equiv. 1.600									821
									0.513

Approach	Right Vol.	Left Vol.	Through Vol.	Overlap
AM	PM	LUF	AM	PM
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1931		0.37	714	25	1.00	25	739
	L	37		1.00	37				62
WB	TR	1379		0.37	510	37	1.00	37	547
	L	25		1.00	25				62
NB	LTR	52		1.00	52	14	1.00	14	66
	TR	34		1.00	34	21	1.00	21	55
Note: Congestion Equiv. 1.600									805
									0.503

Right Turn Overlap

Approach	Right Vol.	Left Vol.	Through Vol.	Overlap
AM	PM	LUF	AM	PM
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

APPENDIX I
TOTAL FUTURE CONDITIONS CAPACITY ANALYSES

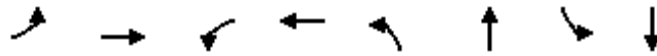


Queues

Total Future Conditions

6: Garden Gate Road/Middlevale Lane & Randolph Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	1339	88	2343	38	21	186	112
v/c Ratio	0.50	0.44	0.32	0.84	0.15	0.06	0.67	0.28
Control Delay	94.7	10.8	12.0	31.4	46.5	29.1	65.5	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.7	10.8	12.0	31.4	46.5	29.1	65.5	12.5
Queue Length 50th (ft)	0	85	28	706	29	8	163	11
Queue Length 95th (ft)	132	79	49	841	63	32	250	62
Internal Link Dist (ft)		805		1479		200		276
Turn Bay Length (ft)	300		235					
Base Capacity (vph)	253	3030	425	2799	339	478	365	500
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.44	0.21	0.84	0.11	0.04	0.51	0.22

Intersection Summary

HCM 6th Signalized Intersection Summary
 6: Garden Gate Road/Middlevale Lane & Randolph Road

Total Future Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶		↶	↶	
Traffic Volume (veh/h)	68	1229	16	82	2072	107	35	10	9	173	13	91
Future Volume (veh/h)	68	1229	16	82	2072	107	35	10	9	173	13	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	0.98		0.90	0.95		0.93	0.93		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	1322	17	88	2228	115	38	11	10	186	14	98
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	3131	40	343	2893	148	256	202	184	337	44	308
Arrive On Green	0.10	1.00	1.00	0.03	0.59	0.59	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	5187	67	1781	4944	253	1211	867	788	1294	189	1321
Grp Volume(v), veh/h	73	867	472	88	1527	816	38	0	21	186	0	112
Grp Sat Flow(s),veh/h/ln	1781	1702	1850	1781	1702	1793	1211	0	1655	1294	0	1509
Q Serve(g_s), s	6.0	0.0	0.0	3.0	50.6	52.0	4.0	0.0	1.5	19.6	0.0	9.2
Cycle Q Clear(g_c), s	6.0	0.0	0.0	3.0	50.6	52.0	13.2	0.0	1.5	21.0	0.0	9.2
Prop In Lane	1.00		0.04	1.00		0.14	1.00		0.48	1.00		0.88
Lane Grp Cap(c), veh/h	93	2055	1117	343	1992	1049	256	0	385	337	0	352
V/C Ratio(X)	0.79	0.42	0.42	0.26	0.77	0.78	0.15	0.00	0.05	0.55	0.00	0.32
Avail Cap(c_a), veh/h	255	2055	1117	539	1992	1049	317	0	469	402	0	428
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.4	0.0	0.0	11.5	23.4	23.7	53.2	0.0	44.7	52.9	0.0	47.7
Incr Delay (d2), s/veh	17.5	0.6	1.1	0.4	2.9	5.7	0.3	0.0	0.1	1.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.2	0.3	1.2	20.1	22.6	1.3	0.0	0.6	6.5	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.9	0.6	1.1	11.9	26.3	29.4	53.4	0.0	44.8	54.3	0.0	48.2
LnGrp LOS	F	A	A	B	C	C	D	A	D	D	A	D
Approach Vol, veh/h		1412			2431			59				298
Approach Delay, s/veh		5.1			26.8			50.3				52.0
Approach LOS		A			C			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.3	94.3		42.4	10.5	97.0		42.4				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	21.5	66.5		42.5	21.5	66.5		42.5				
Max Q Clear Time (g_c+I1), s	8.0	0.0		15.2	5.0	0.0		23.0				
Green Ext Time (p_c), s	0.2	0.0		0.2	0.2	0.0		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				21.6								
HCM 6th LOS				C								

HCM 6th TWSC
 8: Georgia Avenue & Glenmont Circle

Total Future Conditions
 AM Peak Hour

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↑↑↑	↑↑↑			↑↑↑
Traffic Vol, veh/h	0	180	1224	96	0	2996
Future Vol, veh/h	0	180	1224	96	0	2996
Conflicting Peds, #/hr	0	0	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	202	1375	108	0	3366

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	752	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	303	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	300	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	38.6	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	300
HCM Lane V/C Ratio	-	-	0.674
HCM Control Delay (s)	-	-	38.6
HCM Lane LOS	-	-	E
HCM 95th %tile Q(veh)	-	-	4.5

Queues

Total Future Conditions

9: Georgia Avenue & Commercial Driveway/Shorefield Road

AM Peak Hour



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	22	98	59	1265	60	3108
v/c Ratio	0.12	0.56	0.24	0.36	0.18	0.77
Control Delay	50.1	72.1	14.4	20.3	5.0	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	72.1	14.4	20.3	5.0	10.4
Queue Length 50th (ft)	17	92	0	349	10	467
Queue Length 95th (ft)	43	148	42	432	25	682
Internal Link Dist (ft)	68	646		2085		1312
Turn Bay Length (ft)					290	
Base Capacity (vph)	295	283	363	3498	392	4058
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.35	0.16	0.36	0.15	0.77
Intersection Summary						

HCM 6th Signalized Intersection Summary
 9: Georgia Avenue & Commercial Driveway/Shorefield Road

Total Future Conditions
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↕	↗		↕↗↘		↘	↕↗↘	
Traffic Volume (veh/h)	14	3	4	93	0	56	1	1180	21	57	2952	1
Future Volume (veh/h)	14	3	4	93	0	56	1	1180	21	57	2952	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.98		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	3	4	98	0	59	1	1242	22	60	3107	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	19	16	213	0	193	24	3709	66	427	4226	1
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	1.00	1.00	1.00	0.03	0.80	0.80
Sat Flow, veh/h	404	154	124	1316	0	1539	0	5006	89	1781	5272	2
Grp Volume(v), veh/h	22	0	0	98	0	59	462	385	419	60	2006	1102
Grp Sat Flow(s),veh/h/ln	682	0	0	1316	0	1539	1860	1549	1685	1781	1702	1870
Q Serve(g_s), s	1.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	1.1	42.7	42.7
Cycle Q Clear(g_c), s	11.9	0.0	0.0	10.9	0.0	5.2	0.0	0.0	0.0	1.1	42.7	42.7
Prop In Lane	0.68		0.18	1.00		1.00	0.00		0.05	1.00		0.00
Lane Grp Cap(c), veh/h	126	0	0	213	0	193	1402	1148	1249	427	2729	1499
V/C Ratio(X)	0.18	0.00	0.00	0.46	0.00	0.31	0.33	0.34	0.34	0.14	0.74	0.74
Avail Cap(c_a), veh/h	241	0	0	325	0	318	1402	1148	1249	521	2729	1499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.3	0.0	0.0	62.2	0.0	59.7	0.0	0.0	0.0	3.6	7.2	7.2
Incr Delay (d2), s/veh	0.7	0.0	0.0	3.3	0.0	1.9	0.6	0.7	0.7	0.1	1.8	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	3.8	0.0	2.2	0.2	0.2	0.2	0.4	13.8	15.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.9	0.0	0.0	65.5	0.0	61.6	0.6	0.7	0.7	3.8	9.0	10.4
LnGrp LOS	E	A	A	E	A	E	A	A	A	A	A	B
Approach Vol, veh/h		22			157			1265			3168	
Approach Delay, s/veh		62.9			64.0			0.6			9.4	
Approach LOS		E			E			A			A	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		125.2		24.8	9.1	116.1		24.8				
Change Period (Y+Rc), s		5.0		6.0	4.5	5.0		6.0				
Max Green Setting (Gmax), s		108.0		31.0	12.5	91.0		31.0				
Max Q Clear Time (g_c+I1), s		0.0		13.9	3.1	0.0		12.9				
Green Ext Time (p_c), s		0.0		0.0	0.1	0.0		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				9.1								
HCM 6th LOS				A								

