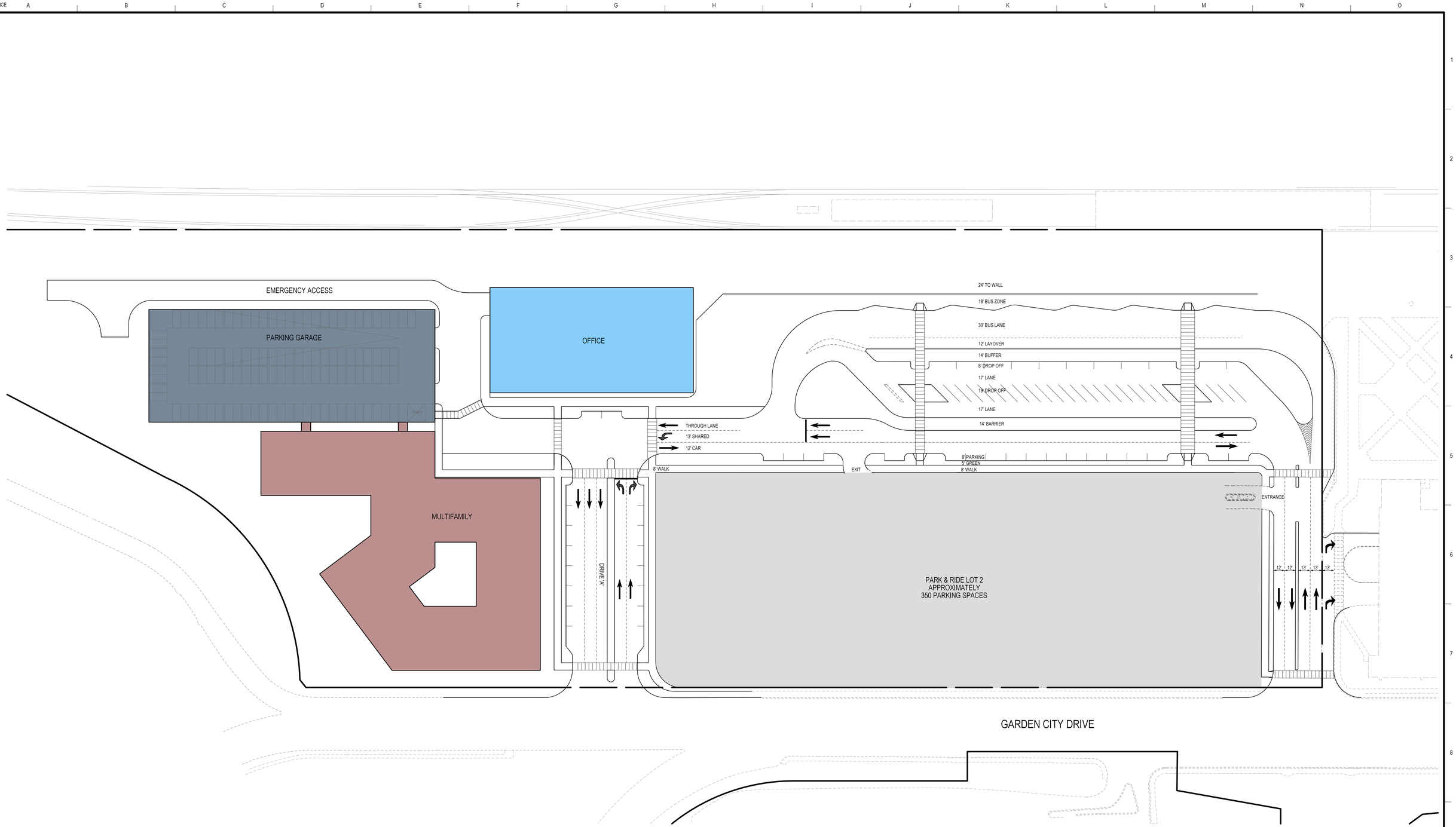
Appendix A: Site Layout Plan

REFERENCE GRID

A B C D E F G H I J K L M N O

1 2 3 4 5 6 7 8 9 10



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Environmental Sciences

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P. 301.794.7555 F. 301.794.7656

www.solteszco.com

NO.	REVISIONS	BY	DATE

DATE: JUNE 2016 | CAD STANDARDS VERSION: V8 - 2000
DESIGNED: YOR | TECHNICIAN: YOR | CHECKED: DJB

MISS UTILITY NOTE

INFORMATION CONCERNING EXISTING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND UTILITY CROSSINGS BY DIGGING TEST PITS BY HAND, WELL IN ADVANCE OF THE START OF EXCAVATION. CONTACT "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY COMPANY BEFORE PROCEEDING WITH CONSTRUCTION. CLEARANCES LESS THAN NOTED MAY REQUIRE REVISIONS TO THIS PLAN.

OWNER/DEVELOPER/APPLICANT

WASHINGTON METRO AREA TRANSIT AUTHORITY
6TH AND D ST NW
WASHINGTON, DC 20004

MASS TRANSIT AUTHORITY
6 ST, PAUL STREET, SUITE 1204
BALTIMORE, MD 21202

NEW CARROLLTON DEVELOPER LLC
7735 OLD GEORGETOWN ROAD
SUITE 600
BETHESDA, MD 20814

MAP 13 GRID D5, E5	
TAX MAP: 52, A1	ZONING CATEGORY: M-X-T
WSSC 200' SHEET: 206NE07	XXXX: XXXX
SITE DATUM HORIZONTAL: XXXXXX VERTICAL: XXXXXX	XXXX: XXXX

PARK & RIDE LOT 2 EXHIBIT

FINAL INTERIM LAYOUT
NEW CARROLLTON

LANHAM (20th) ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

1" = 40'

SHEET 1 OF 1

PROJECT NO. 1958-00-00

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Appendix B: Traffic Impact Analysis

New Carrollton Metro Station
Preliminary Plan No. 4-16023

Prince George's County, Maryland
August 10, 2016

Traffic Impact Analysis

Prepared for:
Urban Atlantic

The Traffic Group

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APPENDICES

APPENDIX A – Scoping Letter, Intersection Turning Movement Counts, and Photos

APPENDIX B – Intersection Capacity Analysis Worksheets

APPENDIX C – Trip Assignment for Background Developments

APPENDIX D – Trip Generation Details & Trip Assignment for Subject Site

APPENDIX E – Vissim Simulation Results

Prepared by: Glenn E. Cook
Wes Guckert, PTP
Fuhsiung Huang, P.E., PTOE

GEC:rek
(F:\2010\2010-1023A\wp\TIS_Rev3.docx)

INTRODUCTION AND SUMMARY OF FINDINGS

Study Purpose

This Traffic Impact Analysis was prepared to address the proposed development of the "south side" of the New Carrollton Metro Station located in Prince George's County, Maryland. This property has development proposed along the north and south sides of the track, both of which are within close proximity to the Metro Station/Marc Station/Amtrak Station Tracks.

Study Criteria/Methodology

This Traffic Impact Analysis was prepared in accordance with the requirements outlined by the Maryland-National Capital Park and Planning Commission (M-NCPPC) and in coordination with WMATA and the Maryland State Highway Administration (SHA). The parameters for this traffic study were established in an approved Traffic Impact Study Scoping Agreement executed with M-NCPPC. A copy of this agreement is contained in Appendix A of this report.

Exhibit 1A was prepared to show the location of the subject property and the intersections that were determined to be critical to this analysis. It should be noted that Mainline I-495, Mainline MD-410, and Mainline US 50 were not studied or analyzed as part of this report.

Scope of Services

The following is the scope of work undertaken in this analysis.

- Review of the AECOM Traffic Study prepared for WMATA.
- Preparation and submittal of a Scoping Letter dated May 4, 2016 to M-NCPPC outlining trip distribution and trip generation and the suggested study area for the proposed study.
- Utilization of the trip distributions established in the AECOM Study for the background development that was contained in the AECOM Study for the south side of the New Carrollton Metro Station.
- Review of M-NCPPC's PG's Atlas information for background developments planned in the vicinity of the subject site.

- Trip Generation Rates and Totals used by both M-NCPPC and AECOM for the Transit Overlay District (TOD).

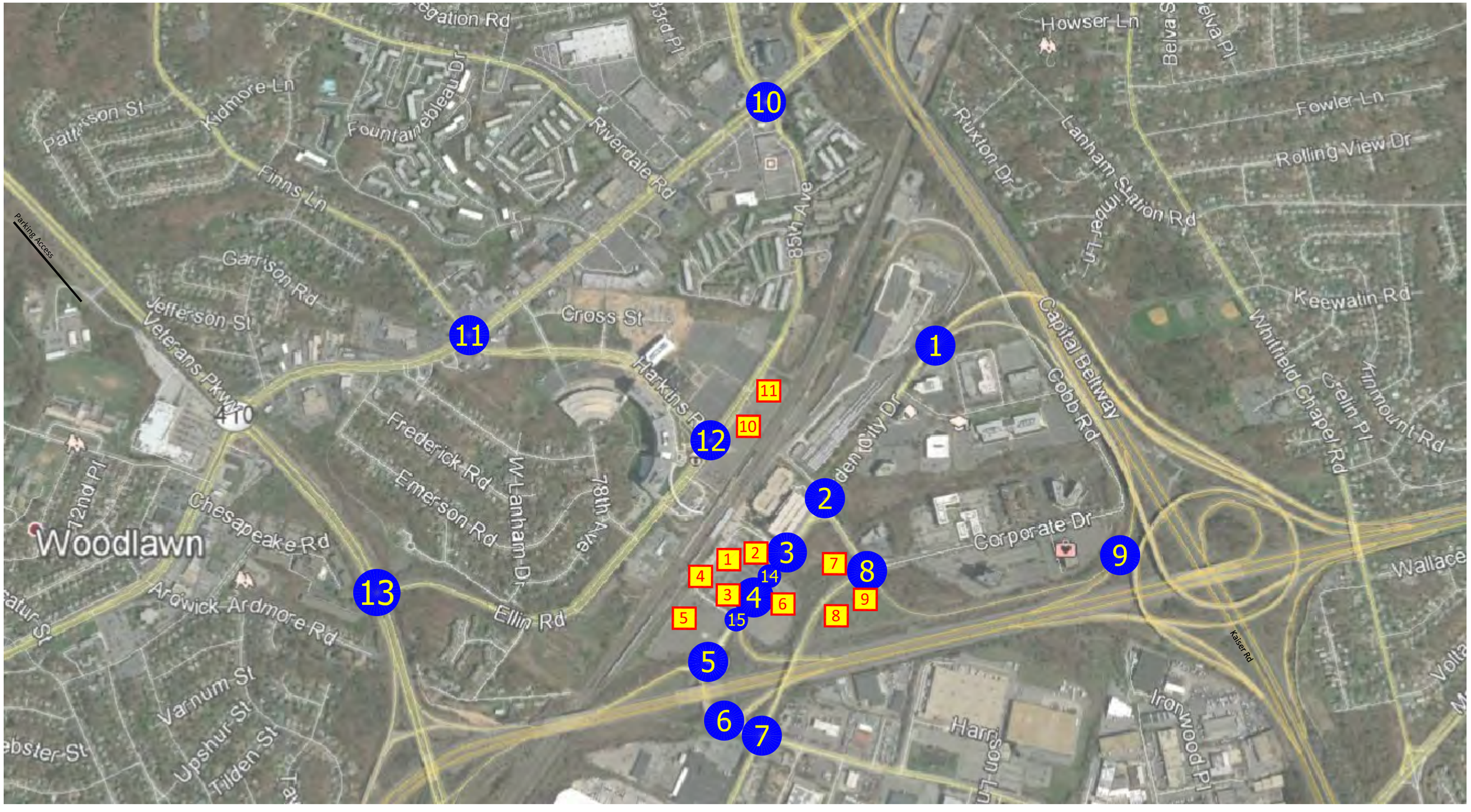
- Conduct Capacity Analysis utilizing the Critical Lane Volume Technology detailed by the M-NCPPC Guidelines.

- Conduct a Vissim simulation and evaluation of the study area roadways.

Summary of Findings and Recommendations

The following sections of this report will outline the methodology used to undertake this traffic study as well as the results and recommendations resulting from the analysis.

The methodology used to undertake this study is contained in the sections to follow.



Building

Study Intersection

EXHIBIT 1A
SITE LOCATION MAP

rh, 101023a\2016 may\ex_rev2.dwg-loc_st, f08/09/16

EXHIBIT 1B
PRELIMINARY SITE PLAN

SOLTESZ, LLC

Engineering
Surveying
Planning
Environmental Sciences

4300 Forbes Boulevard, Suite 230
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MAP 13 GRID D5, E5

TAX MAP	ZONING CATEGORY:
52, A1	M-X-T
WSSC 200' SHEET: 206NE07	XXXX: XXXX
SITE DATUM HORIZONTAL: XXXXXX VERTICAL: XXXXXX	XXXX: XXXX

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

PRELIMINARY PLAN OF SUBDIVISION

NEW CARROLLTON
PPS 4-16023

LANHAM (20th) ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

1" = 100'
SHEET 1 OF 1
PROJECT NO. 1958-00-00

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EXISTING TRAFFIC CONDITIONS

Study Area

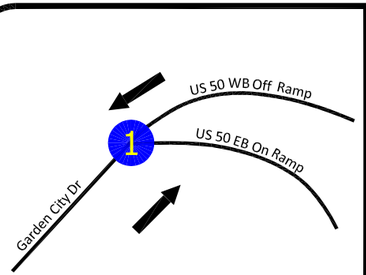
Exhibit 2 has been prepared to show the study area and each of the 15 intersections that have been included as part of this Traffic Impact Evaluation. Shown on Exhibit 2 is the existing lane use at each of these study area intersections as well as the existing traffic control that exists at each location.

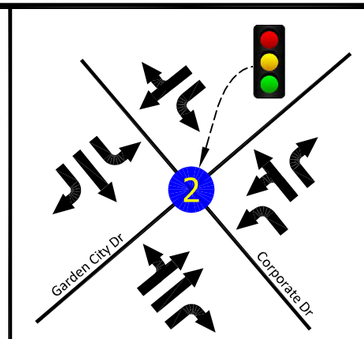
Existing Traffic Volumes

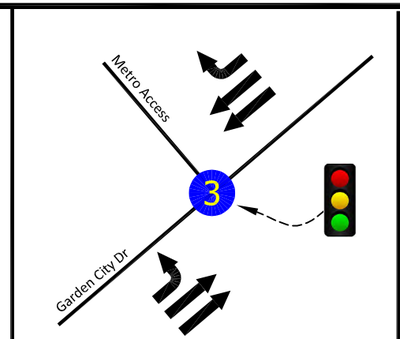
Intersection Turning Movement Counts were conducted at all the study area intersections in May 2016 while schools were in session. The total vehicles observed during these counts are shown on the summary sheets contained in Appendix A to this report. The 2016 existing peak hour traffic volumes are shown on Exhibit 3.

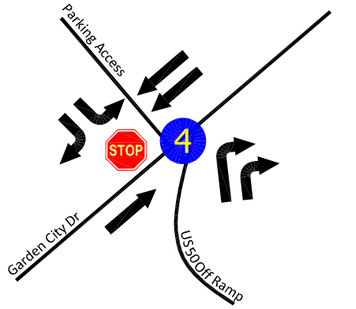
Analysis of Existing Traffic Conditions

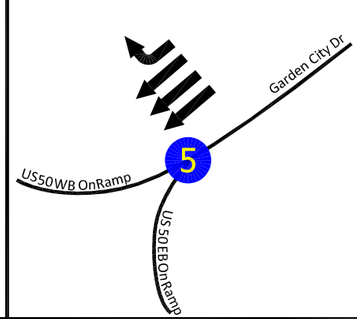
Intersection Capacity Analyses were conducted using the CLV Methodology for each of the study area intersections, and the results are shown on Exhibit 14. A review of Exhibit 14 indicates that all of the study area intersections are projected to operate at acceptable Levels of Service "C" or better under the existing the traffic conditions. Copies of the capacity worksheets are contained in Appendix B.

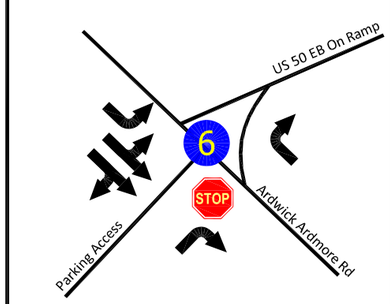


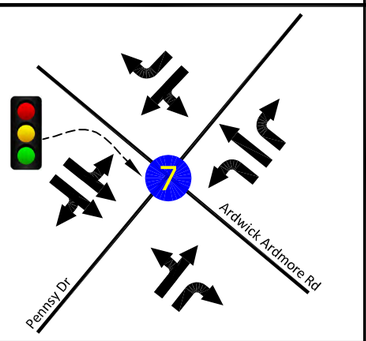


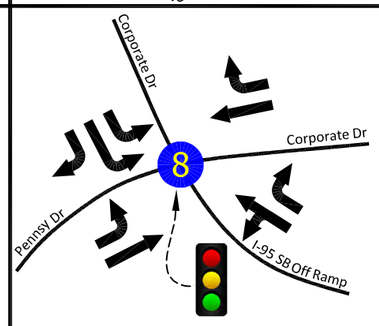


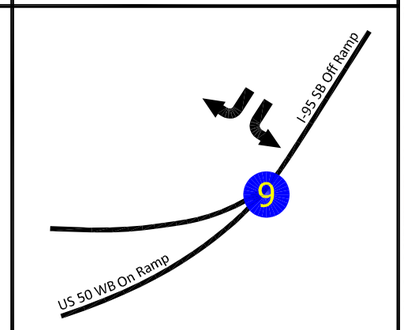


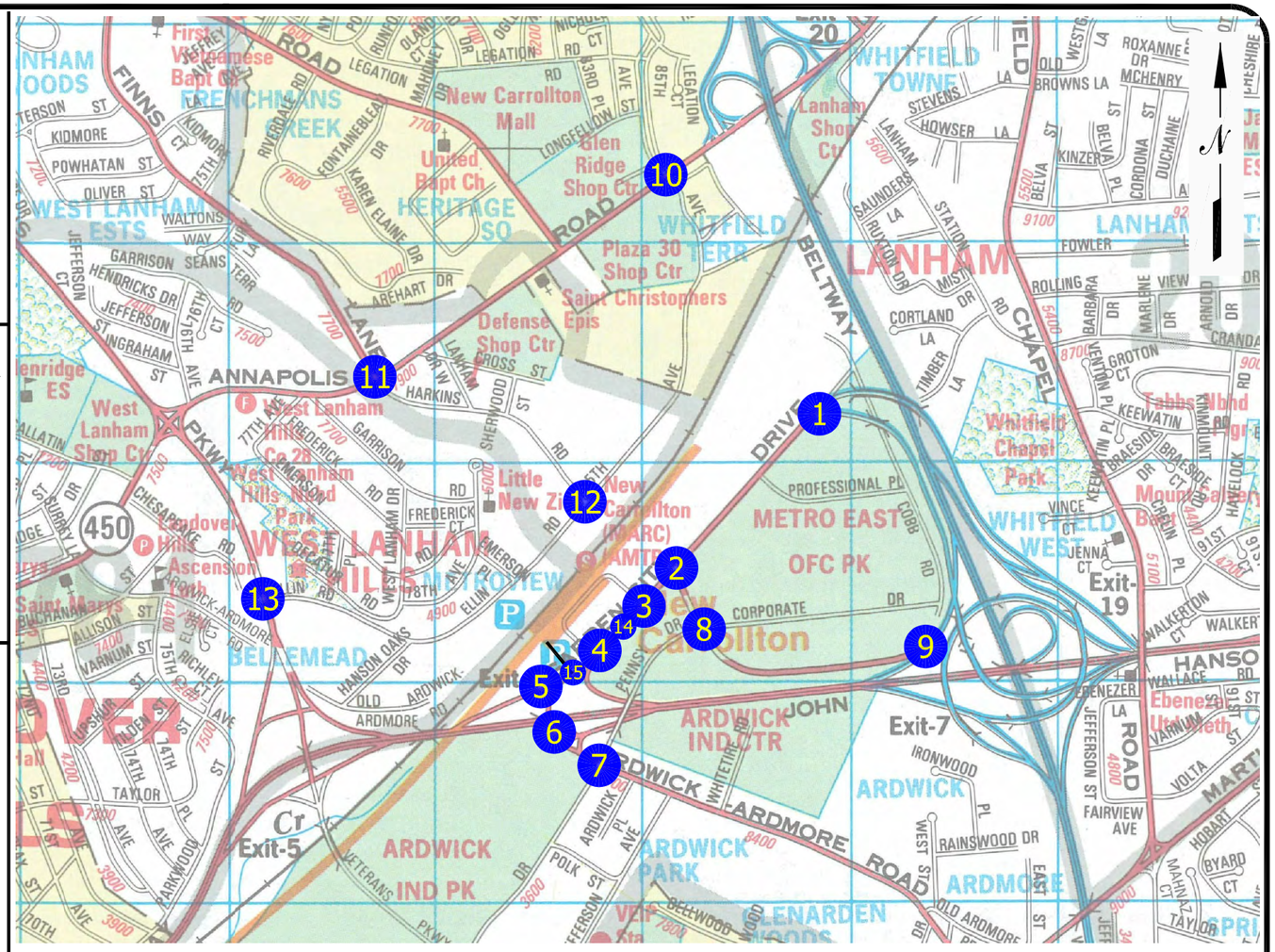


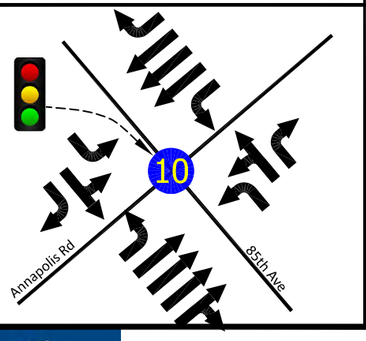


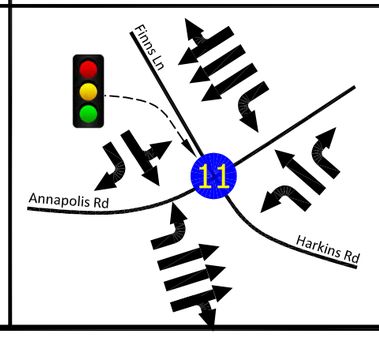


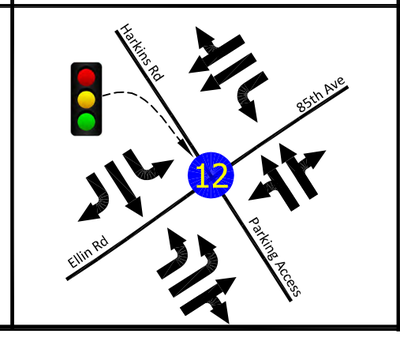


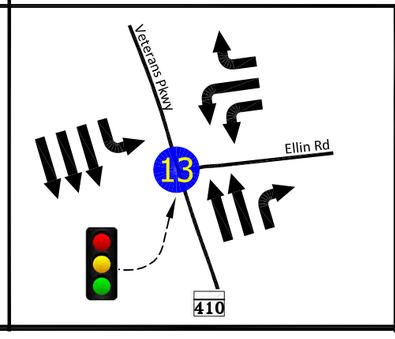


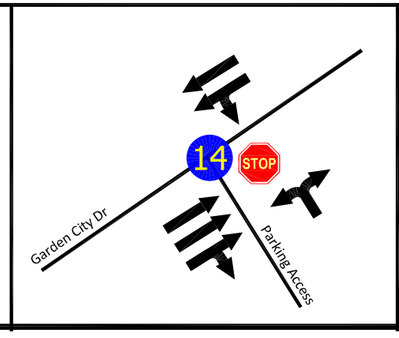


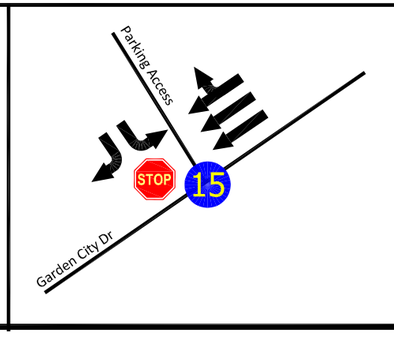






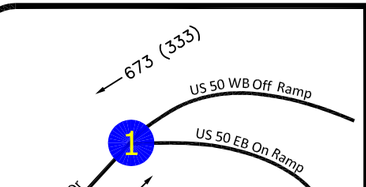


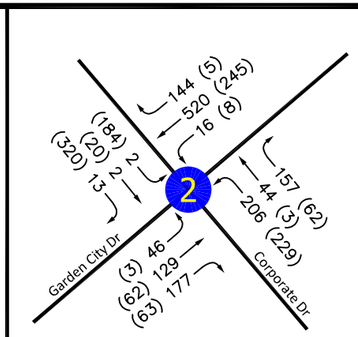


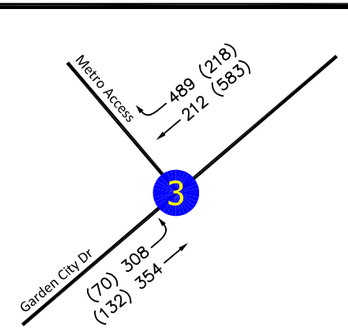


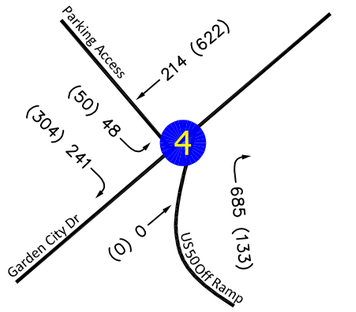
NOT TO SCALE

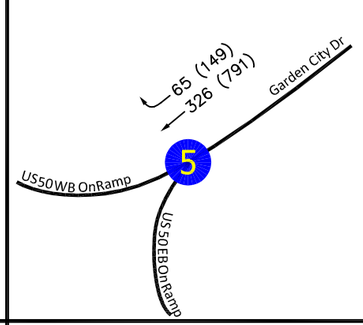
EXHIBIT 2
EXISTING LANE USE

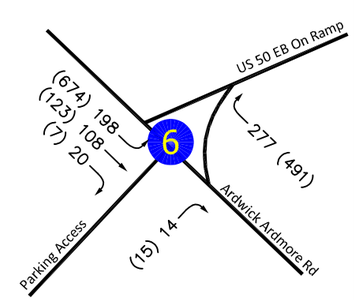


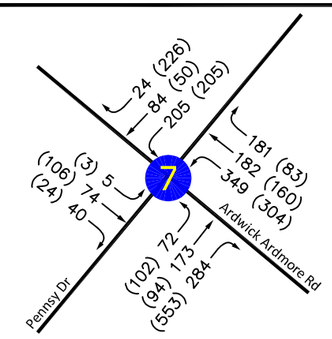


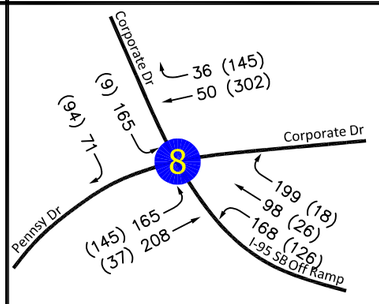


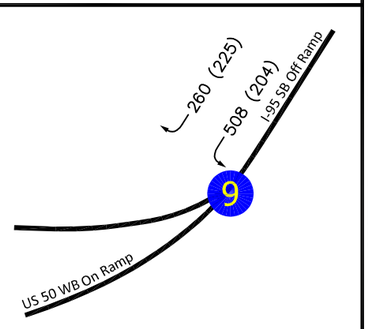


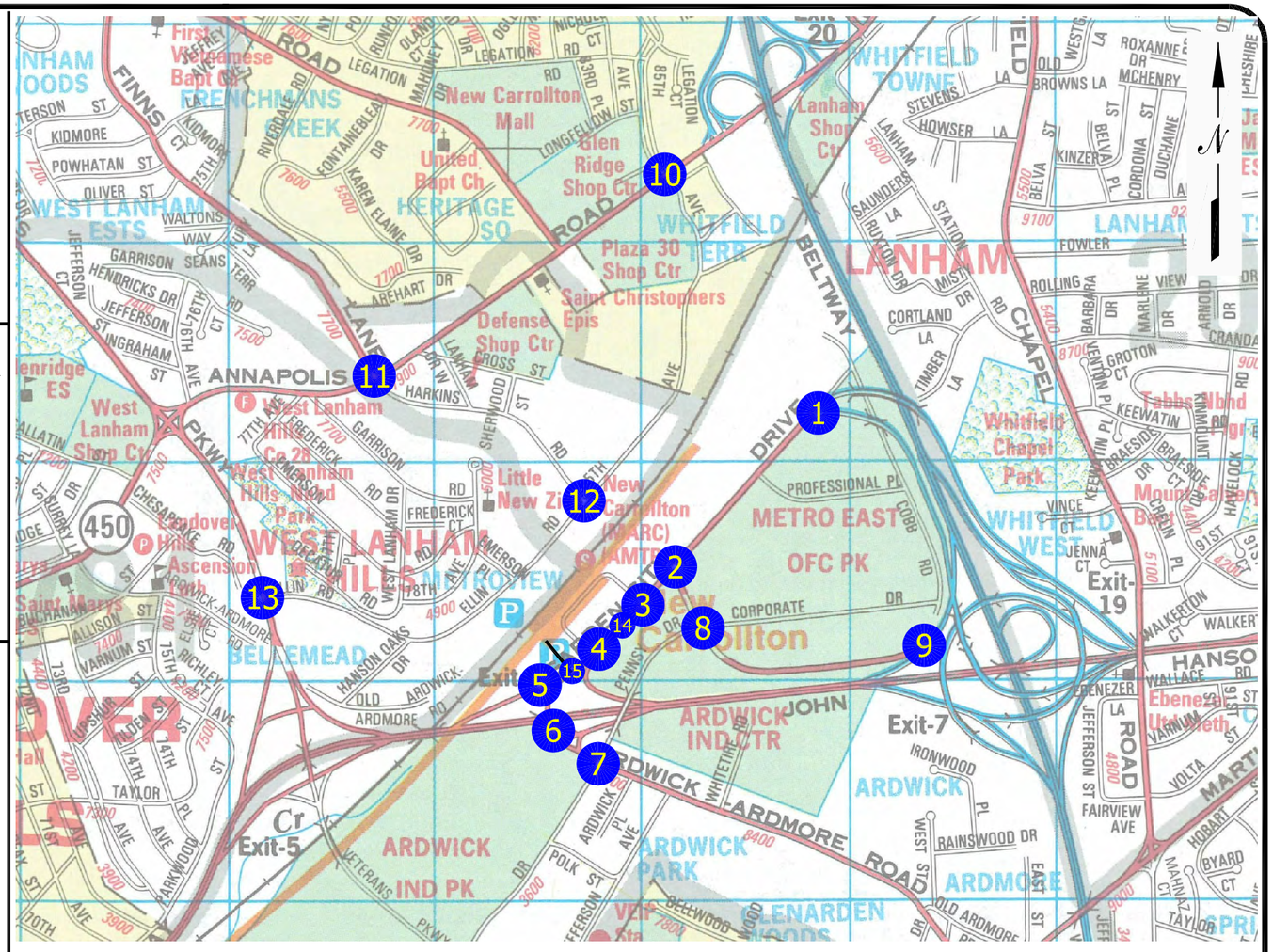


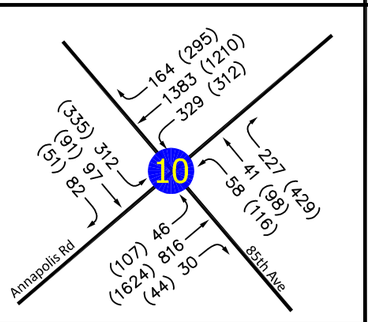


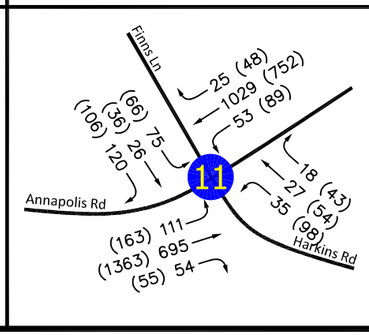


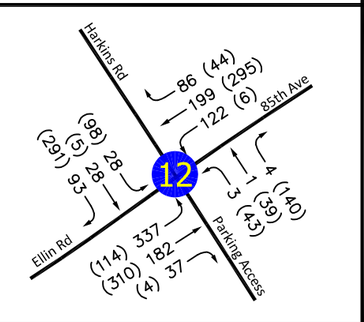


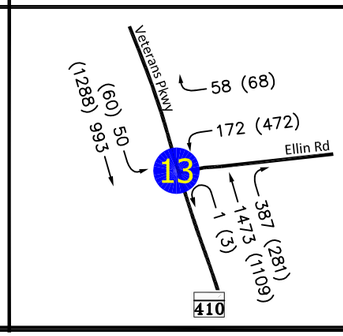


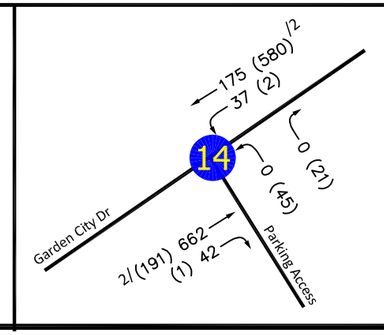


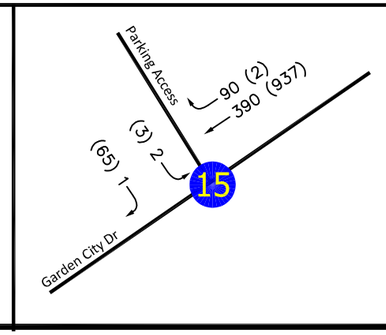












NOT TO SCALE

00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

Note:
1. All intersections may not have the same peak hour.
2. Thru Traffic volume along Garden City Drive derived from Intersection #3

EXHIBIT 3
2016 EXISTING PEAK HOUR TRAFFIC VOLUMES

BACKGROUND TRAFFIC CONDITIONS

Design Year 2026

For the purposes of this report, it has been assumed that the proposed development planned for the subject site will occur over a ten-year period. In order to determine the base traffic conditions in the Year 2026, we have increased the existing peak hour volumes determined by the turning movement counts to reflect a .5% growth per year for a 10-year period. The incremental increase associated with this growth is shown on Exhibit 4.

The incremental growth over the next 10 years was combined with the existing peak hour traffic volumes resulting in the 2026 base peak hour volumes shown on Exhibit 5.

Nearby Approved Developments

In addition to regional growth, traffic projected to be generated by other approved developments planned in the vicinity of the subject site was also included in our analysis and the formation of the background traffic conditions.

Based on information obtained from other studies for the Garden City Project, as well as, the proposed development planned on the north side of the New Carrollton Station, we have prepared Exhibit 6 which shows the location of these two planned developments in this area.

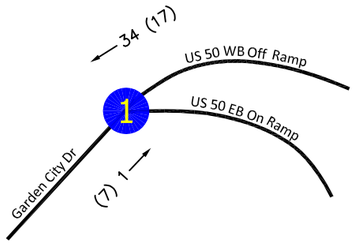
Exhibit 7 was prepared to show the approved trip generation rates and total trips projected to be generated by each of these developments which were previously used in the earlier studies. The peak hour trips projected to be generated by these other nearby developments were then distributed and assigned to the adjacent road system as shown on the exhibits contained in Appendix C to this report. The combined peak hour trips generated by these developments are reflected on Exhibit 8.

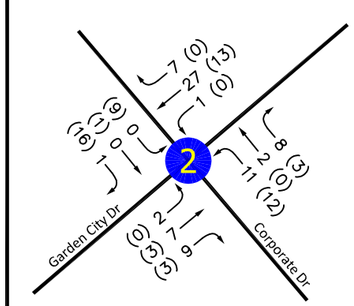
Combining the trips to be generated by the other approved developments and the 2026 base peak hour volumes results in the 2026 background peak hour volumes shown on Exhibit 9A.

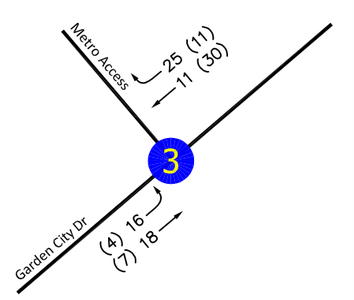
Analysis of Background Traffic Conditions

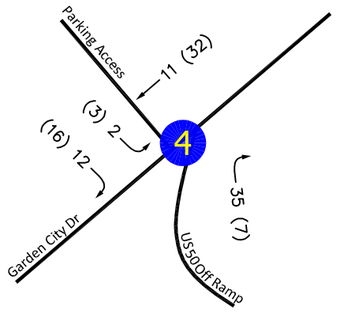
Intersection Capacity Analyses were conducted for the background peak hour traffic conditions, and the results are shown on Exhibit 14. Copies of the Capacity Worksheets are contained in Appendix B to this report.

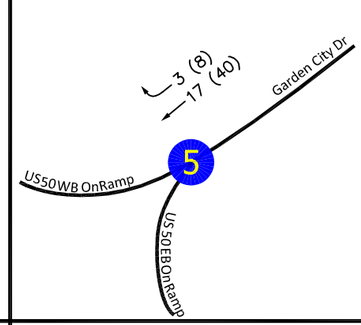
A review of Exhibit 14 indicated that all of the study area intersections are projected to operate at an acceptable level of service “C” or better during both of the peak periods.

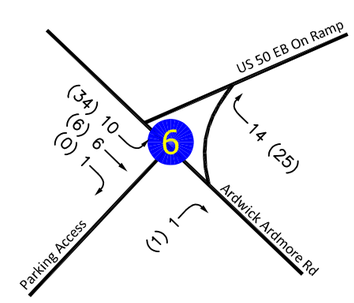


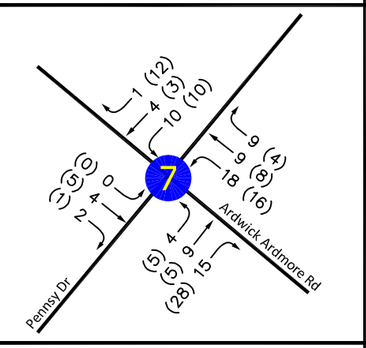


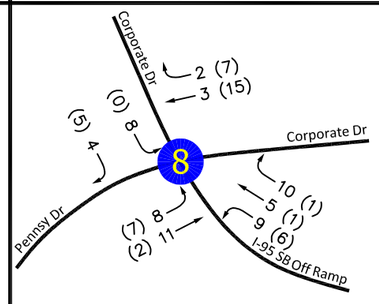


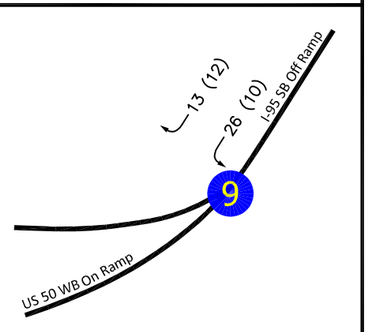


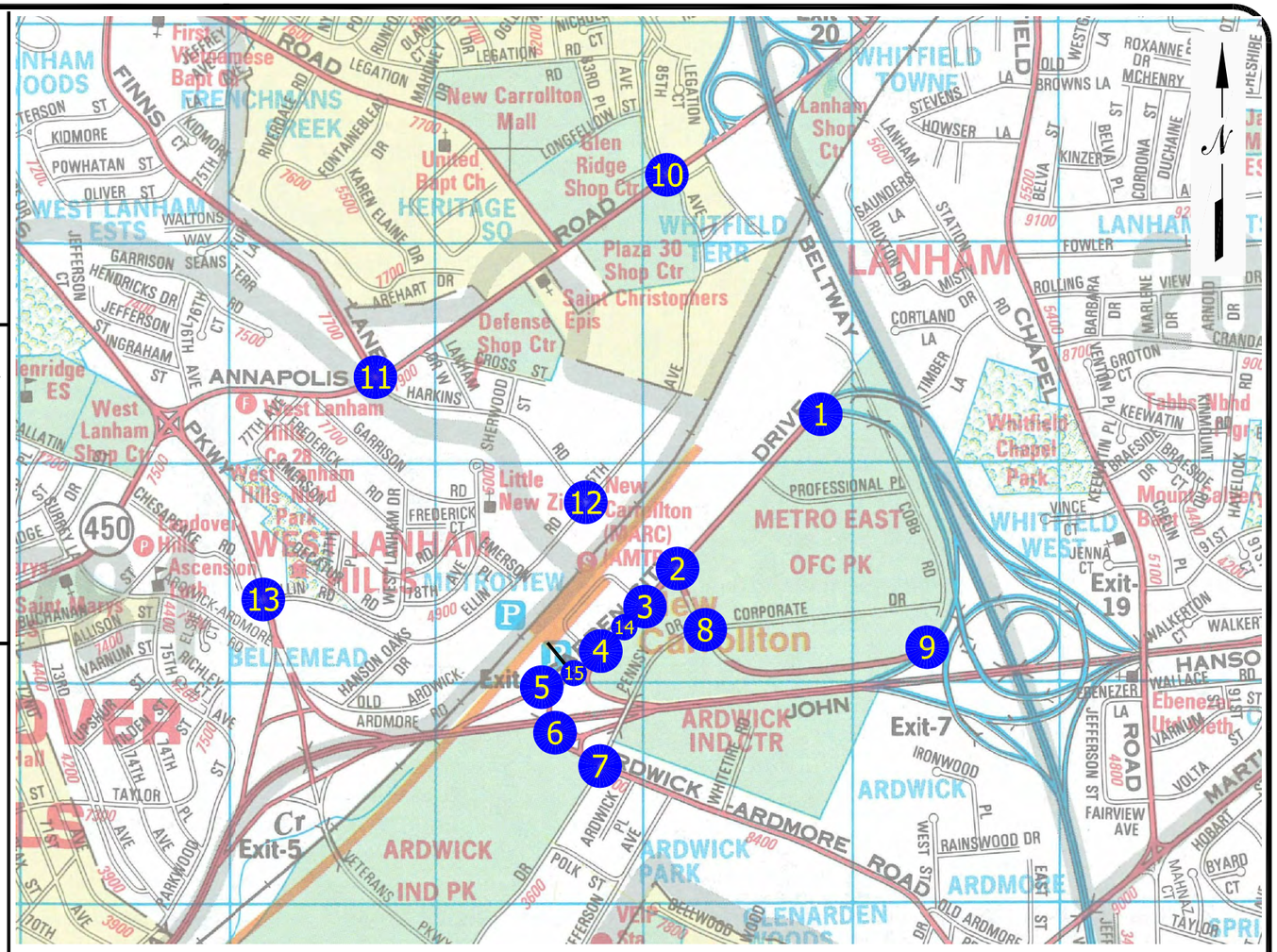


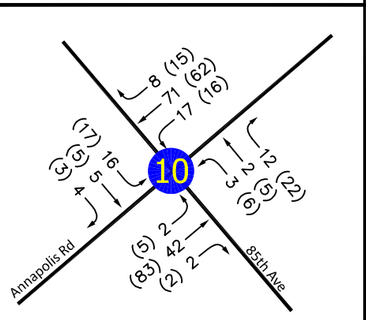


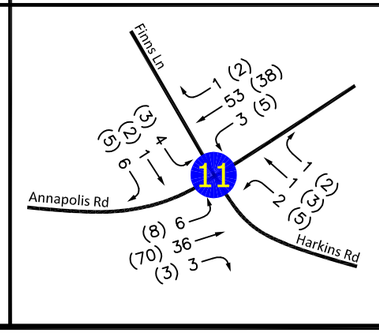


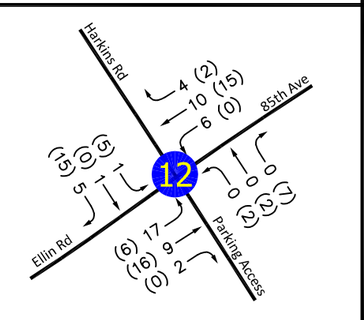


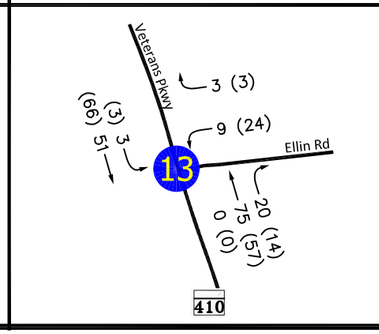


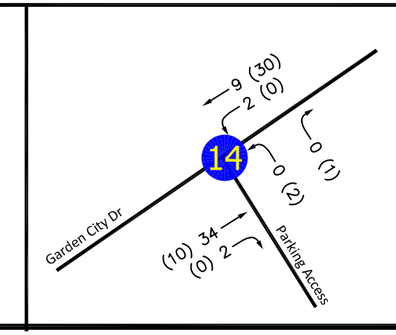


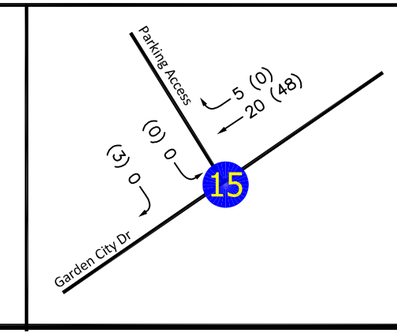








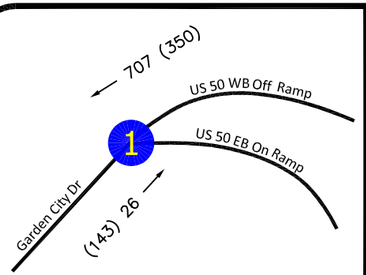


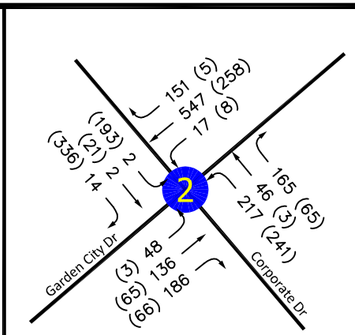


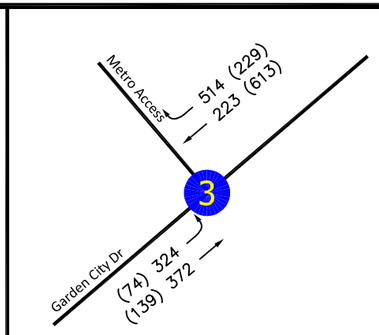
NOT TO SCALE

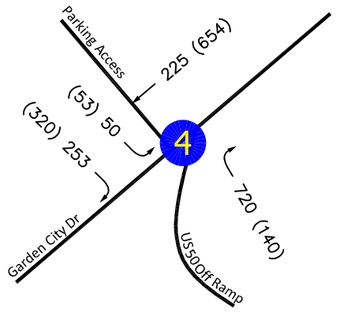
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

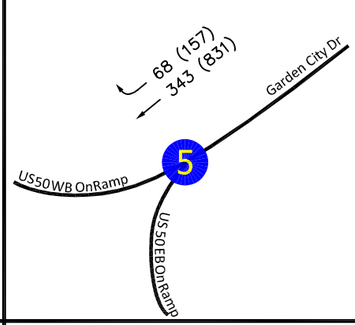
EXHIBIT 4
REGIONAL TRAFFIC GROWTH
(0.5% ANNUALLY FOR 10 YEARS)

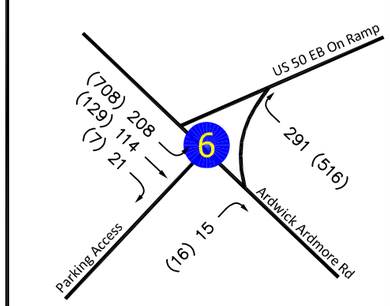


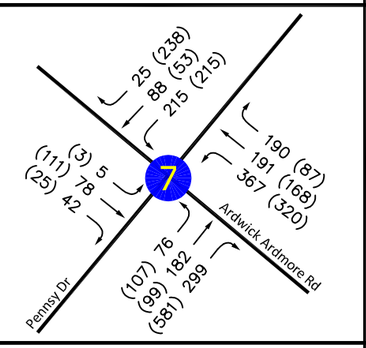


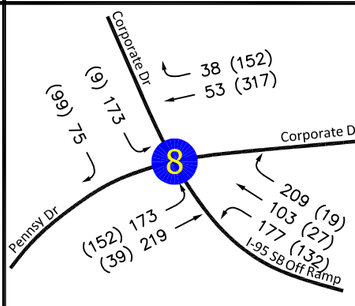


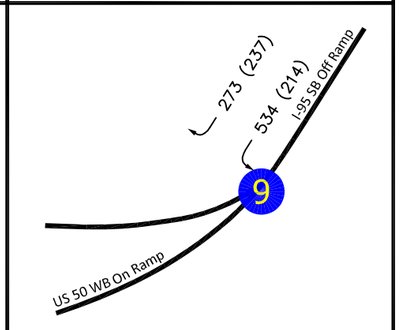


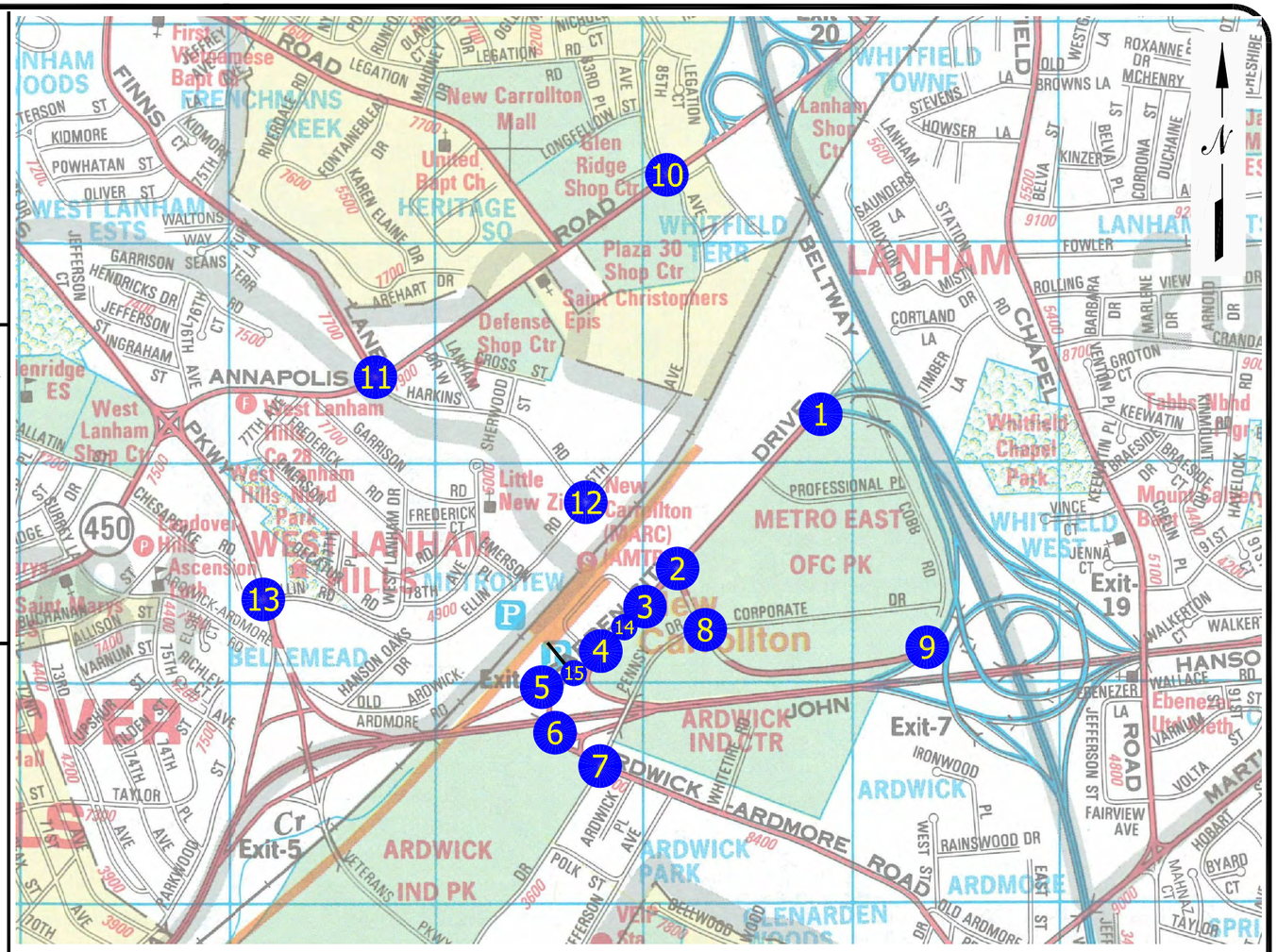


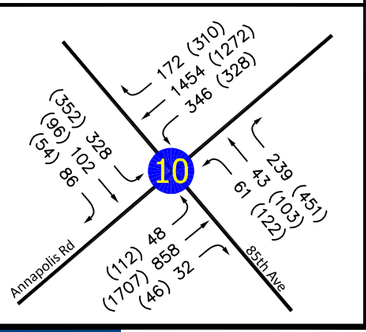


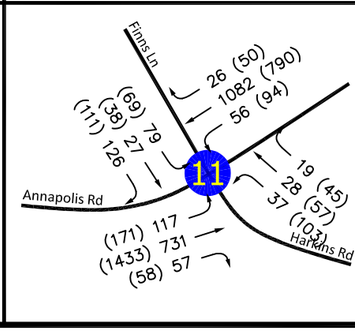


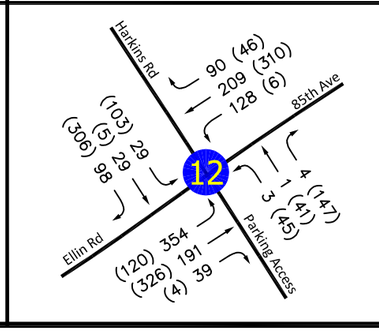


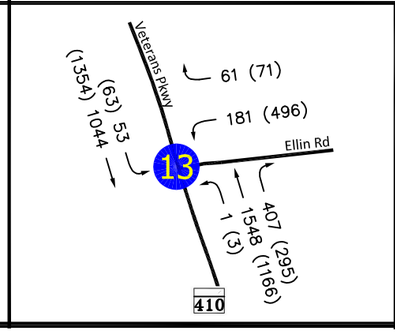


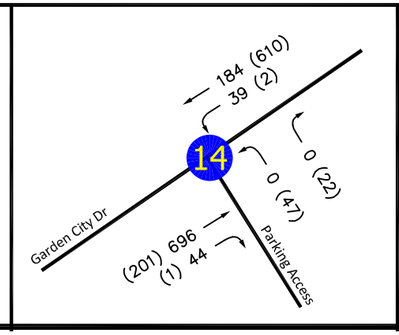


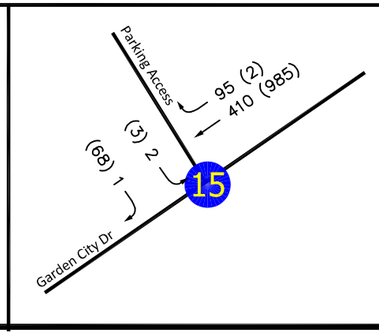












NOT TO SCALE

00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

EXHIBIT 5
2026 BASE PEAK HOUR TRAFFIC VOLUMES

rh, 101023a\2016 may\ex_rev2.dwg-base, f08/05/16

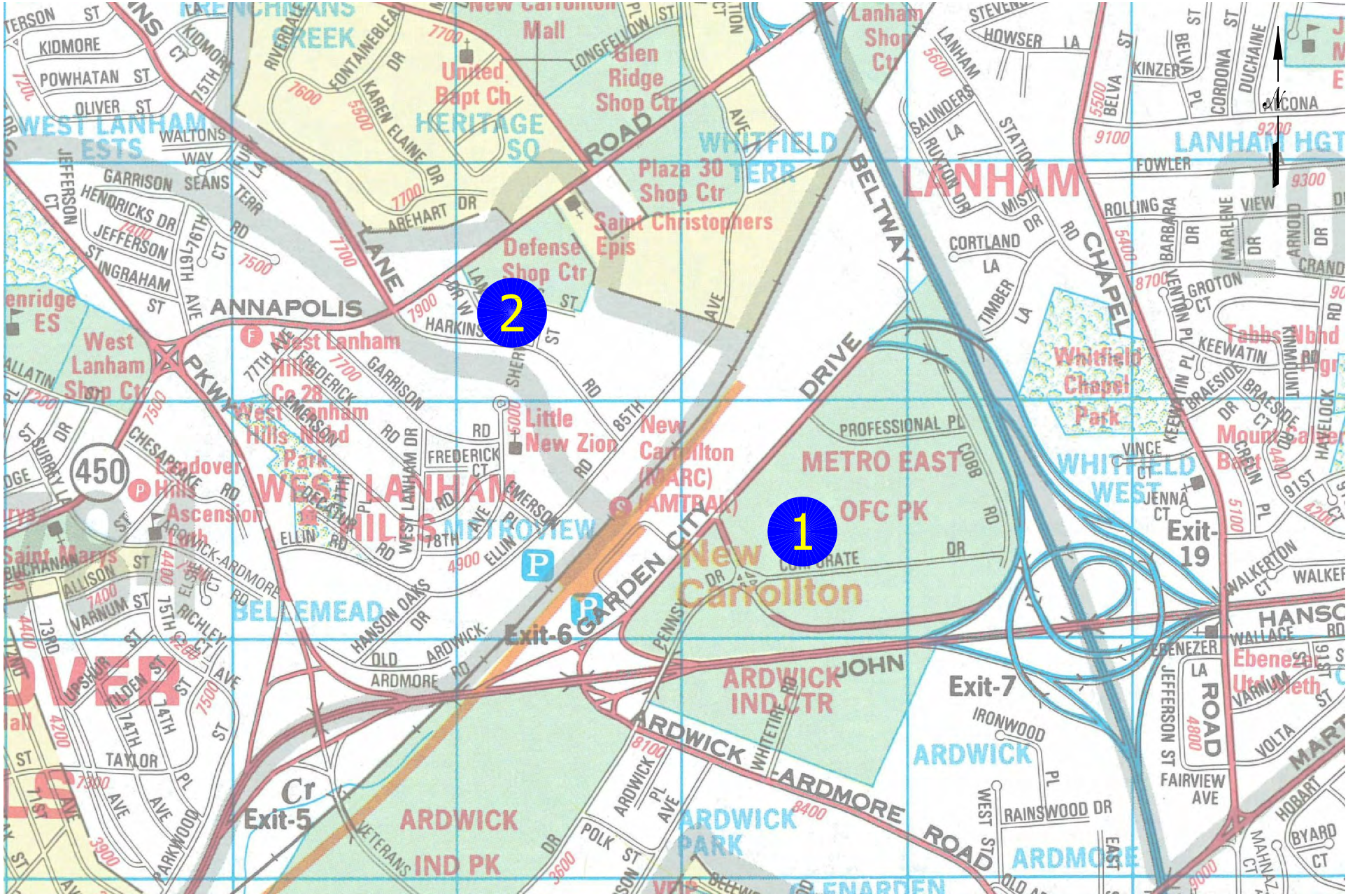


EXHIBIT 6
LOCATION MAP FOR
APPROVED DEVELOPMENTS

Background development number corresponding to trip generation table.

Trip Generation Rates

Formula/Rate	Directional Distribution			
	AM Peak Hour		PM Peak Hour	
	IN	OUT	IN	OUT
Apartment (Gardenand Mid-Rise, Prince Georges County Rate)				
Morning Trips = 0.52 x Units	20%	80%	65%	35%
Evening Trips = 0.60 x Units				
General Office (Prince Georges County Rate)				
Morning Trips = 2.0 x ksf	90%	10%	19%	81%
Evening Trips = 1.85 x ksf				

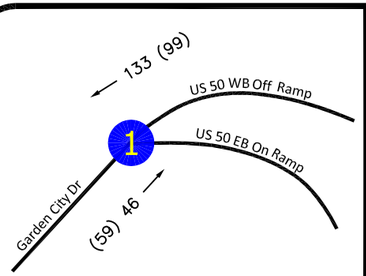
Trip Generation

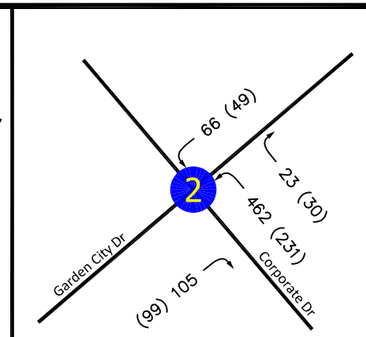
No.	Land Use	Size		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
1. Garden City (Obtained from New Carrollton TIA dated Sep, 2014.									
				350	660	1010	350	350	700
2. Carrollton Station, North Side									
	General Office	200,000	sq.ft.	360	40	400	333	37	370
	Internal Trips			-5	0	-5	-5	-6	-11
	Non-Auto Modes			-64	-7	-71	-12	-53	-65
	Off-Site Office Trips			***291***	***33***	***324***	***316***	***-22***	***294***
	Apartments	556	Units	58	231	289	217	117	334
	Internal Trips			0	-5	-5	-6	-5	-11
	Non-Auto Modes			-27	-106	-133	-99	-53	-152
	Off-Site Apartment Trips			***31***	***120***	***151***	***112***	***59***	***171***

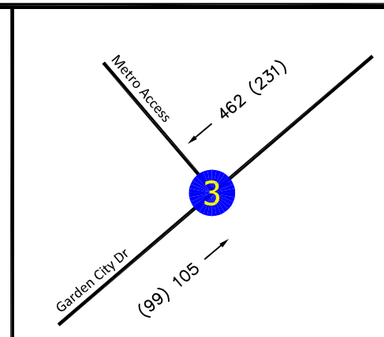
Note:

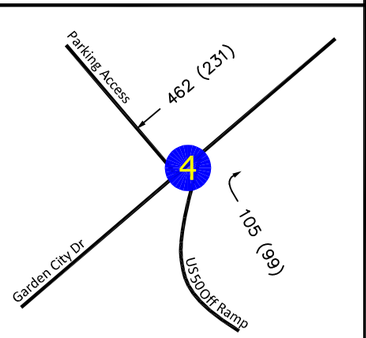
1. Internal Trips based on NCHRP Report 684 Findings.

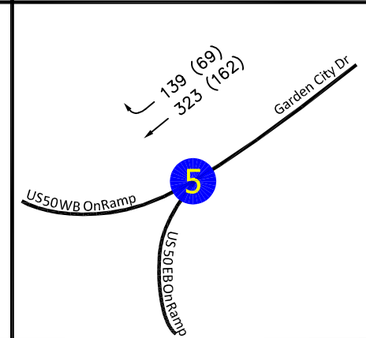
2. Non-Auto modes found in Appendix D (for 1/4 to 1/2 miles) of New Carrollton TIA dated Sep, 2014.

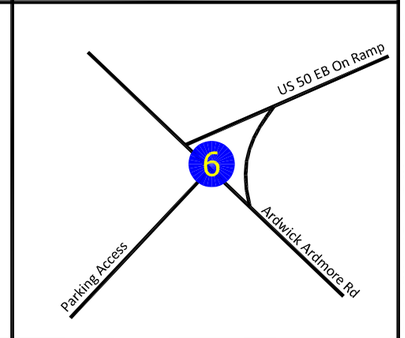


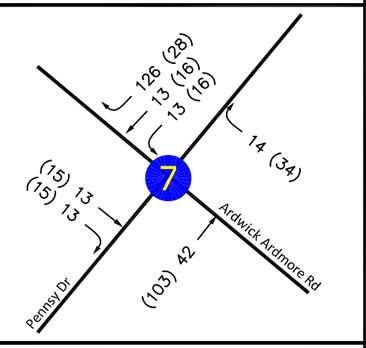


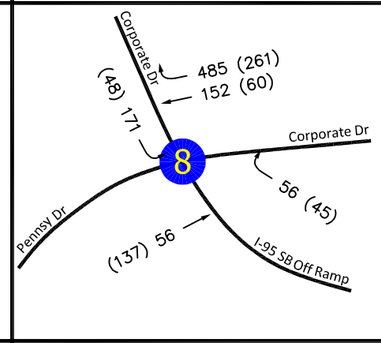


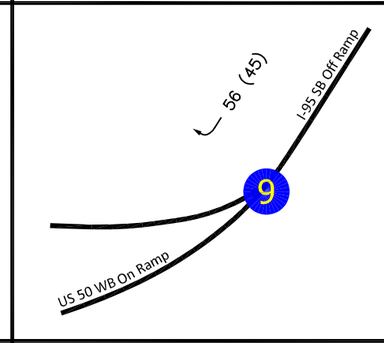


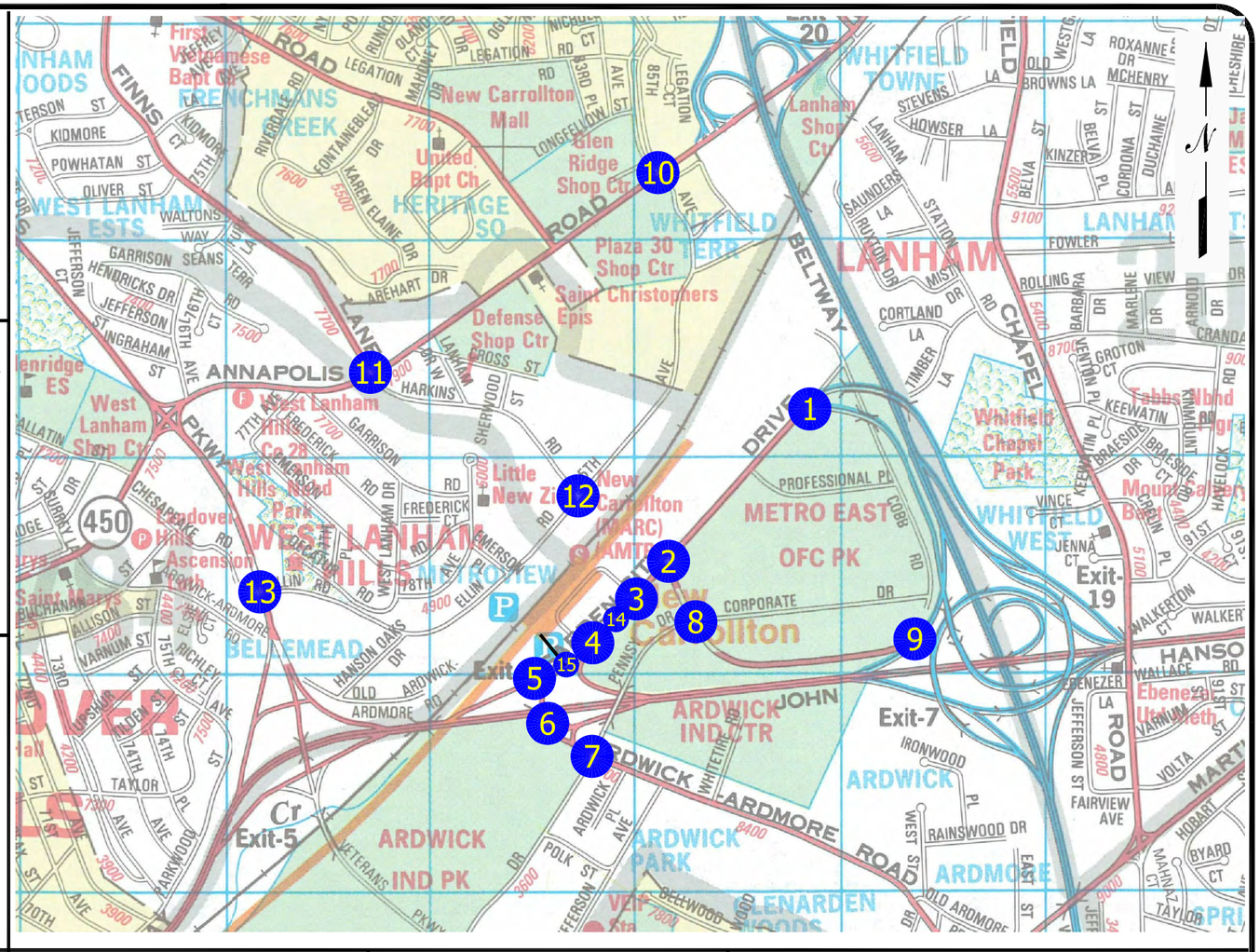


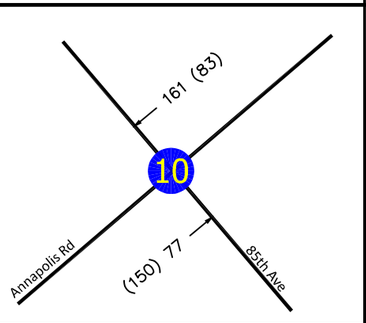


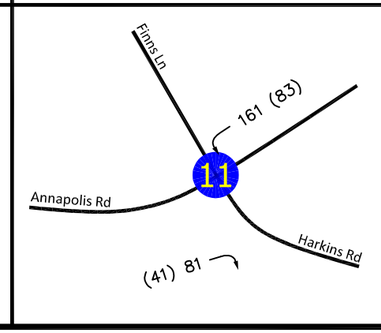


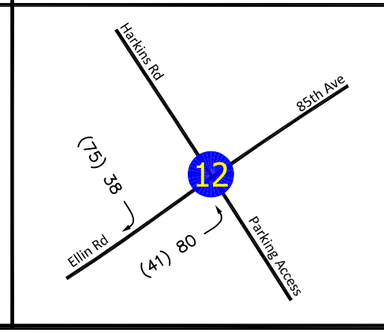


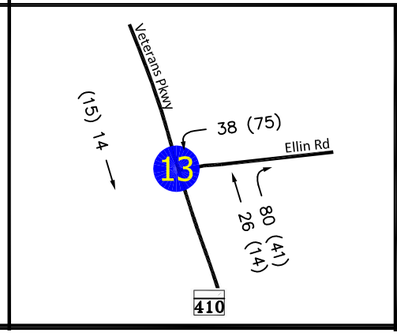


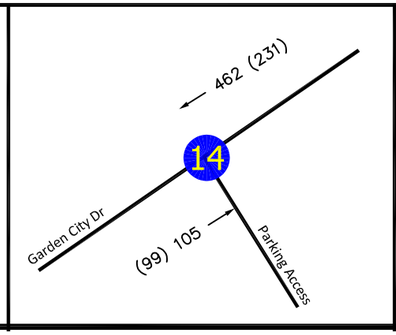


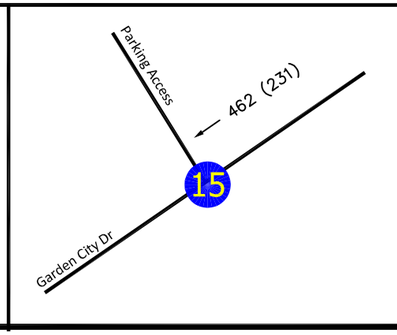










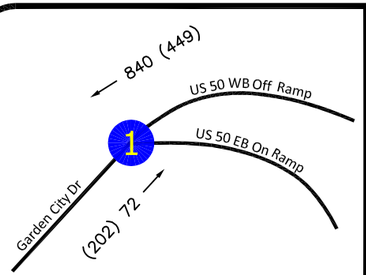


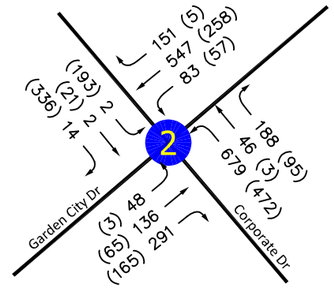
NOT TO SCALE

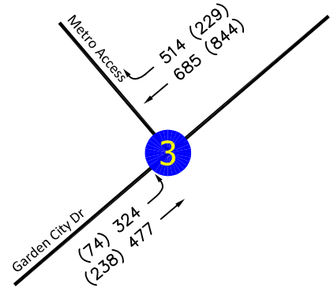
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

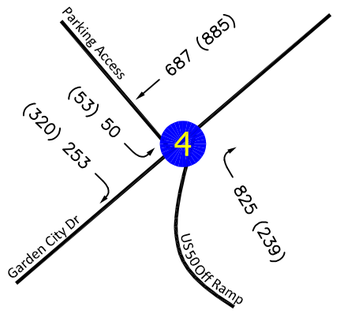
Note:
Trip assignment details refer to Appendix C.

