The Traffic Group®

CORPORATE OFFICE
Baltimore, MD
Suite H
9900 Franklin Square Drive
Baltimore, Maryland 21236
410.931.6600
fax: 410.931.6601
1.800.583.8411

FIELD OFFICE LOCATIONS

Arkansas
Maryland
New York
Texas
Virginia

July 21, 2011

Mr. Jim Clifford
Montgomery County Fairgrounds
316 E. Diamond Avenue
Gaithersburg, MD 20877

RE: Montgomery County Fairgrounds
Montgomery County, Maryland
Our Job No: 2008-0725

Dear Mr. Clifford:

The Traffic Group, Inc. has undertaken an analysis to determine the estimated traffic impact if and when the Fairgrounds is redeveloped.

We have come to the following general conclusions as it relates to potential off-site road improvements. (Some day in the future)

1) *I-270 and Watkins Mill Road Interchange will provide significant relief to the MD 355 corridor and the MD 355 and MD 124 intersection.*
2) *Consider either full time or part time access along MD 124 east, northeast of the I-270 interchange. (See Exhibit 17A – right in only; Exhibit 17B – full access)*
3) *Consider access improvements to Perry Parkway to MD 117 to northbound I-270. (See Exhibit 18) Improvement #2 & #3 will help relieve ultimate traffic along MD 117 and will reduce improvement at the I-270 NB Off-Ramp.*
4) *Provide a four lane cross section along Dalamar Street and install a traffic signal at MD 355 and Dalamar Street. (2 lanes inbound; 2 lanes outbound)*
5) *Ultimately improvements need to occur along MD 355. MD 355 will need to be widened to three thru lanes in each direction at Odendhal Avenue and at Dalamar Street.*

All of the analysis and supporting documentation is attached to this letter for your preliminary review and comment.

6) *We support the following Transportation Improvements suggested by the new community plan. (See Appendix A)*
   a. *McBain Avenue Realigned*
   b. *Odendhal Avenue Extended to McBain Avenue*

Sincerely,

Wes

John W. Guckert, PTP
President

Joint Hearing - MCC & PC
Z-316
Exhibit #28

cc: Dave Ager
Shulin Li
Glenn Cook

JWG:clg:jew/smb
(F:\2008\2008-0725\wp\Clifford.docx)

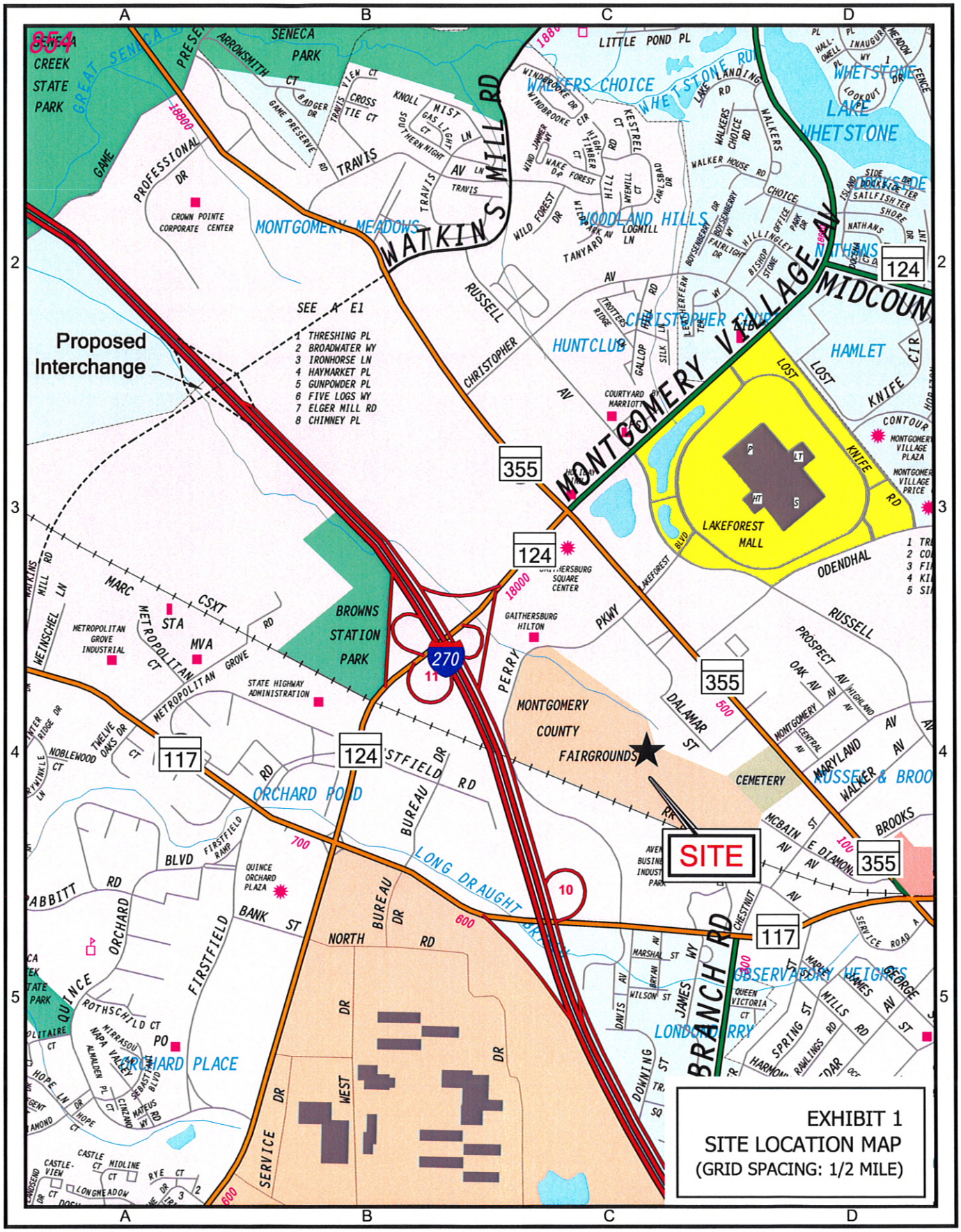


EXHIBIT 1
SITE LOCATION MAP
(GRID SPACING: 1/2 MILE)

sli, c:cad\mont_fairground.dwg-loc_st, c06/20/11

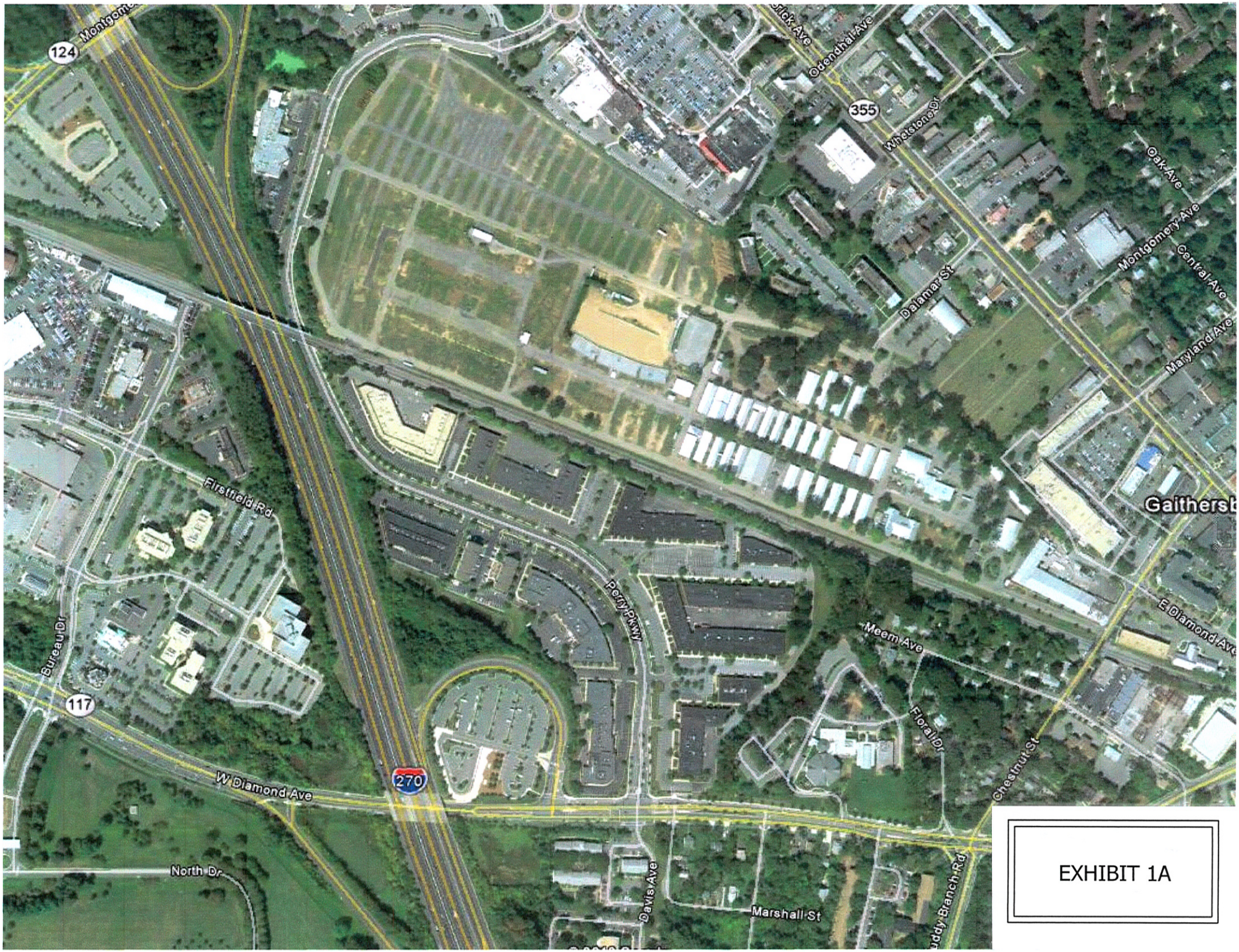
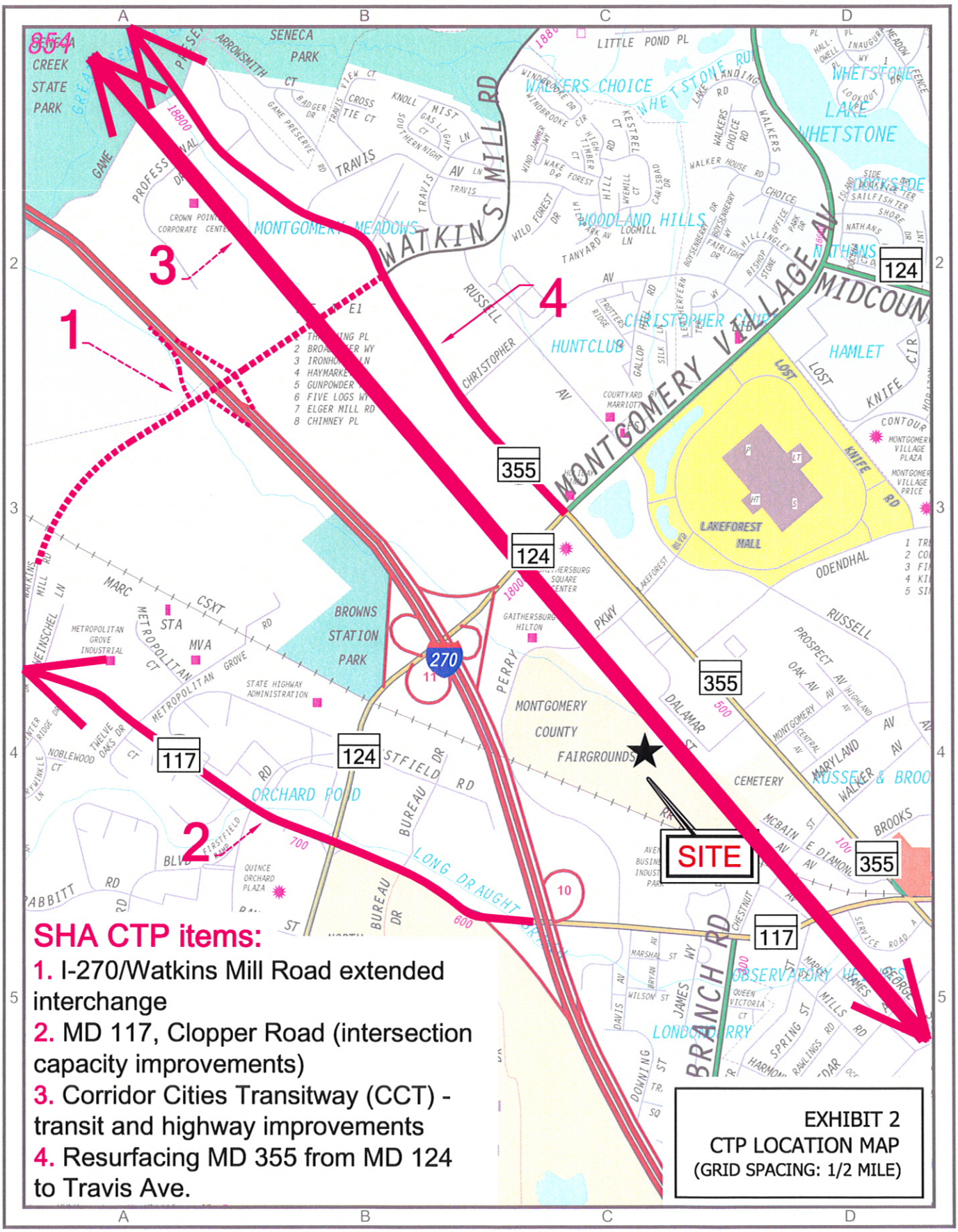

124
Montgomery
Odenthal Ave
355
Whetstone Dr
Oak Ave
Montgomery Ave
Central Ave
Maryland Ave
Dalamar St
Firstfield Rd
Gaithersb
Perry Pkwy
Meem Ave
E Diamond Ave
Floral Dr
Chestnut St
Bureau Dr
117
W Diamond Ave
270
North Dr
Davis Ave
Marshall St
Muddy Branch Rd

EXHIBIT 1A



SHA CTP items:

1. I-270/Watkins Mill Road extended interchange
2. MD 117, Clopper Road (intersection capacity improvements)
3. Corridor Cities Transitway (CCT) - transit and highway improvements
4. Resurfacing MD 355 from MD 124 to Travis Ave.

EXHIBIT 2
CTP LOCATION MAP
(GRID SPACING: 1/2 MILE)

sli, c:cad\mont_fairground ctp.dwg-loc_st, c06/28/11

MASTER PLAN OF THE FREDERICK AVENUE CORRIDOR

prepared by the
Department of Planning
for the
Planning Commission
City of
Gaithersburg, Maryland

ADOPTED: 3 SEPT. 1969

REVISED: 15 SEPT. 1971

GAITHERSBURG CITY PLANNING COMMISSION
CHAIRMAN
SECRETARY
DATE:

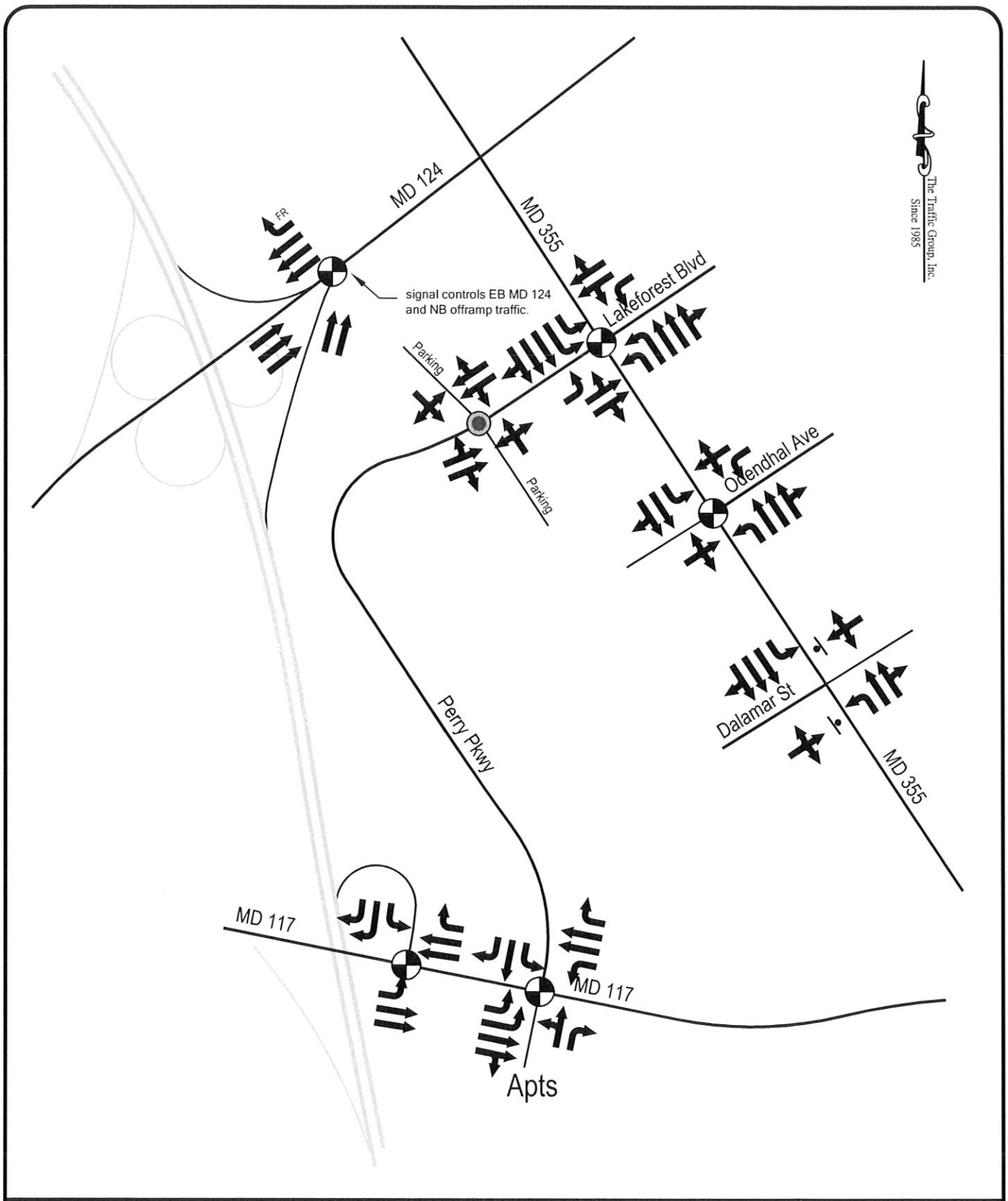
ADDITIONAL REVISIONS BY PLANNING COMMISSION

DATE	CHAIRMAN	SECRETARY
11-3-71		

SCALE:

Feet 200 0 200 400 600 800 1000

EXHIBIT 2A



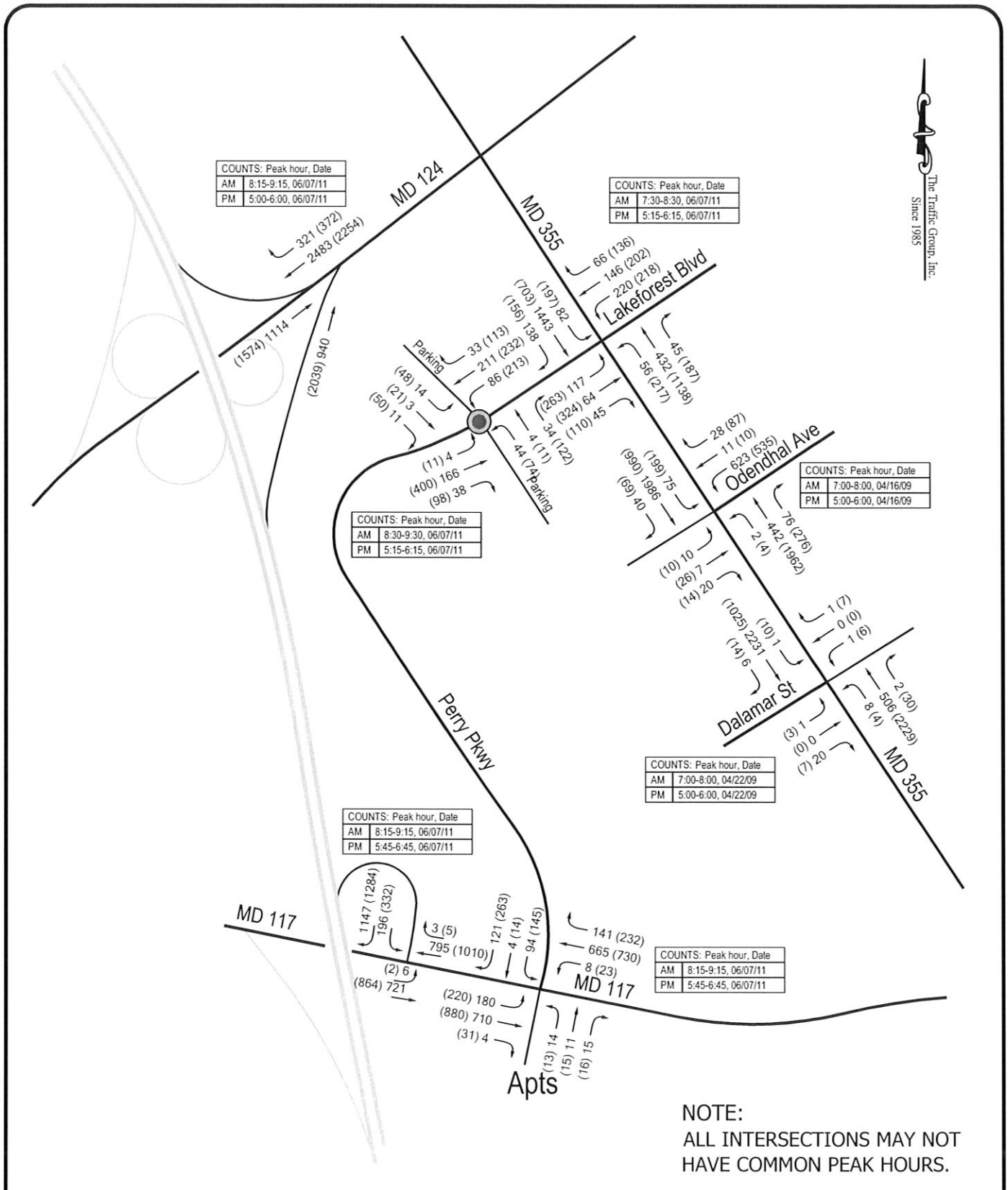
NOT TO SCALE

SIGNALIZED INTERSECTION

"STOP" CONTROL

EXHIBIT 3
EXISTING LANE USE

sli, 080725\montgomery fair grounds 11jun.dwg-lu-ex, f6/21/2011



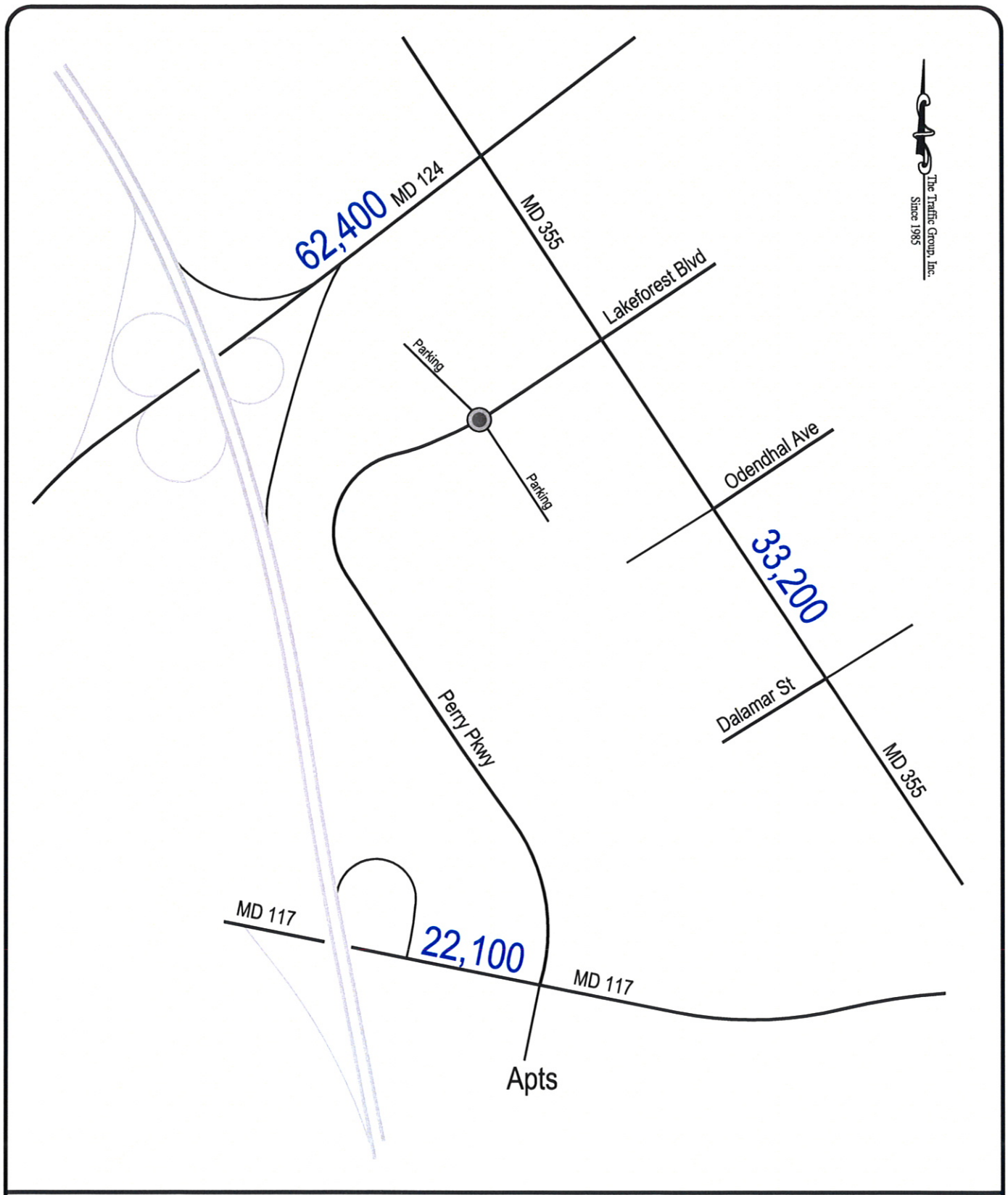
NOTE:
ALL INTERSECTIONS MAY NOT HAVE COMMON PEAK HOURS.

NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 4
EXISTING PEAK HOUR
TRAFFIC VOLUMES

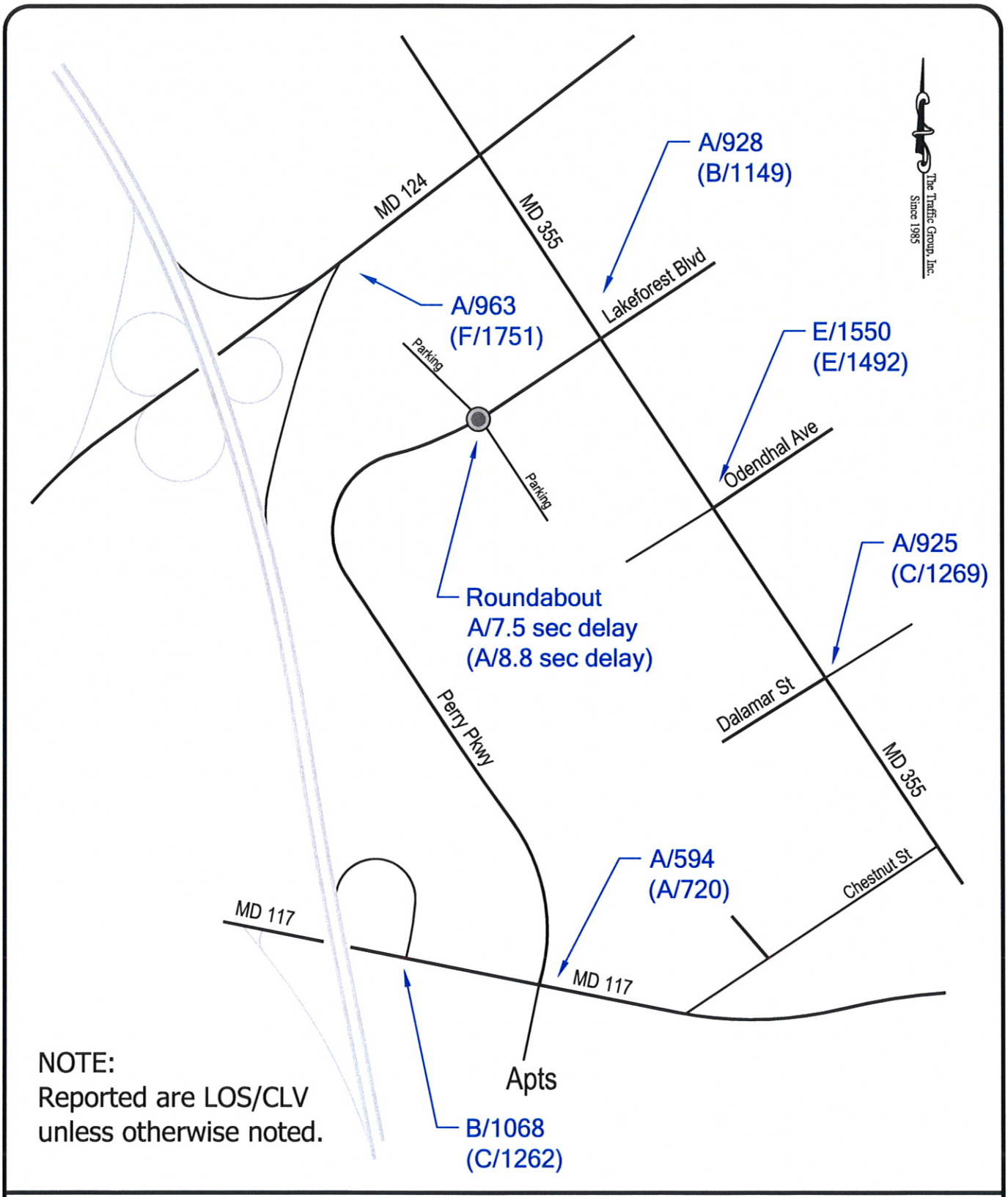
sli, 080725\montgomery fair grounds 11jun.dwg-exist, f6/21/2011



NOT TO SCALE

EXHIBIT 5
EXISTING DAILY
TRAFFIC VOLUMES (2-WAY)

sli, 080725\montgomery fair grounds 11jun.dwg-exist-adt, f06/28/11



NOTE:
Reported are LOS/CLV
unless otherwise noted.

NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

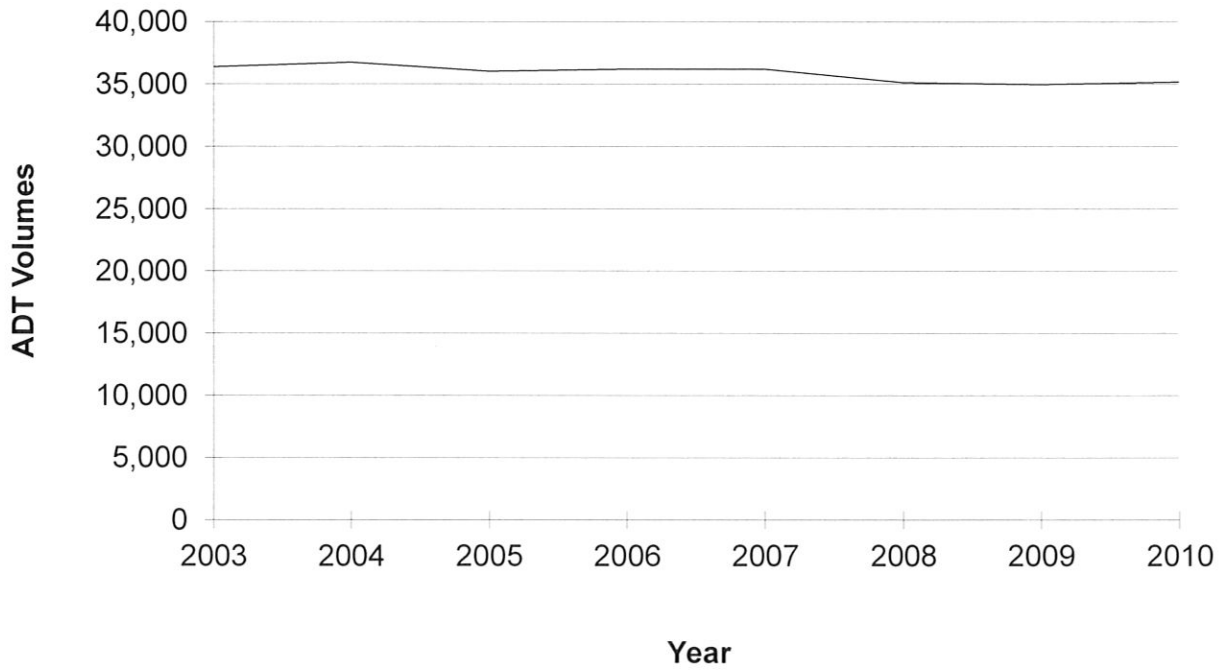
EXHIBIT 6
CAPACITY ANALYSES FOR
EXISTING TRAFFIC CONDITIONS

sli, 080725\montgomery fair grounds 11jun.dwg-exist-los, f07/01/11

TRAFFIC GROWTH PROJECTION

Average Growth: -0.47%
Mathematical Growth: -0.48%

Year	ADT Volume	Vol. increase	% increase	Average %
2003	36,375			
2004	36,750	375	1.03%	1.03%
2005	36,025	-725	-1.97%	-0.47%
2006	36,210	185	0.51%	-0.14%
2007	36,211	1	0.00%	-0.11%
2008	35,132	-1,079	-2.98%	-0.68%
2009	34,970	-162	-0.46%	-0.64%
2010	35,181	211	0.60%	-0.47%



The Traffic Group®

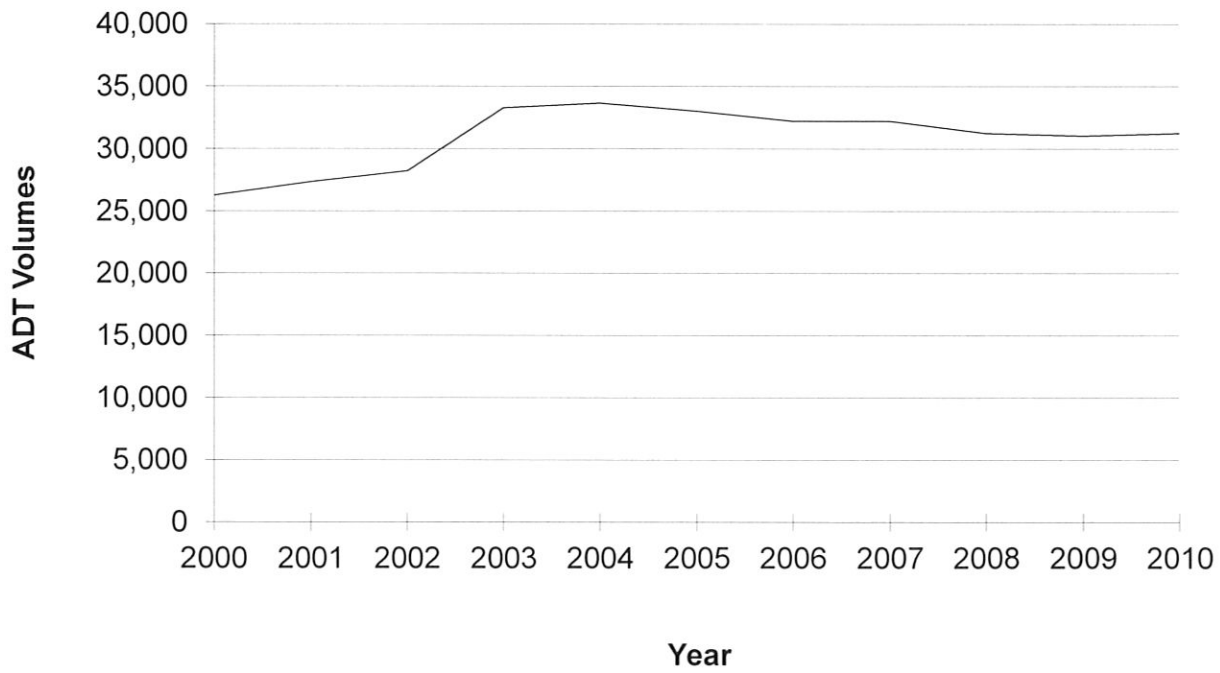
EXHIBIT 7A
TRAFFIC GROWTH PROJECTION
MD 355, SOUTH OF MD 124

sli, 080725\adt 11jun 11jun.xls-md355,smd124, f06/28/11

TRAFFIC GROWTH PROJECTION

Average Growth: 1.9%
Mathematical Growth: 1.75%

Year	ADT Volume	Vol. increase	% increase	Average %
2000	26,275			
2001	27,350	1,075	4.09%	4.09%
2002	28,225	875	3.20%	3.65%
2003	33,275	5,050	17.89%	8.39%
2004	33,650	375	1.13%	6.58%
2005	33,025	-625	-1.86%	4.89%
2006	32,210	-815	-2.47%	3.66%
2007	32,211	1	0.00%	3.14%
2008	31,252	-959	-2.98%	2.38%
2009	31,050	-202	-0.65%	2.04%
2010	31,241	191	0.62%	1.90%



The Traffic Group®

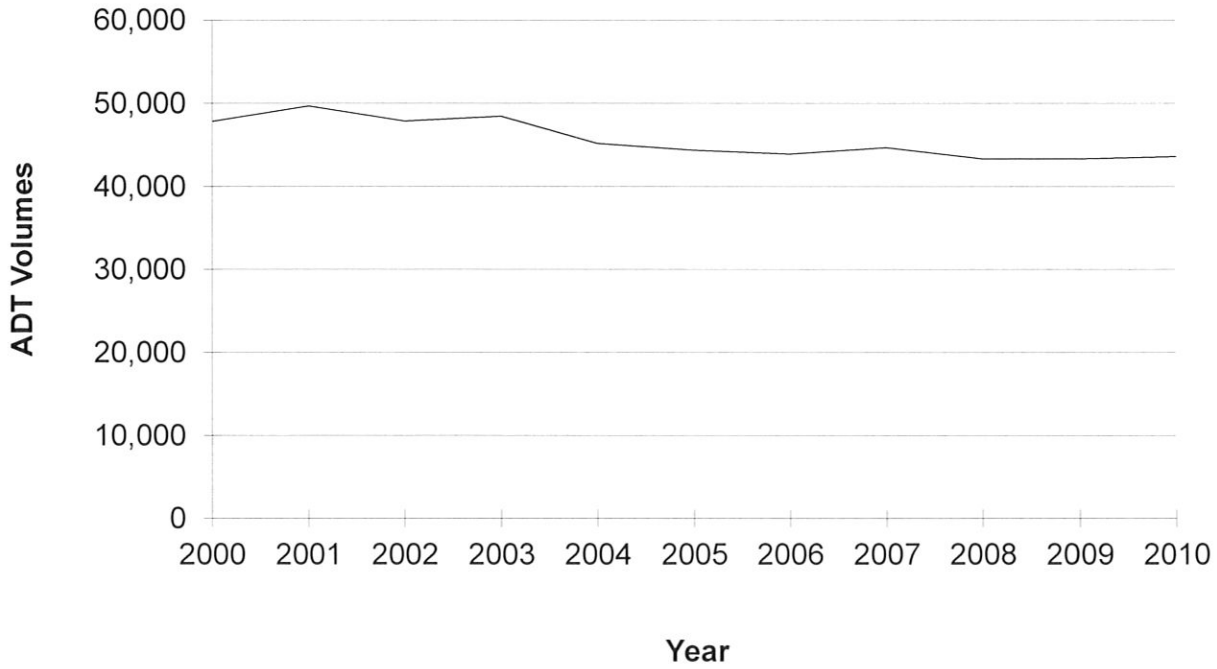
EXHIBIT 7B
TRAFFIC GROWTH PROJECTION
MD 355, NORTH OF MD 124

sli, 080725\adt 11jun 11jun.xls-md355,nmd124, f06/28/11

TRAFFIC GROWTH PROJECTION

Average Growth: -0.88%
Mathematical Growth: -0.92%

Year	ADT Volume	Vol. increase	% increase	Average %
2000	47,825			
2001	49,675	1,850	3.87%	3.87%
2002	47,875	-1,800	-3.62%	0.12%
2003	48,450	575	1.20%	0.48%
2004	45,175	-3,275	-6.76%	-1.33%
2005	44,350	-825	-1.83%	-1.43%
2006	43,912	-438	-0.99%	-1.35%
2007	44,660	748	1.70%	-0.92%
2008	43,321	-1,339	-3.00%	-1.18%
2009	43,322	1	0.00%	-1.05%
2010	43,583	261	0.60%	-0.88%