Queues
11: Georgia Avenue & Arcola Avenue

Total Future Conditions
AM Peak Hour


























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	151	156	183	370	32	956	402	2881
v/c Ratio	0.23	0.64	0.61	0.41	0.56	0.26	0.39	0.81	0.91
Control Delay	60.6	70.9	56.2	50.2	7.5	20.6	26.8	27.7	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	70.9	56.2	50.2	7.5	20.6	26.8	27.7	22.3
Queue Length 50th (ft)	31	135	126	152	0	9	211	98	934
Queue Length 95th (ft)	66	204	185	216	82	27	311	249	#1189
Internal Link Dist (ft)		260		916			1249		2085
Turn Bay Length (ft)			180			155		235	
Base Capacity (vph)	202	312	258	527	707	286	2461	600	3174
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.48	0.60	0.35	0.52	0.11	0.39	0.67	0.91

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 11: Georgia Avenue & Arcola Avenue

Total Future Conditions
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	111	30	145	170	344	30	852	37	374	2661	19
Future Volume (veh/h)	33	111	30	145	170	344	30	852	37	374	2661	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	119	32	156	183	370	32	916	40	402	2861	20
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	202	54	269	478	404	135	2425	106	521	3155	22
Arrive On Green	0.14	0.14	0.14	0.08	0.26	0.26	0.02	0.48	0.48	0.29	1.00	1.00
Sat Flow, veh/h	853	1418	381	1781	1870	1581	1781	5015	219	1781	5231	36
Grp Volume(v), veh/h	35	0	151	156	183	370	32	621	335	402	1859	1022
Grp Sat Flow(s),veh/h/ln	853	0	1800	1781	1870	1581	1781	1702	1830	1781	1702	1864
Q Serve(g_s), s	5.5	0.0	11.8	11.0	12.1	34.1	1.3	17.3	17.3	18.4	0.0	0.0
Cycle Q Clear(g_c), s	5.5	0.0	11.8	11.0	12.1	34.1	1.3	17.3	17.3	18.4	0.0	0.0
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.12	1.00		0.02
Lane Grp Cap(c), veh/h	169	0	256	269	478	404	135	1646	885	521	2053	1124
V/C Ratio(X)	0.21	0.00	0.59	0.58	0.38	0.92	0.24	0.38	0.38	0.77	0.91	0.91
Avail Cap(c_a), veh/h	193	0	306	269	530	448	329	1646	885	680	2053	1124
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.55	0.55	0.55
Uniform Delay (d), s/veh	57.5	0.0	60.2	48.7	46.1	54.2	18.5	24.5	24.5	13.2	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	4.6	3.1	1.1	24.0	0.9	0.7	1.2	2.3	4.2	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	5.7	5.2	5.8	16.3	0.6	7.1	7.8	5.2	1.2	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	0.0	64.8	51.8	47.1	78.2	19.4	25.1	25.7	15.5	4.2	7.4
LnGrp LOS	E	A	E	D	D	E	B	C	C	B	A	A
Approach Vol, veh/h		186			709			988			3283	
Approach Delay, s/veh		63.6			64.4			25.1			6.6	
Approach LOS		E			E			C			A	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	96.5	17.0	27.9	26.6	78.5		44.9				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.5	5.0	6.0		6.5				
Max Green Setting (Gmax), s	20.0	70.0	12.0	25.5	35.0	55.0		42.5				
Max Q Clear Time (g_c+I1), s	3.3	0.0	13.0	13.8	20.4	0.0		36.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	1.2	0.0		2.3				
Intersection Summary												
HCM 6th Ctrl Delay			20.1									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	0	0	222	115	27
Future Vol, veh/h	30	0	0	222	115	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	0	0	288	149	35

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	455	167	184	0	-	0
Stage 1	167	-	-	-	-	-
Stage 2	288	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	563	877	1391	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	563	877	1391	-	-	-
Mov Cap-2 Maneuver	563	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	761	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1391	-	563	-	-
HCM Lane V/C Ratio	-	-	0.069	-	-
HCM Control Delay (s)	0	-	11.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Queues
13: Heurich Road & Randolph Road

Total Future Conditions
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	18	1370	29	2258	27	31
v/c Ratio	0.13	0.38	0.10	0.61	0.11	0.13
Control Delay	21.1	21.6	6.7	7.2	29.0	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	21.6	6.7	7.2	29.0	35.6
Queue Length 50th (ft)	0	264	3	113	11	16
Queue Length 95th (ft)	m24	344	m8	209	38	45
Internal Link Dist (ft)		1077		805	410	241
Turn Bay Length (ft)	300		300			
Base Capacity (vph)	254	3646	397	3674	374	366
Starvation Cap Reductn	0	0	0	76	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.38	0.07	0.63	0.07	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
13: Heurich Road & Randolph Road

Total Future Conditions
AM Peak Hour



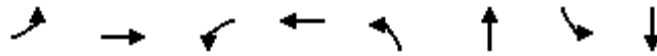
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↕	
Traffic Volume (veh/h)	17	1219	41	27	2006	72	11	2	12	16	4	9
Future Volume (veh/h)	17	1219	41	27	2006	72	11	2	12	16	4	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.96		0.96	0.96		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1325	45	29	2180	78	12	2	13	17	4	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	3571	121	369	3593	128	116	28	102	143	38	68
Arrive On Green	0.04	1.00	1.00	0.05	1.00	1.00	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	5071	172	1781	5061	180	574	198	716	740	265	479
Grp Volume(v), veh/h	18	889	481	29	1464	794	27	0	0	31	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1839	1781	1702	1838	1487	0	0	1485	0	0
Q Serve(g_s), s	0.4	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.7	0.0	0.0	2.1	0.0	0.0	2.4	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.10	0.44		0.48	0.55		0.32
Lane Grp Cap(c), veh/h	197	2397	1295	369	2417	1305	247	0	0	249	0	0
V/C Ratio(X)	0.09	0.37	0.37	0.08	0.61	0.61	0.11	0.00	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	362	2397	1295	523	2417	1305	394	0	0	395	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	0.45	0.45	0.45	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.8	0.0	0.0	5.5	0.0	0.0	56.1	0.0	0.0	56.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.4	0.7	0.0	0.5	1.0	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.3	0.2	0.2	0.3	0.9	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.9	0.4	0.7	5.6	0.5	1.0	56.2	0.0	0.0	56.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	A
Approach Vol, veh/h		1388			2287			27				31
Approach Delay, s/veh		0.6			0.7			56.2				56.4
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	113.0		28.9	9.0	112.1		28.9				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	77.5		36.5	16.5	77.5		36.5				
Max Q Clear Time (g_c+I1), s	2.4	2.0		4.4	2.7	2.0		4.1				
Green Ext Time (p_c), s	0.0	63.6		0.1	0.0	30.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				1.5								
HCM 6th LOS				A								

Queues

Total Future Conditions

6: Garden Gate Road/Middlevale Lane & Randolph Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	1931	36	1566	25	20	114	34
v/c Ratio	0.25	0.54	0.20	0.44	0.14	0.09	0.62	0.14
Control Delay	68.4	11.1	8.3	11.5	54.5	28.8	74.3	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.4	11.1	8.3	11.5	54.5	28.8	74.3	21.2
Queue Length 50th (ft)	26	115	6	229	22	6	109	5
Queue Length 95th (ft)	m54	350	24	393	46	28	155	35
Internal Link Dist (ft)		805		1479		200		276
Turn Bay Length (ft)	300		235					
Base Capacity (vph)	194	3583	296	3537	327	409	331	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.54	0.12	0.44	0.08	0.05	0.34	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 6: Garden Gate Road/Middlevale Lane & Randolph Road