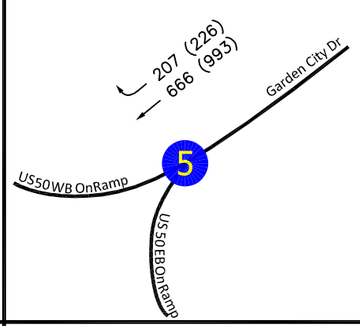
EXHIBIT 8
COMBINED TRIPS GENERATED BY APPROVED DEVELOPMENTS

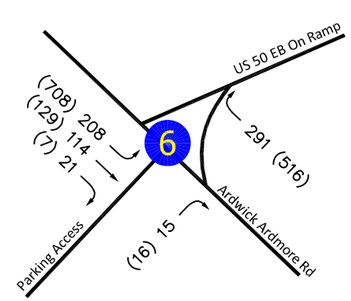


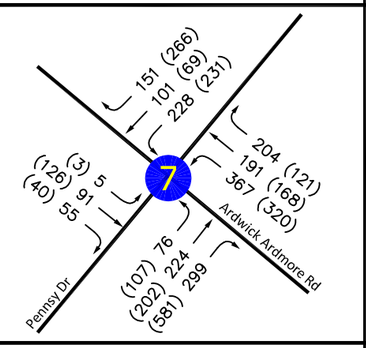


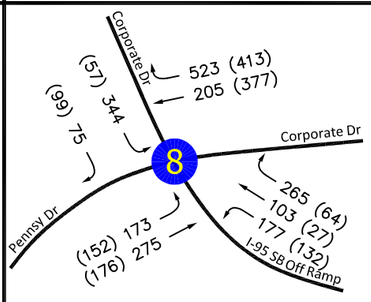


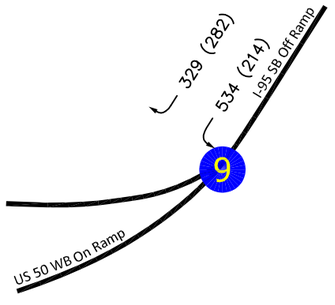


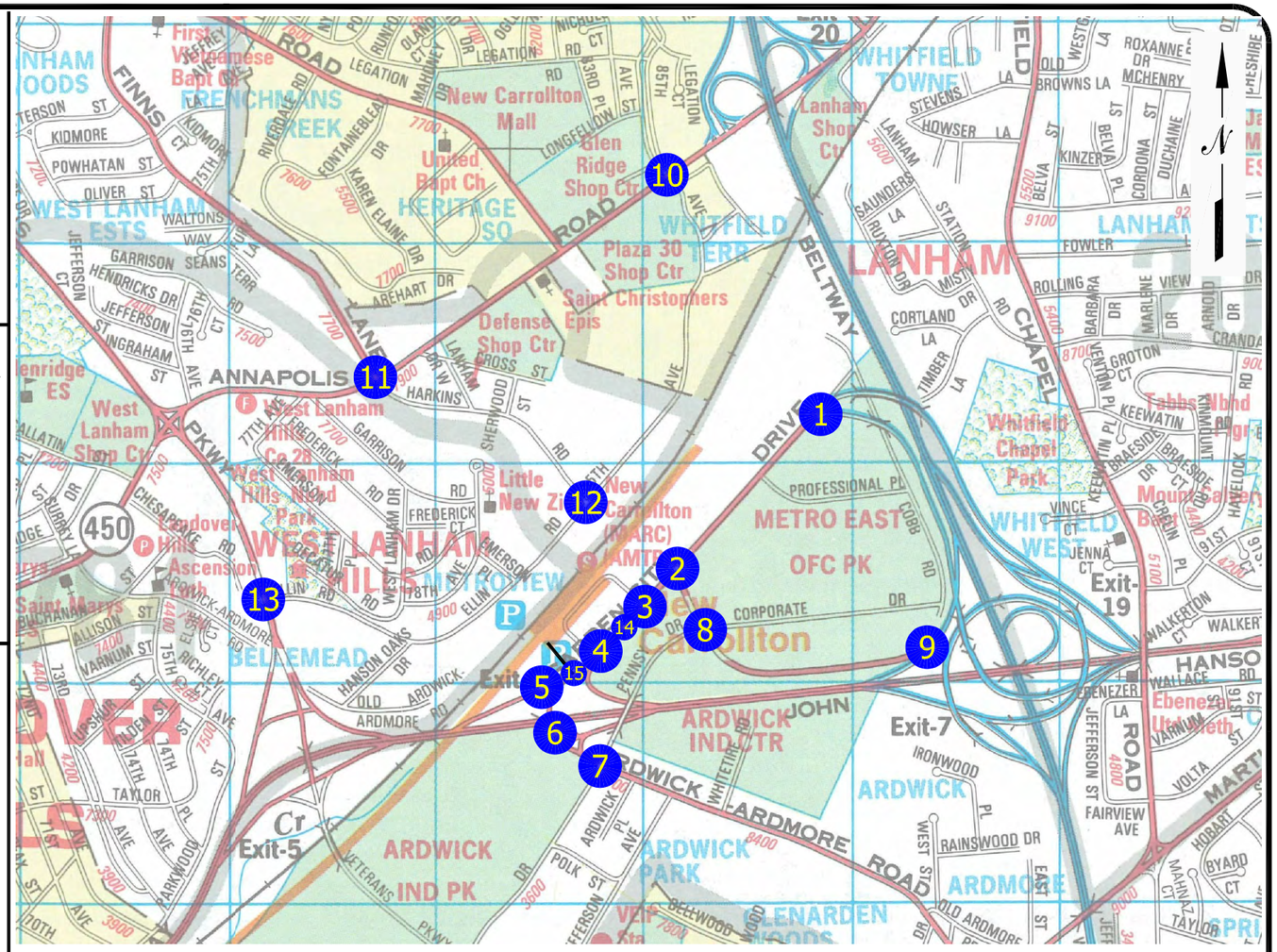


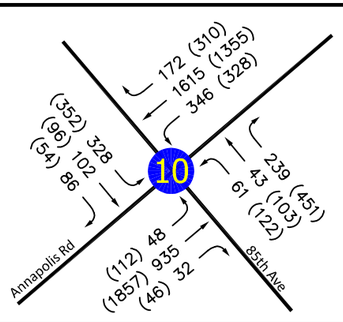


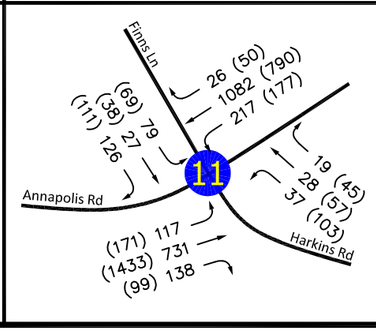


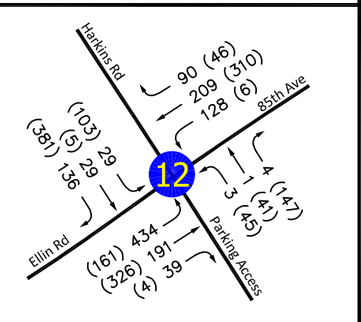


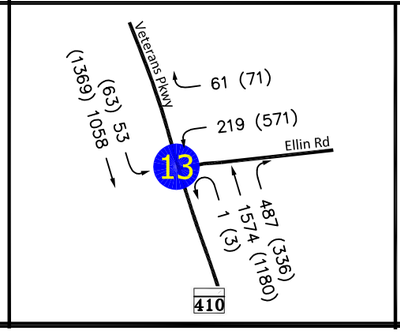


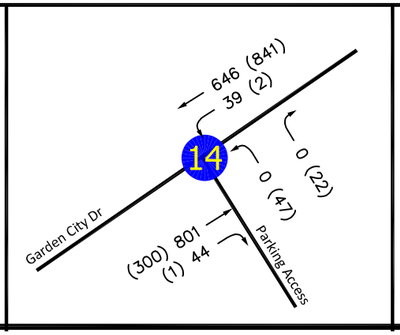


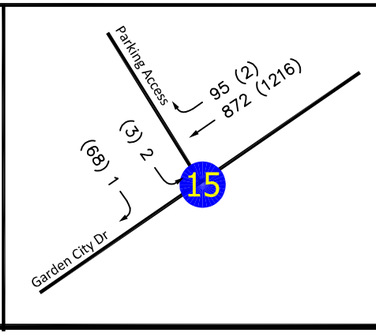












NOT TO SCALE

00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

EXHIBIT 9A
2026 BACKGROUND PEAK HOUR TRAFFIC VOLUMES

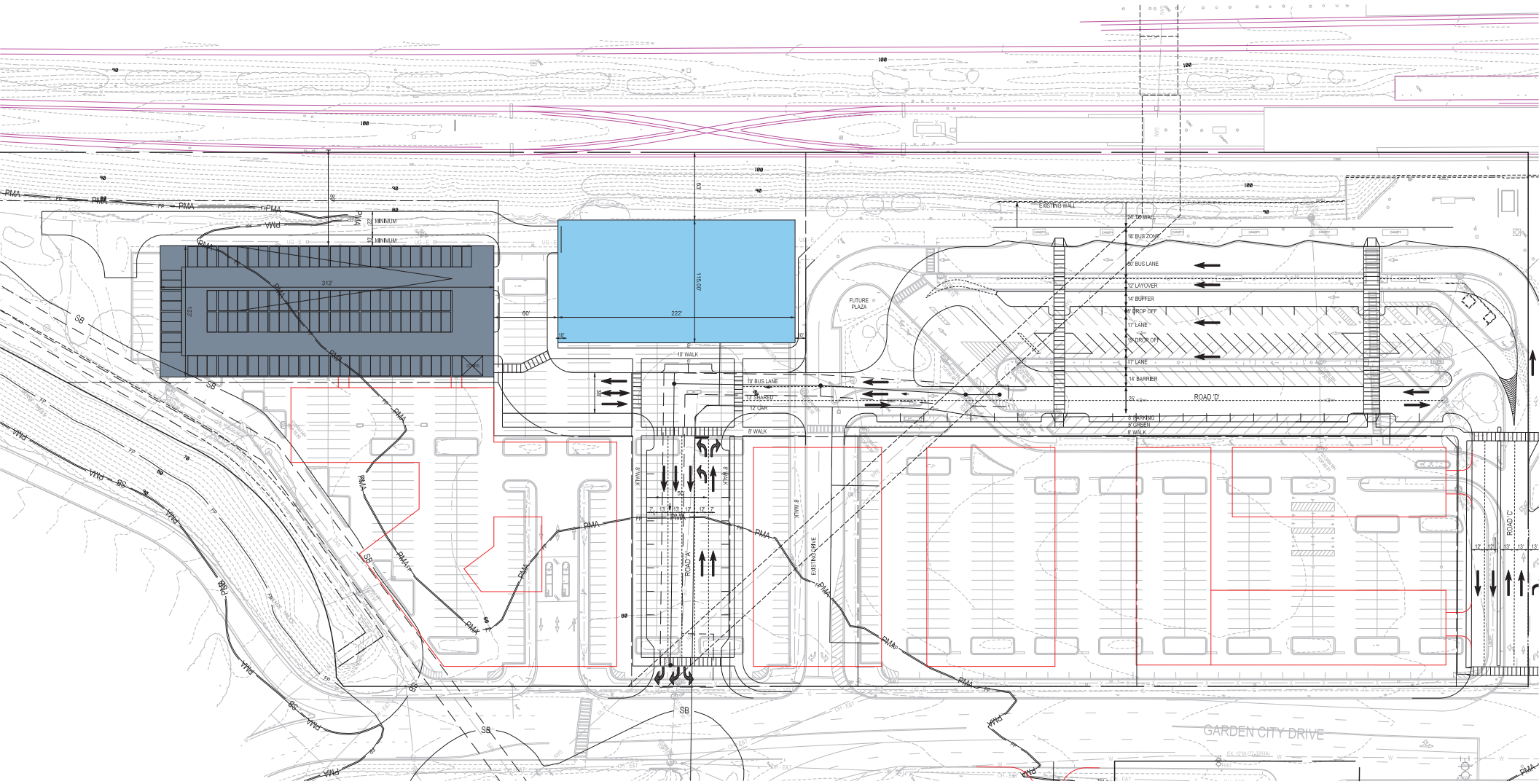
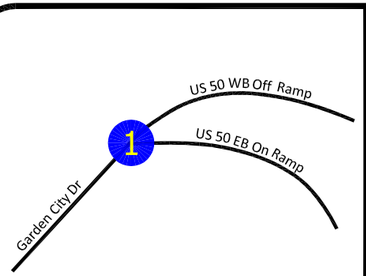
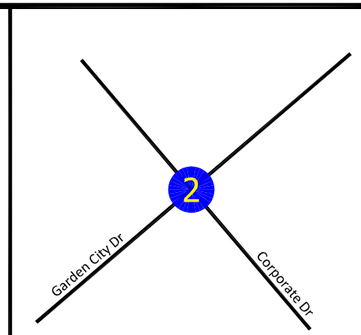
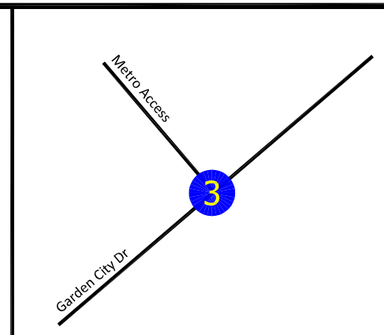
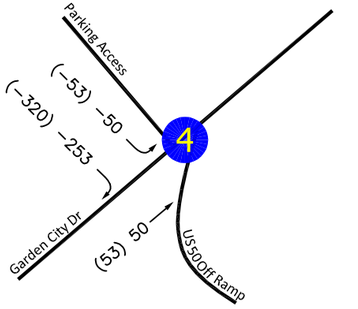


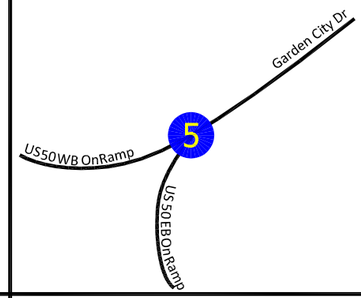
EXHIBIT 9B
REVISED ACCESS CONFIGURATION

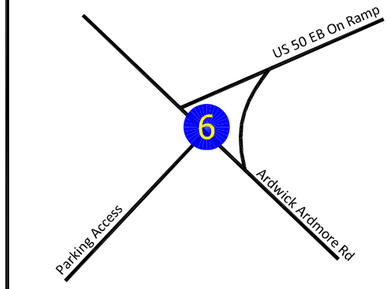


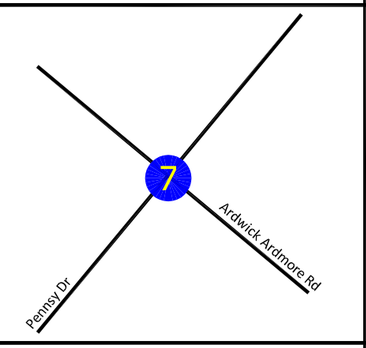


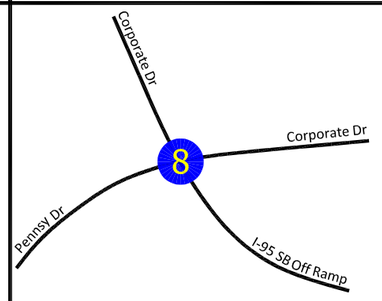


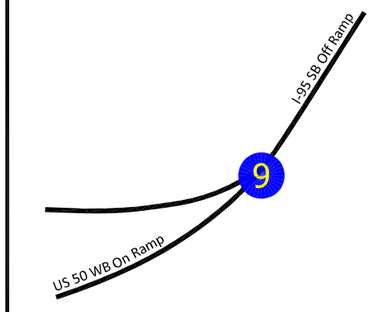


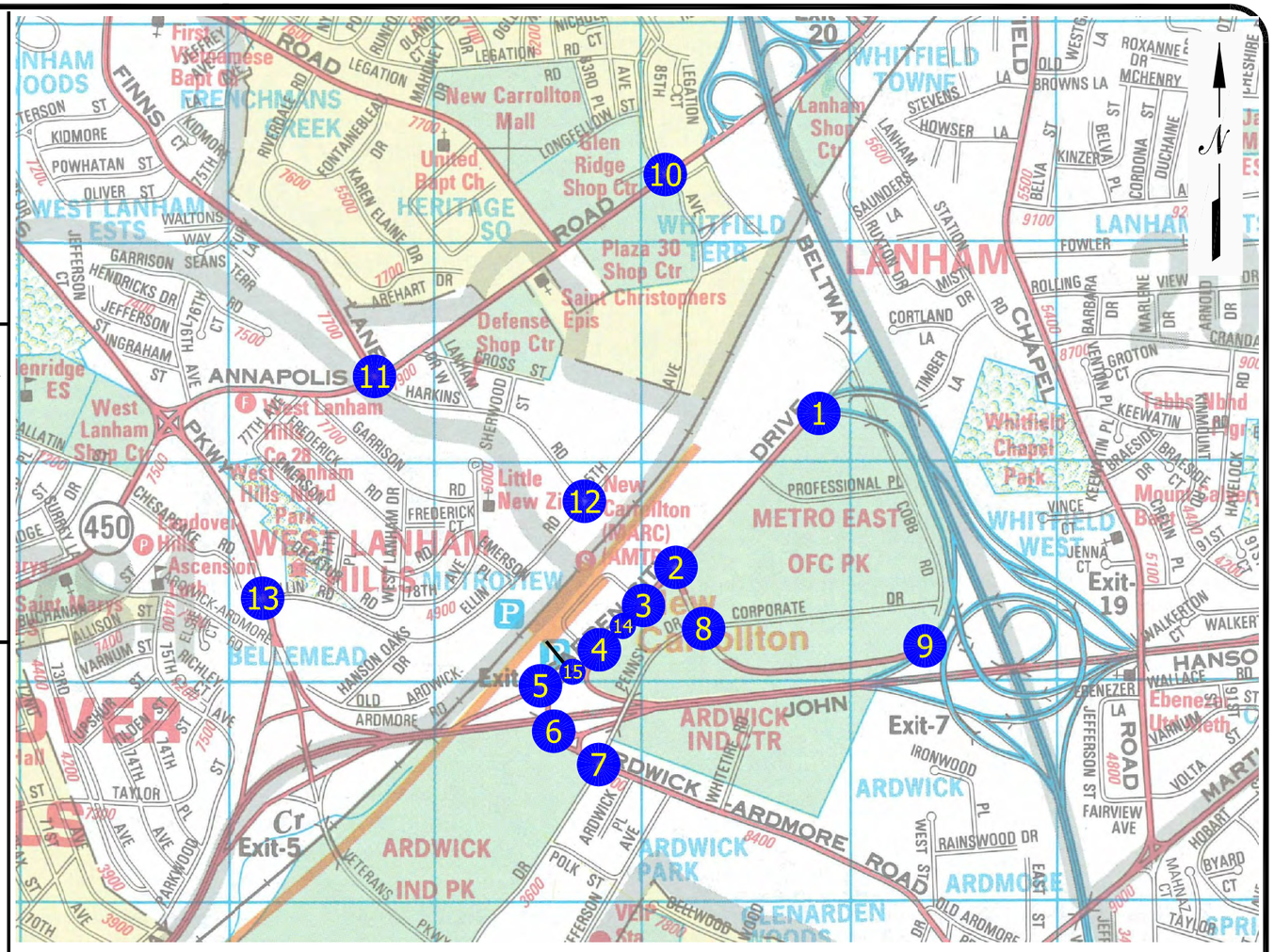


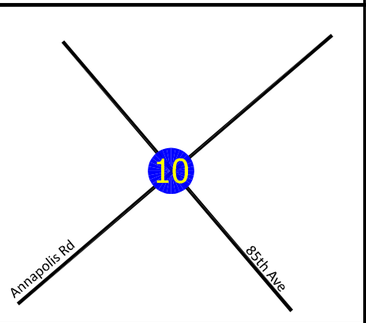


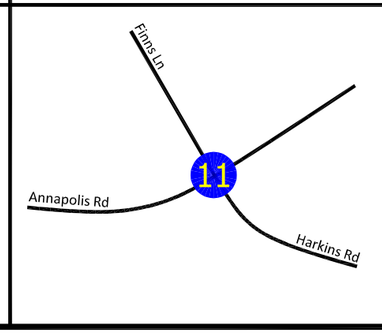


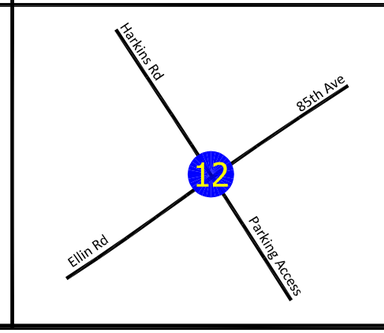


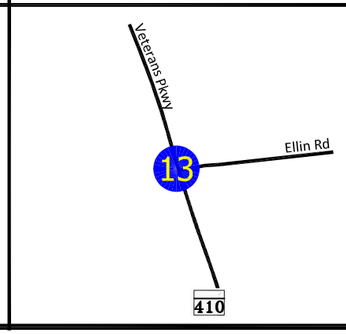


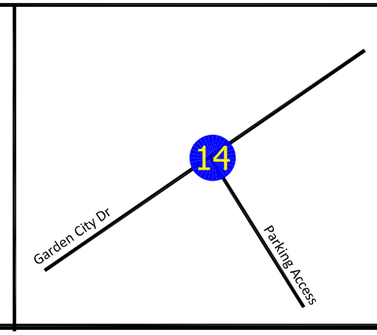


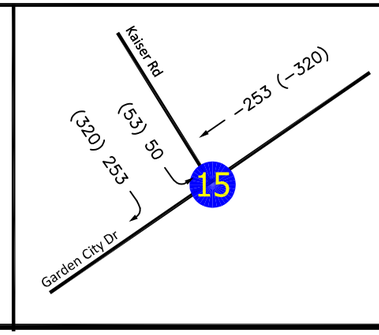












NOT TO SCALE

00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

EXHIBIT 9C
TRAFFIC ADJUSTMENT DUE TO REVISED ACCESS CONFIGURATION

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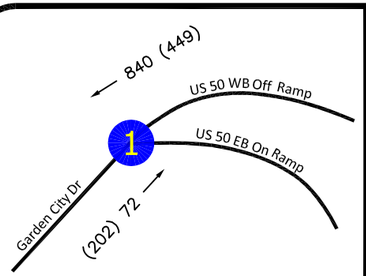

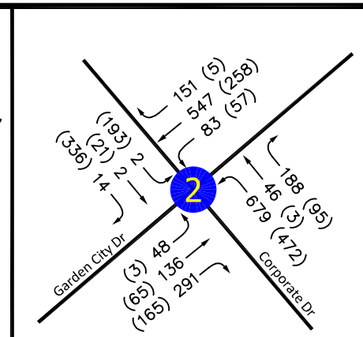

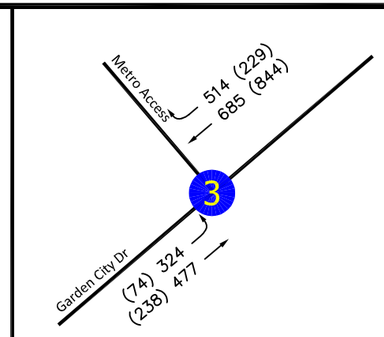

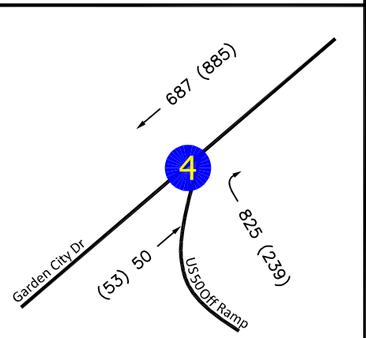

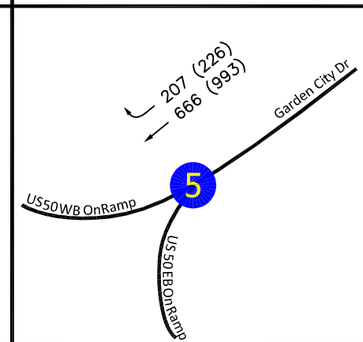

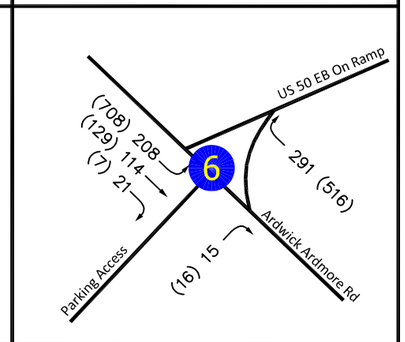

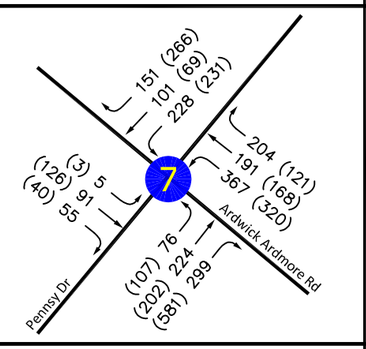

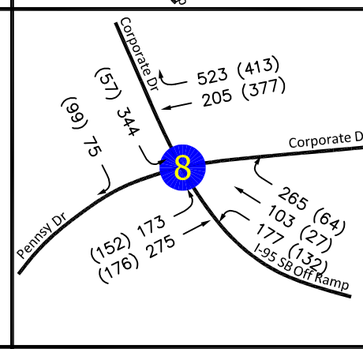

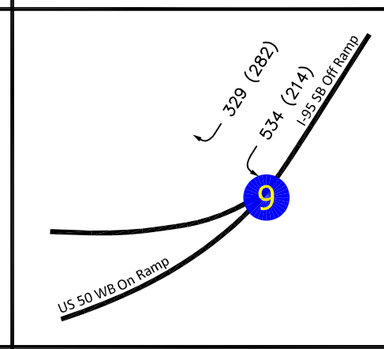

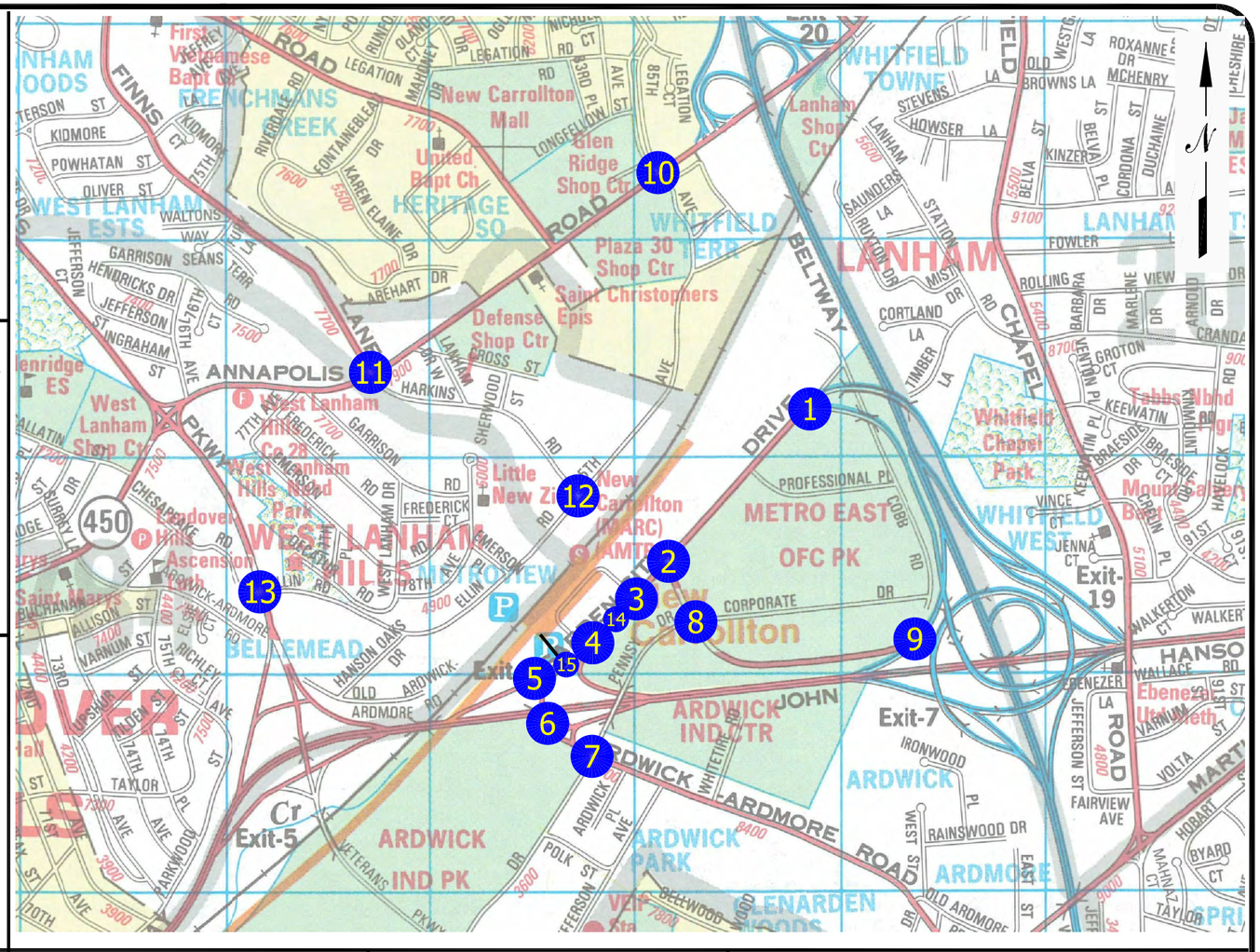

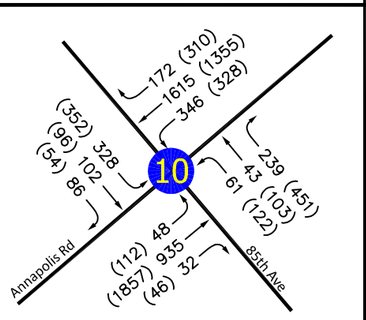

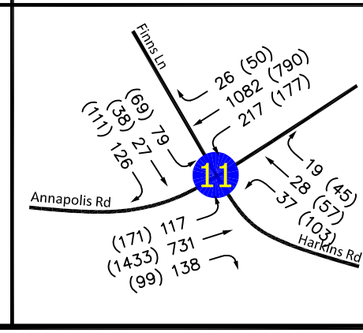

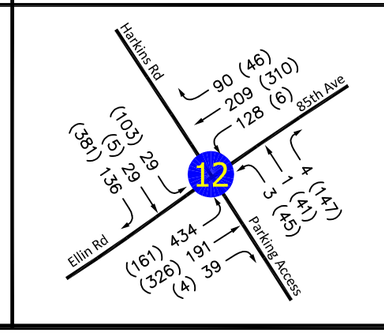

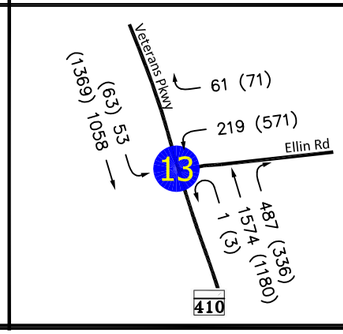

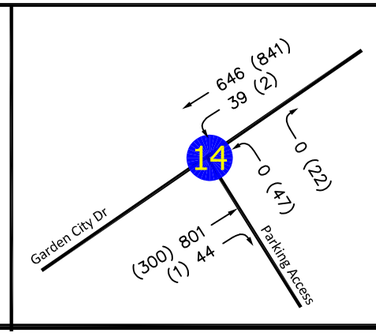

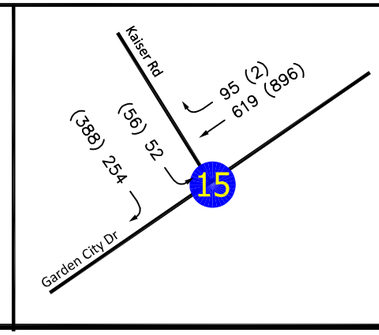

NOT TO SCALE

00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

EXHIBIT 9D
ADJUSTED 2026 BACKGROUND PEAK HOUR TRAFFIC VOLUMES

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NEW CARROLLTON METRO STATION

Site Information

The New Carrollton TOD is planned to be developed with a variety of uses on the subject site. The following is a list of the total development planned on the site.

- 265 High-Rise Apartments
- 1,045 Mid-Rise Apartments
- 1,125,000 Sq Ft of Office Space
- 155,000 Sq Ft of Retail Space
- 180 Hotel Rooms

The breakdown of the development is shown on Exhibit 11.

Trip Generation/Distribution

In order to establish the peak hour trips projected to be generated by each of the proposed uses on the subject site, we have consulted the *M-NCPPC Trip Generation Guidelines* and the *Institute of Transportation Engineers Trip Generation Report (9th Edition)* to prepare Exhibit 10 which shows the peak hour trip generation rate projected to be generated by each of the uses planned on the subject site.

Exhibit 11 was prepared to show the peak hour trips projected to be generated by Buildings 1 through 11 planned on the subject site. The peak hour trips projected to be generated by the subject site were then distributed and assigned to the road system based on the information contained in Appendix D. Combining the trip assignments for each of the buildings results in the total trip assignments shown on Exhibit 12.

Combining the trip assignments for the subject site with the 2026 peak hour volumes results in the 2026 total peak hour traffic volumes shown on Exhibit 13..

Analysis of Total Traffic Conditions

Intersection Capacity Analyses were conducted for each of the study area intersections based on the 2026 total peak hour volumes, and the results are shown on Exhibit 14.

A review of Exhibit 14 indicates that using the CLV Methodology shows that all the study area intersections are projected to operate at acceptable Levels of Service “D” or better during the peak periods.

The CLV Methodology is an analysis methodology required by Prince George’s County to determine whether sufficient capacity exists at an intersection. Other methodologies exist which evaluate the road network in more detail based on operational concerns. For the purposes of this analysis, it was requested that the Vissim software program be used to develop a traffic simulation model based on the Year 2030 conditions, along Garden City Drive to determine whether sufficient storage space is available for turning vehicles based on a future development, and whether any operational concerns are identified.

We have conducted the analysis for the 2030 conditions, and the worksheets and results of this analysis are contained in Appendix E. A review of the results of the analysis using the Vissim software indicates that as with the results of the CLV Analysis, all of the intersections are projected to operate at acceptable levels of service. However, this analysis was based on projected 2030 volumes which indicated that two intersections should be considered for alternative improvements to address potential operational issues beyond the buildout of the site. These intersections are as follows:

- Garden City Drive and Corporate Drive
- Garden City Drive and Parking Access

Exhibit 15 has been prepared to show the alternate lane use which could be considered at these locations to avoid the potential for operational issues in the Year 2030 or beyond. We have rerun the analysis of the 2026 volumes using the CLV Methodology with these improvements, and the results are shown on Exhibit 14 under each of the intersections listed above on the line “alternate lane use.” A review of Exhibit 14 indicates that in addition to addressing the operational issues, these improvements would also enhance the capacity levels available at both locations.

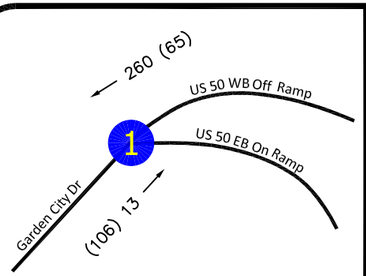
Trip Generation Rates

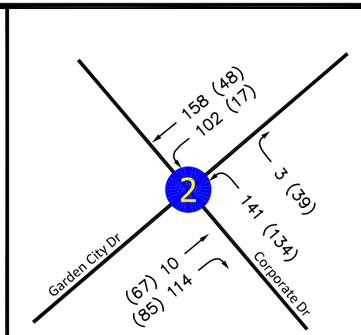
Formula/Rate	AM Peak Hour		PM Peak Hour	
	IN	OUT	IN	OUT
Apartment (Garden and Mid-Rise Dwelling Units, Prince George's County Rate)				
Morning Trips = 0.52 x Units		(trips/unit)		
Evening Trips = 0.60 x Units	0.10	0.42	0.39	0.21
Apartment (High-Rise Dwelling Units, Prince George's County Rate)				
Morning Trips = 0.30 x Units		(trips/unit)		
Evening Trips = 0.40 x Units	0.06	0.24	0.26	0.14
Office (ksf, Prince George's County Rate)				
Morning Trips = 2.0 x ksf		(trips/unit)		
Evening Trips = 1.85 x ksf	1.80	0.20	0.35	1.50
Retail (ksf, ITE-820)				
Ln(Morning Trips) = 0.61 x Ln (ksf) + 2.24		Directional Distribution		
Ln(Evening Trips) = 0.67 x Ln(ksf) + 3.31	62%	38%	48%	52%
Hotel Rooms (ITE-310)				
Morning Trips = 0.53 x Rooms		Directional Distribution		
Evening Trips = 0.60 x Rooms	59%	41%	51%	49%

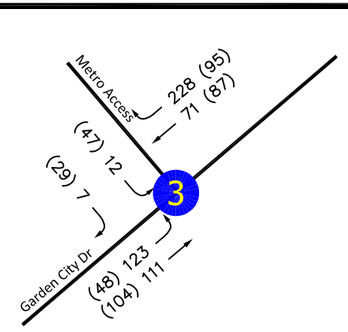
Trip Generation

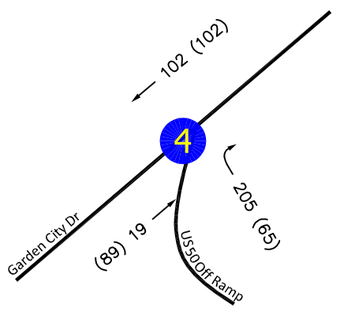
No.	Land Use	Size		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Building No 1 - 5									
	High-Rise Apartments	265	Units						
	Mid-Rise Apartments	350	Units						
	Residential	***615***	***Units***	***14***	***59***	***73***	***30***	***20***	***50***
	Office	***505,000***	***sq.ft.***	***367***	***31***	***398***	***71***	***309***	***380***
	Retail	***120,000***	***sq.ft.***	***10***	***6***	***16***	***34***	***32***	***66***
	Retail Pass-by Trips			***6***	***4***	***10***	***22***	***21***	***43***
	Hotel	***180***	***Rooms***	***10***	***1***	***11***	***7***	***8***	***15***
Building No 6									
	Mid-Rise Apartments	370	Units						
	Residential	***370***	***Units***	***10***	***44***	***54***	***35***	***20***	***55***
	Retail	***15,000***	***sq.ft.***	***3***	***2***	***5***	***8***	***7***	***15***
	Retail Pass-by Trips			***3***	***2***	***5***	***8***	***7***	***15***
Building No 7 ~ 9									
	Mid-Rise Apartments	140	Units						
	Residential	***140***	***Units***	***4***	***16***	***20***	***12***	***7***	***19***
	Office	***345,000***	***sq.ft.***	***264***	***27***	***291***	***51***	***219***	***270***
	Retail	***5,000***	***sq.ft.***	***1***	***1***	***2***	***3***	***3***	***6***
	Retail Pass-by Trips			***1***	***1***	***2***	***4***	***4***	***8***
Building No 10 ~ 11									
	Mid-Rise Apartments	185	Units						
	Residential	***185***	***Units***	***5***	***21***	***26***	***13***	***8***	***21***
	Office	***275,000***	***sq.ft.***	***208***	***19***	***227***	***39***	***173***	***212***
	Retail	***15,000***	***sq.ft.***	***2***	***1***	***3***	***7***	***6***	***13***
	Retail Pass-by Trips			***2***	***2***	***4***	***8***	***7***	***15***
Total Trips for New Carrollton									
	High-Rise Apartments	265	Units						
	Mid-Rise Apartments	1,045	Units						
	Residential	***1,310***	***Units***	***33***	***140***	***173***	***90***	***55***	***145***
	Office	***1,125,000***	***sq.ft.***	***839***	***77***	***916***	***161***	***701***	***862***
	Retail	***155,000***	***sq.ft.***	***16***	***10***	***26***	***52***	***48***	***100***
	Hotel	***180***	***Rooms***	***10***	***1***	***11***	***7***	***8***	***15***
Total Pass-by Trips				**12**	**9**	**21**	**42**	**39**	**81**
Total Trips				**898**	**228**	**1126**	**310**	**812**	**1122**

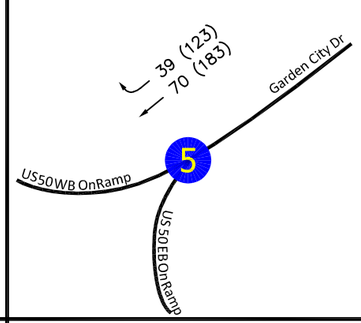
Note: Detail calculations and support documents refer to Appendix D.

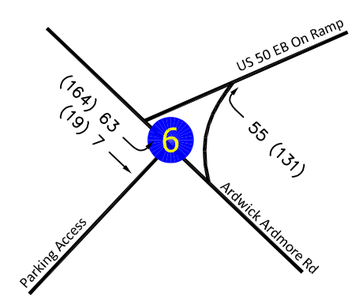


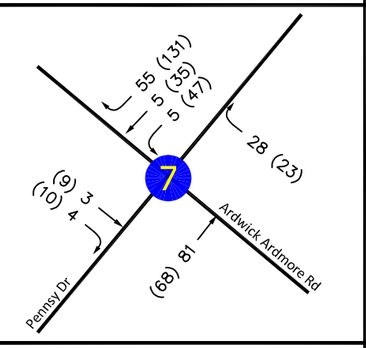


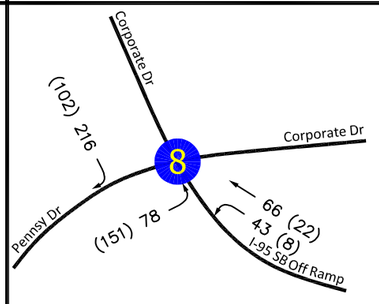


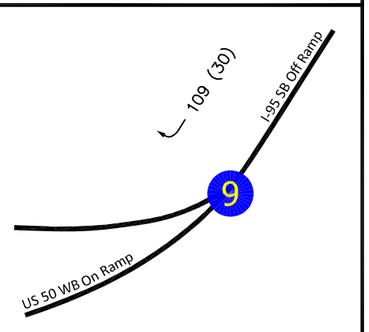


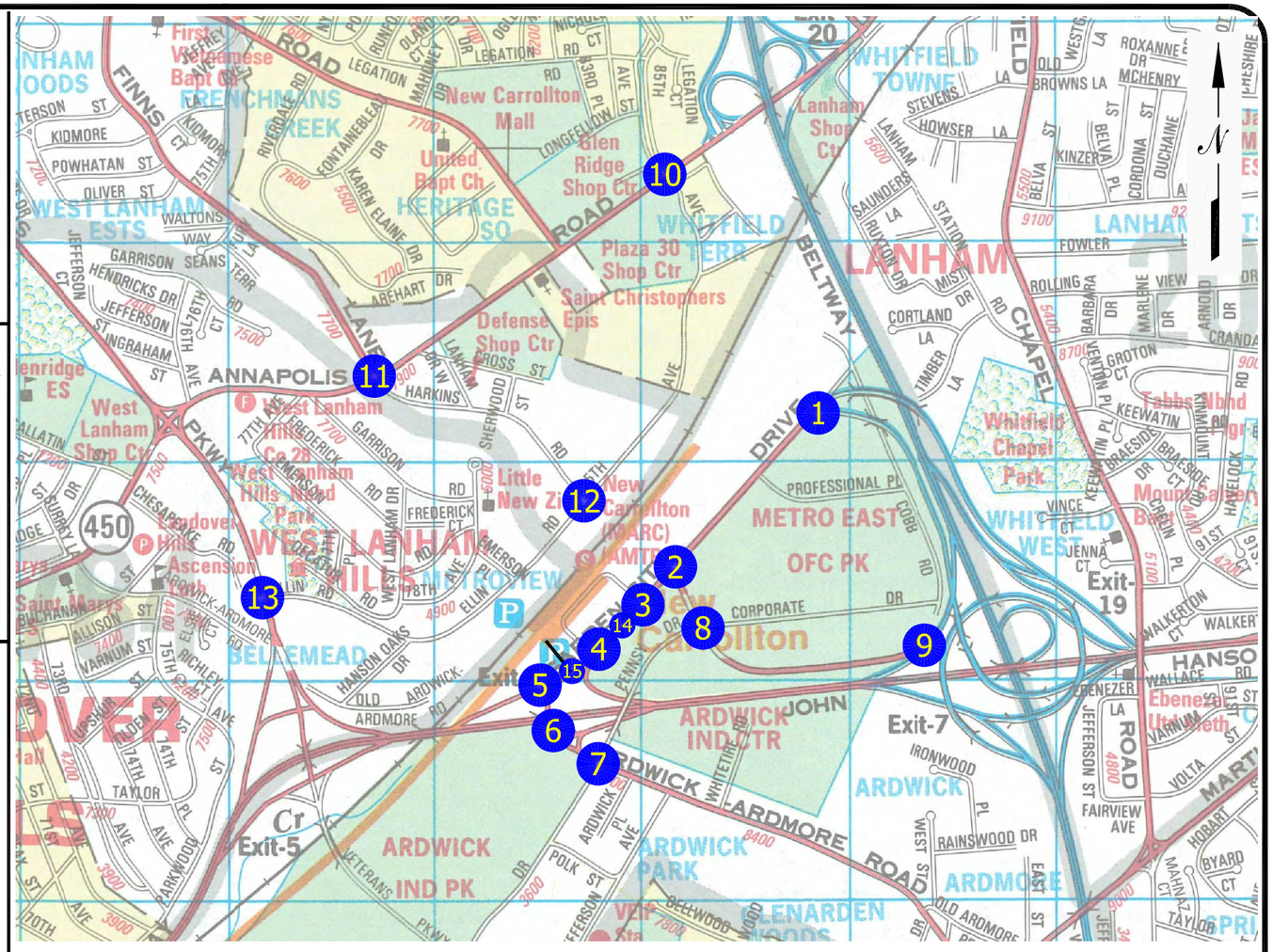


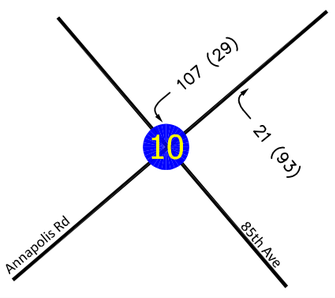


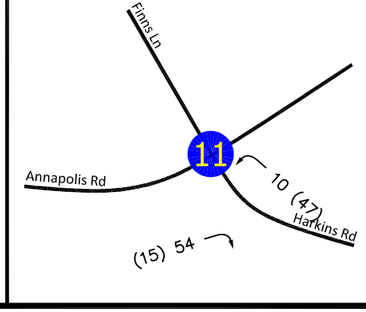


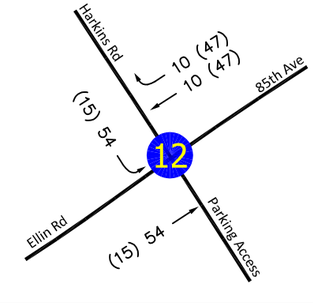


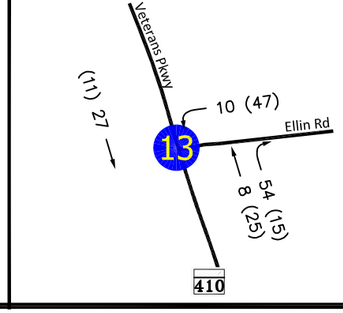


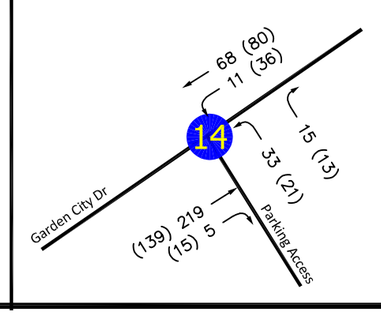


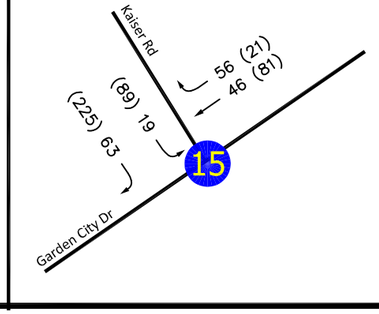










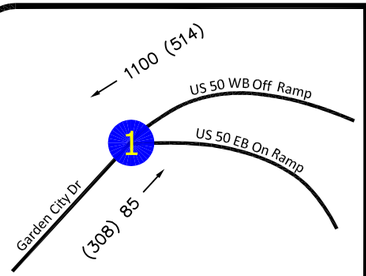


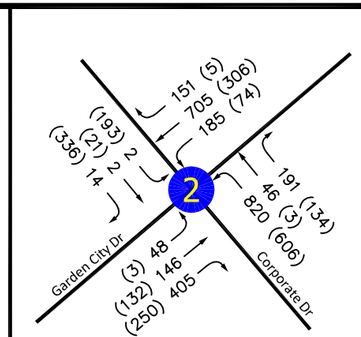
NOT TO SCALE

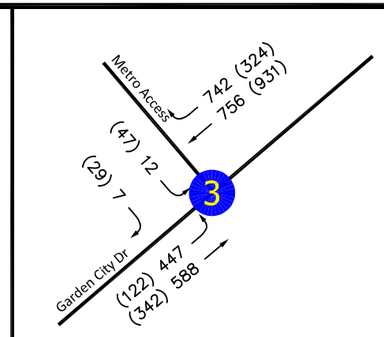
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

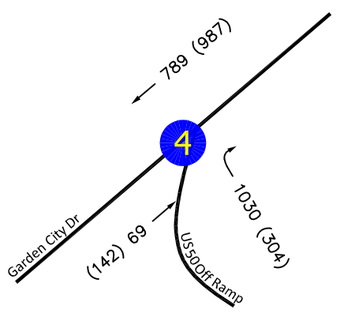
Note:
Trip assignment details refer to Appendix D.

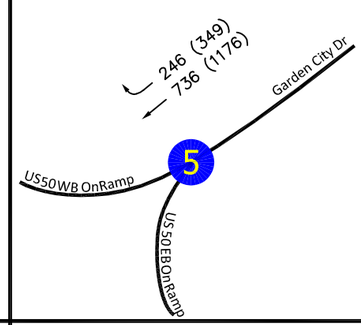
EXHIBIT 12
TRIP ASSIGNMENT FOR SUBJECT SITE

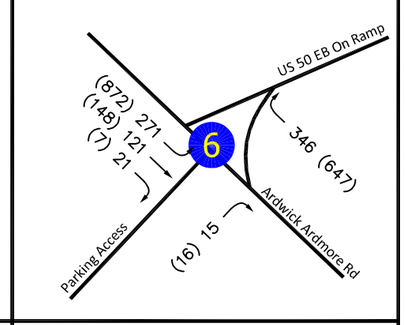


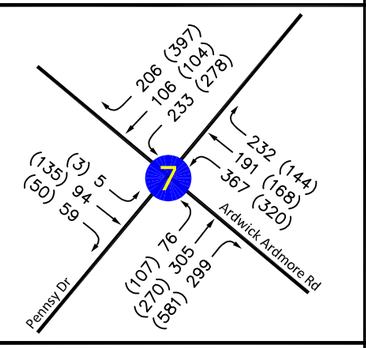


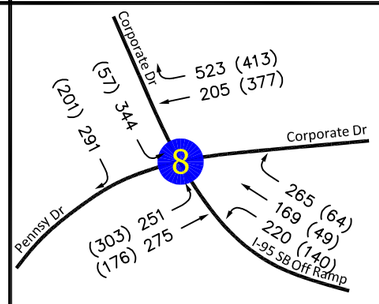


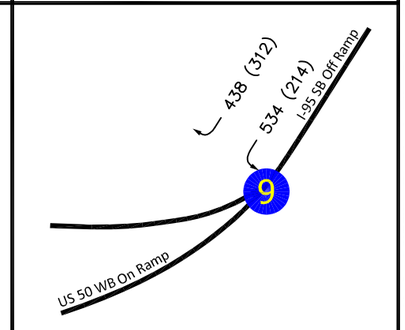


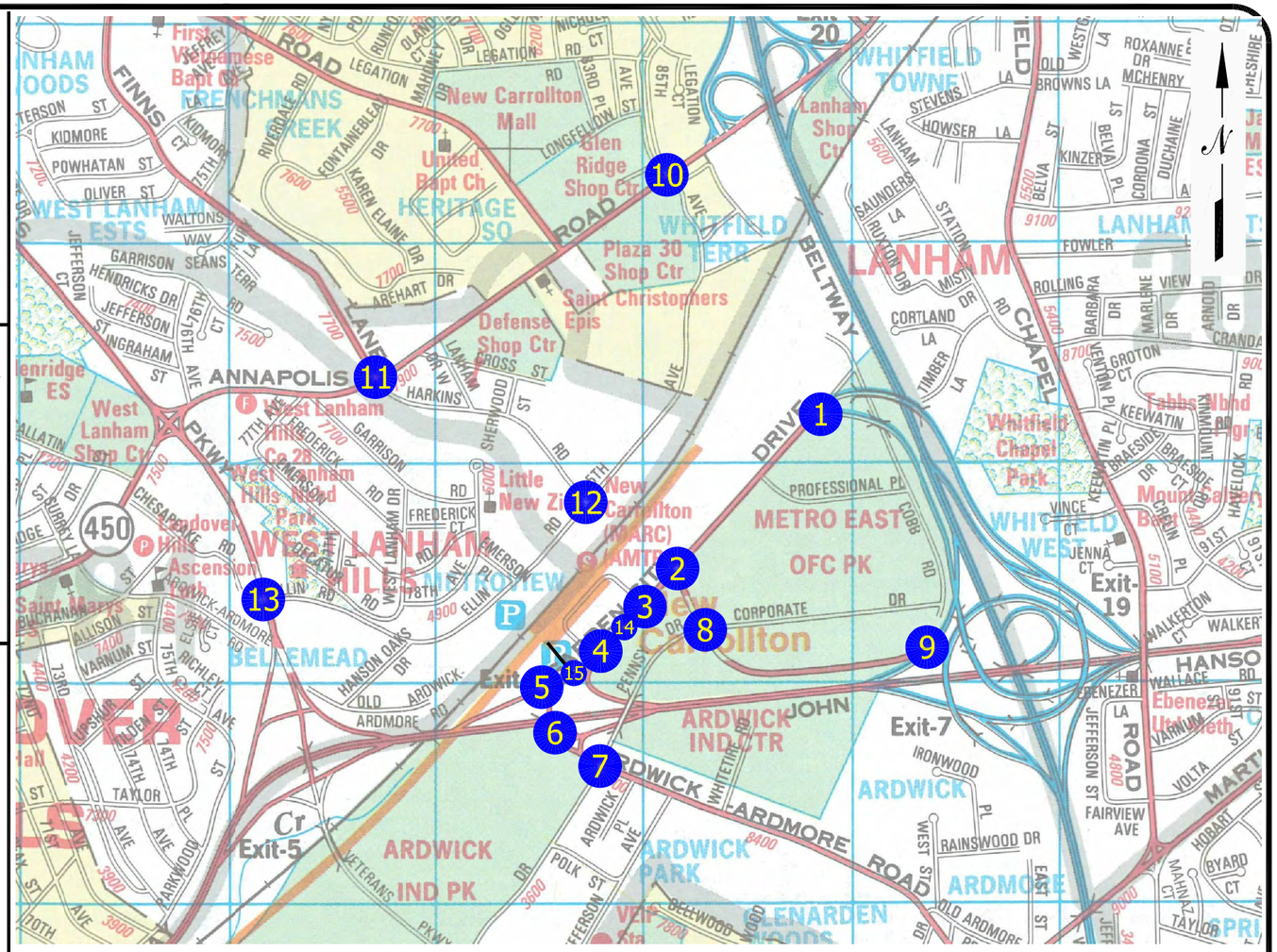


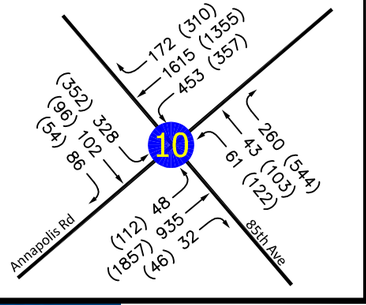


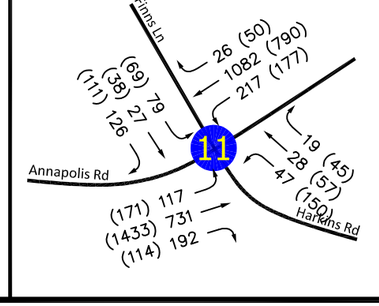


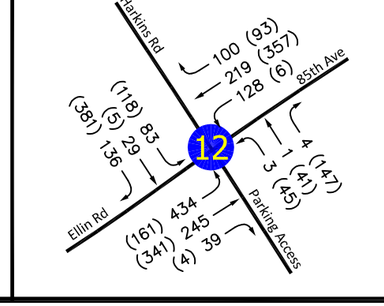


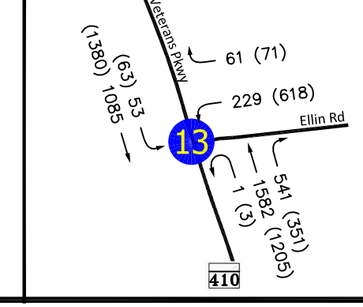


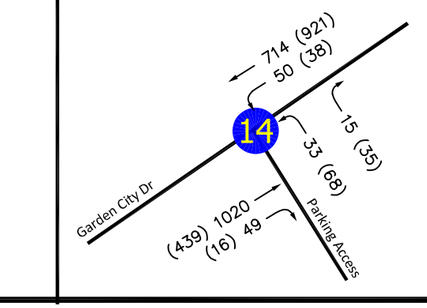


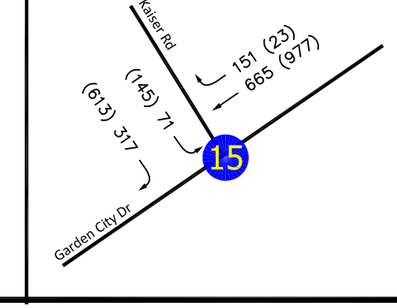












NOT TO SCALE

00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

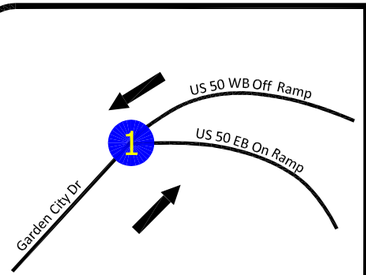
EXHIBIT 13
2026 TOTAL PEAK HOUR TRAFFIC VOLUMES

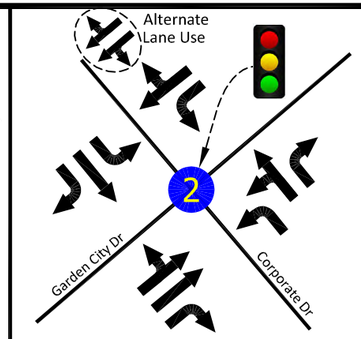
rh, 101023a\2016 may\ex_rev2.dwg-tot, f08/05/16

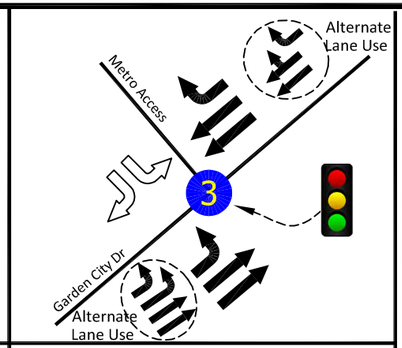
CLV	Existing Traffic	Background Traffic	Total Traffic
Morning Peak Hour Traffic	**LOS / CLV**	**LOS / CLV**	**LOS / CLV**
1. US 50 WB Off Ramp & Garden City Dr	---	---	---
2. Garden City Dr & Corporate Dr	A / 862	C / 1183	D / 1426
w/Alternate Lane Use	---	---	C / 1153
3. Garden City Dr & Metro Access	A / 797	A / 838	C / 1189
w/Alternate Lane Use	---	---	B / 1104
4. Garden City Dr & US 50 EB Off Ramp/Parking Ent	A / 736	B / 1085	B / 1001
5. Garden City Dr & US 50 On Ramp	---	---	---
6. Ardwick Ardmore Rd & US 50 EB On Ramp	A / 193	A / 204	A / 242
7. Ardwick Ardmore Rd & Pennsy Dr	A / 951	B / 1082	C / 1177
8. Garden City Dr & Corporate Dr/I-95 SB Off Ramp	A / 580	A / 976	C / 1163
9. I-95 Sb Off Ramp & US 50 WB On Ramp	---	---	---
10. MD 450 & 85th Ave	A / 878	A / 966	B / 1053
11. MD 450 & Finns Ln/Harkins Rd	A / 645	A / 690	A / 720
12. 85th Ave/Ellin Rd & Harkins Rd/Parking	A / 474	A / 578	A / 639
13. MD 410 & Ellin Rd	A / 963	B / 1050	B / 1060
14. Garden City Dr & Parking Access	A / 297	A / 441	A / 578
15. Garden City Dr & Parking Access	A / 180	A / 360	---
Garden City Dr & Kaiser Rd	---	---	A / 476
Evening Peak Hour Traffic			
1. US 50 WB Off Ramp & Garden City Dr	---	---	---
2. Garden City Dr & Corporate Dr	A / 709	A / 884	B / 1012
w/Alternate Lane Use	---	---	A / 917
3. Garden City Dr & Metro Access	A / 391	A / 538	A / 681
w/Alternate Lane Use	---	---	A / 810
4. Garden City Dr & US 50 EB Off Ramp/Parking Ent	A / 719	A / 938	A / 710
5. Garden City Dr & US 50 On Ramp	---	---	---
6. Ardwick Ardmore Rd & US 50 EB On Ramp	A / 457	A / 480	A / 581
7. Ardwick Ardmore Rd & Pennsy Dr	A / 883	B / 1024	C / 1196
8. Garden City Dr & Corporate Dr/I-95 SB Off Ramp	A / 604	A / 724	A / 905
9. I-95 Sb Off Ramp & US 50 WB On Ramp	---	---	---
10. MD 450 & 85th Ave	C / 1180	C / 1284	D / 1365
11. MD 450 & Finns Ln/Harkins Rd	A / 821	A / 961	B / 1013
12. 85th Ave/Ellin Rd & Harkins Rd/Parking	A / 556	A / 660	A / 695
13. MD 410 & Ellin Rd	A / 953	B / 1055	B / 1097
14. Garden City Dr & Parking Access	A / 386	A / 534	A / 651
15. Garden City Dr & Parking Access	A / 412	A / 519	---
Garden City Dr & Kaiser Rd	---	---	A / 707

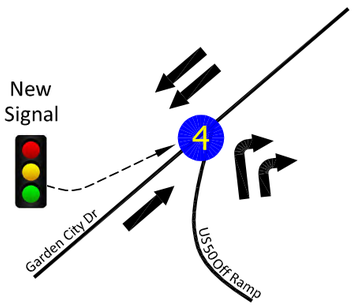
Note: CLV standard for developed tier is 1600.

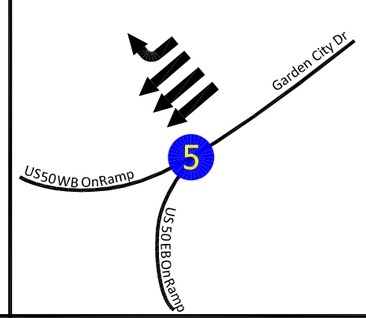
EXHIBIT 14
RESULTS OF INTERSECTION
CAPACITY ANALYSES (CLV)

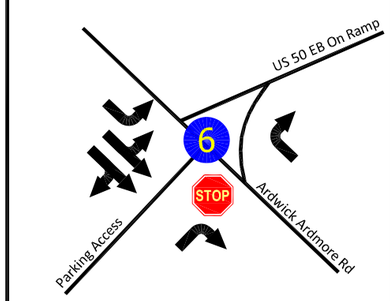


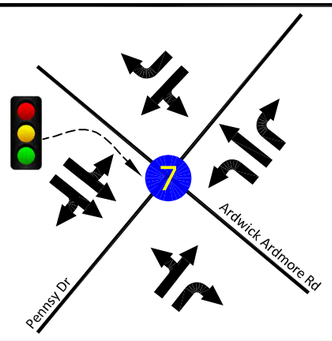


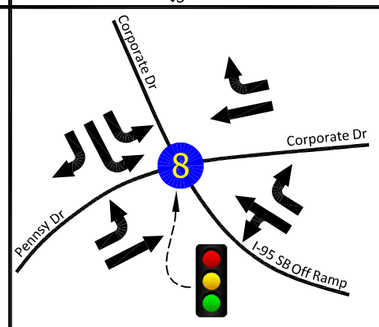


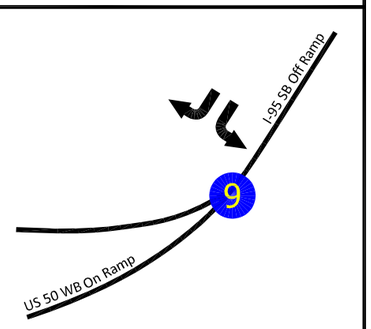


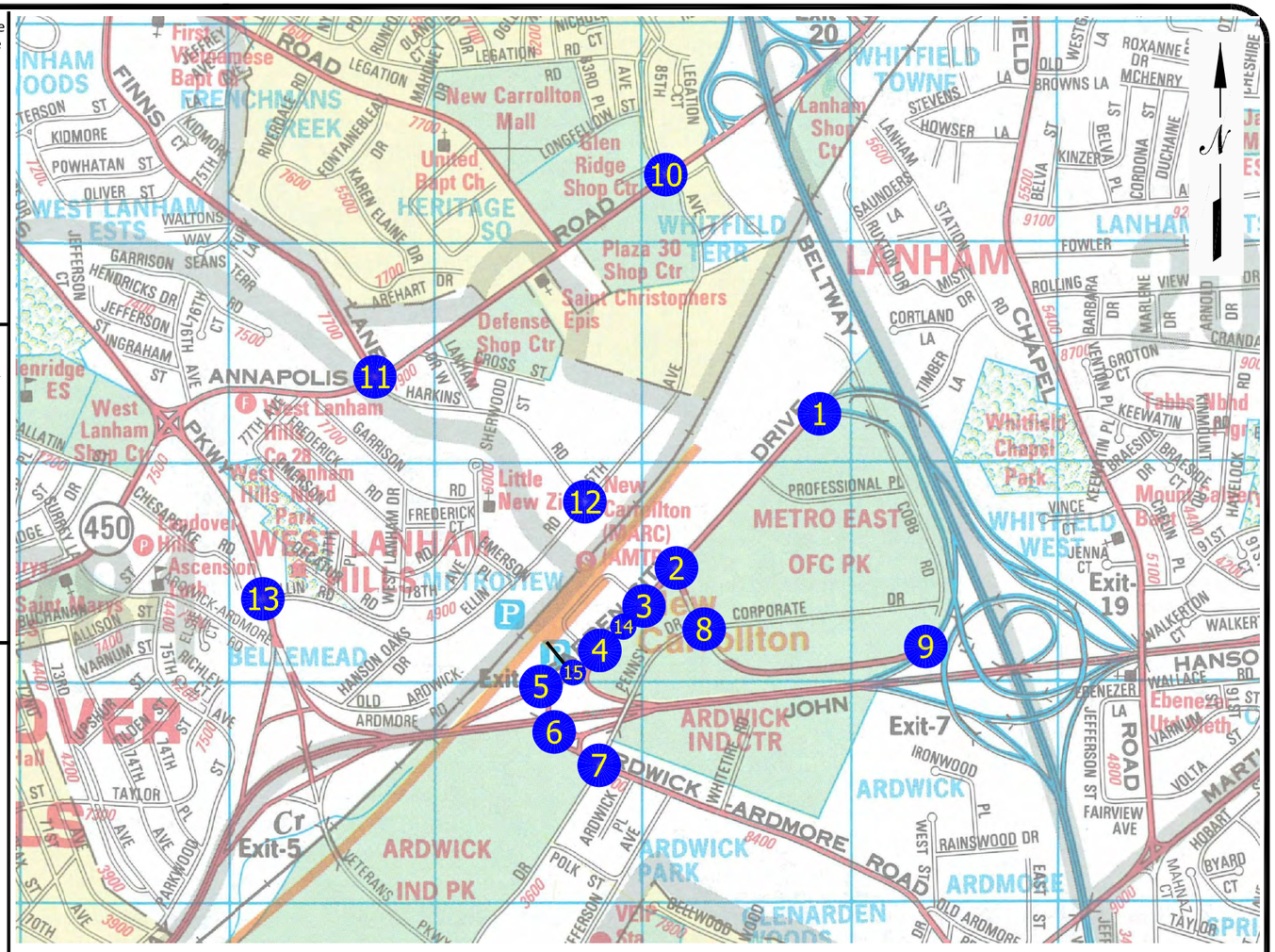


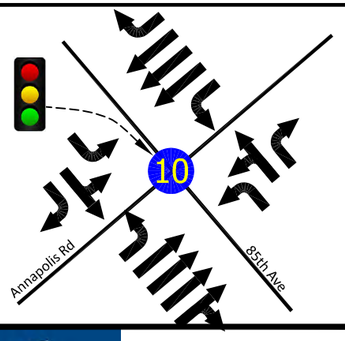


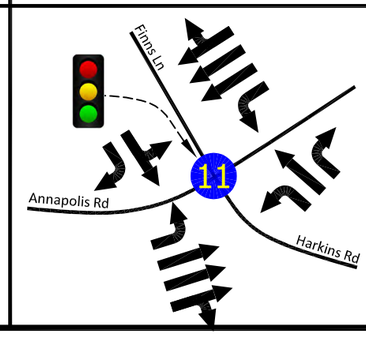


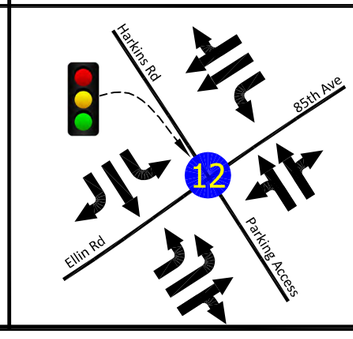


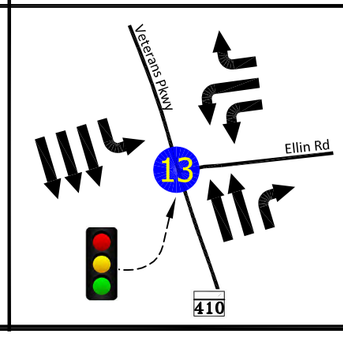


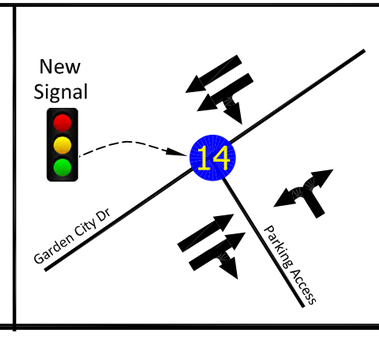


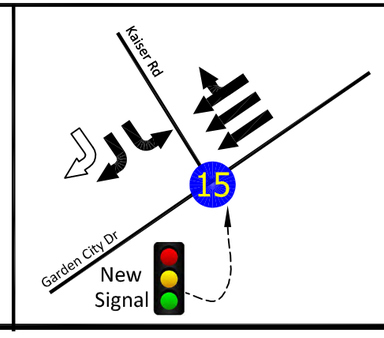












NOT TO SCALE

EXHIBIT 15
FUTUTRE LANE USE

RESULTS, RECOMMENDATIONS, AND CONCLUSIONS

Study Purpose

This Traffic Impact Analysis was prepared to address the proposed development of the "south side" of the New Carrollton Metro Station located in Prince George's County, Maryland. This property has development proposed along the north and south sides of the track, both of which are within close proximity to the Metro Station/Marc Station/Amtrak Station Tracks.

Study Criteria/Methodology

This Traffic Impact Analysis was prepared in accordance with the requirements outlined by the Maryland-National Capital Park and Planning Commission (M-NCPPC) and in coordination with WMATA and the Maryland State Highway Administration (SHA). The parameters for this traffic study were established in an approved Traffic Impact Study Scoping Agreement executed with M-NCPPC. A copy of this agreement is contained in Appendix A of this report.

Exhibit 1A was prepared to show the location of the subject property and the intersections that were determined to be critical to this analysis. It should be noted that Mainline I-495, Mainline MD-410, and Mainline US 50 were not studied or analyzed as part of this report.

Summary of Findings and Recommendations

The results of this analysis have indicated that the road network is capable of supporting the traffic projected to be generated by this site. Two intersection improvements have been recommended which will enhance traffic operations, however, are not needed for capacity reasons.

APPENDIX A

Scope Letter,

Intersection Turning Movement Counts,

and Photos

Figure 1: Traffic Impact Study Scoping Agreement, Pages 1 & 2

The Maryland-National Capital Park and Planning Commission
Prince George's County Planning Department
Transportation Planning Section, Countywide Planning Commission

This form must be completed prior to commencing a Traffic Impact Study (TIS). The completed and signed Scoping Agreement should be submitted to the Transportation Planning Section (TPS) by the traffic consultant for concurrence and signature. TPS will return a signed copy, with any comments, to the traffic consultant for inclusion in the TIS. Failure to conduct the study in accordance with the guidelines and the signed Scoping Agreement may be grounds for rejection of the study, thereby necessitating an addendum or a new study prior to the start of the staff review.

Project Name:	NEW CARROLLTON T.O.D.
Policy Tier (Developed, Developing, or Rural): Please note if in Center or Corridor:	METRO STATION – DEVELOPED
Type of Application (see Figure 3):	PPS 2.74 M. SF MIXED USE
Project Location:	NEW
Traffic Consultant Name: Contact Number(s):	THE TRAFFIC GROUP, INC.

Describe the Proposal Under Study: Residential—Number & Type of Units: Commercial—Amount & Type of Space: Other Uses and Quantity:	1310 APTS. 1,125 M SF OFFICE 155K RETAIL	180 RM HOTEL	
Are pass-by trip rates in accordance with the Guidelines? (circle one)	(Yes)	No	If No, please provide explanation on separate sheet.
Are there diverted trips? (circle one)	Yes	(No)	If Yes, please provide explanation on separate sheet.
Will a TOD credit be used? (Section 4 of the Guidelines) (circle one)	(Yes)	No	Note that all development in Centers and Corridors will be evaluated for TOD.
Will a transit facilities credit be used? (Section 5 of the Guidelines) (circle one)	(Yes)	No	Need/nexus must be justified in study, and it must be supported by operating agency
Will a bike/ped facilities credit be used? (Section 6 of the Guidelines) (circle one)	(Yes)	No	Need/nexus must be justified in study, and it must be supported by operating agency
Are additional trip reductions (internal trips, transit trips, etc.) proposed? (circle one)	(Yes)	No	If Yes, please provide explanation on separate sheet.

10 YEAR BUILD
0.50 %/YR GROWTH

SEE ATTACH. FOR TA/P DISTRIBUTION & STUDY LOCATIONS (#3 & 4 – 13 COUNTS)

Attach a map (or maps) showing the Study Area network with included intersections and links, estimated site trip distribution, and growth factors for through traffic.

SHA/DPW&T capital program improvements assumed:	NONE				
Other improvements assumed:					
Is Mitigation (Section 8 of the Guidelines) to be proffered? (circle one)	(Yes) POSSIBLY		No		Note the locational criteria in Section 8, and please note the clarifications regarding Mitigation included in Section 3, Subsection E.
Is a cooperative funding arrangement (such as a SCRP, PFFIP, or some other pro rata) to be used? (circle one)	(Yes) POSSIBLY		No		If Yes, please provide explanation on seperate sheet, and note limitations in Section 3, Subsection E.
Will summer counts be used? (circle one)	Yes		(No)		The use of summer counts must have specific concurrence of TPS staff.
Have there been discussions with the permitting agency (DPW&T and/or SHA) regarding access to this site and the analysis requirements? (circle one)	(Yes)		No		Section 1, Subsection E strongly advises that these discussions occur early in the development review process. Note that driveway access onto arterial facilities must be justified and approved by the Planning Board as a part of the subdivision process.
Has a listing of background development been developed? (circle one)	Yes	NOT LIKELY ON SOUTH SIDE	(No)		If Yes, please provide the list so that TPS staff may either concur with it or provide changes.
Have the costs and feasibility of potential off-site transportation improvements been evaluated? (circle one)	Yes		(No)		If No, bear in mind that Section 3, Subsection D requires that ANY recommended physical off-site improvements include an evaluation of feasibility.

SIGNED: WES GUCKERT — **Traffic Consultant** — **Date** 5.4.16

APPROVED: _____ — **TPS Coordinator (or Supervisor)** — **Date** 5/20/16

This form is not required for sites that do not require a TIS.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Prince George's County Planning Department **(301) 952-3680**
Countywide Planning Division, Transportation Planning Section **www.mncppc.org**

Scoping Agreement Notes

Site: **New Carrollton Station**
Firm: **The Traffic Group**

I 'll agree to the scope in general with the following comments/changes:

1. Based on the trip distribution provided, I would agree to the study area and the intersections under study.

2. Please note that links within the study area could become critical.

3. I would determine that the trip generation computations appear to have been done in general conformance with the "Transportation Review Guidelines, Part 1."

4. Notwithstanding the comment in 3 above, it is noted that a 30 percent credit for TOD has been assumed in the computations. While the credit is permissible to utilize in the study, the actual development will need to demonstrate strong conformance to the generally-accepted principles of transit-oriented development urban form. Be advised that the use of the credit will grant us leverage to require changes to plans or, in cases where plans cannot be amended to justify the credit, a revised traffic study using a lesser credit.

5. Please note that the study must conform to the new "Transportation Review Guidelines, Part 1."

6. Please remember that the feasibility of any recommendations must be reviewed, and if any recommendation will require the acquisition of property from a third party, the study must attest "that the applicant has or can obtain the necessary right-of-way."

7. Our submittal requirements have changed. Please note the guidance at the end of this document.

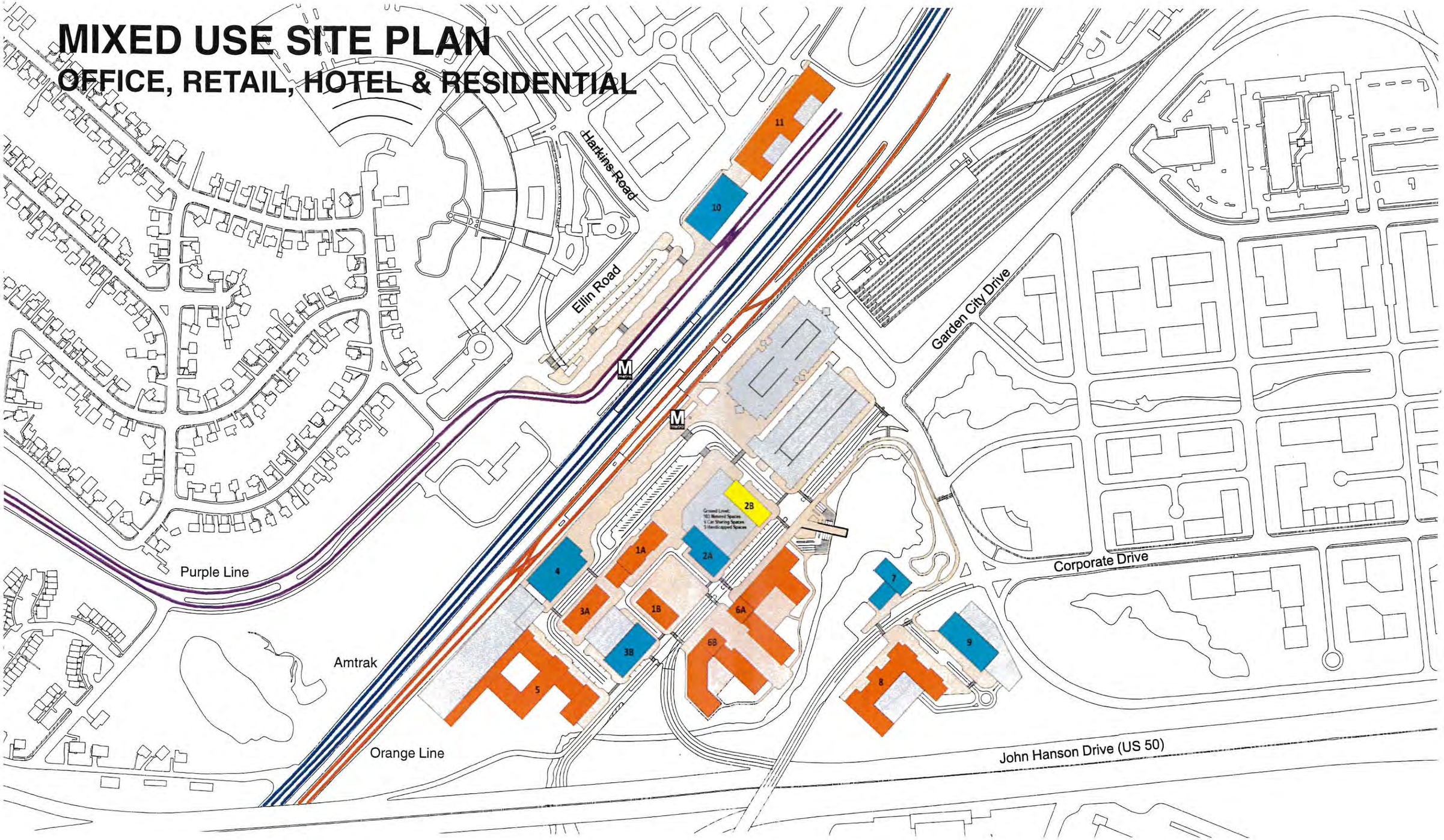
8. Provision of these written comments, dated January 28, 2013, by Thomas G. Masog, Planner Coordinator in the Transportation Planning Section of the Prince George's County Planning Department, shall be determined to constitute a signature approval of the final scoping. The initial Scoping Agreement plus these comments shall be included in the traffic study that is ultimately submitted in support of a development application. The Scoping Agreement combined with these comments shall be valid through January 28, 2014.

Traffic Studies: The primary means of submitting a TIS shall be an electronic file in Portable Document Format (PDF). Two hardcopies (one for the case file and one for the TPS staff person) plus a disc containing the electronic file will be provided to the Applications Section of the Development Review Division (DRD) for the official submittal. In submitting electronic files, the following shall be noted:

- Pictures and mapping should be readable, and need not be scanned or provided at the highest possible resolution. In many cases, 100 dots per inch (dpi) will be readable, and 300 dpi should generally be the maximum resolution used.
- The submitted file containing the report and the needed appendices must be 10 megabytes (MBs) or smaller in order to be sent electronically as an email attachment. Larger documents, items that are graphics-intensive, or large documents of a high resolution should consider strategies to make the document manageable, including the following:
  - Providing multiple files of 10 MBs or less each.
  - Providing either the file(s) or large figures within the study as a compressed (zip) file.

Both the hardcopies and the PDF must be received before acceptance review of a study can commence. All submittals of a TIS or other traffic data for the record must be made via DRD. Every TIS received by DRD staff is immediately logged and forwarded to TPS staff.