The Traffic Group®

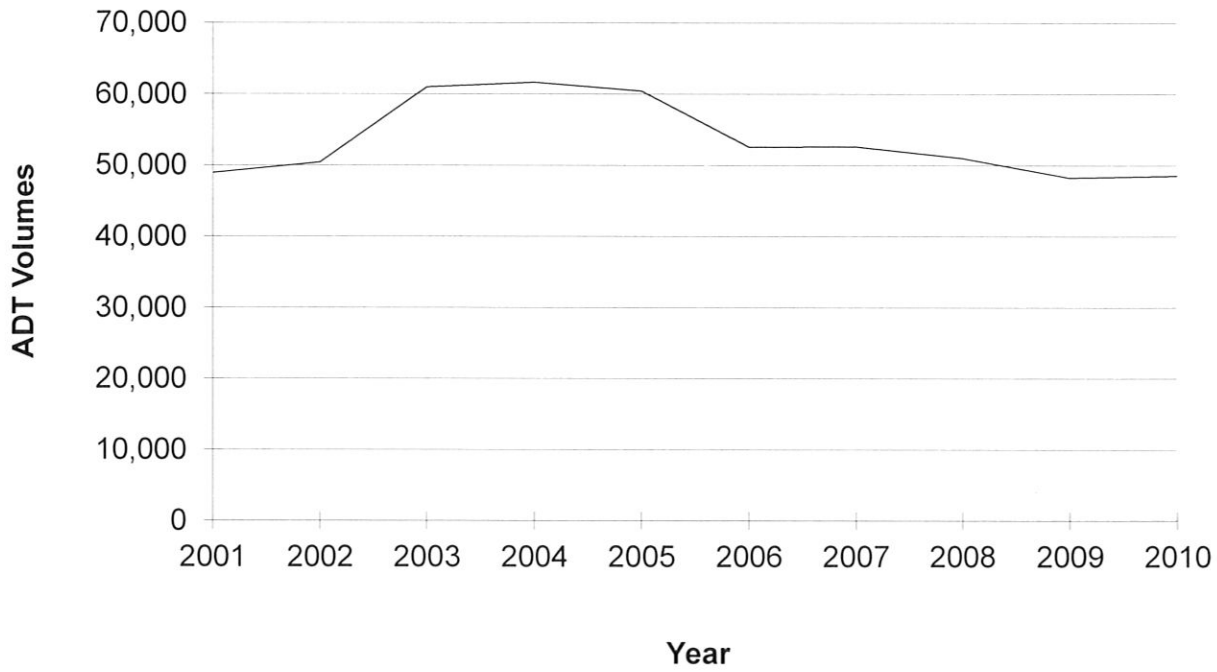
EXHIBIT 7C
TRAFFIC GROWTH PROJECTION
MD 117, WEST OF I-270

sli, 080725\adt 11jun.xls-md117,wi270, f07/18/11

TRAFFIC GROWTH PROJECTION

Average Growth: 0.23%
Mathematical Growth: 0.33%

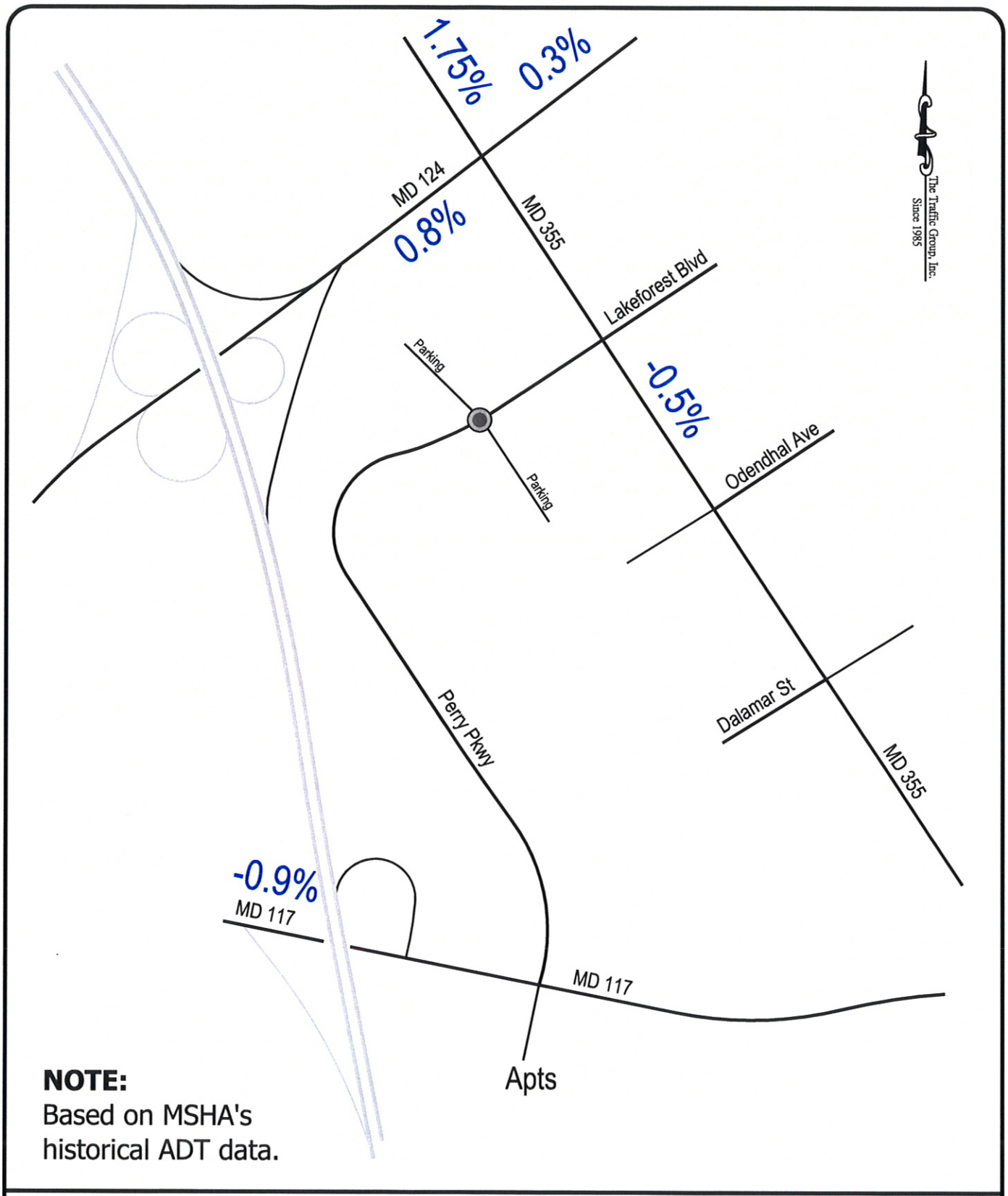
Year	ADT Volume	Vol. increase	% increase	Average %
2000	46,975			
2001	48,950	1,975		
2002	50,425	1,475	3.01%	1.51%
2003	60,975	10,550	20.92%	7.98%
2004	61,650	675	1.11%	6.26%
2005	60,425	-1,225	-1.99%	4.61%
2006	52,590	-7,835	-12.97%	1.68%
2007	52,591	1	0.00%	1.44%
2008	51,012	-1,579	-3.00%	0.89%
2009	48,250	-2,762	-5.41%	0.19%
2010	48,541	291	0.60%	0.23%



The Traffic Group®

EXHIBIT 7D
TRAFFIC GROWTH PROJECTION
MD 124, EAST OF MD 355

sli, 080725\adt 11jun 11jun.xls-md124,emd355, f06/29/11



NOTE:
Based on MSHA's historical ADT data.

NOT TO SCALE

EXHIBIT 8
ANNUAL TRAFFIC GROWTH RATES

sli, 080725\montgomery fair grounds 11jun.dwg-growth-rates, f06/29/11

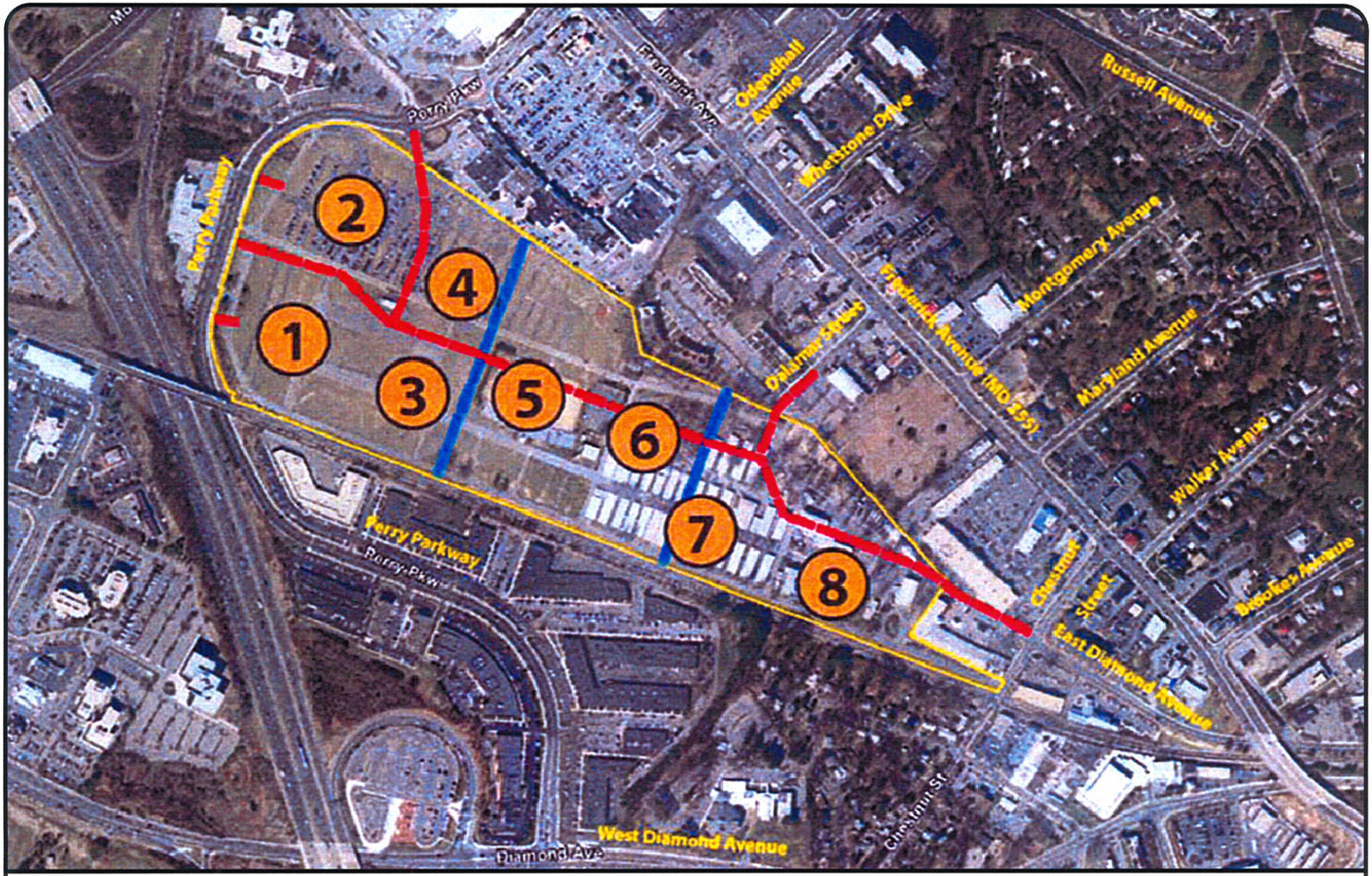
NOTE:
All traffic volumes are increased by 1% annual growth rate for 10 years to account for regional traffic growth.

NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 9
2021 BACKGROUND PEAK HOUR TRAFFIC VOLUMES

sli, 080725\montgomery fair grounds 11jun.dwg-back, f06/29/11



Phasing Option 1: construct in the order of 1,2,3,4,5,6,7,8
Phasing Option 2: construct in the order of 8,7,6,5,4,3,2,1
Phasing Option 3: construct in the order of 1&8,2&7,3&6,4,5

EXHIBIT 10
LOCATIONS OF
PODS 1 TO 8

sli, 080725\pods.dwg-loc_stlayout, f06/30/11

TRIP GENERATION FOR SUBJECT SITE

TRIP RATES / FORMULAE	IN/OUT
General Office (Montgomery County, ≥ 25 ksf)	
Morning Trips = (1.70 x KSF) - 8	87/13
Evening Trips = (1.44 x KSF) + 20	17/83
Garden/Mid-Rise Residential Units <10 stories (Montgomery County, ≥75 Units)	
Morning Trips = (0.40 x Units) + 3	20/80
Evening Trips = (0.47 x Units) + 1	66/34

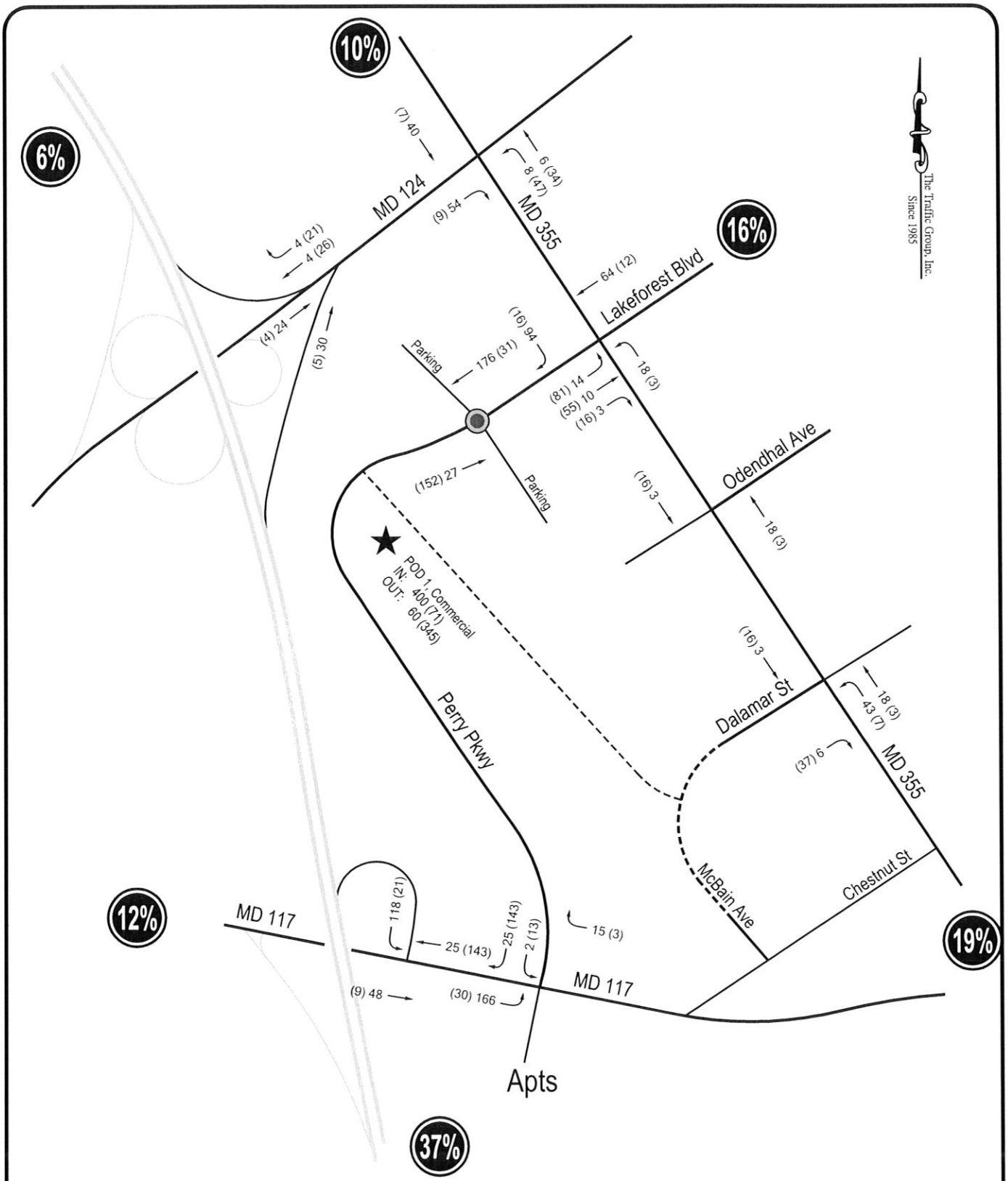
TRIP TOTALS

		MORNING PEAK HOUR			EVENING PEAK HOUR		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Pod 1							
275,000	sq.ft. office	400	60	460	71	345	416
Pod 2							
375,000	sq.ft. office	548	82	630	95	465	560
Pod 4							
50,000	sq.ft. office	67	10	77	16	76	92
225	resid. units	19	74	93	71	36	107
Pod 5							
50,000	sq.ft. office	67	10	77	16	76	92
475	resid. units	39	154	193	148	76	224
Total Development							
750,000	**sq.ft. office**	**1,082**	**162**	**1,244**	**198**	**962**	**1,160**
700	**apt units**	**58**	**228**	**286**	**219**	**112**	**331**

The Traffic Group®

EXHIBIT 11
TRIP GENERATION FOR
MONTGOMERY COUNTY FAIRGROUND

sli, 080725\trips 11jun.xls-pods 1245, f07/18/11

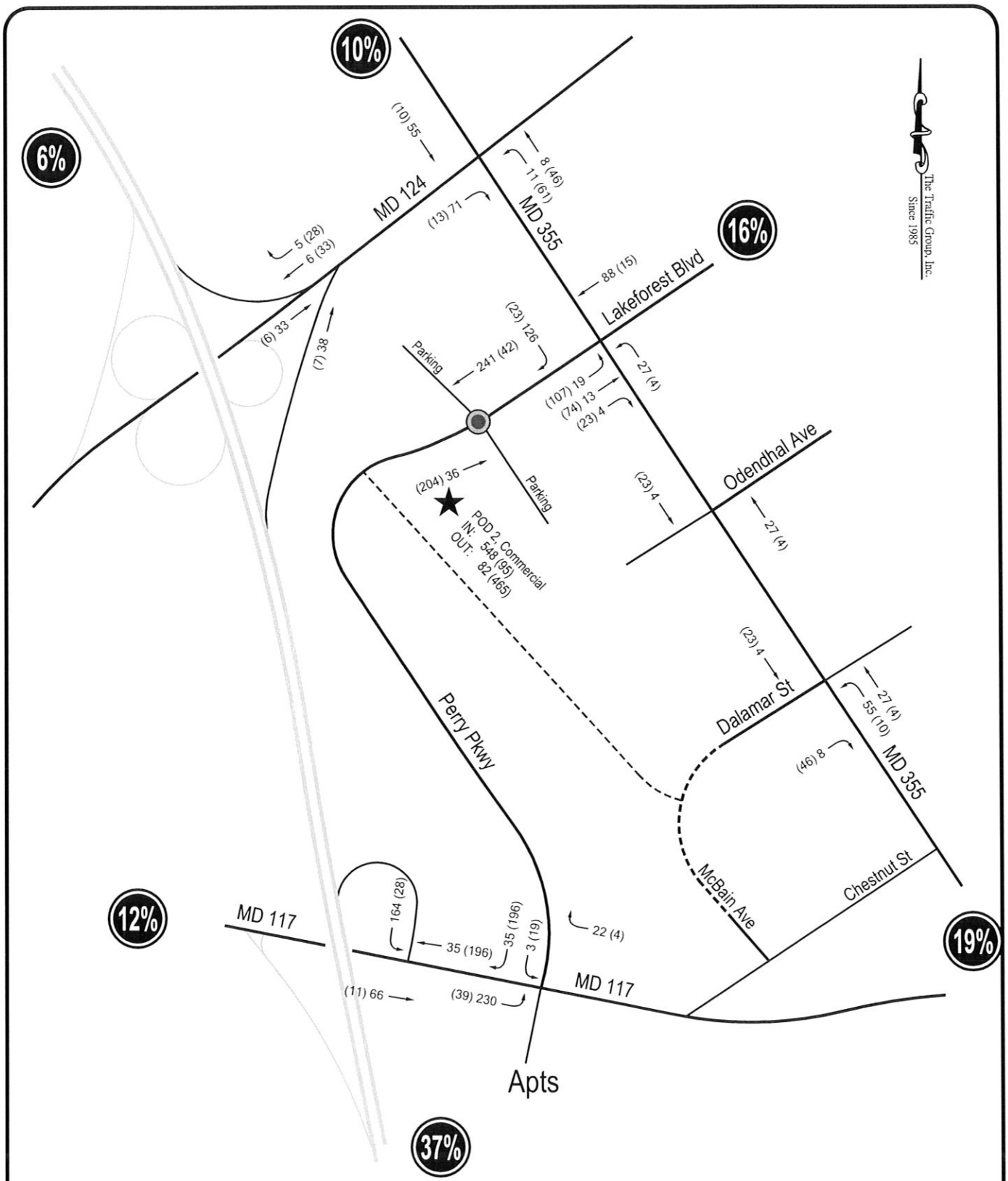


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 12A
TRIP ASSIGNMENT FOR SITE
POD 1, COMMERCIAL

sli, 080725\montgomery fair grounds 11jun.dwg-stn-1-comm, f07/01/11

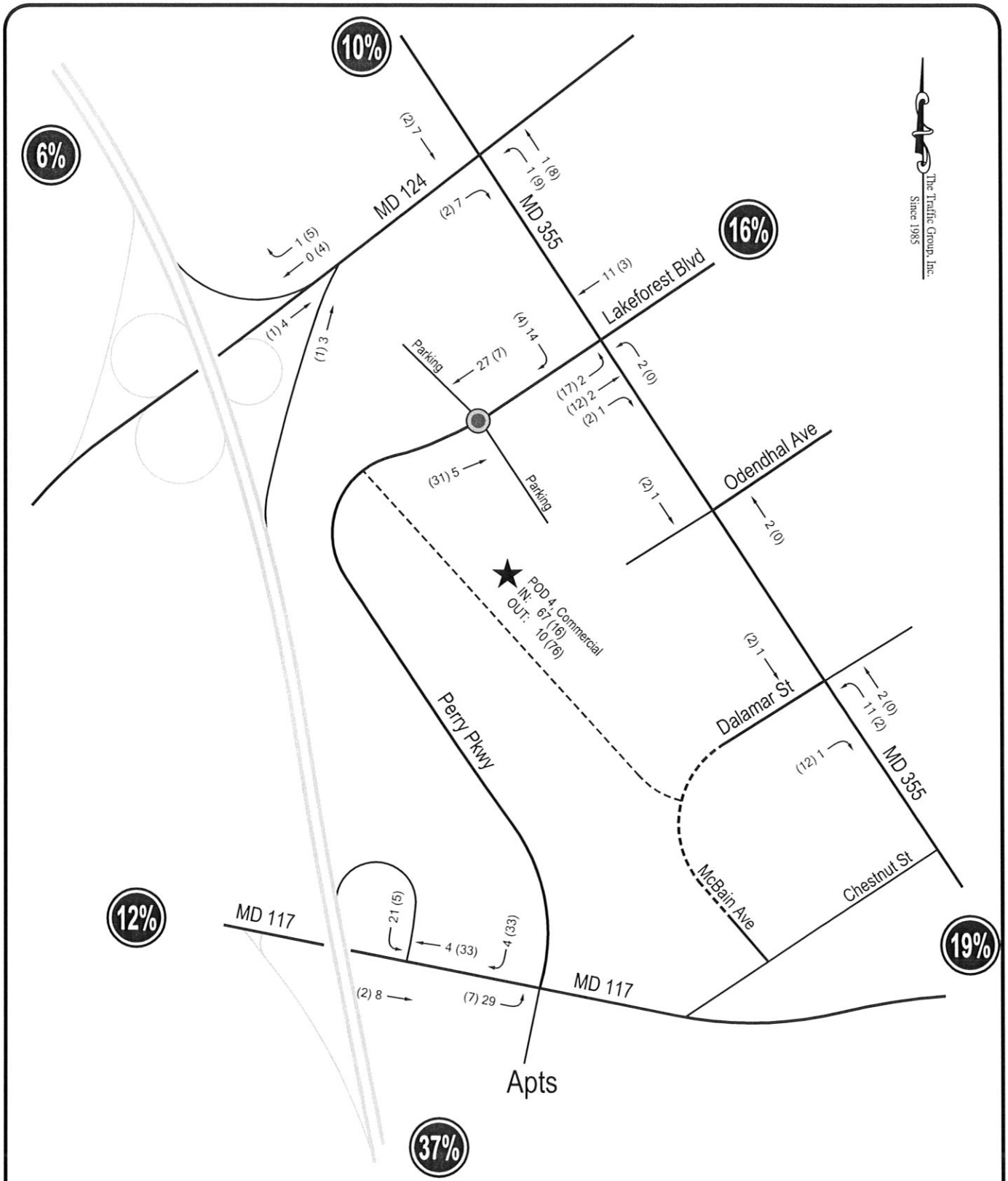


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 12B
TRIP ASSIGNMENT FOR SITE
POD 2, COMMERCIAL