Total Future Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶		↶	↶	
Traffic Volume (veh/h)	25	1843	30	35	1372	147	24	7	13	111	6	27
Future Volume (veh/h)	25	1843	30	35	1372	147	24	7	13	111	6	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	1900	31	36	1414	152	25	7	13	114	6	28
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	3759	61	261	3417	367	183	69	128	196	34	157
Arrive On Green	0.04	1.00	1.00	0.03	0.73	0.73	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	5174	84	1781	4678	503	1369	584	1085	1386	286	1336
Grp Volume(v), veh/h	26	1250	681	36	1029	537	25	0	20	114	0	34
Grp Sat Flow(s),veh/h/ln	1781	1702	1855	1781	1702	1777	1369	0	1669	1386	0	1622
Q Serve(g_s), s	2.2	0.0	0.0	0.8	17.5	17.5	2.5	0.0	1.6	12.0	0.0	2.8
Cycle Q Clear(g_c), s	2.2	0.0	0.0	0.8	17.5	17.5	5.3	0.0	1.6	13.6	0.0	2.8
Prop In Lane	1.00		0.05	1.00		0.28	1.00		0.65	1.00		0.82
Lane Grp Cap(c), veh/h	39	2473	1347	261	2486	1298	183	0	196	196	0	191
V/C Ratio(X)	0.66	0.51	0.51	0.14	0.41	0.41	0.14	0.00	0.10	0.58	0.00	0.18
Avail Cap(c_a), veh/h	196	2473	1347	411	2486	1298	351	0	400	366	0	389
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	71.1	0.0	0.0	4.7	7.8	7.8	62.1	0.0	59.1	65.2	0.0	59.6
Incr Delay (d2), s/veh	20.9	0.6	1.2	0.2	0.5	1.0	0.3	0.0	0.2	2.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	0.4	0.3	6.0	6.4	0.9	0.0	0.7	4.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.0	0.6	1.2	4.9	8.3	8.8	62.4	0.0	59.3	67.9	0.0	60.1
LnGrp LOS	F	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1957			1602			45				148
Approach Delay, s/veh		2.0			8.4			61.0				66.1
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	116.0		25.1	9.4	115.5		25.1				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	78.0		36.0	16.5	78.0		36.0				
Max Q Clear Time (g_c+I1), s	4.2	0.0		7.3	2.8	0.0		15.6				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				8.0								
HCM 6th LOS				A								

HCM 6th TWSC
8: Georgia Avenue & Glenmont Circle

Total Future Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↑↑↑	↑↑↑ ↘			↑↑↑
Traffic Vol, veh/h	0	82	2121	202	0	1926
Future Vol, veh/h	0	82	2121	202	0	1926
Conflicting Peds, #/hr	0	0	0	35	35	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	100	2587	246	0	2349

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	1452	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-
Pot Cap-1 Maneuver	0	103	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	100	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	168.3	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	100
HCM Lane V/C Ratio	-	-	1
HCM Control Delay (s)	-	-	168.3
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	6.1

Queues

Total Future Conditions

9: Georgia Avenue & Commercial Driveway/Shorefield Road

PM Peak Hour



Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	66	166	132	2300	138	1883
v/c Ratio	0.31	0.74	0.36	0.70	0.75	0.49
Control Delay	52.7	78.2	10.1	23.2	59.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	78.2	10.1	23.2	59.4	8.2
Queue Length 50th (ft)	54	156	0	402	81	236
Queue Length 95th (ft)	96	228	57	598	#184	329
Internal Link Dist (ft)	68	646		2085		1312
Turn Bay Length (ft)					290	
Base Capacity (vph)	281	293	440	3278	203	3827
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.57	0.30	0.70	0.68	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 9: Georgia Avenue & Commercial Driveway/Shorefield Road

Total Future Conditions
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕		↕↕↕		↕	↕↕↕	
Traffic Volume (veh/h)	32	25	7	156	3	127	0	2155	53	132	1781	27
Future Volume (veh/h)	32	25	7	156	3	127	0	2155	53	132	1781	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	26	7	162	3	132	0	2245	55	138	1855	28
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	46	9	247	4	318	0	3325	81	222	3722	56
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.00	1.00	1.00	0.04	0.72	0.72
Sat Flow, veh/h	146	219	43	958	18	1526	0	5293	125	1781	5181	78
Grp Volume(v), veh/h	66	0	0	165	0	132	0	1489	81	138	1218	665
Grp Sat Flow(s),veh/h/ln	408	0	0	975	0	1526	0	1702	1846	1781	1702	1855
Q Serve(g_s), s	4.2	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	3.8	23.6	23.6
Cycle Q Clear(g_c), s	29.2	0.0	0.0	25.1	0.0	11.2	0.0	0.0	0.0	3.8	23.6	23.6
Prop In Lane	0.50		0.11	0.98		1.00	0.00		0.07	1.00		0.04
Lane Grp Cap(c), veh/h	121	0	0	251	0	318	0	2209	1198	222	2445	1333
V/C Ratio(X)	0.55	0.00	0.00	0.66	0.00	0.42	0.00	0.67	0.68	0.62	0.50	0.50
Avail Cap(c_a), veh/h	148	0	0	276	0	346	0	2209	1198	300	2445	1333
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.54	0.54	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.3	0.0	0.0	56.9	0.0	51.5	0.0	0.0	0.0	7.3	9.3	9.3
Incr Delay (d2), s/veh	3.8	0.0	0.0	7.5	0.0	1.8	0.0	0.9	1.7	2.8	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	6.6	0.0	4.5	0.0	0.3	0.6	1.6	8.6	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	0.0	0.0	64.4	0.0	53.3	0.0	0.9	1.7	10.1	10.0	10.6
LnGrp LOS	E	A	A	E	A	D	A	A	A	B	A	B
Approach Vol, veh/h		66			297			2300			2021	
Approach Delay, s/veh		65.1			59.5			1.2			10.2	
Approach LOS		E			E			A			B	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		112.8		37.2	10.4	102.3		37.2				
Change Period (Y+Rc), s		5.0		6.0	4.5	5.0		6.0				
Max Green Setting (Gmax), s		105.0		34.0	12.5	88.0		34.0				
Max Q Clear Time (g_c+I1), s		0.0		31.2	5.8	0.0		27.1				
Green Ext Time (p_c), s		0.0		0.0	0.2	0.0		1.2				
Intersection Summary												
HCM 6th Ctrl Delay				9.7								
HCM 6th LOS				A								

Queues
11: Georgia Avenue & Arcola Avenue

Total Future Conditions
PM Peak Hour


























Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	133	100	128	422	57	2106	255	1792
v/c Ratio	0.37	0.61	0.40	0.31	0.73	0.31	0.80	0.88	0.57
Control Delay	67.0	71.6	50.0	49.2	22.0	15.0	33.8	79.6	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	71.6	50.0	49.2	22.0	15.0	33.8	79.6	14.3
Queue Length 50th (ft)	50	121	79	104	106	16	619	207	269
Queue Length 95th (ft)	93	186	127	158	228	36	#840	314	293
Internal Link Dist (ft)		260		916			1249		2085
Turn Bay Length (ft)			180			155		235	
Base Capacity (vph)	210	314	257	527	652	390	2641	347	3143
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.42	0.39	0.24	0.65	0.15	0.80	0.73	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
 11: Georgia Avenue & Arcola Avenue