MIXED USE SITE PLAN
OFFICE, RETAIL, HOTEL & RESIDENTIAL



RESIDENTIAL

OFFICE

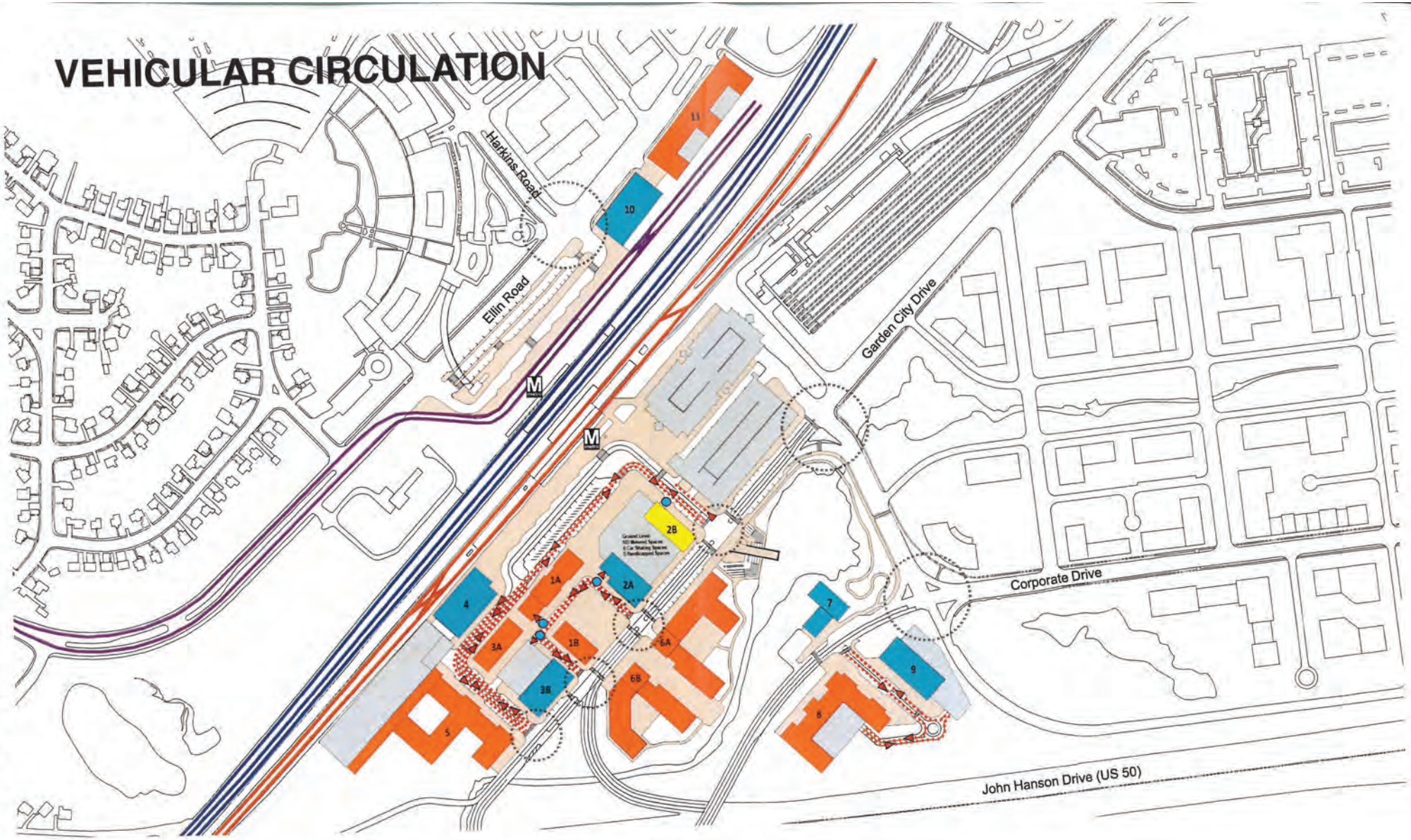
HOTEL

STRUCTURED PARKING

New Carrollton

Component	Blocks	Deliver	Apartments		Office	Retail	Hotel		Parking		
Phase 1:			# Units	SF	SF	SF	Keys	SF	Total SF	Spaces	SF
1	5	2017	250	250000		15,000			265,000	300	108,000
2	4	2018			255,000	20,000			275,000	600	108,000
	2B	2019				15,000	180	150,000	165,000	92	33,120
Phase 2:											
3	3A	2020	100	100,000		5,000			105,000	99	35,640
	3B	2024			100,000	5,000			105,000	200	72,000
4	2A	2020			150,000	20,000			170,000	568	204,480
5	1	2022	265	265,000	-	40,000			305,000	200	72,000
6	6	2023	370	370,000		15,000			385,000	200	72,000
7	7	2024			80,000				80,000	50	18,000
8	8	2025	140	140,000		-			140,000	200	72,000
9	9	2027			265,000	5,000			270,000	554	199,440
10	10	2026			275,000	5,000			280,000	554	199,440
11	11	2027	185	185,000	-	10,000			195,000	115	41,400
			1,310	**1,310,000**	**1,125,000**	**155,000**	**180**	**150,000**	**2,740,000**	**3,732**	**1,235,520**

VEHICULAR CIRCULATION



EXISTING & PROPOSED SIGNALIZED INTERSECTIONS

RIGHT IN-RIGHT OUT

VEHICLES TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: US 50 Ramps | Date: June 01, 2016 | Wednesday

and: Garden City Drive | Weather: Sunny/Warm

Location: Prince George's County, Maryland | Entered by: SN | Star Rating: 5

TIME	TRAFFIC FROM NORTH on:					TRAFFIC FROM SOUTH on:					TRAFFIC FROM EAST From US 50 Westbound on:					TRAFFIC FROM WEST To US 50 Eastbound on:					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45					0					0		8			8		144			144	152
6:45 - 7:00					0					0		3			3		147			147	150
7:00 - 7:15					0					0		4			4		173			173	177
7:15 - 7:30					0					0		13			13		177			177	190
7:30 - 7:45					0					0		4			4		153			153	157
7:45 - 8:00					0					0		4			4		170			170	174
8:00 - 8:15					0					0		5			5		150			150	155
8:15 - 8:30					0					0		2			2		126			126	128
8:30 - 8:45					0					0		7			7		131			131	138
8:45 - 9:00					0					0		4			4		89			89	93
9:00 - 9:15					0					0		4			4		84			84	88
9:15 - 9:30					0					0		10			10		49			49	59
3 Hr Totals	0	0	0	0	0	0	0	0	0	0	0	68	0	0	68	0	1593	0	0	1593	1661
1 Hr Totals																					
6:30 - 7:30	0	0	0	0	0	0	0	0	0	0	0	28	0	0	28	0	641	0	0	641	669
6:45 - 7:45	0	0	0	0	0	0	0	0	0	0	0	24	0	0	24	0	650	0	0	650	674
7:00 - 8:00	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	0	673	0	0	673	698
7:15 - 8:15	0	0	0	0	0	0	0	0	0	0	0	26	0	0	26	0	650	0	0	650	676
7:30 - 8:30	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	599	0	0	599	614
7:45 - 8:45	0	0	0	0	0	0	0	0	0	0	0	18	0	0	18	0	577	0	0	577	595
8:00 - 9:00	0	0	0	0	0	0	0	0	0	0	0	18	0	0	18	0	496	0	0	496	514
8:15 - 9:15	0	0	0	0	0	0	0	0	0	0	0	17	0	0	17	0	430	0	0	430	447
8:30 - 9:30	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	0	353	0	0	353	378
PEAK HOUR																					
7:00 - 8:00	0	0	0	0	0	0	0	0	0	0	0	25	0	0	25	0	673	0	0	673	698
PM																					
4:00 - 4:15					0					0		20			20		56			56	76
4:15 - 4:30					0					0		18			18		49			49	67
4:30 - 4:45					0					0		26			26		55			55	81
4:45 - 5:00					0					0		21			21		76			76	97
5:00 - 5:15					0					0		30			30		70			70	100
5:15 - 5:30					0					0		24			24		60			60	84
5:30 - 5:45					0					0		36			36		99			99	135
5:45 - 6:00					0					0		32			32		108			108	140
6:00 - 6:15					0					0		24			24		67			67	91
6:15 - 6:30					0					0		44			44		59			59	103
6:30 - 6:45					0					0		34			34		64			64	98
6:45 - 7:00					0					0		12			12		38			38	50
3 Hr Totals	0	0	0	0	0	0	0	0	0	0	0	321	0	0	321	0	801	0	0	801	1122
1 Hr Totals																					
4:00 - 5:00	0	0	0	0	0	0	0	0	0	0	0	85	0	0	85	0	236	0	0	236	321
4:15 - 5:15	0	0	0	0	0	0	0	0	0	0	0	95	0	0	95	0	250	0	0	250	345
4:30 - 5:30	0	0	0	0	0	0	0	0	0	0	0	101	0	0	101	0	261	0	0	261	362
4:45 - 5:45	0	0	0	0	0	0	0	0	0	0	0	111	0	0	111	0	305	0	0	305	416
5:00 - 6:00	0	0	0	0	0	0	0	0	0	0	0	122	0	0	122	0	337	0	0	337	459
5:15 - 6:15	0	0	0	0	0	0	0	0	0	0	0	116	0	0	116	0	334	0	0	334	450
5:30 - 6:30	0	0	0	0	0	0	0	0	0	0	0	136	0	0	136	0	333	0	0	333	469
5:45 - 6:45	0	0	0	0	0	0	0	0	0	0	0	134	0	0	134	0	298	0	0	298	432
6:00 - 7:00	0	0	0	0	0	0	0	0	0	0	0	114	0	0	114	0	228	0	0	228	342
PEAK HOUR																					
5:30 - 6:30	0	0	0	0	0	0	0	0	0	0	0	136	0	0	136	0	333	0	0	333	469


Legend
US 50 WB Off Ramp/EB On Ramp
Write a description for your map.
Google earth
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N
80 ft

VEHICLES TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Garden City Drive | **Date: May 12, 2016** | **Thursday**

and: Corporate Drive | **Weather: Cloudy/Cool**

Location: Prince George's County, Maryland | **Entered by: AW** | **Star Rating: 3**

TIME	TRAFFIC FROM NORTH on: Garden City Drive					TRAFFIC FROM SOUTH on: Garden City Drive					TRAFFIC FROM EAST on: Corporate Drive					TRAFFIC FROM WEST on: Corporate Drive					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	22	119	0	0	141	30	18	6	0	54	14	3	36	0	53	0	0	1	0	1	249
6:45 - 7:00	30	113	1	0	144	43	17	8	0	68	19	8	36	0	63	5	0	0	0	5	280
7:00 - 7:15	33	94	1	0	128	17	12	3	0	32	19	6	39	0	64	1	0	0	0	1	225
7:15 - 7:30	30	123	2	0	155	33	32	12	0	77	19	9	43	0	71	3	1	0	0	4	307
7:30 - 7:45	40	159	6	0	205	42	38	17	0	97	39	16	51	0	106	2	0	2	0	4	412
7:45 - 8:00	43	115	4	0	162	54	31	7	0	92	60	12	52	0	124	3	0	0	0	3	381
8:00 - 8:15	31	123	4	0	158	48	28	10	0	86	39	7	60	0	106	5	1	0	0	6	356
8:15 - 8:30	24	72	0	0	96	58	24	20	0	102	28	5	46	0	79	2	0	0	0	2	279
8:30 - 8:45	26	84	4	0	114	42	19	13	0	74	33	14	50	0	97	2	1	0	0	3	288
8:45 - 9:00	19	66	3	0	88	63	24	6	0	93	18	8	34	0	60	2	0	1	0	3	244
9:00 - 9:15	10	53	4	0	67	47	13	6	1	67	12	7	44	0	63	4	0	0	0	4	201
9:15 - 9:30	9	50	4	0	63	36	13	3	0	52	19	5	38	0	62	0	0	0	0	0	177
3 Hr Totals	317	1171	33	0	1521	513	269	111	1	894	319	100	529	0	948	29	3	4	0	36	3399
1 Hr Totals																					
6:30 - 7:30	115	449	4	0	568	123	79	29	0	231	71	26	154	0	251	9	1	1	0	11	1061
6:45 - 7:45	133	489	10	0	632	135	99	40	0	274	96	39	169	0	304	11	1	2	0	14	1224
7:00 - 8:00	146	491	13	0	650	146	113	39	0	298	137	43	185	0	365	9	1	2	0	12	1325
7:15 - 8:15	144	520	16	0	680	177	129	46	0	352	157	44	206	0	407	13	2	2	0	17	1456
7:30 - 8:30	138	469	14	0	621	202	121	54	0	377	166	40	209	0	415	12	1	2	0	15	1428
7:45 - 8:45	124	394	12	0	530	202	102	50	0	354	160	38	208	0	406	12	2	0	0	14	1304
8:00 - 9:00	100	345	11	0	456	211	95	49	0	355	118	34	190	0	342	11	2	1	0	14	1167
8:15 - 9:15	79	275	11	0	365	210	80	45	1	336	91	34	174	0	299	10	1	1	0	12	1012
8:30 - 9:30	64	253	15	0	332	188	69	28	1	286	82	34	166	0	282	8	1	1	0	10	910
PEAK HOUR																					
7:15 - 8:15	144	520	16	0	680	177	129	46	0	352	157	44	206	0	407	13	2	2	0	17	1456
PM																					
4:00 - 4:15	2	52	8	0	62	15	10	0	0	25	12	3	35	0	50	47	4	19	0	70	207
4:15 - 4:30	0	63	1	0	64	10	11	2	0	23	10	2	36	0	48	60	5	34	0	99	234
4:30 - 4:45	1	69	2	0	72	16	5	1	0	22	21	0	55	0	76	40	3	26	0	69	239
4:45 - 5:00	0	47	1	0	48	14	20	1	1	36	15	3	34	0	52	80	6	51	0	137	273
5:00 - 5:15	1	73	2	0	76	15	13	1	1	30	11	1	60	0	72	78	2	35	0	115	293
5:15 - 5:30	3	65	0	0	68	15	21	0	0	36	13	0	56	0	69	94	7	55	0	156	329
5:30 - 5:45	0	44	2	0	46	15	15	0	0	30	19	2	57	0	78	74	3	50	0	127	281
5:45 - 6:00	1	63	4	0	68	18	13	1	0	32	19	0	56	0	75	74	8	44	0	126	301
6:00 - 6:15	0	45	1	0	46	13	16	0	0	29	9	0	51	0	60	72	8	51	0	131	266
6:15 - 6:30	1	48	1	0	50	13	9	0	0	22	8	1	44	0	53	65	8	54	0	127	252
6:30 - 6:45	0	42	2	0	44	14	12	1	0	27	4	1	39	0	44	70	5	35	0	110	225
6:45 - 7:00	0	38	2	0	40	12	18	0	0	30	7	0	36	0	43	72	7	43	0	122	235
3 Hr Totals	9	649	26	0	684	170	163	7	2	342	148	13	559	0	720	826	66	497	0	1389	3135
1 Hr Totals																					
4:00 - 5:00	3	231	12	0	246	55	46	4	1	106	58	8	160	0	226	227	18	130	0	375	953
4:15 - 5:15	2	252	6	0	260	55	49	5	2	111	57	6	185	0	248	258	16	146	0	420	1039
4:30 - 5:30	5	254	5	0	264	60	59	3	2	124	60	4	205	0	269	292	18	167	0	477	1134
4:45 - 5:45	4	229	5	0	238	59	69	2	2	132	58	6	207	0	271	326	18	191	0	535	1176
5:00 - 6:00	5	245	8	0	258	63	62	2	1	128	62	3	229	0	294	320	20	184	0	524	1204
5:15 - 6:15	4	217	7	0	228	61	65	1	0	127	60	2	220	0	282	314	26	200	0	540	1177
5:30 - 6:30	2	200	8	0	210	59	53	1	0	113	55	3	208	0	266	285	27	199	0	511	1100
5:45 - 6:45	2	198	8	0	208	58	50	2	0	110	40	2	190	0	232	281	29	184	0	494	1044
6:00 - 7:00	1	173	6	0	180	52	55	1	0	108	28	2	170	0	200	279	28	183	0	490	978
PEAK HOUR																					
5:00 - 6:00	5	245	8	0	258	63	62	2	1	128	62	3	229	0	294	320	20	184	0	524	1204


Legend
Garden City Dr & Corporate Dr
Write a description for your map.
Google earth
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N
100 ft

VEHICLES TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Garden City Drive | Date: May 12, 2016 | Thursday

and: Parking Access | Weather: Cloudy/Cool

Location: Prince George's County, Maryland | Entered by: AW | Star Rating: 5

TIME	TRAFFIC FROM NORTH on: Garden City Drive					TRAFFIC FROM SOUTH on: Garden City Drive					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: Parking Access					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	108	49		0	157		53	60	0	113					0	0		0	0	0	270
6:45 - 7:00	110	32		0	142		69	72	1	142					0	0		0	0	0	284
7:00 - 7:15	101	39		0	140		35	73	0	108					0	0		0	0	0	248
7:15 - 7:30	113	54		0	167		74	69	0	143					0	1		0	0	1	311
7:30 - 7:45	150	50		0	200		105	77	1	183					0	0		0	0	0	383
7:45 - 8:00	113	46		0	159		87	75	2	164					0	0		0	0	0	323
8:00 - 8:15	113	62		0	175		88	83	1	172					0	0		0	0	0	347
8:15 - 8:30	65	40		0	105		98	53	3	154					0	0		0	0	0	259
8:30 - 8:45	75	57		0	132		76	56	2	134					0	0		0	0	0	266
8:45 - 9:00	66	41		0	107		90	35	3	128					0	0		0	0	0	235
9:00 - 9:15	59	45		0	104		63	25	0	88					0	0		0	0	0	192
9:15 - 9:30	41	44		0	85		53	21	1	75					0	0		0	0	0	160
3 Hr Totals	1114	559	0	0	1673	0	891	699	14	1604	0	0	0	0	0	1	0	0	0	1	3278
1 Hr Totals																					
6:30 - 7:30	432	174	0	0	606	0	231	274	1	506	0	0	0	0	0	1	0	0	0	1	1113
6:45 - 7:45	474	175	0	0	649	0	283	291	2	576	0	0	0	0	0	1	0	0	0	1	1226
7:00 - 8:00	477	189	0	0	666	0	301	294	3	598	0	0	0	0	0	1	0	0	0	1	1265
7:15 - 8:15	489	212	0	0	701	0	354	304	4	662	0	0	0	0	0	1	0	0	0	1	1364
7:30 - 8:30	441	198	0	0	639	0	378	288	7	673	0	0	0	0	0	0	0	0	0	0	1312
7:45 - 8:45	366	205	0	0	571	0	349	267	8	624	0	0	0	0	0	0	0	0	0	0	1195
8:00 - 9:00	319	200	0	0	519	0	352	227	9	588	0	0	0	0	0	0	0	0	0	0	1107
8:15 - 9:15	265	183	0	0	448	0	327	169	8	504	0	0	0	0	0	0	0	0	0	0	952
8:30 - 9:30	241	187	0	0	428	0	282	137	6	425	0	0	0	0	0	0	0	0	0	0	853
PEAK HOUR																					
7:15 - 8:15	489	212	0	0	701	0	354	304	4	662	0	0	0	0	0	1	0	0	0	1	1364
PM																					
4:00 - 4:15	34	97		0	131		26	8	1	35					0	0		0	0	0	166
4:15 - 4:30	38	118		0	156		23	12	2	37					0	0		0	0	0	193
4:30 - 4:45	55	106		0	161		24	16	1	41					0	0		0	0	0	202
4:45 - 5:00	34	123		0	157		38	21	1	60					0	0		0	0	0	217
5:00 - 5:15	56	165		0	221		28	18	2	48					0	0		0	0	0	269
5:15 - 5:30	55	156		0	211		37	17	2	56					0	0		0	0	0	267
5:30 - 5:45	50	138		0	188		33	14	1	48					0	0		0	0	0	236
5:45 - 6:00	57	124		0	181		34	16	0	50					0	0		0	0	0	231
6:00 - 6:15	54	126		0	180		30	18	1	49					0	0		0	0	0	229
6:15 - 6:30	55	98		0	153		18	16	1	35					0	0		0	0	0	188
6:30 - 6:45	46	108		0	154		28	19	2	49					0	0		0	0	0	203
6:45 - 7:00	45	101		0	146		32	22	2	56					0	0		0	0	0	202
3 Hr Totals	579	1460	0	0	2039	0	351	197	16	564	0	0	0	0	0	0	0	0	0	0	2603
1 Hr Totals																					
4:00 - 5:00	161	444	0	0	605	0	111	57	5	173	0	0	0	0	0	0	0	0	0	0	778
4:15 - 5:15	183	512	0	0	695	0	113	67	6	186	0	0	0	0	0	0	0	0	0	0	881
4:30 - 5:30	200	550	0	0	750	0	127	72	6	205	0	0	0	0	0	0	0	0	0	0	955
4:45 - 5:45	195	582	0	0	777	0	136	70	6	212	0	0	0	0	0	0	0	0	0	0	989
5:00 - 6:00	218	583	0	0	801	0	132	65	5	202	0	0	0	0	0	0	0	0	0	0	1003
5:15 - 6:15	216	544	0	0	760	0	134	65	4	203	0	0	0	0	0	0	0	0	0	0	963
5:30 - 6:30	216	486	0	0	702	0	115	64	3	182	0	0	0	0	0	0	0	0	0	0	884
5:45 - 6:45	212	456	0	0	668	0	110	69	4	183	0	0	0	0	0	0	0	0	0	0	851
6:00 - 7:00	200	433	0	0	633	0	108	75	6	189	0	0	0	0	0	0	0	0	0	0	822
PEAK HOUR																					
5:00 - 6:00	218	583	0	0	801	0	132	65	5	202	0	0	0	0	0	0	0	0	0	0	1003


Legend
Garden City Dr & Parking Ent
Write a description for your map.
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N
100 ft

VEHICLES TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Garden City Drive | **Date: May 12, 2016** | **Thursday**

and: US 50 WB Off Ramp-Parking Access | **Weather: Cloudy/Cool**

Location: Prince George's County, Maryland | **Entered by: AW** | **Star Rating: 5**

TIME	TRAFFIC FROM NORTH on: Garden City Drive					TRAFFIC FROM SOUTH on: Garden City Drive					TRAFFIC FROM EAST on: US 50 WB Off Ramp					TRAFFIC FROM WEST on: Parking Access					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	0	44	0	0	44	0	0	0	0	0	117	0	3	0	120	32	0	6	0	38	202
6:45 - 7:00	0	34	0	0	34	0	0	0	0	0	146	0	5	0	151	46	0	10	0	56	241
7:00 - 7:15	0	32	0	0	32	0	0	0	0	0	116	0	1	0	117	55	0	5	0	60	209
7:15 - 7:30	0	45	0	0	45	1	0	0	0	1	156	0	3	0	159	50	0	6	0	56	261
7:30 - 7:45	0	53	0	0	53	0	0	0	0	0	180	0	3	0	183	58	0	14	0	72	308
7:45 - 8:00	0	52	0	0	52	0	0	0	0	0	171	0	1	0	172	64	0	11	0	75	299
8:00 - 8:15	0	65	0	0	65	0	0	0	0	0	180	0	0	0	180	60	0	11	0	71	316
8:15 - 8:30	0	44	0	0	44	0	0	0	0	0	154	0	3	0	157	59	0	12	0	71	272
8:30 - 8:45	0	54	0	0	54	0	0	0	0	0	142	0	0	0	142	58	0	9	0	67	263
8:45 - 9:00	0	42	0	0	42	0	0	0	0	0	120	0	3	0	123	34	0	11	0	45	210
9:00 - 9:15	0	42	0	0	42	0	0	0	0	0	83	0	4	0	87	40	0	13	0	53	182
9:15 - 9:30	0	41	0	0	41	0	0	0	0	0	75	0	0	0	75	28	0	6	0	34	150
3 Hr Totals	0	548	0	0	548	1	0	0	0	1	1640	0	26	0	1666	584	0	114	0	698	2913
1 Hr Totals																					
6:30 - 7:30	0	155	0	0	155	1	0	0	0	1	535	0	12	0	547	183	0	27	0	210	913
6:45 - 7:45	0	164	0	0	164	1	0	0	0	1	598	0	12	0	610	209	0	35	0	244	1019
7:00 - 8:00	0	182	0	0	182	1	0	0	0	1	623	0	8	0	631	227	0	36	0	263	1077
7:15 - 8:15	0	215	0	0	215	1	0	0	0	1	687	0	7	0	694	232	0	42	0	274	1184
7:30 - 8:30	0	214	0	0	214	0	0	0	0	0	685	0	7	0	692	241	0	48	0	289	1195
7:45 - 8:45	0	215	0	0	215	0	0	0	0	0	647	0	4	0	651	241	0	43	0	284	1150
8:00 - 9:00	0	205	0	0	205	0	0	0	0	0	596	0	6	0	602	211	0	43	0	254	1061
8:15 - 9:15	0	182	0	0	182	0	0	0	0	0	499	0	10	0	509	191	0	45	0	236	927
8:30 - 9:30	0	179	0	0	179	0	0	0	0	0	420	0	7	0	427	160	0	39	0	199	805
PEAK HOUR																					
7:30 - 8:30	0	214	0	0	214	0	0	0	0	0	685	0	7	0	692	241	0	48	0	289	1195
PM																					
4:00 - 4:15	0	105	0	0	105	0	0	0	0	0	22	0	1	0	23	64	0	10	0	74	202
4:15 - 4:30	0	139	0	0	139	0	0	0	0	0	33	0	0	0	33	75	0	7	0	82	254
4:30 - 4:45	0	116	0	0	116	0	0	0	0	0	34	0	0	0	34	56	0	8	0	64	214
4:45 - 5:00	0	132	0	0	132	0	0	0	0	0	36	0	2	0	38	79	0	13	0	92	262
5:00 - 5:15	0	173	0	0	173	0	0	0	0	0	33	0	0	0	33	73	0	11	0	84	290
5:15 - 5:30	0	167	0	0	167	0	0	0	1	1	28	0	1	0	29	82	0	17	0	99	296
5:30 - 5:45	0	150	0	0	150	0	0	0	0	0	36	0	0	0	36	70	0	9	0	79	265
5:45 - 6:00	0	137	0	0	137	0	0	0	1	1	31	0	1	0	32	64	0	16	0	80	250
6:00 - 6:15	0	137	0	0	137	0	0	0	0	0	33	0	0	0	33	74	0	13	0	87	257
6:15 - 6:30	0	113	0	0	113	0	0	0	0	0	25	0	0	0	25	59	0	8	0	67	205
6:30 - 6:45	0	117	0	0	117	0	0	0	0	0	33	0	0	0	33	65	0	12	0	77	227
6:45 - 7:00	0	110	0	0	110	0	0	0	0	0	35	0	0	0	35	74	0	17	0	91	236
3 Hr Totals	0	1596	0	0	1596	0	0	0	2	2	379	0	5	0	384	835	0	141	0	976	2958
1 Hr Totals																					
4:00 - 5:00	0	492	0	0	492	0	0	0	0	0	125	0	3	0	128	274	0	38	0	312	932
4:15 - 5:15	0	560	0	0	560	0	0	0	0	0	136	0	2	0	138	283	0	39	0	322	1020
4:30 - 5:30	0	588	0	0	588	0	0	0	1	1	131	0	3	0	134	290	0	49	0	339	1062
4:45 - 5:45	0	622	0	0	622	0	0	0	1	1	133	0	3	0	136	304	0	50	0	354	1113
5:00 - 6:00	0	627	0	0	627	0	0	0	2	2	128	0	2	0	130	289	0	53	0	342	1101
5:15 - 6:15	0	591	0	0	591	0	0	0	2	2	128	0	2	0	130	290	0	55	0	345	1068
5:30 - 6:30	0	537	0	0	537	0	0	0	1	1	125	0	1	0	126	267	0	46	0	313	977
5:45 - 6:45	0	504	0	0	504	0	0	0	1	1	122	0	1	0	123	262	0	49	0	311	939
6:00 - 7:00	0	477	0	0	477	0	0	0	0	0	126	0	0	0	126	272	0	50	0	322	925
PEAK HOUR																					
4:45 - 5:45	0	622	0	0	622	0	0	0	1	1	133	0	3	0	136	304	0	50	0	354	1113


Legend
Garden City Dr & US 50 WB Off Ramp
Write a description for your map.
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VEHICLES TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Garden City Drive | Date: May 12, 2016 | Thursday

and: US 50 EB/WB on Ramp | Weather: Cloudy/Cool

Location: Prince George's, Maryland | Entered by: RH | Star Rating: 5

TIME	TRAFFIC FROM NORTH on: Garden City Drive					TRAFFIC FROM SOUTH on: Garden City Drive					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on:					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	9		63	0	72					0					0					0	72
6:45 - 7:00	14		62	0	76					0					0					0	76
7:00 - 7:15	15		62	0	77					0					0					0	77
7:15 - 7:30	11		64	0	75					0					0					0	75
7:30 - 7:45	17		88	0	105					0					0					0	105
7:45 - 8:00	15		87	0	102					0					0					0	102
8:00 - 8:15	16		78	0	94					0					0					0	94
8:15 - 8:30	17		73	0	90					0					0					0	90
8:30 - 8:45	18		59	0	77					0					0					0	77
8:45 - 9:00	19		46	0	65					0					0					0	65
9:00 - 9:15	16		52	0	68					0					0					0	68
9:15 - 9:30	11		51	0	62					0					0					0	62
3 Hr Totals	178	0	785	0	963	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	963
1 Hr Totals																					
6:30 - 7:30	49	0	251	0	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300
6:45 - 7:45	57	0	276	0	333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	333
7:00 - 8:00	58	0	301	0	359	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	359
7:15 - 8:15	59	0	317	0	376	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	376
7:30 - 8:30	65	0	326	0	391	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	391
7:45 - 8:45	66	0	297	0	363	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	363
8:00 - 9:00	70	0	256	0	326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	326
8:15 - 9:15	70	0	230	0	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300
8:30 - 9:30	64	0	208	0	272	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	272
PEAK HOUR																					
7:30 - 8:30	65	0	326	0	391	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	391
PM																					
4:00 - 4:15	29		134	0	163					0					0					0	163
4:15 - 4:30	28		191	0	219					0					0					0	219
4:30 - 4:45	32		141	0	173					0					0					0	173
4:45 - 5:00	27		191	0	218					0					0					0	218
5:00 - 5:15	47		200	0	247					0					0					0	247
5:15 - 5:30	36		220	0	256					0					0					0	256
5:30 - 5:45	39		180	0	219					0					0					0	219
5:45 - 6:00	43		160	0	203					0					0					0	203
6:00 - 6:15	31		176	0	207					0					0					0	207
6:15 - 6:30	37		144	0	181					0					0					0	181
6:30 - 6:45	26		156	0	182					0					0					0	182
6:45 - 7:00	19		177	0	196					0					0					0	196
3 Hr Totals	394	0	2070	0	2464	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2464
1 Hr Totals																					
4:00 - 5:00	116	0	657	0	773	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	773
4:15 - 5:15	134	0	723	0	857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	857
4:30 - 5:30	142	0	752	0	894	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	894
4:45 - 5:45	149	0	791	0	940	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	940
5:00 - 6:00	165	0	760	0	925	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	925
5:15 - 6:15	149	0	736	0	885	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	885
5:30 - 6:30	150	0	660	0	810	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	810
5:45 - 6:45	137	0	636	0	773	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	773
6:00 - 7:00	113	0	653	0	766	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	766
PEAK HOUR																					
4:45 - 5:45	149	0	791	0	940	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	940

Garden City Dr to US 50 EB & WB Ramps

VEHICLES TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Garden City Drive | Date: May 19, 2016 | Thursday

and: US 50 Eastbound Ramp | Weather: Sunny/Warm

Location: Prince George's County, Maryland | Entered by: AW | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: Garden City Drive					TRAFFIC FROM SOUTH on: Garden City Drive					TRAFFIC FROM EAST on: US 50 EB On Ramp					TRAFFIC FROM WEST on: Metro Supply Facility					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	6	24	33	0	63	55	0	0	0	55					0	9	0	0	0	9	127
6:45 - 7:00	4	19	35	0	58	44	0	0	0	44					0	2	0	0	0	2	104
7:00 - 7:15	3	23	45	0	71	58	0	0	0	58					0	1	0	0	0	1	130
7:15 - 7:30	3	30	51	0	84	76	0	0	0	76					0	2	0	0	0	2	162
7:30 - 7:45	5	25	51	0	81	71	0	0	0	71					0	2	0	0	0	2	154
7:45 - 8:00	5	21	56	0	82	73	0	0	0	73					0	6	0	0	0	6	161
8:00 - 8:15	7	32	40	0	79	57	0	0	0	57					0	4	0	0	0	4	140
8:15 - 8:30	3	22	43	0	68	59	0	0	0	59					0	3	0	0	0	3	130
8:30 - 8:45	4	18	27	0	49	61	0	0	0	61					0	4	0	0	0	4	114
8:45 - 9:00	4	13	33	0	50	74	0	0	0	74					0	4	0	0	0	4	128
9:00 - 9:15	3	19	39	0	61	116	0	1	0	117					0	2	0	0	0	2	180
9:15 - 9:30	2	15	33	0	50	113	0	0	0	113					0	2	0	0	0	2	165
3 Hr Totals	49	261	486	0	796	857	0	1	0	858	0	0	0	0	0	41	0	0	0	41	1695
1 Hr Totals																					
6:30 - 7:30	16	96	164	0	276	233	0	0	0	233	0	0	0	0	0	14	0	0	0	14	523
6:45 - 7:45	15	97	182	0	294	249	0	0	0	249	0	0	0	0	0	7	0	0	0	7	550
7:00 - 8:00	16	99	203	0	318	278	0	0	0	278	0	0	0	0	0	11	0	0	0	11	607
7:15 - 8:15	20	108	198	0	326	277	0	0	0	277	0	0	0	0	0	14	0	0	0	14	617
7:30 - 8:30	20	100	190	0	310	260	0	0	0	260	0	0	0	0	0	15	0	0	0	15	585
7:45 - 8:45	19	93	166	0	278	250	0	0	0	250	0	0	0	0	0	17	0	0	0	17	545
8:00 - 9:00	18	85	143	0	246	251	0	0	0	251	0	0	0	0	0	15	0	0	0	15	512
8:15 - 9:15	14	72	142	0	228	310	0	1	0	311	0	0	0	0	0	13	0	0	0	13	552
8:30 - 9:30	13	65	132	0	210	364	0	1	0	365	0	0	0	0	0	12	0	0	0	12	587
PEAK HOUR																					
7:15 - 8:15	20	108	198	0	326	277	0	0	0	277	0	0	0	0	0	14	0	0	0	14	617
PM																					
4:00 - 4:15	3	23	115	0	141	141	0	0	0	141					0	5	0	0	0	5	287
4:15 - 4:30	1	28	126	0	155	104	0	0	0	104					0	3	0	0	0	3	262
4:30 - 4:45	1	33	147	0	181	140	0	0	0	140					0	6	0	0	0	6	327
4:45 - 5:00	2	30	144	0	176	93	0	0	0	93					0	3	0	0	0	3	272
5:00 - 5:15	2	23	154	0	179	156	0	0	0	156					0	5	0	0	0	5	340
5:15 - 5:30	3	45	197	0	245	123	0	0	0	123					0	3	0	0	0	3	371
5:30 - 5:45	1	26	142	0	169	116	0	0	0	116					0	5	0	0	0	5	290
5:45 - 6:00	1	29	181	0	211	96	0	0	0	96					0	2	0	0	0	2	309
6:00 - 6:15	2	23	131	0	156	99	0	0	0	99					0	1	0	0	0	1	256
6:15 - 6:30	0	36	174	0	210	83	0	0	0	83					0	2	0	0	0	2	295
6:30 - 6:45	0	27	184	0	211	74	0	0	0	74					0	0	0	0	0	0	285
6:45 - 7:00	0	32	120	0	152	86	0	0	0	86					0	0	0	0	0	0	238
3 Hr Totals	16	355	1815	0	2186	1311	0	0	0	1311	0	0	0	0	0	35	0	0	0	35	3532
1 Hr Totals																					
4:00 - 5:00	7	114	532	0	653	478	0	0	0	478	0	0	0	0	0	17	0	0	0	17	1148
4:15 - 5:15	6	114	571	0	691	493	0	0	0	493	0	0	0	0	0	17	0	0	0	17	1201
4:30 - 5:30	8	131	642	0	781	512	0	0	0	512	0	0	0	0	0	17	0	0	0	17	1310
4:45 - 5:45	8	124	637	0	769	488	0	0	0	488	0	0	0	0	0	16	0	0	0	16	1273
5:00 - 6:00	7	123	674	0	804	491	0	0	0	491	0	0	0	0	0	15	0	0	0	15	1310
5:15 - 6:15	7	123	651	0	781	434	0	0	0	434	0	0	0	0	0	11	0	0	0	11	1226
5:30 - 6:30	4	114	628	0	746	394	0	0	0	394	0	0	0	0	0	10	0	0	0	10	1150
5:45 - 6:45	3	115	670	0	788	352	0	0	0	352	0	0	0	0	0	5	0	0	0	5	1145
6:00 - 7:00	2	118	609	0	729	342	0	0	0	342	0	0	0	0	0	3	0	0	0	3	1074
PEAK HOUR																					
5:00 - 6:00	7	123	674	0	804	491	0	0	0	491	0	0	0	0	0	15	0	0	0	15	1310


Legend
Ardwick Ardmore Rd & Parking/US 50 EB On Ramp
Write a description for your map.
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N
100 ft

VEHICLES TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Pennsy Drive **Date: May 19, 2016** **Thursday**

and: Ardwick Ardmore Road **Weather: Sunny/Warm**

Location: Prince George's County, Maryland **Entered by: AW** **Star Rating: 5**

TIME	TRAFFIC FROM NORTH on: Pennsy Drive					TRAFFIC FROM SOUTH on: Pennsy Drive					TRAFFIC FROM EAST on: Ardwick Ardmore Road					TRAFFIC FROM WEST on: Ardwick Ardmore Road					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	5	36	46	0	87	39	14	19	0	72	18	25	48	0	91	13	15	0	6	34	284
6:45 - 7:00	5	27	56	0	88	50	20	10	0	80	31	31	72	0	134	13	5	1	0	19	321
7:00 - 7:15	7	34	45	0	86	62	26	16	0	104	29	32	72	0	133	8	14	0	0	22	345
7:15 - 7:30	3	30	51	0	84	86	36	25	0	147	43	52	58	0	153	9	25	0	0	34	418
7:30 - 7:45	4	15	37	0	56	55	30	18	0	103	47	50	106	0	203	11	15	0	0	26	388
7:45 - 8:00	8	22	62	0	92	75	65	14	0	154	43	49	98	0	190	8	13	2	1	24	460
8:00 - 8:15	9	17	55	0	81	68	42	15	0	125	48	31	87	0	166	12	21	1	1	35	407
8:15 - 8:30	4	34	58	0	96	69	46	18	0	133	31	38	75	0	144	11	15	0	0	26	399
8:30 - 8:45	4	20	43	0	67	65	48	14	0	127	28	42	95	0	165	7	11	0	1	19	378
8:45 - 9:00	7	19	42	0	68	66	64	13	0	143	38	52	94	0	184	5	12	0	1	18	413
9:00 - 9:15	15	12	40	0	67	52	62	18	0	132	22	82	95	0	199	9	10	1	0	20	418
9:15 - 9:30	14	19	34	0	67	53	34	16	0	103	24	83	74	0	181	8	10	0	0	18	369
3 Hr Totals	85	285	569	0	939	740	487	196	0	1423	402	567	974	0	1943	114	166	5	10	295	4600
1 Hr Totals																					
6:30 - 7:30	20	127	198	0	345	237	96	70	0	403	121	140	250	0	511	43	59	1	6	109	1368
6:45 - 7:45	19	106	189	0	314	253	112	69	0	434	150	165	308	0	623	41	59	1	0	101	1472
7:00 - 8:00	22	101	195	0	318	278	157	73	0	508	162	183	334	0	679	36	67	2	1	106	1611
7:15 - 8:15	24	84	205	0	313	284	173	72	0	529	181	182	349	0	712	40	74	3	2	119	1673
7:30 - 8:30	25	88	212	0	325	267	183	65	0	515	169	168	366	0	703	42	64	3	2	111	1654
7:45 - 8:45	25	93	218	0	336	277	201	61	0	539	150	160	355	0	665	38	60	3	3	104	1644
8:00 - 9:00	24	90	198	0	312	268	200	60	0	528	145	163	351	0	659	35	59	1	3	98	1597
8:15 - 9:15	30	85	183	0	298	252	220	63	0	535	119	214	359	0	692	32	48	1	2	83	1608
8:30 - 9:30	40	70	159	0	269	236	208	61	0	505	112	259	358	0	729	29	43	1	2	75	1578
PEAK HOUR																					
7:15 - 8:15	24	84	205	0	313	284	173	72	0	529	181	182	349	0	712	40	74	3	2	119	1673
PM																					
4:00 - 4:15	55	11	57	0	123	106	24	32	0	162	22	52	66	0	140	3	19	0	2	24	449
4:15 - 4:30	37	15	46	0	98	106	14	17	0	137	16	47	75	0	138	5	24	0	1	30	403
4:30 - 4:45	71	9	60	0	140	119	22	29	0	170	14	34	67	0	115	8	28	0	2	38	463
4:45 - 5:00	34	14	55	0	103	95	22	21	0	138	17	33	63	0	113	9	22	0	2	33	387
5:00 - 5:15	71	20	52	0	143	144	32	31	0	207	19	55	77	0	151	7	17	0	0	24	525
5:15 - 5:30	54	11	50	0	115	156	17	28	0	201	28	39	76	0	143	7	41	0	1	49	508
5:30 - 5:45	65	10	48	0	123	122	22	21	0	165	17	29	84	0	130	5	24	0	1	30	448
5:45 - 6:00	36	9	55	0	100	131	23	22	0	176	19	37	67	0	123	5	24	1	0	30	429
6:00 - 6:15	44	16	49	0	109	119	20	21	0	160	23	38	59	0	120	2	21	0	0	23	412
6:15 - 6:30	36	12	35	0	83	115	14	16	0	145	18	28	77	0	123	3	31	0	1	35	386
6:30 - 6:45	31	9	45	0	85	124	14	14	0	152	20	34	62	0	116	1	27	0	0	28	381
6:45 - 7:00	29	10	33	0	72	101	12	17	0	130	20	37	52	0	109	5	27	0	1	33	344
3 Hr Totals	563	146	585	0	1294	1438	236	269	0	1943	233	463	825	0	1521	60	305	1	11	377	5135
1 Hr Totals																					
4:00 - 5:00	197	49	218	0	464	426	82	99	0	607	69	166	271	0	506	25	93	0	7	125	1702
4:15 - 5:15	213	58	213	0	484	464	90	98	0	652	66	169	282	0	517	29	91	0	5	125	1778
4:30 - 5:30	230	54	217	0	501	514	93	109	0	716	78	161	283	0	522	31	108	0	5	144	1883
4:45 - 5:45	224	55	205	0	484	517	93	101	0	711	81	156	300	0	537	28	104	0	4	136	1868
5:00 - 6:00	226	50	205	0	481	553	94	102	0	749	83	160	304	0	547	24	106	1	2	133	1910
5:15 - 6:15	199	46	202	0	447	528	82	92	0	702	87	143	286	0	516	19	110	1	2	132	1797
5:30 - 6:30	181	47	187	0	415	487	79	80	0	646	77	132	287	0	496	15	100	1	2	118	1675
5:45 - 6:45	147	46	184	0	377	489	71	73	0	633	80	137	265	0	482	11	103	1	1	116	1608
6:00 - 7:00	140	47	162	0	349	459	60	68	0	587	81	137	250	0	468	11	106	0	2	119	1523
PEAK HOUR																					
5:00 - 6:00	226	50	205	0	481	553	94	102	0	749	83	160	304	0	547	24	106	1	2	133	1910


Legend
Ardwick Ardmore Rd & Pennsy Dr
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TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Corporate Drive | Date: May 19, 2016 | Thursday

and: Pennsy Drive | Weather: Sunny/Warm

Location: Prince George's County, Maryland | Entered by: AW | Star Rating: 5

TIME	TRAFFIC FROM NORTH on: Corporate Drive					TRAFFIC FROM SOUTH on: Corporate Drive					TRAFFIC FROM EAST on: Pennsy Drive					TRAFFIC FROM WEST on: Pennsy Drive					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	17	0	6	0	23	11	24	63	0	98	1	9	0	0	10	0	6	27	0	33	164
6:45 - 7:00	22	0	15	0	37	14	25	57	0	96	3	7	0	0	10	0	11	38	0	49	192
7:00 - 7:15	19	0	11	0	30	22	22	56	0	100	3	12	0	0	15	0	14	40	0	54	199
7:15 - 7:30	20	0	13	0	33	24	32	47	0	103	6	9	0	0	15	0	14	67	0	81	232
7:30 - 7:45	21	0	15	0	36	20	29	32	0	81	5	14	0	0	19	0	28	52	0	80	216
7:45 - 8:00	24	0	37	0	61	26	44	59	0	129	5	9	0	0	14	0	32	84	0	116	320
8:00 - 8:15	24	0	30	0	54	39	32	48	0	119	5	17	0	0	22	0	35	56	0	91	286
8:15 - 8:30	21	0	22	0	43	36	39	54	0	129	7	11	0	0	18	0	44	42	0	86	276
8:30 - 8:45	15	0	37	0	52	50	23	45	0	118	10	8	0	0	18	0	44	38	0	82	270
8:45 - 9:00	19	0	56	0	75	50	17	35	0	102	9	16	0	0	25	0	63	44	0	107	309
9:00 - 9:15	16	0	49	1	66	63	19	34	0	116	10	15	0	0	25	0	57	41	0	98	305
9:15 - 9:30	16	0	30	0	46	43	17	39	0	99	9	18	0	0	27	0	38	29	0	67	239
3 Hr Totals	234	0	321	1	556	398	323	569	0	1290	73	145	0	0	218	0	386	558	0	944	3008
1 Hr Totals																					
6:30 - 7:30	78	0	45	0	123	71	103	223	0	397	13	37	0	0	50	0	45	172	0	217	787
6:45 - 7:45	82	0	54	0	136	80	108	192	0	380	17	42	0	0	59	0	67	197	0	264	839
7:00 - 8:00	84	0	76	0	160	92	127	194	0	413	19	44	0	0	63	0	88	243	0	331	967
7:15 - 8:15	89	0	95	0	184	109	137	186	0	432	21	49	0	0	70	0	109	259	0	368	1054
7:30 - 8:30	90	0	104	0	194	121	144	193	0	458	22	51	0	0	73	0	139	234	0	373	1098
7:45 - 8:45	84	0	126	0	210	151	138	206	0	495	27	45	0	0	72	0	155	220	0	375	1152
8:00 - 9:00	79	0	145	0	224	175	111	182	0	468	31	52	0	0	83	0	186	180	0	366	1141
8:15 - 9:15	71	0	164	1	236	199	98	168	0	465	36	50	0	0	86	0	208	165	0	373	1160
8:30 - 9:30	66	0	172	1	239	206	76	153	0	435	38	57	0	0	95	0	202	152	0	354	1123
PEAK HOUR																					
8:15 - 9:15	71	0	164	1	236	199	98	168	0	465	36	50	0	0	86	0	208	165	0	373	1160
PM																					
4:00 - 4:15	18	0	7	0	25	6	8	34	0	48	11	66	0	0	77	0	17	38	0	55	205
4:15 - 4:30	23	0	4	0	27	2	6	34	0	42	15	49	0	0	64	0	8	25	0	33	166
4:30 - 4:45	23	0	1	0	24	5	4	30	0	39	28	89	0	0	117	0	11	31	0	42	222
4:45 - 5:00	21	0	5	0	26	7	8	34	0	49	20	55	0	0	75	0	7	33	0	40	190
5:00 - 5:15	25	0	1	0	26	1	8	23	0	32	52	96	0	0	148	0	11	39	1	51	257
5:15 - 5:30	25	0	2	0	27	5	6	39	0	50	45	62	0	0	107	0	8	41	0	49	233
5:30 - 5:45	15	0	3	0	18	1	13	27	0	41	36	80	0	0	116	0	12	23	0	35	210
5:45 - 6:00	19	0	8	0	27	0	8	39	0	47	25	49	0	0	74	0	8	40	0	48	196
6:00 - 6:15	23	0	1	0	24	5	5	25	0	35	11	51	0	0	62	0	9	33	1	43	164
6:15 - 6:30	22	0	3	0	25	1	15	28	0	44	8	38	0	0	46	0	12	23	0	35	150
6:30 - 6:45	15	0	6	0	21	1	6	32	0	39	13	31	0	0	44	0	9	26	0	35	139
6:45 - 7:00	20	0	1	0	21	5	5	27	0	37	11	26	0	0	37	0	4	25	1	30	125
3 Hr Totals	249	0	42	0	291	39	92	372	0	503	275	692	0	0	967	0	116	377	3	496	2257
1 Hr Totals																					
4:00 - 5:00	85	0	17	0	102	20	26	132	0	178	74	259	0	0	333	0	43	127	0	170	783
4:15 - 5:15	92	0	11	0	103	15	26	121	0	162	115	289	0	0	404	0	37	128	1	166	835
4:30 - 5:30	94	0	9	0	103	18	26	126	0	170	145	302	0	0	447	0	37	144	1	182	902
4:45 - 5:45	86	0	11	0	97	14	35	123	0	172	153	293	0	0	446	0	38	136	1	175	890
5:00 - 6:00	84	0	14	0	98	7	35	128	0	170	158	287	0	0	445	0	39	143	1	183	896
5:15 - 6:15	82	0	14	0	96	11	32	130	0	173	117	242	0	0	359	0	37	137	1	175	803
5:30 - 6:30	79	0	15	0	94	7	41	119	0	167	80	218	0	0	298	0	41	119	1	161	720
5:45 - 6:45	79	0	18	0	97	7	34	124	0	165	57	169	0	0	226	0	38	122	1	161	649
6:00 - 7:00	80	0	11	0	91	12	31	112	0	155	43	146	0	0	189	0	34	107	2	143	578
PEAK HOUR																					
4:30 - 5:30	94	0	9	0	103	18	26	126	0	170	145	302	0	0	447	0	37	144	1	182	902


Legend
Corporate Dr & Pennsy Dr
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TOTALS TURNING MOVEMENT COUNT - SUMMARY

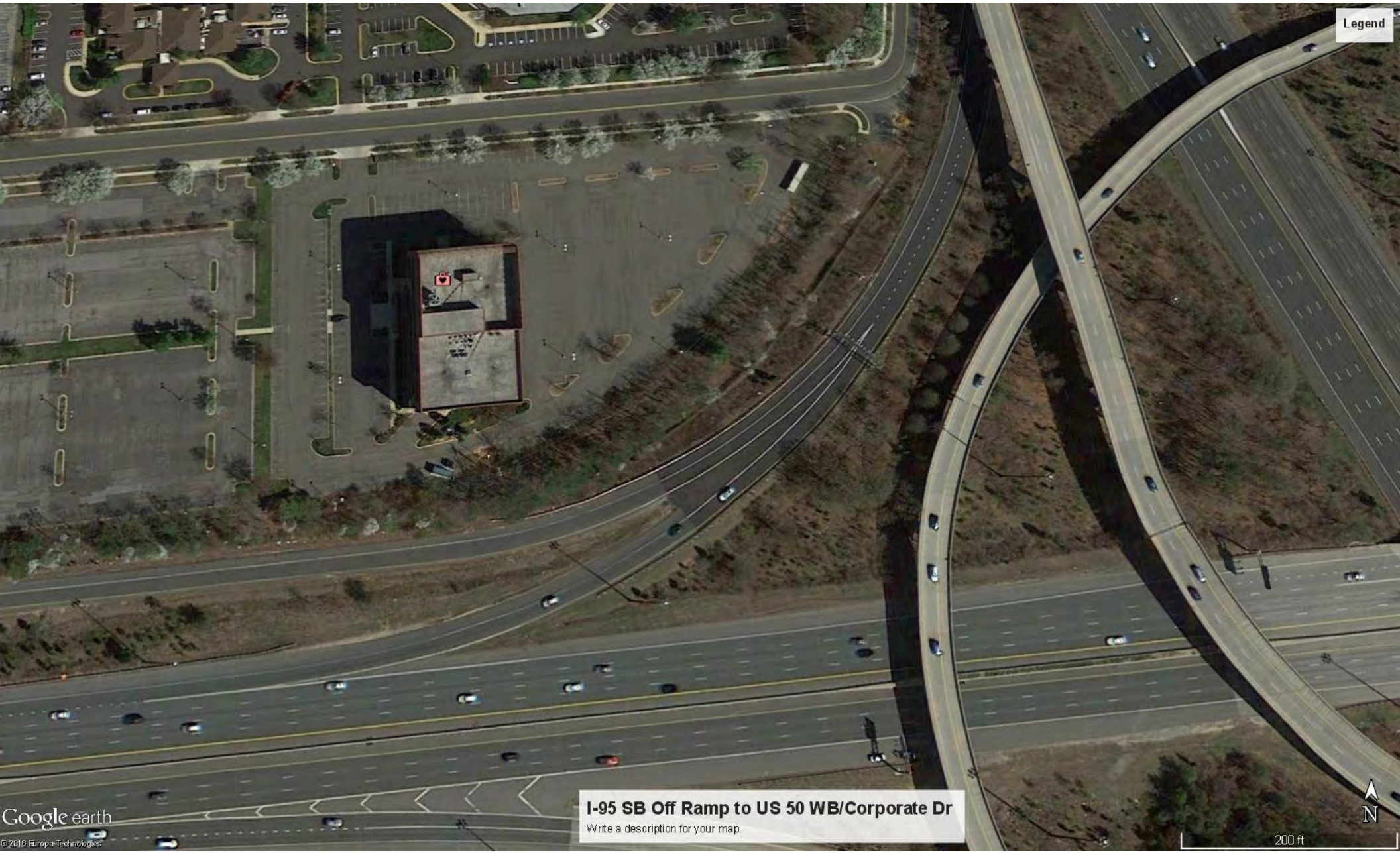
Counted by: VCU

Intersection of: I-495 Southbound Off Ramp | **Date: May 19, 2016** | **Thursday**

and: US 50 EB On Ramp - Pennsy Drive | **Weather: Sunny/Warm**

Location: Prince George's County, Maryland | **Entered by: SN** | **Star Rating: 5**

TIME	TRAFFIC FROM NORTH on: I-495 Southbound Off Ramp					TRAFFIC FROM SOUTH on:					TRAFFIC FROM EAST on: US 50 EB On Ramp					TRAFFIC FROM WEST on: Pennsy Drive					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	78	0	102	0	180					0					0					0	180
6:45 - 7:00	80	0	105	0	185					0					0					0	185
7:00 - 7:15	73	0	99	0	172					0					0					0	172
7:15 - 7:30	73	0	103	0	176					0					0					0	176
7:30 - 7:45	71	0	88	0	159					0					0					0	159
7:45 - 8:00	69	0	132	0	201					0					0					0	201
8:00 - 8:15	56	0	123	0	179					0					0					0	179
8:15 - 8:30	73	0	127	0	200					0					0					0	200
8:30 - 8:45	62	0	126	0	188					0					0					0	188
8:45 - 9:00	63	0	105	0	168					0					0					0	168
9:00 - 9:15	73	0	120	0	193					0					0					0	193
9:15 - 9:30	82	0	103	0	185					0					0					0	185
3 Hr Totals	853	0	1333	0	2186	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2186
1 Hr Totals																					
6:30 - 7:30	304	0	409	0	713	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	713
6:45 - 7:45	297	0	395	0	692	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	692
7:00 - 8:00	286	0	422	0	708	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	708
7:15 - 8:15	269	0	446	0	715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	715
7:30 - 8:30	269	0	470	0	739	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	739
7:45 - 8:45	260	0	508	0	768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	768
8:00 - 9:00	254	0	481	0	735	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	735
8:15 - 9:15	271	0	478	0	749	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	749
8:30 - 9:30	280	0	454	0	734	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	734
PEAK HOUR																					
7:45 - 8:45	260	0	508	0	768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	768
PM																					
4:00 - 4:15	59	0	55	0	114					0					0					0	114
4:15 - 4:30	58	0	48	0	106					0					0					0	106
4:30 - 4:45	62	0	50	0	112					0					0					0	112
4:45 - 5:00	46	0	51	0	97					0					0					0	97
5:00 - 5:15	52	0	32	0	84					0					0					0	84
5:15 - 5:30	47	0	54	0	101					0					0					0	101
5:30 - 5:45	56	0	45	0	101					0					0					0	101
5:45 - 6:00	59	0	53	0	112					0					0					0	112
6:00 - 6:15	53	0	48	0	101					0					0					0	101
6:15 - 6:30	48	0	48	0	96					0					0					0	96
6:30 - 6:45	46	0	49	0	95					0					0					0	95
6:45 - 7:00	59	0	41	0	100					0					0					0	100
3 Hr Totals	645	0	574	0	1219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1219
1 Hr Totals																					
4:00 - 5:00	225	0	204	0	429	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	429
4:15 - 5:15	218	0	181	0	399	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	399
4:30 - 5:30	207	0	187	0	394	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	394
4:45 - 5:45	201	0	182	0	383	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	383
5:00 - 6:00	214	0	184	0	398	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	398
5:15 - 6:15	215	0	200	0	415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	415
5:30 - 6:30	216	0	194	0	410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	410
5:45 - 6:45	206	0	198	0	404	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	404
6:00 - 7:00	206	0	186	0	392	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	392
PEAK HOUR																					
4:00 - 5:00	225	0	204	0	429	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	429


Legend
I-95 SB Off Ramp to US 50 WB/Corporate Dr
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VEHICLES TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Annapolis Road | Date: May 19, 2016 | Thursday

and: 85th Avenue | Weather: Sunny/Warm

Location: Prince George's County, Maryland | Entered by: AW | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: 85th Avenue					TRAFFIC FROM SOUTH on: 85th Avenue					TRAFFIC FROM EAST on: Annapolis Road					TRAFFIC FROM WEST on: Annapolis Road					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	7	19	73	0	99	54	6	10	0	70	46	249	77	2	374	2	176	2	0	180	723
6:45 - 7:00	12	23	48	0	83	63	8	11	0	82	31	331	65	2	429	5	167	10	1	183	777
7:00 - 7:15	15	18	53	0	86	45	9	17	0	71	41	307	77	1	426	12	166	8	0	186	769
7:15 - 7:30	21	25	64	0	110	56	11	17	0	84	53	320	83	2	458	7	164	10	0	181	833
7:30 - 7:45	22	30	83	0	135	65	12	16	0	93	32	344	70	1	447	9	219	9	2	239	914
7:45 - 8:00	20	32	77	0	129	53	11	13	0	77	47	378	96	3	524	9	210	9	1	229	959
8:00 - 8:15	25	22	76	0	123	56	12	10	0	78	48	330	74	4	456	5	193	12	3	213	870
8:15 - 8:30	15	13	76	0	104	53	6	19	0	78	37	331	77	4	449	7	194	9	1	211	842
8:30 - 8:45	15	12	88	0	115	36	7	13	0	56	33	292	86	1	412	3	211	3	2	219	802
8:45 - 9:00	17	19	68	0	104	44	6	16	0	66	39	288	67	3	397	8	186	4	4	202	769
9:00 - 9:15	11	19	75	0	105	34	10	23	0	67	35	251	58	3	347	10	153	6	2	171	690
9:15 - 9:30	6	12	68	0	86	33	5	15	0	53	46	280	61	4	391	4	186	10	2	202	732
3 Hr Totals	186	244	849	0	1279	592	103	180	0	875	488	3701	891	30	5110	81	2225	92	18	2416	9680
1 Hr Totals																					
6:30 - 7:30	55	85	238	0	378	218	34	55	0	307	171	1207	302	7	1687	26	673	30	1	730	3102
6:45 - 7:45	70	96	248	0	414	229	40	61	0	330	157	1302	295	6	1760	33	716	37	3	789	3293
7:00 - 8:00	78	105	277	0	460	219	43	63	0	325	173	1349	326	7	1855	37	759	36	3	835	3475
7:15 - 8:15	88	109	300	0	497	230	46	56	0	332	180	1372	323	10	1885	30	786	40	6	862	3576
7:30 - 8:30	82	97	312	0	491	227	41	58	0	326	164	1383	317	12	1876	30	816	39	7	892	3585
7:45 - 8:45	75	79	317	0	471	198	36	55	0	289	165	1331	333	12	1841	24	808	33	7	872	3473
8:00 - 9:00	72	66	308	0	446	189	31	58	0	278	157	1241	304	12	1714	23	784	28	10	845	3283
8:15 - 9:15	58	63	307	0	428	167	29	71	0	267	144	1162	288	11	1605	28	744	22	9	803	3103
8:30 - 9:30	49	62	299	0	410	147	28	67	0	242	153	1111	272	11	1547	25	736	23	10	794	2993
PEAK HOUR																					
7:30 - 8:30	82	97	312	0	491	227	41	58	0	326	164	1383	317	12	1876	30	816	39	7	892	3585
PM																					
4:00 - 4:15	10	32	94	0	136	77	23	23	0	123	49	267	49	2	367	15	415	16	5	451	1077
4:15 - 4:30	10	15	79	0	104	85	14	34	0	133	65	269	65	5	404	13	425	17	6	461	1102
4:30 - 4:45	15	16	76	0	107	102	18	29	0	149	58	268	68	5	399	20	388	20	4	432	1087
4:45 - 5:00	12	22	92	0	126	113	14	29	0	156	67	288	61	6	422	7	428	21	3	459	1163
5:00 - 5:15	14	22	76	0	112	93	30	32	0	155	72	289	81	3	445	10	430	22	4	466	1178
5:15 - 5:30	11	26	92	0	129	115	19	30	0	164	61	308	69	8	446	13	378	18	4	413	1152
5:30 - 5:45	10	19	91	0	120	110	25	28	0	163	84	307	63	7	461	8	415	29	3	455	1199
5:45 - 6:00	16	24	76	0	116	111	24	26	0	161	78	306	73	8	465	13	401	24	3	441	1183
6:00 - 6:15	14	34	93	0	141	97	23	39	0	159	64	305	58	7	434	11	344	21	6	382	1116
6:15 - 6:30	17	31	85	0	133	106	19	35	0	160	81	326	69	5	481	10	383	14	9	416	1190
6:30 - 6:45	9	30	107	0	146	92	22	30	0	144	84	303	70	4	461	8	325	16	6	355	1106
6:45 - 7:00	21	21	91	0	133	79	16	23	0	118	78	303	62	10	453	8	385	16	9	418	1122
3 Hr Totals	159	292	1052	0	1503	1180	247	358	0	1785	841	3539	788	70	5238	136	4717	234	62	5149	13675
1 Hr Totals																					
4:00 - 5:00	47	85	341	0	473	377	69	115	0	561	239	1092	243	18	1592	55	1656	74	18	1803	4429
4:15 - 5:15	51	75	323	0	449	393	76	124	0	593	262	1114	275	19	1670	50	1671	80	17	1818	4530
4:30 - 5:30	52	86	336	0	474	423	81	120	0	624	258	1153	279	22	1712	50	1624	81	15	1770	4580
4:45 - 5:45	47	89	351	0	487	431	88	119	0	638	284	1192	274	24	1774	38	1651	90	14	1793	4692
5:00 - 6:00	51	91	335	0	477	429	98	116	0	643	295	1210	286	26	1817	44	1624	93	14	1775	4712
5:15 - 6:15	51	103	352	0	506	433	91	123	0	647	287	1226	263	30	1806	45	1538	92	16	1691	4650
5:30 - 6:30	57	108	345	0	510	424	91	128	0	643	307	1244	263	27	1841	42	1543	88	21	1694	4688
5:45 - 6:45	56	119	361	0	536	406	88	130	0	624	307	1240	270	24	1841	42	1453	75	24	1594	4595
6:00 - 7:00	61	116	376	0	553	374	80	127	0	581	307	1237	259	26	1829	37	1437	67	30	1571	4534
PEAK HOUR																					
5:00 - 6:00	51	91	335	0	477	429	98	116	0	643	295	1210	286	26	1817	44	1624	93	14	1775	4712


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TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Annapolis Road | Date: May 19, 2016 | Thursday

and: Harkins Road | Weather: Sunny/Warm

Location: Prince George's County, Maryland | Entered by: AW | Star Rating: 5

TIME	TRAFFIC FROM NORTH on: Finns Lane					TRAFFIC FROM SOUTH on: Harkins Road					TRAFFIC FROM EAST on: Annapolis Road					TRAFFIC FROM WEST on: Annapolis Road					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	19	0	12	0	31	5	6	5	0	16	7	195	10	2	214	13	100	13	0	126	387
6:45 - 7:00	23	13	10	0	46	4	7	7	0	18	6	232	8	4	250	19	113	10	0	142	456
7:00 - 7:15	29	6	22	0	57	6	3	11	0	20	6	243	11	4	264	13	109	12	1	135	476
7:15 - 7:30	30	8	17	0	55	2	9	9	0	20	6	262	4	6	278	14	138	23	0	175	528
7:30 - 7:45	38	8	14	0	60	6	5	10	0	21	5	266	10	2	283	14	163	36	1	214	578
7:45 - 8:00	25	6	22	0	53	4	9	9	0	22	4	267	14	4	289	16	210	27	0	253	617
8:00 - 8:15	27	4	22	0	53	6	4	7	0	17	10	234	9	4	257	10	184	23	1	218	545
8:15 - 8:30	24	7	15	0	46	3	5	9	0	17	8	235	11	7	261	10	165	26	1	202	526
8:30 - 8:45	20	4	16	0	40	4	1	4	0	9	12	206	9	5	232	11	162	26	0	199	480
8:45 - 9:00	29	1	16	0	46	5	3	12	0	20	12	188	7	8	215	16	144	9	0	169	450
9:00 - 9:15	16	4	11	0	31	1	4	8	0	13	4	194	6	6	210	9	152	15	0	176	430
9:15 - 9:30	20	4	6	0	30	7	3	4	0	14	8	184	6	2	200	8	159	13	2	182	426
3 Hr Totals	300	65	183	0	548	53	59	95	0	207	88	2706	105	54	2953	153	1799	233	6	2191	5899
1 Hr Totals																					
6:30 - 7:30	101	27	61	0	189	17	25	32	0	74	25	932	33	16	1006	59	460	58	1	578	1847
6:45 - 7:45	120	35	63	0	218	18	24	37	0	79	23	1003	33	16	1075	60	523	81	2	666	2038
7:00 - 8:00	122	28	75	0	225	18	26	39	0	83	21	1038	39	16	1114	57	620	98	2	777	2199
7:15 - 8:15	120	26	75	0	221	18	27	35	0	80	25	1029	37	16	1107	54	695	109	2	860	2268
7:30 - 8:30	114	25	73	0	212	19	23	35	0	77	27	1002	44	17	1090	50	722	112	3	887	2266
7:45 - 8:45	96	21	75	0	192	17	19	29	0	65	34	942	43	20	1039	47	721	102	2	872	2168
8:00 - 9:00	100	16	69	0	185	18	13	32	0	63	42	863	36	24	965	47	655	84	2	788	2001
8:15 - 9:15	89	16	58	0	163	13	13	33	0	59	36	823	33	26	918	46	623	76	1	746	1886
8:30 - 9:30	85	13	49	0	147	17	11	28	0	56	36	772	28	21	857	44	617	63	2	726	1786
PEAK HOUR																					
7:15 - 8:15	120	26	75	0	221	18	27	35	0	80	25	1029	37	16	1107	54	695	109	2	860	2268
PM																					
4:00 - 4:15	24	6	8	0	38	8	3	23	0	34	16	176	11	6	209	9	306	33	1	349	630
4:15 - 4:30	24	4	11	0	39	8	8	18	0	34	6	209	6	2	223	9	316	29	4	358	654
4:30 - 4:45	23	6	17	0	46	11	9	21	0	41	10	176	14	4	204	14	308	28	1	351	642
4:45 - 5:00	21	14	11	0	46	6	9	27	0	42	14	182	14	12	222	12	301	42	2	357	667
5:00 - 5:15	31	10	13	0	54	12	11	21	0	44	10	203	15	5	233	13	347	32	3	395	726
5:15 - 5:30	22	10	19	0	51	11	11	26	1	49	8	171	16	11	206	15	326	39	3	383	689
5:30 - 5:45	30	5	20	0	55	10	14	25	0	49	15	192	16	5	228	17	335	37	3	392	724
5:45 - 6:00	23	11	14	0	48	10	18	25	0	53	15	186	12	9	222	10	355	43	3	411	734
6:00 - 6:15	25	7	15	0	47	6	9	18	0	33	15	237	14	9	275	11	293	38	3	345	700
6:15 - 6:30	14	10	12	0	36	11	8	17	0	36	21	214	16	9	260	10	306	35	0	351	683
6:30 - 6:45	16	10	23	0	49	11	10	16	2	39	14	197	15	5	231	6	278	32	1	317	636
6:45 - 7:00	21	4	16	0	41	8	4	16	0	28	17	214	12	10	253	12	299	32	2	345	667
3 Hr Totals	274	97	179	0	550	112	114	253	3	482	161	2357	161	87	2766	138	3770	420	26	4354	8152
1 Hr Totals																					
4:00 - 5:00	92	30	47	0	169	33	29	89	0	151	46	743	45	24	858	44	1231	132	8	1415	2593
4:15 - 5:15	99	34	52	0	185	37	37	87	0	161	40	770	49	23	882	48	1272	131	10	1461	2689
4:30 - 5:30	97	40	60	0	197	40	40	95	1	176	42	732	59	32	865	54	1282	141	9	1486	2724
4:45 - 5:45	104	39	63	0	206	39	45	99	1	184	47	748	61	33	889	57	1309	150	11	1527	2806
5:00 - 6:00	106	36	66	0	208	43	54	97	1	195	48	752	59	30	889	55	1363	151	12	1581	2873
5:15 - 6:15	100	33	68	0	201	37	52	94	1	184	53	786	58	34	931	53	1309	157	12	1531	2847
5:30 - 6:30	92	33	61	0	186	37	49	85	0	171	66	829	58	32	985	48	1289	153	9	1499	2841
5:45 - 6:45	78	38	64	0	180	38	45	76	2	161	65	834	57	32	988	37	1232	148	7	1424	2753
6:00 - 7:00	76	31	66	0	173	36	31	67	2	136	67	862	57	33	1019	39	1176	137	6	1358	2686
PEAK HOUR																					
5:00 - 6:00	106	36	66	0	208	43	54	97	1	195	48	752	59	30	889	55	1363	151	12	1581	2873


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TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Harkins Road | **Date: May 19, 2016** | **Thursday**

and: Ellin Road | **Weather: Sunny/Warm**

Location: Prince George's County, Maryland | **Entered by: SN** | **Star Rating: 4**

TIME	TRAFFIC FROM NORTH on: Harkins Road					TRAFFIC FROM SOUTH on: Parking Access					TRAFFIC FROM EAST on: Ellin Road					TRAFFIC FROM WEST on: Ellin Road					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	25	6	6	0	37	1	0	3	0	4	12	53	30	0	95	11	45	77	0	133	269
6:45 - 7:00	29	7	3	0	39	2	0	0	0	2	26	50	43	0	119	5	56	95	0	156	316
7:00 - 7:15	18	5	5	0	28	0	0	0	0	0	24	53	25	1	103	10	45	87	0	142	273
7:15 - 7:30	21	10	14	0	45	1	1	0	0	2	24	43	23	0	90	11	36	76	2	125	262
7:30 - 7:45	21	8	12	0	41	2	0	1	0	3	21	37	21	0	79	15	31	67	2	115	238
7:45 - 8:00	12	16	8	0	36	0	1	0	0	1	15	43	19	0	77	11	41	58	0	110	224
8:00 - 8:15	16	4	5	0	25	0	0	1	0	1	12	41	17	0	70	16	41	44	1	102	198
8:15 - 8:30	16	7	4	0	27	0	0	2	0	2	13	44	5	0	62	5	41	35	0	81	172
8:30 - 8:45	13	6	7	0	26	0	0	0	0	0	6	44	5	0	55	8	40	20	0	68	149
8:45 - 9:00	15	1	5	1	22	2	1	0	0	3	12	40	11	0	63	4	44	16	0	64	152
9:00 - 9:15	14	1	9	0	24	2	1	2	0	5	9	31	4	0	44	2	34	24	0	60	133
9:15 - 9:30	25	1	5	0	31	0	1	0	0	1	6	31	2	0	39	0	28	18	0	46	117
3 Hr Totals	225	72	83	1	381	10	5	9	0	24	180	510	205	1	896	98	482	617	5	1202	2503
1 Hr Totals																					
6:30 - 7:30	93	28	28	0	149	4	1	3	0	8	86	199	121	1	407	37	182	335	2	556	1120
6:45 - 7:45	89	30	34	0	153	5	1	1	0	7	95	183	112	1	391	41	168	325	4	538	1089
7:00 - 8:00	72	39	39	0	150	3	2	1	0	6	84	176	88	1	349	47	153	288	4	492	997
7:15 - 8:15	70	38	39	0	147	3	2	2	0	7	72	164	80	0	316	53	149	245	5	452	922
7:30 - 8:30	65	35	29	0	129	2	1	4	0	7	61	165	62	0	288	47	154	204	3	408	832
7:45 - 8:45	57	33	24	0	114	0	1	3	0	4	46	172	46	0	264	40	163	157	1	361	743
8:00 - 9:00	60	18	21	1	100	2	1	3	0	6	43	169	38	0	250	33	166	115	1	315	671
8:15 - 9:15	58	15	25	1	99	4	2	4	0	10	40	159	25	0	224	19	159	95	0	273	606
8:30 - 9:30	67	9	26	1	103	4	3	2	0	9	33	146	22	0	201	14	146	78	0	238	551
PEAK HOUR																					
6:30 - 7:30	93	28	28	0	149	4	1	3	0	8	86	199	121	1	407	37	182	335	2	556	1120
PM																					
4:00 - 4:15	74	2	27	0	103	25	6	9	0	40	9	78	0	1	88	2	72	30	1	105	336
4:15 - 4:30	78	0	23	0	101	42	9	10	0	61	12	71	1	0	84	1	75	29	0	105	351
4:30 - 4:45	83	3	26	0	112	37	11	16	0	64	10	71	1	2	84	0	86	27	0	113	373
4:45 - 5:00	56	0	22	0	78	36	13	8	0	57	13	75	1	0	89	1	77	25	2	105	329
5:00 - 5:15	68	0	18	0	86	23	5	10	0	38	8	67	0	1	76	1	71	15	1	88	288
5:15 - 5:30	55	0	19	1	75	26	4	3	0	33	9	63	0	0	72	0	81	28	1	110	290
5:30 - 5:45	37	0	20	0	57	28	3	4	0	35	8	58	0	0	66	2	68	21	0	91	249
5:45 - 6:00	39	1	16	0	56	12	4	3	0	19	7	51	0	2	60	0	53	13	0	66	201
6:00 - 6:15	32	0	12	0	44	6	3	7	0	16	11	44	0	0	55	0	67	21	3	91	206
6:15 - 6:30	26	0	10	0	36	8	3	6	0	17	14	54	0	0	68	1	57	10	0	68	189
6:30 - 6:45	20	0	4	0	24	11	2	1	0	14	4	44	0	0	48	1	55	13	1	70	156
6:45 - 7:00	13	0	8	0	21	9	1	0	0	10	8	50	1	2	61	0	56	14	0	70	162
3 Hr Totals	581	6	205	1	793	263	64	77	0	404	113	726	4	8	851	9	818	246	9	1082	3130
1 Hr Totals																					
4:00 - 5:00	291	5	98	0	394	140	39	43	0	222	44	295	3	3	345	4	310	111	3	428	1389
4:15 - 5:15	285	3	89	0	377	138	38	44	0	220	43	284	3	3	333	3	309	96	3	411	1341
4:30 - 5:30	262	3	85	1	351	122	33	37	0	192	40	276	2	3	321	2	315	95	4	416	1280
4:45 - 5:45	216	0	79	1	296	113	25	25	0	163	38	263	1	1	303	4	297	89	4	394	1156
5:00 - 6:00	199	1	73	1	274	89	16	20	0	125	32	239	0	3	274	3	273	77	2	355	1028
5:15 - 6:15	163	1	67	1	232	72	14	17	0	103	35	216	0	2	253	2	269	83	4	358	946
5:30 - 6:30	134	1	58	0	193	54	13	20	0	87	40	207	0	2	249	3	245	65	3	316	845
5:45 - 6:45	117	1	42	0	160	37	12	17	0	66	36	193	0	2	231	2	232	57	4	295	752
6:00 - 7:00	91	0	34	0	125	34	9	14	0	57	37	192	1	2	232	2	235	58	4	299	713
PEAK HOUR																					
4:00 - 5:00	291	5	98	0	394	140	39	43	0	222	44	295	3	3	345	4	310	111	3	428	1389


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TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 410 | Date: May 19, 2016 | Thursday

and: Ellin Road | Weather: Sunny/Warm

Location: Prince George's County, Maryland | Entered by: AW | Star Rating: 4

TIME	TRAFFIC FROM NORTH on: MD 410					TRAFFIC FROM SOUTH on: MD 410					TRAFFIC FROM EAST on: Ellin Road					TRAFFIC FROM WEST on:					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	0	228	12	0	240	57	226	0	0	283	11	0	29	0	40	0	0	0	0	0	563
6:45 - 7:00	0	220	12	0	232	59	276	0	0	335	16	0	25	0	41	0	0	0	0	0	608
7:00 - 7:15	0	231	22	1	254	76	269	0	1	346	9	0	45	0	54	0	0	0	0	0	654
7:15 - 7:30	0	250	12	1	263	93	315	0	0	408	23	0	40	0	63	0	0	0	0	0	734
7:30 - 7:45	0	263	14	0	277	89	354	0	0	443	15	0	48	0	63	0	0	0	0	0	783
7:45 - 8:00	0	268	11	0	279	110	434	0	1	545	11	0	41	0	52	0	0	0	0	0	876
8:00 - 8:15	0	212	12	0	224	95	370	0	0	465	9	0	43	0	52	0	0	0	0	0	741
8:15 - 8:30	0	244	5	1	250	87	326	0	0	413	12	0	36	0	48	0	0	0	0	0	711
8:30 - 8:45	0	204	11	0	215	88	289	0	0	377	9	0	45	0	54	0	0	0	0	0	646
8:45 - 9:00	0	196	9	0	205	86	264	0	0	350	8	0	35	0	43	0	0	0	0	0	598
9:00 - 9:15	0	230	8	0	238	91	264	0	0	355	7	0	49	0	56	0	0	0	0	0	649
9:15 - 9:30	0	197	8	0	205	55	253	0	0	308	9	0	47	0	56	0	0	0	0	0	569
3 Hr Totals	0	2743	136	3	2882	986	3640	0	2	4628	139	0	483	0	622	0	0	0	0	0	8132
1 Hr Totals																					
6:30 - 7:30	0	929	58	2	989	285	1086	0	1	1372	59	0	139	0	198	0	0	0	0	0	2559
6:45 - 7:45	0	964	60	2	1026	317	1214	0	1	1532	63	0	158	0	221	0	0	0	0	0	2779
7:00 - 8:00	0	1012	59	2	1073	368	1372	0	2	1742	58	0	174	0	232	0	0	0	0	0	3047
7:15 - 8:15	0	993	49	1	1043	387	1473	0	1	1861	58	0	172	0	230	0	0	0	0	0	3134
7:30 - 8:30	0	987	42	1	1030	381	1484	0	1	1866	47	0	168	0	215	0	0	0	0	0	3111
7:45 - 8:45	0	928	39	1	968	380	1419	0	1	1800	41	0	165	0	206	0	0	0	0	0	2974
8:00 - 9:00	0	856	37	1	894	356	1249	0	0	1605	38	0	159	0	197	0	0	0	0	0	2696
8:15 - 9:15	0	874	33	1	908	352	1143	0	0	1495	36	0	165	0	201	0	0	0	0	0	2604
8:30 - 9:30	0	827	36	0	863	320	1070	0	0	1390	33	0	176	0	209	0	0	0	0	0	2462
PEAK HOUR																					
7:15 - 8:15	0	993	49	1	1043	387	1473	0	1	1861	58	0	172	0	230	0	0	0	0	0	3134
PM																					
4:00 - 4:15	0	307	9	0	316	54	257	0	0	311	14	0	89	0	103	0	0	0	0	0	730
4:15 - 4:30	0	287	11	0	298	45	237	0	0	282	4	0	113	0	117	0	0	0	0	0	697
4:30 - 4:45	0	320	8	1	329	62	243	0	0	305	12	0	119	0	131	0	0	0	0	0	765
4:45 - 5:00	0	315	9	0	324	57	214	0	0	271	12	0	122	0	134	0	0	0	0	0	729
5:00 - 5:15	0	303	18	2	323	73	293	0	1	367	13	0	126	0	139	0	0	0	0	0	829
5:15 - 5:30	0	346	12	0	358	65	244	0	1	310	24	0	112	0	136	0	0	0	0	0	804
5:30 - 5:45	0	318	15	1	334	78	290	0	1	369	21	0	116	0	137	0	0	0	0	0	840
5:45 - 6:00	0	321	11	1	333	65	282	0	0	347	10	0	118	0	128	0	0	0	0	0	808
6:00 - 6:15	0	339	23	1	363	49	296	0	0	345	14	0	91	0	105	0	0	0	0	0	813
6:15 - 6:30	0	265	7	2	274	53	246	0	0	299	13	0	93	0	106	0	0	0	0	0	679
6:30 - 6:45	0	265	15	1	281	51	225	0	0	276	7	0	70	0	77	0	0	0	0	0	634
6:45 - 7:00	0	217	12	2	231	38	221	0	1	260	7	0	67	0	74	0	0	0	0	0	565
3 Hr Totals	0	3603	150	11	3764	690	3048	0	4	3742	151	0	1236	0	1387	0	0	0	0	0	8893
1 Hr Totals																					
4:00 - 5:00	0	1229	37	1	1267	218	951	0	0	1169	42	0	443	0	485	0	0	0	0	0	2921
4:15 - 5:15	0	1225	46	3	1274	237	987	0	1	1225	41	0	480	0	521	0	0	0	0	0	3020
4:30 - 5:30	0	1284	47	3	1334	257	994	0	2	1253	61	0	479	0	540	0	0	0	0	0	3127
4:45 - 5:45	0	1282	54	3	1339	273	1041	0	3	1317	70	0	476	0	546	0	0	0	0	0	3202
5:00 - 6:00	0	1288	56	4	1348	281	1109	0	3	1393	68	0	472	0	540	0	0	0	0	0	3281
5:15 - 6:15	0	1324	61	3	1388	257	1112	0	2	1371	69	0	437	0	506	0	0	0	0	0	3265
5:30 - 6:30	0	1243	56	5	1304	245	1114	0	1	1360	58	0	418	0	476	0	0	0	0	0	3140
5:45 - 6:45	0	1190	56	5	1251	218	1049	0	0	1267	44	0	372	0	416	0	0	0	0	0	2934
6:00 - 7:00	0	1086	57	6	1149	191	988	0	1	1180	41	0	321	0	362	0	0	0	0	0	2691
PEAK HOUR																					
5:00 - 6:00	0	1288	56	4	1348	281	1109	0	3	1393	68	0	472	0	540	0	0	0	0	0	3281