sli, 080725\montgomery fair grounds 11jun.dwg-stn-2-comm, f07/01/11

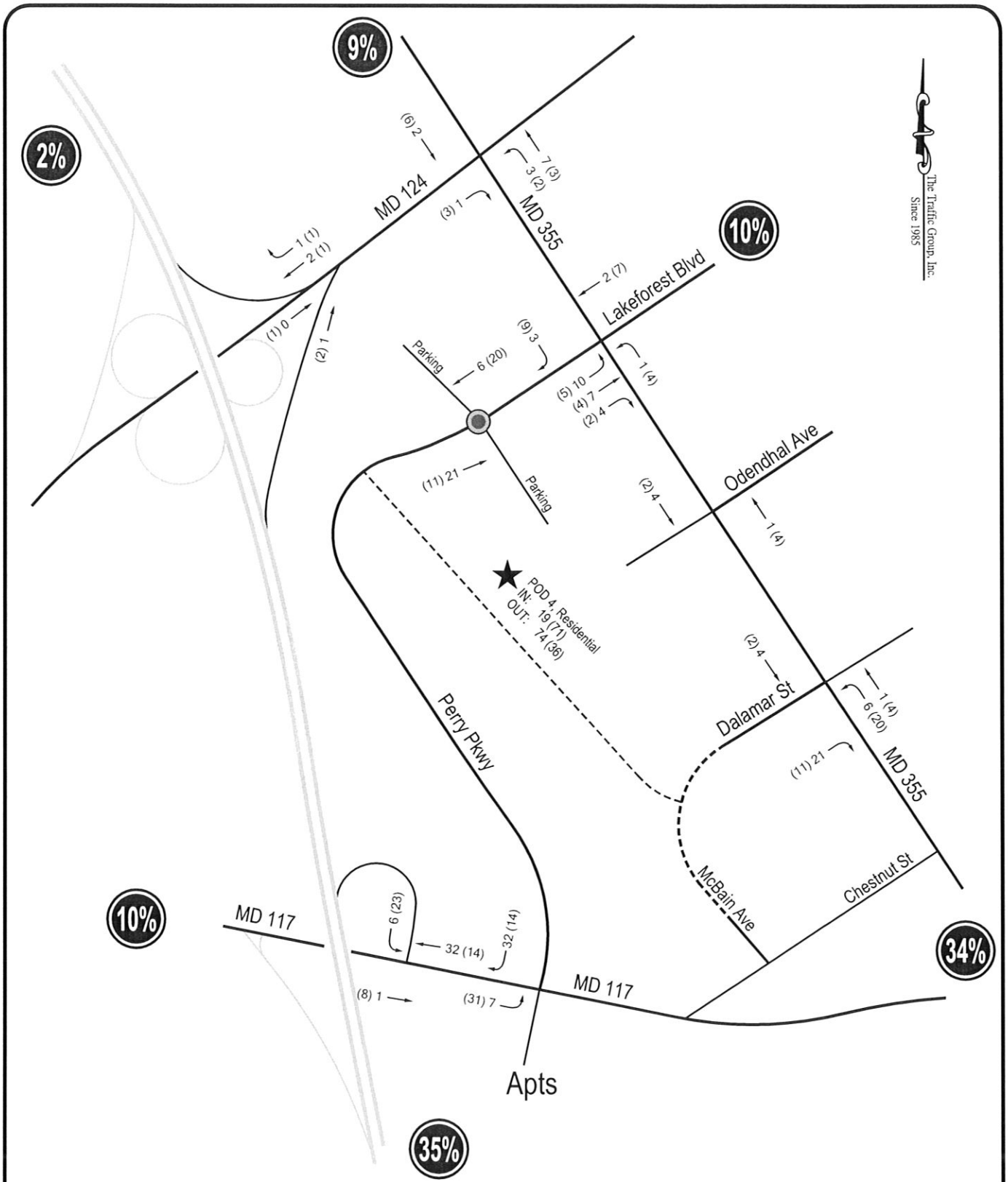


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 12C
TRIP ASSIGNMENT FOR SITE
POD 4, COMMERCIAL

sli, 080725\montgomery fair grounds 11july.dwg-stn-4-comm, f07/18/11



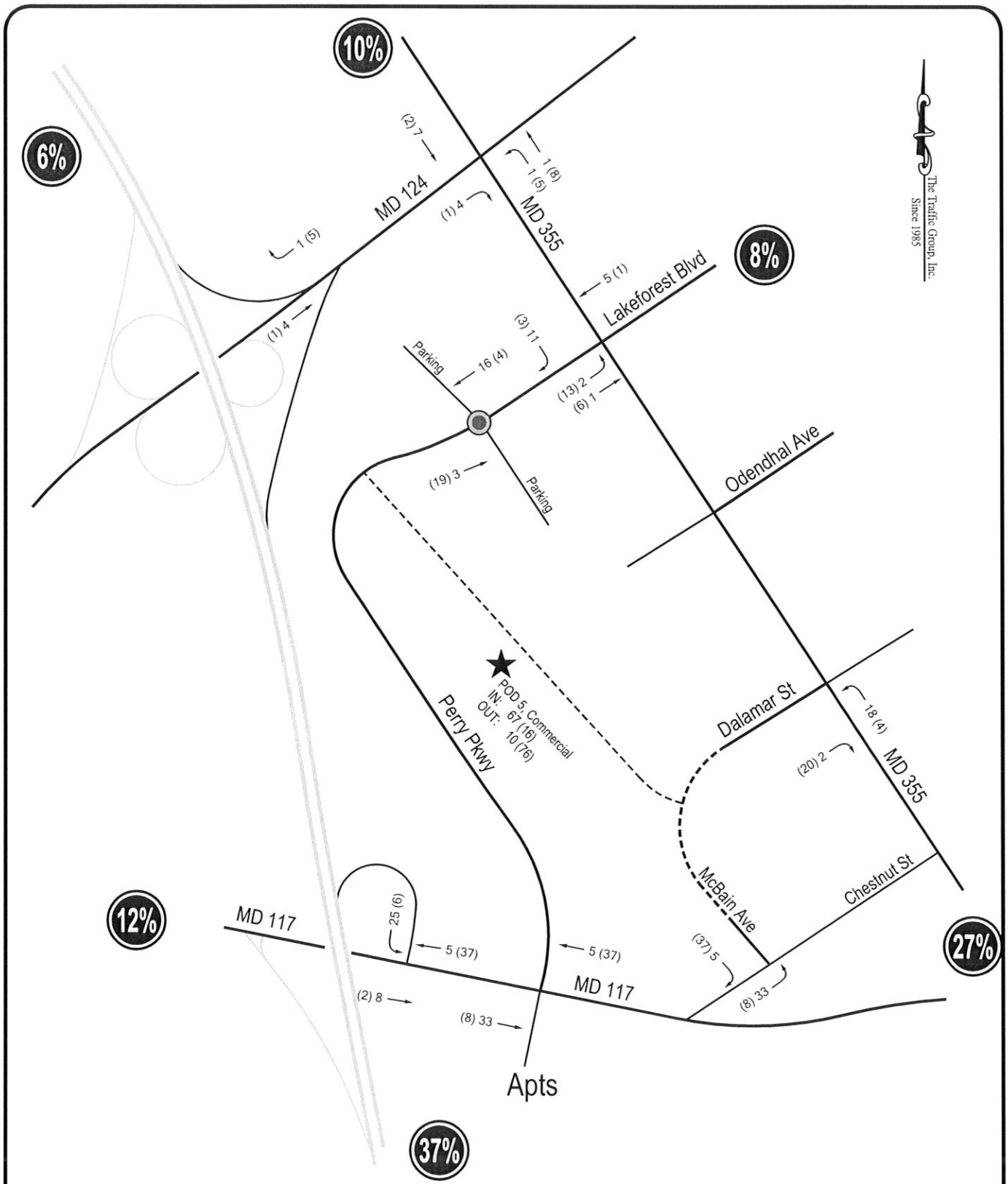
The Traffic Group®

NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 12D
TRIP ASSIGNMENT FOR SITE
POD 4, RESIDENTIAL

sli, 080725\montgomery fair grounds 11july.dwg-stn-4-res, f07/18/11

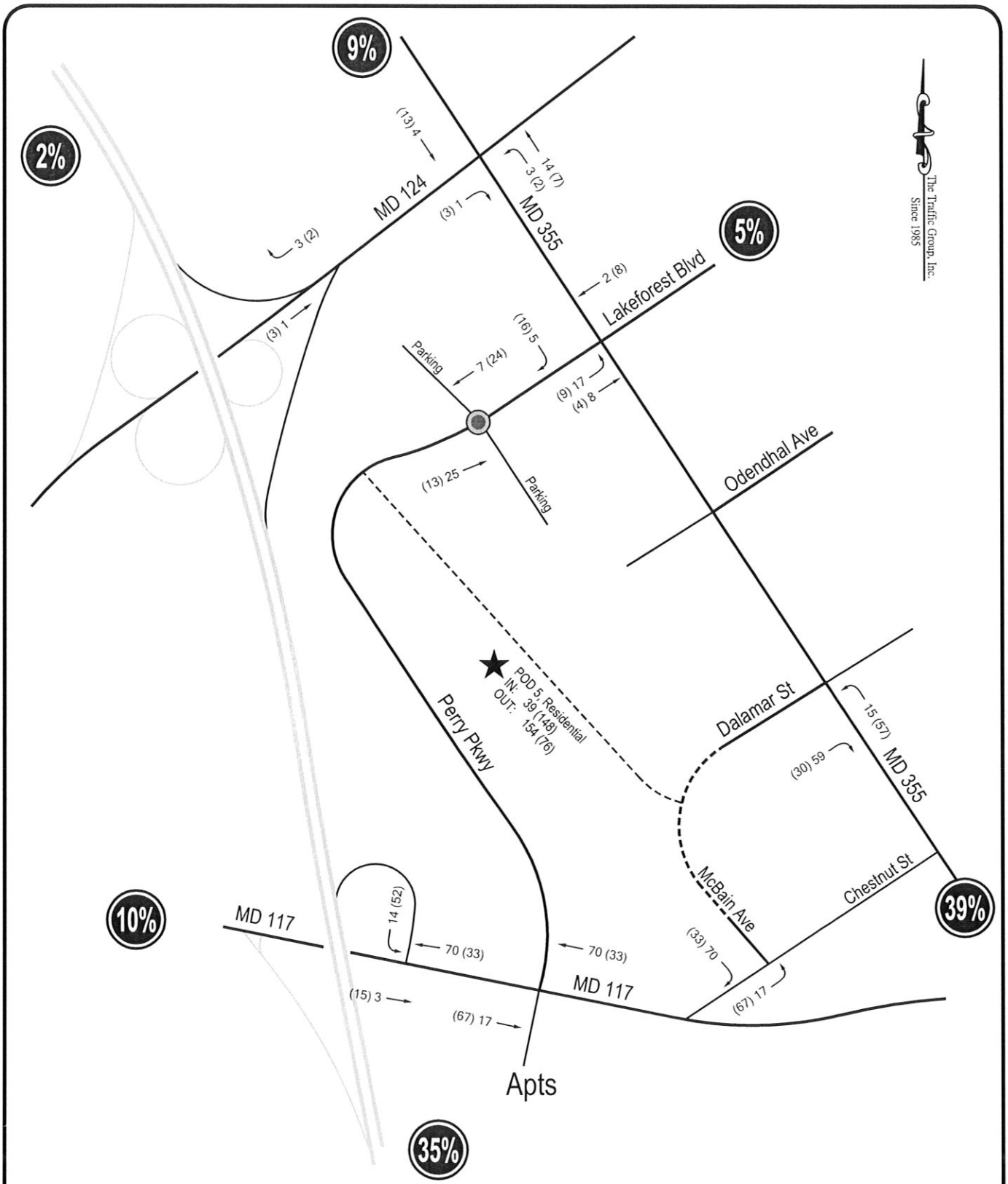


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 12E
TRIP ASSIGNMENT FOR SITE
POD 5, COMMERCIAL

sli, 080725\montgomery fair grounds 11july.dwg-stn-5-comm, f07/18/11

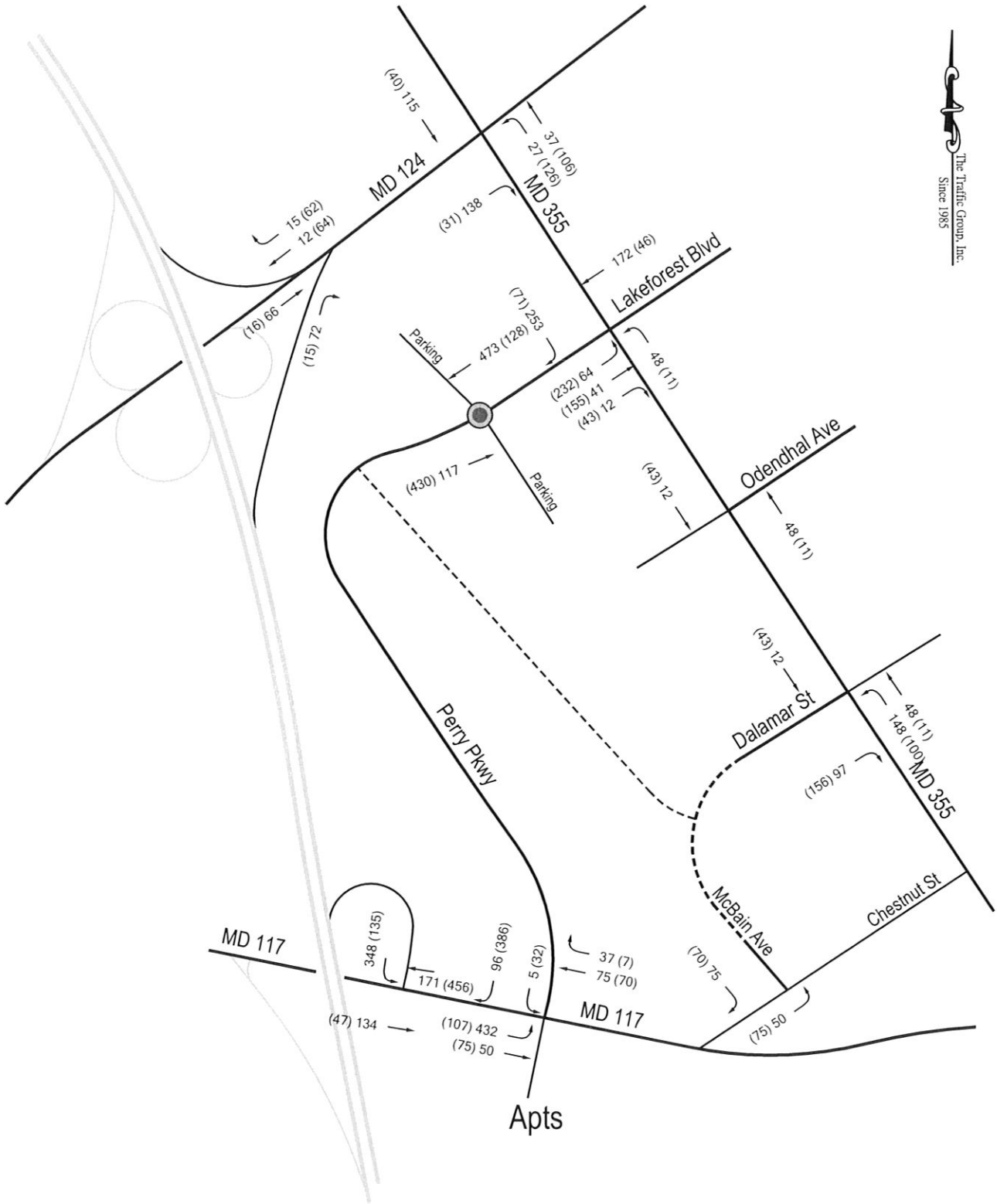


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 12F
TRIP ASSIGNMENT FOR SITE
POD 5, RESIDENTIAL

sli, 080725\montgomery fair grounds 11july.dwg-stn-5-res, f07/18/11

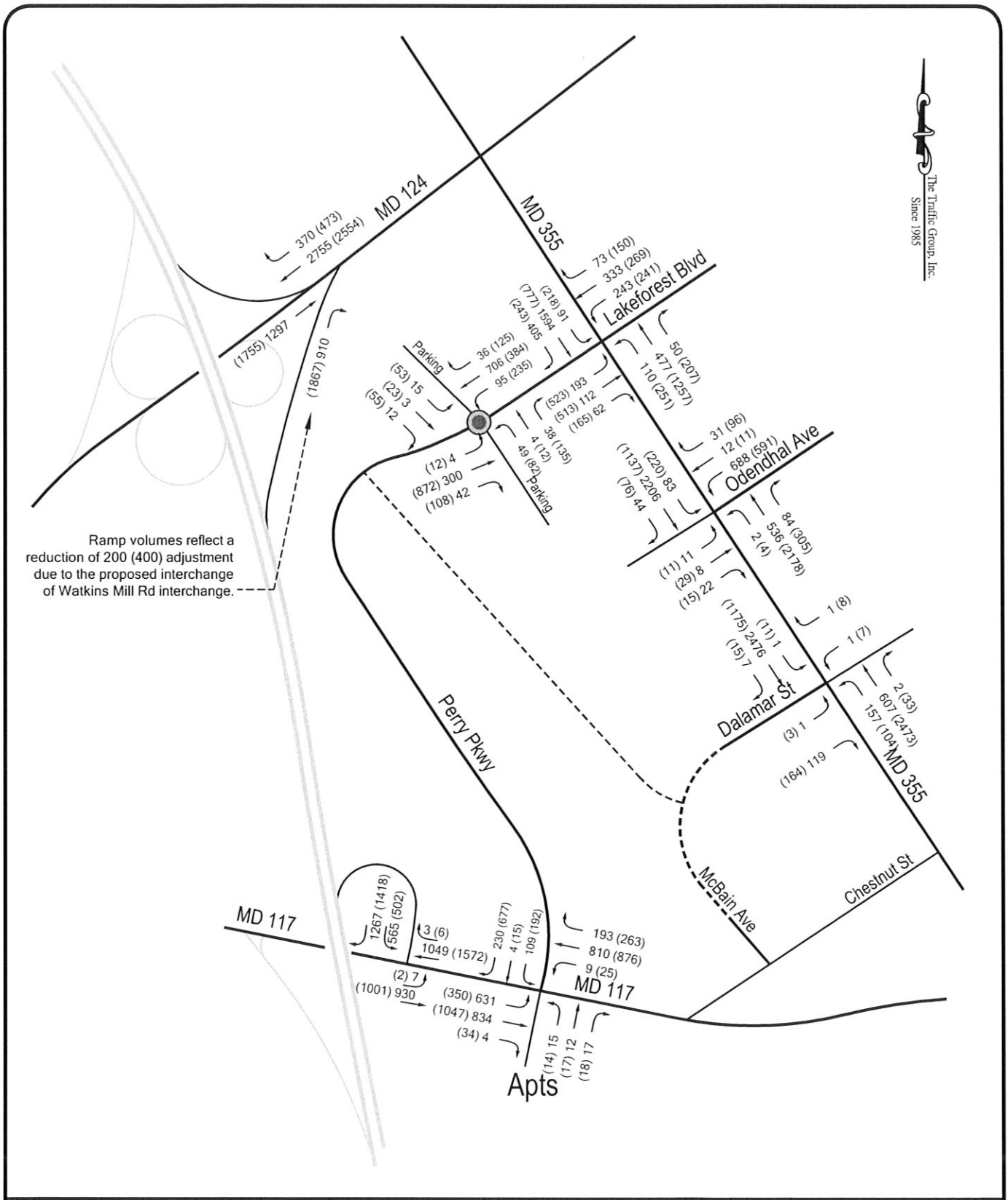


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 13
COMBINED SITE TRAFFIC VOLUMES FROM
PODS 1 TO 8, COMMERCIAL & RESIDENTIAL

sli, 080725\montgomery fair grounds 11july.dwg-stn, f07/18/11

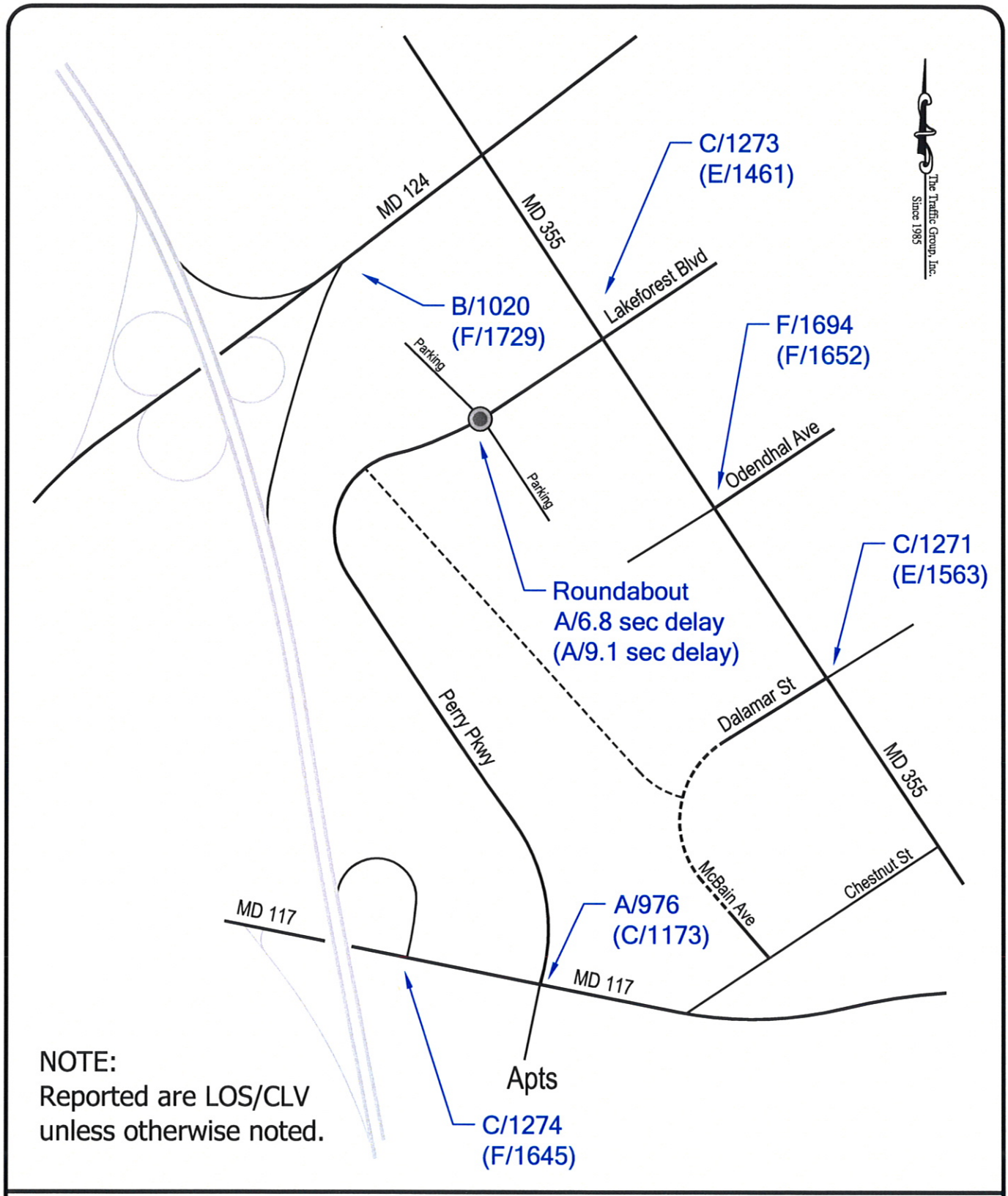


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 14
2021 TOTAL PEAK HOUR
TRAFFIC VOLUMES