Total Future Conditions
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	106	18	93	119	392	53	1892	67	237	1649	18
Future Volume (veh/h)	50	106	18	93	119	392	53	1892	67	237	1649	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	114	19	100	128	422	57	2034	72	255	1773	19
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	297	49	307	525	440	231	2483	88	276	2981	32
Arrive On Green	0.19	0.19	0.19	0.06	0.28	0.28	0.03	0.49	0.49	0.22	1.00	1.00
Sat Flow, veh/h	851	1558	260	1781	1870	1566	1781	5062	179	1781	5208	56
Grp Volume(v), veh/h	54	0	133	100	128	422	57	1366	740	255	1159	633
Grp Sat Flow(s),veh/h/ln	851	0	1818	1781	1870	1566	1781	1702	1837	1781	1702	1860
Q Serve(g_s), s	8.2	0.0	9.6	6.6	7.9	39.8	2.4	51.2	51.5	14.3	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	9.6	6.6	7.9	39.8	2.4	51.2	51.5	14.3	0.0	0.0
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.10	1.00		0.03
Lane Grp Cap(c), veh/h	210	0	346	307	525	440	231	1669	901	276	1949	1065
V/C Ratio(X)	0.26	0.00	0.38	0.33	0.24	0.96	0.25	0.82	0.82	0.92	0.59	0.59
Avail Cap(c_a), veh/h	210	0	346	348	530	444	474	1669	901	373	1949	1065
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	52.5	0.0	53.0	43.9	41.7	53.1	17.8	32.5	32.6	36.5	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	1.5	0.6	0.5	32.9	0.5	4.6	8.3	21.0	1.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	4.6	3.0	3.8	19.7	1.0	21.7	24.5	9.8	0.3	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	0.0	54.5	44.5	42.2	86.0	18.4	37.1	40.9	57.5	1.2	2.1
LnGrp LOS	D	A	D	D	D	F	B	D	D	E	A	A
Approach Vol, veh/h		187			650			2163			2047	
Approach Delay, s/veh		54.3			71.0			37.9			8.5	
Approach LOS		D			E			D			A	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	91.9	13.5	35.1	21.8	79.6		48.6				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.5	5.0	6.0		6.5				
Max Green Setting (Gmax), s	25.0	65.0	12.0	25.5	25.0	65.0		42.5				
Max Q Clear Time (g_c+I1), s	4.4	0.0	8.6	11.6	16.3	0.0		41.8				
Green Ext Time (p_c), s	0.1	0.0	0.1	1.1	0.5	0.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			30.8									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	14	0	0	100	120	56
Future Vol, veh/h	14	0	0	100	120	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	0	0	130	156	73

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	323	193	229	0	-	0
Stage 1	193	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	671	849	1339	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	671	849	1339	-	-	-
Mov Cap-2 Maneuver	671	-	-	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1339	-	671	-	-
HCM Lane V/C Ratio	-	-	0.027	-	-
HCM Control Delay (s)	0	-	10.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Queues
13: Heurich Road & Randolph Road

Total Future Conditions
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	38	2016	26	1460	54	35
v/c Ratio	0.13	0.50	0.14	0.37	0.36	0.24
Control Delay	1.2	2.3	3.2	2.1	37.2	35.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.2	2.3	3.2	2.1	37.2	35.5
Queue Length 50th (ft)	1	122	1	33	24	15
Queue Length 95th (ft)	m2	152	m4	43	58	44
Internal Link Dist (ft)		1077		805	410	241
Turn Bay Length (ft)	300		300			
Base Capacity (vph)	405	4029	302	3971	375	377
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.50	0.09	0.37	0.14	0.09

Intersection Summary

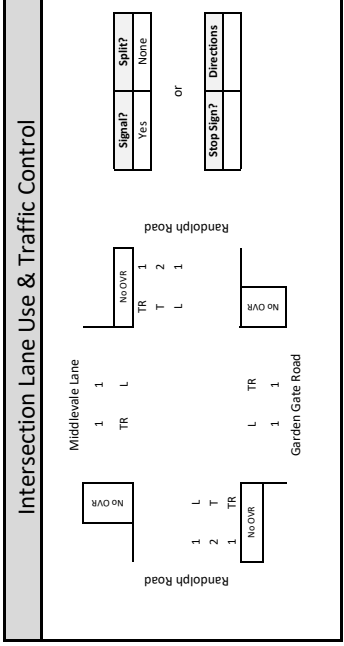
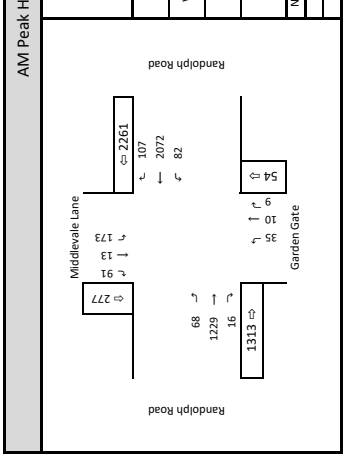
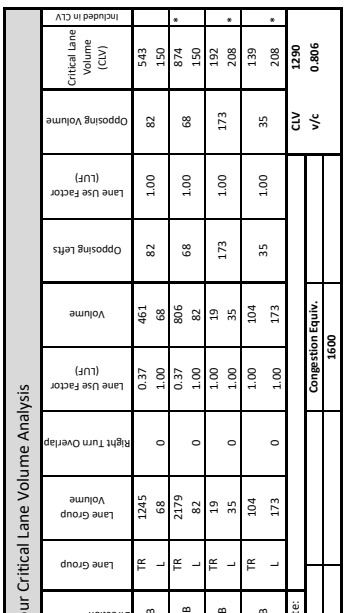
m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
13: Heurich Road & Randolph Road

Total Future Conditions
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↕	
Traffic Volume (veh/h)	37	1924	31	25	1395	21	21	3	28	14	2	18
Future Volume (veh/h)	37	1924	31	25	1395	21	21	3	28	14	2	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.98		0.98	0.98		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	1984	32	26	1438	22	22	3	29	14	2	19
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	370	3943	64	248	3923	60	75	20	71	75	21	74
Arrive On Green	0.05	1.00	1.00	0.04	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1781	5176	83	1781	5181	79	473	234	819	478	240	853
Grp Volume(v), veh/h	38	1304	712	26	945	515	54	0	0	35	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1855	1781	1702	1856	1526	0	0	1571	0	0
Q Serve(g_s), s	0.7	0.0	0.0	0.5	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	0.0	0.5	0.0	0.0	4.8	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.04	0.41		0.54	0.40		0.54
Lane Grp Cap(c), veh/h	370	2593	1413	248	2578	1405	165	0	0	169	0	0
V/C Ratio(X)	0.10	0.50	0.50	0.10	0.37	0.37	0.33	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	519	2593	1413	404	2578	1405	398	0	0	401	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	0.90	0.90	0.90	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.5	0.0	0.0	3.6	0.0	0.0	64.7	0.0	0.0	64.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.9	0.2	0.4	0.7	1.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.4	0.2	0.1	0.3	2.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.6	0.5	0.9	3.8	0.4	0.7	65.9	0.0	0.0	64.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	A
Approach Vol, veh/h		2054			1486			54				35
Approach Delay, s/veh		0.7			0.5			65.9				64.6
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	120.1		20.4	8.8	120.8		20.4				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	77.5		36.5	16.5	77.5		36.5				
Max Q Clear Time (g_c+I1), s	2.7	2.0		4.9	2.5	2.0		6.8				
Green Ext Time (p_c), s	0.0	35.9		0.1	0.0	54.5		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				2.2								
HCM 6th LOS				A								



Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	
EB	TR	1245		0.37	461	82	1.00	82	543	
	L	68	0	1.00	68				150	
WB	TR	2179		0.37	806	68	1.00	68	874	
	L	82	0	1.00	82				150	
NB	TR	19		1.00	19	173	1.00	173	192	
	L	35	0	1.00	35				208	
SB	TR	104		1.00	104	35	1.00	35	139	
	L	173	0	1.00	173				208	
Note: Congestion Equiv. 1600									CLV	1290
									V/c	0.866

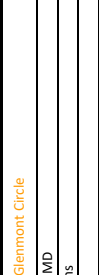
Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	
EB	TR	1873		0.37	683	35	1.00	35	728	
	L	25	0	1.00	25				60	
WB	TR	1519		0.37	562	25	1.00	25	587	
	L	35	0	1.00	35				60	
NB	TR	20		1.00	20	111	1.00	111	131	
	L	24	0	1.00	24				135	
SB	TR	33		1.00	33	24	1.00	24	57	
	L	111	0	1.00	111				135	
Note: Congestion Equiv. 1600									CLV	988
									V/c	0.624