MD 410 & Ellin Rd
Write a description for your map.
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N
200 ft

TOTALS TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Garden City Drive | Date: June 9, 2016 | Thursday

and: Parking Access | Weather: Sunny/Warm

Location: Prince George's County, Maryland | Entered by: RH | Star Rating: 5

TIME	TRAFFIC FROM NORTH on: Garden City Drive					TRAFFIC FROM SOUTH on: Garden City Drive					TRAFFIC FROM EAST on: Parking Access					TRAFFIC FROM WEST on:					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45		42	7		49	9	113			122	0		1		1					0	172
6:45 - 7:00		25	7		32	10	142			152	0		0		0					0	184
7:00 - 7:15		31	8		39	9	108			117	0		0		0					0	156
7:15 - 7:30		45	9		54	10	143			153	0		0		0					0	207
7:30 - 7:45		40	10		50	9	183			192	0		0		0					0	242
7:45 - 8:00		34	12		46	12	164			176	0		0		0					0	222
8:00 - 8:15		56	6		62	11	172			183	0		0		0					0	245
8:15 - 8:30		27	13		40	5	154			159	0		1		1					0	200
8:30 - 8:45		46	11		57	8	134			142	0		2		2					0	201
8:45 - 9:00		32	9		41	6	128			134	0		1		1					0	176
9:00 - 9:15		40	5		45	5	88			93	0		0		0					0	138
9:15 - 9:30		39	5		44	5	75			80	0		0		0					0	124
3 Hr Totals	0	457	102	0	559	99	1604	0	0	1703	0	0	5	0	5	0	0	0	0	0	2267
1 Hr Totals																					
6:30 - 7:30	0	143	31	0	174	38	506	0	0	544	0	0	1	0	1	0	0	0	0	0	719
6:45 - 7:45	0	141	34	0	175	38	576	0	0	614	0	0	0	0	0	0	0	0	0	0	789
7:00 - 8:00	0	150	39	0	189	40	598	0	0	638	0	0	0	0	0	0	0	0	0	0	827
7:15 - 8:15	0	175	37	0	212	42	662	0	0	704	0	0	0	0	0	0	0	0	0	0	916
7:30 - 8:30	0	157	41	0	198	37	673	0	0	710	0	0	1	0	1	0	0	0	0	0	909
7:45 - 8:45	0	163	42	0	205	36	624	0	0	660	0	0	3	0	3	0	0	0	0	0	868
8:00 - 9:00	0	161	39	0	200	30	588	0	0	618	0	0	4	0	4	0	0	0	0	0	822
8:15 - 9:15	0	145	38	0	183	24	504	0	0	528	0	0	4	0	4	0	0	0	0	0	715
8:30 - 9:30	0	157	30	0	187	24	425	0	0	449	0	0	3	0	3	0	0	0	0	0	639
PEAK HOUR																					
7:15 - 8:15	0	175	37	0	212	42	662	0	0	704	0	0	0	0	0	0	0	0	0	0	916
PM																					
4:00 - 4:15		97	0		97	0	34			34	1		3		4					0	135
4:15 - 4:30		116	2		118	0	34			34	3		6		9					0	161
4:30 - 4:45		106	0		106	1	40			41	1		8		9					0	156
4:45 - 5:00		123	0		123	1	54			55	6		9		15					0	193
5:00 - 5:15		164	1		165	0	42			42	6		7		13					0	220
5:15 - 5:30		155	1		156	0	50			50	6		15		21					0	227
5:30 - 5:45		138	0		138	0	45			45	3		14		17					0	200
5:45 - 6:00		124	0		124	0	48			48	2		10		12					0	184
6:00 - 6:15		124	2		126	0	46			46	3		16		19					0	191
6:15 - 6:30		97	1		98	0	27			27	8		17		25					0	150
6:30 - 6:45		108	0		108	0	47			47	2		15		17					0	172
6:45 - 7:00		101	0		101	1	54			55	2		7		9					0	165
3 Hr Totals	0	1453	7	0	1460	3	521	0	0	524	43	0	127	0	170	0	0	0	0	0	2154
1 Hr Totals																					
4:00 - 5:00	0	442	2	0	444	2	162	0	0	164	11	0	26	0	37	0	0	0	0	0	645
4:15 - 5:15	0	509	3	0	512	2	170	0	0	172	16	0	30	0	46	0	0	0	0	0	730
4:30 - 5:30	0	548	2	0	550	2	186	0	0	188	19	0	39	0	58	0	0	0	0	0	796
4:45 - 5:45	0	580	2	0	582	1	191	0	0	192	21	0	45	0	66	0	0	0	0	0	840
5:00 - 6:00	0	581	2	0	583	0	185	0	0	185	17	0	46	0	63	0	0	0	0	0	831
5:15 - 6:15	0	541	3	0	544	0	189	0	0	189	14	0	55	0	69	0	0	0	0	0	802
5:30 - 6:30	0	483	3	0	486	0	166	0	0	166	16	0	57	0	73	0	0	0	0	0	725
5:45 - 6:45	0	453	3	0	456	0	168	0	0	168	15	0	58	0	73	0	0	0	0	0	697
6:00 - 7:00	0	430	3	0	433	1	174	0	0	175	15	0	55	0	70	0	0	0	0	0	678
PEAK HOUR																					
4:45 - 5:45	0	580	2	0	582	1	191	0	0	192	21	0	45	0	66	0	0	0	0	0	840


Garden City Dr & Parking (SHA)
Write a description for your map.
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100 ft

VEHICLES TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: Garden City Drive | Date: May 12, 2016 | Thursday

and: Parking Lot | Weather: Cloudy/Cool

Location: Prince George's, Maryland | Entered by: AW | Star Rating: 5

TIME	TRAFFIC FROM NORTH on: Garden City Drive					TRAFFIC FROM SOUTH on: Garden City Drive					TRAFFIC FROM EAST on:					TRAFFIC FROM WEST on: Parking Lot					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30 - 6:45	6	72		0	78					0					0	0		0	0	0	78
6:45 - 7:00	12	76		0	88					0					0	1		0	0	1	89
7:00 - 7:15	5	77		0	82					0					0	0		0	0	0	82
7:15 - 7:30	25	74		0	99					0					0	1		1	0	2	101
7:30 - 7:45	19	105		0	124					0					0	0		0	0	0	124
7:45 - 8:00	17	102		0	119					0					0	0		0	0	0	119
8:00 - 8:15	34	94		0	128					0					0	1		0	1	2	130
8:15 - 8:30	20	89		0	109					0					0	0		1	0	1	110
8:30 - 8:45	35	77		0	112					0					0	0		0	0	0	112
8:45 - 9:00	20	65		0	85					0					0	1		0	0	1	86
9:00 - 9:15	17	68		0	85					0					0	0		0	0	0	85
9:15 - 9:30	9	62		0	71					0					0	1		0	0	1	72
3 Hr Totals	219	961	0	0	1180	0	0	0	0	0	0	0	0	0	0	5	0	2	1	8	1188
1 Hr Totals																					
6:30 - 7:30	48	299	0	0	347	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	350
6:45 - 7:45	61	332	0	0	393	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	396
7:00 - 8:00	66	358	0	0	424	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	426
7:15 - 8:15	95	375	0	0	470	0	0	0	0	0	0	0	0	0	0	2	0	1	1	4	474
7:30 - 8:30	90	390	0	0	480	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3	483
7:45 - 8:45	106	362	0	0	468	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3	471
8:00 - 9:00	109	325	0	0	434	0	0	0	0	0	0	0	0	0	0	2	0	1	1	4	438
8:15 - 9:15	92	299	0	0	391	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	393
8:30 - 9:30	81	272	0	0	353	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	355
PEAK HOUR																					
7:30 - 8:30	90	390	0	0	480	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3	483
PM																					
4:00 - 4:15	0	163		0	163					0					0	5		0	0	5	168
4:15 - 4:30	0	219		0	219					0					0	5		0	0	5	224
4:30 - 4:45	0	173		0	173					0					0	4		0	0	4	177
4:45 - 5:00	0	217		0	217					0					0	17		1	0	18	235
5:00 - 5:15	1	245		0	246					0					0	10		2	0	12	258
5:15 - 5:30	0	256		0	256					0					0	16		0	0	16	272
5:30 - 5:45	1	219		0	220					0					0	22		0	0	22	242
5:45 - 6:00	0	203		0	203					0					0	19		0	0	19	222
6:00 - 6:15	0	206		0	206					0					0	9		1	0	10	216
6:15 - 6:30	1	180		0	181					0					0	18		1	0	19	200
6:30 - 6:45	0	180		0	180					0					0	18		2	0	20	200
6:45 - 7:00	1	196		0	197					0					0	13		0	0	13	210
3 Hr Totals	4	2457	0	0	2461	0	0	0	0	0	0	0	0	0	0	156	0	7	0	163	2624
1 Hr Totals																					
4:00 - 5:00	0	772	0	0	772	0	0	0	0	0	0	0	0	0	0	31	0	1	0	32	804
4:15 - 5:15	1	854	0	0	855	0	0	0	0	0	0	0	0	0	0	36	0	3	0	39	894
4:30 - 5:30	1	891	0	0	892	0	0	0	0	0	0	0	0	0	0	47	0	3	0	50	942
4:45 - 5:45	2	937	0	0	939	0	0	0	0	0	0	0	0	0	0	65	0	3	0	68	1007
5:00 - 6:00	2	923	0	0	925	0	0	0	0	0	0	0	0	0	0	67	0	2	0	69	994
5:15 - 6:15	1	884	0	0	885	0	0	0	0	0	0	0	0	0	0	66	0	1	0	67	952
5:30 - 6:30	2	808	0	0	810	0	0	0	0	0	0	0	0	0	0	68	0	2	0	70	880
5:45 - 6:45	1	769	0	0	770	0	0	0	0	0	0	0	0	0	0	64	0	4	0	68	838
6:00 - 7:00	2	762	0	0	764	0	0	0	0	0	0	0	0	0	0	58	0	4	0	62	826
PEAK HOUR																					
4:45 - 5:45	2	937	0	0	939	0	0	0	0	0	0	0	0	0	0	65	0	3	0	68	1007

Garden City Dr & Parking Access

APPENDIX B

Intersection Capacity

Analysis Worksheets

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Corporate Drive
N/S Road: Garden City Drive
Conditions: Existing Traffic

Date of Count: 5/12/2016
Day of Week: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 4:00 -5:00

GARDEN CITY DRIVE

5	245	8	**PM**
144	520	16	**AM**
R	**T**	**L**	

CORPORATE DRIVE — TR L

— R
— LT
— L

R	157	62
T	44	3
L	206	229
	AM	**PM**

PM	AM	
184	2	**L**
20	2	**T**
320	13	**R**

L —
T —
R —

CORPORATE DRIVE

LT T FR

adjusted lefts		L	T	R
138	**AM**	46	129	177
6	**PM**	3	62	63

GARDEN CITY DRIVE

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	2	1.00	2				2
WB	250	0.60	150				150
NB	267	0.55	147	16	1.00	16	710
SB	664	1.00	664	46	1.00	46	
						CLV TOTAL=	**862**
						Level of Service (LOS)=	**A**

AM V/C =0.54

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	317	1.00	317				317
WB	232	0.60	139				139
NB	68	0.55	37	8	1.00	8	253
SB	250	1.00	250	3	1.00	3	
						CLV TOTAL=	**709**
						Level of Service (LOS)=	**A**

PM V/C =0.44

Scenario ID - EXIST2

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Corporate Drive
N/S Road: Garden City Drive
Conditions: Background Traffic

Date of Count: 5/12/2016
Day of Week: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 4:00 -5:00

GARDEN CITY DRIVE

5	258	57	**PM**
151	547	83	**AM**
R	**T**	**L**	

CORPORATE DRIVE — TR L

— R
— LT
— L

R	188	95
T	46	3
L	679	472
	AM	**PM**

PM	**AM**	
193	2	**L**
21	2	**T**
336	14	**R**

L —
T —
R —

CORPORATE DRIVE

LT T FR

adjusted lefts		**L**	**T**	**R**
144	**AM**	48	136	291
6	**PM**	3	65	165

GARDEN CITY DRIVE

Capacity Analysis - East/West Split

Morning Peak Hour

	Thru Volumes			+ Opposing Lefts			**AM**
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	**CLV**
EB	2	1.00	2				2
WB	725	0.60	435				435
NB	280	0.55	154	83	1.00	83	746
SB	698	1.00	698	48	1.00	48	
					CLV TOTAL=		**1,183**
					Level of Service (LOS)=		**C**

Evening Peak Hour

	Thru Volumes			+ Opposing Lefts			**PM**
Dir	VOL	x LUF	= Total	VOL	x LUF	= Total	**CLV**
EB	333	1.00	333				333
WB	475	0.60	285				285
NB	71	0.55	39	57	1.00	57	266
SB	263	1.00	263	3	1.00	3	
					CLV TOTAL=		**884**
					Level of Service (LOS)=		**A**

Scenario ID - BACK2

AM V/C =0.74

PM V/C =0.55

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Corporate Drive
N/S Road: Garden City Drive
Conditions: Total Traffic

Date of Count: 5/12/2016
Day of Week: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 4:00 -5:00

GARDEN CITY DRIVE

R	T	L	
5	306	74	PM
151	705	185	AM

TR L

CORPORATE DRIVE

— R
— LT
— L

	R	T	L
AM	191	46	820
PM	134	3	606

	PM	AM
L	193	2
T	21	2
R	336	14

L —
T —
R —

CORPORATE DRIVE

LT T FR

adjusted lefts		L	T	R
192	AM	48	146	405
6	PM	3	132	250

GARDEN CITY DRIVE

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	2	1.00	2				2
WB	866	0.60	520				520
NB	338	0.55	186	185	1.00	185	904
SB	856	1.00	856	48	1.00	48	
					CLV TOTAL=		1,426
					Level of Service (LOS)=		D

AM V/C =0.89

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	333	1.00	333				333
WB	609	0.60	365				365
NB	138	0.55	76	74	1.00	74	314
SB	311	1.00	311	3	1.00	3	
					CLV TOTAL=		1,012
					Level of Service (LOS)=		B

PM V/C =0.63

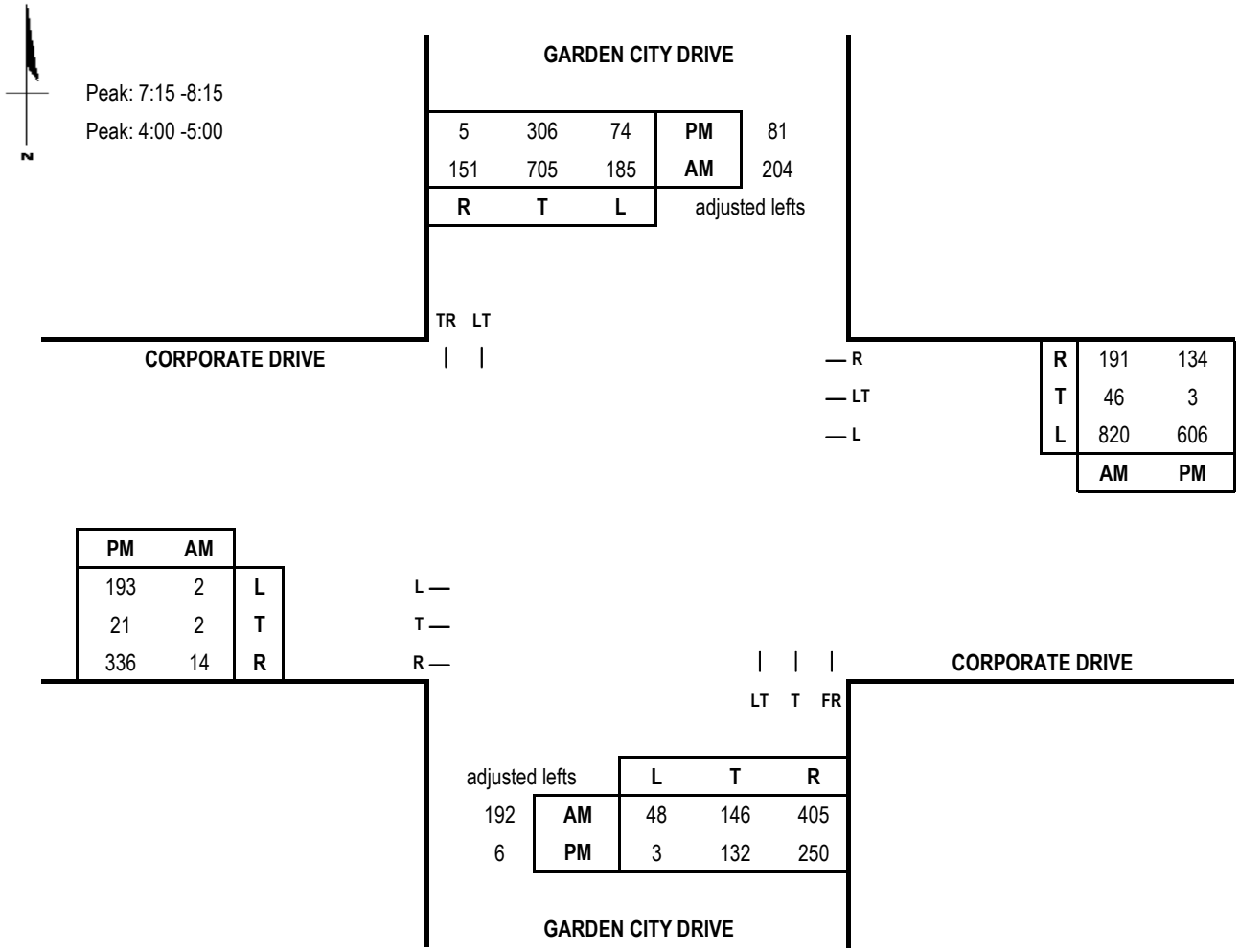
Scenario ID - TOT2

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Corporate Drive
N/S Road: Garden City Drive
Conditions: Total w/SB 2 Lanes

Date of Count: 5/12/2016
Day of Week: Thursday
Analyst: RH



Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	2	1.00	2				2
WB	866	0.60	520				520
NB	338	0.55	186	185	1.00	185	631
SB	1060	0.55	583	48	1.00	48	

CLV TOTAL= **1,153**
Level of Service (LOS)= **C**
AM V/C =0.72

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	333	1.00	333				333
WB	609	0.60	365				365
NB	138	0.55	76	74	1.00	74	219
SB	392	0.55	216	3	1.00	3	

CLV TOTAL= **917**
Level of Service (LOS)= **A**
PM V/C =0.57

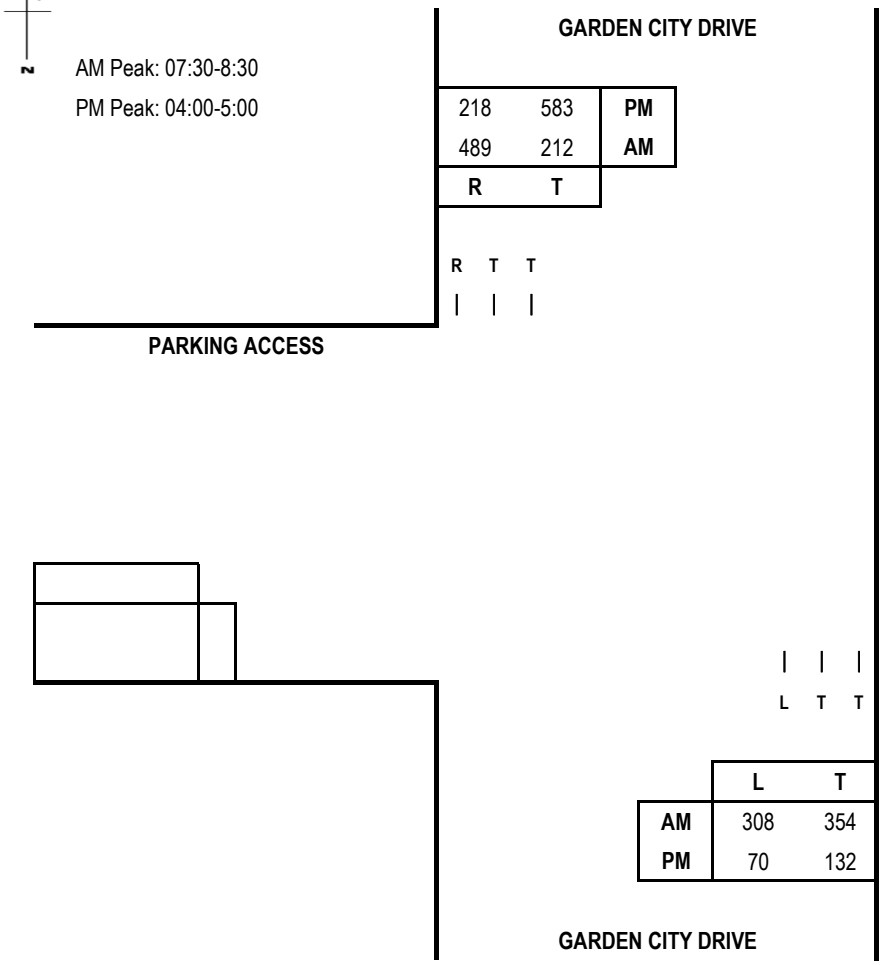
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road Name: Parking Access
N/S Road Name: Garden City Drive
Conditions: Existing Traffic

Date of Count: 5/12/2016
Day of Count: Thursday
Analyst: Richard Huang

AM Peak: 07:30-8:30
PM Peak: 04:00-5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	0	0.00	0				0
NB	354	0.55	195				797
SB	489	1.00	489	308	1.00	308	

CLV TOTAL= **797**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	0	0.00	0				0
NB	132	0.55	73				391
SB	583	0.55	321	70	1.00	70	

CLV TOTAL= **391**
Level of Service (LOS)= **A**

Scenario ID - EXIST3
CLV V/C =0.5
CLV V/C =0.24

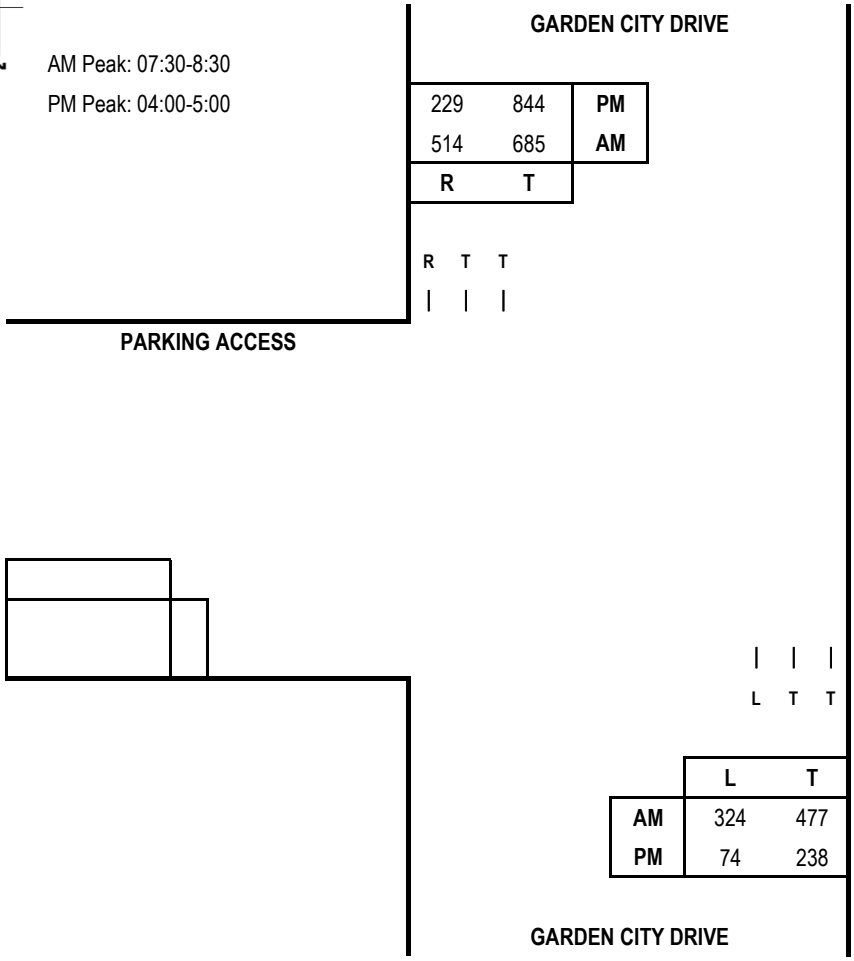
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road Name: Parking Access
N/S Road Name: Garden City Drive
Conditions: Background Traffic

Date of Count: 5/12/2016
Day of Count: Thursday
Analyst: Richard Huang

AM Peak: 07:30-8:30
PM Peak: 04:00-5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	0	0.00	0				0
NB	477	0.55	262				838
SB	514	1.00	514	324	1.00	324	
						CLV TOTAL=	838
						Level of Service (LOS)=	A

Scenario ID - BACK3
CLV V/C =0.52

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	0	0.00	0				0
NB	238	0.55	131				538
SB	844	0.55	464	74	1.00	74	
						CLV TOTAL=	538
						Level of Service (LOS)=	A

CLV V/C =0.34

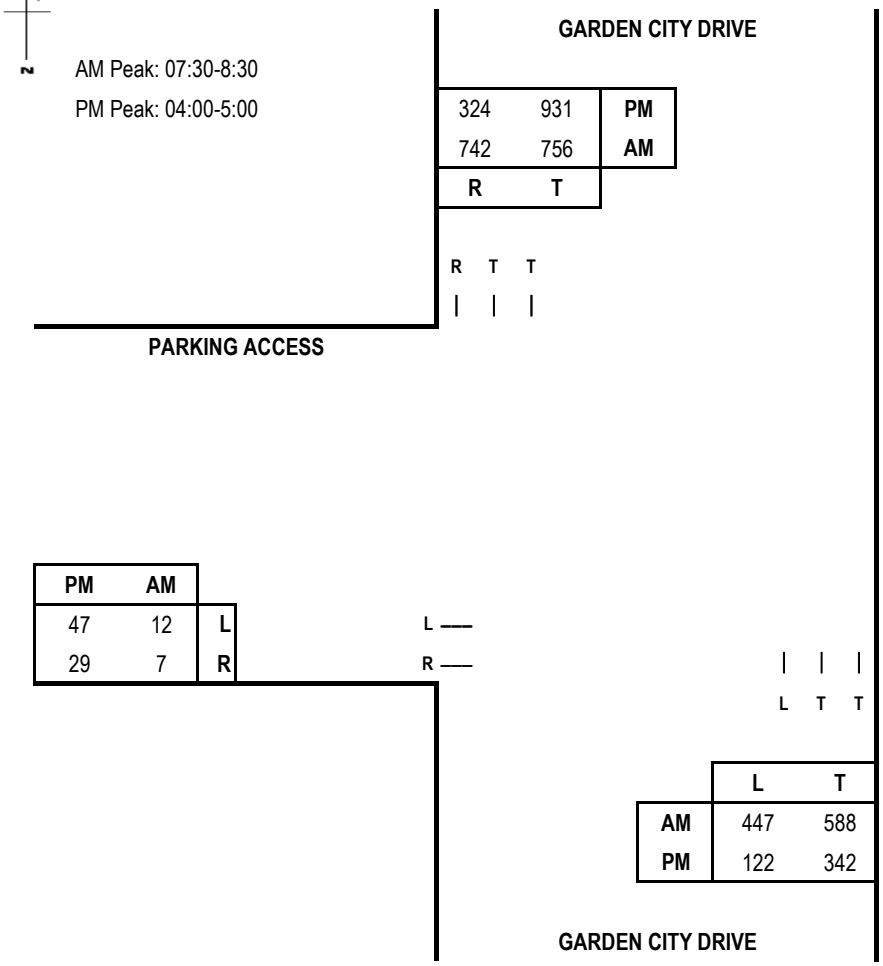
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road Name: Parking Access
N/S Road Name: Garden City Drive
Conditions: Total Traffic

Date of Count: 5/12/2016
Day of Count: Thursday
Analyst: Richard Huang

AM Peak: 07:30-8:30
PM Peak: 04:00-5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	12	1.00	12				12
NB	588	0.55	323				1177
SB	730	1.00	730	447	1.00	447	

CLV TOTAL= **1,189**
Level of Service (LOS)= **C**
CLV V/C =0.74

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	47	1.00	47				47
NB	342	0.55	188				634
SB	931	0.55	512	122	1.00	122	

CLV TOTAL= **681**
Level of Service (LOS)= **A**
CLV V/C =0.43

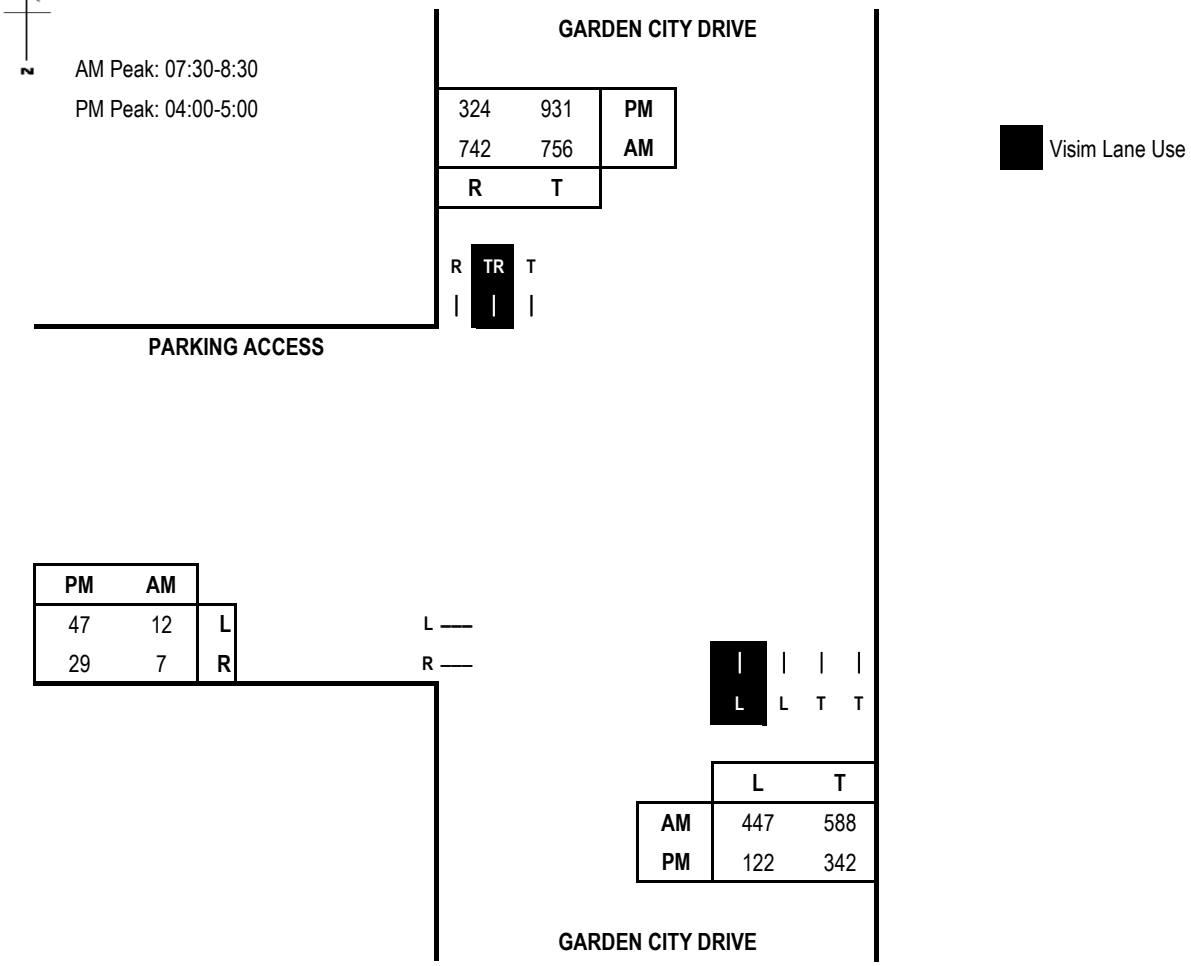
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road Name: Parking Access
N/S Road Name: Garden City Drive
Conditions: Total Traffic

Date of Count: 5/12/2016
Day of Count: Thursday
Analyst: Richard Huang

AM Peak: 07:30-8:30
PM Peak: 04:00-5:00



Visim Lane Use

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	12	1.00	12				12
NB	588	0.55	323				1092
SB	1498	0.55	824	447	0.60	268	

CLV TOTAL= **1,104**
Level of Service (LOS)= **B**
CLV V/C =0.69

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	47	1.00	47				47
NB	342	0.55	188				763
SB	1255	0.55	690	122	0.60	73	

CLV TOTAL= **810**
Level of Service (LOS)= **A**
CLV V/C =0.51

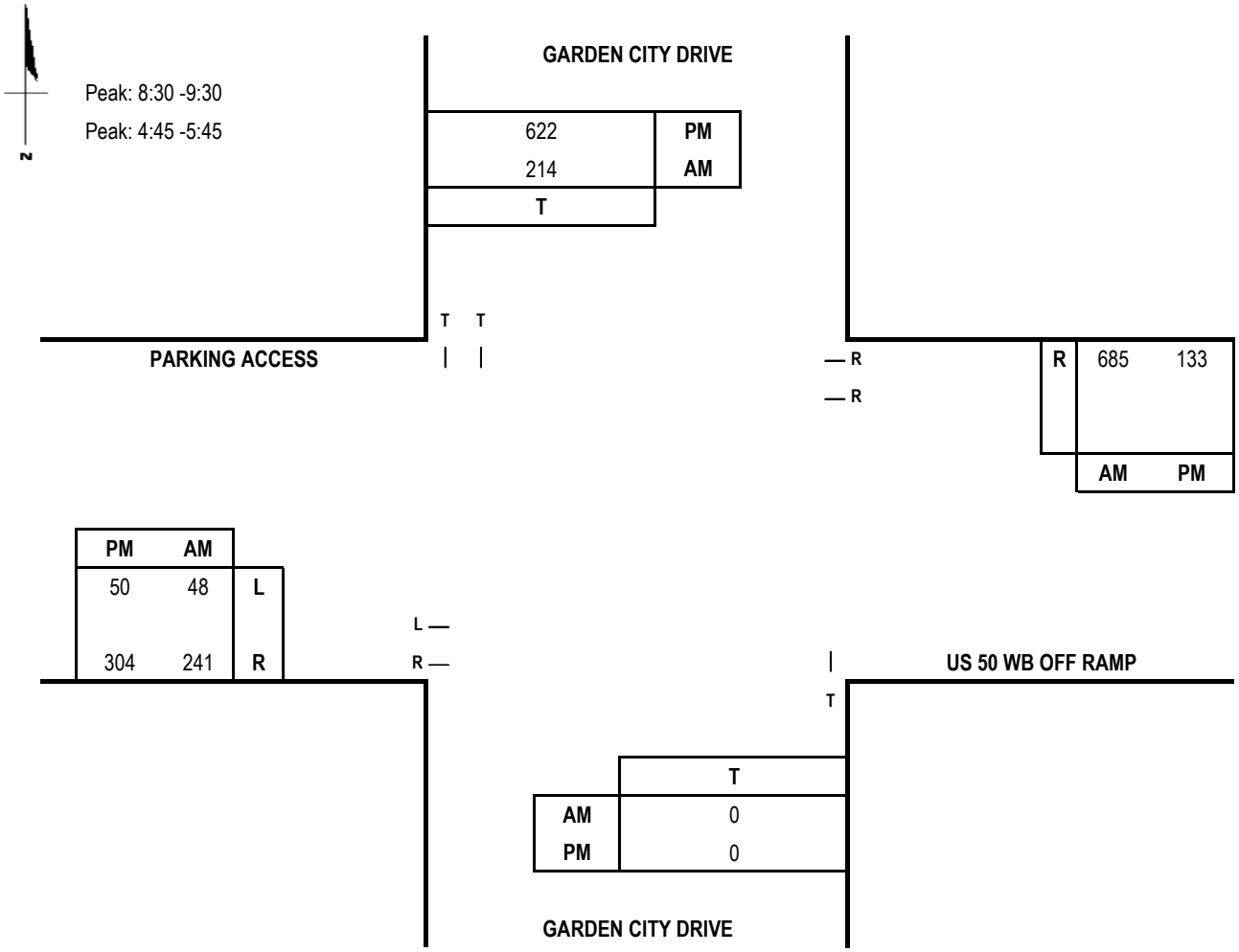
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: US 50 WB Off Ramp/Parking Access **Date of Count:** 5/12/2016

N/S Road: Garden City Drive **Day of Week:** Thursday

Conditions: Existing Traffic **Analyst:** Richard Huang



Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	241	1.00	241				241
WB	685	0.55	377				377
NB	0	1.00	0	0	0.00	0	118
SB	214	0.55	118	0	0.00	0	
					CLV TOTAL=		736
					Level of Service (LOS)=		A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	304	1.00	304				304
WB	133	0.55	73				73
NB	0	1.00	0	0	0.00	0	342
SB	622	0.55	342	0	0.00	0	
					CLV TOTAL=		719
					Level of Service (LOS)=		A

Scenario ID - EXIST4 AM V/C =0.46 PM V/C =0.45

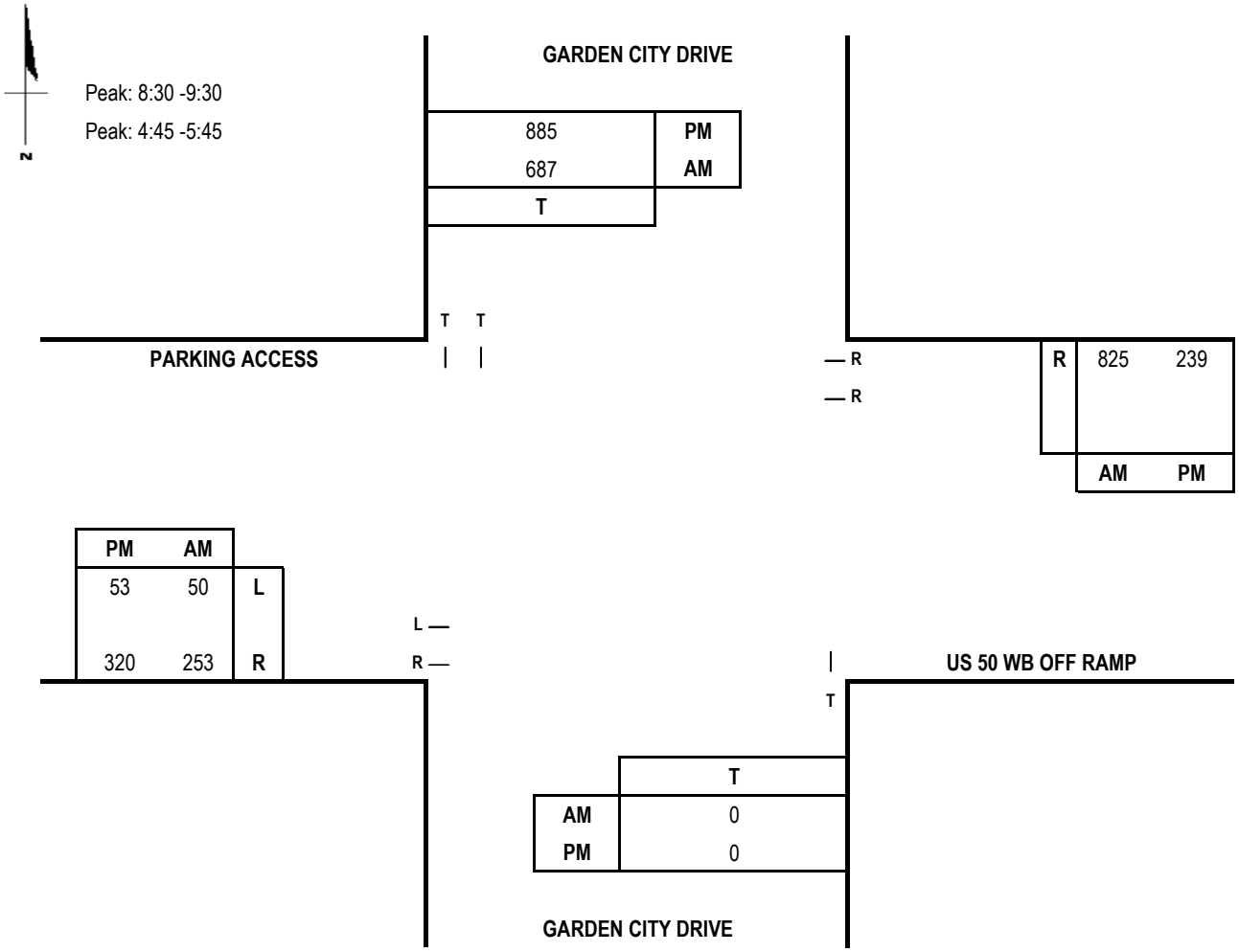
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: US 50 WB Off Ramp/Parking Access **Date of Count:** 5/12/2016

N/S Road: Garden City Drive **Day of Week:** Thursday

Conditions: Background Traffic **Analyst:** Richard Huang



Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	253	1.00	253				253
WB	825	0.55	454				454
NB	0	1.00	0	0	0.00	0	378
SB	687	0.55	378	0	0.00	0	
					CLV TOTAL=		1,085
					Level of Service (LOS)=		B

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	320	1.00	320				320
WB	239	0.55	131				131
NB	0	1.00	0	0	0.00	0	487
SB	885	0.55	487	0	0.00	0	
					CLV TOTAL=		938
					Level of Service (LOS)=		A

Scenario ID - BACK4 AM V/C =0.68 PM V/C =0.59

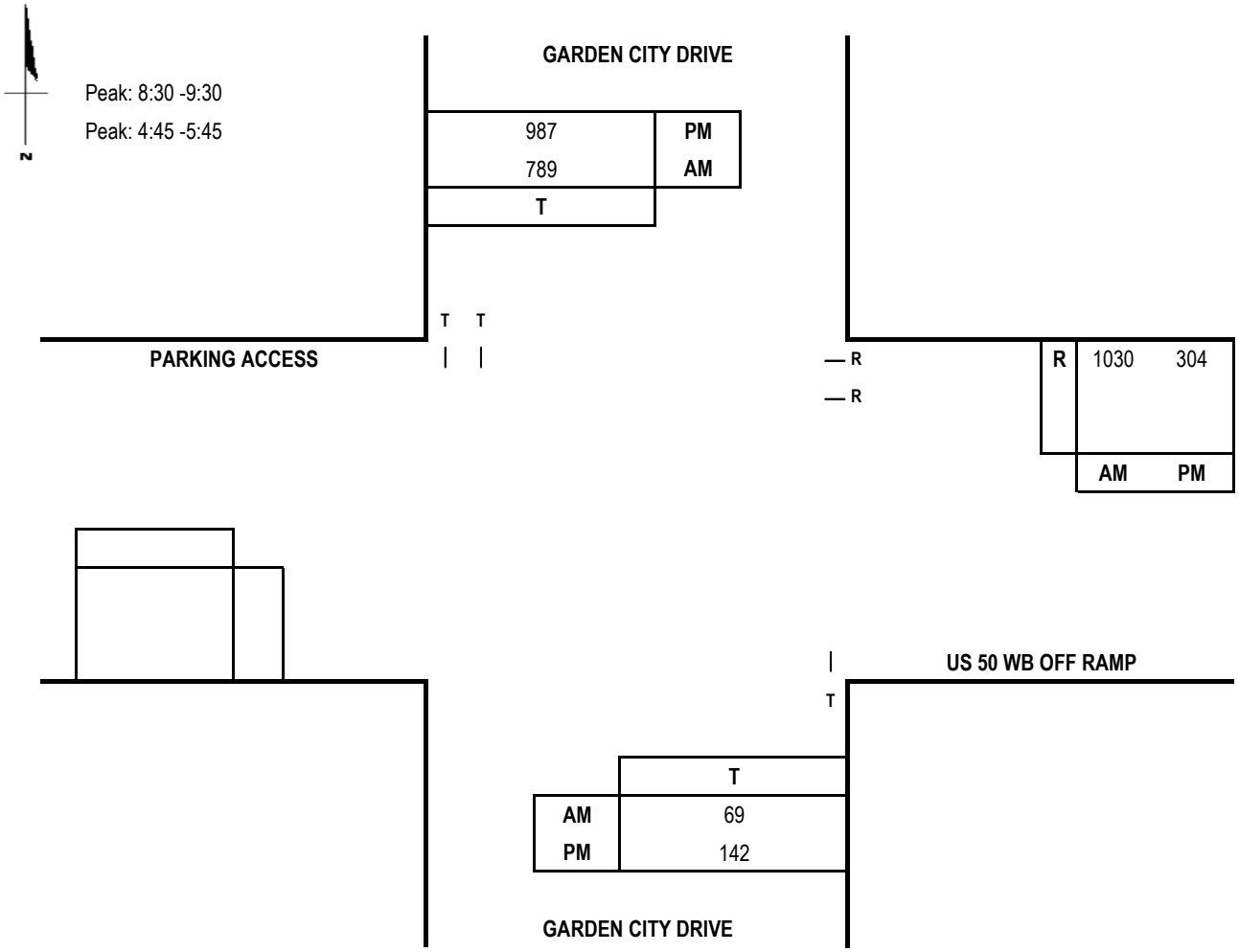
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: US 50 WB Off Ramp/Parking Access **Date of Count:** 5/12/2016

N/S Road: Garden City Drive **Day of Week:** Thursday

Conditions: Total Traffic **Analyst:** Richard Huang



Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	0	0.00	0				0
WB	1030	0.55	567				567
NB	69	1.00	69	0	0.00	0	434
SB	789	0.55	434	0	0.00	0	
					CLV TOTAL=		1,001
					Level of Service (LOS)=		B

AM V/C =0.63

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	0	0.00	0				0
WB	304	0.55	167				167
NB	142	1.00	142	0	0.00	0	543
SB	987	0.55	543	0	0.00	0	
					CLV TOTAL=		710
					Level of Service (LOS)=		A

PM V/C =0.44

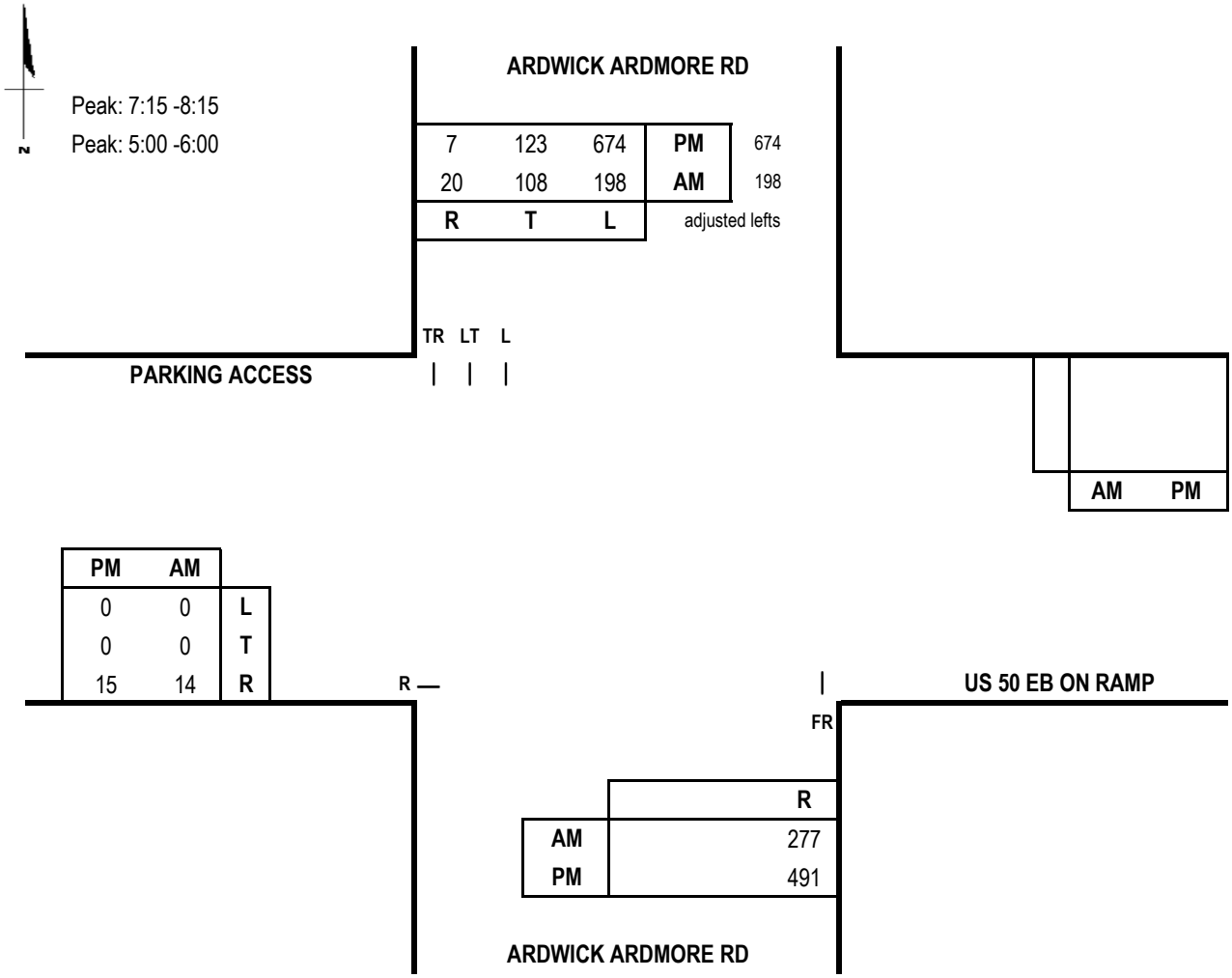
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: US 50 EB On Ramp/Parking Access **Date of Count:** 5/19/2016

N/S Road: Ardwick Ardmore Rd **Day of Count:** Thursday

Conditions: Existing Traffic **Analyst:** Richard Huang



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	0	0.00	0	198	0.60	119	
							179
SB	326	0.55	179	0	0.00	0	
EB	14	1.00	14	0	0.00	0	
							14
WB	0	0.00	0	0	0.00	0	

CLV TOTAL= **193**

Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	0	0.00	0	674	0.60	404	
							442
SB	804	0.55	442	0	0.00	0	
EB	15	1.00	15	0	0.00	0	
							15
WB	0	0.00	0	0	0.00	0	

CLV TOTAL= **457**

Level of Service (LOS)= **A**

Scenario ID - EXIST6

AM V/C =0.12

PM V/C =0.29

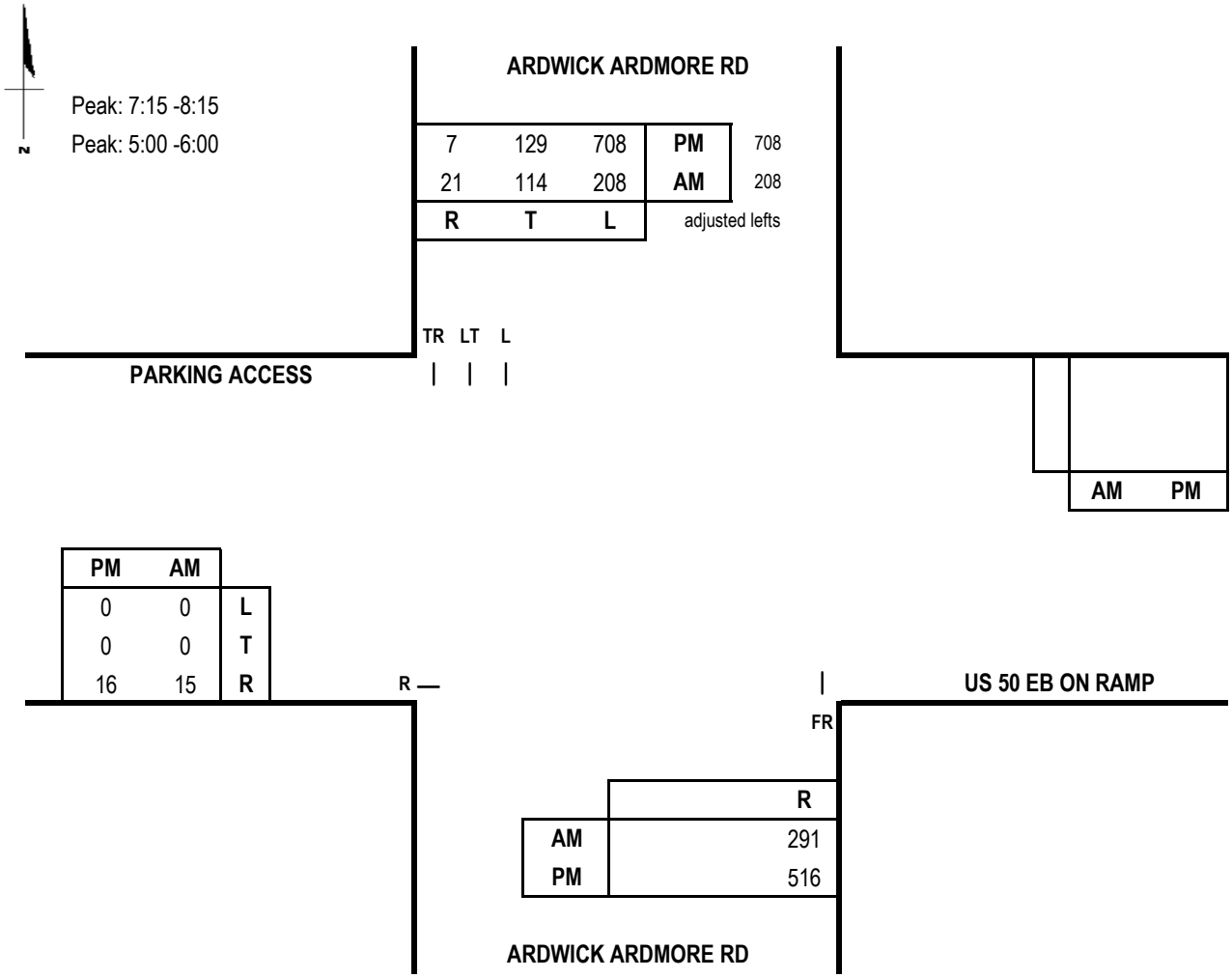
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: US 50 EB On Ramp/Parking Access **Date of Count:** 5/19/2016

N/S Road: Ardwick Ardmore Rd **Day of Count:** Thursday

Conditions: Background Traffic **Analyst:** Richard Huang



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	0	0.00	0	208	0.60	125	189
SB	343	0.55	189	0	0.00	0	
EB	15	1.00	15	0	0.00	0	15
WB	0	0.00	0	0	0.00	0	

CLV TOTAL= **204**

Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	0	0.00	0	708	0.60	425	464
SB	844	0.55	464	0	0.00	0	
EB	16	1.00	16	0	0.00	0	16
WB	0	0.00	0	0	0.00	0	

CLV TOTAL= **480**

Level of Service (LOS)= **A**

Scenario ID - BACK6

AM V/C =0.13

PM V/C =0.3

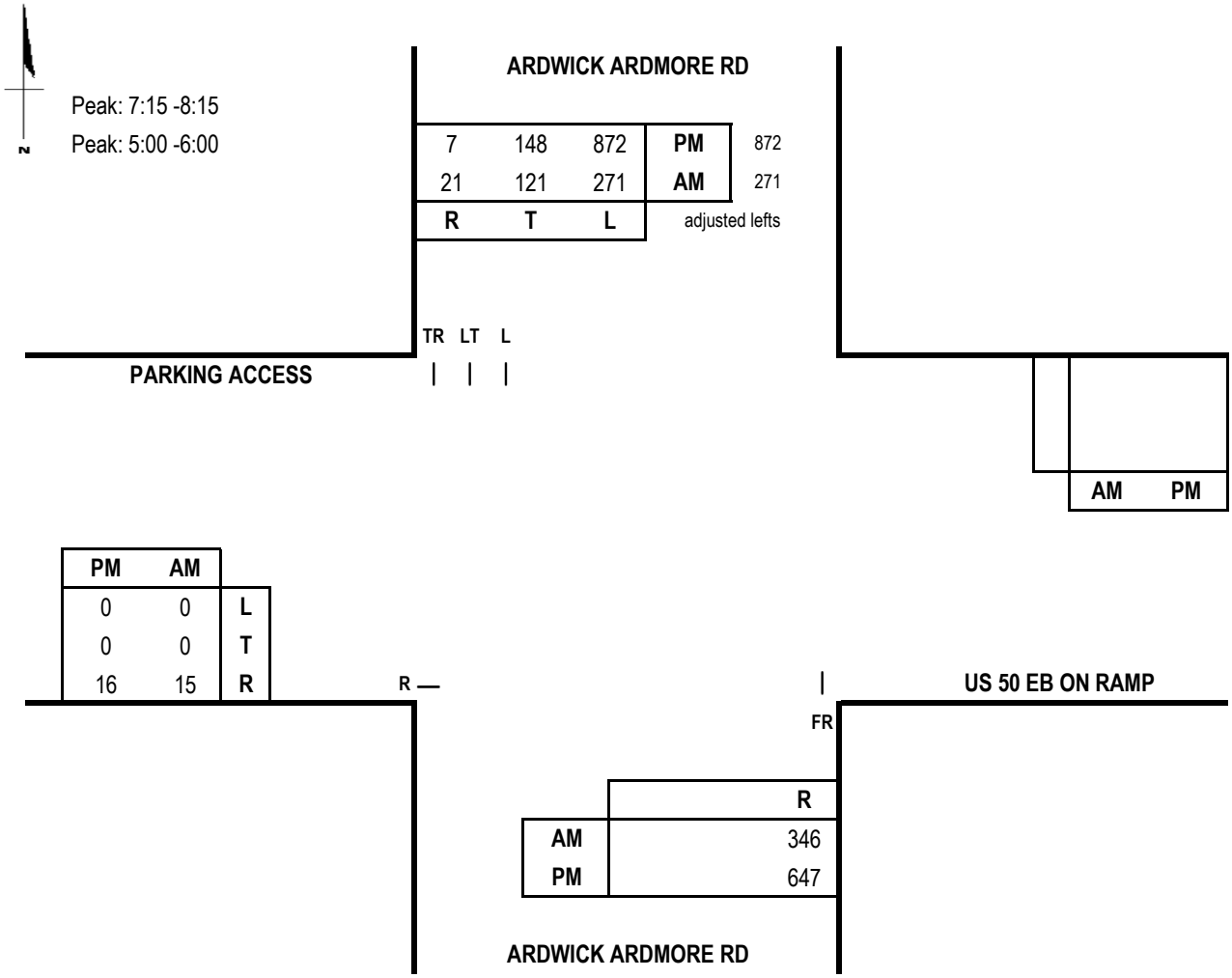
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: US 50 EB On Ramp/Parking Access **Date of Count:** 5/19/2016

N/S Road: Ardwick Ardmore Rd **Day of Count:** Thursday

Conditions: Total Traffic **Analyst:** Richard Huang



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	0	0.00	0	271	0.60	163	227
SB	413	0.55	227	0	0.00	0	
EB	15	1.00	15	0	0.00	0	15
WB	0	0.00	0	0	0.00	0	

CLV TOTAL= **242**

Level of Service (LOS)= **A**

AM V/C =0.15

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	0	0.00	0	872	0.60	523	565
SB	1027	0.55	565	0	0.00	0	
EB	16	1.00	16	0	0.00	0	16
WB	0	0.00	0	0	0.00	0	

CLV TOTAL= **581**

Level of Service (LOS)= **A**

PM V/C =0.36

Scenario ID - TOT6

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Ardwick Ardmore Road
N/S Road: Pennsy Drive
Conditions: Existing Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 5:00 -6:00

PENNSY DRIVE

R	T	L	
226	50	205	PM
24	84	205	AM

ARDWICK ARDMORE ROAD

R LT

— R
— T
— L

	AM	PM
R	181	83
T	182	160
L	349	304

6 10 adjusted lefts

	PM	AM
L	3	5
T	106	74
R	24	40

LT —
TR —

ARDWICK ARDMORE ROAD

LT R

	L	T	R
AM	72	173	284
PM	102	94	553

PENNSY DRIVE

Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	245	1.00	245				245
SB	289	1.00	289				289
EB	124	0.55	68	349	1.00	349	417
WB	182	1.00	182	5	1.00	5	
					CLV TOTAL=		951
					Level of Service (LOS)=		A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	249	1.00	249				249
SB	255	1.00	255				255
EB	136	0.55	75	304	1.00	304	379
WB	160	1.00	160	3	1.00	3	
					CLV TOTAL=		883
					Level of Service (LOS)=		A

Scenario ID - EXIST7

AM V/C =0.59

PM V/C =0.55

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Ardwick Ardmore Road
N/S Road: Pennsy Drive
Conditions: Background Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 5:00 -6:00

PENNSY DRIVE

R	T	L	
266	69	231	PM
151	101	228	AM

R LT

ARDWICK ARDMORE ROAD

— R
— T
— L

	PM	AM
R	204	121
T	191	168
L	367	320

6 10 adjusted lefts

	PM	AM
L	3	5
T	126	91
R	40	55

LT —
TR —

LT R

ARDWICK ARDMORE ROAD

	L	T	R
AM	76	224	299
PM	107	202	581

PENNSY DRIVE

Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	300	1.00	300				300
SB	329	1.00	329				329
EB	156	0.55	86	367	1.00	367	453
WB	191	1.00	191	5	1.00	5	
					CLV TOTAL=		1,082
					Level of Service (LOS)=		B

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	309	1.00	309				309
SB	300	1.00	300				300
EB	172	0.55	95	320	1.00	320	415
WB	168	1.00	168	3	1.00	3	
					CLV TOTAL=		1,024
					Level of Service (LOS)=		B

Scenario ID - BACK7

AM V/C =0.68

PM V/C =0.64

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Ardwick Ardmore Road
N/S Road: Pennsy Drive
Conditions: Total Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 5:00 -6:00

PENNSY DRIVE

R	T	L	
397	104	278	PM
206	106	233	AM

R LT

ARDWICK ARDMORE ROAD

— R
— T
— L

	PM	AM
R	232	144
T	191	168
L	367	320

6 10 adjusted lefts

PM	AM	
3	5	L
135	94	T
50	59	R

LT —
TR —

	L	T	R
AM	76	305	299
PM	107	270	581

LT R

ARDWICK ARDMORE ROAD

PENNSY DRIVE

Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	381	1.00	381				381
SB	339	1.00	339				339
EB	163	0.55	90	367	1.00	367	457
WB	191	1.00	191	5	1.00	5	

CLV TOTAL= **1,177**
Level of Service (LOS)= **C**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	377	1.00	377				377
SB	394	1.00	394				394
EB	191	0.55	105	320	1.00	320	425
WB	168	1.00	168	3	1.00	3	

CLV TOTAL= **1,196**
Level of Service (LOS)= **C**

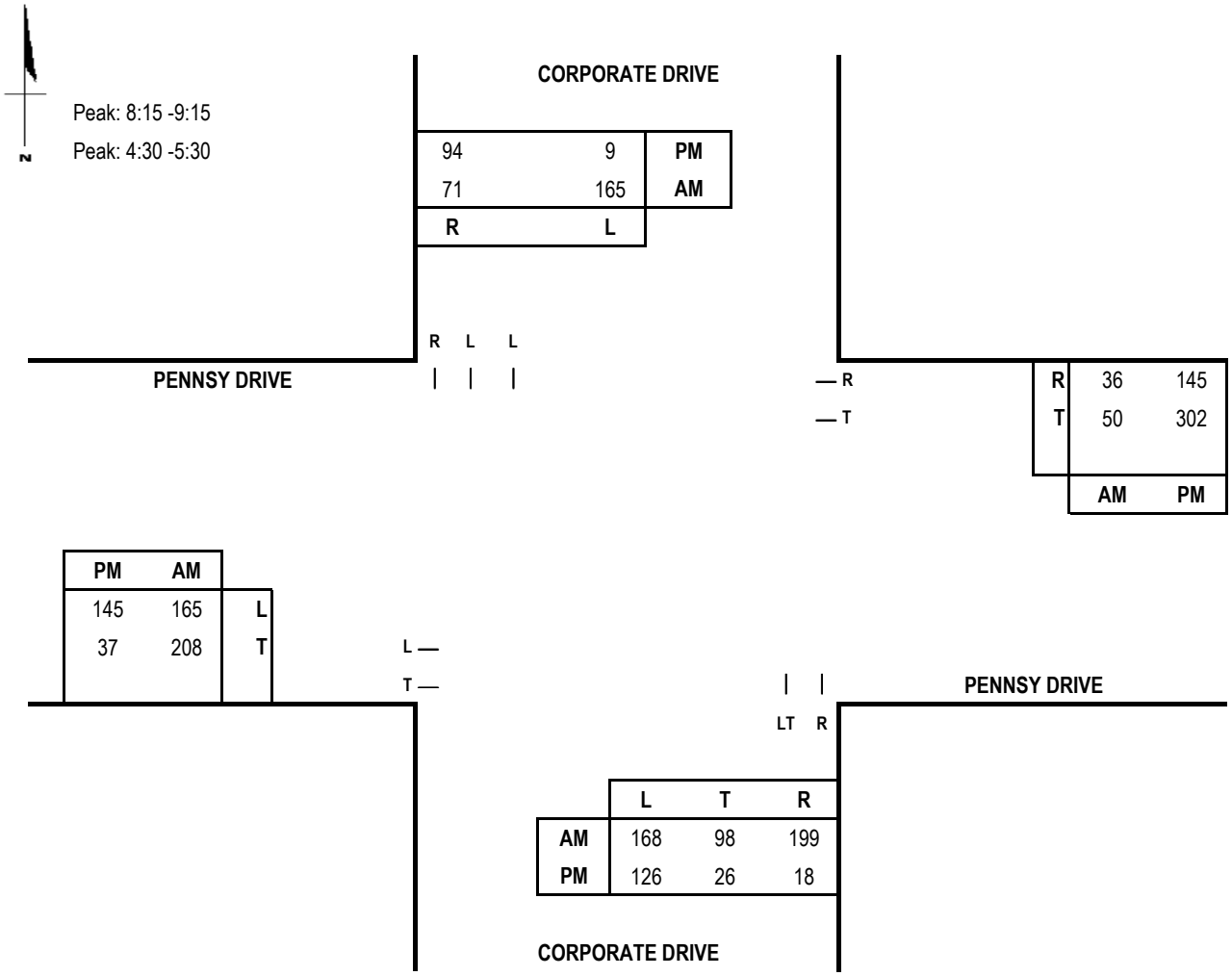
Scenario ID - TOT7
AM V/C =0.74
PM V/C =0.75

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Pennsy Drive
N/S Road: Corporate Drive
Conditions: Existing Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang



Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	266	1.00	266				266
SB	165	0.60	99				99
EB	208	1.00	208	0	0.00	0	215
WB	50	1.00	50	165	1.00	165	
						CLV TOTAL=	580
						Level of Service (LOS)=	A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	152	1.00	152				152
SB	9	0.60	5				5
EB	37	1.00	37	0	0.00	0	447
WB	302	1.00	302	145	1.00	145	
						CLV TOTAL=	604
						Level of Service (LOS)=	A

Scenario ID - EXIST8

AM V/C =0.36

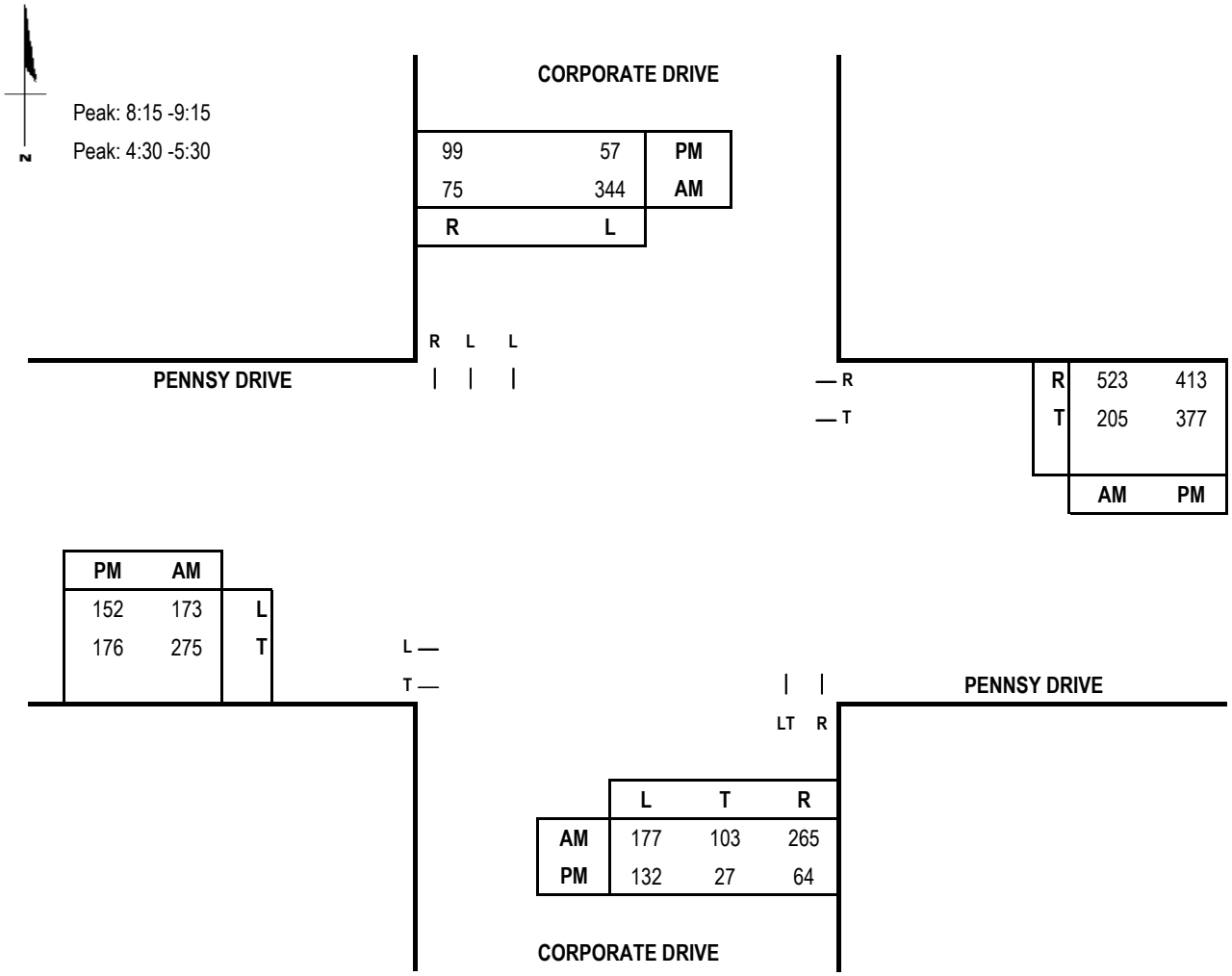
PM V/C =0.38

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Pennsy Drive
N/S Road: Corporate Drive
Conditions: Background Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang



Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	280	1.00	280				280
SB	344	0.60	206				206
EB	275	1.00	275	0	0.00	0	490
WB	317	1.00	317	173	1.00	173	
						CLV TOTAL=	976
						Level of Service (LOS)=	A

AM V/C =0.61

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	159	1.00	159				159
SB	57	0.60	34				34
EB	176	1.00	176	0	0.00	0	531
WB	379	1.00	379	152	1.00	152	
						CLV TOTAL=	724
						Level of Service (LOS)=	A

PM V/C =0.45

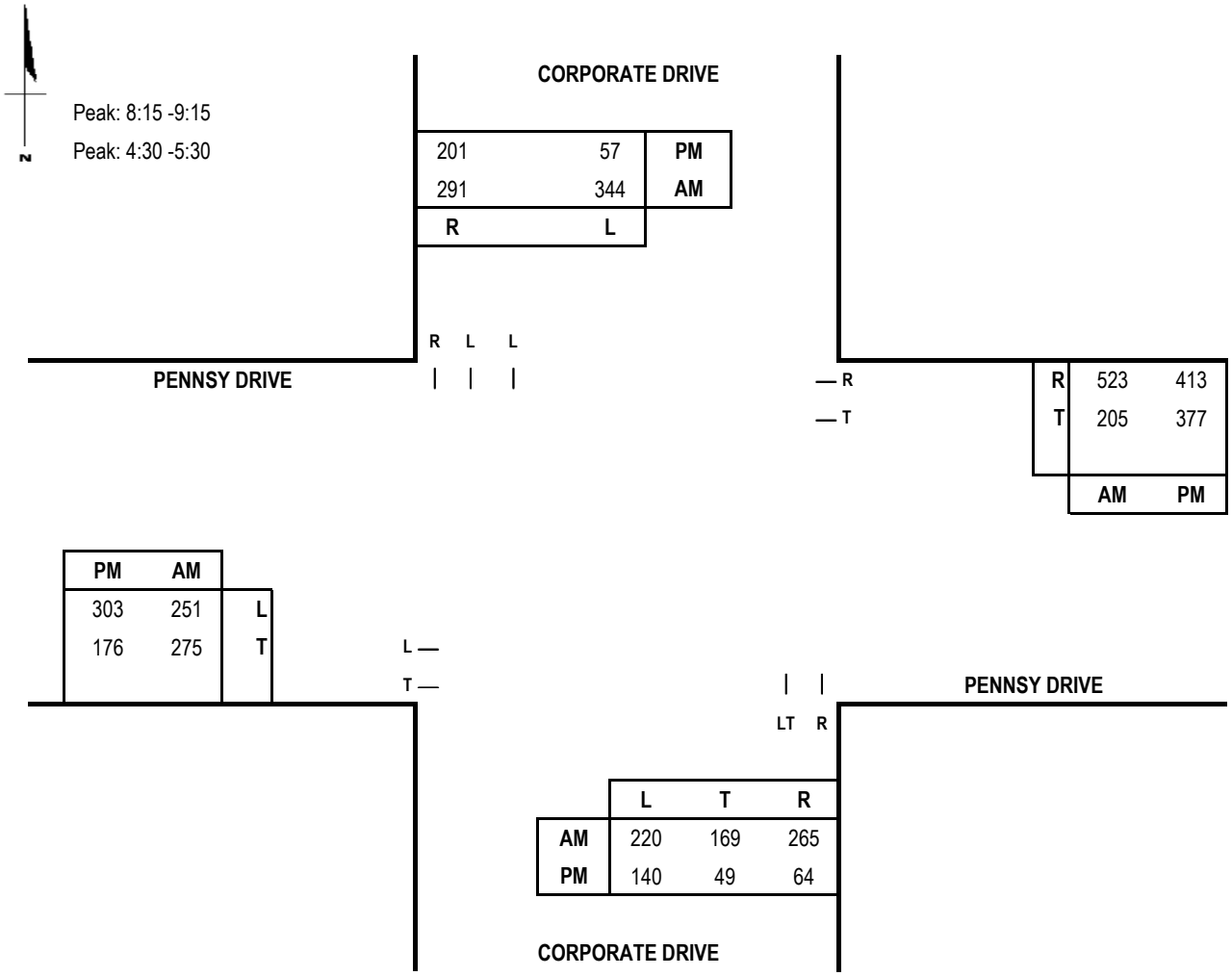
Scenario ID - BACK8

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Pennsy Drive
N/S Road: Corporate Drive
Conditions: Total Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang



Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	389	1.00	389				389
SB	344	0.60	206				206
EB	275	1.00	275	0	0.00	0	568
WB	317	1.00	317	251	1.00	251	

CLV TOTAL= **1,163**
Level of Service (LOS)= **C**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	189	1.00	189				189
SB	57	0.60	34				34
EB	176	1.00	176	0	0.00	0	682
WB	379	1.00	379	303	1.00	303	

CLV TOTAL= **905**
Level of Service (LOS)= **A**

Scenario ID - TOT8
AM V/C =0.73
PM V/C =0.57

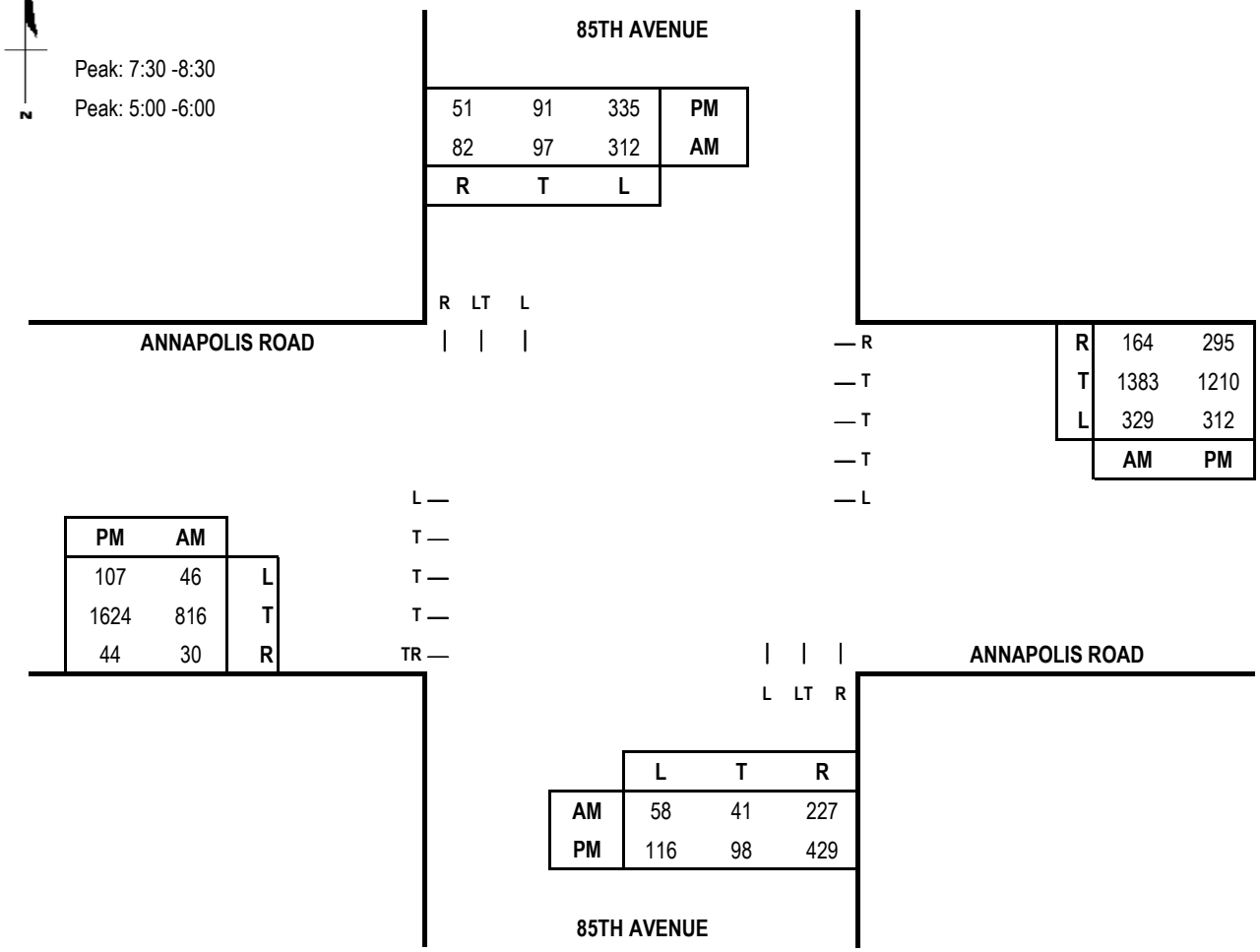
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Annapolis Road
N/S Road: 85Th Avenue
Conditions: Existing Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:30 -8:30
Peak: 5:00 -6:00