sli, 080725\montgomery fair grounds 11july.dwg-tot, f07/18/11

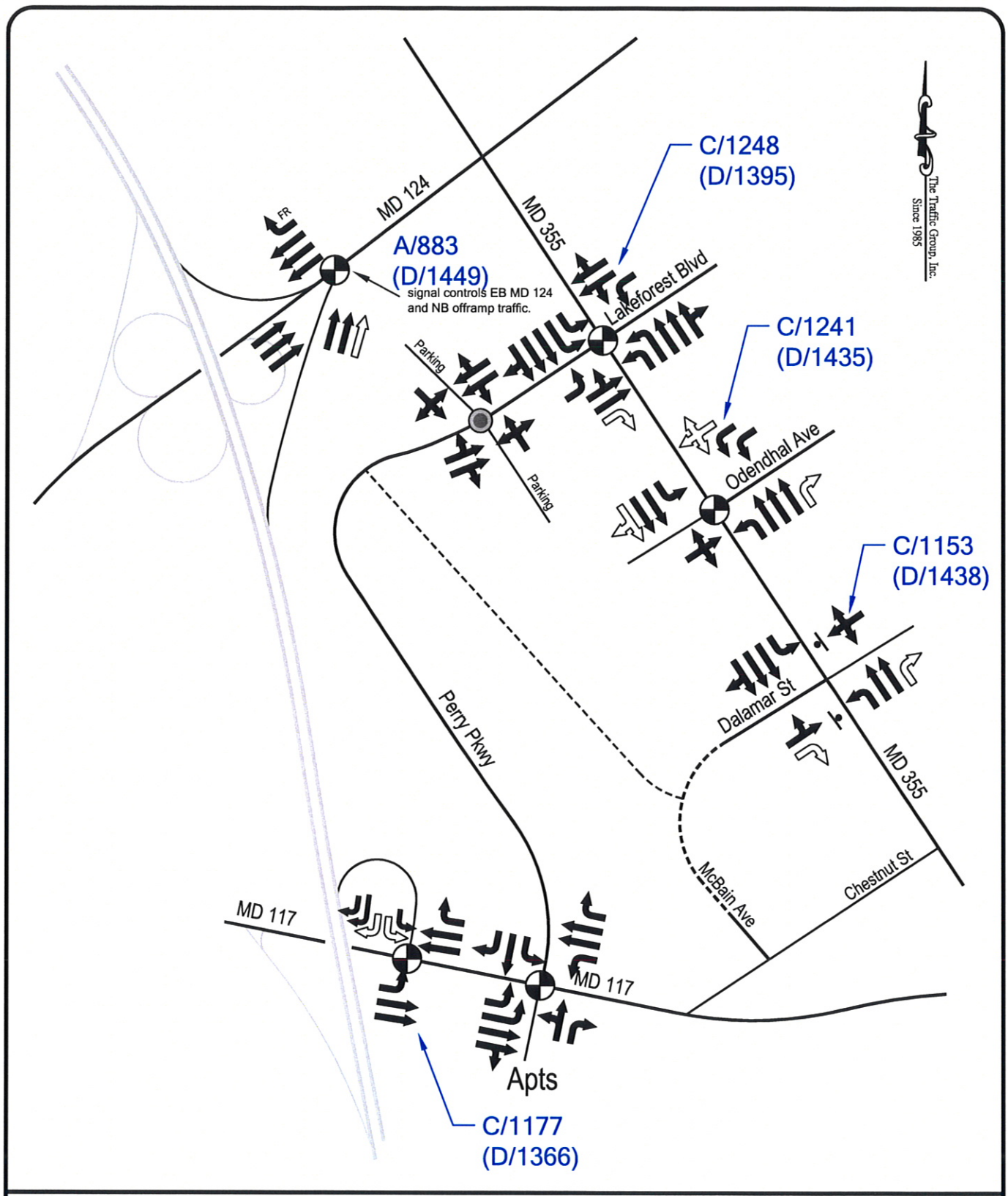


NOTE:
Reported are LOS/CLV
unless otherwise noted.

NOT TO SCALE

EXHIBIT 15
CAPACITY ANALYSES FOR TOTAL TRAFFIC
CONDITIONS WITH EXISTING LANE USE

sli, 080725\montgomery fair grounds 11july.dwg-tot-los, f07/19/11



NOT TO SCALE

SIGNALIZED INTERSECTION

"STOP" CONTROL

EXHIBIT 16
RECOMMENDED FUTURE
LANE USE AND LOS/CLV

sli, 080725\montgomery fair grounds 11july.dwg-lu-fut, f7/18/2011

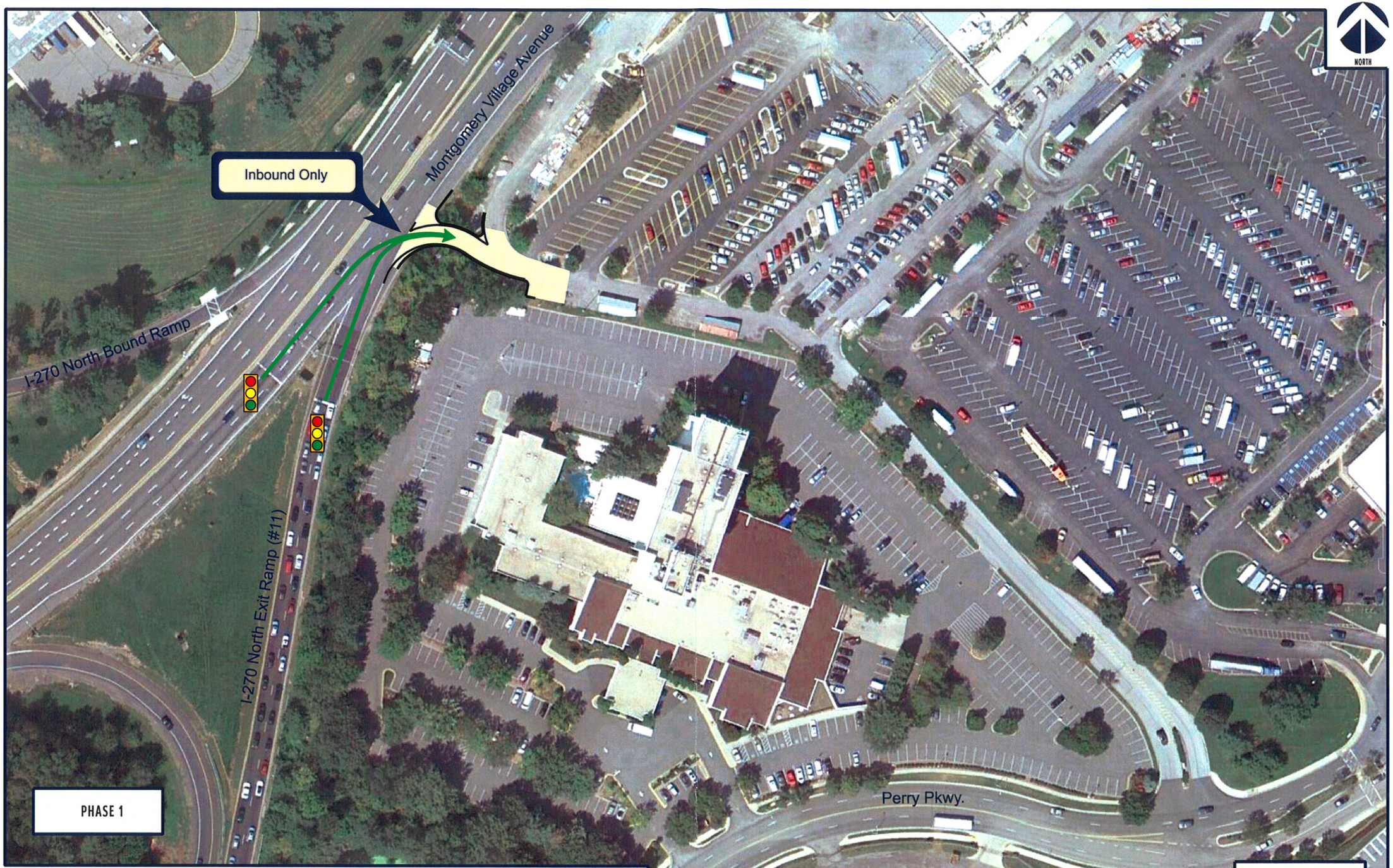


EXHIBIT 17A

Montgomery Co. Fairgrounds Access
Proposed Conditions

Merging Innovation and Excellence

The Traffic Group

suite h - 9900 franklin square dr. - baltimore, maryland 21236

410.931.6600 - fax: 410.931.6601 - 1.800.583.8411

Scale	1" = 40'	Revision	7
Location	Montgomery Co. #2		
Job Number	2008-0103		
File Name	J:\2008\2008-0103\Site\Montgomery Co Fairgrounds Access 07-10-2011.dgn		
Print Date	7/18/2011	Print Time	10:06:23 AM

K. Vallati	2011
DRAWN	DATE
DESIGNED	DATE
CHECKED	DATE
APPROVED	DATE

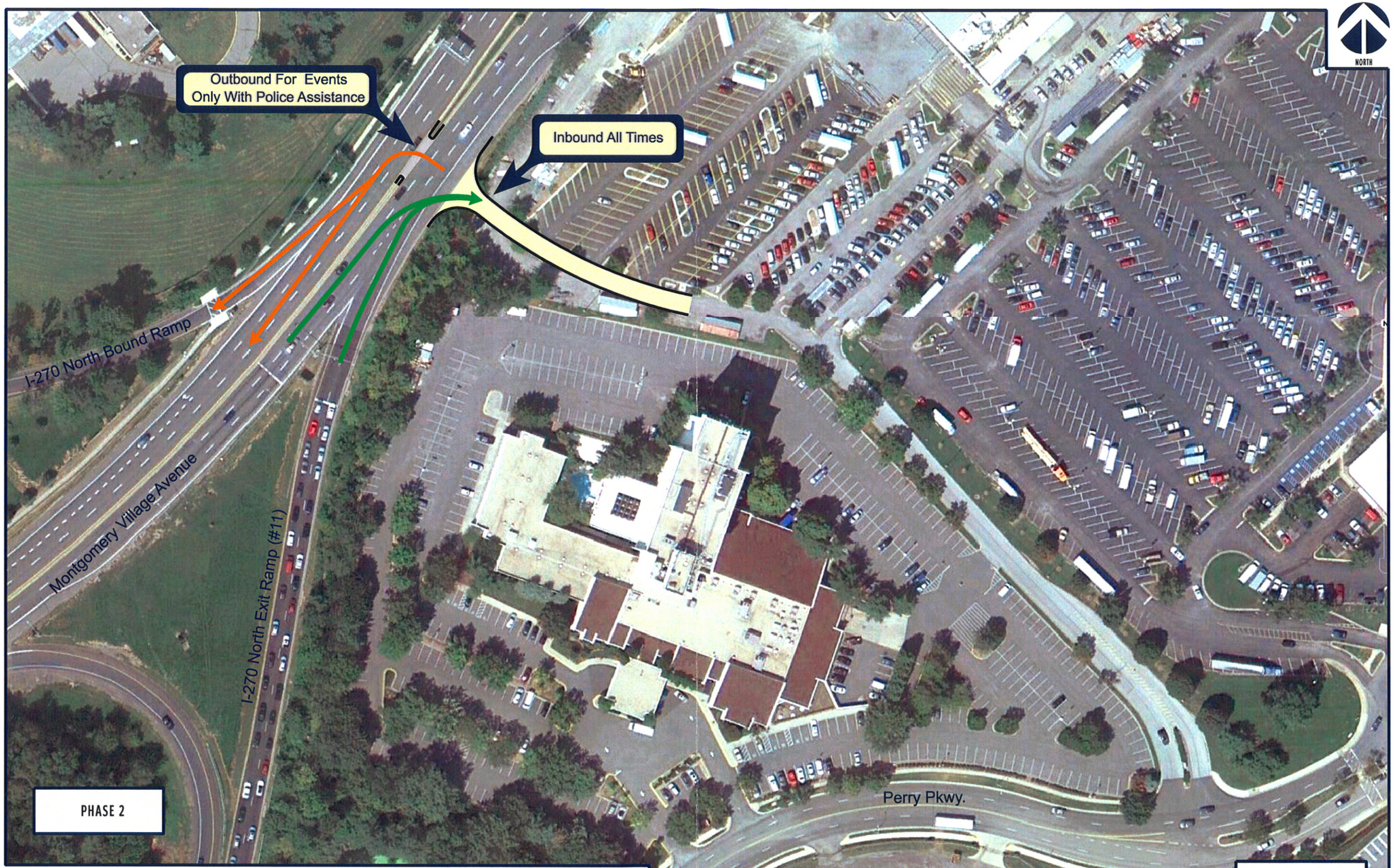


EXHIBIT 17B

The Traffic Group

Montgomery Co. Fairgrounds Access
Proposed Conditions

Merging Innovation and Excellence

Scale	1" = 40'	Revision	7
Location	Montgomery Co., MD		
Job Number	2008 025		
File Name	F:\2008\2008 025\Dwg\Montgomery Co Fairgrounds Access 07 10 2009.dgn		
Print Date	1/18/2011	Print Time	10:06:22 AM

M. Vailati 2011
DRAWN DATE
DESIGNED DATE
CHECKED DATE
APPROVED DATE

suite h - 9900 franklin square dr. - baltimore, maryland 21236
410.931.6600 - fax: 410.931.6601 - 1.800.583.8411

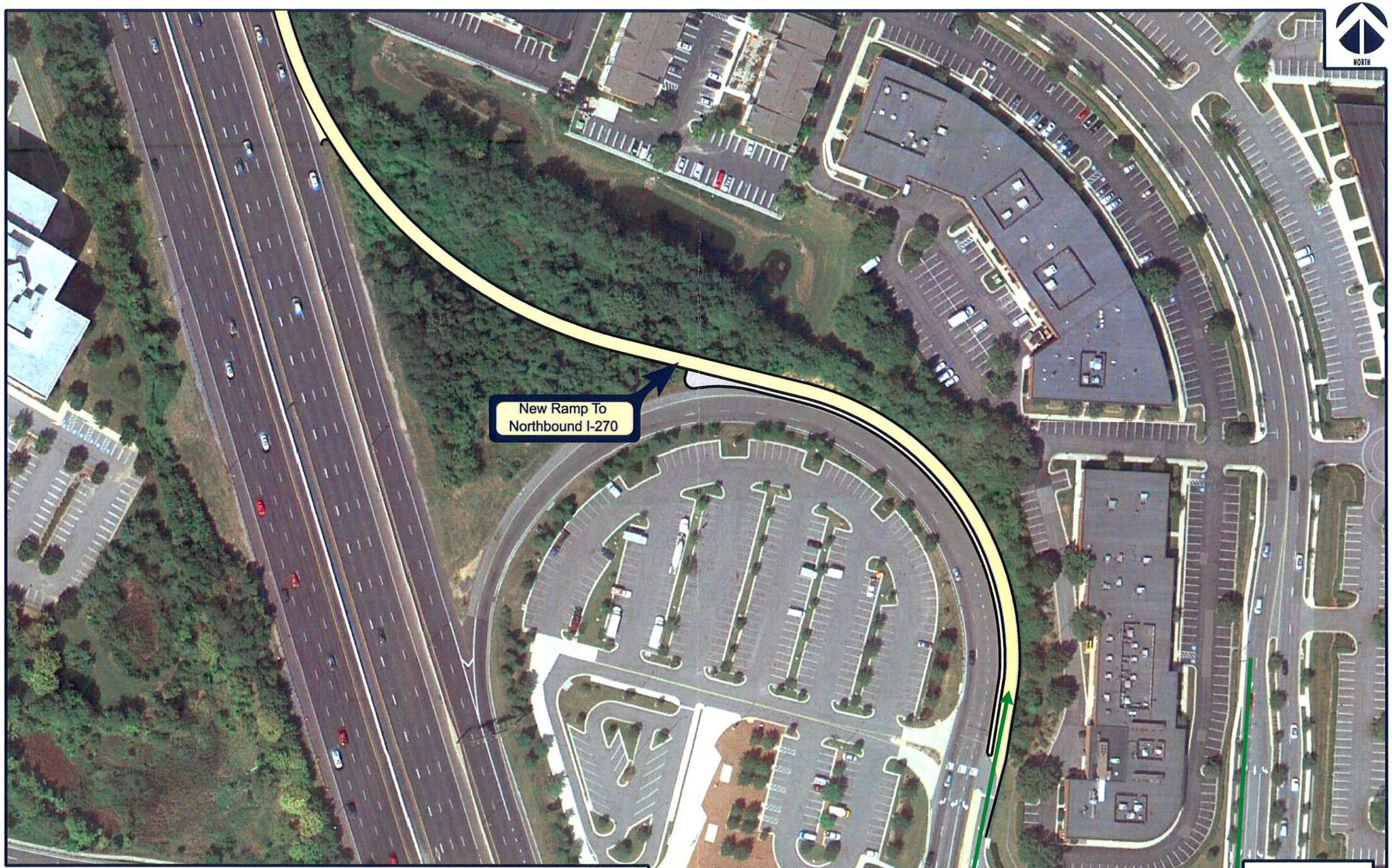


EXHIBIT 18

Montgomery Co. Fairgrounds Access
Proposed Conditions

Merging Innovation and Excellence

The Traffic Group

suite h - 9900 franklin square dr. - baltimore, maryland 21236

410.931.6600 - fax: 410.931.6601 - 1.800.583.8411

Scale:	1" = 42'	Revision:	1
Location:	Montgomery Co., MD		
Job Number:	2008 005		
File Name:	I:\2008\2008 005\Dwg\Montgomery Co Fairgrounds Access 07-19-2010.dgn		
Print Date:	7/19/2010	Print Time:	10:07:22 AM

M. Vailati	2011
DRAWN	DATE
DESIGNED	DATE
CHECKED	DATE
APPROVED	DATE

APPENDIX A

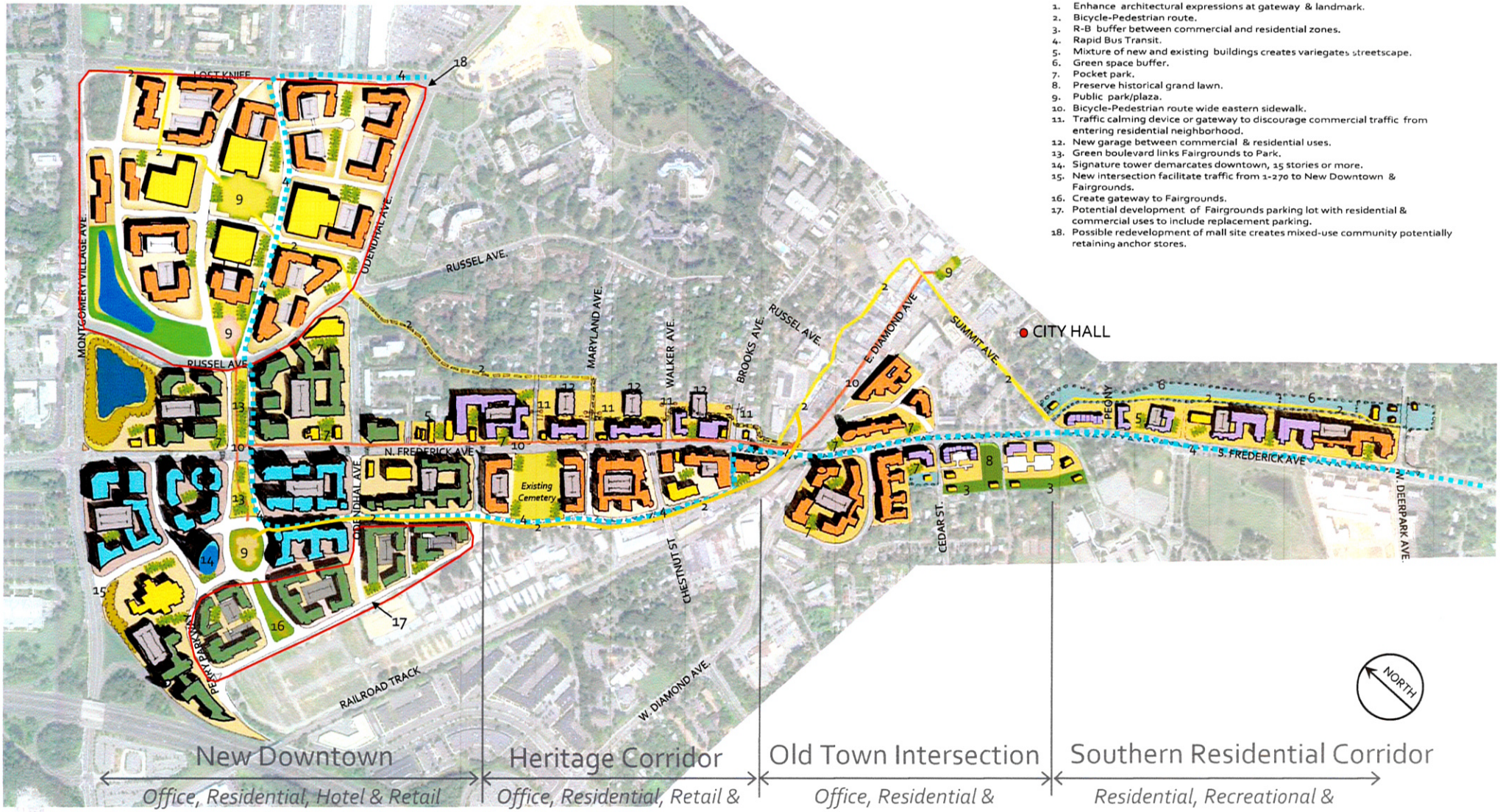
Trip Distribution Table from LATR

Intersection Turning Movement Counts and Aerial Photos

15 + story | 10-15 story | 5-10 story | 3-5 story | 2-4 story | Existing Bldg.