Approach	Excl. Right	Right Vol.	Adj. Overlap Vol.	Overlap
AM		PM	AM	PM
Eastbound	No	n/a	n/a	n/a
Westbound	No	n/a	n/a	n/a
Northbound	No	n/a	n/a	n/a
Southbound	No	n/a	n/a	n/a

Number of Lanes	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

Right Turn LUF	Through LUF
1	1.00
2	0.53
3	0.37
4	0.30
5	0.25

Montgomery County LATR		
Number of Lanes	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25



Intersection Lane Use & Traffic Control

Georgia Avenue

Glenmont Circle

Signal?	Split?
Stop Sign?	Directions E/W
Yes	
No	

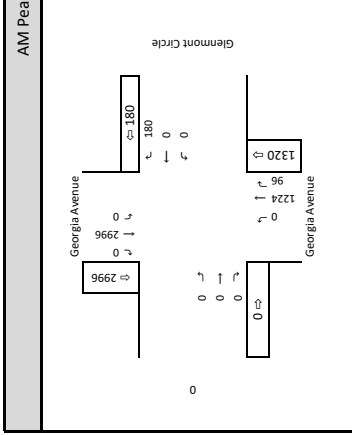
or

Directions E/W
Yes
No

Georgia Avenue

Glenmont Circle

Georgia Avenue



AM Peak Hour Critical Lane Volume Analysis

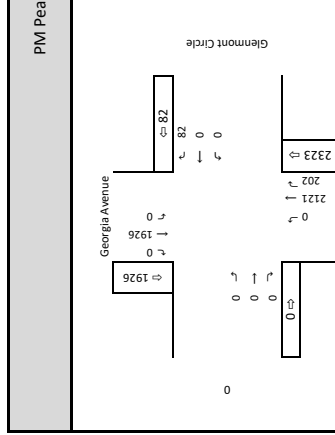
Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	R	180	0	1.00	180	0	0	0	180	*
WB	TR	1320	0	0.37	488	0	0	0	488	*
NB	TR	1320	0	0.37	488	0	0	0	488	*
SB			0		0	0	0	0	0	0
Note:									CLV	688
Congestion Equiv.									v/c	0.371
Congestion Equiv.										1800

Intersection Lane Use & Traffic Control

Georgia Avenue

Glenmont Circle

Georgia Avenue



PM Peak Hour Critical Lane Volume Analysis

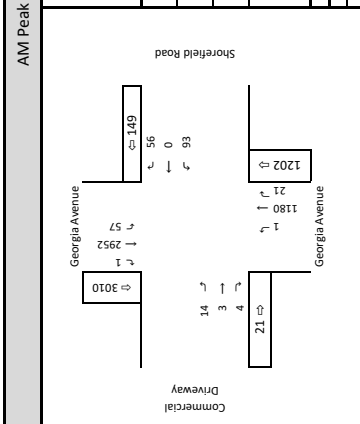
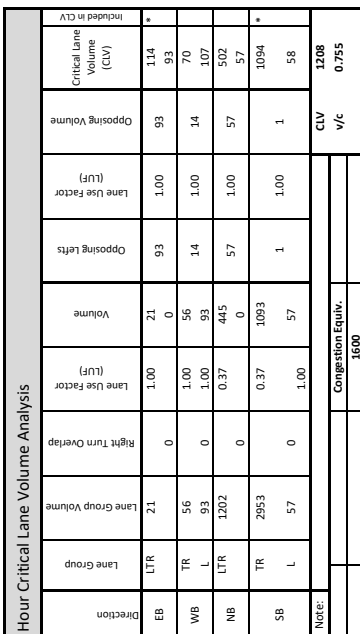
Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)	Included in CLV
EB	R	82	0	1.00	82	0	0	0	82	*
WB	TR	2323	0	0.37	860	0	0	0	860	*
NB	TR	2323	0	0.37	860	0	0	0	860	*
SB			0		0	0	0	0	0	0
Note:									CLV	942
Congestion Equiv.									v/c	0.523
Congestion Equiv.										1800

Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	AM	PM	AM	PM	LUF	AM
Eastbound	n/a	n/a	n/a	n/a	n/a	0
Westbound	n/a	n/a	n/a	n/a	n/a	0
Northbound	n/a	n/a	n/a	n/a	n/a	0
Southbound	n/a	n/a	n/a	n/a	n/a	0

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25



Signal?		Split?		None	
Yes	No	Yes	No	Yes	No

Stop Sign?		Directions	
Yes	No	Yes	No

AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LTR	21	0	1.00	21	93	1.00	93	114
	L	56	0	1.00	56	14	1.00	14	93
WB	LTR	1202	0	0.37	445	57	1.00	57	107
	L	2953	0	0.37	1093	1	1.00	1	502
NB	LTR	21	0	1.00	21	93	1.00	93	114
	L	56	0	1.00	56	14	1.00	14	93
SB	LTR	1202	0	0.37	445	57	1.00	57	107
	L	2953	0	0.37	1093	1	1.00	1	502
Note: Congestion Equiv. 1600									CLV v/c 1208 0.755

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Group Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LTR	64	0	1.00	64	156	1.00	156	220
	L	127	0	1.00	127	3	1.00	3	156
WB	LTR	130	0	1.00	130	32	1.00	32	162
	L	156	0	1.00	156	132	1.00	132	188
NB	LTR	2208	0	0.37	817	0	1.00	0	949
	L	3808	0	0.37	669	0	1.00	0	132
SB	LTR	64	0	1.00	64	156	1.00	156	220
	L	127	0	1.00	127	3	1.00	3	156
Note: Congestion Equiv. 1600									CLV v/c 1169 0.731

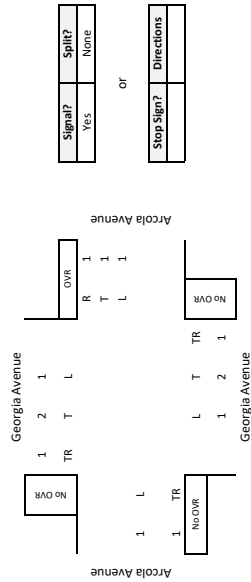
Right Turn Overlap

Approach	Excl. Right	Right Vol.		Adjacent Overlap Vol.		Overlap	
		AM	PM	AM	PM	AM	PM
Eastbound	No	n/a	n/a	n/a	n/a	0	0
Westbound	No	n/a	n/a	n/a	n/a	0	0
Northbound	No	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	0.25
2	0.53	0.30
3	0.37	0.25
4	0.30	0.25
5	0.25	0.25

Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	141	0	1.00	141	145	1.00	145	286
	L	33	0	1.00	33	0	1.00	0	178
WB	R	170	0	1.00	170	33	1.00	33	203
	L	344	344	1.00	0	0	1.00	0	33
NB	TR	889	0	0.37	329	374	1.00	374	703
	L	30	0	1.00	30	0	1.00	0	404
SB	TR	2680	0	0.37	992	30	1.00	30	1022
	L	374	0	1.00	374	0	1.00	0	404
Note: Congestion Equiv. 1600								CLV v/c	1308 0.818

Approach	Excl. Right	Right Vol.	Adjacent Overlap Vol.	Overlap
AM		PM	AM	PM
PM		LUF	PM	LUF
LUF		n/a	n/a	0
n/a		237	1.00	344
344		n/a	n/a	0
Yes		n/a	n/a	0
No		n/a	n/a	0
n/a		n/a	n/a	0
n/a		n/a	n/a	0

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	124	0	1.00	124	93	1.00	93	217
	L	50	0	1.00	50	0	1.00	0	143
WB	R	119	0	1.00	119	50	1.00	50	169
	L	392	0	1.00	392	0	1.00	0	442
NB	TR	1959	0	0.37	725	237	1.00	237	962
	L	53	0	1.00	53	0	1.00	0	290
SB	TR	1667	0	0.37	617	53	1.00	53	670
	L	237	0	1.00	237	0	1.00	0	290
Note: Congestion Equiv. 1600								CLV v/c	1404 0.878