	R	T	L
PM	51	91	335
AM	82	97	312

	R	T	L
PM	107	1624	44
AM	46	816	30

	R	T	L
PM	164	1383	329
AM	295	1210	312

	L	T	R
AM	58	41	227
PM	116	98	429

Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	99	0.60	59				59
SB	409	0.60	245				245
EB	846	0.29	245	329	1.00	329	574
WB	1383	0.37	512	46	1.00	46	
						CLV TOTAL=	878
						Level of Service (LOS)=	A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	214	0.60	128				128
SB	426	0.60	256				256
EB	1668	0.29	484	312	1.00	312	796
WB	1210	0.37	448	107	1.00	107	
						CLV TOTAL=	1,180
						Level of Service (LOS)=	C

Scenario ID - EXIST10

AM V/C =0.55

PM V/C =0.74

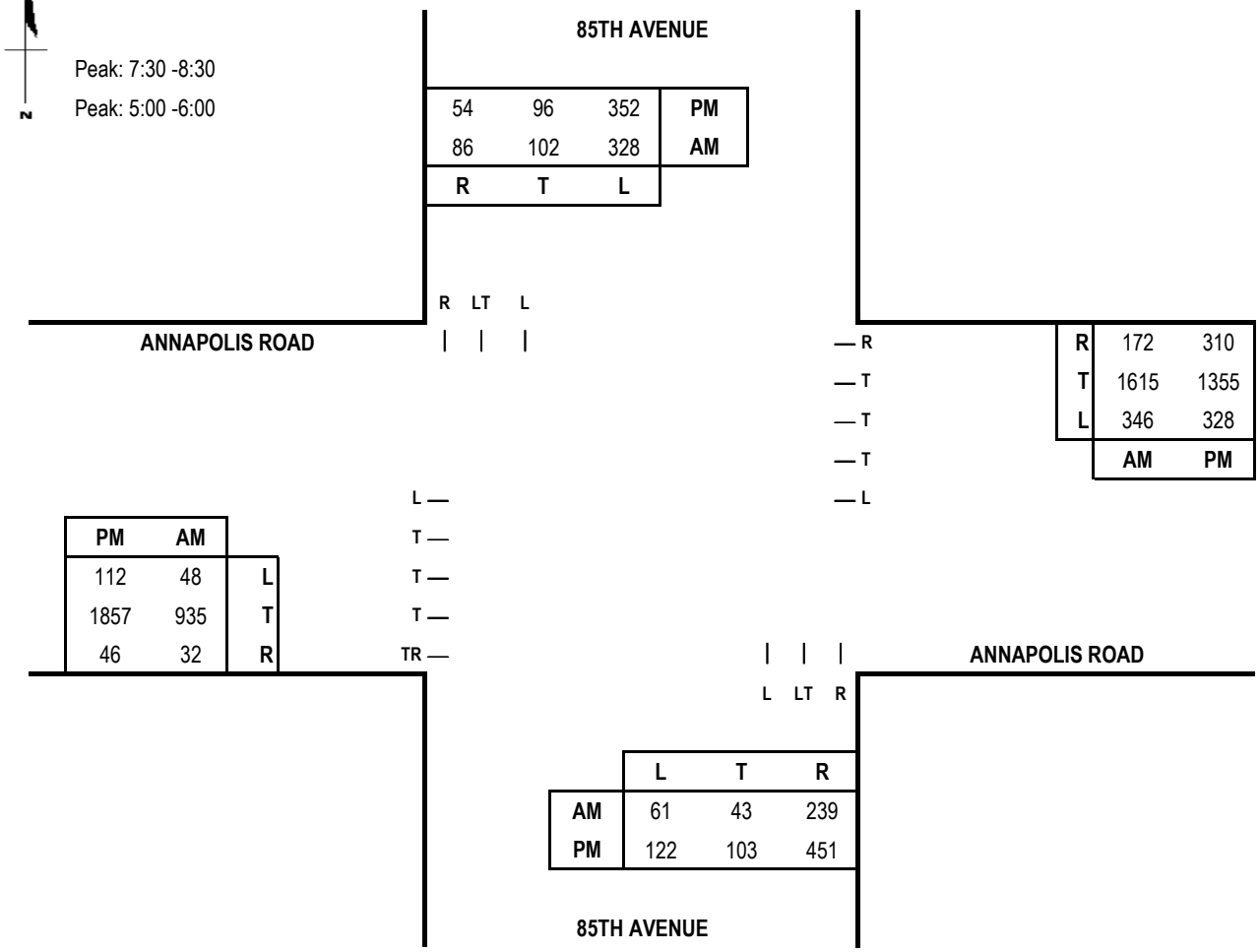
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Annapolis Road
N/S Road: 85Th Avenue
Conditions: Background Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:30 -8:30
Peak: 5:00 -6:00



Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	104	0.60	62				62
SB	430	0.60	258				258
EB	967	0.29	280	346	1.00	346	646
WB	1615	0.37	598	48	1.00	48	
						CLV TOTAL=	**966**
						Level of Service (LOS)=	**A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	225	0.60	135				135
SB	448	0.60	269				269
EB	1903	0.29	552	328	1.00	328	880
WB	1355	0.37	501	112	1.00	112	
						CLV TOTAL=	**1,284**
						Level of Service (LOS)=	**C**

Scenario ID - BACK10

AM V/C =0.6

PM V/C =0.8

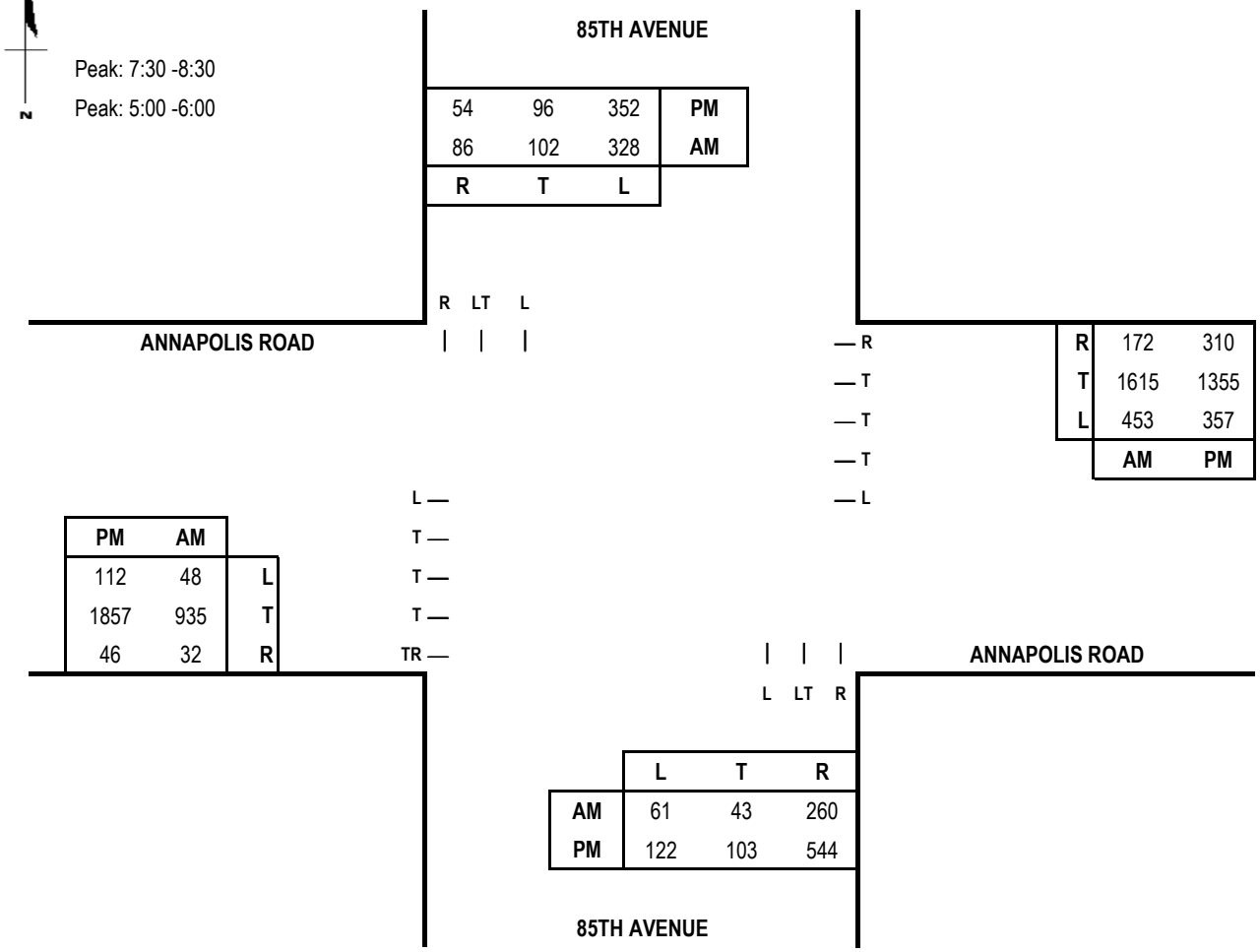
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Annapolis Road
N/S Road: 85Th Avenue
Conditions: Total Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:30 -8:30
Peak: 5:00 -6:00



	R	T	L
PM	54	96	352
AM	86	102	328

	R	T	L
PM	172	1615	453
AM	310	1355	357

	L	T	R
PM	112	1857	46
AM	48	935	32

	L	T	R
AM	61	43	260
PM	122	103	544

Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	104	0.60	62				62
SB	430	0.60	258				258
EB	967	0.29	280	453	1.00	453	733
WB	1615	0.37	598	48	1.00	48	
						CLV TOTAL=	1,053
						Level of Service (LOS)=	B

AM V/C =0.66

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	187	1.00	187				187
SB	448	0.60	269				269
EB	1903	0.29	552	357	1.00	357	909
WB	1355	0.37	501	112	1.00	112	
						CLV TOTAL=	1,365
						Level of Service (LOS)=	D

PM V/C =0.85

Scenario ID - TOT10

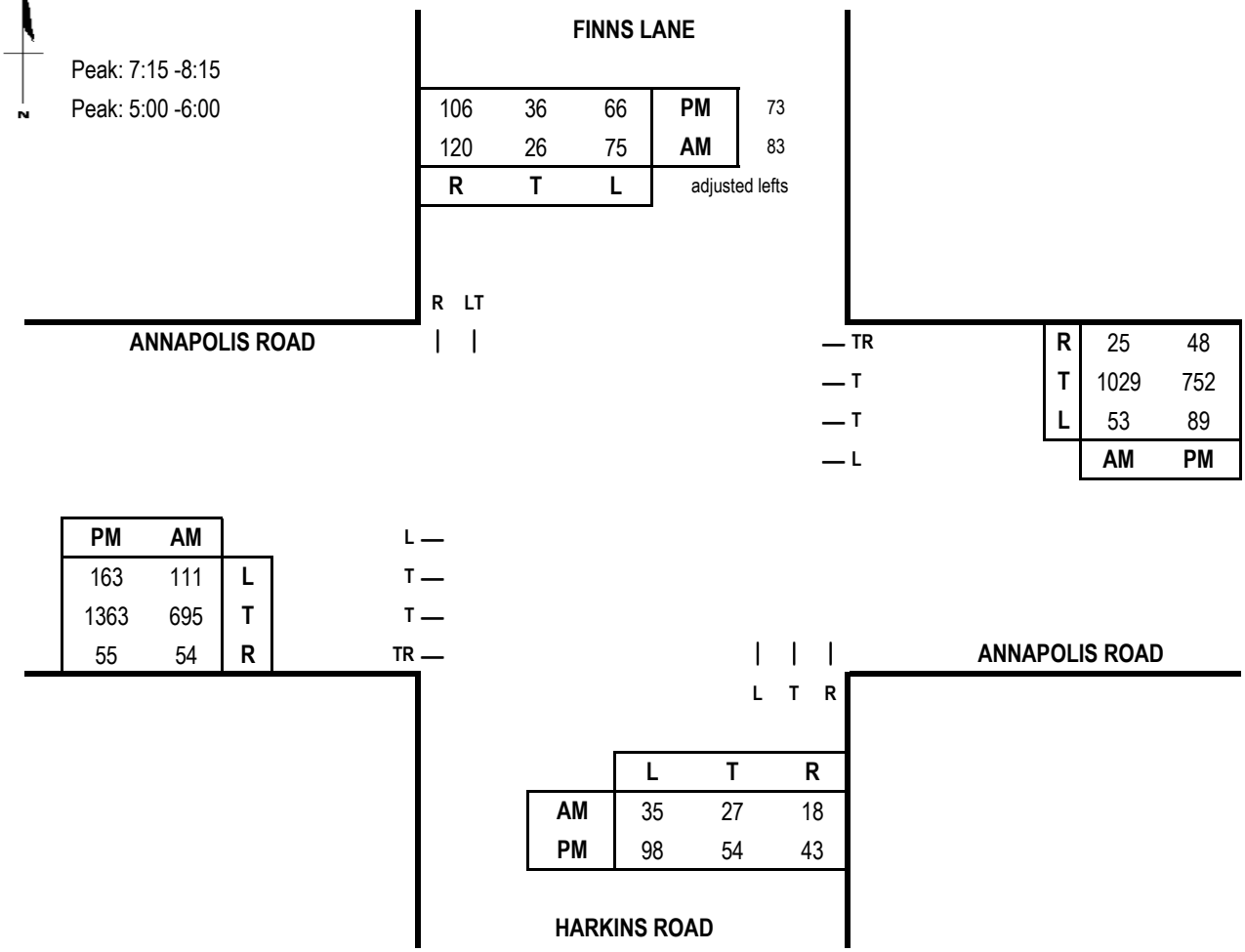
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Annapolis Road
N/S Road: Finns Lane/Harkins Road
Conditions: Existing Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 5:00 -6:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	27	1.00	27	75	1.00	75	144
SB	109	1.00	109	35	1.00	35	
EB	749	0.37	277	53	1.00	53	501
WB	1054	0.37	390	111	1.00	111	
						CLV TOTAL=	645
						Level of Service (LOS)=	A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	54	1.00	54	66	1.00	66	207
SB	109	1.00	109	98	1.00	98	
EB	1418	0.37	525	89	1.00	89	614
WB	800	0.37	296	163	1.00	163	
						CLV TOTAL=	821
						Level of Service (LOS)=	A

Scenario ID - EXIST11

AM V/C =0.4

PM V/C =0.51

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Annapolis Road
N/S Road: Finns Lane/Harkins Road
Conditions: Background Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 5:00 -6:00

FINNS LANE

R	T	L		
111	38	69	PM	76
126	27	79	AM	87

adjusted lefts

ANNAPOLIS ROAD (R LT)

	PM	AM
TR	26	50
T	1082	790
T	217	177
L	AM	PM

PM	AM	
171	117	L
1433	731	T
99	138	R

L T T TR

ANNAPOLIS ROAD (L T R)

	L	T	R
AM	37	28	19
PM	103	57	45

HARKINS ROAD

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	28	1.00	28	79	1.00	79	151
SB	114	1.00	114	37	1.00	37	
EB	869	0.37	322	217	1.00	217	539
WB	1108	0.37	410	117	1.00	117	
						CLV TOTAL=	690
						Level of Service (LOS)=	A

AM V/C =0.43

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	57	1.00	57	69	1.00	69	217
SB	114	1.00	114	103	1.00	103	
EB	1532	0.37	567	177	1.00	177	744
WB	840	0.37	311	171	1.00	171	
						CLV TOTAL=	961
						Level of Service (LOS)=	A

PM V/C =0.6

Scenario ID - BACK11

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CRITICAL LANE VOLUME (CLV) METHODOLOGY
for Prince Georges County

E/W Road: Annapolis Road **Date of Count:** 5/19/2016
N/S Road: Finns Lane/Harkins Road **Day of Count:** Thursday
Conditions: Total Traffic **Analyst:** Richard Huang

N

Peak: 7:15 -8:15
Peak: 5:00 -6:00

FINNS LANE

R	T	L	
111	38	69	**PM**
126	27	79	**AM**

76
87
adjusted lefts

R LT

ANNAPOLIS ROAD (westbound approach lanes: TR, T, T, L)

	AM	PM
R	26	50
T	1082	790
L	217	177

(eastbound approach lanes: L, T, T, TR)

PM	AM	
171	117	**L**
1433	731	**T**
114	192	**R**

ANNAPOLIS ROAD

L T R

	L	T	R
AM	47	28	19
PM	150	57	45

HARKINS ROAD

Capacity Analysis

Morning Peak Hour

Dir	Thru VOL	x LUF	= Total	Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	28	1.00	28	79	1.00	79	161
SB	114	1.00	114	47	1.00	47	
EB	923	0.37	342	217	1.00	217	559
WB	1108	0.37	410	117	1.00	117	

CLV TOTAL= **720**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru VOL	x LUF	= Total	Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	57	1.00	57	69	1.00	69	264
SB	114	1.00	114	150	1.00	150	
EB	1547	0.37	572	177	1.00	177	749
WB	840	0.37	311	171	1.00	171	

CLV TOTAL= **1,013**
Level of Service (LOS)= **B**

Scenario ID - TOT11 AM V/C =0.45 PM V/C =0.63

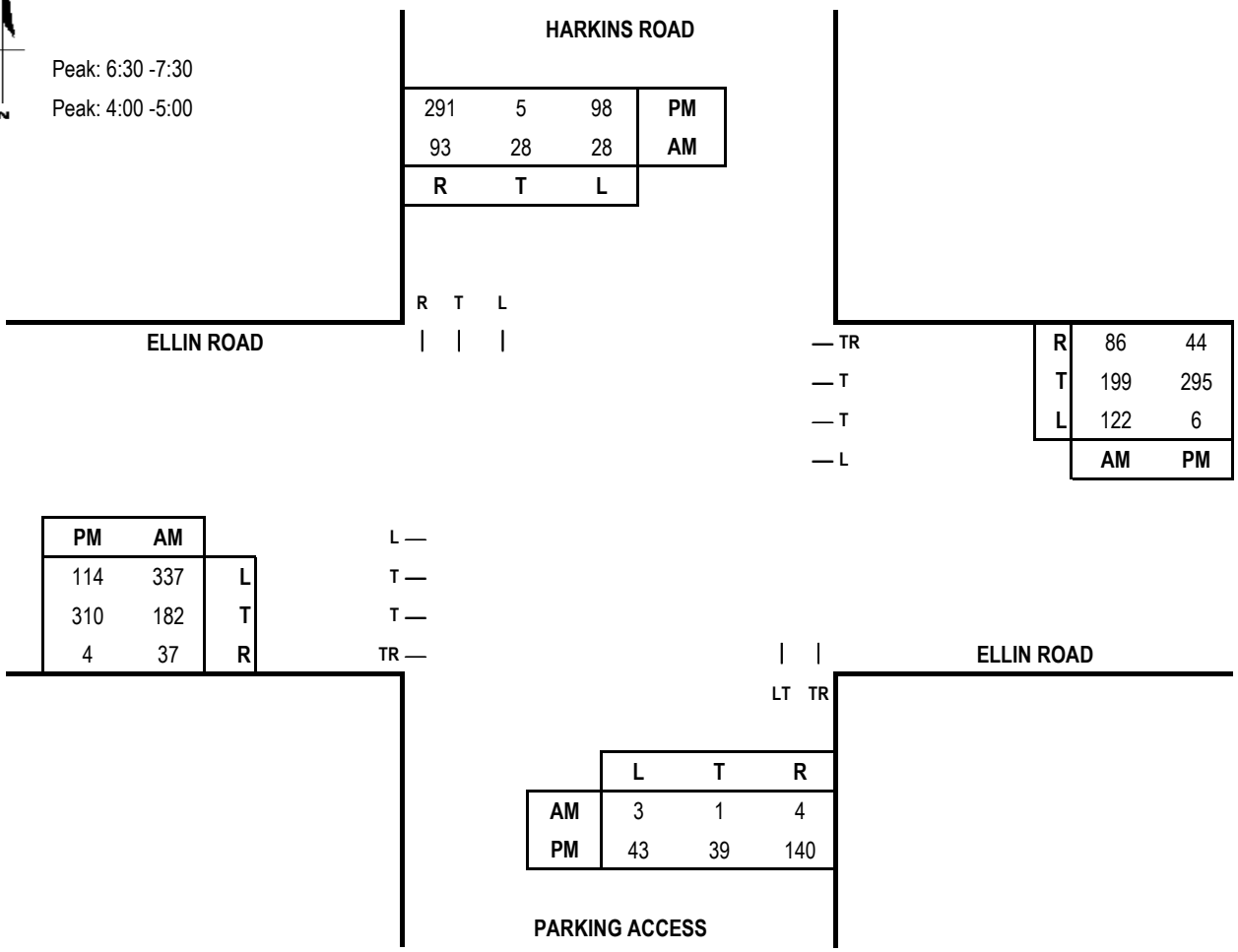
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Ellin Road
N/S Road: Harkins Road/Parking Access
Conditions: Existing Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 6:30 -7:30
Peak: 4:00 -5:00



Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	8	0.55	4				4
SB	28	1.00	28				28
EB	219	0.37	81	122	1.00	122	442
WB	285	0.37	105	337	1.00	337	
						CLV TOTAL=	474
						Level of Service (LOS)=	A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	140	1.00	140				140
SB	177	1.00	177				177
EB	314	0.37	116	6	1.00	6	239
WB	339	0.37	125	114	1.00	114	
						CLV TOTAL=	556
						Level of Service (LOS)=	A

Scenario ID - EXIST12

AM V/C =0.3

PM V/C =0.35

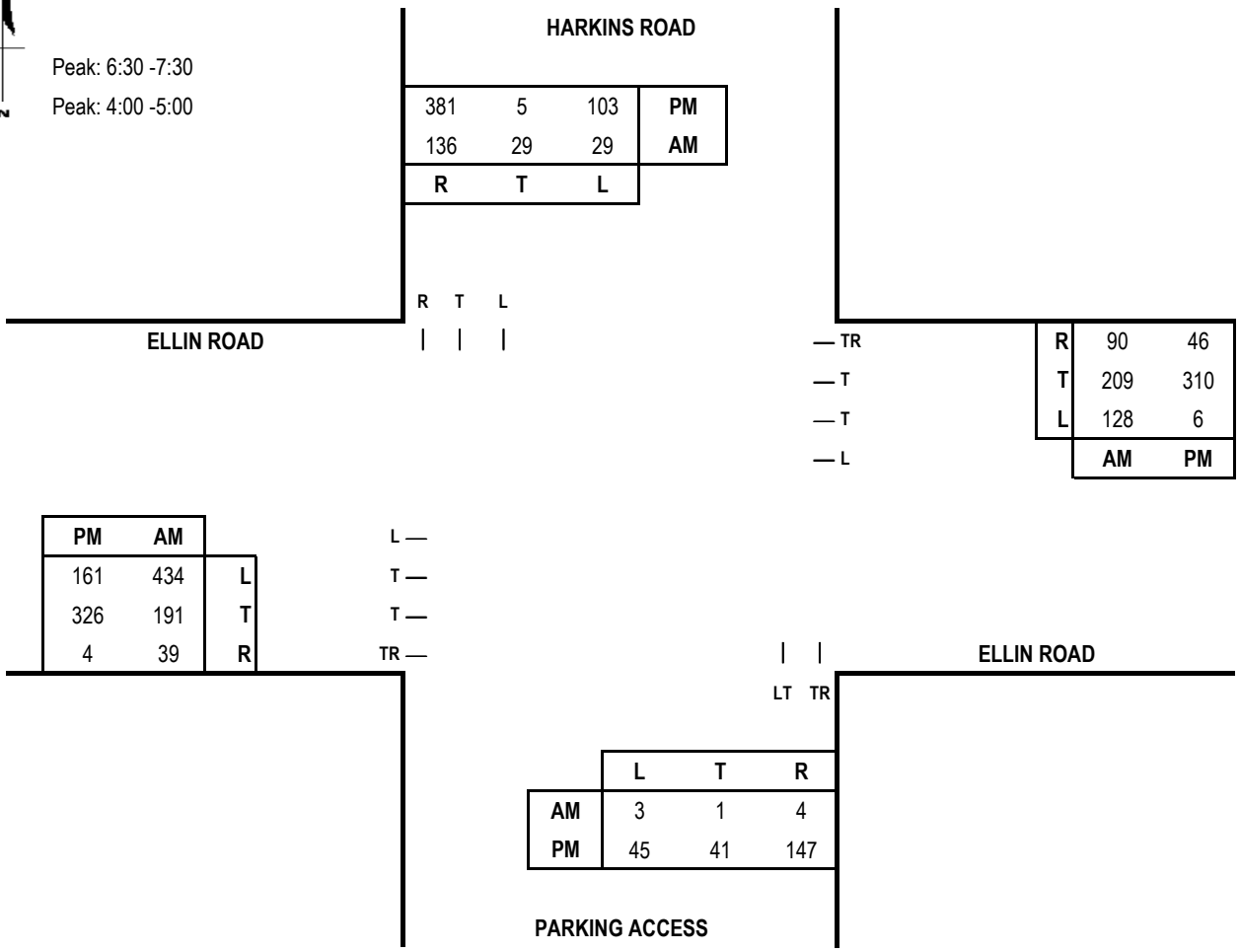
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Ellin Road
N/S Road: Harkins Road/Parking Access
Conditions: Background Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 6:30 -7:30
Peak: 4:00 -5:00



Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	8	0.55	4				4
SB	29	1.00	29				29
EB	230	0.37	85	128	1.00	128	545
WB	299	0.37	111	434	1.00	434	
						CLV TOTAL=	578
						Level of Service (LOS)=	A

AM V/C =0.36

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	147	1.00	147				147
SB	220	1.00	220				220
EB	330	0.37	122	6	1.00	6	293
WB	356	0.37	132	161	1.00	161	
						CLV TOTAL=	660
						Level of Service (LOS)=	A

PM V/C =0.41

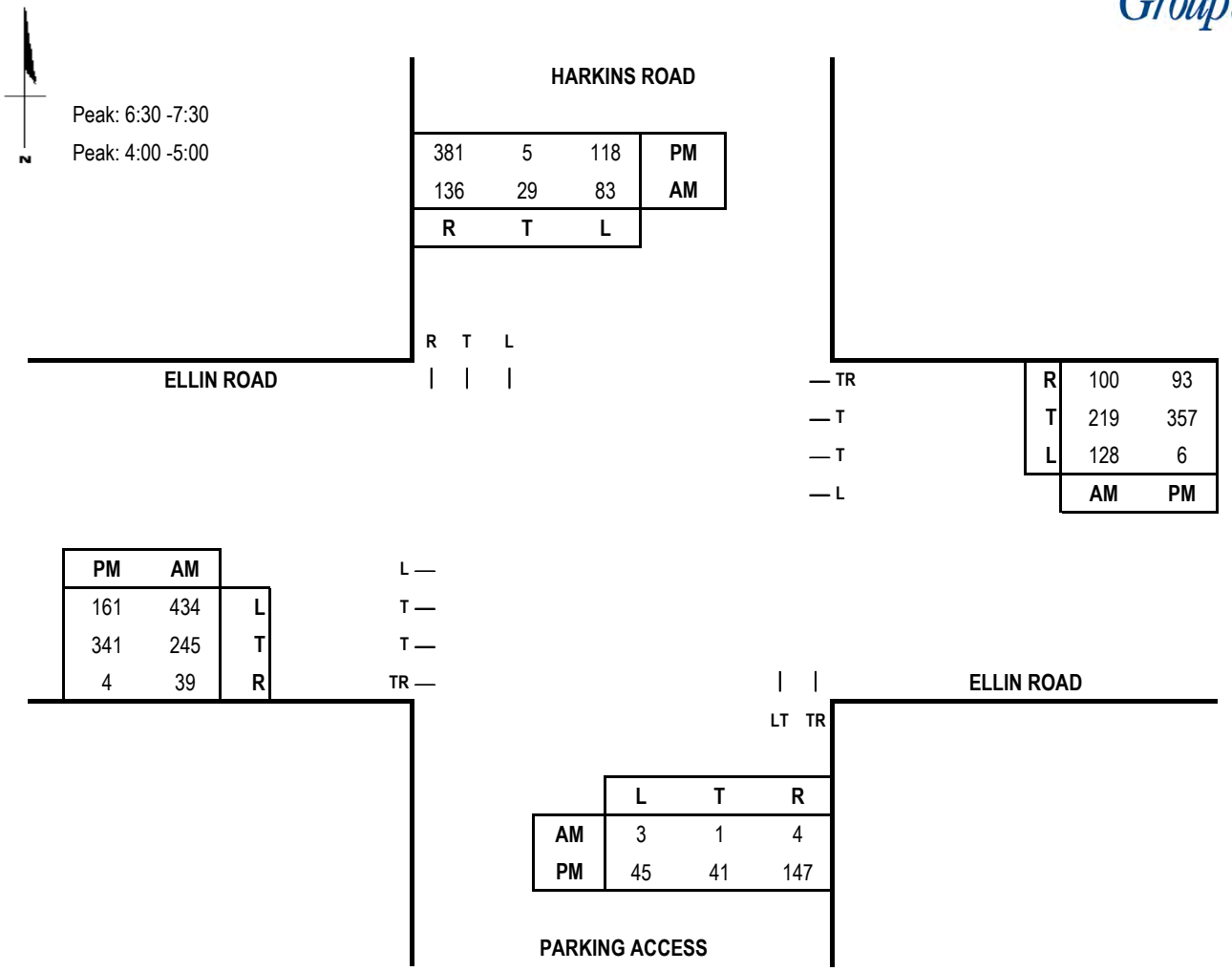
Scenario ID - BACK12

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Ellin Road
N/S Road: Harkins Road/Parking Access
Conditions: Total Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang



Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	8	0.55	4				4
SB	83	1.00	83				83
EB	284	0.37	105	128	1.00	128	552
WB	319	0.37	118	434	1.00	434	
					CLV TOTAL=		639
					Level of Service (LOS)=		A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	147	1.00	147				147
SB	220	1.00	220				220
EB	345	0.37	128	6	1.00	6	328
WB	450	0.37	167	161	1.00	161	
					CLV TOTAL=		695
					Level of Service (LOS)=		A

Scenario ID - TOT12

AM V/C =0.4

PM V/C =0.43

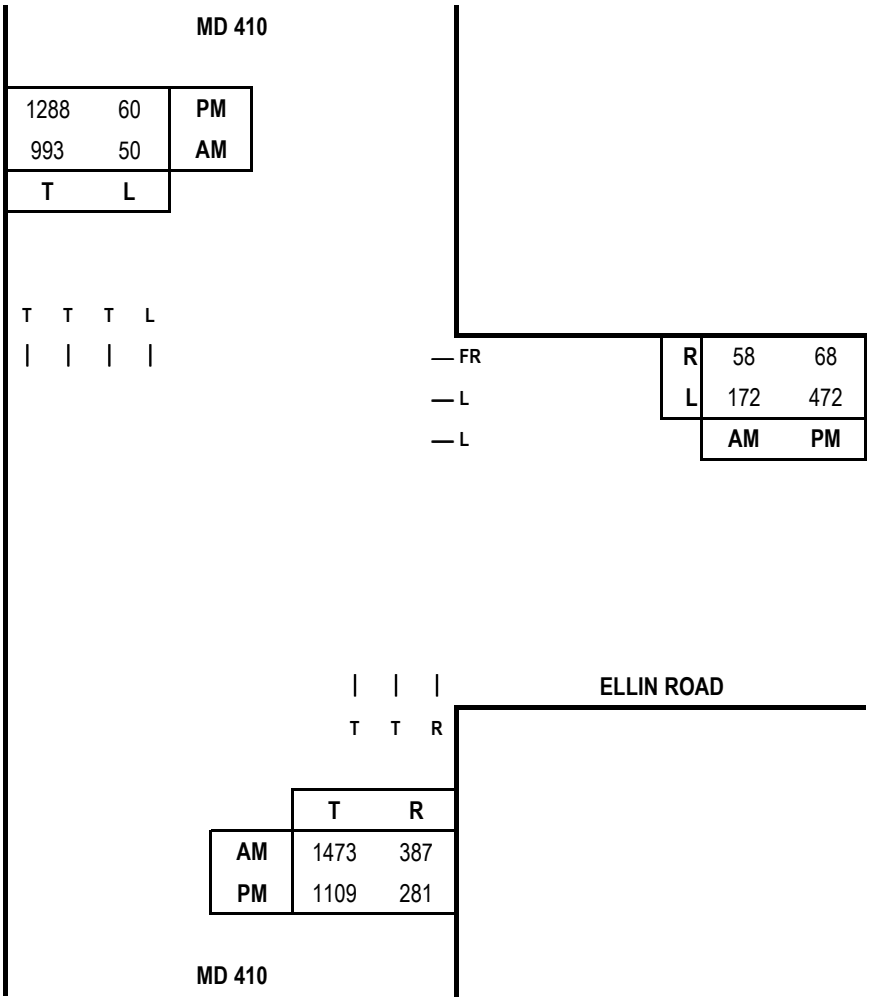
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Ellin Road
N/S Road: MD 410
Conditions: Existing Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 5:00 -6:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
WB	172	0.60	103				103
NB	1473	0.55	810	50	1.00	50	860
SB	993	0.37	367				

CLV TOTAL= **963**
Level of Service (LOS)= **A**

Scenario ID - EXIST13
CLV V/C =0.6

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
WB	472	0.60	283				283
NB	1109	0.55	610	60	1.00	60	670
SB	1288	0.37	477				

CLV TOTAL= **953**
Level of Service (LOS)= **A**

CLV V/C =0.6

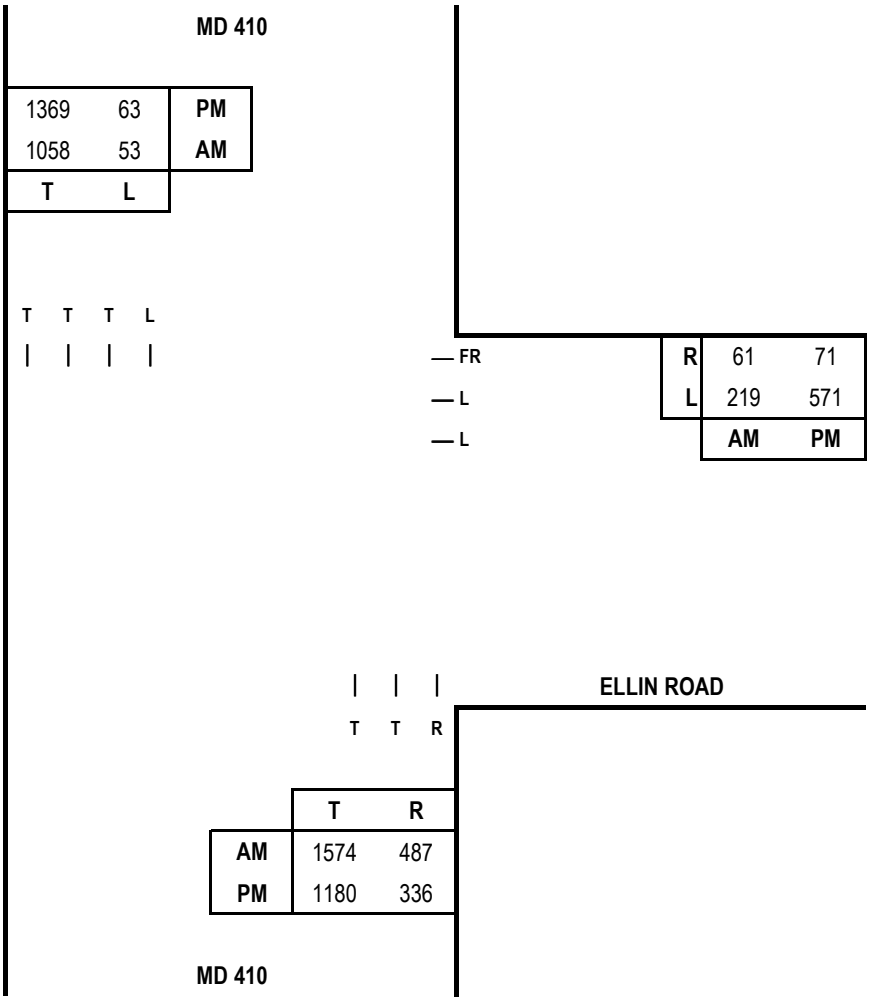
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Ellin Road
N/S Road: MD 410
Conditions: Background Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 5:00 -6:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
WB	219	0.60	131				131
NB	1574	0.55	866	53	1.00	53	919
SB	1058	0.37	391				

CLV TOTAL= **1,050**
Level of Service (LOS)= **B**

Scenario ID - BACK13
CLV V/C =0.66

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
WB	571	0.60	343				343
NB	1180	0.55	649	63	1.00	63	712
SB	1369	0.37	507				

CLV TOTAL= **1,055**
Level of Service (LOS)= **B**

CLV V/C =0.66

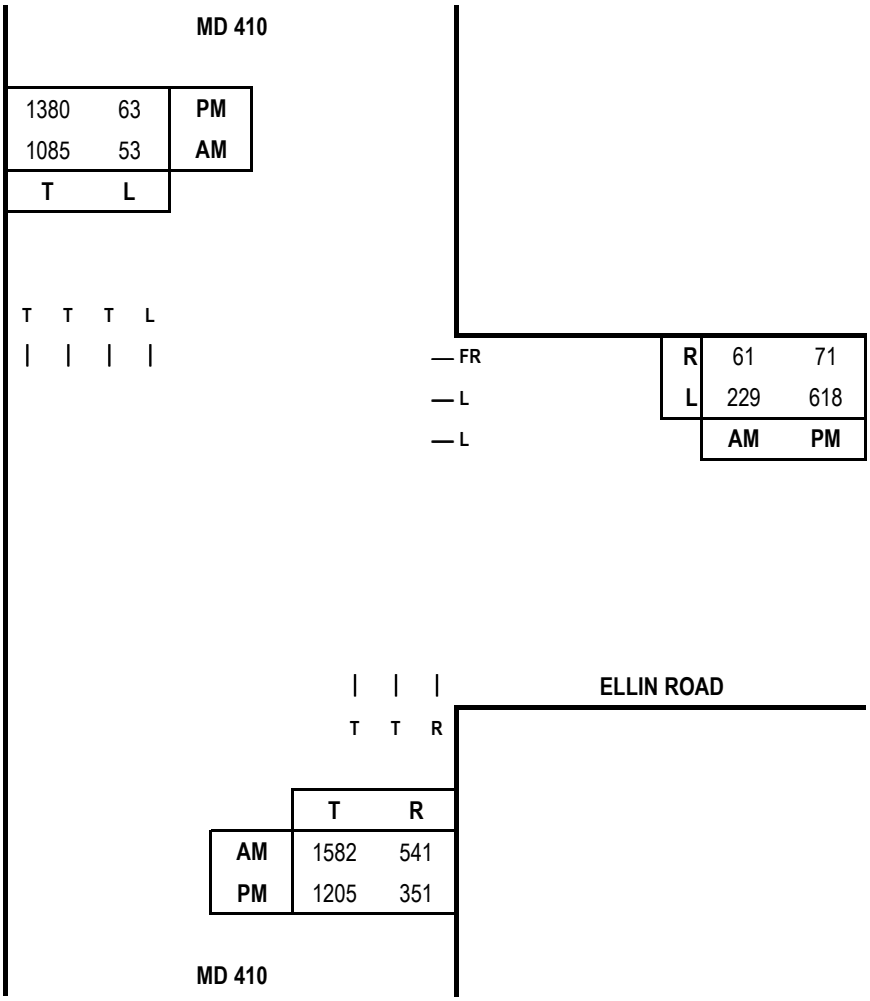
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Ellin Road
N/S Road: MD 410
Conditions: Total Traffic

Date of Count: 5/19/2016
Day of Count: Thursday
Analyst: Richard Huang

Peak: 7:15 -8:15
Peak: 5:00 -6:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
WB	229	0.60	137				137
NB	1582	0.55	870	53	1.00	53	923
SB	1085	0.37	401				
					CLV TOTAL=		1,060
					Level of Service (LOS)=		B

Scenario ID - TOT13
CLV V/C =0.66

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
WB	618	0.60	371				371
NB	1205	0.55	663	63	1.00	63	726
SB	1380	0.37	511				
					CLV TOTAL=		1,097
					Level of Service (LOS)=		B

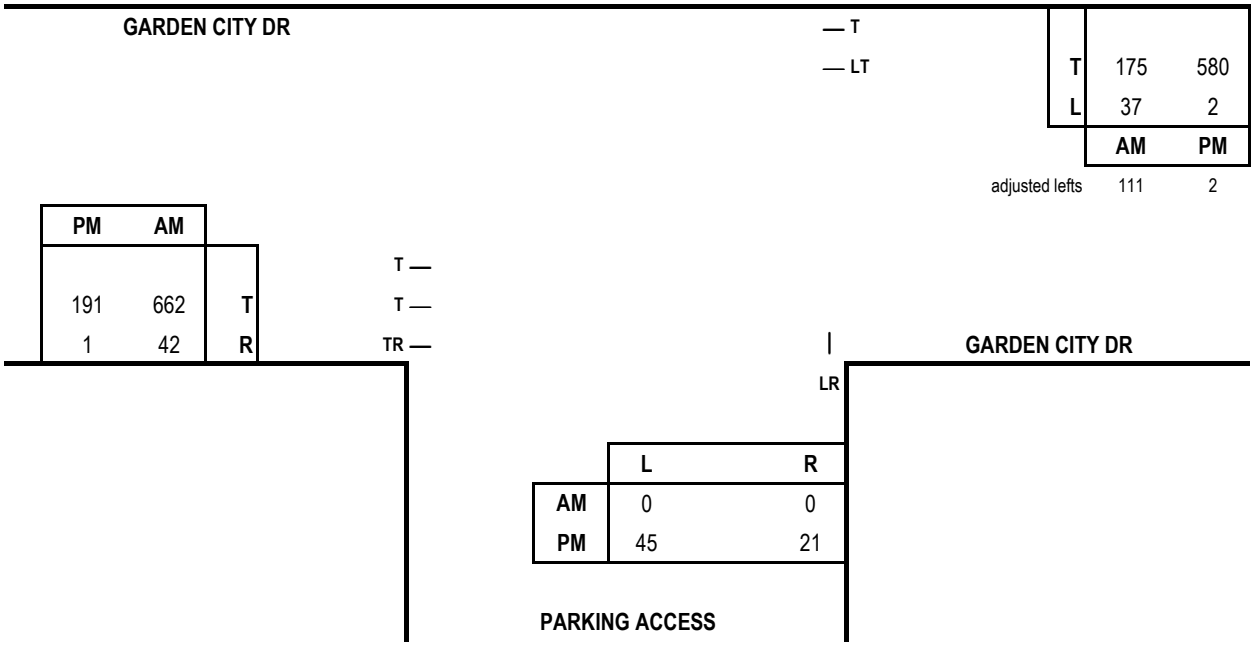
CLV V/C =0.69

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Garden City Dr
N/S Road: Parking Access
Conditions: Existing Traffic

Date of Count: 6/9/2016
Day of Count: Thursday
Analyst: Richard Huang



Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	0	1.00	0				0
SB	0	0.00	0				0
EB	704	0.37	260	37	1.00	37	297
WB	286	0.55	157	0	0.00	0	

CLV TOTAL= **297**
Level of Service (LOS)= **A**
AM V/C =0.19

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	66	1.00	66				66
SB	0	0.00	0				0
EB	192	0.37	71	2	1.00	2	320
WB	582	0.55	320	0	0.00	0	

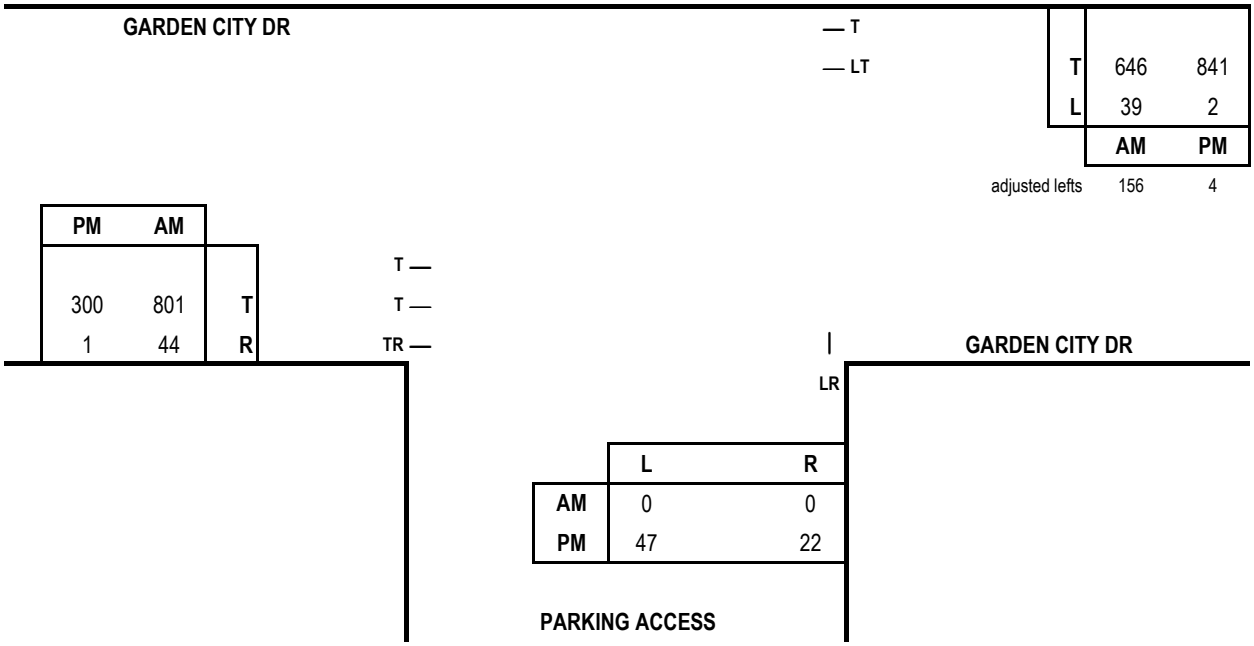
CLV TOTAL= **386**
Level of Service (LOS)= **A**
PM V/C =0.24

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Garden City Dr
N/S Road: Parking Access
Conditions: Background Traffic

Date of Count: 6/9/2016
Day of Count: Thursday
Analyst: Richard Huang



Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	0	1.00	0				0
SB	0	0.00	0				0
EB	845	0.37	313	39	1.00	39	441
WB	802	0.55	441	0	0.00	0	

CLV TOTAL= **441**
Level of Service (LOS)= **A**
AM V/C =0.28

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	69	1.00	69				69
SB	0	0.00	0				0
EB	301	0.37	111	2	1.00	2	465
WB	845	0.55	465	0	0.00	0	

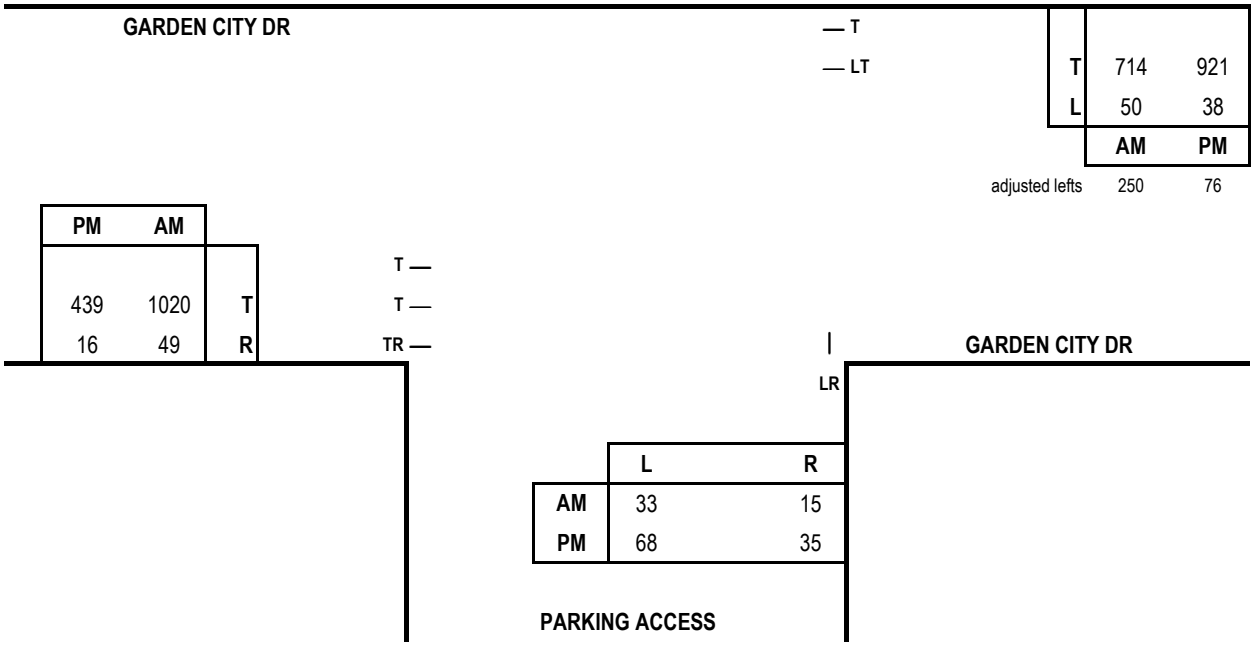
CLV TOTAL= **534**
Level of Service (LOS)= **A**
PM V/C =0.33

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road: Garden City Dr
N/S Road: Parking Access
Conditions: Total Traffic

Date of Count: 6/9/2016
Day of Count: Thursday
Analyst: Richard Huang



Capacity Analysis - North/South Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	48	1.00	48				48
SB	0	0.00	0				0
EB	1069	0.37	396	50	1.00	50	530
WB	964	0.55	530	0	0.00	0	

CLV TOTAL= **578**
Level of Service (LOS)= **A**
AM V/C =0.36

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	103	1.00	103				103
SB	0	0.00	0				0
EB	455	0.37	168	38	1.00	38	548
WB	997	0.55	548	0	0.00	0	

CLV TOTAL= **651**
Level of Service (LOS)= **A**
PM V/C =0.41

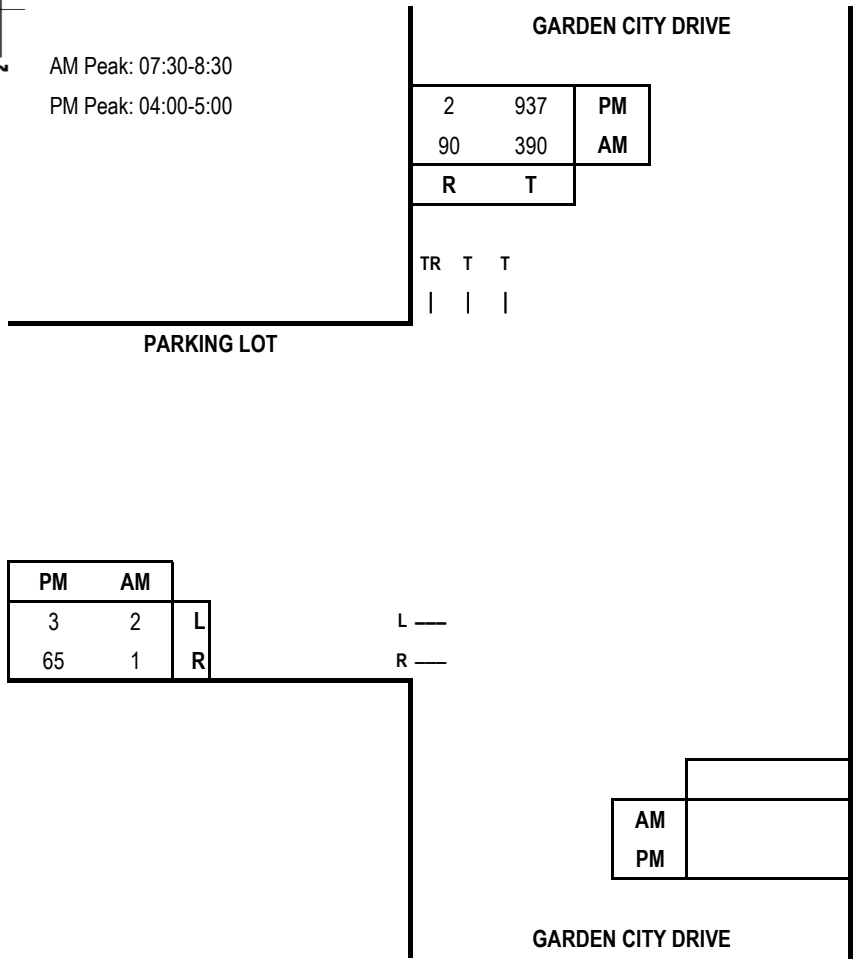
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road Name: Parking Lot
N/S Road Name: Garden City Drive
Conditions: Existing Traffic

Date of Count: 5/12/2016
Day of Count: Thursday
Analyst: Richard Huang

AM Peak: 07:30-8:30
PM Peak: 04:00-5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	2	1.00	2				2
NB	0	0.00	0				178
SB	480	0.37	178	0	0.00	0	
						CLV TOTAL=	180
						Level of Service (LOS)=	A

CLV V/C =0.11

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	65	1.00	65				65
NB	0	0.00	0				347
SB	939	0.37	347	0	0.00	0	
						CLV TOTAL=	412
						Level of Service (LOS)=	A

CLV V/C =0.26

Scenario ID - EXIST15

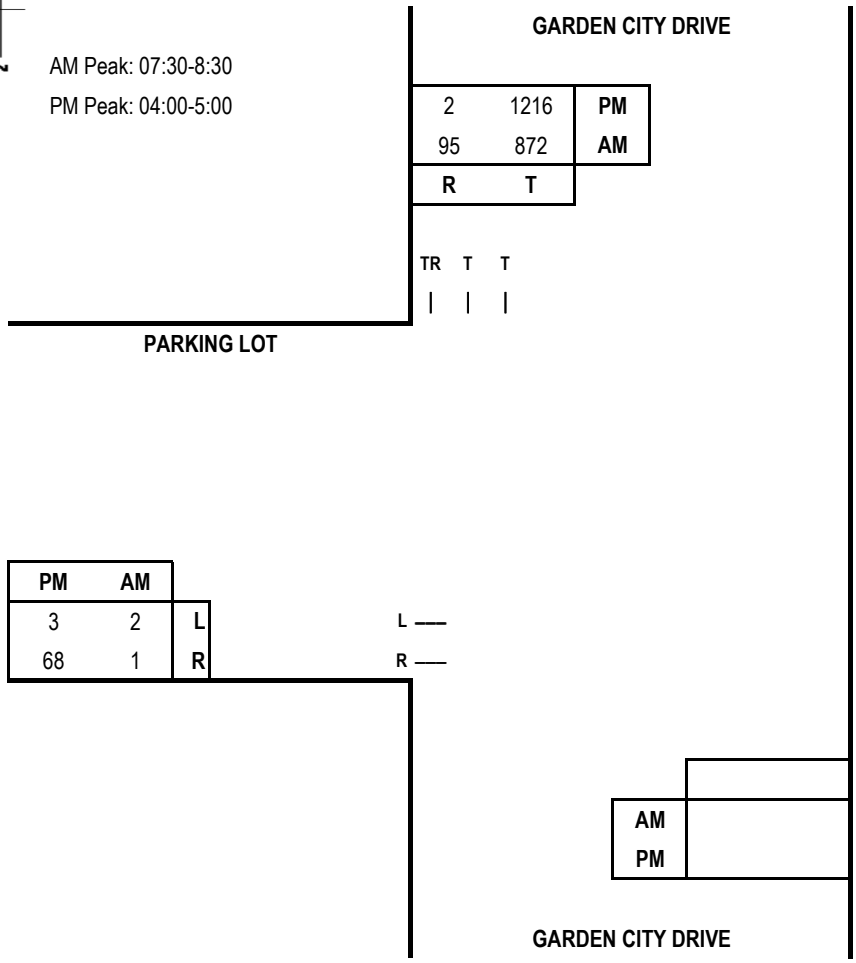
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road Name: Parking Lot
N/S Road Name: Garden City Drive
Conditions: Background Traffic

Date of Count: 5/12/2016
Day of Count: Thursday
Analyst: Richard Huang

AM Peak: 07:30-8:30
PM Peak: 04:00-5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	2	1.00	2				2
NB	0	0.00	0				358
SB	967	0.37	358	0	0.00	0	
						CLV TOTAL=	360
						Level of Service (LOS)=	A

CLV V/C =0.23

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	68	1.00	68				68
NB	0	0.00	0				451
SB	1218	0.37	451	0	0.00	0	
						CLV TOTAL=	519
						Level of Service (LOS)=	A

CLV V/C =0.32

Scenario ID - BACK15

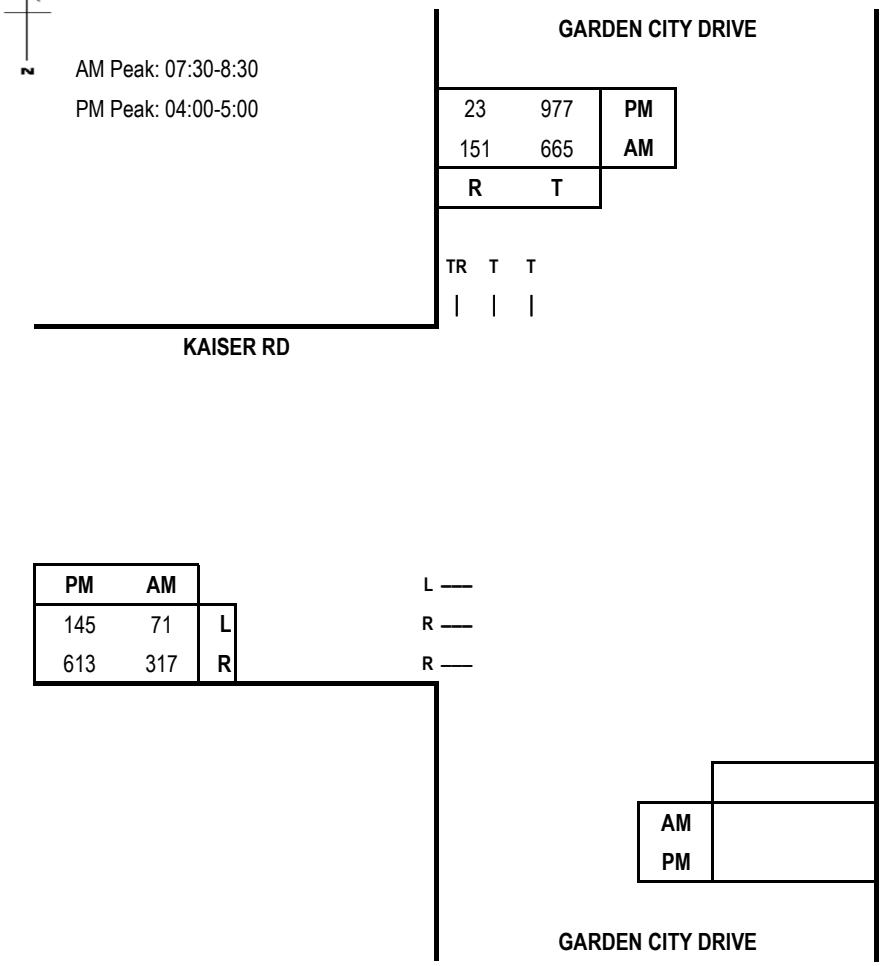
CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

E/W Road Name: Parking Lot
N/S Road Name: Garden City Drive
Conditions: Total Traffic

Date of Count: 5/12/2016
Day of Count: Thursday
Analyst: Richard Huang

AM Peak: 07:30-8:30
PM Peak: 04:00-5:00



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	317	0.55	174				174
NB	0	0.00	0				302
SB	816	0.37	302	0	0.00	0	

CLV TOTAL= **476**
Level of Service (LOS)= **A**
CLV V/C =0.3

Evening Peak Hour

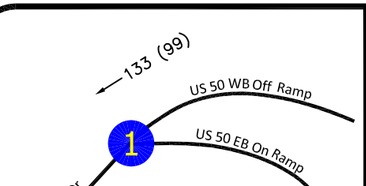
Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	613	0.55	337				337
NB	0	0.00	0				370
SB	1000	0.37	370	0	0.00	0	

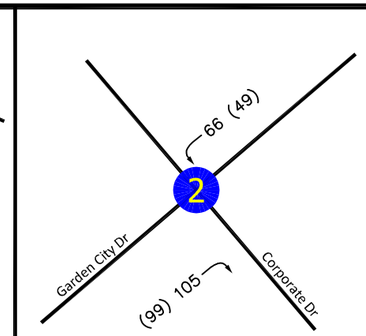
CLV TOTAL= **707**
Level of Service (LOS)= **A**
CLV V/C =0.44

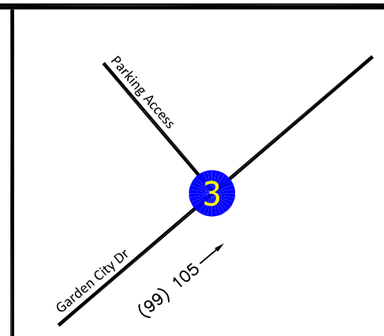
APPENDIX C

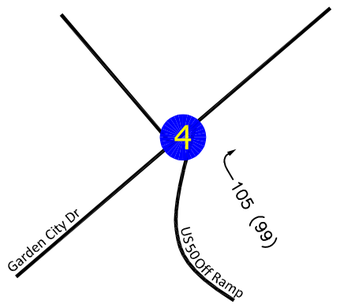
Trip Assignment for

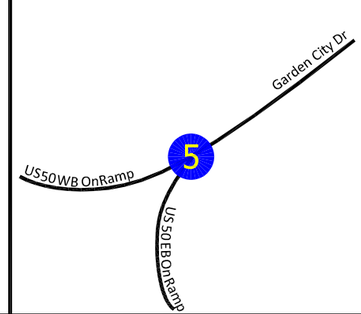
Background Developments

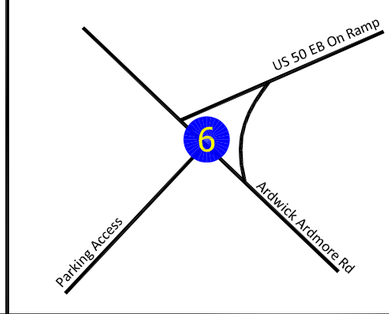


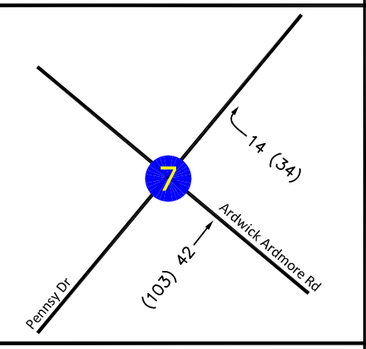


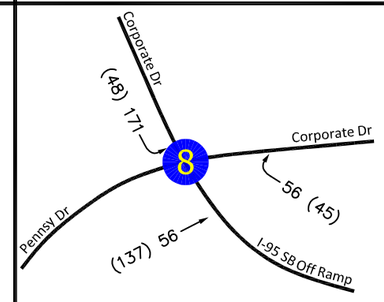


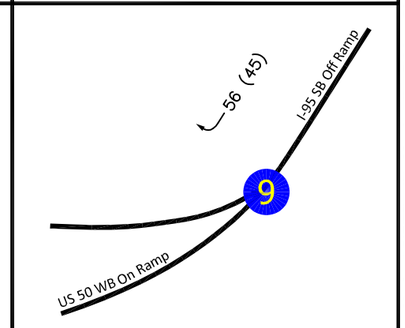


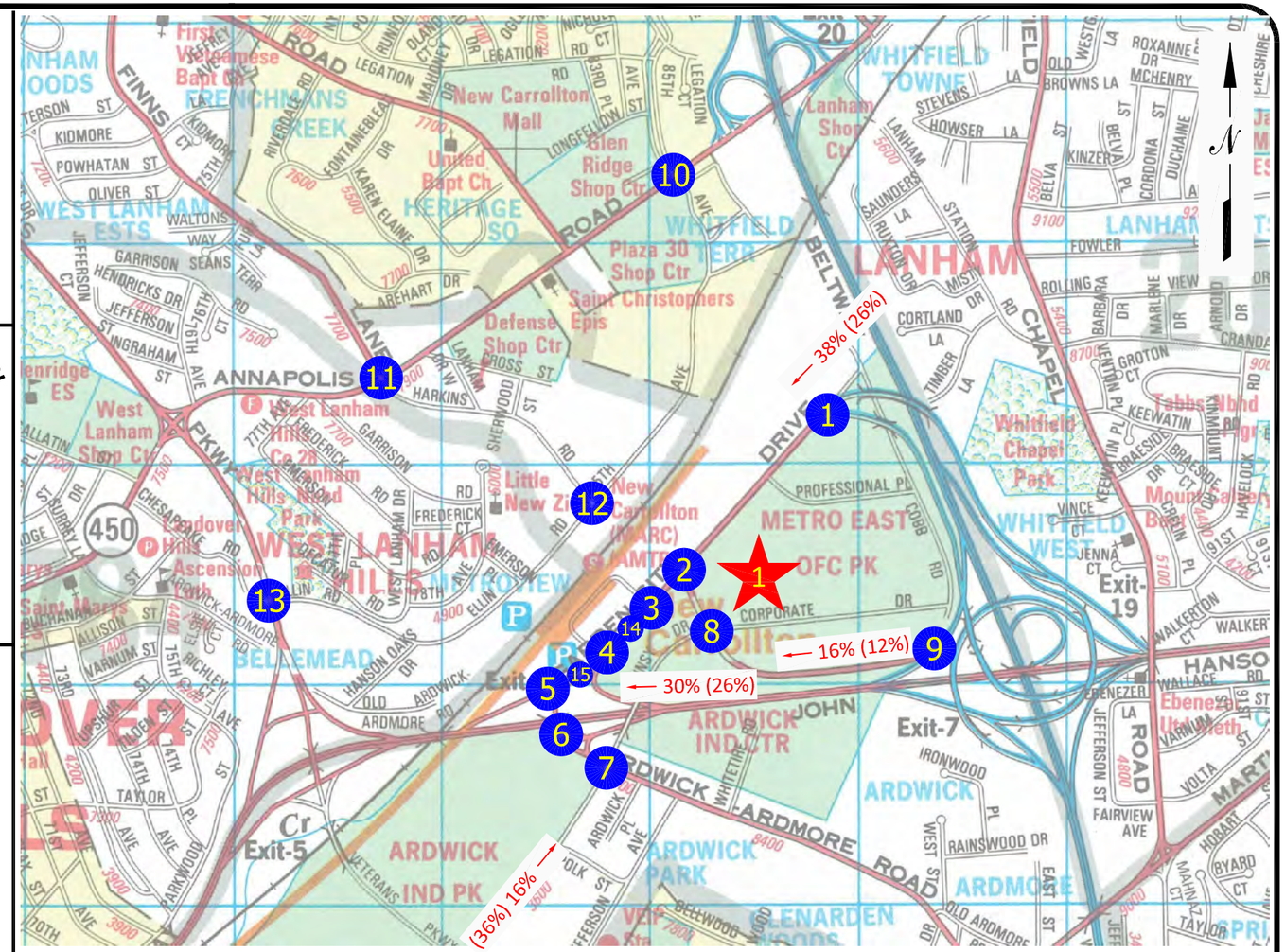


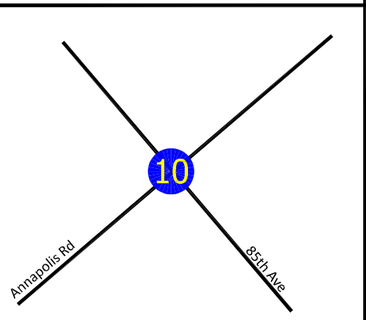


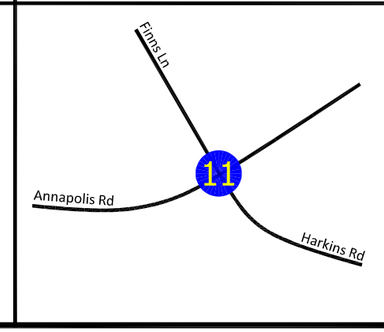


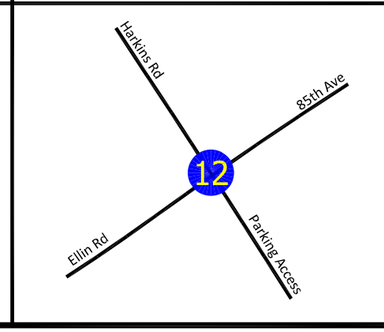


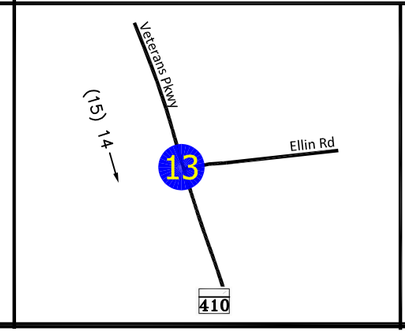


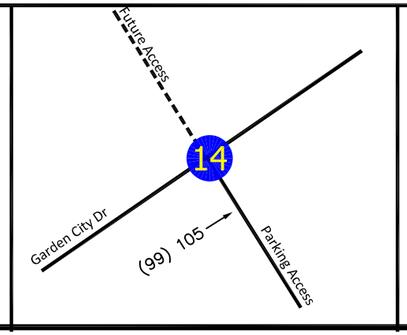


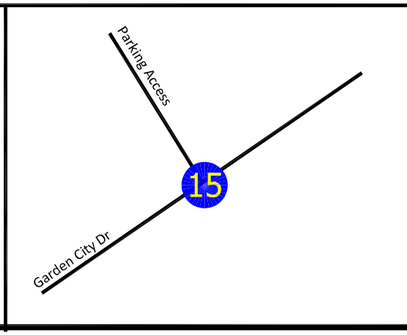










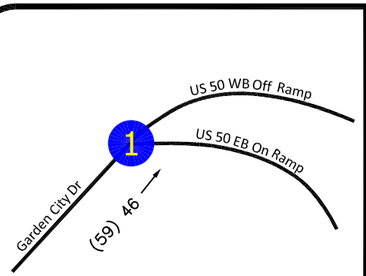


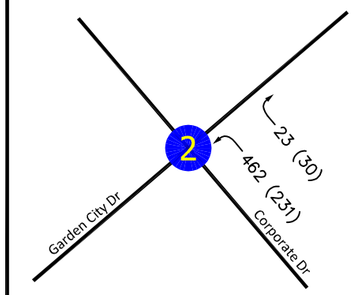
NOT TO SCALE

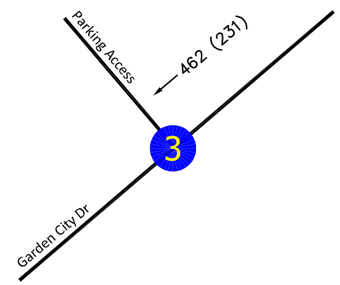
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

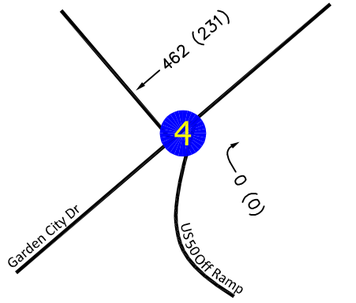
Garden City
In: 350 (380)

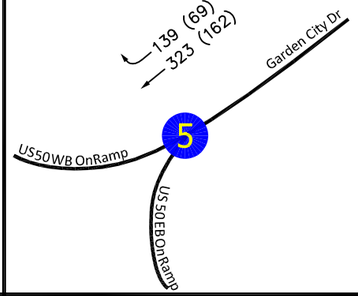
EXHIBIT C-1
TRIP ASSIGNMENT FOR GARDEN CITY (INBOUND TRIPS)

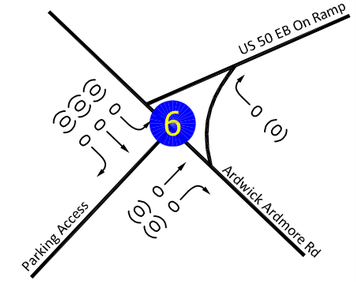


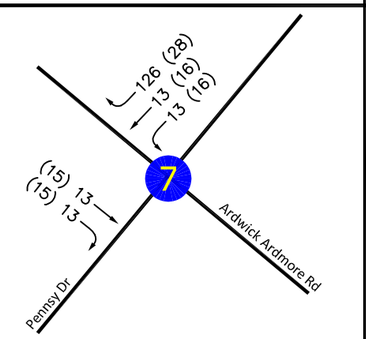


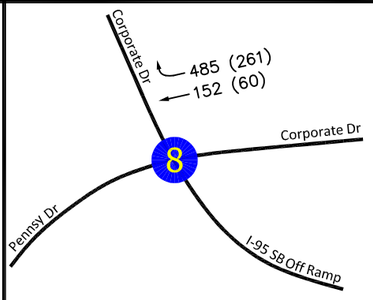


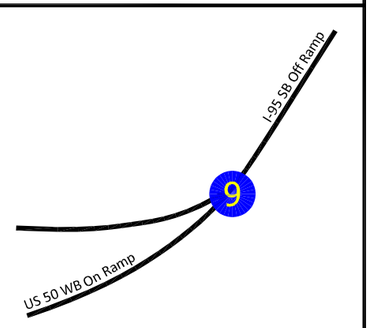


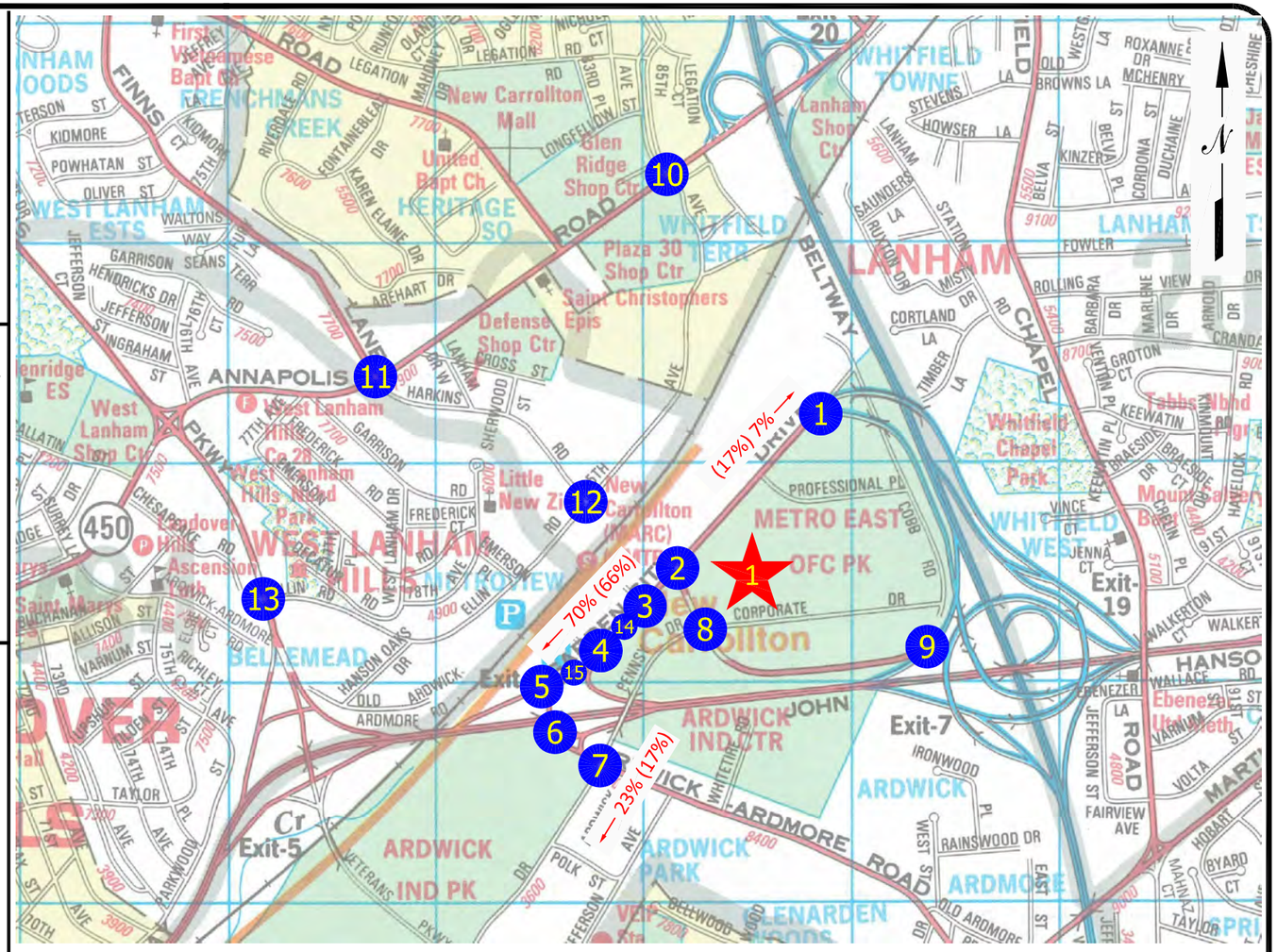


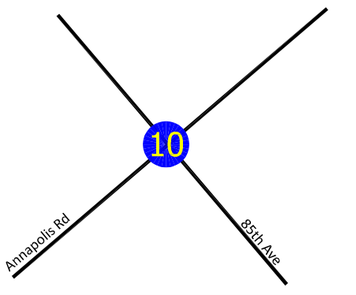


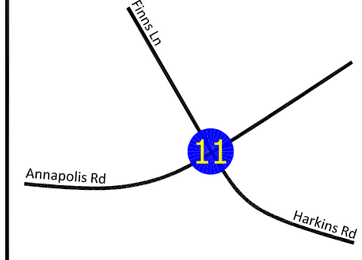


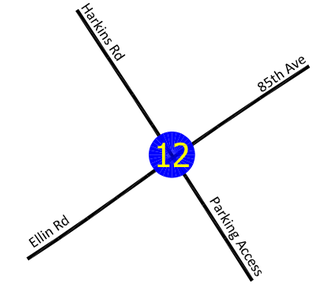


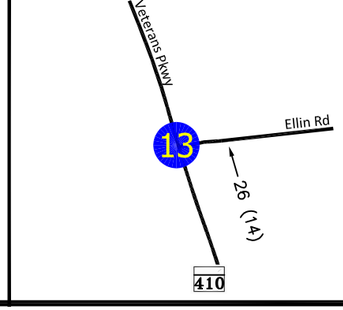


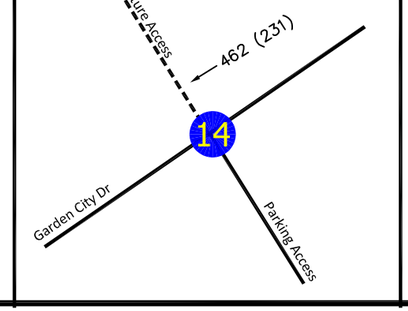


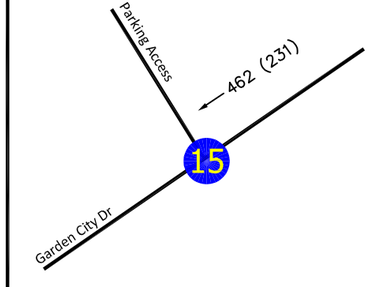










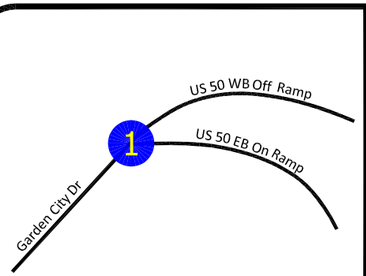


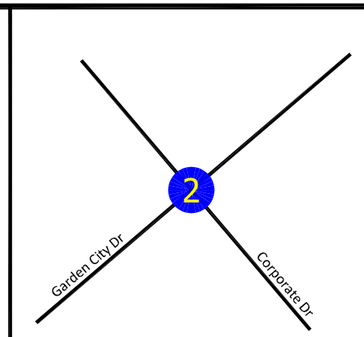
NOT TO SCALE

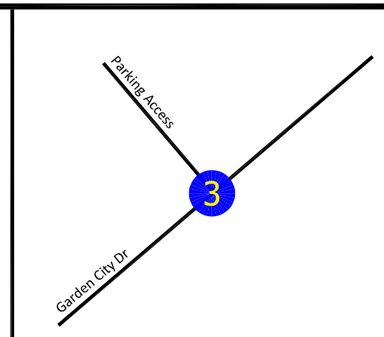
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

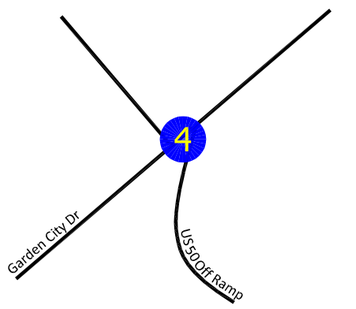
Garden City
Out: 660 (350)

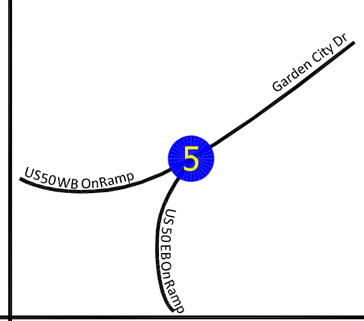
EXHIBIT C-2
TRIP ASSIGNMENT FOR GARDEN CITY (OUTBOUND TRIPS)

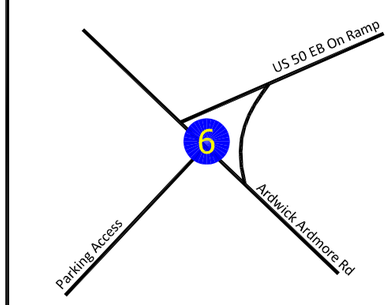


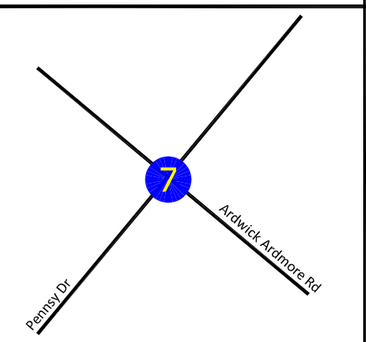


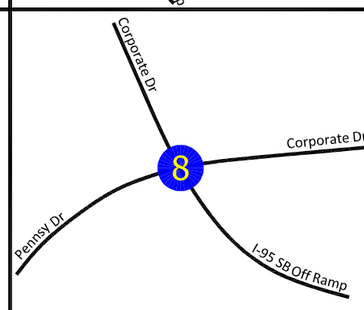


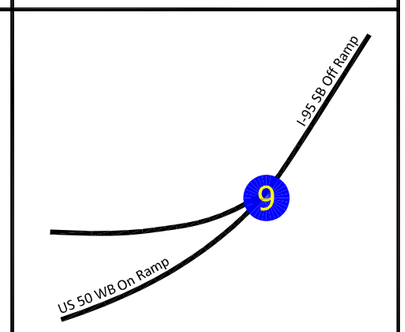


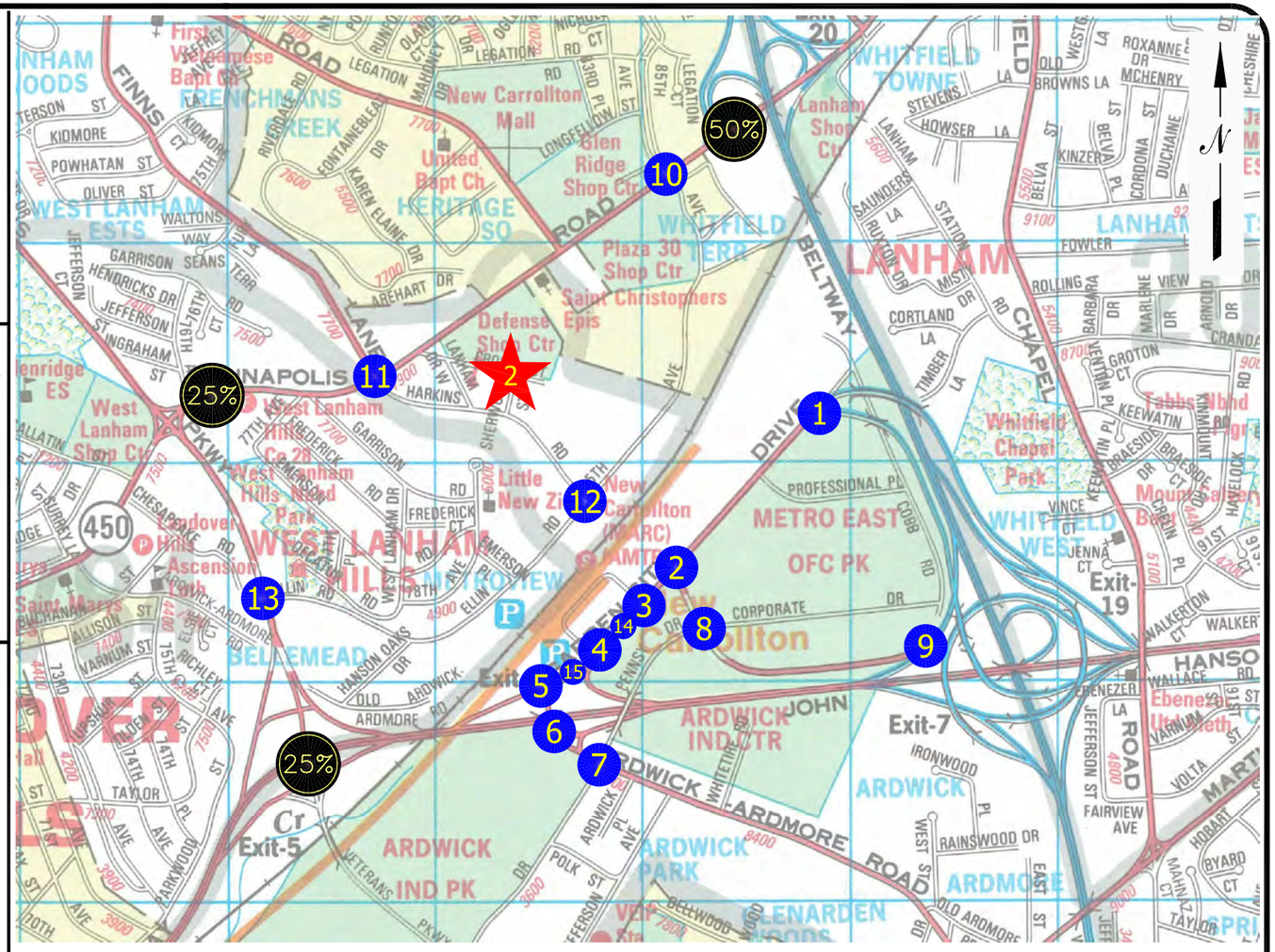












NOT TO SCALE

00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

in: 322 (165)
Out: 153 (300)

EXHIBIT C-3
TRIP ASSIGNMENT FOR CARROLLTON STATION NORTH

APPENDIX D

Trip Generation Details &

Trips Assignment for

Subject Site

4.1.1.2 Trip Generation

The 'Guidelines for the Analysis of the Traffic Impact of Development Proposals', proposed by the Maryland-National Capital Park and Planning Commission (MNCPPC), was used as a guideline to estimate the hourly traffic volumes generated from the proposed development at the New Carrollton Metro Station. The ITE Trip Generation Manual 9th Edition was used as a supplementary guideline to estimate the trip generation for land use not documented in the MNCPPC Guidelines.