KEY NOTES:

1. Enhance architectural expressions at gateway & landmark.
2. Bicycle-Pedestrian route.
3. R-B buffer between commercial and residential zones.
4. Rapid Bus Transit.
5. Mixture of new and existing buildings creates variegates streetscape.
6. Green space buffer.
7. Pocket park.
8. Preserve historical grand lawn.
9. Public park/plaza.
10. Bicycle-Pedestrian route wide eastern sidewalk.
11. Traffic calming device or gateway to discourage commercial traffic from entering residential neighborhood.
12. New garage between commercial & residential uses.
13. Green boulevard links Fairgrounds to Park.
14. Signature tower demarcates downtown, 15 stories or more.
15. New intersection facilitate traffic from 1-270 to New Downtown & Fairgrounds.
16. Create gateway to Fairgrounds.
17. Potential development of Fairgrounds parking lot with residential & commercial uses to include replacement parking.
18. Possible redevelopment of mall site creates mixed-use community potentially retaining anchor stores.



New Downtown
Office, Residential, Hotel & Retail

Heritage Corridor
Office, Residential, Retail & Institutional

Old Town Intersection
Office, Residential & Institutional

Southern Residential Corridor
Residential, Recreational & Institutional

Gaithersburg, MD
June 16, 2011

A Citizen's Plan for Frederick Avenue
Not to scale

Table E-7: Trip Distribution Report in Super District 7:

Gaithersburg/Shady Grove

Trip Distribution to Super District for	Office	md 355 n	md 355 s	i270 n	i270 s	east	west	
1. Bethesda/Chevy Chase	1.80%		0.27%		1.53%			1.80%
2. Silver Spring/Takoma Park	1.50%		0.23%		1.28%			1.50%
3. Potomac/Darnestown/Travilah	6.60%		2.64%		3.96%			6.60%
4. Rockville/North Bethesda	5.60%		3.36%		2.24%			5.60%
5. Kensington/Wheaton	3.70%		0.56%		3.15%			3.70%
6. White Oak/Fairland/Cloverly	2.20%				1.54%	0.66%		2.20%
7. Gaithersburg/Shady Grove	25.20%	6.30%	6.30%			6.30%	6.30%	25.20%
8. Aspen Hill/Olney	5.30%					5.30%		5.30%
9. Germantown/Clarksburg	10.90%	2.18%		4.36%			4.36%	10.90%
10. Rural: West of I-270	1.60%						1.60%	1.60%
11. Rural: East of I-270	7.10%	1.78%		1.78%		3.55%		7.10%
12. Washington DC	2.50%		0.25%		2.25%			2.50%
13. Prince George's County	6.70%		0.67%		6.03%			6.70%
14. Virginia	4.60%		4.60%					4.60%
15. Frederick County	12.10%		1.21%		10.89%			12.10%
16. Howard County	2.60%		0.39%		2.21%			2.60%
	100.00%	10.26%	20.47%	6.14%	35.07%	15.81%	12.26%	100.00%

Trip Distribution to Super District for	Residential	md 355 n	md 355 s	i270 n	i270 s	east	west	
1. Bethesda/Chevy Chase	8.50%		1.28%		7.23%			8.50%
2. Silver Spring/Takoma Park	2.20%		0.33%		1.87%			2.20%
3. Potomac/Darnestown/Travilah	2.10%		0.84%		1.26%			2.10%
4. Rockville/North Bethesda	23.70%		14.22%		9.48%			23.70%
5. Kensington/Wheaton	1.90%		0.29%		1.62%			1.90%
6. White Oak/Fairland/Cloverly	0.90%				0.63%	0.27%		0.90%
7. Gaithersburg/Shady Grove	32.40%	8.10%	8.10%			8.10%	8.10%	32.40%
8. Aspen Hill/Olney	1.80%					1.80%		1.80%
9. Germantown/Clarksburg	3.40%	0.68%		1.36%			1.36%	3.40%
10. Rural: West of I-270	0.10%						0.10%	0.10%
11. Rural: East of I-270	0.80%	0.20%		0.20%		0.40%		0.80%
12. Washington DC	8.40%		0.84%		7.56%			8.40%
13. Prince George's County	4.00%		0.40%		3.60%			4.00%
14. Virginia	7.90%		7.90%					7.90%
15. Frederick County	1.30%		0.13%		1.17%			1.30%
16. Howard County	0.60%		0.09%		0.51%			0.60%
	100.00%	8.98%	34.41%	1.56%	34.92%	10.57%	9.56%	100.00%

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 117
and: I 270 NB Off Ramp
Location: Montgomery Co., MD

Counted by: VCU
Date: June 7, 2011
Weather: Sunny/Hot
Entered by: RB

Day: Tuesday

The Traffic Group

TIME	TRAFFIC FROM NORTH on: I 270 NB Off Ramp					TRAFFIC FROM SOUTH on:					TRAFFIC FROM EAST on: MD 117					TRAFFIC FROM WEST on: MD 117					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	117		20	0	137					0	0	151		0	151		88	2	0	90	378
6:45-7:00	130		34	0	164					0	0	156		0	156		138	1	0	139	459
7:00-7:15	122		19	0	141					0	3	167		0	170		138	3	0	141	452
7:15-7:30	173		36	0	209					0	1	173		0	174		154	2	0	156	539
7:30-7:45	198		40	0	238					0	0	181		0	181		169	1	0	170	589
7:45-8:00	235		46	0	281					0	0	180		0	180		196	0	0	196	657
8:00-8:15	261		44	0	305					0	5	183		0	188		168	0	0	168	661
8:15-8:30	290		49	0	339					0	1	204		0	205		164	2	0	166	710
8:30-8:45	286		51	0	337					0	1	188		0	189		163	1	0	164	690
8:45-9:00	293		51	0	344					0	0	201		0	201		192	1	0	193	738
9:00-9:15	278		45	0	323					0	1	202		0	203		202	2	0	204	730
9:15-9:30	209		40	0	249					0	0	187		0	187		147	0	0	147	583
3 Hr Totals	2592	0	475	0	3067	0	0	0	0	0	12	2173	0	0	2185	0	1919	15	0	1934	7186
1 Hr Totals																					
6:30-7:30	542	0	109	0	651	0	0	0	0	0	4	647	0	0	651	0	518	8	0	526	1828
6:45-7:45	623	0	129	0	752	0	0	0	0	0	4	677	0	0	681	0	599	7	0	606	2039
7:00-8:00	728	0	141	0	869	0	0	0	0	0	4	701	0	0	705	0	657	6	0	663	2237
7:15-8:15	867	0	166	0	1033	0	0	0	0	0	6	717	0	0	723	0	687	3	0	690	2446
7:30-8:30	984	0	179	0	1163	0	0	0	0	0	6	748	0	0	754	0	697	3	0	700	2617
7:45-8:45	1072	0	190	0	1262	0	0	0	0	0	7	755	0	0	762	0	691	3	0	694	2718
8:00-9:00	1130	0	195	0	1325	0	0	0	0	0	7	776	0	0	783	0	687	4	0	691	2799
8:15-9:15	1147	0	196	0	1343	0	0	0	0	0	3	795	0	0	798	0	721	6	0	727	2868
8:30-9:30	1066	0	187	0	1253	0	0	0	0	0	2	778	0	0	780	0	704	4	0	708	2741
PEAK HOUR																					
8:15-9:15	1147	0	196	0	1343	0	0	0	0	0	3	795	0	0	798	0	721	6	0	727	2868
PM																					
4:00-4:15	253		53	0	306					0	1	235		0	236		151	0	0	151	693
4:15-4:30	303		66	0	369					0	0	233		0	233		150	1	0	151	753
4:30-4:45	351		67	0	418					0	0	244		0	244		162	1	0	163	825
4:45-5:00	353		89	0	442					0	1	272		0	273		198	1	0	199	914
5:00-5:15	311		58	0	369					0	1	235		0	236		170	1	0	171	776
5:15-5:30	358		64	0	422					0	1	275		0	276		194	3	0	197	895
5:30-5:45	290		57	0	347					0	1	237		0	238		205	1	0	206	791
5:45-6:00	345		68	0	413					0	1	228		0	229		222	1	0	223	865
6:00-6:15	324		69	0	393					0	1	268		0	269		199	0	0	199	861
6:15-6:30	326		80	0	406					0	2	241		0	243		190	0	0	190	839
6:30-6:45	289		115	0	404					0	1	273		0	274		253	1	0	254	932
6:45-7:00	295		77	0	372					0	0	251		0	251		188	0	0	188	811
3 Hr Totals	3798	0	863	0	4661	0	0	0	0	0	10	2992	0	0	3002	0	2282	10	0	2292	9955
1 Hr Totals																					
4:00-5:00	1260	0	275	0	1535	0	0	0	0	0	2	984	0	0	986	0	661	3	0	664	3185
4:15-5:15	1318	0	280	0	1598	0	0	0	0	0	2	984	0	0	986	0	680	4	0	684	3268
4:30-5:30	1373	0	278	0	1651	0	0	0	0	0	3	1026	0	0	1029	0	724	6	0	730	3410
4:45-5:45	1312	0	268	0	1580	0	0	0	0	0	4	1019	0	0	1023	0	767	6	0	773	3376
5:00-6:00	1304	0	247	0	1551	0	0	0	0	0	4	975	0	0	979	0	791	6	0	797	3327
5:15-6:15	1317	0	258	0	1575	0	0	0	0	0	4	1008	0	0	1012	0	820	5	0	825	3412
5:30-6:30	1285	0	274	0	1559	0	0	0	0	0	5	974	0	0	979	0	816	2	0	818	3356
5:45-6:45	1284	0	332	0	1616	0	0	0	0	0	5	1010	0	0	1015	0	864	2	0	866	3497
6:00-7:00	1234	0	341	0	1575	0	0	0	0	0	4	1033	0	0	1037	0	830	1	0	831	3443
PEAK HOUR																					
5:45-6:45	1284	0	332	0	1616	0	0	0	0	0	5	1010	0	0	1015	0	864	2	0	866	3497

Web Images Videos Maps News Shopping Gmail more

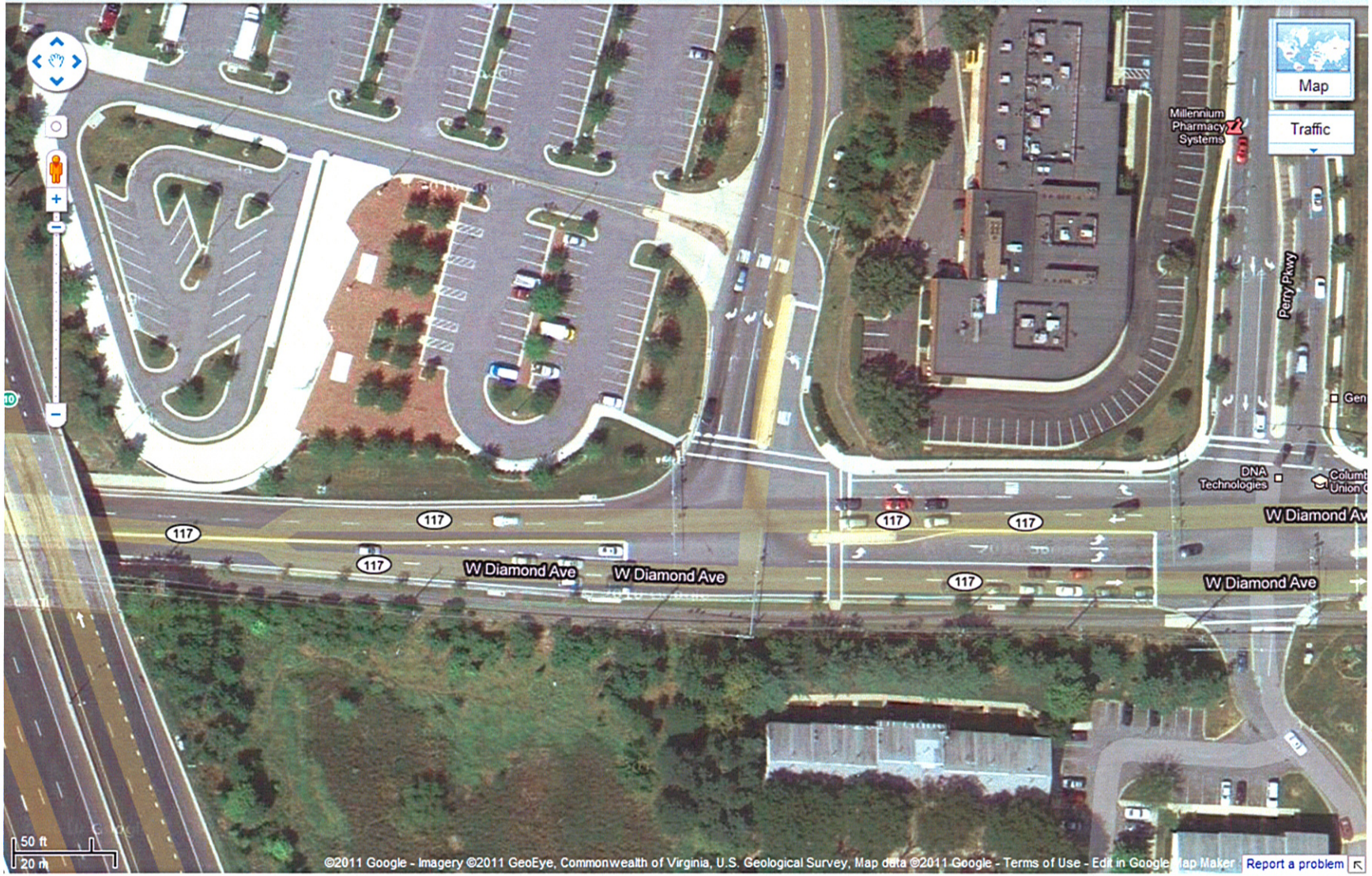
Sign in

Google maps

Int #1

Search Maps

Print Send Link



VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU

Intersection of: MD 117 | Date: June 7, 2011 | Day: Tuesday

and: Perry Pkwy - Business Access | Weather: Sunny/Hot

Location: Montgomery Co., MD | Entered by: RB

The Traffic Group

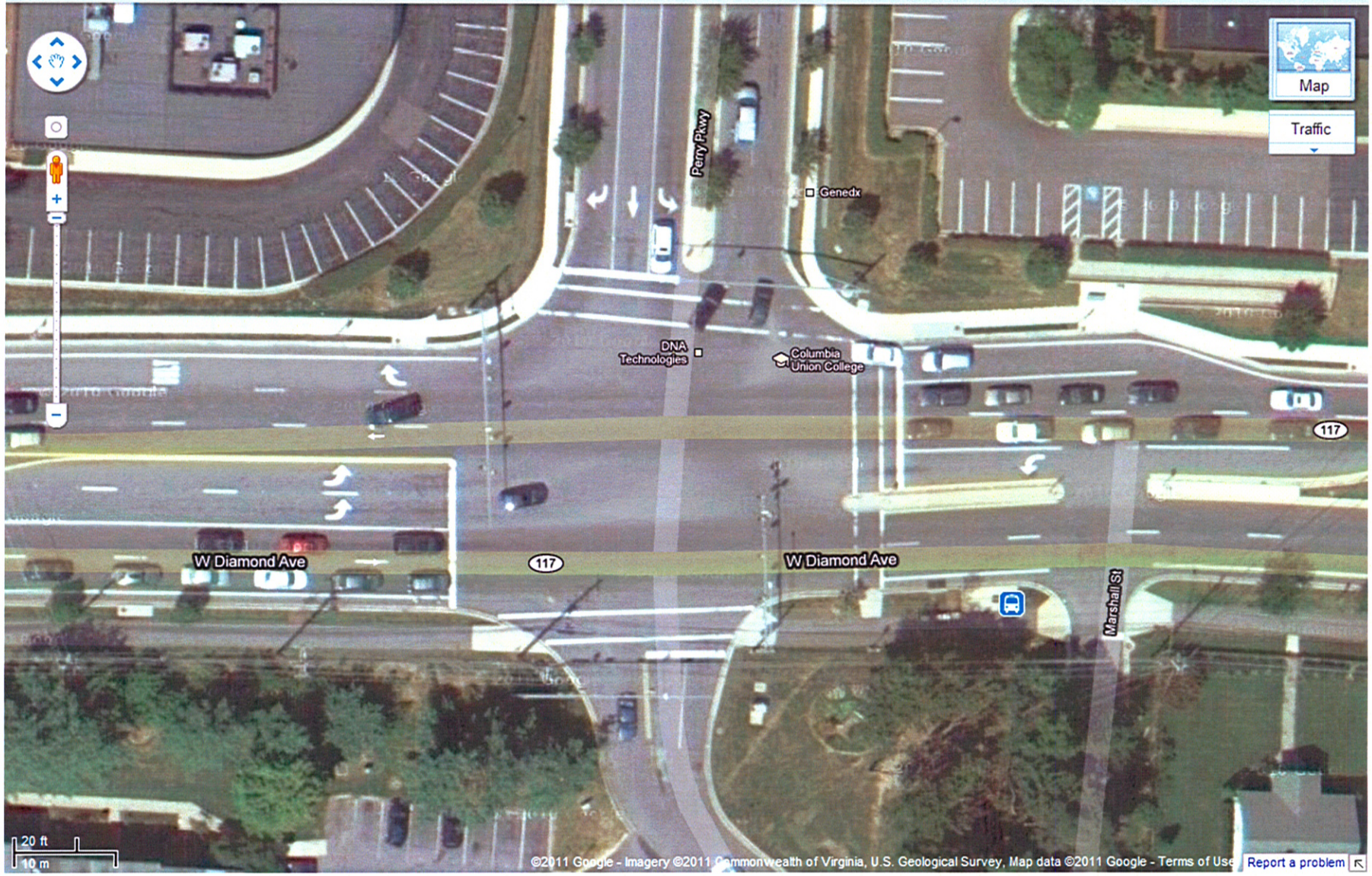
TIME	TRAFFIC FROM NORTH on: Perry Pkwy					TRAFFIC FROM SOUTH on: Business Access					TRAFFIC FROM EAST on: MD 117					TRAFFIC FROM WEST on: MD 117					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
6:30-6:45	12	2	5	0	19	9	1	5	0	15	14	128	5	0	147	2	98	5	0	105	286
6:45-7:00	22	2	12	0	36	10	0	7	0	17	20	131	3	0	154	1	142	11	0	154	361
7:00-7:15	36	5	14	0	55	9	4	4	0	17	32	132	3	0	167	0	157	25	0	182	421
7:15-7:30	14	2	10	0	26	7	0	8	0	15	17	143	2	0	162	2	157	20	0	179	382
7:30-7:45	35	2	18	0	55	3	1	12	0	16	25	136	0	0	161	4	173	38	0	215	447
7:45-8:00	43	2	23	0	68	6	2	3	0	11	22	149	2	0	173	3	198	35	0	236	488
8:00-8:15	34	2	31	0	67	5	3	3	0	11	35	144	3	0	182	5	166	46	0	217	477
8:15-8:30	32	1	25	0	58	5	0	3	1	9	28	175	2	0	205	1	155	37	0	193	465
8:30-8:45	28	1	22	1	52	6	3	3	0	12	36	161	1	1	199	1	160	37	0	198	461
8:45-9:00	24	0	24	0	48	3	6	4	0	13	39	168	4	0	211	1	202	53	0	256	528
9:00-9:15	37	2	22	0	61	1	2	3	0	6	38	161	0	0	199	1	193	53	0	247	513
9:15-9:30	32	0	23	0	55	3	1	5	0	9	29	144	2	0	175	4	146	43	1	194	433
3 Hr Totals	349	21	229	1	600	67	23	60	1	151	335	1772	27	1	2135	25	1947	403	1	2376	5262
1 Hr Totals																					
6:30-7:30	84	11	41	0	136	35	5	24	0	64	83	534	13	0	630	5	554	61	0	620	1450
6:45-7:45	107	11	54	0	172	29	5	31	0	65	94	542	8	0	644	7	629	94	0	730	1611
7:00-8:00	128	11	65	0	204	25	7	27	0	59	96	560	7	0	663	9	685	118	0	812	1738
7:15-8:15	126	8	82	0	216	21	6	26	0	53	99	572	7	0	678	14	694	139	0	847	1794
7:30-8:30	144	7	97	0	248	19	6	21	1	47	110	604	7	0	721	13	692	156	0	861	1877
7:45-8:45	137	6	101	1	245	22	8	12	1	43	121	629	8	1	759	10	679	155	0	844	1891
8:00-9:00	118	4	102	1	225	19	12	13	1	45	138	648	10	1	797	8	683	173	0	864	1931
8:15-9:15	121	4	93	1	219	15	11	13	1	40	141	665	7	1	814	4	710	180	0	894	1967
8:30-9:30	121	3	91	1	216	13	12	15	0	40	142	634	7	1	784	7	701	186	1	895	1935
PEAK HOUR																					
8:15-9:15	121	4	93	1	219	15	11	13	1	40	141	665	7	1	814	4	710	180	0	894	1967
PM																					
4:00-4:15	55	2	19	0	76	1	0	2	0	3	53	164	5	0	222	6	166	34	0	206	507
4:15-4:30	70	4	21	0	95	0	1	1	0	2	49	170	6	0	225	6	175	33	0	214	536
4:30-4:45	56	3	40	0	99	1	3	8	0	12	52	179	6	0	237	2	184	38	0	224	572
4:45-5:00	65	6	27	0	98	6	4	5	0	15	45	201	6	2	254	6	194	56	0	256	623
5:00-5:15	58	3	39	0	100	0	2	3	0	5	48	170	5	0	223	7	182	47	0	236	564
5:15-5:30	73	1	40	0	114	3	2	1	0	6	55	206	1	0	262	6	198	53	1	258	640
5:30-5:45	68	3	45	0	116	0	2	8	0	10	56	162	12	0	230	6	213	49	0	268	624
5:45-6:00	59	3	41	0	103	0	2	4	0	6	56	175	2	0	233	14	244	47	1	306	648
6:00-6:15	59	5	31	0	95	4	2	1	0	7	70	187	7	0	264	5	222	49	0	276	642
6:15-6:30	61	5	32	0	98	5	5	2	0	12	55	189	9	0	253	2	191	62	0	255	618
6:30-6:45	84	1	41	0	126	7	6	6	0	19	51	179	5	0	235	10	223	61	0	294	674
6:45-7:00	54	4	28	0	86	6	6	4	0	16	45	200	10	1	256	6	225	53	0	284	642
3 Hr Totals	762	40	404	0	1206	33	35	45	0	113	635	2182	74	3	2894	76	2417	582	2	3077	7290
1 Hr Totals																					
4:00-5:00	246	15	107	0	368	8	8	16	0	32	199	714	23	2	938	20	719	161	0	900	2238
4:15-5:15	249	16	127	0	392	7	10	17	0	34	194	720	23	2	939	21	735	174	0	930	2295
4:30-5:30	252	13	146	0	411	10	11	17	0	38	200	756	18	2	976	21	758	194	1	974	2399
4:45-5:45	264	13	151	0	428	9	10	17	0	36	204	739	24	2	969	25	787	205	1	1018	2451
5:00-6:00	258	10	165	0	433	3	8	16	0	27	215	713	20	0	948	33	837	196	2	1068	2476
5:15-6:15	259	12	157	0	428	7	8	14	0	29	237	730	22	0	989	31	877	198	2	1108	2554
5:30-6:30	247	16	149	0	412	9	11	15	0	35	237	713	30	0	980	27	870	207	1	1105	2532
5:45-6:45	263	14	145	0	422	16	15	13	0	44	232	730	23	0	985	31	880	219	1	1131	2582
6:00-7:00	258	15	132	0	405	22	19	13	0	54	221	755	31	1	1008	23	861	225	0	1109	2576
PEAK HOUR																					
5:45-6:45	263	14	145	0	422	16	15	13	0	44	232	730	23	0	985	31	880	219	1	1131	2582