Right Turn Overlap

Approach	Excl. Right	Right Vol.	Adjacent Overlap Vol.	Overlap
AM		PM	AM	PM
PM		LUF	PM	LUF
LUF		n/a	n/a	0
n/a		237	1.00	344
344		n/a	n/a	0
Yes		n/a	n/a	0
No		n/a	n/a	0
n/a		n/a	n/a	0
n/a		n/a	n/a	0

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25



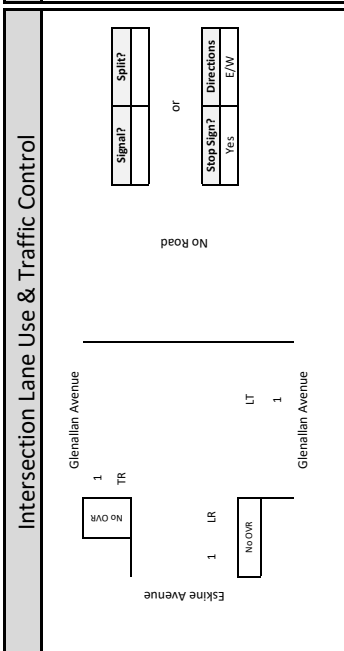
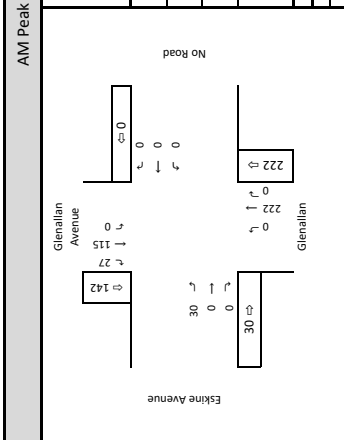
Intersection: 12. Glenallan Avenue / Eskine Avenue

Jurisdiction: Montgomery County, MD
 Scenario/Design Year: Total Future Conditions
 Computed by: W+A

12
 Critical Lane Volume
 and
 Level of Service Calculations

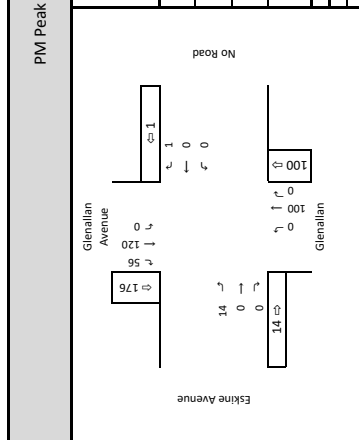
AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LR	30		1.00	30	0		0	30
	WB				0	0		0	0
NB	LT	222		1.00	222	0		0	222
	SB	142		1.00	142	0		0	142
Note: CLV v/c Congestion Equiv. 1600									252 0.158



PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LR	14		1.00	14	0		0	14
	WB				0	0		0	0
NB	LT	100		1.00	100	0		0	100
	SB	176		1.00	176	0		0	176
Note: CLV v/c Congestion Equiv. 1600									190 0.119



Approach	Excl. Right	Right Vol.	Adj. Overlap Vol.	Overlap
AM				
PM				
LUF				
AM				
PM				
LUF				
AM				
PM				
LUF				
AM				
PM				
LUF				

Right Turn Overlap

Approach	Excl. Right	Right Vol.	Adj. Overlap Vol.	Overlap
AM				
PM				
LUF				
AM				
PM				
LUF				
AM				
PM				
LUF				
AM				
PM				
LUF				

Montgomery County LATR

Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1	1.00
2	0.53	0.53
3	0.37	0.37
4	0.30	0.30
5	0.25	0.25

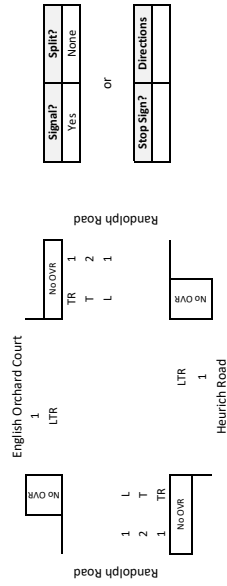


Intersection: 13. Randolph Road / Heurich Road

Jurisdiction: Montgomery County, MD
 Scenario/Design Year: Total Future Conditions
 Computed by: W+A

13
 Critical Lane Volume
 and
 Level of Service Calculations

Intersection Lane Use & Traffic Control



AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1260		0.37	466	27	1.00	27	493
	L	17		1.00	17	44			44
WB	TR	2078		0.37	769	17	1.00	17	786
	L	27		1.00	27	44			44
NB	LTR	25		1.00	25	16	1.00	16	41
	T				0				16
SB	LTR	29		1.00	29	11	1.00	11	40
	T				0				11
Note: Congestion Equiv. = 1600								CLV	827
								v/c	0.517

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	TR	1955		0.37	723	25	1.00	25	748
	L	37		1.00	37	62			62
WB	TR	1416		0.37	524	37	1.00	37	561
	L	25		1.00	25	62			62
NB	LTR	52		1.00	52	14	1.00	14	66
	T				0				14
SB	LTR	34		1.00	34	21	1.00	21	55
	T				0				21
Note: Congestion Equiv. = 1600								CLV	814
								v/c	0.509

Right Turn Overlap

Approach	Excl. Right	Right Vol.		Adjacent Overlap Vol.		Overlap		
		AM	PM	LUF	PM	LUF	AM	PM
Eastbound	No	n/a	n/a	n/a	n/a	n/a	0	0
Westbound	No	n/a	n/a	n/a	n/a	n/a	0	0
Northbound	No	n/a	n/a	n/a	n/a	n/a	0	0
Southbound	No	n/a	n/a	n/a	n/a	n/a	0	0

Montgomery County LATR

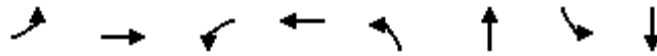
Number of Lanes	Lane Use Factors	
	Left Turn LUF	Through LUF
1	1.00	
2	0.53	
3	0.37	
4	0.30	
5	0.25	

Queues

Total Future Conditions (ADJ)

6: Garden Gate Road/Middlevale Lane & Randolph Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	73	1339	88	2343	38	21	186	112
v/c Ratio	0.50	0.44	0.32	0.84	0.15	0.06	0.67	0.28
Control Delay	95.0	10.5	12.0	31.4	46.5	29.1	65.5	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.0	10.5	12.0	31.4	46.5	29.1	65.5	12.5
Queue Length 50th (ft)	0	62	28	706	29	8	163	11
Queue Length 95th (ft)	132	80	49	841	63	32	250	62
Internal Link Dist (ft)		805		1479		200		276
Turn Bay Length (ft)	300		235					
Base Capacity (vph)	253	3030	425	2799	339	478	365	500
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.44	0.21	0.84	0.11	0.04	0.51	0.22
Intersection Summary								

HCM 6th Signalized Intersection Summary
 6: Garden Gate Road/Middlevale Lane & Randolph Road