Table 5 shows the land use type and trip generation rates/equations used to estimate total generated trips. Table 6 shows the calculated site-generated trips for each land use type. Please note the total site-generated trips shown in Table 6 include all the trips made by transit, vehicle, and walk/bike. Column "In" shows entering trips and column "Out" shows exiting trips. The internal trips, pass-by trips and trips made by transit and walk/bike will be subtracted from Table 6 to calculate the hourly vehicular trips, which will be discussed in detailed in the following sections.

Table 5: Land Use Type and Trip Generation Rates/Equations

Use	Land Use Type	Source	Feature	Rate/ Equations (AM)[2]	In/Out Rate (AM)	Rate/ Equations (PM)[2]	In/Out Rate (PM)
Office (≤108k)[1]	General Office Building	MNCPPC Guideline	150K SF	$2.0 \times Area$	90%/10%	$1.85 \times Area$	19%/81%
Office (>108k)[1]	General Office Building	ITE	700K SF	$Exp(0.8 \times Ln(Area+1.57))$	88%/12%	$1.12 \times Area + 78.45$	17%/83%
Res	Apartments (garden and mid-rise)	MNCPPC Guideline	1,080 Units	$0.52 \times Unit$	19%/81%	$0.6 \times Unit$	65%/35%
Retail	Specialty Retail Center	ITE	140K SF	$3.25 \times Area$	48%/52%	$2.71 \times Area$	44%/56%
Hotel	Hotel	ITE	150 Rooms	$0.53 \times Room$	58%/42%	$0.6 \times Room$	51%/49%

Notes:

1. M-NCPPC Guidelines notes "office aggregations greater than 108,000 square feet should use the fitted curve for 'general office building' in the ITE Trip Generation Manual with in/out distributions."

Table 6: Site-Generated Total Trips (including Various Modes)

Land Use	AM			PM		
	Total Trips	In	Out	Total Trips	In	Out
Office	1,425	1,259	166	1,296	227	1,069
Residential	456	220	236	380	168	212
Retail	606	115	491	700	456	244
Hotel	80	46	34	90	46	44
Total	2,567	1,640	927	2,466	897	1,569

4.1.1.3 Internal Trips

Internal trips are the trips made within the development area. Internal trips have been removed from the total generated trips (shown in Table 6) to estimate the total external trips – the trips generated from the outside of the development site. The 'NCHRP Report 684 – Enhancing Internal Trip Capture Estimation for Mixed- Use Development' was used to estimate internal trips for the proposed development at the New Carrollton station. The methodology presented in the NCHRP report is an improvement to the internal trip estimation process provided in the ITE Trip Generation Handbook. This enhanced method

expands the internal trip estimation to cover both AM and PM peak periods, including six land uses typically found at mixed use developments and takes into account the proximity of interacting land uses.

Table 7 shows the internal trip rates of each land use pair presented in NCHPR Report 684. Table 8 shows the total estimated internal and external trips for the proposed developments. Please note the external trips include transit, vehicle and walk/bike trips.

Table 7: Internal Trip Rates (source: NCHRP Report 684 – Table 105 and 106)

Land Use Pair		AM Peak	PM Peak	Land Use Pair		AM Peak	PM Peak
From Office	To Office	0%	0%	To Office	From Office	0%	0%
	To Retail	28%	20%		From Retail	4%	31%
	To Residential	1%	2%		From Residential	3%	57%
	To Hotel	0%	0%		From Hotel	3%	0%
From Retail	To Office	29%	2%	To Retail	From Office	32%	8%
	To Retail	0%	0%		From Retail	0%	0%
	To Residential	14%	26%		From Residential	17%	10%
	To Hotel	0%	5%		From Hotel	4%	2%
From Residential	To Office	2%	4%	To Residential	From Office	0%	4%
	To Retail	1%	42%		From Retail	2%	46%
	To Residential	0%	0%		From Residential	0%	0%
	To Hotel	0%	3%		From Hotel	0%	0%
From Hotel	To Office	75%	0%	To Hotel	From Office	0%	0%
	To Retail	14%	16%		From Retail	0%	17%
	To Residential	0%	2%		From Residential	0%	12%
	To Hotel	0%	0%		From Hotel	0%	0%

Table 8: Internal and External Trips

Land Use	AM						PM					
	Internal		External		Total		Internal		External		Total	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Office	86	46	1,173	120	1,259	166	14	31	213	1,038	227	1,069
Retail	56	52	164	184	220	236	33	67	135	145	168	212
Residential	2	15	113	476	115	491	73	33	383	211	456	244
Hotel	0	31	46	3	46	34	14	3	32	41	46	44
Total	**144**	**144**	**1,496**	**783**	**1,640**	**927**	**134**	**134**	**763**	**1,435**	**897**	**1,569**

4.1.1.4 Mode Share

The external trips were divided into transit, vehicle and walk/bike trips by defining the mode share of the development. The vehicle trips were used for the traffic analysis. The study used the data from the '2005 Development-Related Ridership Survey', conducted by WMATA. The 2005 Survey studies the mode share of office, residential, hotel and retail trips near Metrorail stations in the Washington D.C. metropolitan area. Table 9 shows the average mode share of the studied Metro stations in the 2005 Survey within the ¼ mile of walking distance to the Metro station by land use. Future development at the New Carrollton Metro Station is assumed the same mode share as shown in Table 9. Table 10 shows the hourly entering and exiting vehicular trips generated from the development (excluding retail trips). Please

note the retail trips shown in Table 10 include the pass-by trips. The following section will discuss the estimation of retail pass-by trips.

Table 9: Mode Share in 2005 Survey and Assumed for New Carrollton Metro Station

	Transit	Auto	Walk/Bike
Office Trips	35%	61%	4%
Retail Trips	36%	31%	33%
Residential Trips	48%	41%	11%
Hotel Trips	36%	25%	39%

Table 10: Entering and Exiting Vehicular Trips excluding Transit and Walk/Bike Trips

Land Use	AM		PM	
	In	Out	In	Out
Office	716	73	130	633
Retail	51	57	42	45
Residential	46	195	157	87
Hotel	12	1	8	10
Total	**813**	**325**	**329**	**765**

4.1.1.5 Pass-by Trips

Pass-by trips are those of the existing trips on the adjacent roadway and are drawn from adjacent streets to the retail stores in the development site. Therefore, pass-by trips are not newly generated trips and they should be removed from entering and exiting trips of retail shown in Table 10.

Prince George's County's "Transportation Review Guidelines" indicates 40% of pass-by trips to the retail during the PM peak hour. It is assumed that during the AM peak hour the percentage of pass-by trips is identical to the percentage during the PM peak hour. Table 11 shows the pass-by trips and generated vehicular trips of the retail stores at the Metro Core of the New Carrollton Metro Station.

Table 11: Pass-by and Generated Retail Trips

Grocery/Retail	AM		PM	
	In	Out	In	Out
Pass-by Trips	22	22	17	17
Generated Retail Trips	29	35	25	28

Table 12 presents a summary of trip generation results, including internal trips, non-auto trips, pass-by trips and net new trips generated within the new developments at the Metro Core of New Carrollton Metro Station.

Table 12: Summary of Trip Generation Calculation

	AM			PM		
	Total	In	Out	Total	In	Out
Office Generated	1,425	1,259	166	1,296	227	1,069
(Internal)	132	86	46	45	14	31
(Non-auto)	504	457	47	488	83	405
Net New Office Trips (Hourly)	789	716	73	763	130	633
Retail Generated	456	220	236	380	168	212
(Internal)	108	56	52	100	33	67
(Non-auto)	240	113	127	193	93	100
(Pass-bys)	43	22	22	35	17	17
Net New Retail Trips (Hourly)	65	29	35	52	25	28
Residential Generated	606	115	491	700	456	244
(Internal)	17	2	15	106	73	33
(Non-auto)	348	67	281	350	226	124
Net New Residential Trips (Hourly)	241	46	195	244	157	87
Hotel Generated	80	46	34	90	46	44
(Internal)	31	0	31	17	14	3
(Non-auto)	36	34	2	55	24	31
Net New Hotel Trips	13	12	1	18	8	10
Total Generated	2,567	1,640	927	2,466	897	1,569
(Total Internal)	288	144	144	268	134	134
(Total Non-auto)	1,128	671	457	1,086	426	660
(Total Pass-bys)	43	22	22	35	17	17
Total Net New Trips (Hourly)	**1,108**	**803**	**304**	**1,077**	**320**	**758**

4.1.1.6 Trip Distribution

The Prince George's County's "Transportation Review Guidelines" suggests using the existing traffic distribution as a guidance to determine the distribution of the generated trips from the development. Figure 7 shows distribution of existing arrival/departure trips to/from the Metro station area during the AM and PM peak hour, from four major roadways connecting to the Metro station area. The total numbers of entering and exiting trips to/from the Metro station area are distributed on near-by roadways based on the distribution rate which is proportional to the existing turning movement counts at each intersection.

Figure 7: Trip Distribution

4.1.2 Adjustment of Park & Ride Trips

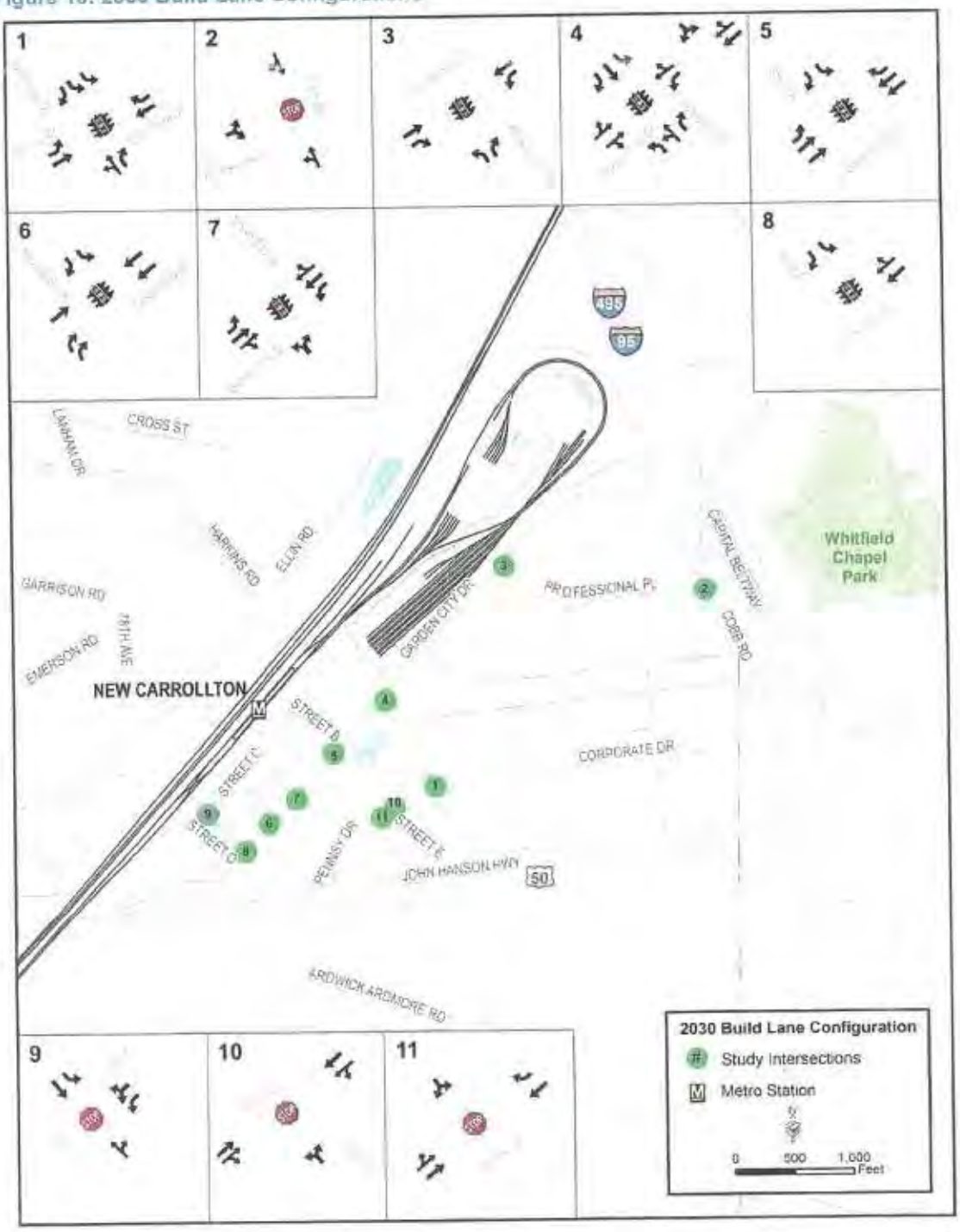
The existing WMATA surface parking lots A and B and MTA surface parking lot will be displaced by the future development, and vehicles currently using these facilities will use new parking facilities at Landover Metro Station, which is about 2 miles west of the New Carrollton Metro Station. Thus approximately 360 hourly arrival Park & Ride trips in the AM and 320 hourly departure vehicles in the PM will be removed from the study area in the future.

As an alternative scenario, WMATA proposed to provide 575 Park & Ride spaces within the future new parking garage serving building 4 and 5 (in the northwest corner of the development area). Traffic analysis for this alternative Park & Ride scenario is documented in Appendix C.

4.1.3 Other Development

New development in Garden City and improvements of the Metro Yard will also generate new trips and impose traffic impacts on the east side of the New Carrollton Metro Station. Figure 8 shows the development site of Garden City and Metro Yard. The methodology to estimate the background traffic and the trip generation results are discussed in the following sections.

Figure 10: 2030 Build Lane Configurations



Trip Generation

No.	Land Use	Size		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Building No 1 - 5									
	High-Rise Apartments	265	Units	16	64	80	69	37	106
	Mid-Rise Apartments	350	Units	35	147	182	137	74	211
	Internal Trips Capture			-1	-6	-7	-100	-40	-140
	30% TOD Credit Deduction			-15	-62	-77	-32	-21	-53
	59% Transit/Ped/Bike Deduction			-21	-84	-105	-44	-30	-74
	Net New Residential Trips			***14***	***59***	***73***	***30***	***20***	***50***
	Office	505,000	sq.ft.	909	101	1010	177	758	935
	Internal Trips Capture			-50	-28	-78	-11	-34	-45
	30% TOD Credit Deduction			-258	-22	-280	-50	-217	-267
	39% Transit/Ped/Bike Deduction			-234	-20	-254	-45	-198	-243
	Net New Office Trips			***367***	***31***	***398***	***71***	***309***	***380***
	Retail	120,000	sq.ft.	108	66	174	325	352	677
	Internal Trips Capture			-34	-20	-54	-66	-108	-174
	30% TOD Credit Deduction			-22	-14	-36	-78	-73	-151
	69% Transit/Ped/Bike Deduction			-36	-22	-58	-125	-118	-243
	40% Pass-by Trips			-6	-4	-10	-22	-21	-43
	Net New Retail Trips			***10***	***6***	***16***	***34***	***32***	***66***
	Hotel	180	Rooms	56	39	95	55	53	108
	Internal Trips Capture			0	-31	-31	-12	-7	-19
	30% TOD Credit Deduction			-17	-2	-19	-13	-14	-27
	75% Transit/Ped/Bike Deduction			-29	-5	-34	-23	-24	-47
	Net New Hotel Trips			***10***	***1***	***11***	***7***	***8***	***15***
Net New Trips for Building 1 ~ 5									
	Net New Residential Trips			***14***	***59***	***73***	***30***	***20***	***50***
	Net New Office Trips			***367***	***31***	***398***	***71***	***309***	***380***
	Net New Retail Trips			***10***	***6***	***16***	***34***	***32***	***66***
	Net New Hotel Trips			***10***	***1***	***11***	***7***	***8***	***15***
Net Pass-BY Trips									
	Pass-By Trips			***6***	***4***	***10***	***22***	***21***	***43***

The Traffic Group

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EXHIBIT D-1
TRIP GENERATION TOTALS
FOR NEW CARROLLTON
BUILDINGS 1 TO 5

Land Use		AM Peak Hour			PM Peak Hour			Sat Peak Hour		
		IN	OUT	Total	IN	OUT	Total	IN	OUT	Total
Office	Single-Use Trips Gen. Est.	**909**	**101**	**1010**	**177**	**758**	**935**	**0**	**0**	**0**
	Internal Trips	50	28	78	11	34	45	0	0	0
	External Trips	859	73	932	166	724	890	0	0	0
Retail	Single-Use Trips Gen. Est.	***108***	***66***	***174***	***325***	***352***	***677***	***0***	***0***	**0**
	Internal Trips	34	20	54	66	108	174	0	0	0
	External Trips	74	46	120	259	244	503	0	0	0
Restaurant	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0
Cinema/ Enterainment	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0
Residential	Single-Use Trips Gen. Est.	***51***	***211***	***262***	***206***	***111***	***317***	***0***	***0***	**0**
	Internal Trips	1	6	7	100	40	140	0	0	0
	External Trips	50	205	255	106	71	177	0	0	0
Hotel	Single-Use Trips Gen. Est.	***56***	***39***	***95***	***55***	***53***	***108***	***0***	***0***	**0**
	Internal Trips	0	31	31	12	7	19	0	0	0
	External Trips	56	8	64	43	46	89	0	0	0

	AM Peak Hour			AM Peak Hour			Sat Peak Hour		
	IN	**OUT**	**Total**	**IN**	**OUT**	**Total**	**IN**	**OUT**	**Total**
Single-Use Trips Gen. Est.	1124	417	1541	763	1274	2037	0	0	0
External Trips	1039	332	1371	574	1085	1659	0	0	0
Internal Capture (%)	***11%***			***19%***					

**Internal trip capture rate sources: Trip Generation Handbook 3rd Edition, 2014.

EXHIBIT D-2

MULTI-USE TRIP GENERATION WORKSHEET

FOR BUILDING #1~#5

Trip Generation

No.	Land Use	Size		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Building No 6									
	Mid-Rise Apartments	370	Units	37	155	192	144	78	222
	Internal Trips Capture			-1	-2	-3	-23	-8	-31
	30% TOD Credit Deduction			-11	-46	-57	-36	-21	-57
	59% Transit/Ped/Bike Deduction			-15	-63	-78	-50	-29	-79
	Net New Residential Trips			***10***	***44***	***54***	***35***	***20***	***55***
	Retail	15,000	sq.ft.	30	19	49	81	87	168
	Internal Trips Capture			-2	-1	-3	-8	-23	-31
	30% TOD Credit Deduction			-8	-5	-13	-22	-19	-41
	69% Transit/Ped/Bike Deduction			-14	-9	-23	-35	-31	-66
	50% Pass-by Trips			-3	-2	-5	-8	-7	-15
	Net New Retail Trips			***3***	***2***	***5***	***8***	***7***	***15***
Net New Trips for Building 6									
	Net New Residential Trips			***10***	***44***	***54***	***35***	***20***	***55***
	Net New Retail Trips			***3***	***2***	***5***	***8***	***7***	***15***
Net Pass-BY Trips									
	Pass-By Trips			***3***	***2***	***5***	***8***	***7***	***15***

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EXHIBIT D-3
TRIP GENERATION TOTALS
FOR NEW CARROLLTON
BUILDING 6

Land Use		AM Peak Hour			PM Peak Hour			Sat Peak Hour		
		IN	OUT	Total	IN	OUT	Total	IN	OUT	Total
Office	Single-Use Trips Gen. Est.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0
Retail	Single-Use Trips Gen. Est.	***30***	***19***	***49***	***81***	***87***	***168***	***0***	***0***	**0**
	Internal Trips	2	1	3	8	23	31	0	0	0
	External Trips	28	18	46	73	64	137	0	0	0
Restaurant	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0
Cinema/ Enterainment	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0
Residential	Single-Use Trips Gen. Est.	***37***	***155***	***192***	***144***	***78***	***222***	***0***	***0***	**0**
	Internal Trips	1	2	3	23	8	31	0	0	0
	External Trips	36	153	189	121	70	191	0	0	0
Hotel	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0

	AM Peak Hour			AM Peak Hour			Sat Peak Hour		
	IN	**OUT**	**Total**	**IN**	**OUT**	**Total**	**IN**	**OUT**	**Total**
Single-Use Trips Gen. Est.	67	174	241	225	165	390	0	0	0
External Trips	64	171	235	194	134	328	0	0	0
Internal Capture (%)	***2%***			***16%***					

**Internal trip capture rate sources: Trip Generation Handbook 3rd Edition, 2014.

EXHIBIT D-4

MULTI-USE TRIP GENERATION WORKSHEET

FOR BUILDING #6

Trip Generation

No.	Land Use	Size		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Building No 7 - 9									
	Mid-Rise Apartments	140	Units	14	59	73	55	29	84
	Internal Trips Capture			0	-2	-2	-13	-5	-18
	30% TOD Credit Deduction			-4	-17	-21	-13	-7	-20
	59% Transit/Ped/Bike Deduction			-6	-24	-30	-17	-10	-27
	Net New Residential Trips			***4***	***16***	***20***	***12***	***7***	***19***
	Office	345,000	sq.ft.	621	69	690	121	518	639
	Internal Trips Capture			-4	-5	-9	-2	-5	-7
	30% TOD Credit Deduction			-185	-19	-204	-36	-154	-190
	39% Transit/Ped/Bike Deduction			-168	-18	-186	-32	-140	-172
	Net New Office Trips			***264***	***27***	***291***	***51***	***219***	***270***
	Retail	5,000	sq.ft.	15	10	25	39	42	81
	Internal Trips Capture			-6	-3	-9	-7	-12	-19
	30% TOD Credit Deduction			-3	-2	-5	-10	-9	-19
	69% Transit/Ped/Bike Deduction			-4	-3	-7	-15	-14	-29
	60% Pass-by Trips			-1	-1	-2	-4	-4	-8
	Net New Retail Trips			***1***	***1***	***2***	***3***	***3***	***6***
Net New Trips for Building 7 ~ 9									
	Net New Residential Trips			***4***	***16***	***20***	***12***	***7***	***19***
	Net New Office Trips			***264***	***27***	***291***	***51***	***219***	***270***
	Net New Retail Trips			***1***	***1***	***2***	***3***	***3***	***6***
Net Pass-BY Trips									
	Pass-By Trips			***1***	***1***	***2***	***4***	***4***	***8***

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EXHIBIT D-5
TRIP GENERATION TOTALS
FOR NEW CARROLLTON
BUILDINGS 7 TO 9

Land Use		AM Peak Hour			PM Peak Hour			Sat Peak Hour		
		IN	OUT	Total	IN	OUT	Total	IN	OUT	Total
Office	Single-Use Trips Gen. Est.	**621**	**69**	**690**	**121**	**518**	**639**	**0**	**0**	**0**
	Internal Trips	4	5	9	2	5	7	0	0	0
	External Trips	617	64	681	119	513	632	0	0	0
Retail	Single-Use Trips Gen. Est.	***15***	***10***	***25***	***39***	***42***	***81***	***0***	***0***	**0**
	Internal Trips	6	3	9	7	12	19	0	0	0
	External Trips	9	7	16	32	30	62	0	0	0
Restaurant	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0
Cinema/ Enterainment	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0
Residential	Single-Use Trips Gen. Est.	***14***	***59***	***73***	***55***	***29***	***84***	***0***	***0***	**0**
	Internal Trips	0	2	2	13	5	18	0	0	0
	External Trips	14	57	71	42	24	66	0	0	0
Hotel	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0

	AM Peak Hour			AM Peak Hour			Sat Peak Hour		
	IN	**OUT**	**Total**	**IN**	**OUT**	**Total**	**IN**	**OUT**	**Total**
Single-Use Trips Gen. Est.	650	138	788	215	589	804	0	0	0
External Trips	640	128	768	193	567	760	0	0	0
Internal Capture (%)	***3%***			***5%***					

**Internal trip capture rate sources: Trip Generation Handbook 3rd Edition, 2014.

EXHIBIT D-6

MULTI-USE TRIP GENERATION WORKSHEET

FOR BUILDING #7-9

Trip Generation

No.	Land Use	Size		AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Building No 10 - 11									
	Mid-Rise Apartments	185	Units	19	78	97	72	39	111
	Internal Trips Capture			0	-3	-3	-26	-10	-36
	30% TOD Credit Deduction			-6	-23	-29	-14	-9	-23
	59% Transit/Ped/Bike Deduction			-8	-31	-39	-19	-12	-31
	Net New Residential Trips			***5***	***21***	***26***	***13***	***8***	***21***
	Office	275,000	sq.ft.	495	55	550	96	413	509
	Internal Trips Capture			-8	-10	-18	-4	-9	-13
	30% TOD Credit Deduction			-146	-14	-160	-28	-121	-149
	39% Transit/Ped/Bike Deduction			-133	-12	-145	-25	-110	-135
	Net New Office Trips			***208***	***19***	***227***	***39***	***173***	***212***
	Retail	15,000	sq.ft.	30	19	49	81	87	168
	Internal Trips Capture			-11	-6	-17	-14	-25	-39
	30% TOD Credit Deduction			-6	-4	-10	-20	-19	-39
	69% Transit/Ped/Bike Deduction			-9	-6	-15	-32	-30	-62
	50% Pass-by Trips			-2	-2	-4	-8	-7	-15
	Net New Retail Trips			***2***	***1***	***3***	***7***	***6***	***13***
Net New Trips for Building 10 ~ 11									
	Net New Residential Trips			***5***	***21***	***26***	***13***	***8***	***21***
	Net New Office Trips			***208***	***19***	***227***	***39***	***173***	***212***
	Net New Retail Trips			***2***	***1***	***3***	***7***	***6***	***13***
Net Pass-BY Trips									
	Pass-By Trips			***2***	***2***	***4***	***8***	***7***	***15***

FH F:\2010\2010-1023A\eng\2016 May\Trips,5/12/2016

EXHIBIT D-7
TRIP GENERATION TOTALS
FOR NEW CARROLLTON
BUILDINGS 10 TO 11

Land Use		AM Peak Hour			PM Peak Hour			Sat Peak Hour		
		IN	OUT	Total	IN	OUT	Total	IN	OUT	Total
Office	Single-Use Trips Gen. Est.	**495**	**55**	**550**	**96**	**413**	**509**	**0**	**0**	**0**
	Internal Trips	8	10	18	4	9	13	0	0	0
	External Trips	487	45	532	92	404	496	0	0	0
Retail	Single-Use Trips Gen. Est.	***30***	***19***	***49***	***81***	***87***	***168***	***0***	***0***	**0**
	Internal Trips	11	6	17	14	25	39	0	0	0
	External Trips	19	13	32	67	62	129	0	0	0
Restaurant	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0
Cinema/ Enterainment	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0
Residential	Single-Use Trips Gen. Est.	***19***	***78***	***97***	***72***	***39***	***111***	***0***	***0***	**0**
	Internal Trips	0	3	3	26	10	36	0	0	0
	External Trips	19	75	94	46	29	75	0	0	0
Hotel	Single-Use Trips Gen. Est.	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	**0**
	Internal Trips	0	0	0	0	0	0	0	0	0
	External Trips	0	0	0	0	0	0	0	0	0

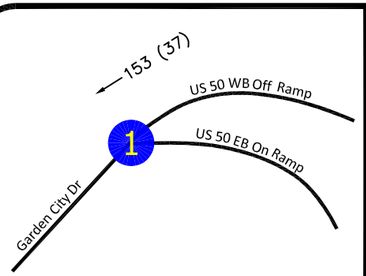
	AM Peak Hour			AM Peak Hour			Sat Peak Hour		
	IN	**OUT**	**Total**	**IN**	**OUT**	**Total**	**IN**	**OUT**	**Total**
Single-Use Trips Gen. Est.	544	152	696	249	539	788	0	0	0
External Trips	525	133	658	205	495	700	0	0	0
Internal Capture (%)	***5%***			***11%***					

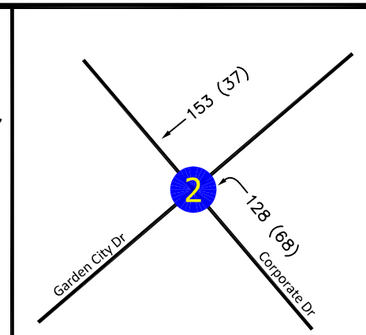
**Internal trip capture rate sources: Trip Generation Handbook 3rd Edition, 2014.

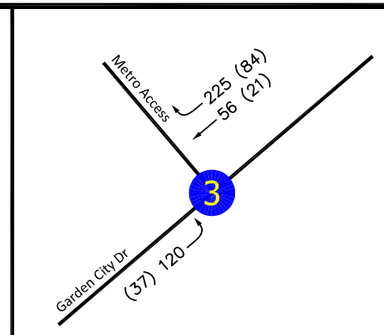
EXHIBIT D-8

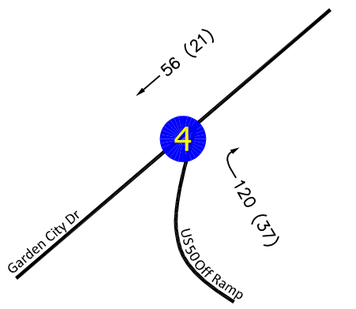
MULTI-USE TRIP GENERATION WORKSHEET

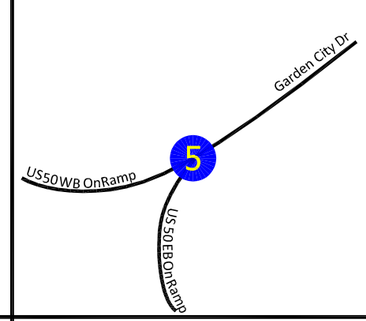
FOR BUILDING #10-11

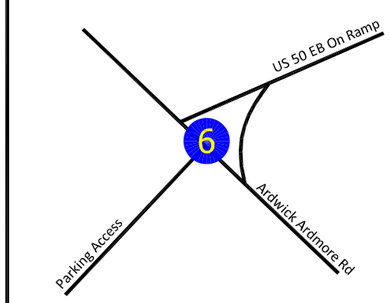


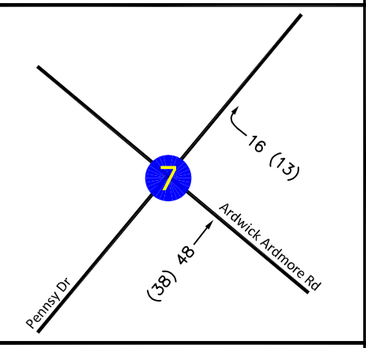


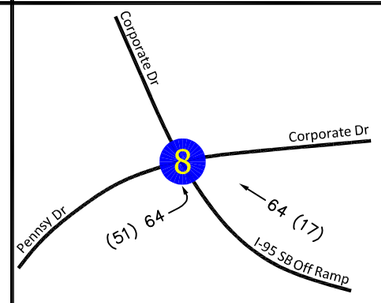


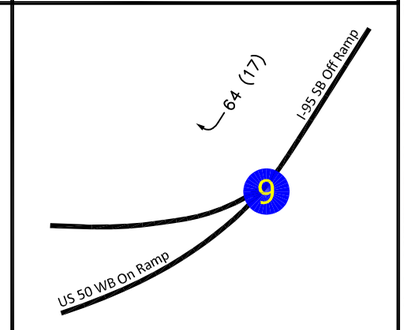


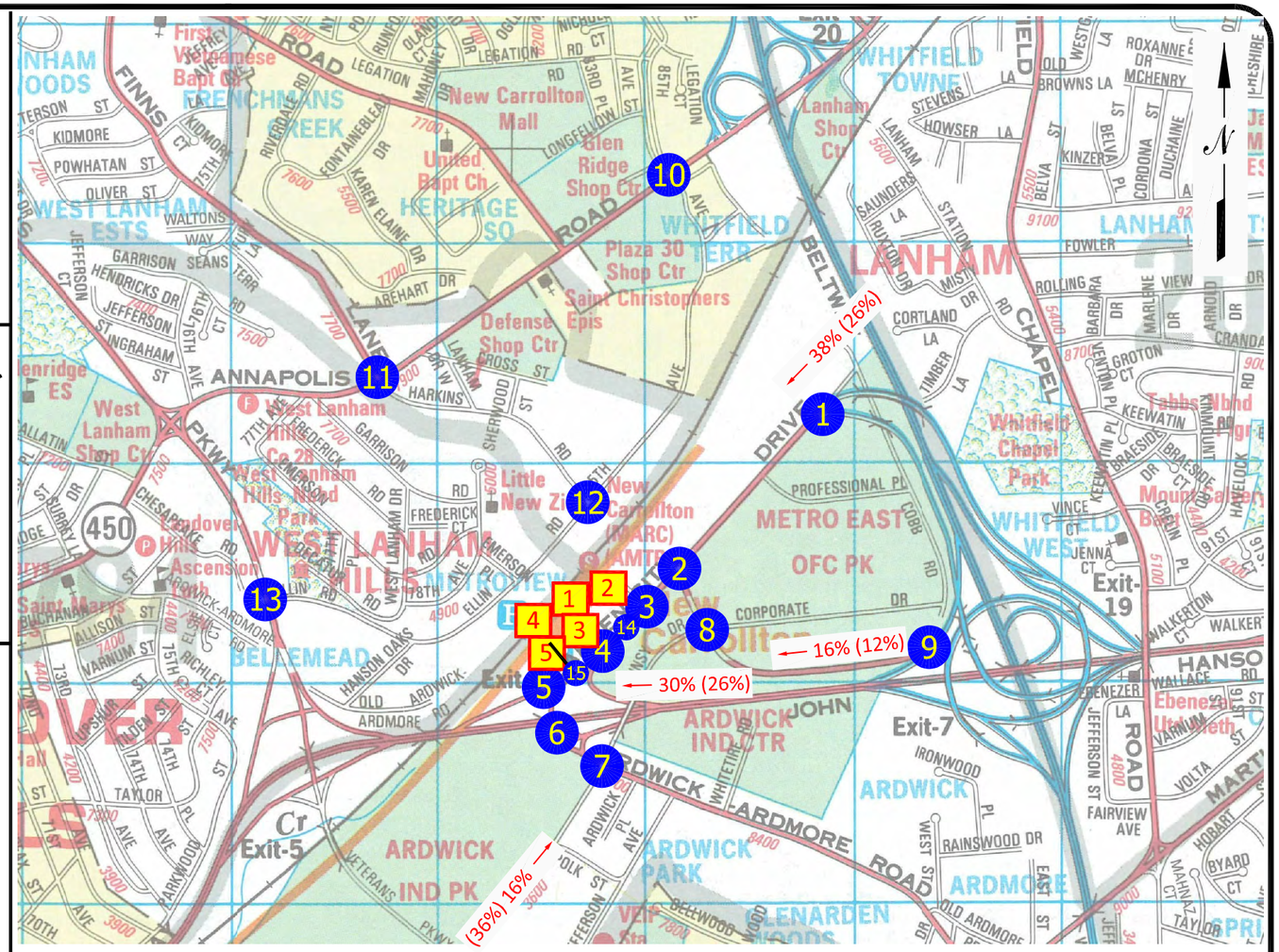










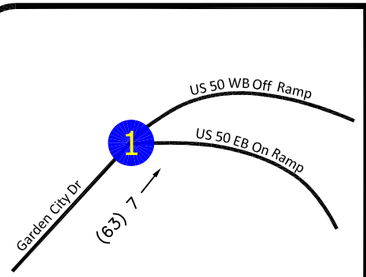


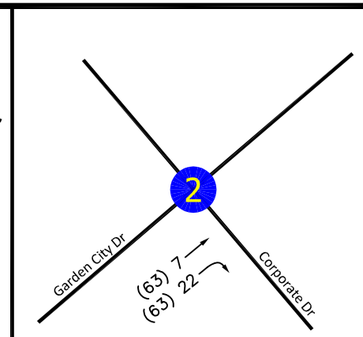
NOT TO SCALE

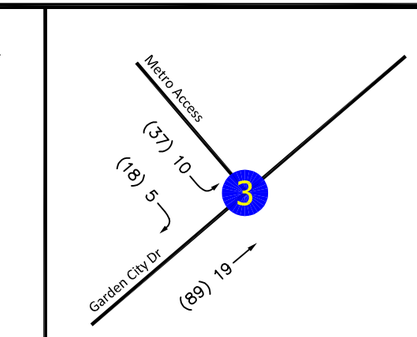
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

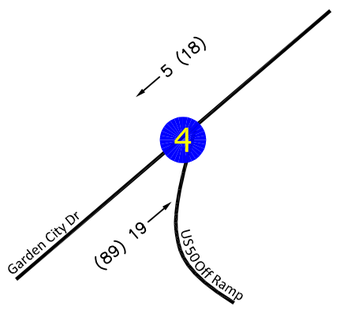
Build#1~#5
In: 401 (142)

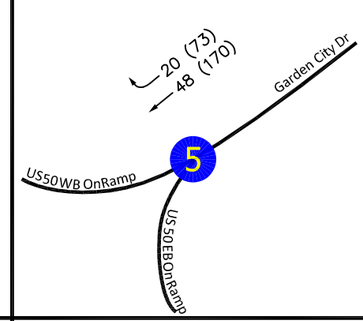
EXHIBIT D-9
SITE TRIP ASSIGNMENT FOR BUILDING #1 ~ #5 INBOUND TRIPS

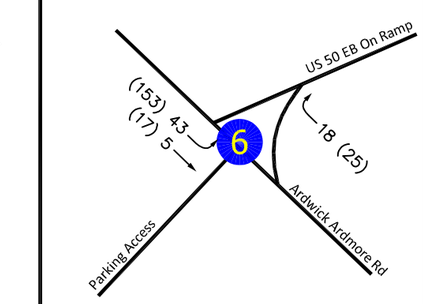


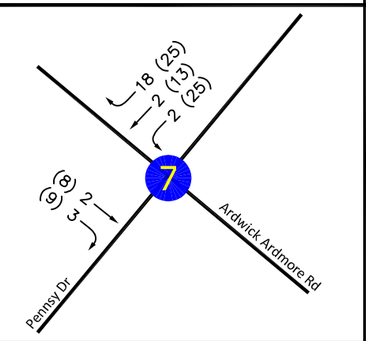


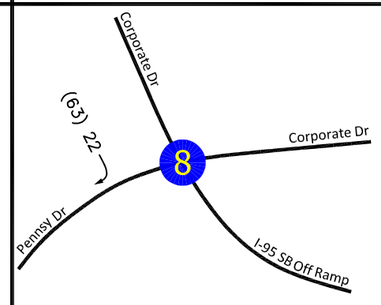


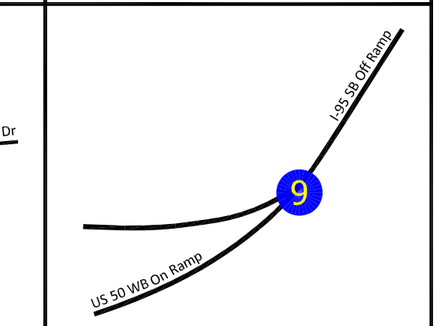


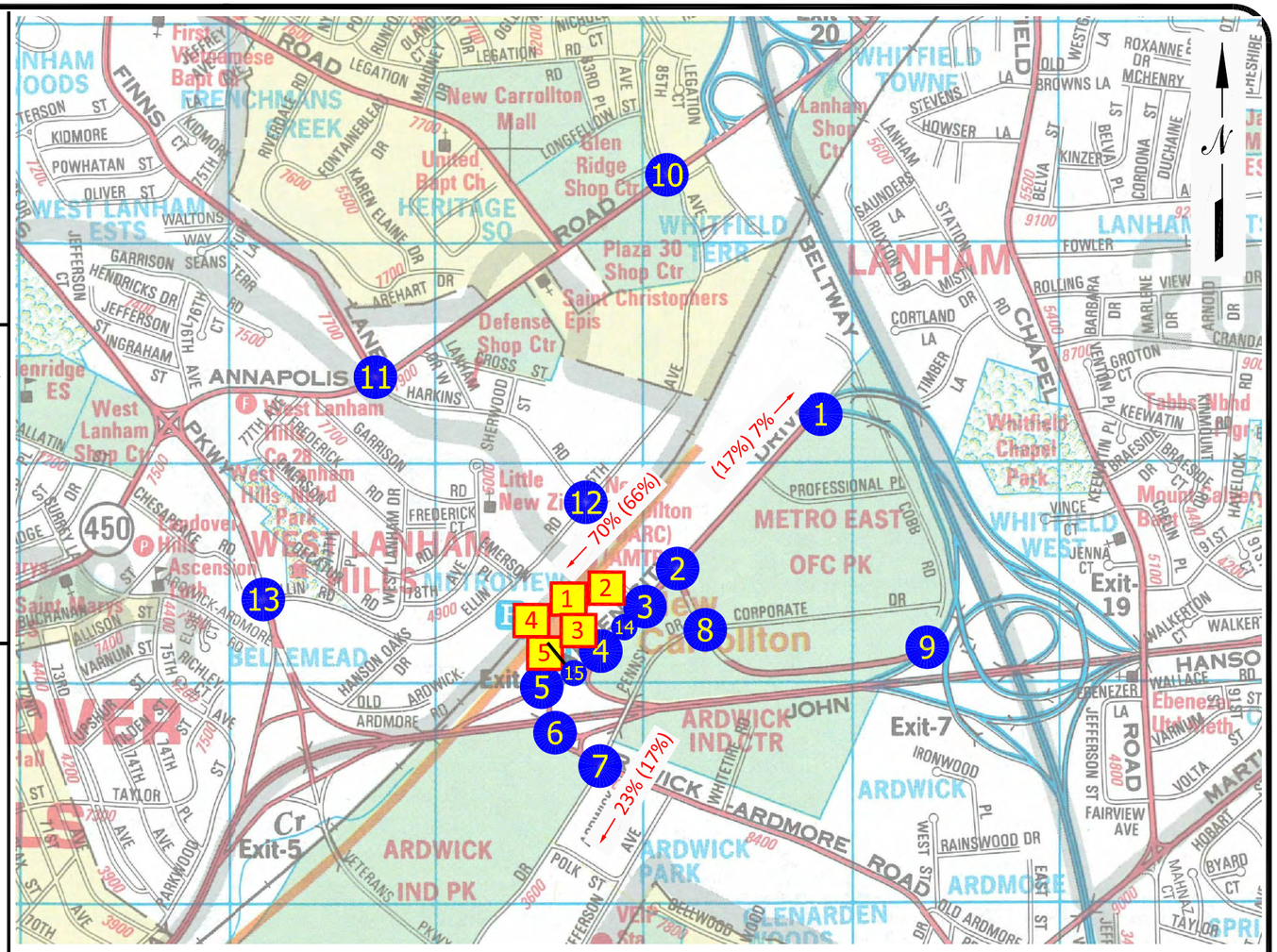


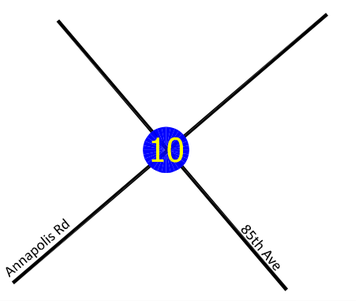


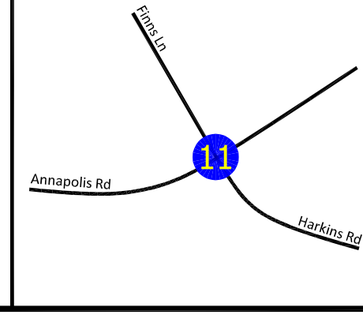


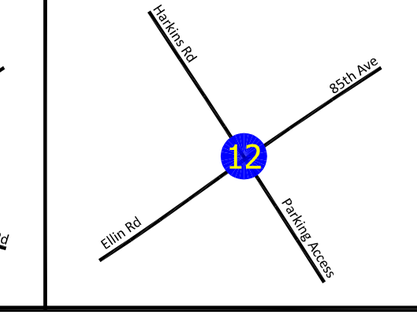


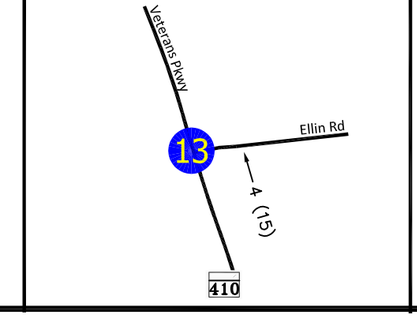


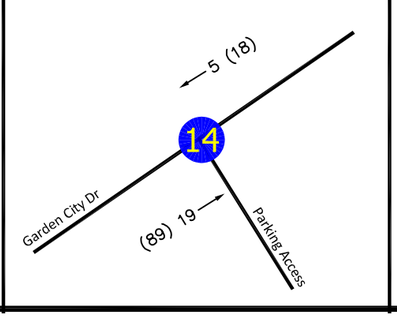


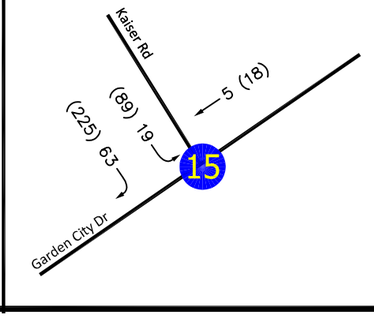










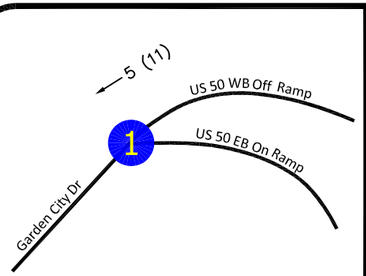


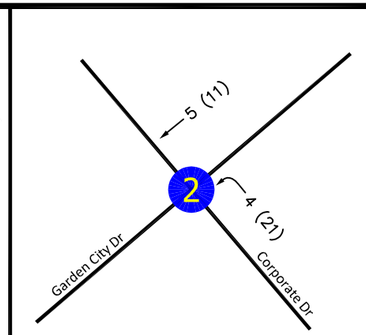
NOT TO SCALE

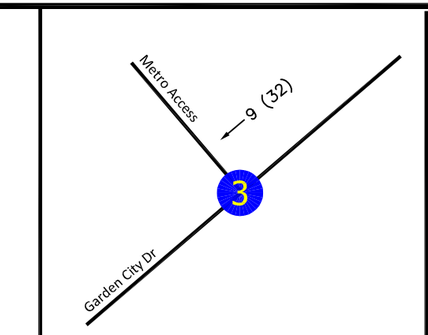
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

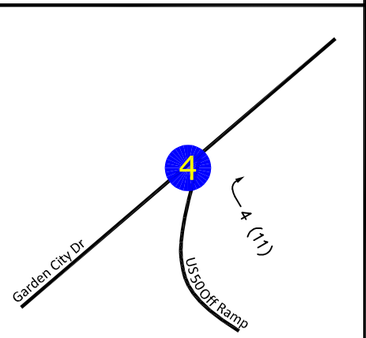
Build#1~#5
Out: 97 (369)

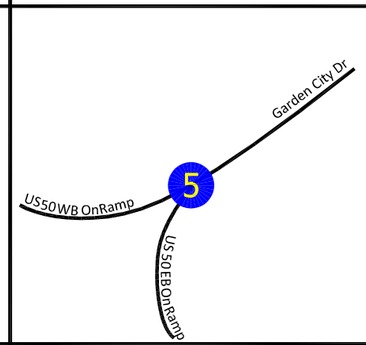
EXHIBIT D-10
TRIP ASSIGNMENT FOR BUILDING #1 ~ #5 OUTBOUND TRIPS

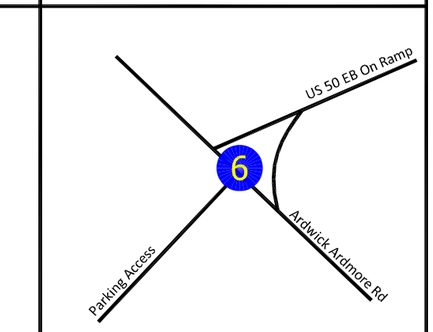


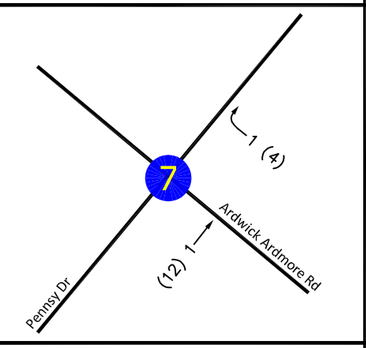


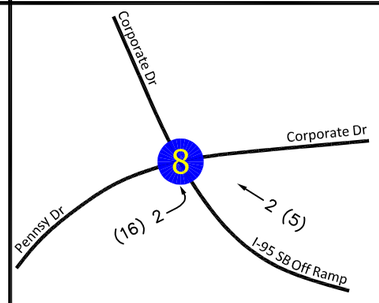


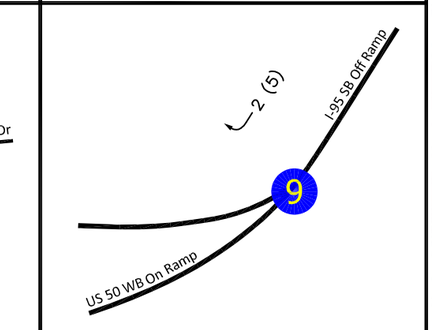


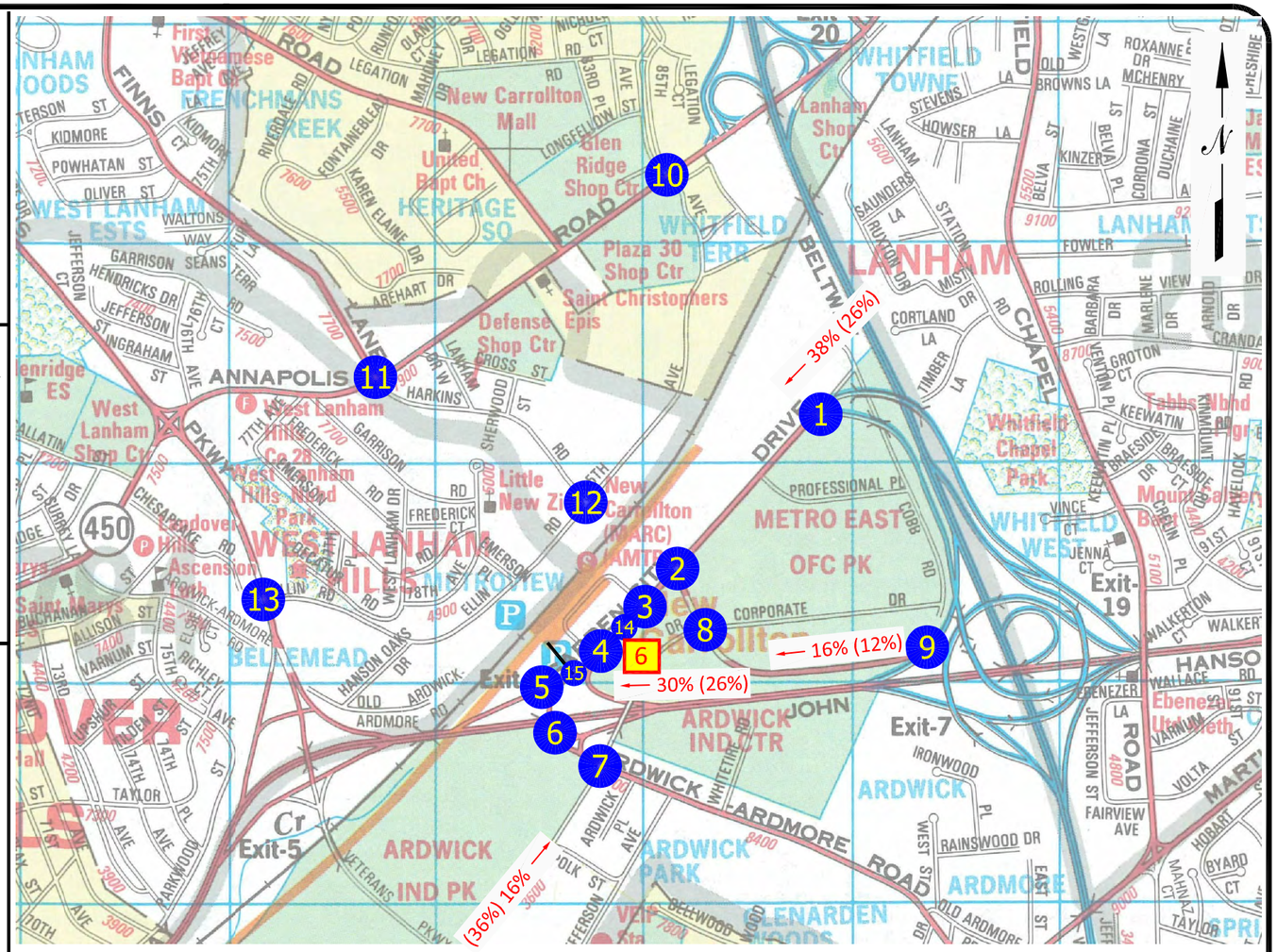


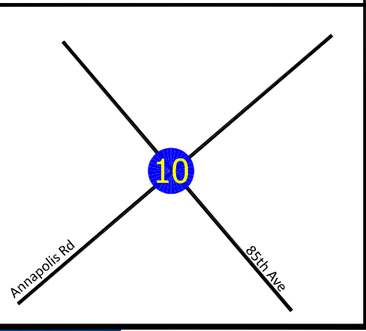


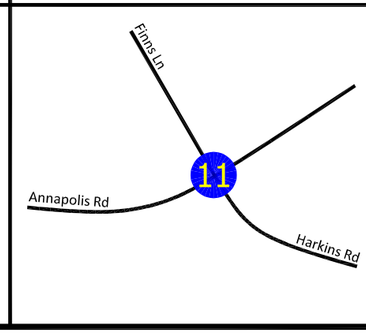


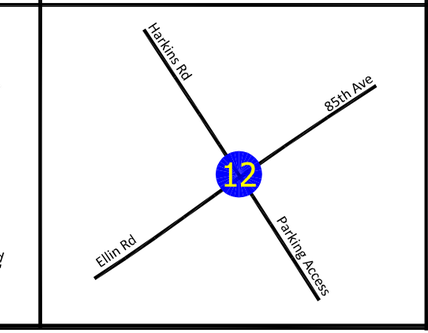


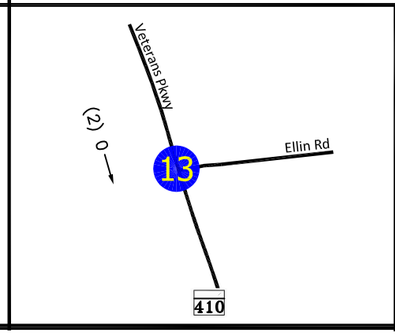


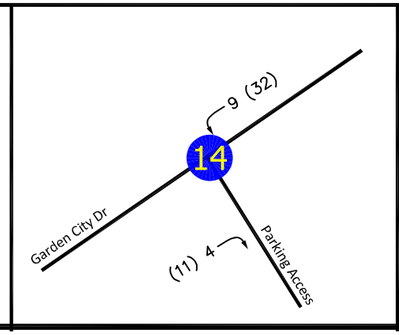


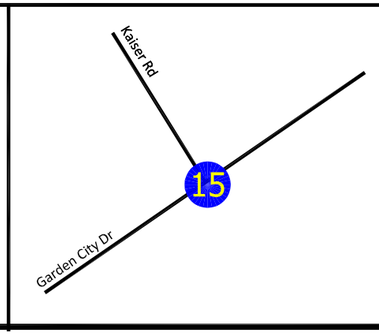










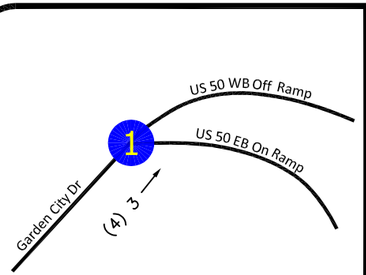


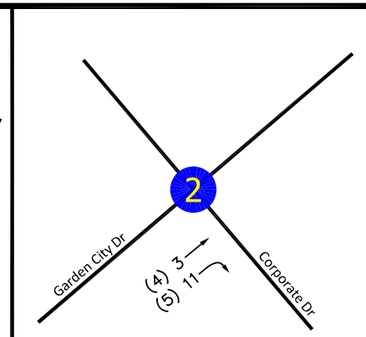
NOT TO SCALE

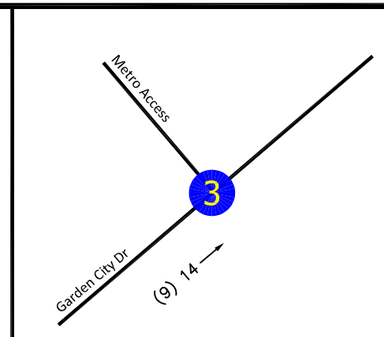
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

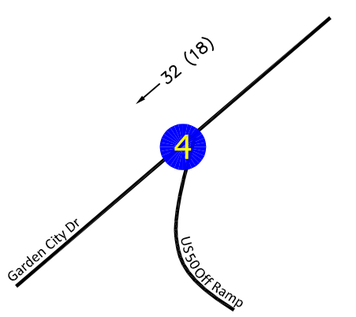
In: 13 (43)

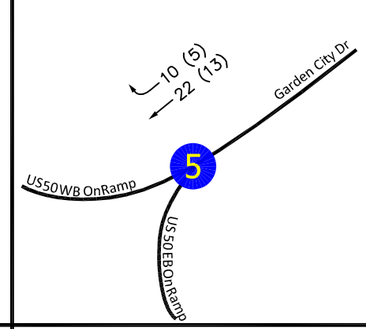
EXHIBIT D-11
TRIP ASSIGNMENT FOR BUILDING #6 INBOUND TRIPS

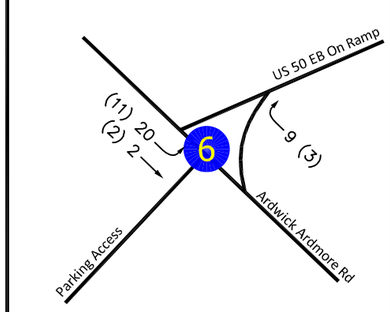


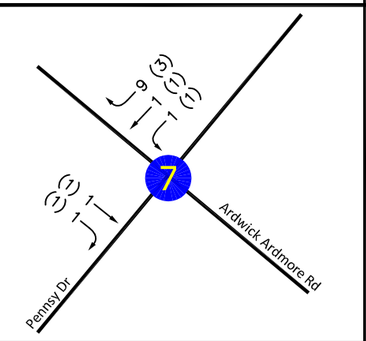


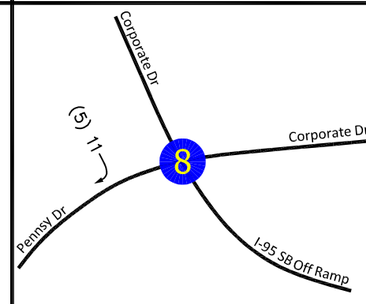


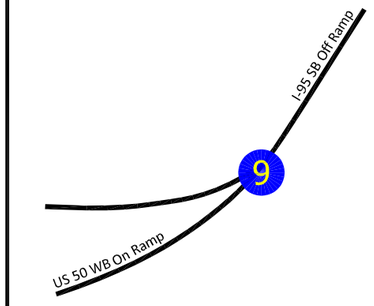


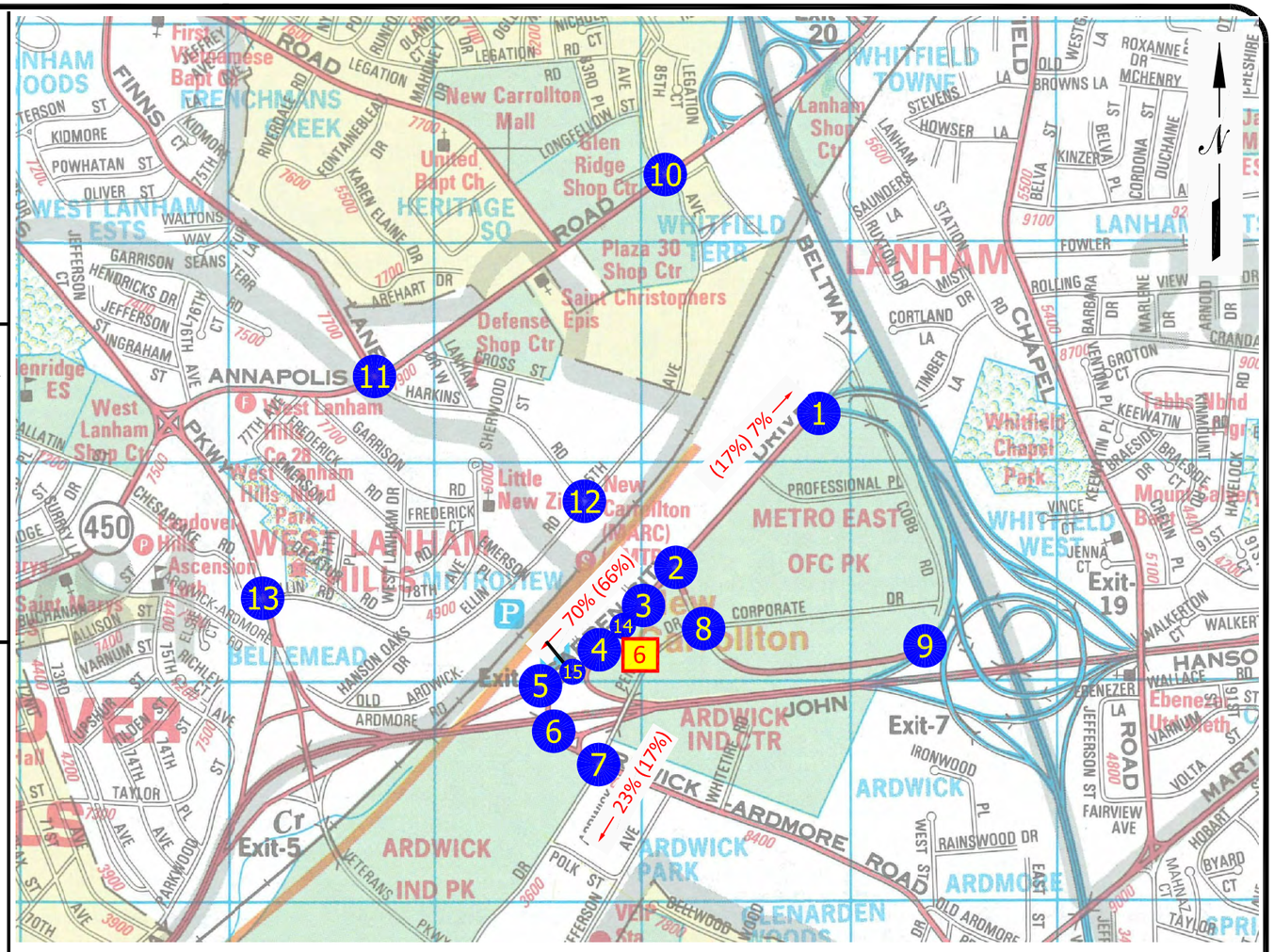


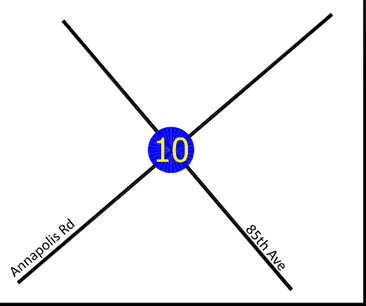


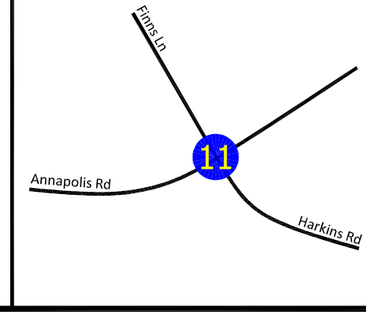


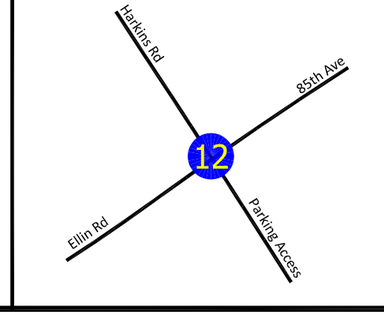


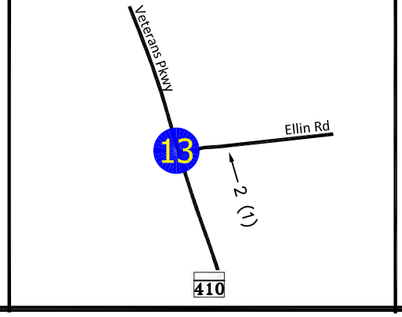


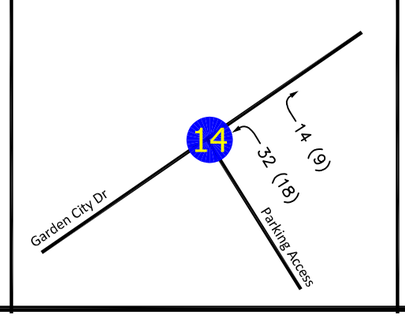


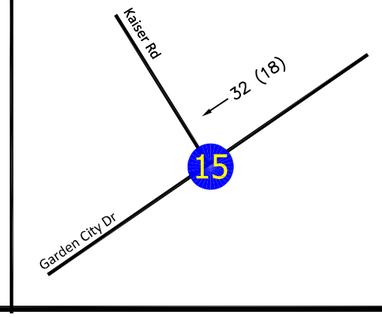










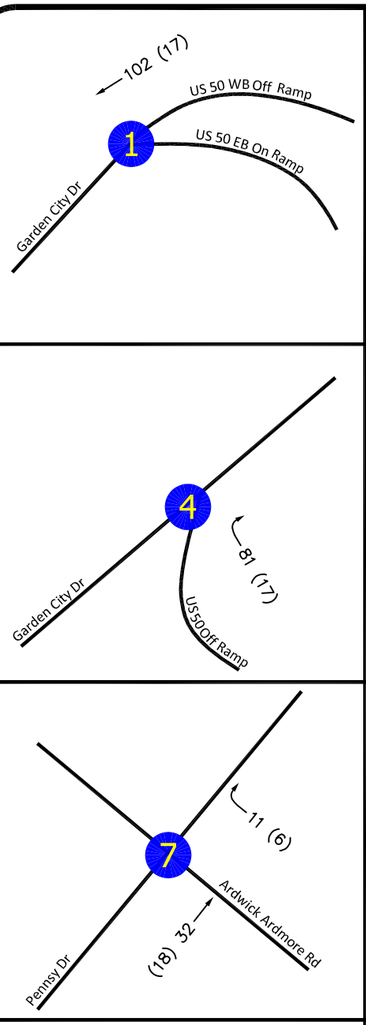


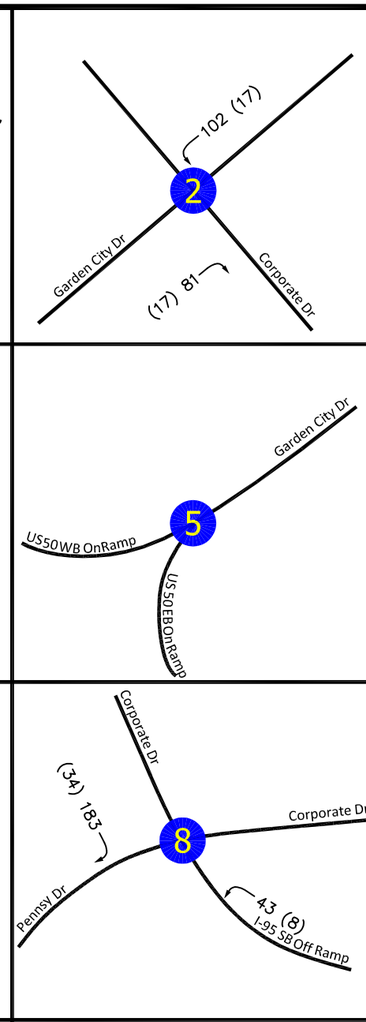
NOT TO SCALE

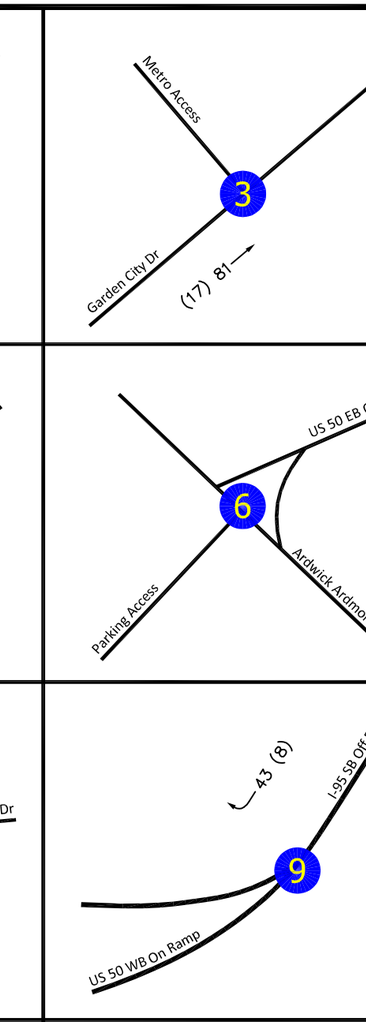
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