Web Images Videos Maps News Shopping Gmail more

Sign in

Google maps Int #2 Search Maps

Print Send Link



Maryland State Highway Administration
Highway Information Services Division
Turning Movement Count Study - Field Sheet

Station ID: S2009150041
Date: Wednesday 04/22/2009
Location: MD 355 at DALAMAR ST
Interval (dd): 60 min

County: Montgomery
Town: none
Weather:
Recorder:

Comments:

PEAK HOURS	AM PERIOD 6:00AM-12:00PM	Begin	End	Volume	PM PERIOD 12:00PM-7:00PM	Begin	End	Volume
		07:00	08:00	2777		17:00	18:00	3335

Hour	MD 355 From North				MD 355 From South				Driveway From East				Dalamar Street From West				Grand Total
Begin	L	T	R	TOT	L	T	R	TOT	L	T	R	TOT	L	T	R	TOT	
6:00	1	1275	1	1277	5	257	0	262	1	0	2	3	3	0	7	10	1552
7:00	**1**	**2231**	**6**	**2238**	**8**	**506**	**2**	**516**	**1**	**0**	**1**	**2**	**1**	**0**	**20**	**21**	**2777**
8:00	0	1797	9	1806	7	659	1	667	0	0	1	1	2	0	16	18	2492
9:00	0	1296	10	1306	7	784	2	793	3	0	1	4	3	0	6	9	2112
10:00	5	812	11	828	1	995	7	1003	5	0	1	6	0	0	13	13	1850
11:00	14	1004	9	1027	8	1000	19	1027	19	0	12	31	4	0	7	11	2096
12:00	38	1067	14	1119	12	1209	33	1254	20	0	10	30	3	0	11	14	2417
13:00	22	1155	6	1183	6	1314	17	1337	19	0	7	26	4	0	18	22	2568
14:00	9	1051	10	1070	4	1201	32	1237	19	0	11	30	3	1	10	14	2351
15:00	13	993	7	1013	5	1400	15	1420	11	0	5	16	1	0	12	13	2462
16:00	17	1064	5	1086	4	1671	14	1689	18	0	7	25	2	0	5	7	2807
17:00	**10**	**1025**	**14**	**1049**	**4**	**2229**	**30**	**2263**	**6**	**0**	**7**	**13**	**3**	**0**	**7**	**10**	**3335**
18:00	14	1017	23	1054	5	1922	25	1952	18	0	5	23	0	0	13	13	3042
TOTAL	**144**	**15787**	**125**	**16056**	**76**	**15147**	**197**	**15420**	**140**	**0**	**70**	**210**	**29**	**1**	**145**	**175**	**31861**
AM Peak	**1**	**2231**	**6**	**2238**	**8**	**506**	**2**	**516**	**1**	**0**	**1**	**2**	**1**	**0**	**20**	**21**	**2777**
PM Peak	**10**	**1025**	**14**	**1049**	**4**	**2229**	**30**	**2263**	**6**	**0**	**7**	**13**	**3**	**0**	**7**	**10**	**3335**

Hour	MD 355 North Leg			MD 355 South Leg			Driveway East Leg			Dalamar Street West Leg		
Ending	S.C.	PED.	U.T.	S.C.	PED.	U.T.	S.C.	PED.	U.T.	S.C.	PED.	U.T.
6:00	0	1	0	0	0	0	0	2	0	0	6	0
7:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**3**	**0**
8:00	0	1	0	0	1	0	0	3	0	0	9	0
9:00	0	0	0	0	0	0	0	4	0	0	4	0
10:00	0	0	0	0	0	0	0	5	0	0	3	0
11:00	0	0	0	0	3	0	0	16	0	0	8	0
12:00	0	1	0	0	0	0	0	17	0	0	7	0
13:00	0	1	0	0	1	0	0	7	0	0	6	0
14:00	0	0	0	0	0	0	0	9	0	0	6	0
15:00	0	0	0	0	0	0	0	5	0	0	2	0
16:00	0	0	0	0	2	0	0	15	0	0	9	0
17:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**4**	**0**
18:00	0	0	0	0	2	0	0	26	0	0	4	0
Total	**0**	**4**	**0**	**0**	**9**	**0**	**0**	**124**	**0**	**0**	**71**	**0**
AM Peak	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**3**	**0**
PM Peak	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**4**	**0**

Web Images Videos Maps News Shopping Gmail more

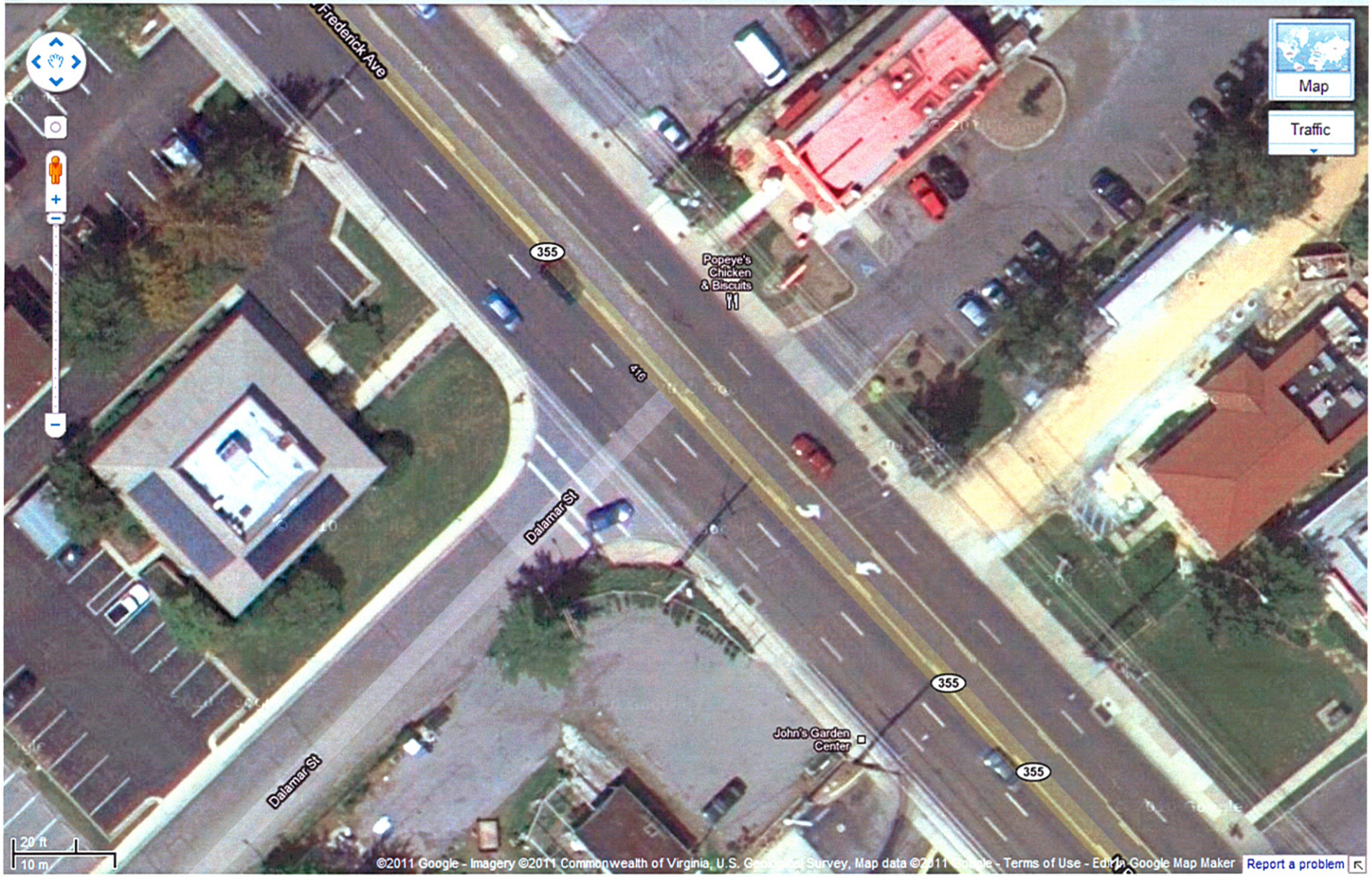
Sign in

Google maps

Int #3

Search Maps

Print Send Link



Maryland State Highway Administration
Highway Information Services Division
Turning Movement Count Study - Field Sheet

Station ID:
Date: Thursday 04/16/2009
Location: MD 355 @ Odenhall
Interval (dd): 60 min

County:
Town:
Weather:
Recorder:

Comments:

PEAK HOURS	AM PERIOD 6:00AM-12:00PM	Begin	End	Volume	PM PERIOD 12:00PM-7:00PM	Begin	End	Volume
				3320				4182

Hour	From North				From South				From East				From West				Grand Total
Begin	L	T	R	TOT	L	T	R	TOT	L	T	R	TOT	L	T	R	TOT	
6:00	75	1051	28	1154	6	188	39	233	303	5	24	332	6	13	18	37	1756
7:00	**75**	**1986**	**40**	**2101**	**2**	**442**	**76**	**520**	**623**	**11**	**28**	**662**	**10**	**7**	**20**	**37**	**3320**
8:00	76	1245	32	1353	4	489	99	592	503	22	63	588	19	8	18	45	2578
9:00	83	572	28	683	8	480	96	584	259	9	57	325	20	10	21	51	1643
10:00	118	699	23	840	2	714	161	877	271	8	60	339	35	17	18	70	2126
11:00	129	715	22	866	5	828	180	1013	361	7	97	465	19	7	15	41	2385
12:00	155	808	63	1026	18	900	202	1120	285	5	114	404	11	14	43	68	2618
13:00	123	895	50	1068	8	1135	185	1328	488	17	100	605	15	15	36	66	3067
14:00	143	1079	22	1244	9	1154	181	1344	495	11	76	582	9	15	17	41	3211
15:00	176	939	20	1135	7	1207	281	1495	368	13	112	493	11	20	21	52	3175
16:00	203	880	54	1137	4	1343	365	1712	372	11	143	526	11	23	28	62	3437
17:00	**199**	**990**	**69**	**1258**	**4**	**1962**	**276**	**2242**	**535**	**10**	**87**	**632**	**10**	**26**	**14**	**50**	**4182**
18:00	204	1040	38	1282	6	1730	235	1971	535	5	116	656	12	20	21	53	3962
TOTAL	**1759**	**12899**	**489**	**15147**	**83**	**12572**	**2376**	**15031**	**5398**	**134**	**1077**	**6609**	**188**	**195**	**290**	**673**	**37460**
AM Peak	**75**	**1986**	**40**	**2101**	**2**	**442**	**76**	**520**	**623**	**11**	**28**	**662**	**10**	**7**	**20**	**37**	**3320**
PM Peak	**199**	**990**	**69**	**1258**	**4**	**1962**	**276**	**2242**	**535**	**10**	**87**	**632**	**10**	**26**	**14**	**50**	**4182**

Hour	North Leg			South Leg			East Leg			West Leg		
Ending	S.C.	PED.	U.T.	S.C.	PED.	U.T.	S.C.	PED.	U.T.	S.C.	PED.	U.T.
6:00	0	0	4	0	0	0	0	0	1	0	0	0
7:00	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**
8:00	0	1	16	0	1	0	0	0	1	0	0	0
9:00	0	0	9	0	1	0	0	0	3	0	0	0
10:00	0	1	1	0	0	0	0	1	1	0	0	0
11:00	0	0	1	0	0	0	0	0	1	0	0	0
12:00	0	0	4	0	0	0	0	0	6	0	0	0
13:00	0	0	5	0	0	0	0	0	0	0	0	0
14:00	0	25	4	0	3	0	0	15	1	0	6	0
15:00	0	29	13	0	0	0	0	16	2	0	6	0
16:00	0	12	25	0	1	0	0	2	5	0	0	0
17:00	**0**	**31**	**7**	**0**	**5**	**0**	**0**	**28**	**1**	**0**	**4**	**0**
18:00	0	5	10	0	1	0	0	6	1	0	3	0
Total	**0**	**106**	**101**	**0**	**12**	**0**	**0**	**69**	**23**	**0**	**20**	**0**
AM Peak	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**
PM Peak	**0**	**31**	**7**	**0**	**5**	**0**	**0**	**28**	**1**	**0**	**4**	**0**

Web Images Videos Maps News Shopping Gmail more

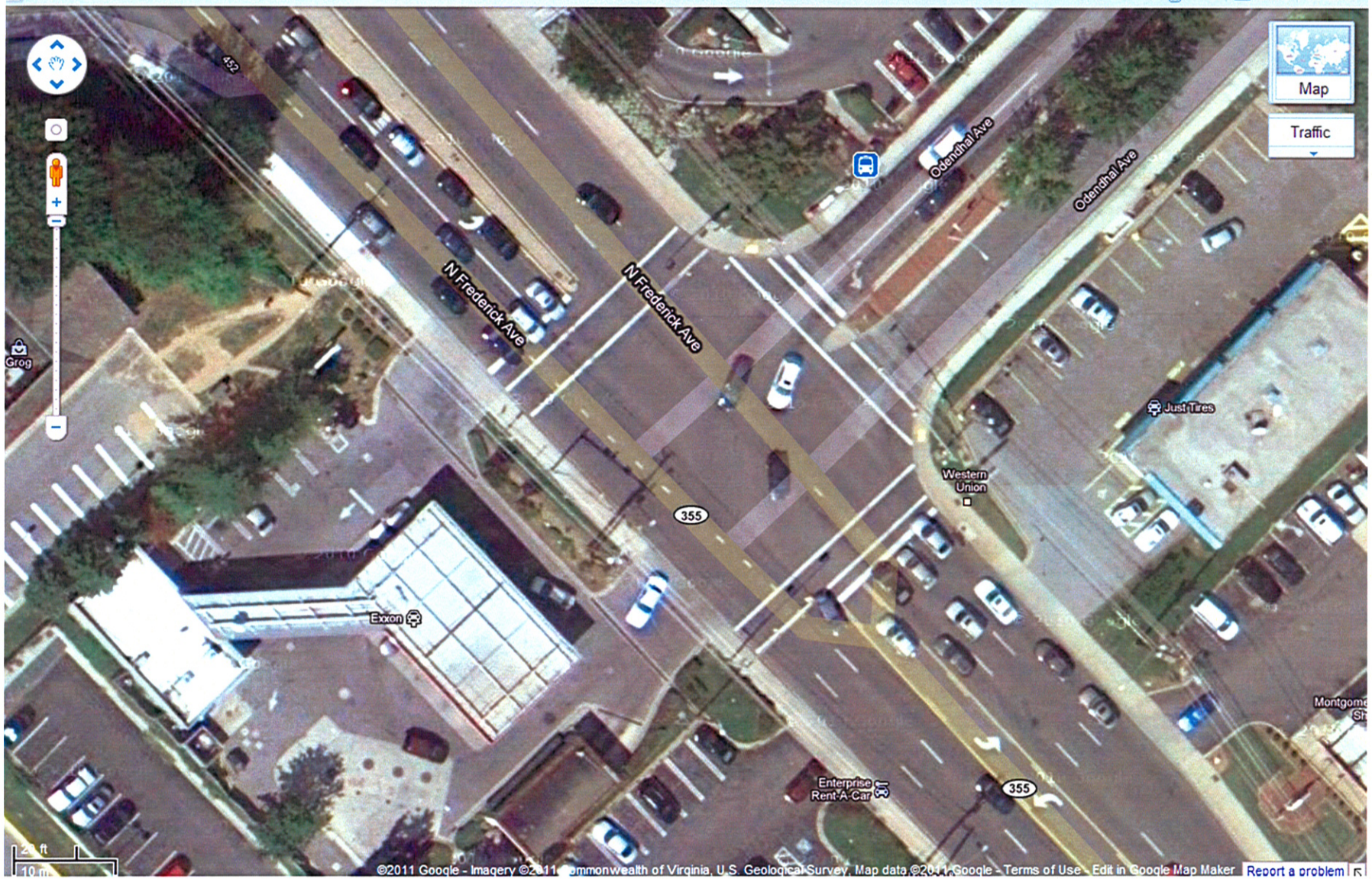
Sign in

Google maps

Int #4

Search Maps

Print Send Link



VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 355
and: Lakeforest Blvd - Perry Pkwy
Location: Montgomery Co., MD

Counted by: VCU
Date: June 7, 2011
Weather: Sunny/Hot
Entered by: RB

Day: Tuesday

The Traffic Group

TIME	TRAFFIC FROM NORTH on: MD 355					TRAFFIC FROM SOUTH on: MD 355					TRAFFIC FROM EAST on: Lakeforest Blvd					TRAFFIC FROM WEST on: Perry Pkwy					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	270	2	0	291	2	57	2	0	61	20	8	31	0	59	4	8	10	0	22	433
6:45-7:00	27	342	3	1	373	5	58	10	3	76	15	25	39	0	79	8	7	15	0	30	558
7:00-7:15	27	353	6	1	387	6	70	15	2	93	14	29	44	0	87	8	9	25	0	42	609
7:15-7:30	33	389	5	1	428	2	102	10	3	117	13	20	44	0	77	5	7	14	0	26	648
7:30-7:45	35	362	10	4	411	8	95	11	5	119	14	32	59	0	105	15	5	23	0	43	678
7:45-8:00	43	365	17	3	428	18	113	9	2	142	15	36	55	0	106	6	11	37	0	54	730
8:00-8:15	31	360	13	3	407	10	111	8	3	132	15	50	57	0	122	12	26	27	0	65	726
8:15-8:30	29	356	27	5	417	9	113	12	6	140	22	28	49	0	99	12	22	30	0	64	720
8:30-8:45	43	292	28	11	374	12	110	16	0	138	16	31	57	0	104	10	19	28	0	57	673
8:45-9:00	30	309	25	2	366	21	119	19	0	159	21	37	37	0	95	21	21	31	0	73	693
9:00-9:15	22	241	28	10	301	20	99	22	0	141	18	37	50	0	105	14	20	34	0	68	615
9:15-9:30	22	192	29	10	253	13	119	9	0	141	27	43	42	0	112	18	29	21	0	68	574
3 Hr Totals	361	3831	193	51	4436	126	1166	143	24	1459	210	376	564	0	1150	133	184	295	0	612	7657
1 Hr Totals																					
6:30-7:30	106	1354	16	3	1479	15	287	37	8	347	62	82	158	0	302	25	31	64	0	120	2248
6:45-7:45	122	1446	24	7	1599	21	325	46	13	405	56	106	186	0	348	36	28	77	0	141	2493
7:00-8:00	138	1469	38	9	1654	34	380	45	12	471	56	117	202	0	375	34	32	99	0	165	2665
7:15-8:15	142	1476	45	11	1674	38	421	38	13	510	57	138	215	0	410	38	49	101	0	188	2782
7:30-8:30	138	1443	67	15	1663	45	432	40	16	533	66	146	220	0	432	45	64	117	0	226	2854
7:45-8:45	146	1373	85	22	1626	49	447	45	11	552	68	145	218	0	431	40	78	122	0	240	2849
8:00-9:00	133	1317	93	21	1564	52	453	55	9	569	74	146	200	0	420	55	88	116	0	259	2812
8:15-9:15	124	1198	108	28	1458	62	441	69	6	578	77	133	193	0	403	57	82	123	0	262	2701
8:30-9:30	117	1034	110	33	1294	66	447	66	0	579	82	148	186	0	416	63	89	114	0	266	2555
PEAK HOUR																					
7:30-8:30	138	1443	67	15	1663	45	432	40	16	533	66	146	220	0	432	45	64	117	0	226	2854
PM																					
4:00-4:15	49	191	31	24	295	36	242	36	12	326	46	55	47	0	148	32	49	69	0	150	919
4:15-4:30	35	170	32	16	253	34	244	46	14	338	51	41	52	0	144	18	58	58	0	134	869
4:30-4:45	37	202	37	18	294	41	290	32	8	371	48	43	51	0	142	29	66	60	0	155	962
4:45-5:00	34	185	35	8	262	48	268	50	4	370	51	46	49	0	146	25	77	73	0	175	953
5:00-5:15	38	144	32	12	226	27	287	40	11	365	54	38	69	0	161	24	70	63	0	157	909
5:15-5:30	42	184	31	11	268	49	309	56	5	419	34	60	57	0	151	27	85	62	0	174	1012
5:30-5:45	36	168	44	18	266	48	271	43	10	372	41	45	50	0	136	23	77	65	0	165	939
5:45-6:00	42	174	42	17	275	50	264	45	9	368	37	50	63	0	150	27	82	71	0	180	973
6:00-6:15	36	177	27	7	247	40	294	45	4	383	24	47	48	0	119	33	80	65	0	178	927
6:15-6:30	31	176	38	20	265	46	311	51	12	420	31	48	49	1	129	22	72	76	0	170	984
6:30-6:45	40	162	38	9	249	40	281	40	13	374	38	38	42	0	118	29	81	63	0	173	914
6:45-7:00	43	195	23	6	267	36	258	41	9	344	29	44	36	0	109	28	64	78	0	170	890
3 Hr Totals	463	2128	410	166	3167	495	3319	525	111	4450	484	555	613	1	1653	317	861	803	0	1981	11251
1 Hr Totals																					
4:00-5:00	155	748	135	66	1104	159	1044	164	38	1405	196	185	199	0	580	104	250	260	0	614	3703
4:15-5:15	144	701	136	54	1035	150	1089	168	37	1444	204	168	221	0	593	96	271	254	0	621	3693
4:30-5:30	151	715	135	49	1050	165	1154	178	28	1525	187	187	226	0	600	105	298	258	0	661	3836
4:45-5:45	150	681	142	49	1022	172	1135	189	30	1526	180	189	225	0	594	99	309	263	0	671	3813
5:00-6:00	158	670	149	58	1035	174	1131	184	35	1524	166	193	239	0	598	101	314	261	0	676	3833
5:15-6:15	156	703	144	53	1056	187	1138	189	28	1542	136	202	218	0	556	110	324	263	0	697	3851
5:30-6:30	145	695	151	62	1053	184	1140	184	35	1543	133	190	210	1	534	105	311	277	0	693	3823
5:45-6:45	149	689	145	53	1036	176	1150	181	38	1545	130	183	202	1	516	111	315	275	0	701	3798
6:00-7:00	150	710	126	42	1028	162	1144	177	38	1521	122	177	175	1	475	112	297	282	0	691	3715
PEAK HOUR																					
5:15-6:15	156	703	144	53	1056	187	1138	189	28	1542	136	202	218	0	556	110	324	263	0	697	3851