Total Future Conditions (ADJ)
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑		↖	↑	
Traffic Volume (veh/h)	68	1229	16	82	2072	107	35	10	9	173	13	91
Future Volume (veh/h)	68	1229	16	82	2072	107	35	10	9	173	13	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	0.98		0.90	0.95		0.93	0.93		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	1322	17	88	2228	115	38	11	10	186	14	98
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	3131	40	343	2893	148	256	202	184	337	44	308
Arrive On Green	0.10	1.00	1.00	0.03	0.59	0.59	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1781	5187	67	1781	4944	253	1211	867	788	1294	189	1321
Grp Volume(v), veh/h	73	867	472	88	1527	816	38	0	21	186	0	112
Grp Sat Flow(s),veh/h/ln	1781	1702	1850	1781	1702	1793	1211	0	1655	1294	0	1509
Q Serve(g_s), s	6.0	0.0	0.0	3.0	50.6	52.0	4.0	0.0	1.5	19.6	0.0	9.2
Cycle Q Clear(g_c), s	6.0	0.0	0.0	3.0	50.6	52.0	13.2	0.0	1.5	21.0	0.0	9.2
Prop In Lane	1.00		0.04	1.00		0.14	1.00		0.48	1.00		0.88
Lane Grp Cap(c), veh/h	93	2055	1117	343	1992	1049	256	0	385	337	0	352
V/C Ratio(X)	0.79	0.42	0.42	0.26	0.77	0.78	0.15	0.00	0.05	0.55	0.00	0.32
Avail Cap(c_a), veh/h	255	2055	1117	539	1992	1049	317	0	469	402	0	428
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	66.4	0.0	0.0	11.5	23.4	23.7	53.2	0.0	44.7	52.9	0.0	47.7
Incr Delay (d2), s/veh	17.5	0.6	1.1	0.4	2.9	5.7	0.3	0.0	0.1	1.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.2	0.3	1.2	20.1	22.6	1.3	0.0	0.6	6.5	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.9	0.6	1.1	11.9	26.3	29.4	53.4	0.0	44.8	54.3	0.0	48.2
LnGrp LOS	F	A	A	B	C	C	D	A	D	D	A	D
Approach Vol, veh/h		1412			2431			59			298	
Approach Delay, s/veh		5.1			26.8			50.3			52.0	
Approach LOS		A			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.3	94.3		42.4	10.5	97.0		42.4				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	21.5	66.5		42.5	21.5	66.5		42.5				
Max Q Clear Time (g_c+I1), s	8.0	0.0		15.2	5.0	0.0		23.0				
Green Ext Time (p_c), s	0.2	0.0		0.2	0.2	0.0		1.0				
Intersection Summary												
HCM 6th Ctrl Delay				21.6								
HCM 6th LOS				C								

HCM 6th TWSC
12: Glenallan Avenue & Erskine Avenue

Total Future Conditions (ADJ)
AM Peak Hour

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	90	0	0	222	115	54
Future Vol, veh/h	90	0	0	222	115	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	0	0	288	149	70

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	472	184	219	0	-	0
Stage 1	184	-	-	-	-	-
Stage 2	288	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	551	858	1350	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	551	858	1350	-	-	-
Mov Cap-2 Maneuver	551	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	761	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1350	-	551	-	-
HCM Lane V/C Ratio	-	-	0.212	-	-
HCM Control Delay (s)	0	-	13.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

Queues
13: Heurich Road & Randolph Road

Total Future Conditions (ADJ)
AM Peak Hour
























Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	18	1370	29	2258	27	31
v/c Ratio	0.13	0.38	0.10	0.61	0.11	0.13
Control Delay	20.6	21.2	6.7	7.2	29.0	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	21.2	6.7	7.2	29.0	35.6
Queue Length 50th (ft)	0	282	3	113	11	16
Queue Length 95th (ft)	m23	335	m8	209	38	45
Internal Link Dist (ft)		1077		805	410	241
Turn Bay Length (ft)	300		300			
Base Capacity (vph)	254	3646	397	3674	374	366
Starvation Cap Reductn	0	0	0	76	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.38	0.07	0.63	0.07	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 13: Heurich Road & Randolph Road

Total Future Conditions (ADJ)
 AM Peak Hour

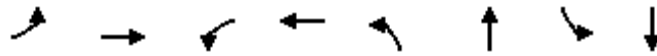
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	1219	41	27	2006	72	11	2	12	16	4	9
Future Volume (veh/h)	17	1219	41	27	2006	72	11	2	12	16	4	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.96		0.96	0.96		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1325	45	29	2180	78	12	2	13	17	4	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	3571	121	369	3593	128	116	28	102	143	38	68
Arrive On Green	0.04	1.00	1.00	0.05	1.00	1.00	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	5071	172	1781	5061	180	574	198	716	740	265	479
Grp Volume(v), veh/h	18	889	481	29	1464	794	27	0	0	31	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1839	1781	1702	1838	1487	0	0	1485	0	0
Q Serve(g_s), s	0.4	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	0.7	0.0	0.0	2.1	0.0	0.0	2.4	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.10	0.44		0.48	0.55		0.32
Lane Grp Cap(c), veh/h	197	2397	1295	369	2417	1305	247	0	0	249	0	0
V/C Ratio(X)	0.09	0.37	0.37	0.08	0.61	0.61	0.11	0.00	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	362	2397	1295	523	2417	1305	394	0	0	395	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.45	0.45	0.45	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.8	0.0	0.0	5.5	0.0	0.0	56.1	0.0	0.0	56.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.4	0.7	0.0	0.5	1.0	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.3	0.2	0.2	0.3	0.9	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.9	0.4	0.7	5.6	0.5	1.0	56.2	0.0	0.0	56.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	A
Approach Vol, veh/h		1388			2287			27				31
Approach Delay, s/veh		0.6			0.7			56.2				56.4
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	113.0		28.9	9.0	112.1		28.9				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	77.5		36.5	16.5	77.5		36.5				
Max Q Clear Time (g_c+I1), s	2.4	2.0		4.4	2.7	2.0		4.1				
Green Ext Time (p_c), s	0.0	63.6		0.1	0.0	30.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				1.5								
HCM 6th LOS				A								

Queues

Total Future Conditions (ADJ)

6: Garden Gate Road/Middlevale Lane & Randolph Road

PM Peak Hour

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	1931	36	1566	25	20	114	34
v/c Ratio	0.25	0.54	0.20	0.44	0.14	0.09	0.62	0.14
Control Delay	68.5	10.9	8.3	11.5	54.5	28.8	74.3	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.5	10.9	8.3	11.5	54.5	28.8	74.3	21.2
Queue Length 50th (ft)	26	116	6	229	22	6	109	5
Queue Length 95th (ft)	m54	341	24	393	46	28	155	35
Internal Link Dist (ft)		805		1479		200		276
Turn Bay Length (ft)	300		235					
Base Capacity (vph)	194	3583	296	3537	327	409	331	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.54	0.12	0.44	0.08	0.05	0.34	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
 6: Garden Gate Road/Middlevale Lane & Randolph Road

Total Future Conditions (ADJ)
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (veh/h)	25	1843	30	35	1372	147	24	7	13	111	6	27
Future Volume (veh/h)	25	1843	30	35	1372	147	24	7	13	111	6	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	1900	31	36	1414	152	25	7	13	114	6	28
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	39	3759	61	261	3417	367	183	69	128	196	34	157
Arrive On Green	0.04	1.00	1.00	0.03	0.73	0.73	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	5174	84	1781	4678	503	1369	584	1085	1386	286	1336
Grp Volume(v), veh/h	26	1250	681	36	1029	537	25	0	20	114	0	34
Grp Sat Flow(s),veh/h/ln	1781	1702	1855	1781	1702	1777	1369	0	1669	1386	0	1622
Q Serve(g_s), s	2.2	0.0	0.0	0.8	17.5	17.5	2.5	0.0	1.6	12.0	0.0	2.8
Cycle Q Clear(g_c), s	2.2	0.0	0.0	0.8	17.5	17.5	5.3	0.0	1.6	13.6	0.0	2.8
Prop In Lane	1.00		0.05	1.00		0.28	1.00		0.65	1.00		0.82
Lane Grp Cap(c), veh/h	39	2473	1347	261	2486	1298	183	0	196	196	0	191
V/C Ratio(X)	0.66	0.51	0.51	0.14	0.41	0.41	0.14	0.00	0.10	0.58	0.00	0.18
Avail Cap(c_a), veh/h	196	2473	1347	411	2486	1298	351	0	400	366	0	389
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	71.1	0.0	0.0	4.7	7.8	7.8	62.1	0.0	59.1	65.2	0.0	59.6
Incr Delay (d2), s/veh	20.9	0.6	1.2	0.2	0.5	1.0	0.3	0.0	0.2	2.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	0.4	0.3	6.0	6.4	0.9	0.0	0.7	4.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.0	0.6	1.2	4.9	8.3	8.8	62.4	0.0	59.3	67.9	0.0	60.1
LnGrp LOS	F	A	A	A	A	A	E	A	E	E	A	E
Approach Vol, veh/h		1957			1602			45			148	
Approach Delay, s/veh		2.0			8.4			61.0			66.1	
Approach LOS		A			A			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	116.0		25.1	9.4	115.5		25.1				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	78.0		36.0	16.5	78.0		36.0				
Max Q Clear Time (g_c+I1), s	4.2	0.0		7.3	2.8	0.0		15.6				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			8.0									
HCM 6th LOS			A									