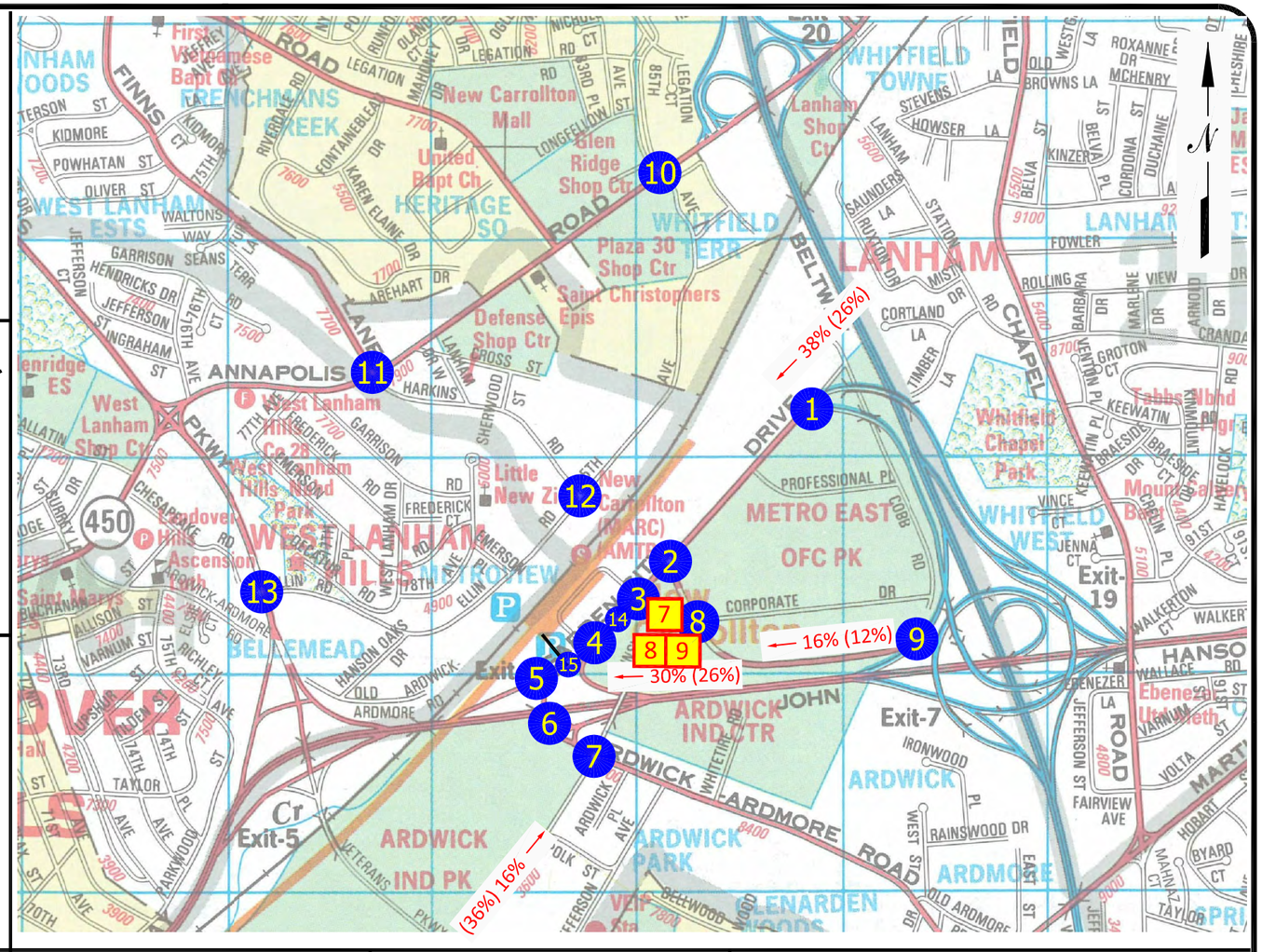
Out: 46 (27)

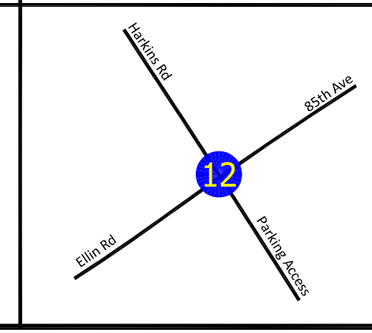
EXHIBIT D-12
TRIP ASSIGNMENT FOR BUILDING #6 OUTBOUND TRIPS

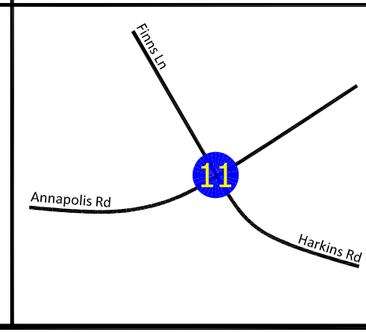


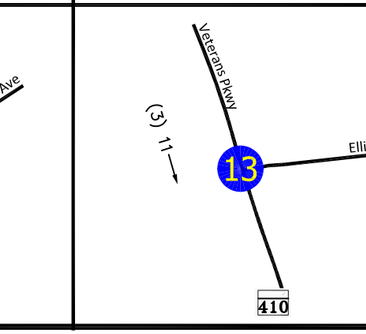


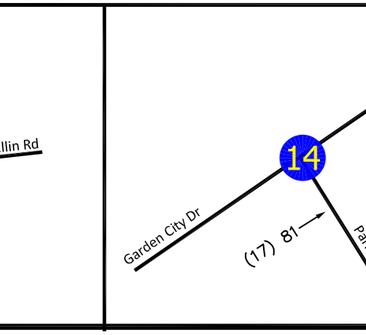


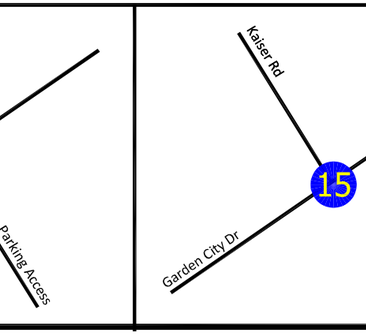










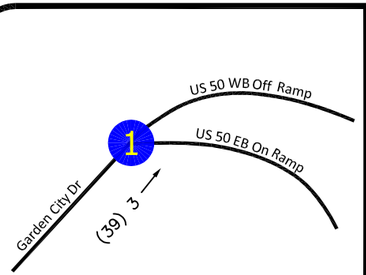


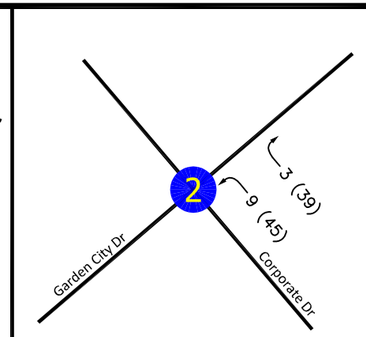
NOT TO SCALE

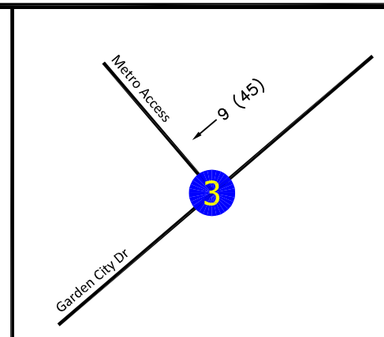
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

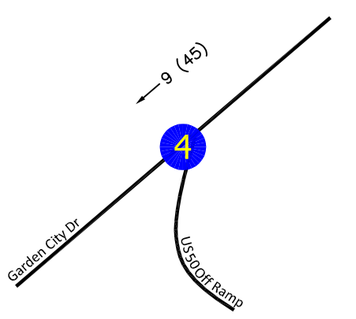
In: 269 (66)

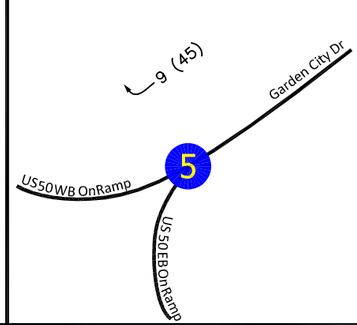
EXHIBIT D-13
TRIP ASSIGNMENT FOR BUILDINGS #7, #8 & #9 (INBOUND TRIPS)

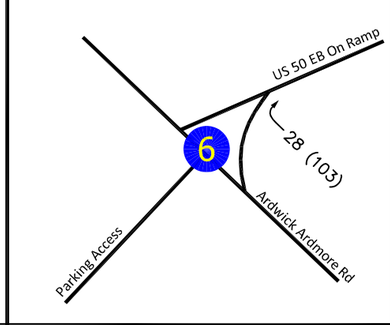


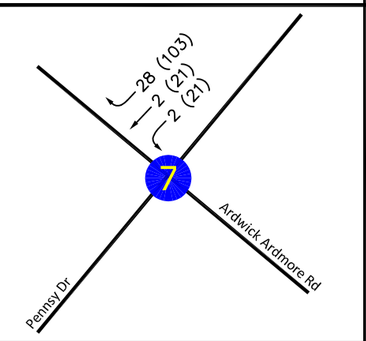


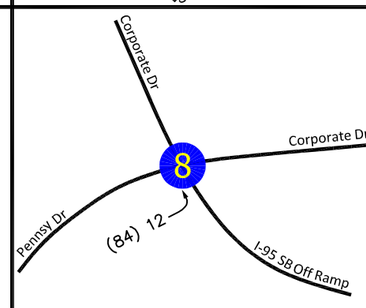


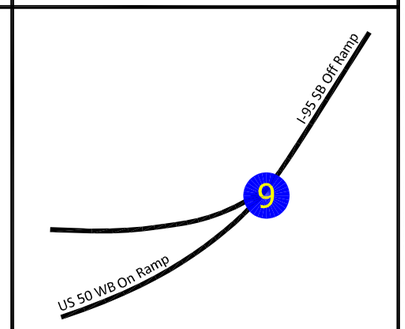


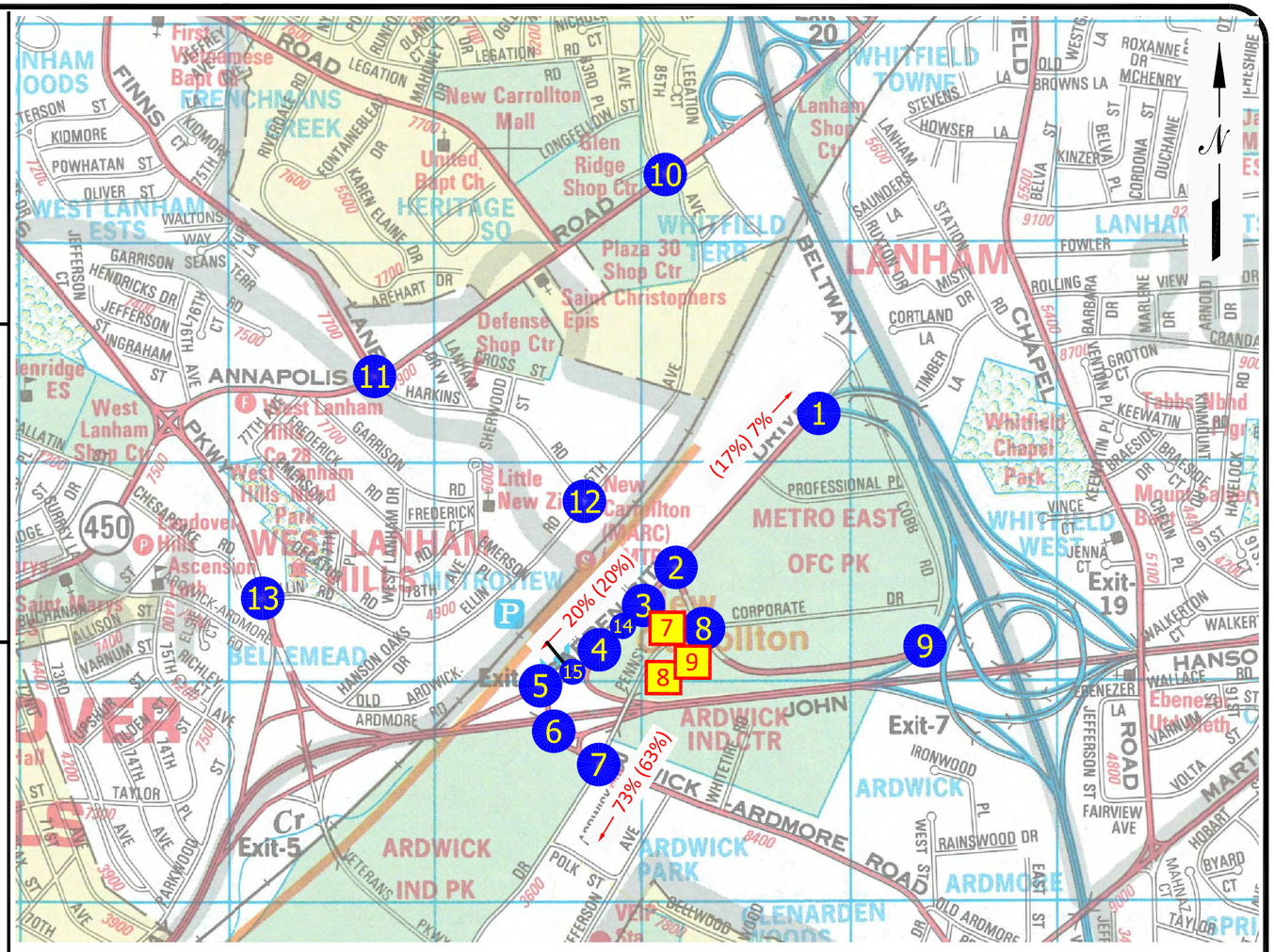


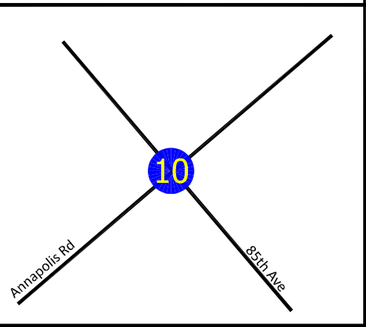


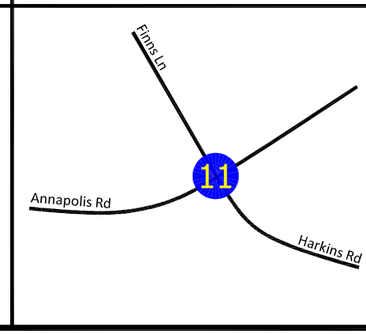


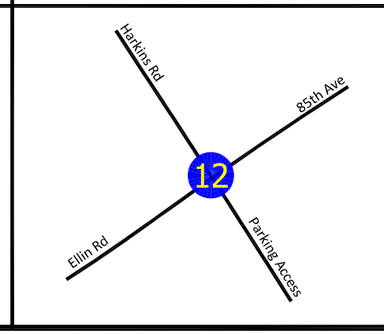


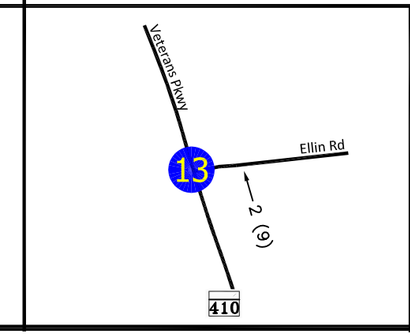


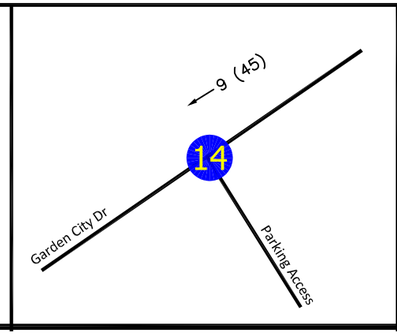


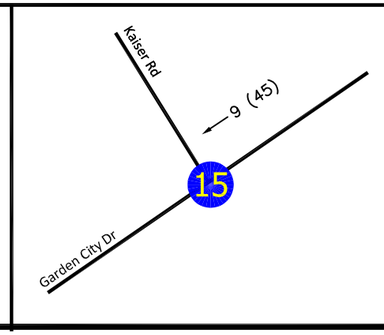










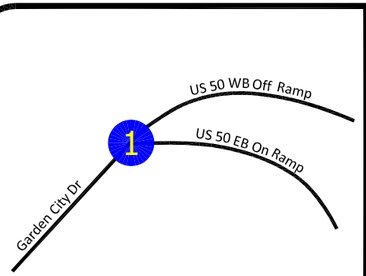


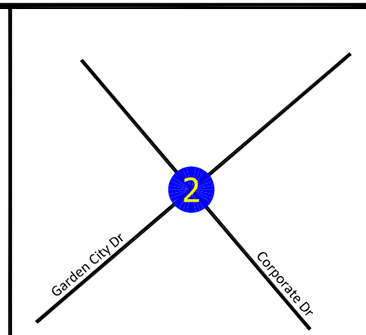
NOT TO SCALE

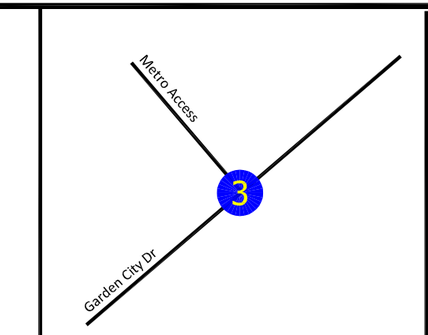
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

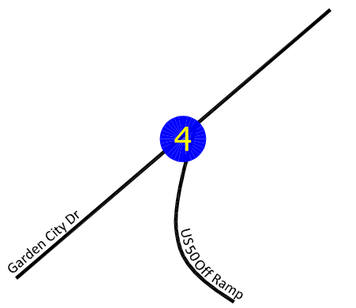
Out: 44 (229)

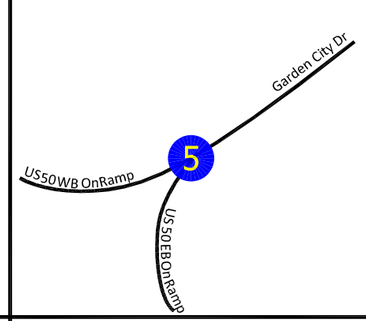
EXHIBIT D-14
TRIP ASSIGNMENT FOR BUILDINGS #7, #8 & #9 OUTBOUND TRIPS

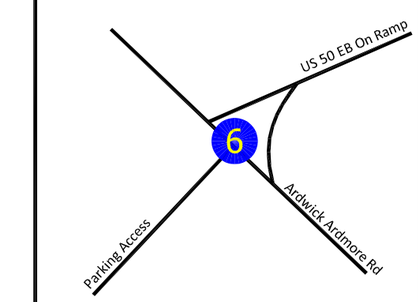


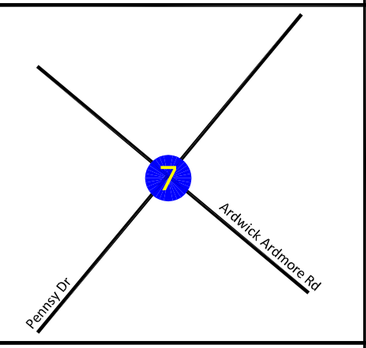


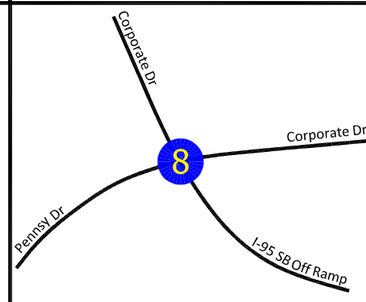


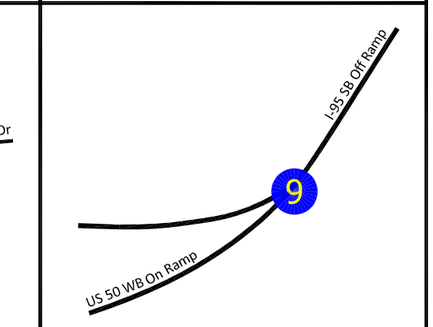


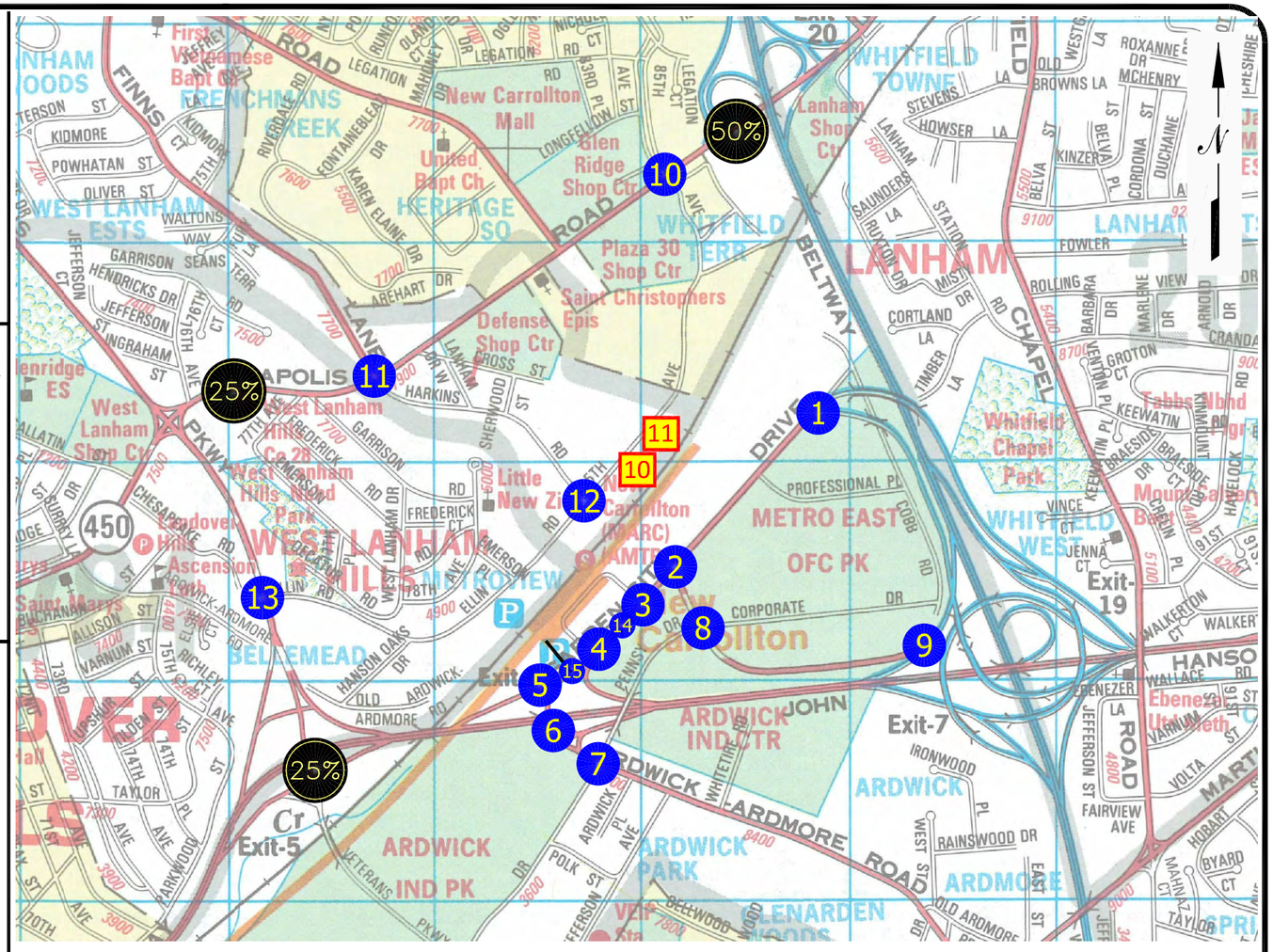


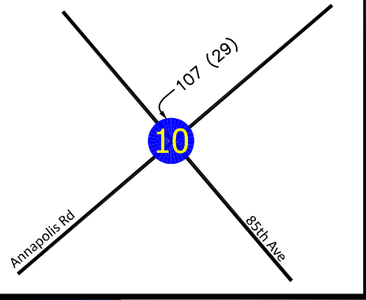


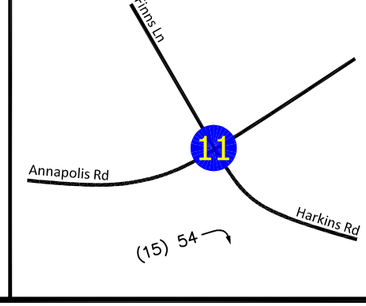


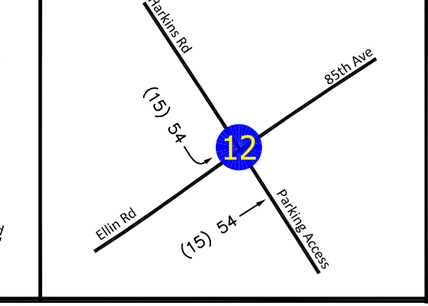


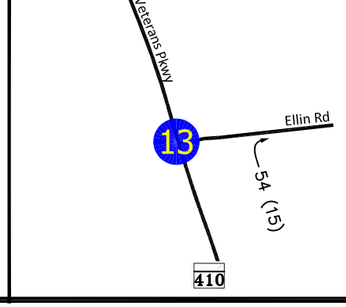


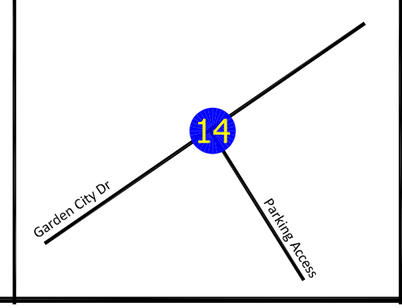


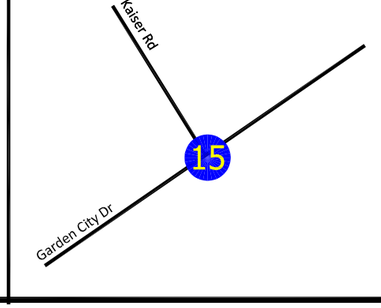










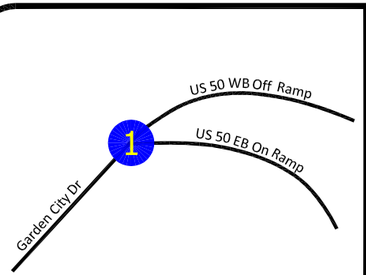


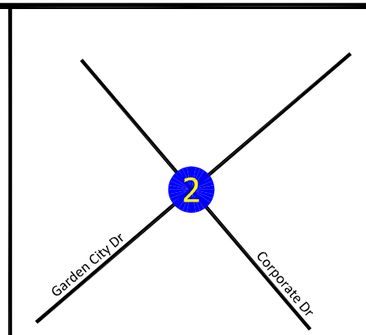
NOT TO SCALE

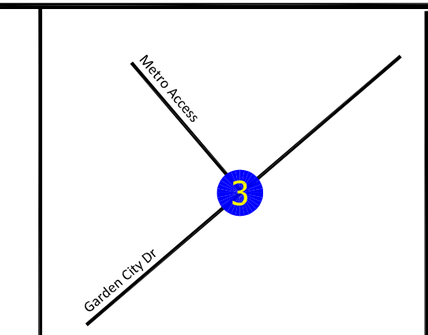
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

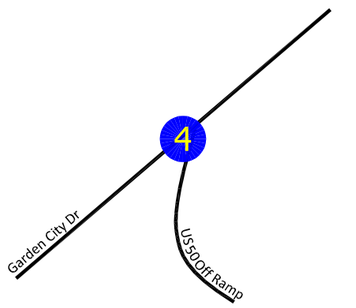
In: 215 (59)

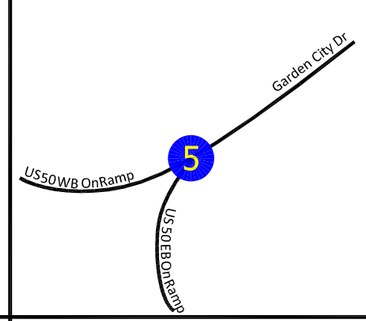
EXHIBIT D-15
TRIP ASSIGNMENT FOR BUILDINGS #10 & #11 INBOUND TRIPS

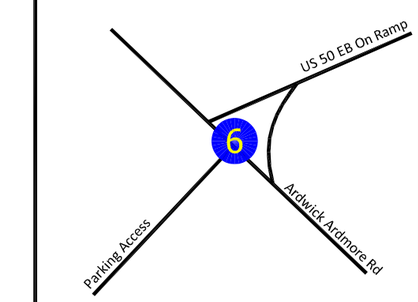


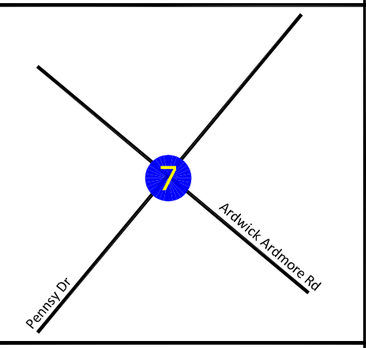


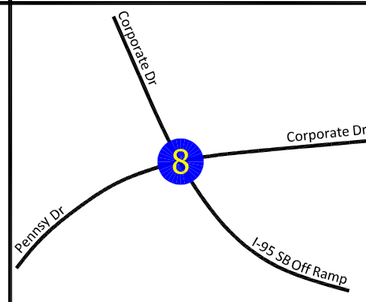


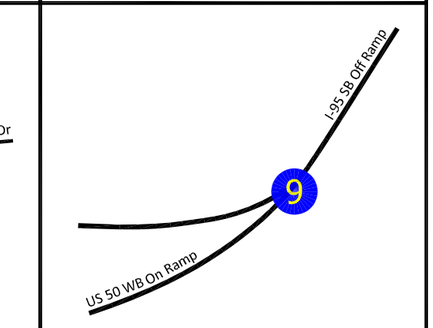


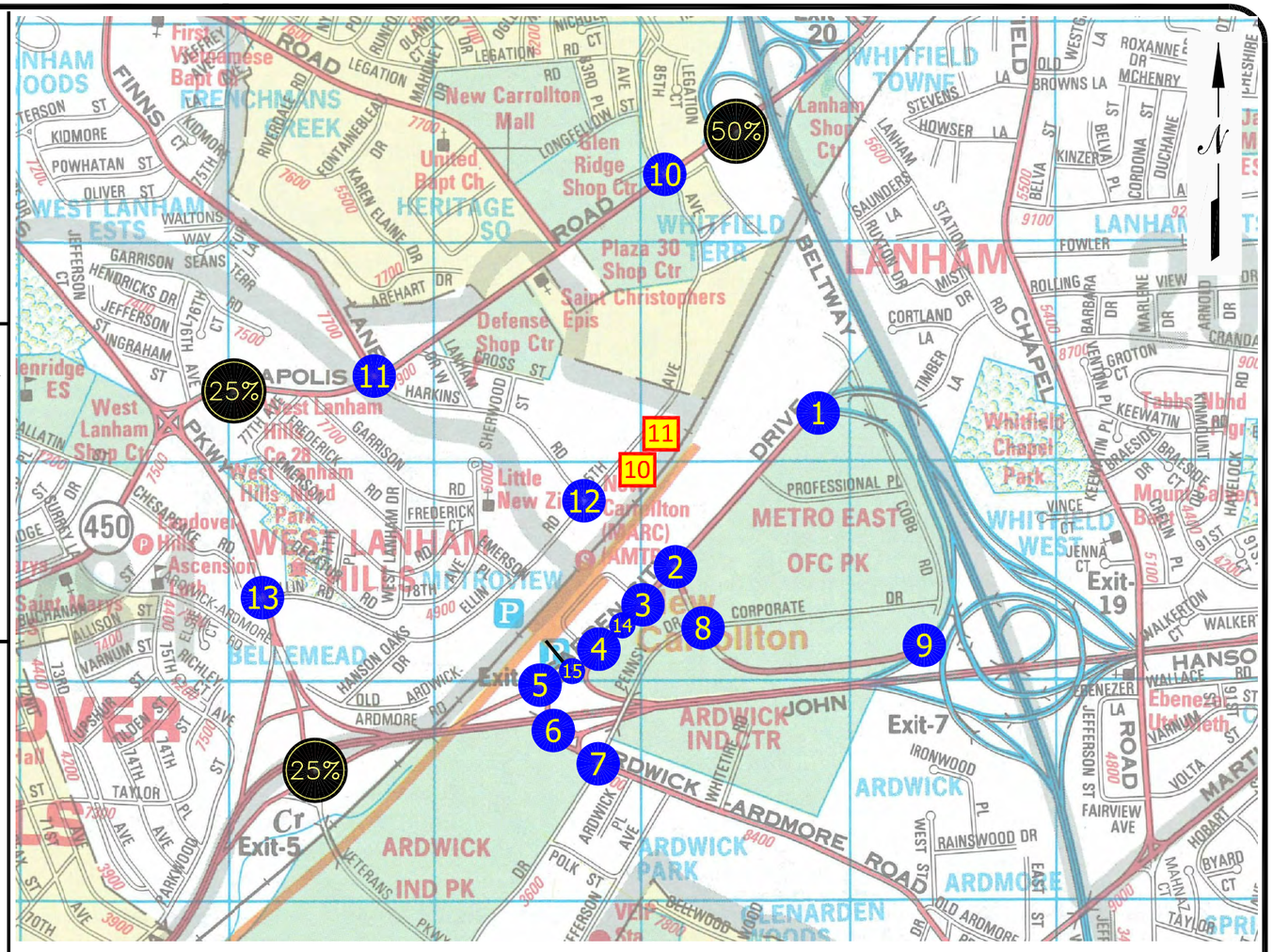


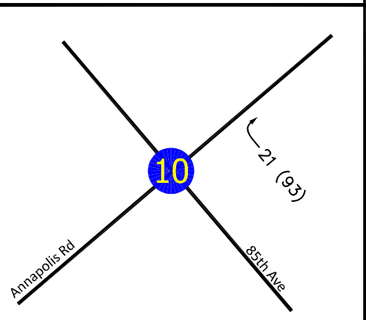


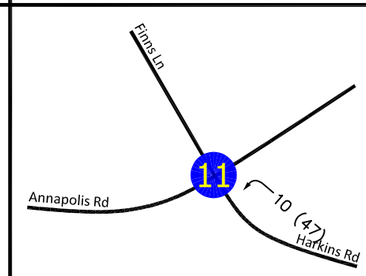


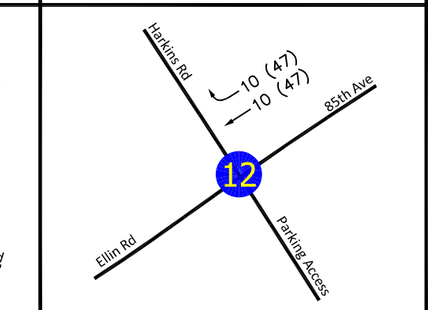


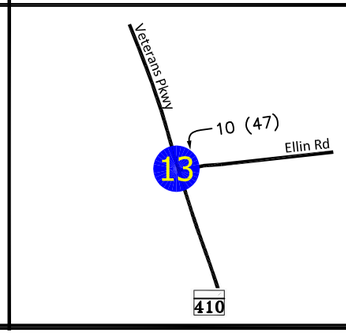


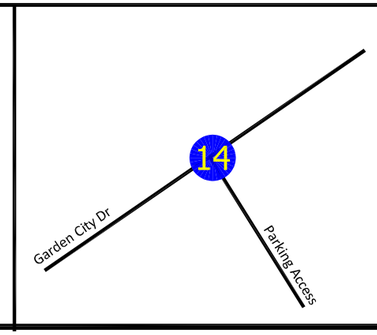


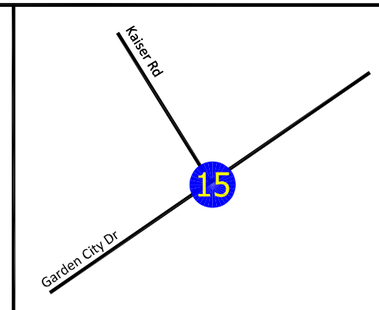










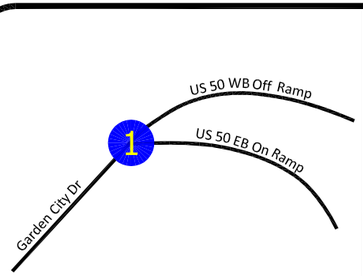


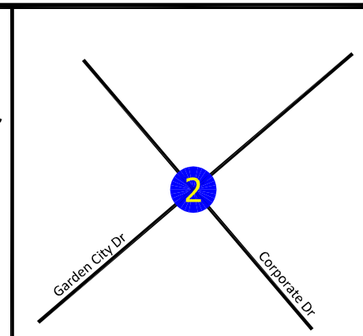
NOT TO SCALE

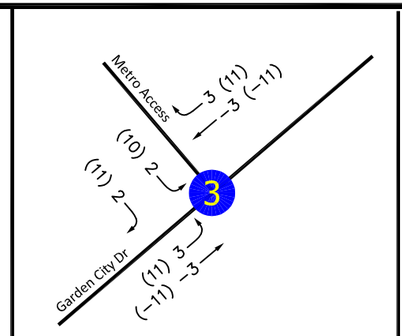
00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

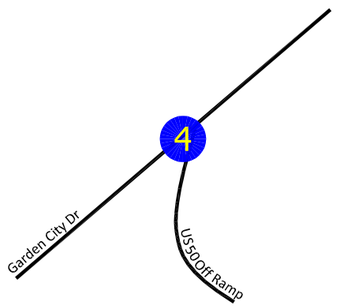
Out: 41 (187)

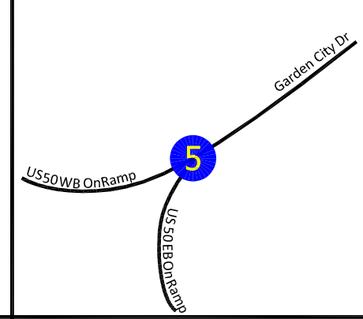
EXHIBIT D-16
TRIP ASSIGNMENT FOR BUILDINGS #10 & #11 OUTBOUND TRIPS

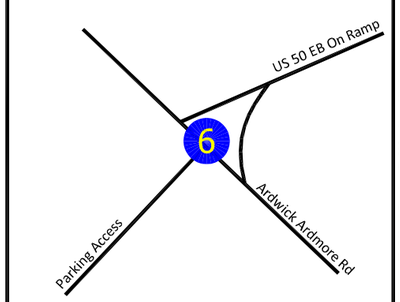


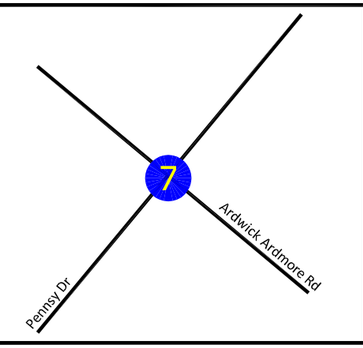


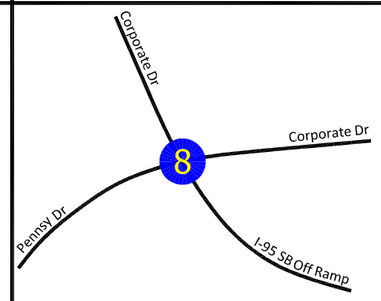


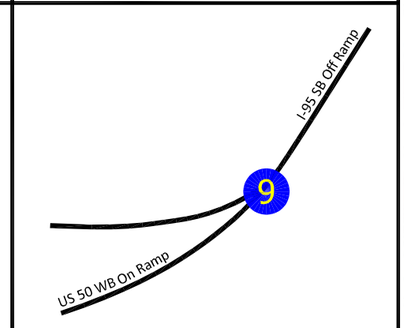


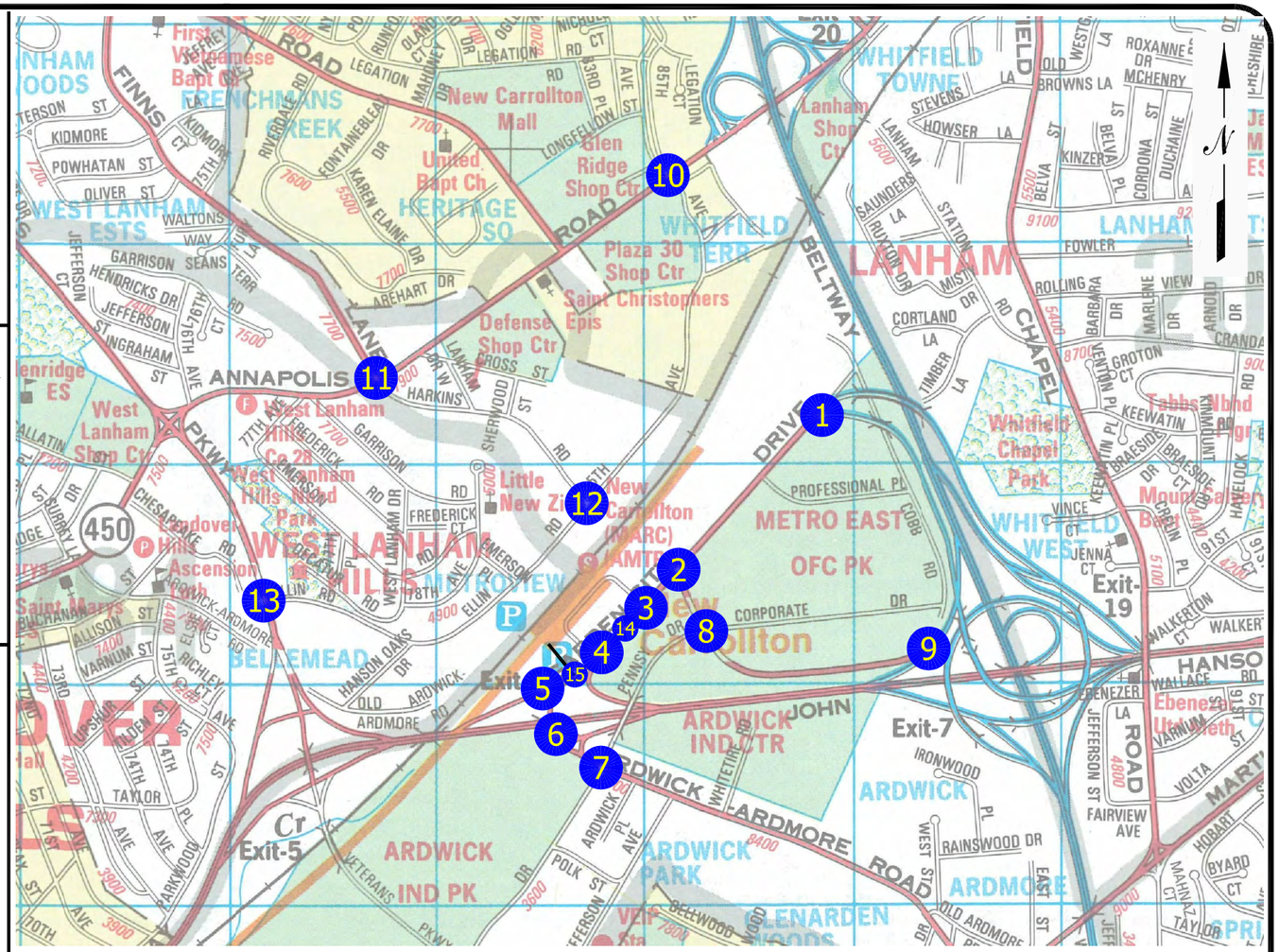


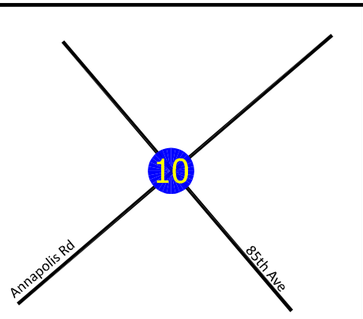


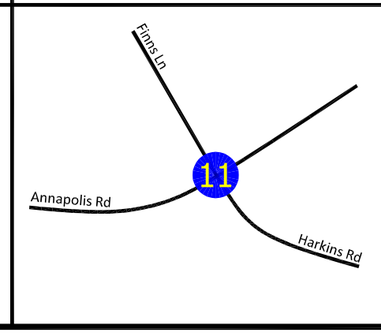


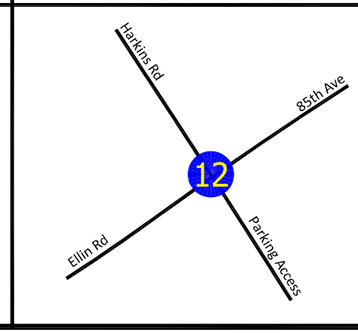


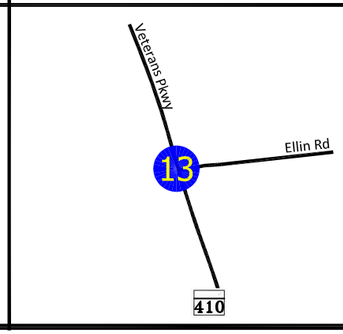


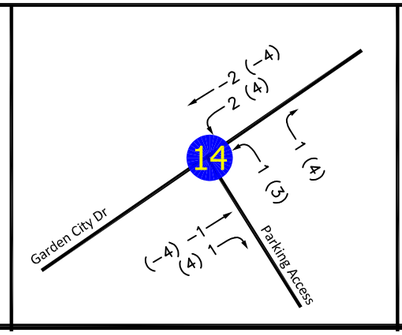


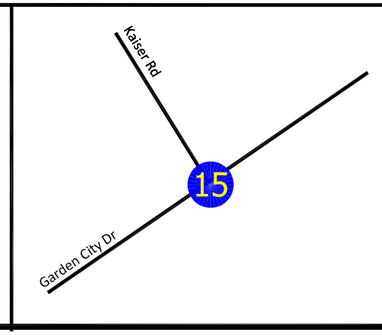












NOT TO SCALE

00 – MORNING PEAK HOUR
(00) – EVENING PEAK HOUR

Pass-By Trips

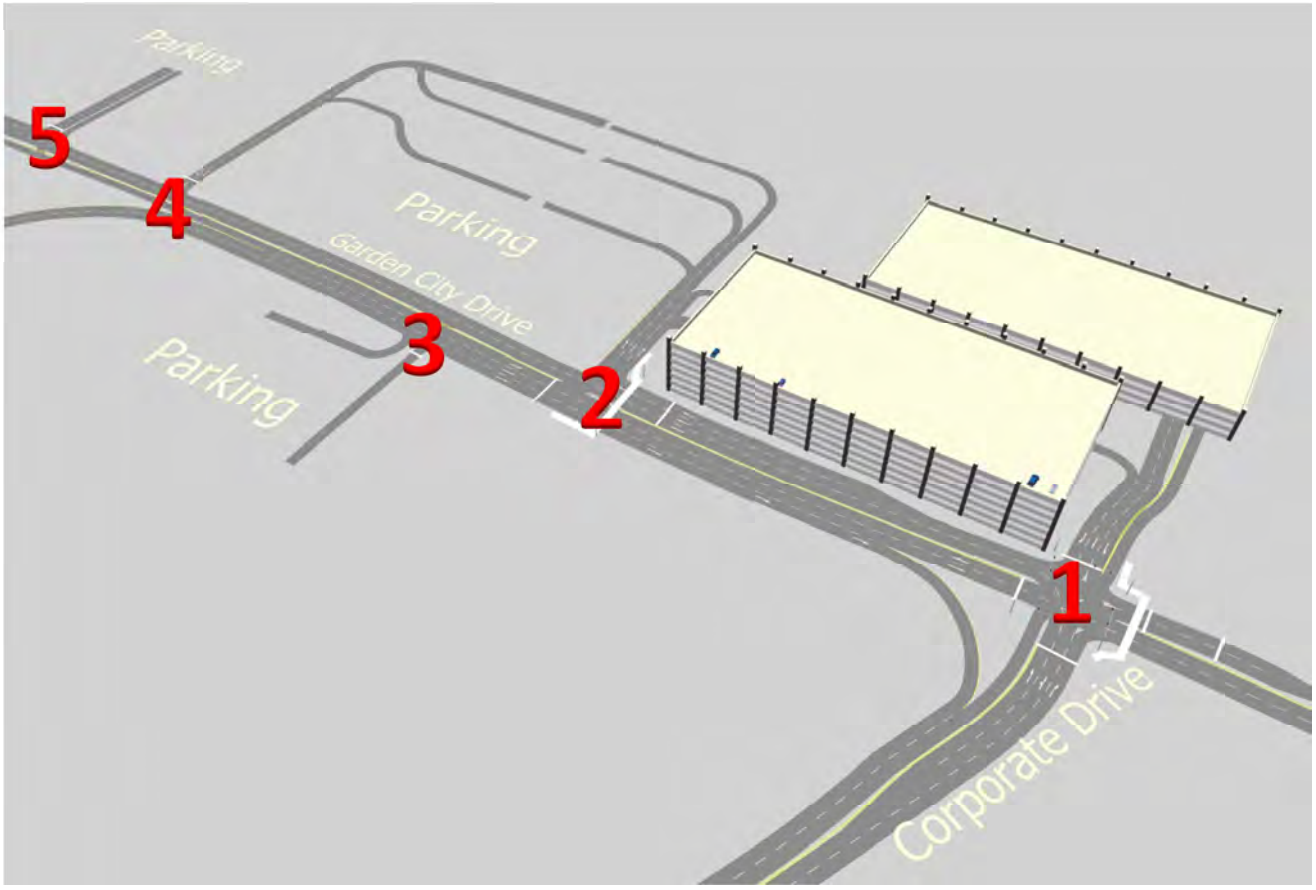
Build#1~#5	Building #6	Building #7~#9	Building #10 & #11
In: 6 (22)	In: 3 (8)	In: 1(4)	In: 2 (8)
Out: 4 (21)	Out: 2 (7)	Out: 1 (4)	Out: 2 (7)

EXHIBIT D-17
PASS-BY TRIP ASSIGNMENT FOR BUILDINGS #1 ~ #10

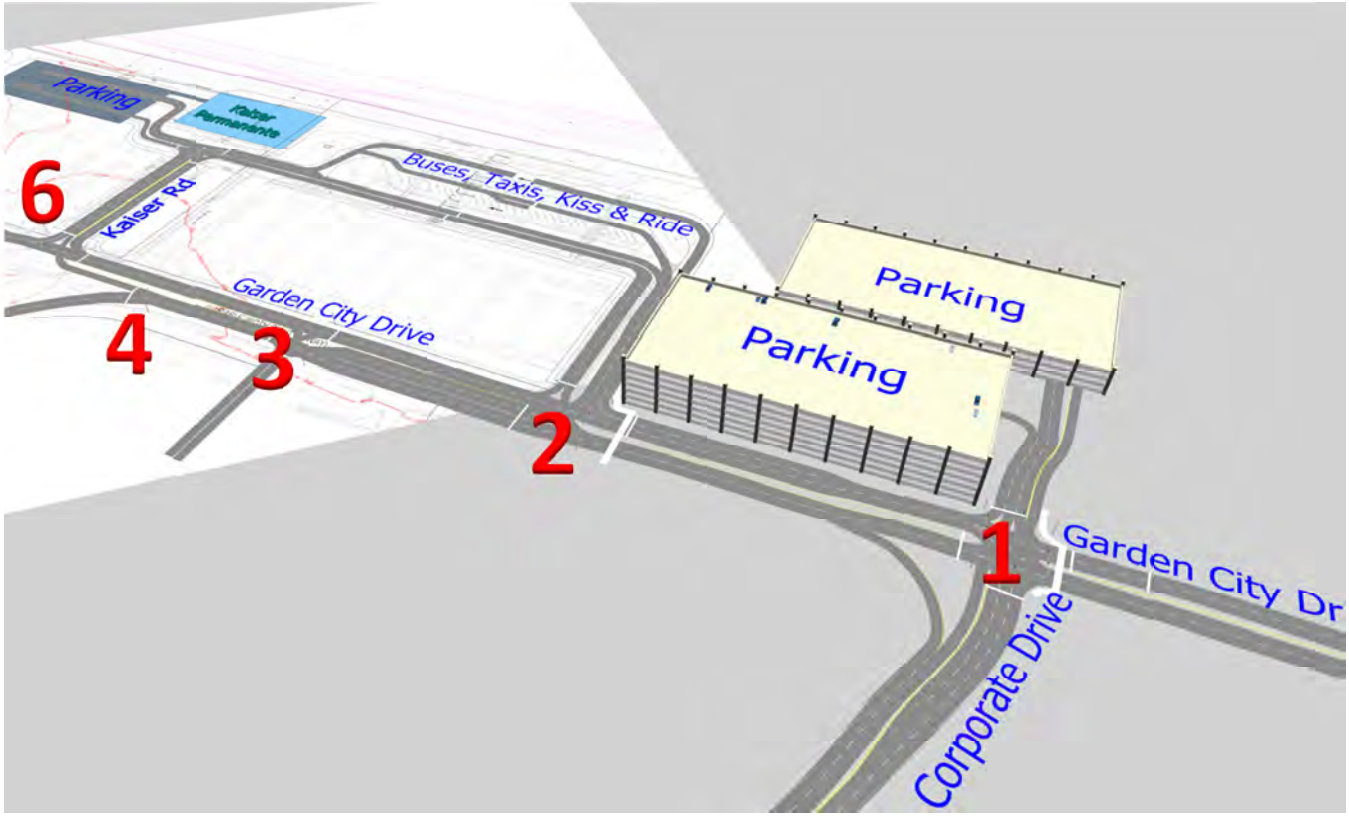
APPENDIX E

Vissim Simulation Results

Existing Condition, Intersections Numbers



2030 Total Condition, Intersections Numbers



RESULTS OF INTERSECTION CAPACITY ANALYSIS (VISSIM)

(LOS/Total Delay in seconds)

	EXISTING	2030 TOTAL
MORNING PEAK HOUR TRAFFIC		
1. Garden City Dr & Corporate Dr	A/9.8	B/15.7
2. Garden City Dr & Metrostation	A/3.2	B/12.3
3. Garden City Dr & SHA Parking	A/4.8 *	A/2.4
4. Garden City Dr & US 50 Offramp	A/9.2 *	A/4.4
5. Garden City Dr & County Parking	A/8.3 *	n/a
6. Garden City Dr & new Kaiser Rd	n/a	A/9.4
EVENING PEAK HOUR TRAFFIC		
1. Garden City Dr & Corporate Dr	B/15.1	B/15.5
2. Garden City Dr & Metrostation	A/2.6	B/15.8
3. Garden City Dr & SHA Parking	A/6.8 *	A/7.4
4. Garden City Dr & US 50 Offramp	B/14.1 *	A/9.7
5. Garden City Dr & County Parking	B/11.9 *	n/a
6. Garden City Dr & new Kaiser Rd	n/a	B/17.5

NOTE:

1. An * indicates worst movement delay at an unsignalized intersection.

2. Intersections 1 and 2 are signalized under Existing condition, and all are signalized under 2030 Total condition.

3. Total Traffic is derived from combining Existing Traffic, growth, nearby projects and subject site.

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RESULTS OF INTERSECTION CAPACITY ANALYSIS (VISSIM)

QUEUING ANALYSIS (VISSIM)

(Average Queue/Maximum Queue) in feet

	EXISTING	2030 TOTAL
MORNING PEAK HOUR TRAFFIC		
1. Garden City Dr & Corporate Dr		
NB LT on Garden City Dr	16/111	13/112
SB LT on Garden City Dr	27/406	31/348
WB on Corporate Dr	22/139	66/371
EB from Garages	1/34	1/32
2. Garden City Dr & Metrostation		
NB LT on Garden City Dr	11/170	52/188
3. Garden City Dr & SHA Parking		
WB exiting Parking Lot	0/26	13/113
4. Garden City Dr & US 50 Offramp		
EB exiting Parking Lot	15/122	n/a
Queue on Offramp	0/0	11/197
5. Garden City Dr & County Parking		
EB exiting Parking Lot	0/45	n/a
6. Garden City Dr & new Kaiser Rd		
EB exiting	n/a	23/103
EVENING PEAK HOUR TRAFFIC		
1. Garden City Dr & Corporate Dr		
NB LT on Garden City Dr	12/103	10/81
SB LT on Garden City Dr	11/201	2/108
WB on Corporate Dr	20/139	49/206
EB from Garages	40/186	32/163
2. Garden City Dr & Metrostation		
NB LT on Garden City Dr	2/74	27/147
3. Garden City Dr & SHA Parking		
WB exiting Parking Lot	3/69	56/186
4. Garden City Dr & US 50 Offramp		
EB exiting Parking Lot	28/157	n/a
Queue on Offramp	0/0	13/134
5. Garden City Dr & County Parking		
EB exiting Parking Lot	4/73	n/a
6. Garden City Dr & new Kaiser Rd		
EB exiting	n/a	60/229

NOTE:

1. Intersections 1 and 2 are signalized under Existing condition, and all are signalized under 2030 Total condition.
2. Total Traffic is derived from combining Existing Traffic, growth, nearby projects and subject site.

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RESULTS OF VISSIM QUEUING ANALYSIS
(AVERAGE QUEUE/MAXIMUM QUEUE)

* File: F:2010-1023A\eng\2016 May\Simulation\NC Existing AM.inpx
* Comment:
* Date: 8/8/16
* PTV Vissim: 8.00 [12]
*
*** Table: Node Results**
*
* TIMEINT: TimeInt, Time interval
* MOVEMENT: Movement, Movement
* QLEN: QLen, Queue length (Average queue length) [ft]
* QLENMAX: QLenMax, Queue length (maximum) [ft]
* VEHS(ALL): Vehs(All), Vehicles (All) (Number of vehicles)
* VEHDELAY(ALL): VehDelay(All), Vehicle delay (average) (All) (Delay of all vehicles.
*

TIMEINT	MOVEMENT	QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)
1000-4600	1-9@131.3-9@236.1	4.29	59.02	146	6.84
1000-4600	1-9@131.3-18@52.3	16.05	111.42	48	18.3
1000-4600	1-10@95.9-10@123.1	0	0	190	0.1
1000-4600	1-11@138.4-9@236.1	0.63	28.89	2	32.2
1000-4600	1-11@138.4-14@29.8	0.63	28.89	3	29.06
1000-4600	1-17@165.8-3@3.4	12.77	113.23	213	12.74
1000-4600	1-17@165.8-18@52.3	12.77	113.23	40	12.64
1000-4600	1-67@106.1-3@3.4	27.38	406.13	517	12.76
1000-4600	1-67@106.1-14@29.8	27.38	406.13	16	10.81
1000-4600	1-67@106.1-18@52.3	27.38	406.13	142	11.95
1000-4600	1-10010@3.0-3@3.4	0.86	34.05	13	7.69
1000-4600	1-10014@1.9-9@236.1	21.79	138.58	151	4.76
	Node 1				**A/9.82**
1000-4600	2-4@210.1-5@61.1	3.91	156.93	266	0.21
1000-4600	2-8@421.9-21@40.8	11.25	170.32	306	8.32
1000-4600	2-8@421.9-68@120.8	7.93	161.51	384	0.07
1000-4600	2-10028@4.4-21@40.8	5.08	157.27	478	4.08
	Node 2				**A/3.2**
1000-4600	3-5@177.9-5@251.1	0	0	228	0.04
1000-4600	3-5@177.9-65@7.8	0.21	29.59	38	2.32
1000-4600	3-8@229.3-8@304.7	0.03	10.02	689	0.26
1000-4600	3-8@229.3-65@7.8	0.03	10.02	38	0.69
1000-4600	3-66@187.6-8@304.7	0.04	25.76	1	**A/4.82**
	Node 3				**Unsignalized**
1000-4600	4-5@613.5-5@707.5	0	0	228	0.15
1000-4600	4-7@774.9-7@838.3	0	0	682	0.06
1000-4600	4-19@268.6-19@355.2	0	0	2	0.11
1000-4600	4-24@318.6-19@355.2	14.77	121.26	43	**A/9.19**

1000-4600	4-24@318.6-10018@41.1	15.24	121.63	245	8.9
	Node 4				**Unsignalized**
1000-4600	5-5@864.4-55@15.3	0	0	380	0.52
1000-4600	5-5@864.4-10039@41.9	0	0	93	0.5
1000-4600	5-10040@1.1-19@109.6	0.12	45.42	2	**A/8.3**
1000-4600	5-10054@1.8-55@15.3	0.09	33.16	1	6.37
	Node 5				**Unsignalized**

Sli, 101023A\2016 May\Simulation Rev\Node Results new.xlsx-NC EXISTING AM_NODE RESULTS, F08/08/16

* File: F:2010-1023A\eng\2016 May\Simulation\NC Existing PM.inpx
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* Date: 8/8/16
* PTV Vissim: 8.00 [12]
*
*** Table: Node Results**
*
* TIMEINT: TimeInt, Time interval
* MOVEMENT: Movement, Movement
* QLEN: QLen, Queue length (Average queue length) [ft]
* QLENMAX: QLenMax, Queue length (maximum) [ft]
* VEHS(ALL): Vehs(All), Vehicles (All) (Number of vehicles)
* VEHDELAY(ALL): VehDelay(All), Vehicle delay (average) (All) (Delay of all vehicles.
*

TIMEINT	MOVEMENT	QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)
1000-4600	1-9@131.3-9@236.1	3.73	50.32	77	12.35
1000-4600	1-9@131.3-18@52.3	12.44	102.72	3	14.97
1000-4600	1-10@95.9-10@123.1	0	0	75	0.08
1000-4600	1-11@138.4-9@236.1	39.11	180.15	184	34.17
1000-4600	1-11@138.4-14@29.8	39.11	180.15	21	18.76
1000-4600	1-17@165.8-3@3.4	12.84	113.7	250	12.88
1000-4600	1-17@165.8-18@52.3	12.84	113.7	3	16.12
1000-4600	1-67@106.1-3@3.4	11.09	200.69	255	17.92
1000-4600	1-67@106.1-14@29.8	11.09	200.69	8	17.22
1000-4600	1-67@106.1-18@52.3	11.09	200.69	4	16.78
1000-4600	1-10010@3.0-3@3.4	40.23	185.83	316	9.06
1000-4600	1-10014@1.9-9@236.1	20.48	139.05	59	4.1
	Node 1				**B/15.07**
1000-4600	2-4@210.1-5@61.1	8.41	181.63	598	2.62
1000-4600	2-8@421.9-21@40.8	2.15	73.82	85	3.55
1000-4600	2-8@421.9-68@120.8	1.58	65.13	156	2.19
1000-4600	2-10028@4.4-21@40.8	5.85	177.37	220	2.4
	Node 2				**A/2.59**
1000-4600	3-5@177.9-5@251.1	0	0	595	0.02
1000-4600	3-5@177.9-65@7.8	0	5.34	1	1.84
1000-4600	3-8@229.3-8@304.7	0	0	219	0.15
1000-4600	3-8@229.3-65@7.8	0	0	1	0.54
1000-4600	3-66@187.6-5@251.1	2.88	68.71	46	**A/6.83**
1000-4600	3-66@187.6-8@304.7	2.56	67.22	22	5.1
	Node 3				**Unsignalized**
1000-4600	4-5@613.5-5@707.5	0	0	642	0.15
1000-4600	4-7@774.9-7@838.3	0	0	147	0.01
1000-4600	4-19@268.6-19@355.2	0	0	3	0.07

1000-4600	4-24@318.6-19@355.2	26.67	157.09	71	11.69
1000-4600	4-24@318.6-10018@41.1	27.81	157.46	278	**B/14.07**
	Node 4				**Unsignalized**
1000-4600	5-5@864.4-55@15.3	0	0	918	0.17
1000-4600	5-5@864.4-10039@41.9	0	0	2	0.37
1000-4600	5-10040@1.1-19@109.6	3.85	73.31	3	10.77
1000-4600	5-10054@1.8-55@15.3	4.19	61.05	69	**B/11.93**
	Node 5				**Unsignalized**

Sli, 101023A\2016 May\Simulation Rev\Node Results new.xlsx-NC EXISTING PM_NODE RESULTS, F08/08/16

* File: F:2010-1023A\eng\2016 May\Simulation Rev\NC Total 2030 AM.inpx
* Comment:
* Date: 8/8/16
* PTV Vissim: 8.00 [12]
*
*** Table: Node Results**
*
* TIMEINT: TimeInt, Time interval
* MOVEMENT: Movement, Movement
* QLEN: QLen, Queue length (Average queue length) [ft]
* QLENMAX: QLenMax, Queue length (maximum) [ft]
* VEHS(ALL): Vehs(All), Vehicles (All) (Number of vehicles)
* VEHDELAY(ALL): VehDelay(All), Vehicle delay (average) (All) (Delay of all vehicles.
*

TIMEINT	MOVEMENT	QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)
1000-4600	1-9@131.8-9@236.4	12.85	111.85	177	12.51
1000-4600	1-9@131.8-18@52.3	12.97	112.16	49	42
1000-4600	1-10@63.2-10@90.6	0	0	416	0.32
1000-4600	1-11@138.4-9@236.4	0.86	27.03	2	46.43
1000-4600	1-11@138.4-14@29.8	0.86	27.03	3	40.99
1000-4600	1-17@165.8-3@2.9	51.45	348.49	829	16.14
1000-4600	1-17@165.8-18@52.3	51.45	348.49	47	20.01
1000-4600	1-63@49.5-63@76.8	0	0	0	
1000-4600	1-67@477.2-3@2.9	28.33	347.82	727	20.64
1000-4600	1-67@477.2-14@29.8	28.33	347.82	186	19.98
1000-4600	1-10010@3.1-3@2.9	1.04	32.38	12	6.69
1000-4600	1-10014@1.9-9@236.4	65.5	370.79	184	15.92
1000-4600	1-10036@3.5-18@52.3	31.26	342.42	152	20.29
	Node 1				**B/15.72**
1000-4600	2-29@2.5-5@29.6	38.25	351.85	800	12.57
1000-4600	2-29@2.5-21@45.1	38.25	351.85	767	8.79
1000-4600	2-54@189.5-10059@44.8	69.56	113.28	7	13.19
1000-4600	2-93@253.4-21@45.1	51.91	188.35	457	21.32
1000-4600	2-93@253.4-68@101.5	51.91	188.35	641	9.53
	Node 2				**B/12.26**
1000-4600	3-5@309.5-5@379.3	0.75	87.25	760	1.45
1000-4600	3-5@309.5-65@3.8	3.54	129.45	48	9.45
1000-4600	3-8@185.3-65@3.8	1.17	65.63	48	0.63
1000-4600	3-8@185.3-10058@9.8	1.17	65.63	626	1.15
1000-4600	3-8@185.3-10060@10.9	1.17	65.63	317	0.92
1000-4600	3-8@185.3-10061@16.9	1.17	65.63	141	0.84
1000-4600	3-66@189.5-5@379.3	12.81	113.46	34	50.59
1000-4600	3-10043@4.8-10058@9.8	11.9	112.29	15	15.63
1000-4600	3-10043@4.8-10060@10.9	11.9	112.29	0	

	Node 3				**A/2.37**
1000-4600	4-7@794.3-10018@16.7	11.09	196.89	1063	3.5
1000-4600	4-19@117.6-10004@19.0	6.25	49.1	67	17.9
	Node 4				**A/4.35**
1000-4600	6-5@727.2-5@819.3	0.18	51.49	671	0.41
1000-4600	6-24@232.9-10040@44.7	22.86	103.05	297	27.02
1000-4600	6-24@232.9-10057@0.0	21.98	101.81	68	44.85
1000-4600	6-10039@2.0-48@3.5	0.17	51.39	123	0.89
1000-4600	6-10057@0.3-10057@71.0	22.47	103.41	68	0.68
	Node 6				**A/9.36**

Sli, 101023A\2016 May\Simulation Rev\Node Results new.xlsx-NC TOTAL 2030 AM_NODE RESULTS, F08/08/16

* File: F:2010-1023A\eng\2016 May\Simulation Rev\NC Total 2030 PM.inpx
* Comment:
* Date: 8/8/16
* PTV Vissim: 8.00 [12]
*
*** Table: Node Results**
*
* TIMEINT: TimeInt, Time interval
* MOVEMENT: Movement, Movement
* QLEN: QLen, Queue length (Average queue length) [ft]
* QLENMAX: QLenMax, Queue length (maximum) [ft]
* VEHS(ALL): Vehs(All), Vehicles (All) (Number of vehicles)
* VEHDELAY(ALL): VehDelay(All), Vehicle delay (average) (All) (Delay of all vehicles.
*

TIMEINT	MOVEMENT	QLEN	QLENMAX	VEHS(ALL)	VEHDELAY(ALL)
1000-4600	1-9@131.8-9@236.4	9.63	80.37	157	17.79
1000-4600	1-9@131.8-18@52.3	9.73	80.68	3	21.41
1000-4600	1-10@63.2-10@90.6	0	0	253	0.24
1000-4600	1-11@138.4-9@236.4	29.26	157.58	192	24.73
1000-4600	1-11@138.4-14@29.8	29.26	157.58	22	22.17
1000-4600	1-17@165.8-3@2.9	36.02	183.78	613	17.06
1000-4600	1-17@165.8-18@52.3	36.02	183.78	2	19.63
1000-4600	1-67@477.2-3@2.9	1.78	108.25	318	21.95
1000-4600	1-67@477.2-14@29.8	1.78	108.25	75	23.51
1000-4600	1-10010@3.1-3@2.9	31.51	163.26	335	8.77
1000-4600	1-10014@1.9-9@236.4	49.46	206.07	132	16.88
1000-4600	1-10036@3.5-18@52.3	1.67	97.24	4	17.12
	Node 1				**B/15.5**
1000-4600	2-29@2.5-5@29.6	57.27	407.69	928	16.65
1000-4600	2-29@2.5-21@45.1	57.27	407.69	337	10.21
1000-4600	2-75@189.5-68@101.0	10.35	90.61	49	43.39
1000-4600	2-75@189.5-10062@43.4	10.35	90.61	28	5.22
1000-4600	2-93@253.4-21@45.1	27.28	147.49	123	27.85
1000-4600	2-93@253.4-68@101.0	27.28	147.49	365	11.89
	Node 2				**B/15.82**
1000-4600	3-5@309.5-5@379.3	4.34	209.85	920	2.07
1000-4600	3-5@309.5-65@6.1	7	254.02	35	3.52
1000-4600	3-8@185.3-65@6.1	1.5	83.19	17	1.04
1000-4600	3-8@185.3-10058@9.8	1.5	83.19	335	1.38
1000-4600	3-8@185.3-10060@10.9	1.5	83.19	69	1.86
1000-4600	3-8@185.3-10061@16.9	1.5	83.19	56	2.2
1000-4600	3-66@188.2-5@379.3	55.6	186.2	71	88.11
1000-4600	3-10043@3.4-8@256.8	54.63	185.03	4	70.62
1000-4600	3-10043@3.4-10058@9.8	54.63	185.03	31	62.87

1000-4600	3-10043@3.4-10060@10.9	54.63	185.03	0	24.78
	Node 3				**A/7.41**
1000-4600	4-7@794.3-10018@16.7	12.87	133.93	330	11.74
1000-4600	4-19@128.6-10004@19.0	3.62	41.45	148	5.16
	Node 4				**A/9.7**
1000-4600	6-5@727.2-5@819.0	40.97	371.35	979	12.23
1000-4600	6-10039@6.4-48@9.0	40.93	371.27	13	13.6
1000-4600	6-10040@14.4-10040@50.9	57.79	222.89	592	21.22
1000-4600	6-10057@14.7-10057@83.8	60.1	228.59	149	37.32
	Node 6				**B/17.46**

Sli, 101023A\2016 May\Simulation Rev\Node Results new.xlsx-NC TOTAL 2030 PM_NODE RESULTS, F08/08/16

Appendix C: Approved 2013 Natural Resources Inventory Plan

NEW CARROLLTON

NATURAL RESOURCE INVENTORY PLAN

GENERAL NOTES:

1. THIS SITE IS ZONED M-X-T AND IS LOCATED IN THE DEVELOPED TIER AS DEFINED IN THE APPROVED GENERAL PLAN.
2. THE SOURCE OF THE PROPERTY BOUNDARIES ON THIS PLAN IS FROM A BOUNDARY SURVEY COMPLETED BY LOIEDERMAN SOLTESZ ASSOCIATES.
3. THE TOPOGRAPHY SHOWN WAS AERIALLY FLOWN IN BY VIRGINIA RESOURCE MAPPING ON 01/30/2012.
4. THE SOURCE OF THE SOILS INFORMATION ON THIS PLAN IS FROM THE USDA NRCS WEB SOIL SURVEY (WSS) IN A CUSTOM SOIL RESOURCE REPORT FOR AN AREA OF INTEREST (AOI) ESTABLISHED FOR THE SUBJECT SITE ONLY AND GENERATED ON APRIL 30, 2012.
5. 100 YEAR FLOODPLAIN IS FROM A FLOODPLAIN STUDY DONE BY GREENHORNE & O'MARA, INC., DATED DECEMBER 17, 1991.
6. THE WETLAND AND STREAM INFORMATION ON THIS PLAN IS FROM A STUDY PREPARED BY TERRA CONSULTANTS, INC., IN A STUDY DATED APRIL 30, 2012.
7. THIS SITE DOES NOT CONTAIN WETLANDS OF SPECIAL STATE CONCERN AS DEFINED IN COMAR 26.23.06.01.
8. THIS SITE DOES NOT CONTAIN A TIER II WATER BODY AS DEFINED IN COMAR 26.08.02.04.
9. THIS SITE IS NOT LOCATED WITHIN A STRONGHOLD WATERSHED AS ESTABLISHED BY THE MD DNR.
10. IN A LETTER DATED APRIL 2, 2012 WILDLIFE AND HERITAGE SERVICE, MD DNR, INDICATES THAT THERE IS NO RECORD OF RARE, THREATENED, OR ENDANGERED SPECIES ON SITE.
11. THE SITE DOES NOT INCLUDE FOREST INTERIOR DWELLING SPECIES HABITAT.
12. THE SITE IS NOT SUBJECT TO A PREVIOUSLY APPROVED TCP.
13. THERE ARE NO SPECIMEN, CHAMPION AND/OR HISTORIC TREES LOCATED ON THE PROPERTY.
14. THERE ARE NO SCENIC ROADS ON OR ADJACENT TO THIS PROPERTY.
15. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN A REGISTERED HISTORIC DISTRICT.
16. THERE ARE NO KNOWN ARCHEOLOGICAL SITES LOCATED ON THE SUBJECT PROPERTY
17. MARLBORO CLAY AND CHRISTIANA CLAY ARE NOT FOUND TO OCCUR ON OR WITHIN THE IMMEDIATE VICINITY OF THIS PROPERTY.
18. THE SITE IS LOCATED IN THE VICINITY OF A MASTERPLANNED ROADWAY DESIGNATED AS A FREEWAY (JOHN HANSON HIGHWAY (US ROUTE 50)).
19. THE SUBJECT PROPERTY IS NOT LOCATED WITHIN THE 65-80 DBA NOISE CONTOURS AS FOUND IN THE 2008 AIR INSTALLATION COMPATIBLE USE ZONE (AICUZ) STUDY FOR ANDREWS AIR FORCE BASE.
20. THE SITE IS NOT LOCATED WITHIN AN AVIATION POLICY AREA (APA).
21. THE SITE IS NOT LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA (CBCA).
22. AN APPROVED NRI IS VALID FOR FIVE YEARS FROM THE DATE OF SIGNATURE BY STAFF. OR UNTIL INFORMATION USED TO PREPARE THE NRI CHANGES. NRIS WILL BE REQUIRED TO BE REVISED AND RE-APPROVED IF THE BASE INFORMATION CHANGES SIGNIFICANTLY. APPROVAL OF THIS NRI IN NO WAY IMPARTS ANY OTHER DEVELOPMENT APPLICATION APPROVALS.
23. THE SITE IS LOCATED WITHIN A PRIORITY FUNDING AREA

FOREST STAND NARRATIVE

The Maryland Forest Conservation Act of 1991 requires that a full Forest Stand Delineation must be prepared for development projects that impact 40,000 square feet or larger. This project encompasses several parcels, most of which are already partially to fully developed as part of the existing transit and parking facilities. The Parcels south of the tracks abut Garden City Drive, Corporate Drive and Route 50. The Parcels to the north side of the tracks abut and may be accessed from Ellin Road. Access to the southern parcels may be gained from Garden City Drive, a Route 50 Access ramp-Pennsy Drive and Corporate Drive. The total area of the Parcels is 36.35acres.

The Site parcels include:
-TMG 52AZ Parcel 122 which is in two portions divided by Pennsy Drive, which is also part of this Parcel. The Southeast portion is 4.54ac, Titled SITE#1, The Pennsy Drive portion is 1.18ac, the Southwest portion is 10.07 ac, Titled SITE#2 or a total of 15.79ac. This parcel group 122 is owned by the Mass Transit Administration, Tax account 2253250.

- TMG 51FZ, southwest, 7.21ac, owned by Washington Mass Transit Authority, Tax Account 2190668. Titled SITE#3

-TMG 52AZ, directly southwest of the westbound New Carrollton Station, 8.03ac, Washington Mass Transit Authority, Tax Account 2275626. Titled SITE#4

-The group of Parcels northwest of the tracks consisting of Parcels 55,12,83,220, 10 - 27, totaling 6.52ac Titled SITE#5

METHODOLOGY
This office investigated the site on two dates, in March and April. It was determined that there were few areas of actual woodland with canopy, understory, shrub and ground layer and that these were small and not configured in a way that 0.10ac sample plots could be executed. A vegetation description was prepared of each zone and each Parcel with individual trees notes and labeled.

OVERALL: These parcels are for the most part developed or highly disturbed areas, with poor soils and high concentrations of invasive species. Large areas are paved parking areas. There is a wetland complex running through the parcels. (See Wetlands Report). There is no evidence of rare, endangered or threatened species, in fact there is little evidence of many types of wildlife. There are areas of steeps slopes. Some songbirds, such as Mookingbird and Sparrows were apparent. There is a beaver dam on Site #2 and some Canada Geese.

SITE #1 FOREST STAND AND VEGETATION SUMMARY
Forest Stand A, Mature Bradford Pear 28,400sf or 0.65ac
Forest Stand B White Poplar, two stands; 2,800sf and 1,880sf: total 4,680sf or 0.10ac
The remainder of the site is non-wooded .
TOTAL SITE #1 AREA: 4.54ac
TOTAL WOODED AREA: 0.75ac or 16.5% of the site

SITE #2 FOREST STAND AND VEGETATION SUMMARY
Forest Stand A, Mature Bradford Pear; Three stands, 2,700sf or 0.06ac, 17,450sf or 0.40ac and 2,100sf or 0.05ac: Total 0.51ac.
Forest Stand C, Ailanthus -Box Elder; 19,180sf or 0.44ac.
Forest Stand D, Red Maple - BoxElder-Lowland; 14,260sf or 0.33ac
Forest Stand E, Red Maple-BoxElder-upland; 4,600sf or 0.11ac
The remainder of site is non wooded.
TOTAL SITE #2 AREA: 10.04ac
TOTAL WOODED AREA: 1.39ac or 13.8% of the site

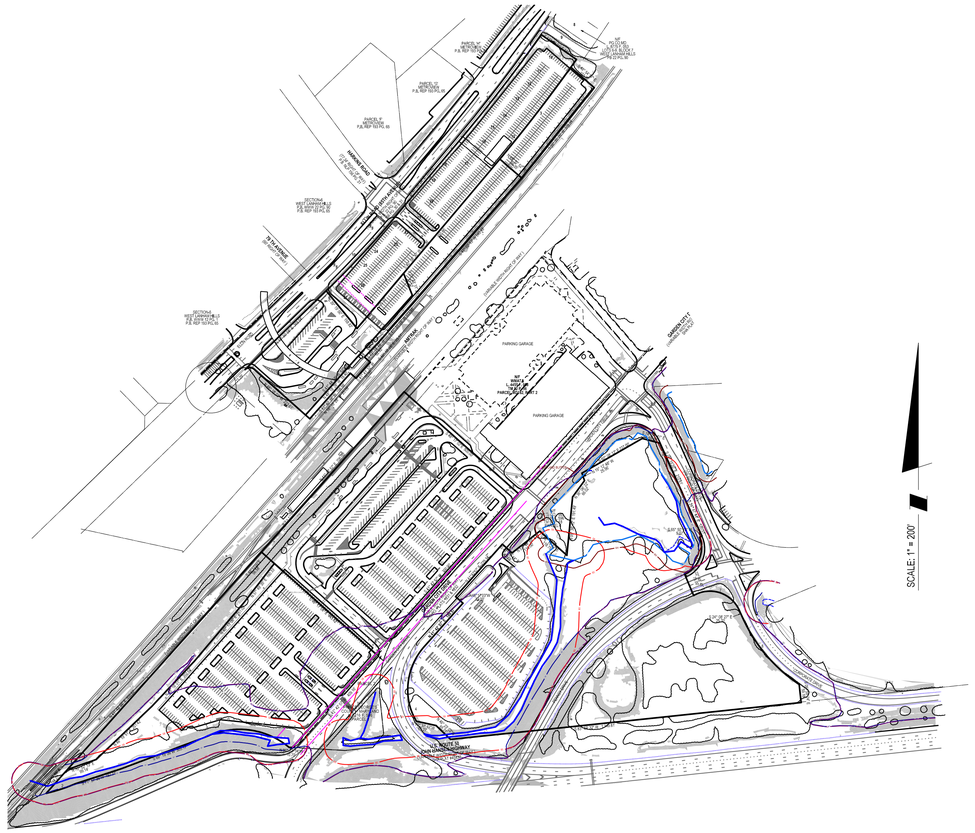
SITE #3
Forest Stand A, Mature Bradford Pear 1,800sf or 0.04ac
Forest Stand C, Ailanthus; 2,030sf or 0.05ac.
Forest Stand F, Red Maple; 1,000sf on site or 0.02ac
Forest Stand G, Sweet Gum; 18,800sf or 0.43ac

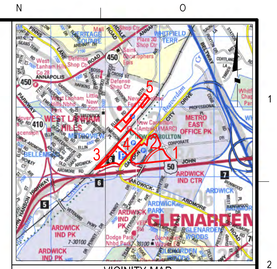
TOTAL SITE #3 AREA: 7.21ac
TOTAL WOODED AREA: 0.54ac or 7.5% of the site

TOTAL SITE #4 AREA: 8.03 ac
TOTAL WOODED AREA: 0ac or 0%

TOTAL SITE #5 AREA: 6.53ac
TOTAL WOODED AREA: 0 ac or 0%

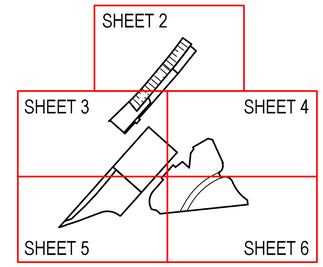
TOTAL OF ALL SITE AREAS: 36.35ac
TOTAL WOODED AREA FOR ALL PARCELS: 2.68ac or 7.37%





SHEET INDEX

KEY PLAN



LEGEND

- PROPERTY BOUNDARY
- SOIL LINE
- WETLANDS
- WETLAND BUFFER
- WATERS OF THE U.S.
- STREAM BUFFER
- FLOODPLAIN
- PRIMARY MANAGEMENT AREA
- FOREST STAND BOUNDARY
- EXISTING WOODLANDS
- STEEP SLOPES 15% AND GREATER
- EXISTING VEGETATION

This map is a reference to the NRI Report's site terminology only.

SOILS
Soils are from Web Soil Survey of Prince George's County, Maryland

SOILS TABLE

SYM	NAME	DRAINAGE CLASS	K FACTOR - EROSION	HYDROLOGIC GROUP AND HYDRIC RATING
CdE	Christiana-Downer Complex, slopes	-	.49	C Not Hydric
Iu	Issue-Urban land complex, occasionally flooded, 2 – 5% slopes	SOMEWHAT POORLY DRAINED	.37	C Part Hydric
RcB	Russett-Christiana-Urban land complex, 2 – 5% slopes	-	.28	C Not Hydric
RuB	Russett-Christiana-Urban complex, 0 -5% slopes	MODERATELY WELL DRAINED	-	C Not Hydric
SnD	Sassafras-Urban land complex, 5 – 15% slopes	WELL DRAINED	.28	B Not Hydric
UdaF	Udorthents, highway, 0 – 65% slopes	WELL DRAINED	-	D Not Hydric
UrkB	Urban land –Issue complex, o – 5% slopes	-	-	D Not Hydric
UrrB	Urban land-Russett-Christiana complex, 0 – 5% slopes	-	-	D Not Hydric
UrsB	Urban land-Sassafras complex, 0 -5% slopes	-	-	D Not Hydric
UfwB	Urban land-Woodstown complex, 0 – 5% slopes	-	-	D Not Hydric
Zn	Zekiah-Urban land complex, frequently flooded	POORLY DRAINED	-	D Part Hydric
ZS	Zekiah and Issue soils, frequently flooded	POORLY DRAINED	.37	D Part Hydric

Site Statistics: Area Total

Site Statistics	Total
Gross tract area	36.35 acres
Existing 100-year floodplain	12.83 acres
Net tract area	23.52 acres
Existing woodland In the floodplain	1.63 acres
Existing woodland net tract	1.23 acres
Existing woodland total	2.86 acres
Existing PMA	13.23 acres
Regulated streams (linear feet of centerline)	2,034'

Site Statistics: Area 1

Site Statistics	Total
Gross tract area	4.54 acres
Existing 100-year floodplain	0.00 acres
Net tract area	4.54 acres
Existing woodland In the floodplain	0.00 acres
Existing woodland net tract	0.93 acres
Existing woodland total	0.93 acres
Existing PMA	0.00 acres
Regulated streams (linear feet of centerline)	0'

Site Statistics: Area 2

Site Statistics	Total
Gross tract area	10.04 acres
Existing 100-year floodplain	9.21 acres
Net tract area	0.83 acres
Existing woodland In the floodplain	1.09 acres
Existing woodland net tract	0.30 acres
Existing woodland total	1.39 acres
Existing PMA	9.61 acres
Regulated streams (linear feet of centerline)	1,438'

Site Statistics: Area 3

Site Statistics	Total
Gross tract area	7.21 acres
Existing 100-year floodplain	3.41 acres
Net tract area	3.80 acres
Existing woodland In the floodplain	0.54 acres
Existing woodland net tract	0.00 acres
Existing woodland total	0.54 acres
Existing PMA	3.41 acres
Regulated streams (linear feet of centerline)	596'

Site Statistics: Area 4

Site Statistics	Total
Gross tract area	8.03 acres
Existing 100-year floodplain	0.21 acres
Net tract area	7.82 acres
Existing woodland In the floodplain	0.00 acres
Existing woodland net tract	0.00 acres
Existing woodland total	0.00 acres
Existing PMA	0.21 acres
Regulated streams (linear feet of centerline)	0'

Site Statistics: Area 5

Site Statistics	Total
Gross tract area	6.53 acres
Existing 100-year floodplain	0.00 acres
Net tract area	6.53 acres
Existing woodland In the floodplain	0.00 acres
Existing woodland net tract	0.00 acres
Existing woodland total	0.00 acres
Existing PMA	0.00 acres
Regulated streams (linear feet of centerline)	0'

200 100 0 200 400

Qualified Professional Certification

This plan complies with the current requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Manual.

K. Gray Gentili Jr. Date
Landscape Architect #: MD 419
Terra Consultants
431 Fourth Street
Annapolis, MD 21403
410-295-6840
email: terra_consultants@yahoo.com

M-NCPPC
Prince George's Planning Department
Environmental Planning Section
NATURAL RESOURCES INVENTORY

APPROVAL

NRI / 008 / 13

	STAFF SIGNATURE	DATE
INITIAL APPROVAL		
01 REVISION		
02 REVISION		

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www.LSAssociates.net

Rockville
Lanham
Waldorf
Leonardtown

NO.	REVISIONS	BY	DATE

DATE: MARCH 2012 CAD STANDARDS VERSION: V8 - 2005
DESIGNED: GAM TECHNICIAN: GAM CHECKED: WKD

MISS UTILITY NOTE

INFORMATION CONCERNING EXISTING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND UTILITY CROSSINGS BY DIGGING TEST PITS BY HAND. WELL IN ADVANCE OF THE START OF EXCAVATION. CONTACT "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES. WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY COMPANY BEFORE PROCEEDING WITH CONSTRUCTION. CLEARANCES LESS THAN NOTED MAY REQUIRE REVISIONS TO THIS PLAN.

OWNER/DEVELOPER/APPLICANT

WASHINGTON METRO AREA TRANSIT AUTHORITY
6TH AND D ST NW
WASHINGTON, DC 20004

MASS TRANSIT AUTHORITY
6 ST. PAUL STREET, SUITE 1204
BALTIMORE, MD 21202

MAP 13 GRID D5, E5

TAX MAP	ZONING CATEGORY:
52, A1	M-X-T
WSSC 200' SHEET	XXXX:
206NE07	XXXX
SITE DATUM HORIZONTAL: XXXXXX VERTICAL: XXXXXX	XXXX:
	XXXX

COVER SHEET

NATURAL RESOURCE INVENTORY
NEW CARROLLTON

LANHAM (20th) ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

1" = 200'
SHEET 1 OF 6
PROJECT NO. 1958-00-00

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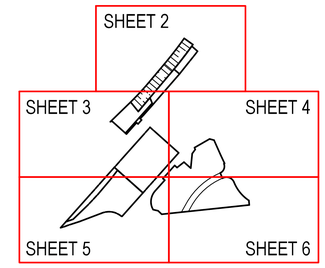
KEY PLAN



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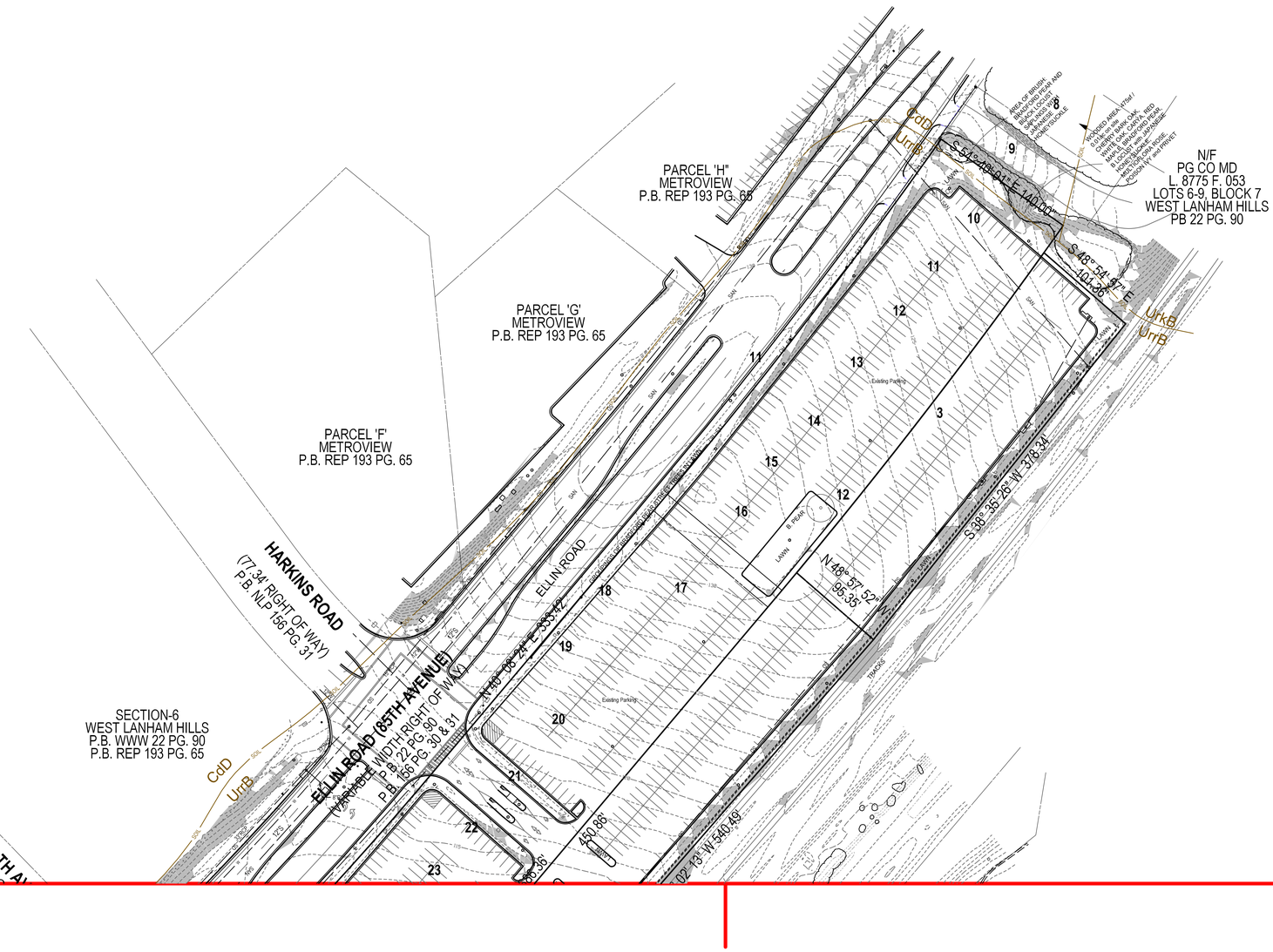

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50 25 0 50 100

SCALE: 1" = 50'

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M-NCPPC
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APPROVAL

NRI / 008 / 13

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02 REVISION		

PLAN SHEET

NATURAL RESOURCE INVENTORY
NEW CARROLLTON

LANHAM (20th) ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

SHEET 2 OF 6

PROJECT NO. 1958-00-00

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www.LSAssociates.net

NO.	REVISIONS	BY	DATE

DATE: MARCH 2012 — CAD STANDARDS VERSION: V8 - 2000
DESIGNED: GAM — TECHNICIAN: GAM — CHECKED: WKD

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MAP	GRID
13	D5, E5

TAX MAP	ZONING CATEGORY:
52, A1	M-X-T
WSSC 200' SHEET	XXXX:
206NE07	XXXX
SITE DATUM HORIZONTAL: XXXXXX VERTICAL: XXXXXX	XXXX: XXXX

1" = ONE INCH = 50'

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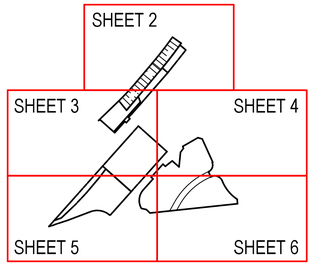
KEY PLAN



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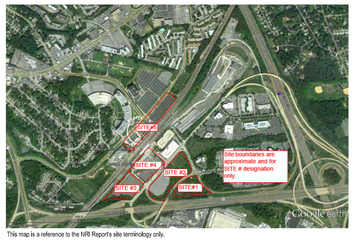

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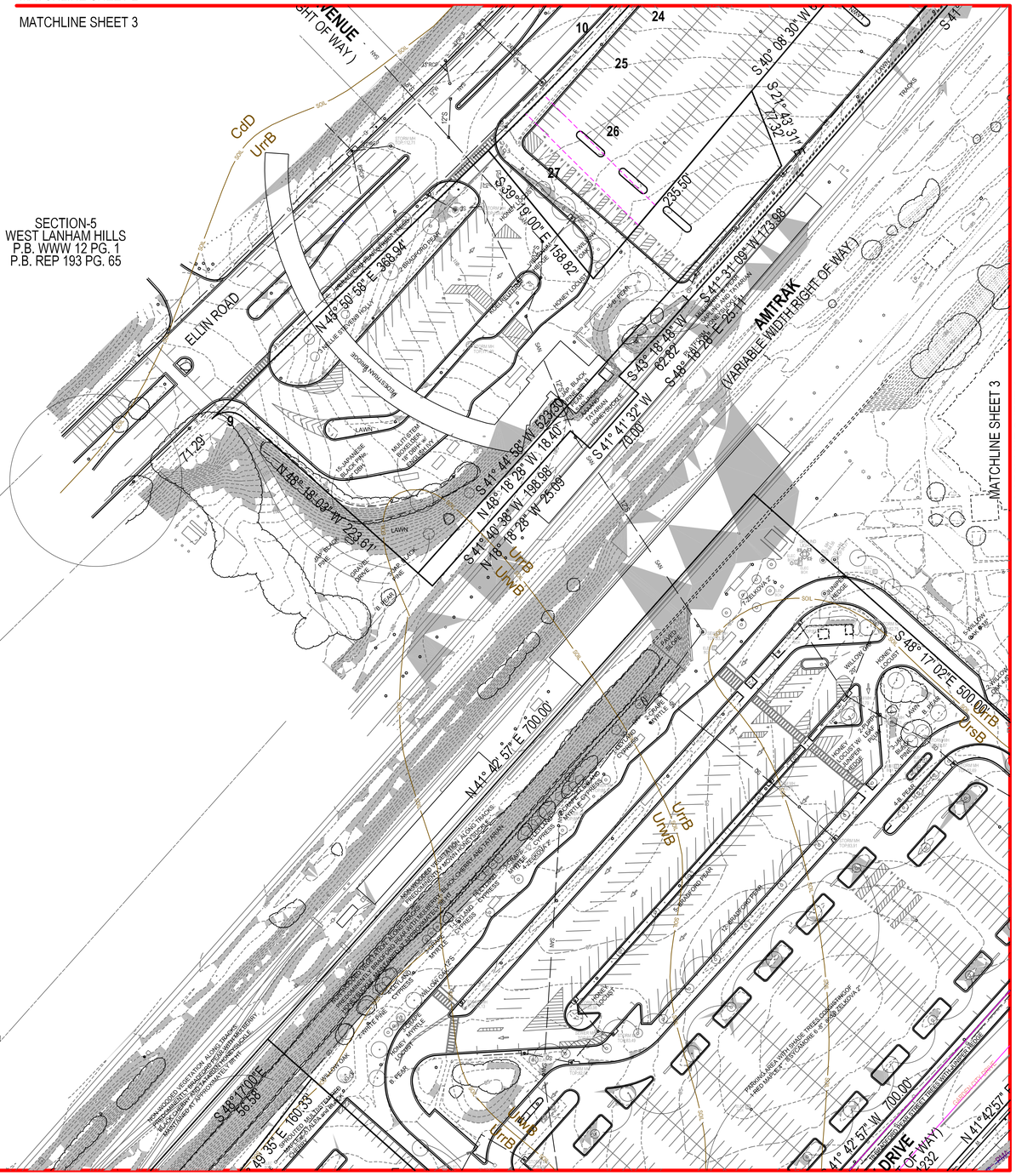
SCALE: 1" =50'

MATCHLINE SHEET 2

MATCHLINE SHEET 3



MATCHLINE SHEET 3

MATCHLINE SHEET 5

50 25 0 50 100

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Environmental Planning Section
NATURAL RESOURCES INVENTORY

APPROVAL

NRI / 008 / 13

	STAFF SIGNATURE	DATE
INITIAL APPROVAL		
01 REVISION		
02 REVISION		

Loiederman Soltesz Associates, Inc.
LANHAM OFFICE
4300 Forbes Boulevard, Suite 230
Lanham, MD 20706
t. 301.794.7555 f. 301.794.7656
www.LSAssociates.net

Rockville
Lanham
Waldorf
Leonardtown

Engineering
Planning
Surveying
Environmental Sciences

NO.	REVISIONS	BY	DATE

DATE: MARCH 2012 | CAD STANDARDS VERSION: V8 - 2000
DESIGNED: GAM | TECHNICIAN: GAM | CHECKED: WKD

MISS UTILITY NOTE

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OWNER/DEVELOPER/APPLICANT

WASHINGTON METRO AREA TRANSIT AUTHORITY
6TH AND D ST NW
WASHINGTON, DC 20004

MASS TRANSIT AUTHORITY
6 ST. PAUL STREET, SUITE 1204
BALTIMORE, MD 21202

MAP 13 GRID D5, E5

TAX MAP	ZONING CATEGORY:
52, A1	M-X-T
WSSC 200' SHEET	XXXX:
206NE07	XXXX
SITE DATUM	XXXX:
HORIZONTAL: XXXXXX VERTICAL: XXXXXX	XXXX

PLAN SHEET

NATURAL RESOURCE INVENTORY
NEW CARROLLTON

LANHAM (20th) ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

1" = 50'

SHEET 3 OF 6

PROJECT NO. 1958-00-00

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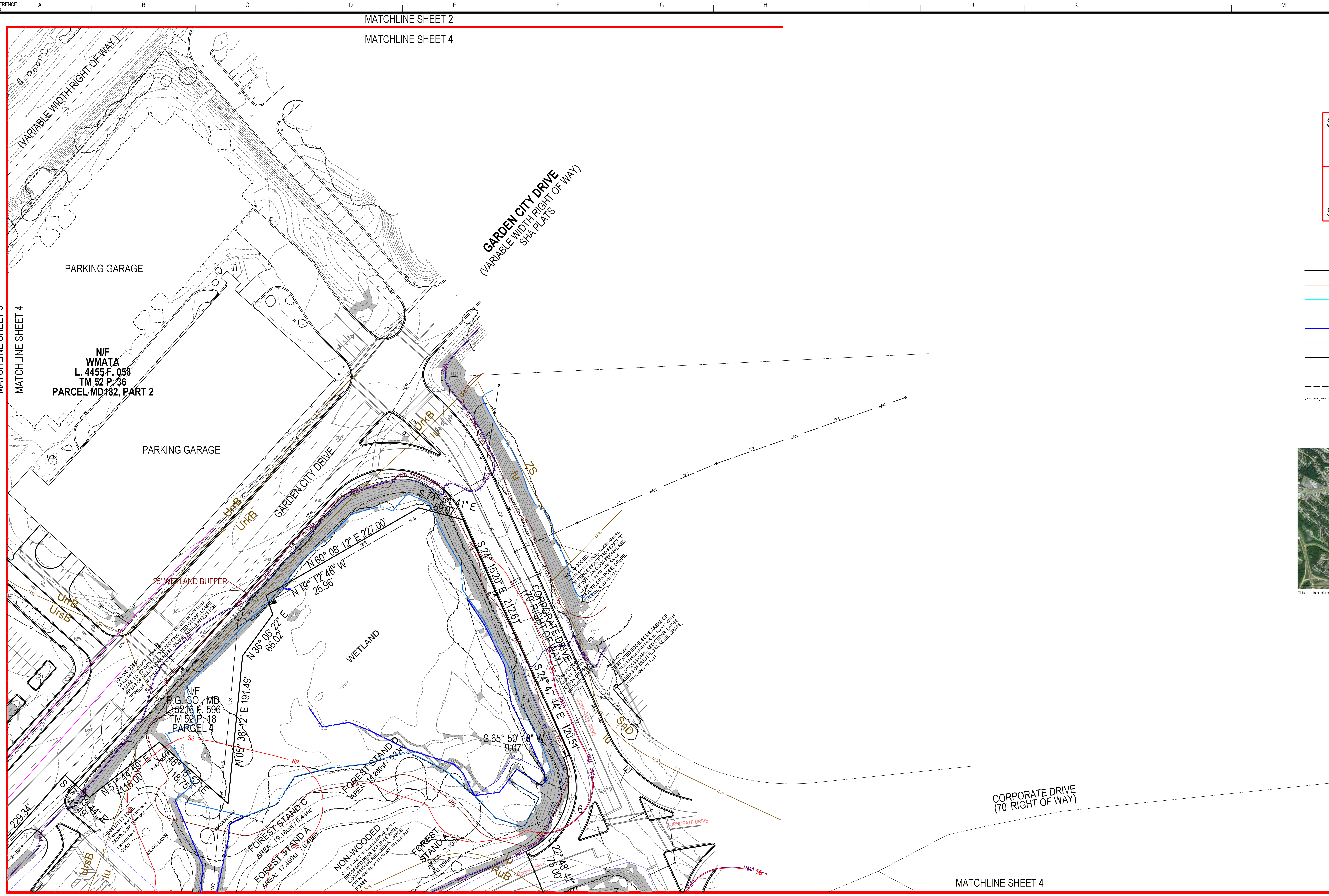

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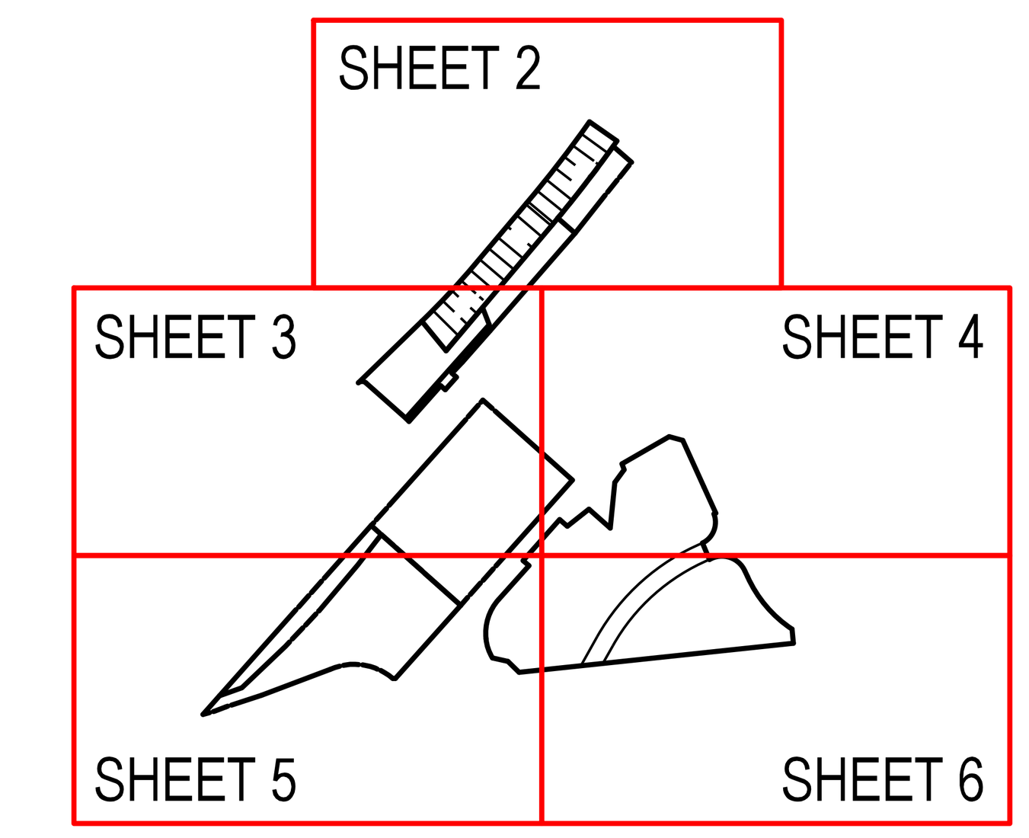
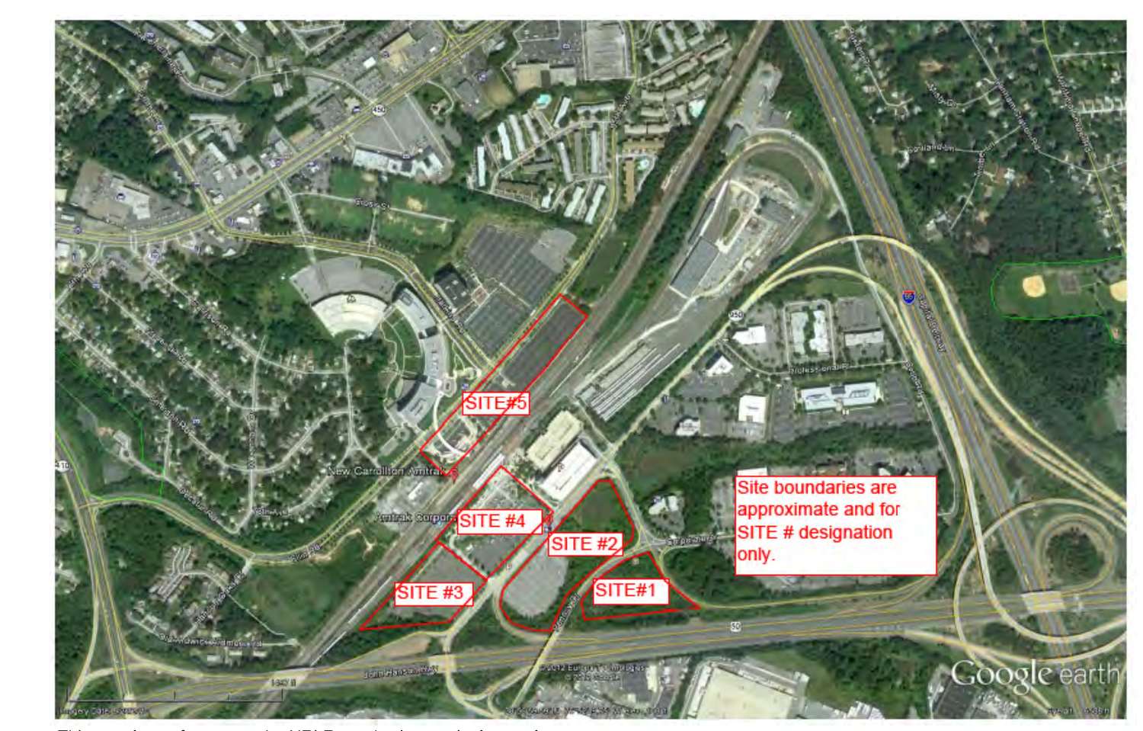


LEGEND

- PROPERTY BOUNDARY
- SOIL LINE
- WETLANDS
- WETLAND BUFFER
- WATERS OF THE U.S.
- STREAM BUFFER
- FLOODPLAIN
- PRIMARY MANAGEMENT AREA
- FOREST STAND BOUNDARY
- EXISTING WOODLANDS
- STEEP SLOPES 15% AND GREATER
- EXISTING VEGETATION



This map is a reference to the NRI Report's site terminology only.

SCALE: 1"=50'

50 25 0 50 100

Qualified Professional Certification

This plan complies with the current requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Manual.

K. Gray Gentil Jr. — Date
Landscape Architect #: MD 419
Terra Consultants
431 Fourth Street
Annapolis, MD 21403
410-295-6840
email: terra_consultants@yahoo.com

M-NCPPC
Prince George's Planning Department
Environmental Planning Section
NATURAL RESOURCES INVENTORY

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MASS TRANSIT AUTHORITY
6 ST. PAUL STREET, SUITE 1204
BALTIMORE, MD 21202

COPYRIGHT ADC THE MAP PEOPLE PERMITTED USE NUMBER 21001200
MAP 13 GRID D5, E5

TAX MAP	ZONING CATEGORY:
52, A1	M-X-T
WSSC 200' SHEET	XXXX:
206NE07	XXXX
SITE DATUM HORIZONTAL: XXXXXX VERTICAL: XXXXXX	XXXX: XXXX

PLAN SHEET

NATURAL RESOURCE INVENTORY
NEW CARROLLTON

LANHAM (20th) ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

1" = 50'

SHEET 4 OF 6

PROJECT NO. 1958-00-00

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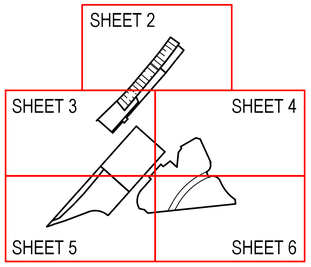
MATCHLINE SHEET 3

MATCHLINE SHEET 5

KEY PLAN



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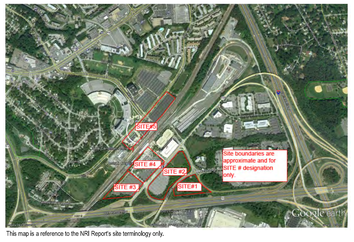

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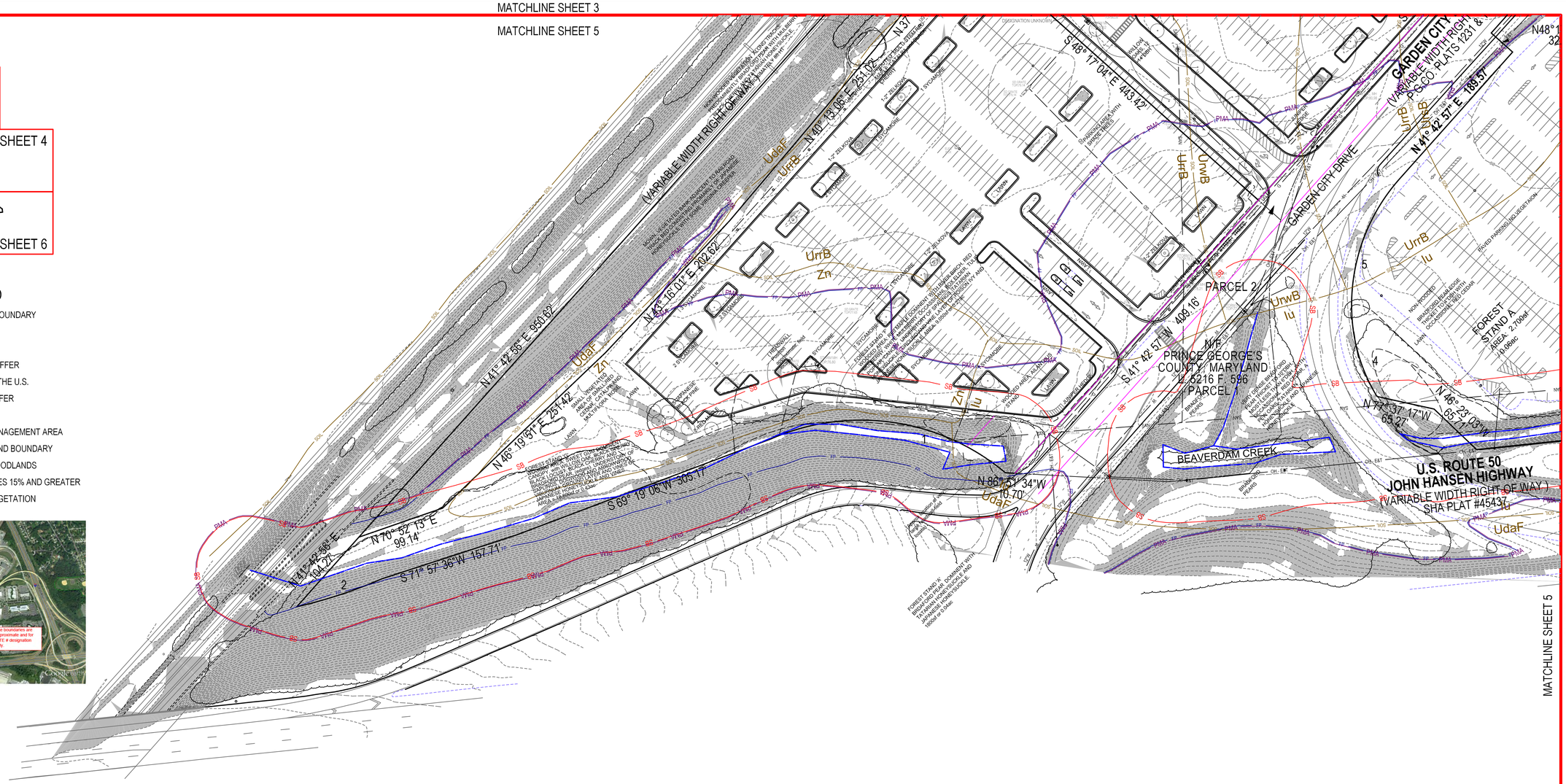

MATCHLINE SHEET 5

MATCHLINE SHEET 6

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Qualified Professional Certification

This plan complies with the current requirements of Subtitle 25 and the Woodland and Wildlife Conservation Technical Manual.

K. Gray Gentil Jr. Date
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410-295-5840
email: terra_consultants@yahoo.com

M-NCPPC
Prince George's Planning Department
Environmental Planning Section
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APPROVAL

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MAP 13 GRID D5, E5	
TAX MAP 52, A1	ZONING CATEGORY: M-X-T
WSSC 200' SHEET 206NE07	XXXX: XXXX
SITE DATUM HORIZONTAL: XXXXXX VERTICAL: XXXXXX	XXXX: XXXX

NATURAL RESOURCE INVENTORY
NEW CARROLLTON

LANHAM (20th) ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

1" = 50'

SHEET 5 OF 6

PROJECT NO.: 1958-00-00

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MATCHLINE SHEET 6

MATCHLINE SHEET 5

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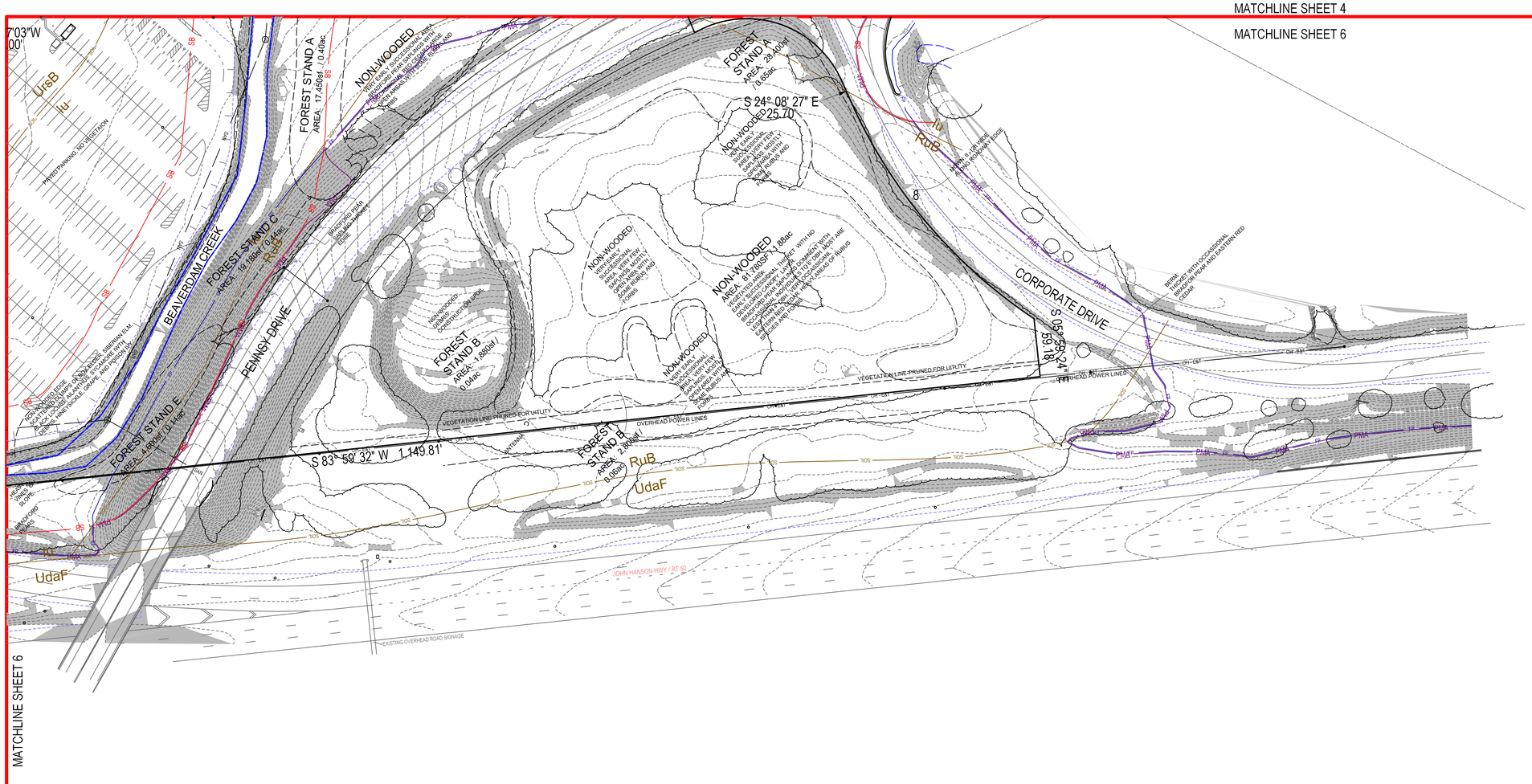

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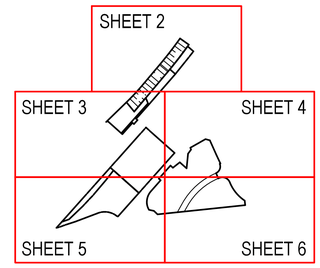

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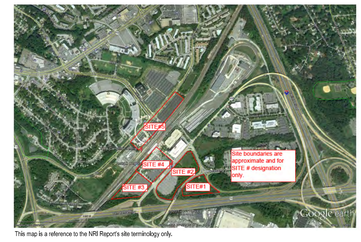

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BALTIMORE, MD 21202

MAP 13	GRID D5, E5
TAX MAP: 52, A1	ZONING CATEGORY: M-X-T
WSSC 200' SHEET: 206NE07	XXXX: XXXX
SITE DATUM HORIZONTAL: XXXXXX VERTICAL: XXXXXX	XXXX: XXXX

PLAN SHEET

NATURAL RESOURCE INVENTORY
NEW CARROLLTON

LANHAM (20th) ELECTION DISTRICT, PRINCE GEORGE'S COUNTY, MARYLAND

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SHEET 6 OF 6

PROJECT NO. 1958-00-00

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Appendix D: M-NCPPC Historic Preservation/Archeology Pre-Submittal Checklist for Development Applications

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Prince George's County Planning Department
Historic Preservation Section

(301) 952-3680
www.mncppc.org

Historic Preservation/Archeology Pre-Submittal Checklist for Development Applications

Project Name: New Carrollton

Applicant's Name: New Carrollton Developer, LLC

Application Type: Preliminary Plan

Project Number (if applicable): PPS 4-16023

Contact/Agent: SOLTESZ, LLC

Phone/Fax: 301-794-7555

E-mail Address: (Young Roh)yroh@solteszco.com

Associated/Previous Project Numbers:

- Provide photographs of all standing structures or structural remains, such as foundations or man-made landscape features, on the property.
- Provide chain of title information on the property to at least 1900.
- Provide a list and location of any known historic resources or cemeteries on or adjacent to the property.

To be completed by Historic Preservation Section staff.

Required Information	Yes	No	N/A	Requirement for this Applicant
Photographs of all structures or structural remains			✓	If checked Yes or N/A, no further information needed.
Chain of title			✓	If checked Yes or N/A, no further information needed.
List of known historic resources and cemeteries			✓	If checked Yes or N/A, no further information needed.

Additional Information Required: This proposal will not affect any historic sites or resources or known archeological sites. Phase I archeology survey will not be recommended.

Jennifer Stabler 8/2/16
Historic Preservation Staff Signature Date

Jennifer Stabler
Historic Preservation Staff Name (printed)

301-952-5595; jennifer.stabler@ppd.mncppc.org
Historic Preservation Staff Phone and E-mail

Appendix E: Agency Correspondence

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
John R. Griffin, Secretary
Joseph P. Gill, Deputy Secretary

April 2, 2012

K. Gray Gentil, Jr.
Terra Consultants, Inc.
431 Fourth Street, Suite A
Annapolis, MD 21403

RE: Environmental Review for WMATA Parcels 12, 55, 83, and 220, MTA Parcels 19, 73, and 122, Northwest corner of Route 50 and 495, Prince George's County, MD.

Dear Mr. Gentil:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. As a result, we have no specific comments or requirements pertaining to protection measures at this time. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

Lori A. Byrne

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2012.0312.pg

United States Department of the Interior
U.S. Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573 4575

Online Certification Letter

Today's date: 9/28/2016

Project: New Carrollton Joint Development Environmental Evaluation

Dear Applicant for online certification:

Thank you for using the U.S. Fish and Wildlife Service (Service) Chesapeake Bay Field Office online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the referenced project in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA).This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

Based on this information and in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), we certify that except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project area. Therefore, no Biological Assessment or further section 7 consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For additional information on threatened or endangered species in Maryland, you should contact the Maryland Wildlife and Heritage Division at (410) 260-8573. For information in Delaware you should contact the Delaware Division of Fish and Wildlife, Wildlife Species Conservation and Research Program at (302) 735-8658. For information in the District of Columbia, you should contact the National Park Service at (202) 339-8309.

The U.S. Fish and Wildlife Service also works with other Federal agencies and states to minimize loss of wetlands, reduce impacts to fish and migratory birds, including bald eagles, and restore habitat for wildlife. Information on these conservation issues and how development projects can avoid affecting these resources can be found on our website (www.fws.gov/chesapeakebay)

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further

assistance, please contact Chesapeake Bay Field Office Threatened and Endangered Species program at (410) 573-4527.

Sincerely,

Genevieve LaRouche
Field Supervisor

Appendix F: USFWS IPaC Trust Resource Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 ADMIRAL COCHRANE DRIVE
ANNAPOLIS, MD 21401
PHONE: (410)573-4599 FAX: (410)266-9127
URL: www.fws.gov/chesapeakebay/;
www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

Consultation Code: 05E2CB00-2016-SLI-2061 September 28, 2016
Event Code: 05E2CB00-2016-E-02043
Project Name: New Carrollton Joint Development Environmental Evaluation

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

Official Species List

Provided by:

Chesapeake Bay Ecological Services Field Office
177 ADMIRAL COCHRANE DRIVE
ANNAPOLIS, MD 21401
(410) 573-4599
http://www.fws.gov/chesapeakebay/
http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

Consultation Code: 05E2CB00-2016-SLI-2061
Event Code: 05E2CB00-2016-E-02043

Project Type: DEVELOPMENT

Project Name: New Carrollton Joint Development Environmental Evaluation

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-76.87046450080044 38.94704188987759, -76.87052537646056 38.94699321765459, -76.87055753516489 38.947017350775845, -76.87172638473218 38.94599742294799, -76.87174485675344 38.94592871406914, -76.87198402058435 38.945719206641044, -76.87285693639186 38.945013068335406, -76.87288540694817 38.945083421412264, -76.87362520192953 38.94514364421144, -76.8739004103975 38.94511357072138, -76.87432182258031 38.944999167717285, -76.87448728181185 38.94502193091757, -76.87477199032774 38.94497267378127, -76.87493777972209 38.94507086127505, -76.8731158494786 38.94661094621603, -76.87273213017515 38.94699355833269, -76.87154274631754 38.947976434208165, -76.87141074832032 38.94790808102436, -76.87124779211933 38.947880099931545, -76.87089888234024 38.947645338264934, -76.87083881622098 38.94755490974541, -76.87052138915031 38.94740389767815, -76.87033577838083 38.947274689233666, -76.87022544364514 38.94725245204978, -76.87046450080044 38.94704188987759)))

Project Counties: Prince George's, MD

Endangered Species Act Species List

There are a total of 0 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

There are no listed species identified for the vicinity of your project.

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Appendix A: FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.

Appendix B: NWI Wetlands

There are no wetlands within your project area.

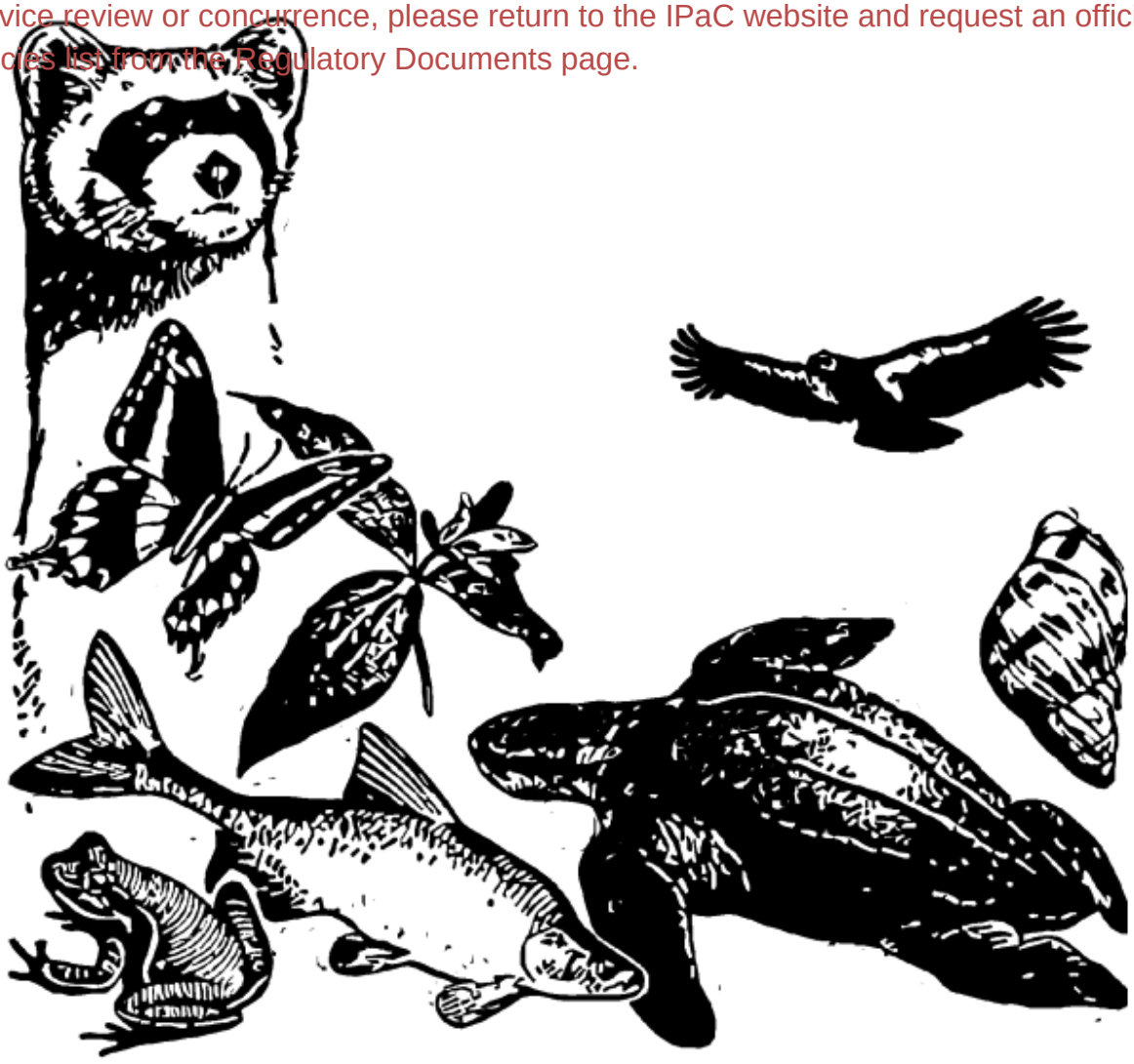
U.S. Fish & Wildlife Service

New Carrollton Joint Development Environmental Evaluation

IPaC Trust Resources Report

Generated September 28, 2016 08:10 AM MDT, IPaC v3.0.9

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

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U.S. Fish & Wildlife Service

IPaC Trust Resources Report

NAME

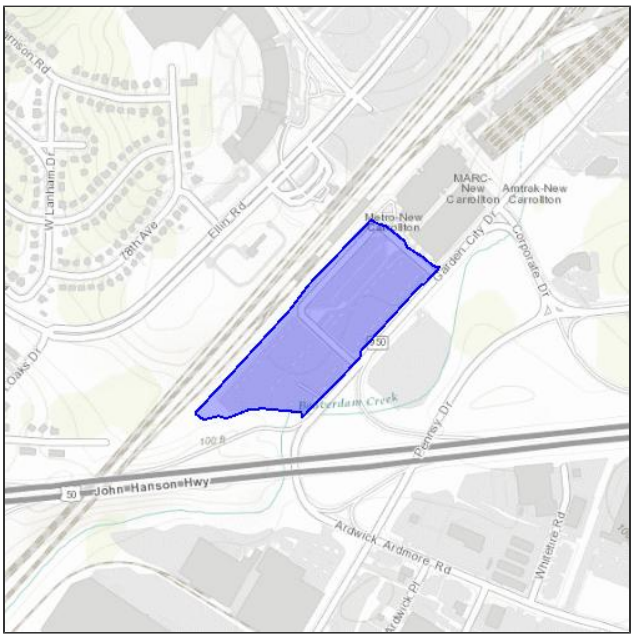
New Carrollton Joint Development Environmental Evaluation

LOCATION

Prince George's County, Maryland

IPAC LINK

https://ecos.fws.gov/ipac/project/ZVLVR-SXVGB-HXPDQ-UGZ4L-3G5L44



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

There are no endangered species in this location

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

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1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The following species of migratory birds could potentially be affected by activities in this location:

American Oystercatcher Haematopus palliatus — Bird of conservation concern
Season: Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0G8

American Bittern Botaurus lentiginosus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Season: Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — Bird of conservation concern
Season: Breeding

Cerulean Warbler Dendroica cerulea — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B09I

Fox Sparrow Passerella iliaca — Bird of conservation concern
Season: Wintering

Gull-billed Tern Gelochelidon nilotica — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JV

Kentucky Warbler Oporornis formosus — Bird of conservation concern
Season: Breeding

Least Bittern Ixobrychus exilis
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B092

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — Bird of conservation concern
Season: Breeding

Prairie Warbler Dendroica discolor — Bird of conservation concern
Season: Breeding

Prothonotary Warbler Protonotaria citrea — Bird of conservation concern
Season: Breeding

Purple Sandpiper Calidris maritima — Bird of conservation concern
Season: Wintering

Red Knot Calidris canutus rufa — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DM

Red-headed Woodpecker Melanerpes erythrocephalus — Bird of conservation concern
Season: Year-round

Rusty Blackbird Euphagus carolinus — Bird of conservation concern
Season: Wintering

Saltmarsh Sparrow Ammodramus caudacutus — Bird of conservation concern
Season: Year-round

Short-eared Owl Asio flammeus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Egret Egretta thula — Bird of conservation concern
Season: Breeding

Willow Flycatcher Empidonax traillii — Bird of conservation concern

Season: Breeding

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina — Bird of conservation concern

Season: Breeding

Worm Eating Warbler Helmitheros vermivorum — Bird of conservation concern

Season: Breeding

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands in this location

Appendix G: Vibration Analysis

Phoenix Noise & Vibration, LLC
5216 Chairmans Court, Suite 107
Frederick, Maryland 21703
301.846.4227 (phone)
301.846.4355 (fax)
www.phoenixnv.com

1 August 2016

Alan Lederman
Development Partner
Urban Atlantic Development
7735 Old Georgetown Road, Suite 600
Bethesda, Maryland 20814

Reference: New Carrollton Metro Site
Vibration Analysis Results
Project No. UAD1601

Dear Mr. Lederman:

Phoenix Noise & Vibration has conducted an analysis of ground-borne vibration levels at the New Carrollton Metro Site in Prince George's County, Maryland. This was an analysis of vibration levels generated by Metro, Amtrak, Acela, MARC, and freight trains as measured under current site conditions, evaluated according to typically accepted levels for non-residential and residential building occupancy.

Under the current conceptual site plan design, ground-borne vibration levels generated by usage of the existing rail lines are in compliance with Federal Transit Administration guidelines for railway vibration impact upon residential and non-residential buildings. Furthermore, while an occasional train may generate vibration which is "feelable" within a building and, depending upon the sensitivity of the individual, perceived as annoying by a small percentage of building occupants, the vibration levels at the site will not result in structural damage.

SITE DESCRIPTION

Under the current conceptual site plan, the New Carrollton Metro site will include new development on both the north and south of the existing rail lines which serve the New Carrollton Metro Station and Amtrak/MARC station. The New Carrollton train stations include five railway tracks: three tracks used by Amtrak, Amtrak Acela, and MARC commuter trains and CSX and Norfolk & Southern freight trains, and two tracks used only by Metro trains. The New Carrollton Metro station is the last stop on the Orange line.

The current conceptual site plan (see Figure 1) includes residential, hotel, office, and retail buildings. Table 1 presents the proposed building uses closest to both sets of railway tracks.

Table 1: New Carrollton Metro Site proposed building layout relative to existing railway tracks.

Railway Track	Closest Building Use to Railway Track	Approximate Distance (feet) to Closest Track
Amtrak/MARC/Freight	Residential/Retail	110
	Office/Retail	110
Metro	Residential/Retail	140
	Office/Retail	25

VIBRATION IMPACT CRITERIA

Prince George's County does not currently have a limit for ground-borne vibration levels as measured in residential, hotel, office, or retail structures; therefore the measured ground-borne vibration levels have been evaluated according to the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (May 2006). Table 8-1 of this document specifies impact levels for various building types. The impact levels for ground-borne vibration applicable to the building uses proposed for the New Carrollton Metro site are shown in Table 1.

Table 2: Ground-borne vibration impact criteria for general assessment of various buildings.

Land Use Category	Event Type	Number of Vibration Events (per day)	GBV Impact Levels (VdB re 1 micro-inch/sec)
Category 2: Residences and buildings where people normally sleep.	Frequent	> 70	72
	Occasional	30 - 70	75
	Infrequent	< 30	80
Category 3: Institutional land uses with primarily daytime use.	Frequent	> 70	75
	Occasional	30 - 70	78
	Infrequent	< 30	83

These impact levels apply to frequencies from 8 to 80 Hz and are intended to be applied to vibration events lasting less than 10 seconds, such as those typical of commuter rail transit systems (Amtrak, MARC, and Metro trains). For a building to be considered impacted by ground-borne vibration, it must experience the number of vibration events within the table at a level equal to or greater than the presented impact level for that event type. For example, for a residential building, a "frequent" event type must have at least 70 vibration events within a day at a level equal to or greater than 72 VdB (re 1 micro-inch/sec) to be considered vibration impact upon a residential building.

It should be noted that the FTA describes a ground-borne vibration level of 72 VdB subjectively as "not feelable, but ground-borne vibration may be audible inside quiet rooms." Additionally, a level of 65 VdB is the threshold for human perception and subjectively characterized as "barely perceptible" by most people, while 75 VdB is the level at which the majority of people consider vibration "distinctly perceptible."[1]

[1] *Transit Noise and Vibration Impact Assessment* (May 2006), Chapter 7: Basic Ground-Borne Vibration Concepts.

The vibration impact criteria outlined in the FTA document are not necessarily standardized limits, but rather "a good foundation for predicting annoyance from ground-borne noise and vibration in residential areas as well as interference with vibration-sensitive activities." Furthermore, these are not values which produce any kind of structural damage, as the vibration levels required to do so are much higher.

As the FTA states that "it is extremely rare for vibration from train operations to cause any sort of building damage, even minor cosmetic damage," the limits shown in Table 1 are the ground-borne vibration levels which have been found to correlate well in predicting the threshold at which the majority of people exposed to that level will result in "human annoyance."

VIBRATION MEASUREMENTS

Phoenix Noise & Vibration conducted two 24-hour on-site vibration measurements to determine existing ground-borne railway vibration levels at the properties directly adjacent to the New Carrollton train stations. Measurements were made using PCB low noise accelerometers and a Sinus Harmonie multichannel frequency analyzer coupled with a laptop computer. All accelerometers were calibrated prior to the survey traceable to National Institute of Standards and Technology (NIST). Accelerometers were magnetically mounted on 18-inch steel spikes driven into the ground at. The steel spikes were used to provide adequate coupling to the ground-borne vibration.

Vibration measurements were made at the four locations shown on enclosed Drawing 1. Measurement locations where chosen to represent those proposed buildings closest to the two sets of railway tracks under the current conceptual site plan. Ground-borne vibration levels at each location were measured in the vertical direction (z-axis). Each of the four accelerometers recorded the maximum amplitude (i.e. highest vibration level) generated over the duration of a railway event. At each location, a vibration threshold was set so that data was only recorded if a railway event exceeded that threshold. The threshold level was set such that vibration generated by a railway event would exceed the level, yet other events typical of the surroundings (e.g. people walking, cars driving in the parking lot, etc.) would not.

Vibration measurement results are summarized in Table 3 and presented graphically on enclosed Figures 1 through 4. Given that the sites are adjacent to commuter rail lines with vibration "events" (i.e. a train passing the site) easily exceeding 70 in a 24-hour period (note the number of recorded vibration events in Table 3), the more restrictive FTA "frequent" vibration impact criteria has been used to evaluate the measured ground-borne vibration levels.

Recall that to have vibration impact upon a building when there are at least 70 vibration events in a 24-hour period ("frequent" criteria), there must be at least 70 vibration events which exceed the criteria level (72 VdB for residential, 75 VdB for non-residential). Note that at Point A there were 42 train events which exceeded the non-residential level, well below the 70 required for vibration impact. At Points B and C, no train events exceeded either vibration criteria, while at Point D one train event exceeded both vibration criteria.

Table 3: New Carrollton Metro Site measured ground-borne vibration levels relative to FTA criteria.

Vibration Measurement Location	Measurement Date	Number of Vibration Events Recorded in 24-Hour Period	Number of Vibration Events Which Exceeded FTA "Frequent" Criteria Level		Vibration Impact According to FTA Criteria
			Residential (72 VdB)	Non-Residential (75 VdB)	
A	July 6 – 7, 2016	277	N/A	42	No
B			0	0	No
C			0	0	No
D	June 29 – 30, 2016	144	1	1	No

Also note on Figures 1 through 4 that all measured vibration levels are well below the threshold for even minor cosmetic damage in fragile buildings (100 VdB).[2] It is important to note that this is the threshold for minor cosmetic damage, not structural damage, which occurs at a much higher level of ground-borne vibration.

PURPLE LINE

The Purple Line is a light rail public transit system proposed to open in 2022 which will extend 16 miles between New Carrollton in Prince George's County and Bethesda in Montgomery County, providing connections between Metro stations throughout the area. The New Carrollton Purple Line station will be the end of the line, and located north of the existing Amtrak/MARC station which divides the two sections of the New Carrolton Metro Site development (shown on enclosed Drawing 1). The currently shown office and residential buildings on this portion of the site will be north of the Purple Line station and approximately 30 feet from the section of track that extends past the station. It is assumed this section of track is more of a storage yard (similar to the Metro storage yard across the racks for the end of the Orange Line) rather than track that will have trains traveling on it at speed.

Projected vibration impact from the Purple Line was addressed in the Final Environmental Impact Statement (FEIS),[3] which calculated vibration levels at various locations along the rail line. The closest location to the New Carrollton Metro Site for which the FEIS calculated a Purple Line vibration level is 4100 Hanson Oaks Drive, approximately 2,300 feet east of the New Carrollton Purple Line station as measured along the tracks. The FEIS projected a vibration level of 65 VdB (frequency not specified) at this location, which is approximately 110 feet from the track centerline. The vibration level projected at 4100 Hanson Oaks Drive cannot be used to accurately determine the expected vibration at the New Carrollton Metro Site due to the difference in track use between the two locations (active section of the future track versus a storage yard).

[2] According to Figure 7-3: Typical Levels of Ground-Borne Vibration of FTA's *Transit Noise and Vibration Impact Assessment* (May 2006).

[3] Entitled *Vibration Technical Report*, dated August 2013. Developed by Environmental Acoustics, Inc.

Since the Purple Line is not yet constructed, the vibration level at the site from the rail line cannot be measured; however given that the section of track closest to the New Carrollton Metro Site development is past the station, it is assumed that the vibration output would be low relative to the vibration generated by the other existing rail lines, such that while the Purple Line may generate vibration near the New Carrollton station, it will not be at a level which will be above the vibration produced by the existing activity on the Amtrak/MARC/freight and Metro lines. This is supported by the projected vibration level calculated at the closest location included in the FEIS (65 VdB at 110 feet from the centerline). Furthermore, the Purple Line is a light rail system, with trains which should generate much lower levels of vibration than the existing and heavier Amtrak, MARC, and freight trains

CONCLUSION

Ground-borne vibration levels at the existing New Carrollton Metro Site due to the existing rail lines are well below the "frequent" events FTA criteria for vibration impact upon residential and non-residential buildings. Existing vibration levels will not result in structural damage; however an occasional train may generate vibration levels which may cause slight annoyance due to "feelable" vibration within the building. Since this is a subjective evaluation, the level of annoyance experienced will depend highly upon the tolerance of each individual; i.e. one resident may object to the vibration felt during a Metro train pass-by while the neighboring resident may not.

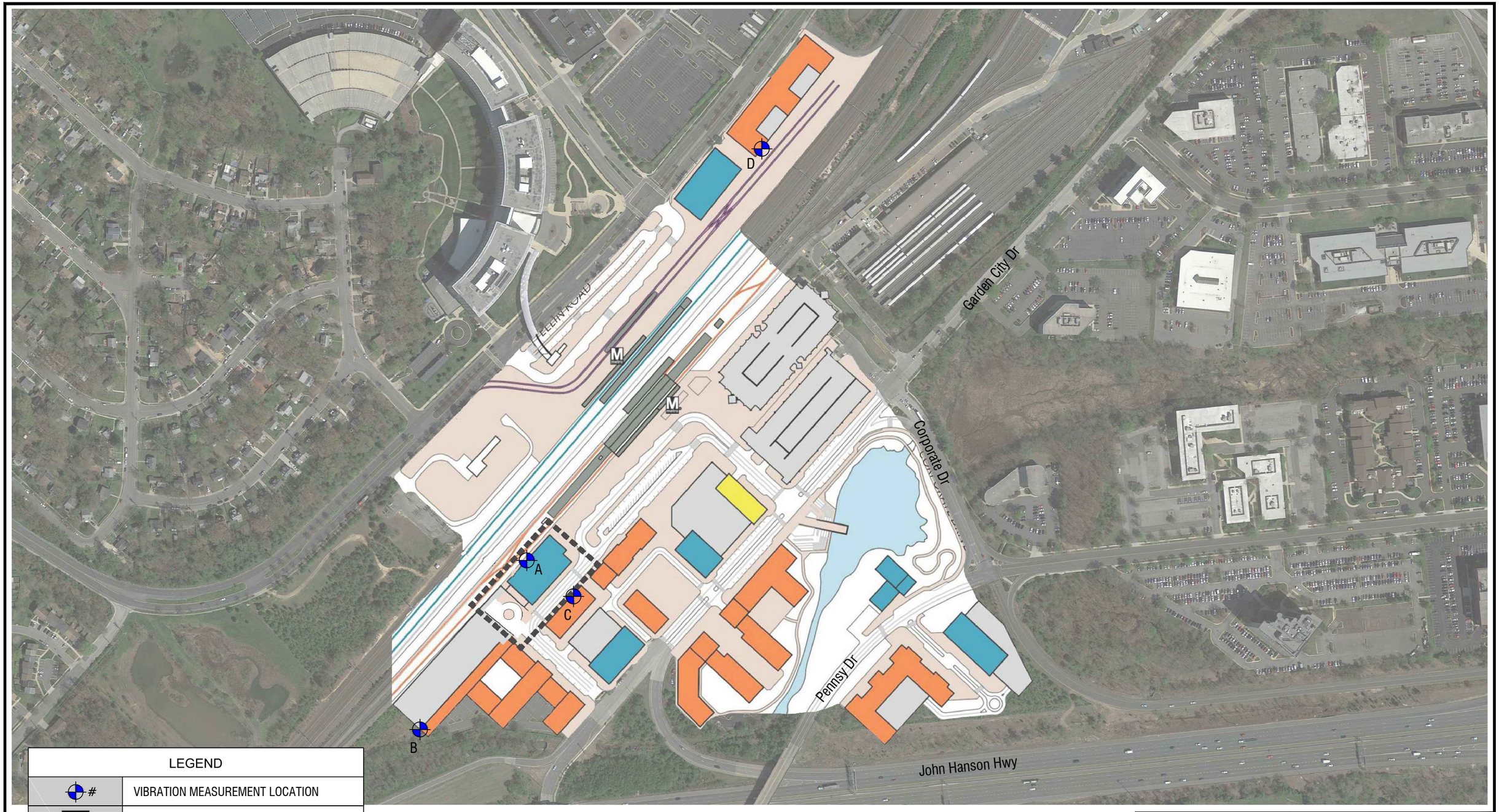
These results apply only to the site conditions present at the time of the measurements, and may change once the site has been developed. Stated differently, once the site has been re-graded and buildings have been added, the soil compaction and ground characteristics may be altered and produce different vibration levels. Likewise, vibration levels on different floors of the townhomes may be higher than those measured in the ground, as structures can amplify vibration levels such that vibration will increase with building height.

If you have any questions, feel free to contact me directly.

Sincerely,

Josh Curley
Senior Engineer

Encl: Drawing 1: New Carrollton Metro Site Vibration Measurement Locations
Figure 1: Measured vibration levels over a 24-hour period at Location A.
Figure 2: Measured vibration levels over a 24-hour period at Location B.
Figure 3: Measured vibration levels over a 24-hour period at Location C.
Figure 4: Measured vibration levels over a 24-hour period at Location D.



LEGEND	
#	VIBRATION MEASUREMENT LOCATION
	RESIDENTIAL & RETAIL
	OFFICE & RETAIL
	HOTEL & RETAIL

NORTH

PHOENIX noise & vibration
5216 Chairmans Court Suite 107
Frederick, MD 21703
301-846-4227

New Carrollton

VIBRATION MEASUREMENT LOCATIONS

DWG. No.	PRJ. No.	DATE
1	UAD1601	160725

SCALE	DRAWN BY
NOT TO SCALE	WCC

Figure 1: Measured vibration levels over a 24-hour period at Location A.

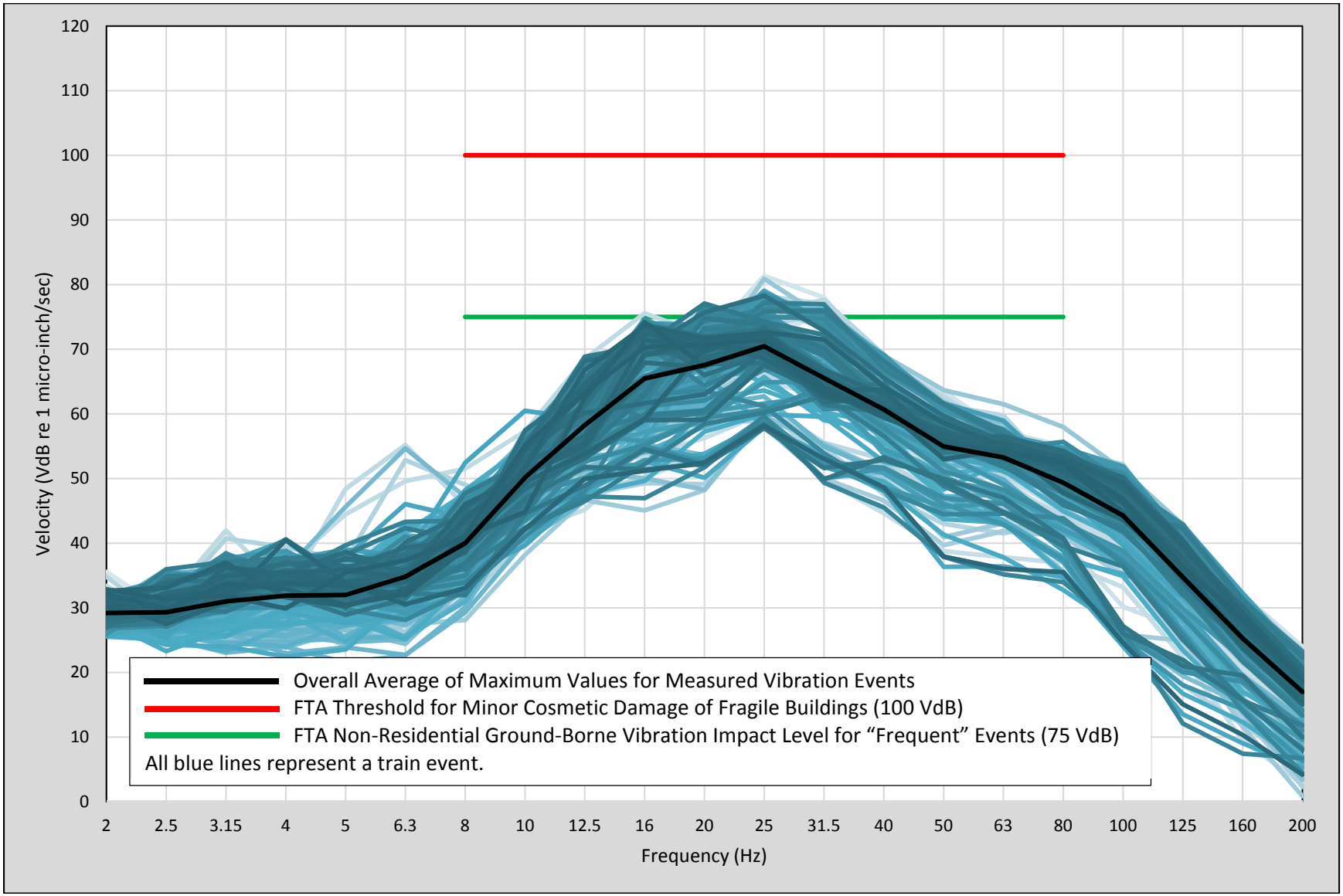


Figure 2: Measured vibration levels over a 24-hour period at Location B.

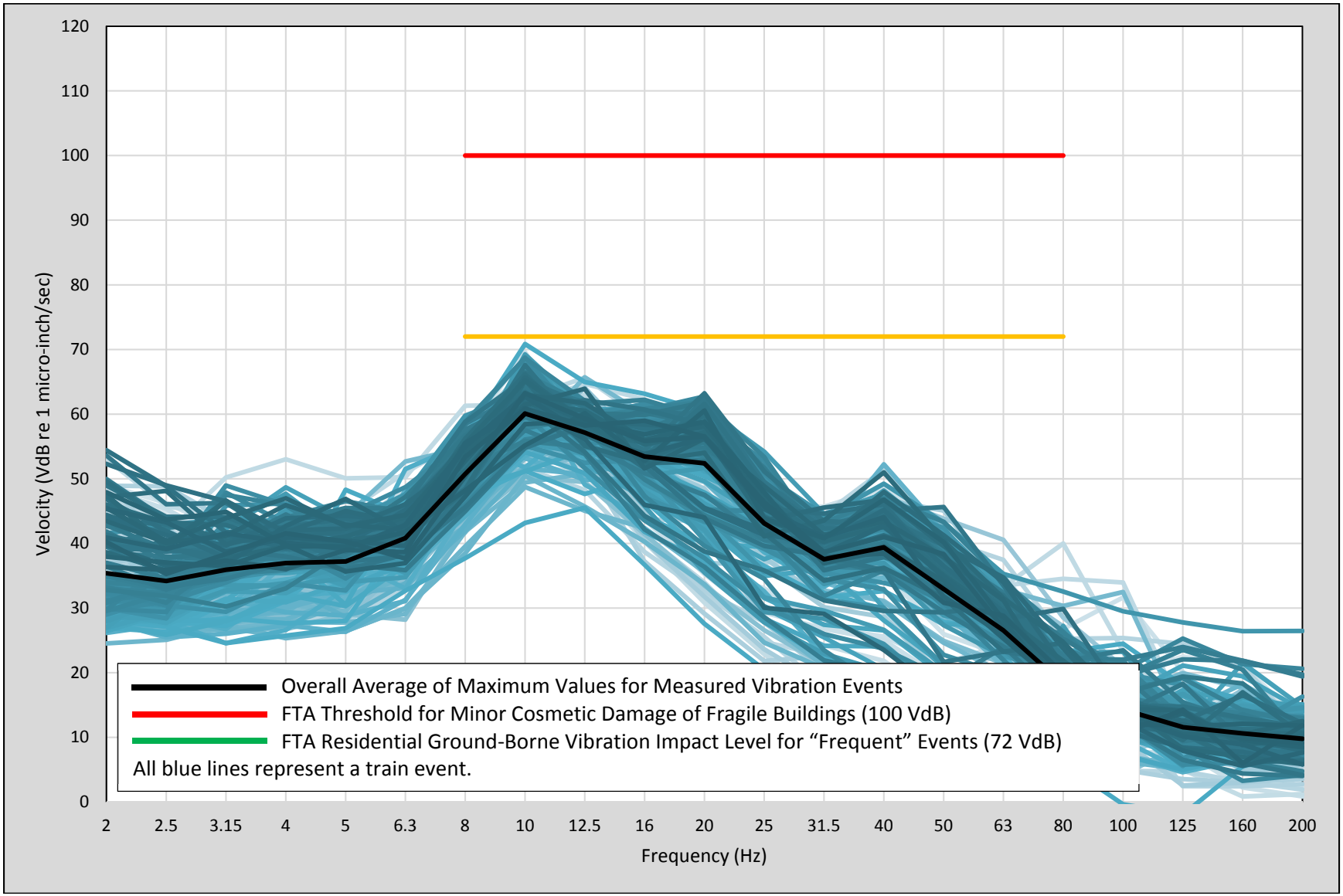


Figure 3: Measured vibration levels over a 24-hour period at Location C.

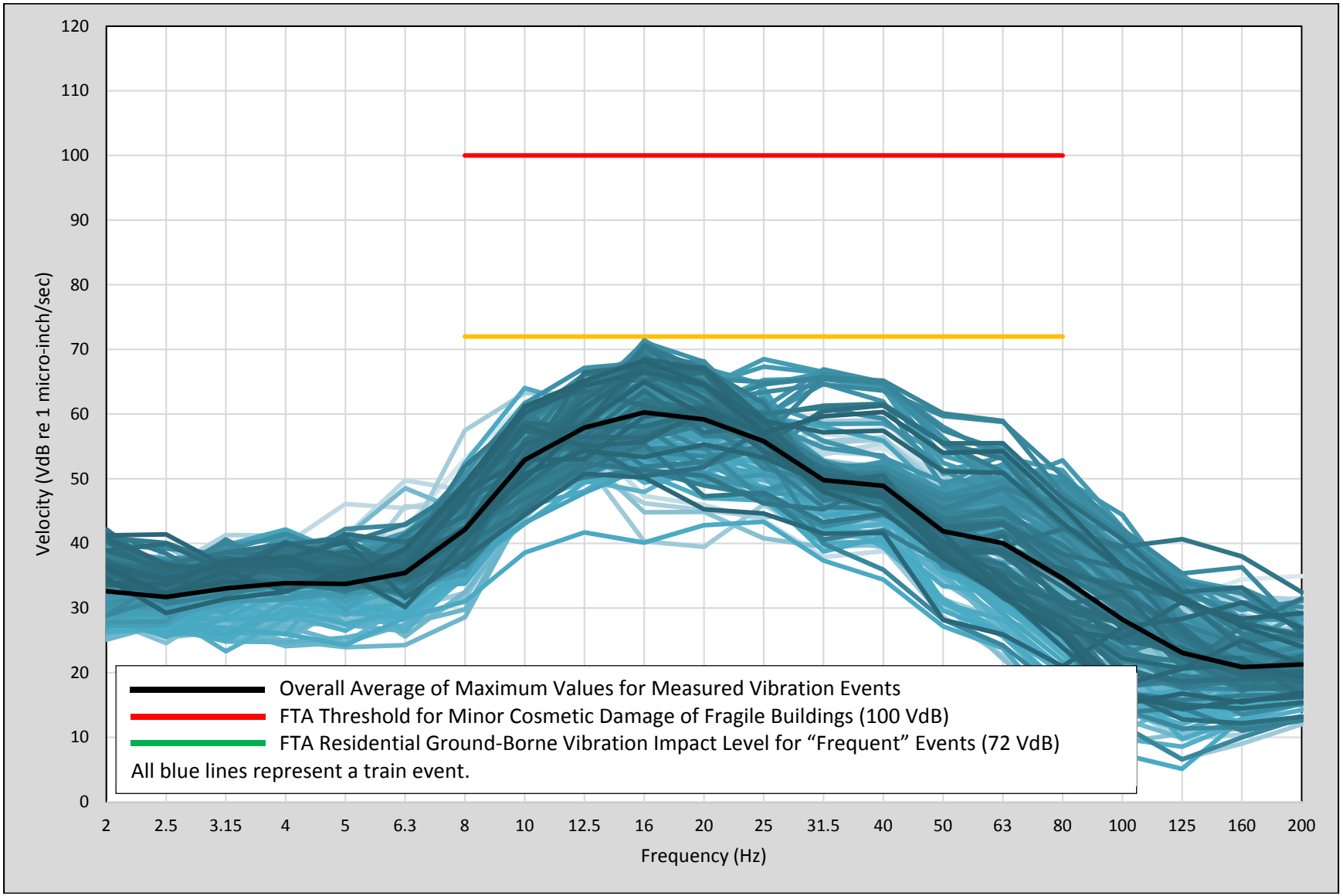


Figure 4: Measured vibration levels over a 24-hour period at Location D.