HCM 6th TWSC
12: Glenallan Avenue & Erskine Avenue

Total Future Conditions (ADJ)
PM Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	49	0	0	100	120	124
Future Vol, veh/h	49	0	0	100	120	124
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	0	0	130	156	161

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	367	237	317	0	-	0
Stage 1	237	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	633	802	1243	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	633	802	1243	-	-	-
Mov Cap-2 Maneuver	633	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1243	-	633	-	-
HCM Lane V/C Ratio	-	-	0.101	-	-
HCM Control Delay (s)	0	-	11.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Queues
13: Heurich Road & Randolph Road

Total Future Conditions (ADJ)
PM Peak Hour





















Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	38	2016	26	1460	54	35
v/c Ratio	0.13	0.50	0.14	0.37	0.36	0.24
Control Delay	1.3	2.4	3.2	2.1	37.2	35.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.3	2.4	3.2	2.1	37.2	35.5
Queue Length 50th (ft)	0	128	1	33	24	15
Queue Length 95th (ft)	m2	165	m4	43	58	44
Internal Link Dist (ft)		1077		805	410	241
Turn Bay Length (ft)	300		300			
Base Capacity (vph)	405	4029	302	3971	375	377
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.50	0.09	0.37	0.14	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 6th Signalized Intersection Summary
13: Heurich Road & Randolph Road

Total Future Conditions (ADJ)
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	1924	31	25	1395	21	21	3	28	14	2	18
Future Volume (veh/h)	37	1924	31	25	1395	21	21	3	28	14	2	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.98		0.98	0.98		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	1984	32	26	1438	22	22	3	29	14	2	19
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	370	3943	64	248	3923	60	75	20	71	75	21	74
Arrive On Green	0.05	1.00	1.00	0.04	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1781	5176	83	1781	5181	79	473	234	819	478	240	853
Grp Volume(v), veh/h	38	1304	712	26	945	515	54	0	0	35	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1855	1781	1702	1856	1526	0	0	1571	0	0
Q Serve(g_s), s	0.7	0.0	0.0	0.5	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	0.0	0.5	0.0	0.0	4.8	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.04	0.41		0.54	0.40		0.54
Lane Grp Cap(c), veh/h	370	2593	1413	248	2578	1405	165	0	0	169	0	0
V/C Ratio(X)	0.10	0.50	0.50	0.10	0.37	0.37	0.33	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	519	2593	1413	404	2578	1405	398	0	0	401	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	0.90	0.90	0.90	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.5	0.0	0.0	3.6	0.0	0.0	64.7	0.0	0.0	64.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.5	0.9	0.2	0.4	0.7	1.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.4	0.2	0.1	0.3	2.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.6	0.5	0.9	3.8	0.4	0.7	65.9	0.0	0.0	64.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	A	E	A	A
Approach Vol, veh/h		2054			1486			54			35	
Approach Delay, s/veh		0.7			0.5			65.9			64.6	
Approach LOS		A			A			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	120.1		20.4	8.8	120.8		20.4				
Change Period (Y+Rc), s	5.5	6.5		7.5	5.5	6.5		7.5				
Max Green Setting (Gmax), s	16.5	77.5		36.5	16.5	77.5		36.5				
Max Q Clear Time (g_c+I1), s	2.7	2.0		4.9	2.5	2.0		6.8				
Green Ext Time (p_c), s	0.0	35.9		0.1	0.0	54.5		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				2.2								
HCM 6th LOS				A								



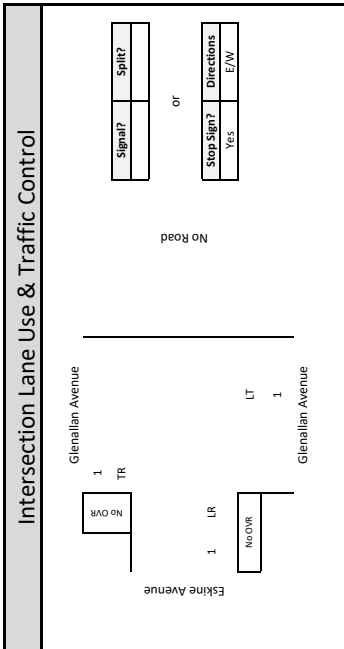
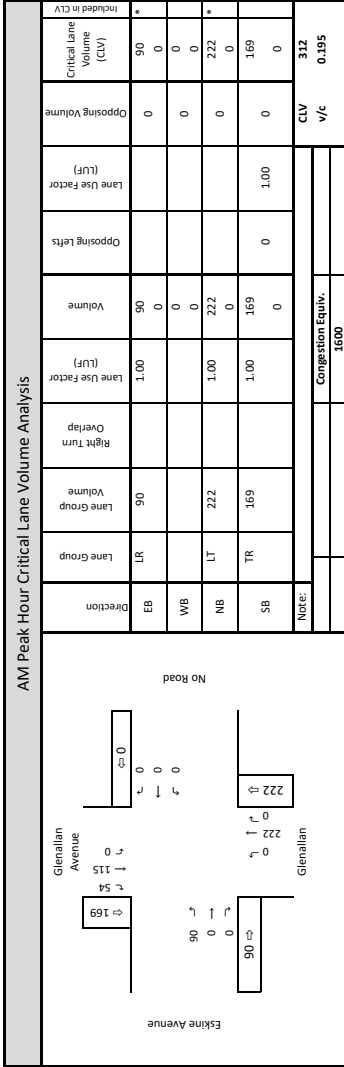
Intersection: 12. Glenallan Avenue / Eskine Avenue

Jurisdiction: Montgomery County, MD

Scenario/Design Year: Total Future Conditions (ADJ)

Computed by: W+A

12
Critical Lane Volume
and
Level of Service Calculations



Intersection Lane Use & Traffic Control

AM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LR	90		1.00	90	0		0	90
	TR	0			0	0		0	0
WB	LT	222			0	0		0	0
	TR	0			0	0		0	0
NB	LT	222		1.00	222	0		0	222
	TR	0			0	0		0	0
SB	LR	169		1.00	169	0		0	169
	TR	0			0	0		0	0
Note: Congestion Equiv. 1600									CLV 312 v/c 0.195

PM Peak Hour Critical Lane Volume Analysis

Direction	Lane Group	Lane Volume	Right Turn Overlap	Lane Use Factor (LUF)	Volume	Opposing Lefts	Lane Use Factor (LUF)	Opposing Volume	Critical Lane Volume (CLV)
EB	LR	49		1.00	49	0		0	49
	TR	0			0	0		0	0
WB	LT	100			0	0		0	0
	TR	0			0	0		0	0
NB	LT	100		1.00	100	0		0	100
	TR	0			0	0		0	0
SB	LR	244		1.00	244	0		0	244
	TR	0			0	0		0	0
Note: Congestion Equiv. 1600									CLV 289 v/c 0.183

Right Turn Overlap

Approach	Right Vol.		Adjacent Overlap Vol.		Overlap	
	AM	PM	AM	PM	LUF	AM
Eastbound	No	n/a	n/a	n/a	n/a	0
Westbound	No	n/a	n/a	n/a	n/a	0
Northbound	No	n/a	n/a	n/a	n/a	0
Southbound	No	n/a	n/a	n/a	n/a	0

Montgomery County LATR

Number of Lanes	Lane Use Factors		Through LUF
	Left Turn LUF	Right Turn LUF	
1	1	1.00	
2	0.53	0.53	
3	0.37	0.37	
4	0.30	0.30	
5	0.25	0.25	