Web Images Videos Maps News Shopping Gmail more

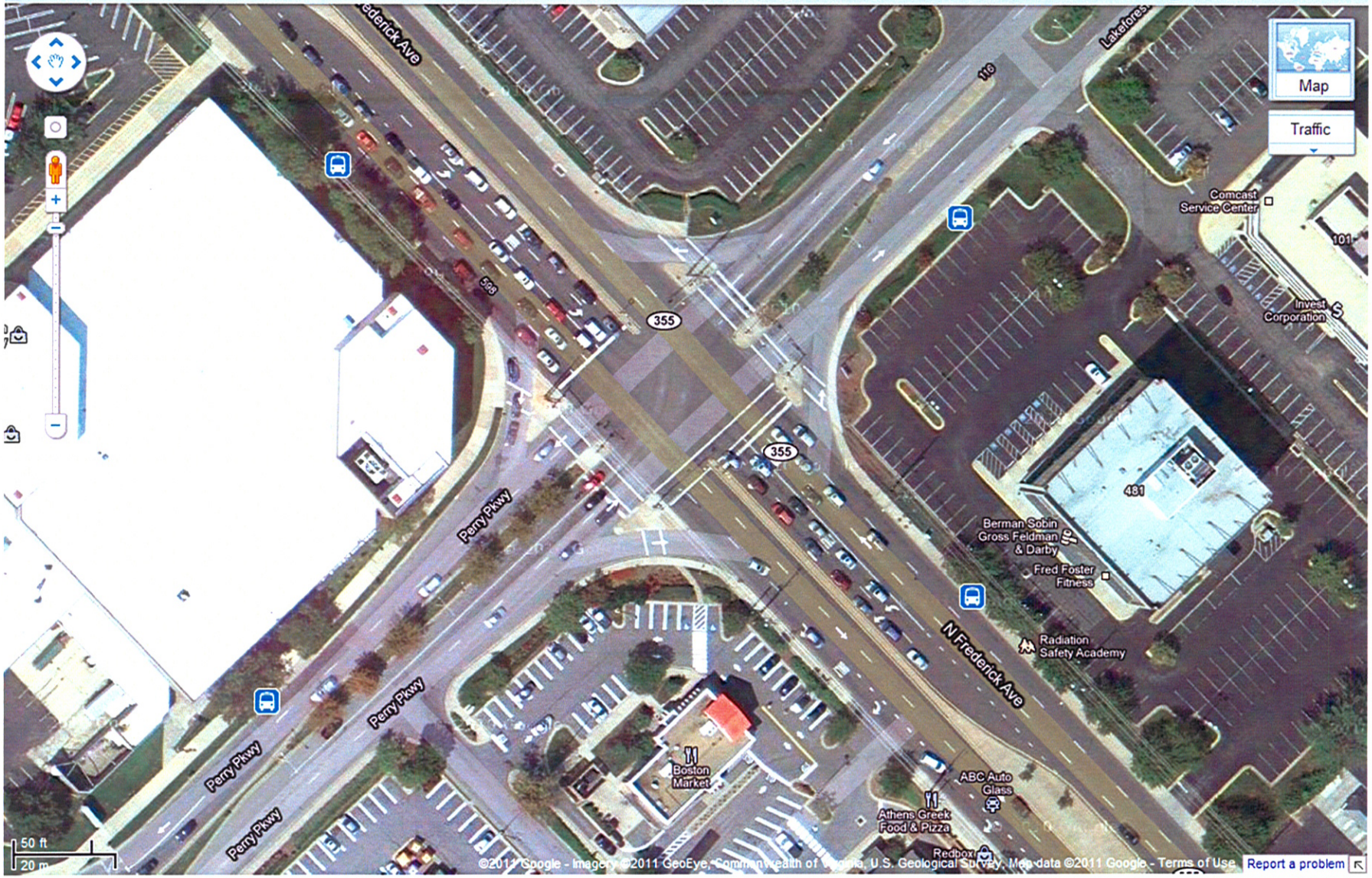
Sign in

Google maps

Int #5

Search Maps

Print Send Link



VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Counted by: VCU
Intersection of: Perry Pkwy — Date: June 7, 2011 — Day: Tuesday
and: Parking Accesses — Weather: Sunny/Hot
Location: Montgomery Co., MD — Entered by: RB

The Traffic Group

TIME	TRAFFIC FROM NORTH on: Perry Pkwy					TRAFFIC FROM SOUTH on: Perry Pkwy					TRAFFIC FROM EAST on: Parking Access					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	4	19	5	0	28	6	16	0	0	22	2	0	2	0	4	0	1	0	0	1	55
6:45-7:00	3	53	6	1	63	6	21	0	0	27	4	1	4	0	9	0	1	2	0	3	102
7:00-7:15	1	62	10	0	73	9	33	1	0	43	1	0	6	0	7	0	1	1	0	2	125
7:15-7:30	6	42	14	1	63	7	16	1	0	24	5	0	2	0	7	0	0	2	0	2	96
7:30-7:45	8	63	14	2	87	7	33	0	0	40	4	0	7	0	11	0	2	2	0	4	142
7:45-8:00	6	59	22	2	89	7	31	0	1	39	7	0	11	0	18	1	1	4	0	6	152
8:00-8:15	5	62	20	0	87	5	45	1	1	52	11	1	5	0	17	4	0	1	0	5	161
8:15-8:30	5	51	16	0	72	6	51	1	0	58	8	0	5	0	13	4	0	4	0	8	151
8:30-8:45	3	62	25	0	90	2	33	2	0	37	9	1	10	0	20	3	1	3	0	7	154
8:45-9:00	7	56	20	3	86	13	49	1	0	63	4	1	8	0	13	1	0	3	0	4	166
9:00-9:15	13	44	21	0	78	11	45	1	0	57	14	1	13	0	28	5	0	5	0	10	173
9:15-9:30	10	49	16	1	76	12	39	0	0	51	7	1	13	0	21	2	2	3	0	7	155
3 Hr Totals	71	622	189	10	892	91	412	8	2	513	76	6	86	0	168	20	9	30	0	59	1632
1 Hr Totals																					
6:30-7:30	14	176	35	2	227	28	86	2	0	116	12	1	14	0	27	0	3	5	0	8	378
6:45-7:45	18	220	44	4	286	29	103	2	0	134	14	1	19	0	34	0	4	7	0	11	465
7:00-8:00	21	226	60	5	312	30	113	2	1	146	17	0	26	0	43	1	4	9	0	14	515
7:15-8:15	25	226	70	5	326	26	125	2	2	155	27	1	25	0	53	5	3	9	0	17	551
7:30-8:30	24	235	72	4	335	25	160	2	2	189	30	1	28	0	59	9	3	11	0	23	606
7:45-8:45	19	234	83	2	338	20	160	4	2	186	35	2	31	0	68	12	2	12	0	26	618
8:00-9:00	20	231	81	3	335	26	178	5	1	210	32	3	28	0	63	12	1	11	0	24	632
8:15-9:15	28	213	82	3	326	32	178	5	0	215	35	3	36	0	74	13	1	15	0	29	644
8:30-9:30	33	211	82	4	330	38	166	4	0	208	34	4	44	0	82	11	3	14	0	28	648
PEAK HOUR																					
8:30-9:30	33	211	82	4	330	38	166	4	0	208	34	4	44	0	82	11	3	14	0	28	648
PM																					
4:00-4:15	23	54	69	5	151	21	69	0	0	90	40	4	22	0	66	6	9	18	0	33	340
4:15-4:30	26	50	53	0	129	24	62	2	1	89	25	10	25	0	60	10	5	10	0	25	303
4:30-4:45	31	45	47	0	123	21	86	3	1	111	35	4	21	0	60	3	3	17	1	24	318
4:45-5:00	29	59	39	0	127	30	96	4	1	131	20	3	19	0	42	8	7	8	0	23	323
5:00-5:15	24	35	59	0	118	31	101	2	0	134	27	2	14	0	43	11	1	12	0	24	319
5:15-5:30	34	65	56	2	157	24	106	4	0	134	31	4	21	0	56	11	4	6	0	21	368
5:30-5:45	26	60	55	0	141	23	100	0	0	123	27	3	23	0	53	14	9	13	0	36	353
5:45-6:00	33	52	57	0	142	22	103	2	0	127	29	2	13	0	44	15	4	15	0	34	347
6:00-6:15	20	55	39	4	118	29	91	5	0	125	35	2	17	0	54	10	4	14	0	28	325
6:15-6:30	24	55	46	5	130	33	99	6	0	138	29	3	24	0	56	10	5	12	1	28	352
6:30-6:45	24	46	53	2	125	26	94	4	0	124	20	4	21	0	45	7	3	12	0	22	316
6:45-7:00	23	41	65	2	131	24	76	1	0	101	35	3	20	0	58	7	3	10	0	20	310
3 Hr Totals	317	617	638	20	1592	308	1083	33	3	1427	353	44	240	0	637	112	57	147	2	318	3974
1 Hr Totals																					
4:00-5:00	109	208	208	5	530	96	313	9	3	421	120	21	87	0	228	27	24	53	1	105	1284
4:15-5:15	110	189	198	0	497	106	345	11	3	465	107	19	79	0	205	32	16	47	1	96	1263
4:30-5:30	118	204	201	2	525	106	389	13	2	510	113	13	75	0	201	33	15	43	1	92	1328
4:45-5:45	113	219	209	2	543	108	403	10	1	522	105	12	77	0	194	44	21	39	0	104	1363
5:00-6:00	117	212	227	2	558	100	410	8	0	518	114	11	71	0	196	51	18	46	0	115	1387
5:15-6:15	113	232	207	6	558	98	400	11	0	509	122	11	74	0	207	50	21	48	0	119	1393
5:30-6:30	103	222	197	9	531	107	393	13	0	513	120	10	77	0	207	49	22	54	1	126	1377
5:45-6:45	101	208	195	11	515	110	387	17	0	514	113	11	75	0	199	42	16	53	1	112	1340
6:00-7:00	91	197	203	13	504	112	360	16	0	488	119	12	82	0	213	34	15	48	1	98	1303
PEAK HOUR																					
5:15-6:15	113	232	207	6	558	98	400	11	0	509	122	11	74	0	207	50	21	48	0	119	1393

Web Images Videos Maps News Shopping Gmail more

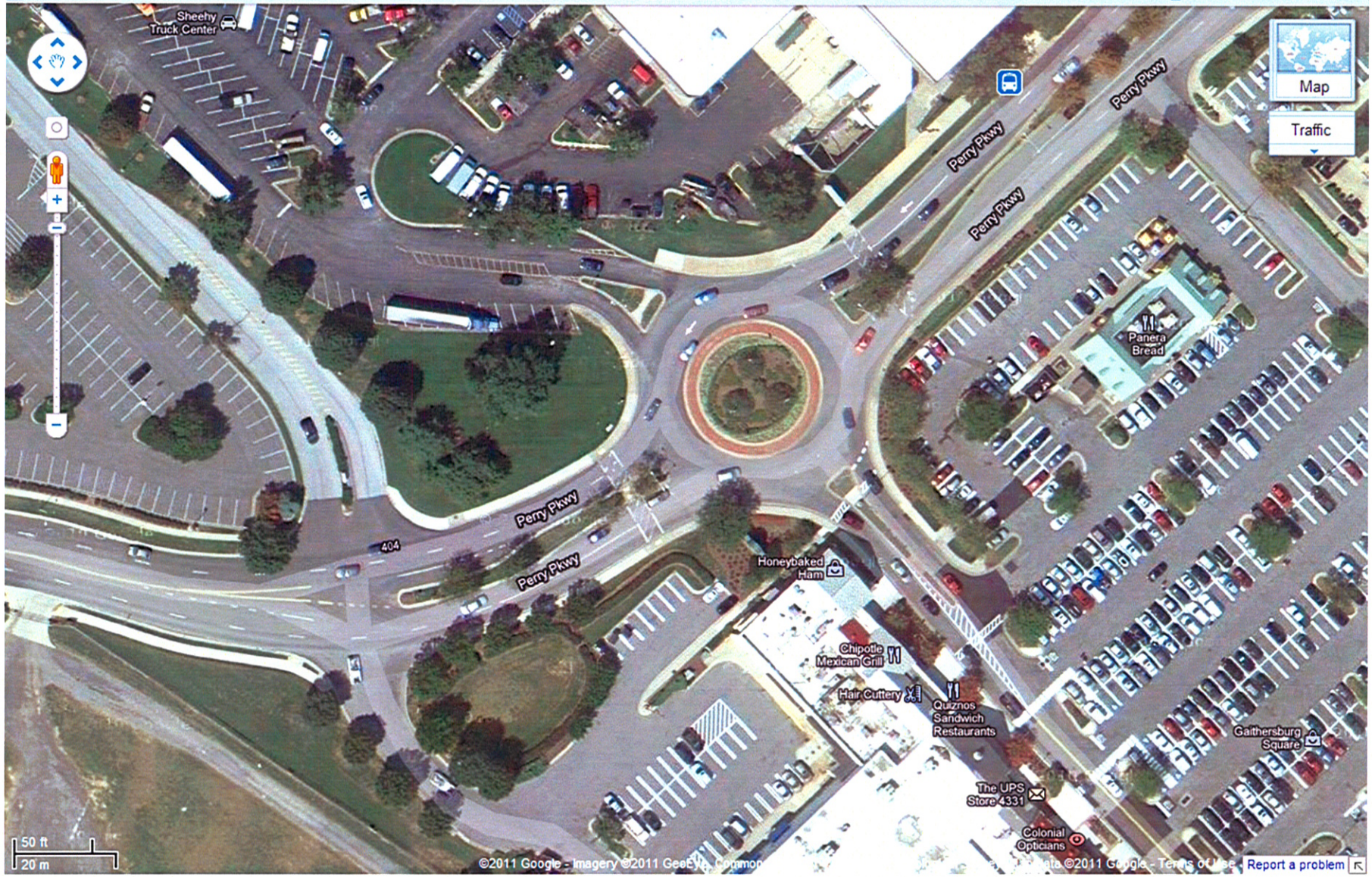
Sign in

Google maps

Int #6

Search Maps

Print Send Link



VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 124
and: I 270 NB Ramps
Location: Montgomery Co., MD

Counted by: VCU
Date: June 7, 2011
Weather: Sunny/Hot
Entered by: RB

Day: Tuesday

The Traffic Group

TIME	TRAFFIC FROM NORTH on:					TRAFFIC FROM SOUTH on: I 270 NB Ramps					TRAFFIC FROM EAST on: MD 124					TRAFFIC FROM WEST on: MD 124					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	103				103	64	563			627		161			161	891
6:45-7:00					0	111				111	56	611			667		182			182	960
7:00-7:15					0	144				144	56	581			637		174			174	955
7:15-7:30					0	166				166	67	578			645		192			192	1003
7:30-7:45					0	173				173	67	699			766		192			192	1131
7:45-8:00					0	239				239	87	669			756		236			236	1231
8:00-8:15					0	224				224	79	608			687		232			232	1143
8:15-8:30					0	249				249	77	659			736		236			236	1221
8:30-8:45					0	218				218	75	620			695		262			262	1175
8:45-9:00					0	240				240	81	644			725		333			333	1298
9:00-9:15					0	233				233	88	560			648		283			283	1164
9:15-9:30					0	245				245	66	512			578		275			275	1098
3 Hr Totals	0	0	0	0	0	2345	0	0	0	2345	863	7304	0	0	8167	0	2758	0	0	2758	13270
1 Hr Totals																					
6:30-7:30	0	0	0	0	0	524	0	0	0	524	243	2333	0	0	2576	0	709	0	0	709	3809
6:45-7:45	0	0	0	0	0	594	0	0	0	594	246	2469	0	0	2715	0	740	0	0	740	4049
7:00-8:00	0	0	0	0	0	722	0	0	0	722	277	2527	0	0	2804	0	794	0	0	794	4320
7:15-8:15	0	0	0	0	0	802	0	0	0	802	300	2554	0	0	2854	0	852	0	0	852	4508
7:30-8:30	0	0	0	0	0	885	0	0	0	885	310	2635	0	0	2945	0	896	0	0	896	4726
7:45-8:45	0	0	0	0	0	930	0	0	0	930	318	2556	0	0	2874	0	966	0	0	966	4770
8:00-9:00	0	0	0	0	0	931	0	0	0	931	312	2531	0	0	2843	0	1063	0	0	1063	4837
8:15-9:15	0	0	0	0	0	940	0	0	0	940	321	2483	0	0	2804	0	1114	0	0	1114	4858
8:30-9:30	0	0	0	0	0	936	0	0	0	936	310	2336	0	0	2646	0	1153	0	0	1153	4735
PEAK HOUR																					
8:15-9:15	0	0	0	0	0	940	0	0	0	940	321	2483	0	0	2804	0	1114	0	0	1114	4858
PM																					
4:00-4:15					0	388				388	95	509			604		384			384	1376
4:15-4:30					0	503				503	68	503			571		361			361	1435
4:30-4:45					0	506				506	82	500			582		351			351	1439
4:45-5:00					0	499				499	83	504			587		365			365	1451
5:00-5:15					0	488				488	99	576			675		407			407	1570
5:15-5:30					0	516				516	97	583			680		368			368	1564
5:30-5:45					0	516				516	82	578			660		388			388	1564
5:45-6:00					0	519				519	94	517			611		411			411	1541
6:00-6:15					0	522				522	106	531			637		337			337	1496
6:15-6:30					0	456				456	94	501			595		317			317	1368
6:30-6:45					0	455				455	91	456			547		385			385	1387
6:45-7:00					0	504				504	93	452			545		397			397	1446
3 Hr Totals	0	0	0	0	0	5872	0	0	0	5872	1084	6210	0	0	7294	0	4471	0	0	4471	17637
1 Hr Totals																					
4:00-5:00	0	0	0	0	0	1896	0	0	0	1896	328	2016	0	0	2344	0	1461	0	0	1461	5701
4:15-5:15	0	0	0	0	0	1996	0	0	0	1996	332	2083	0	0	2415	0	1484	0	0	1484	5895
4:30-5:30	0	0	0	0	0	2009	0	0	0	2009	361	2163	0	0	2524	0	1491	0	0	1491	6024
4:45-5:45	0	0	0	0	0	2019	0	0	0	2019	361	2241	0	0	2602	0	1528	0	0	1528	6149
5:00-6:00	0	0	0	0	0	2039	0	0	0	2039	372	2254	0	0	2626	0	1574	0	0	1574	6239
5:15-6:15	0	0	0	0	0	2073	0	0	0	2073	379	2209	0	0	2588	0	1504	0	0	1504	6165
5:30-6:30	0	0	0	0	0	2013	0	0	0	2013	376	2127	0	0	2503	0	1453	0	0	1453	5969
5:45-6:45	0	0	0	0	0	1952	0	0	0	1952	385	2005	0	0	2390	0	1450	0	0	1450	5792
6:00-7:00	0	0	0	0	0	1937	0	0	0	1937	384	1940	0	0	2324	0	1436	0	0	1436	5697
PEAK HOUR																					
5:00-6:00	0	0	0	0	0	2039	0	0	0	2039	372	2254	0	0	2626	0	1574	0	0	1574	6239

Web Images Videos Maps News Shopping Gmail more

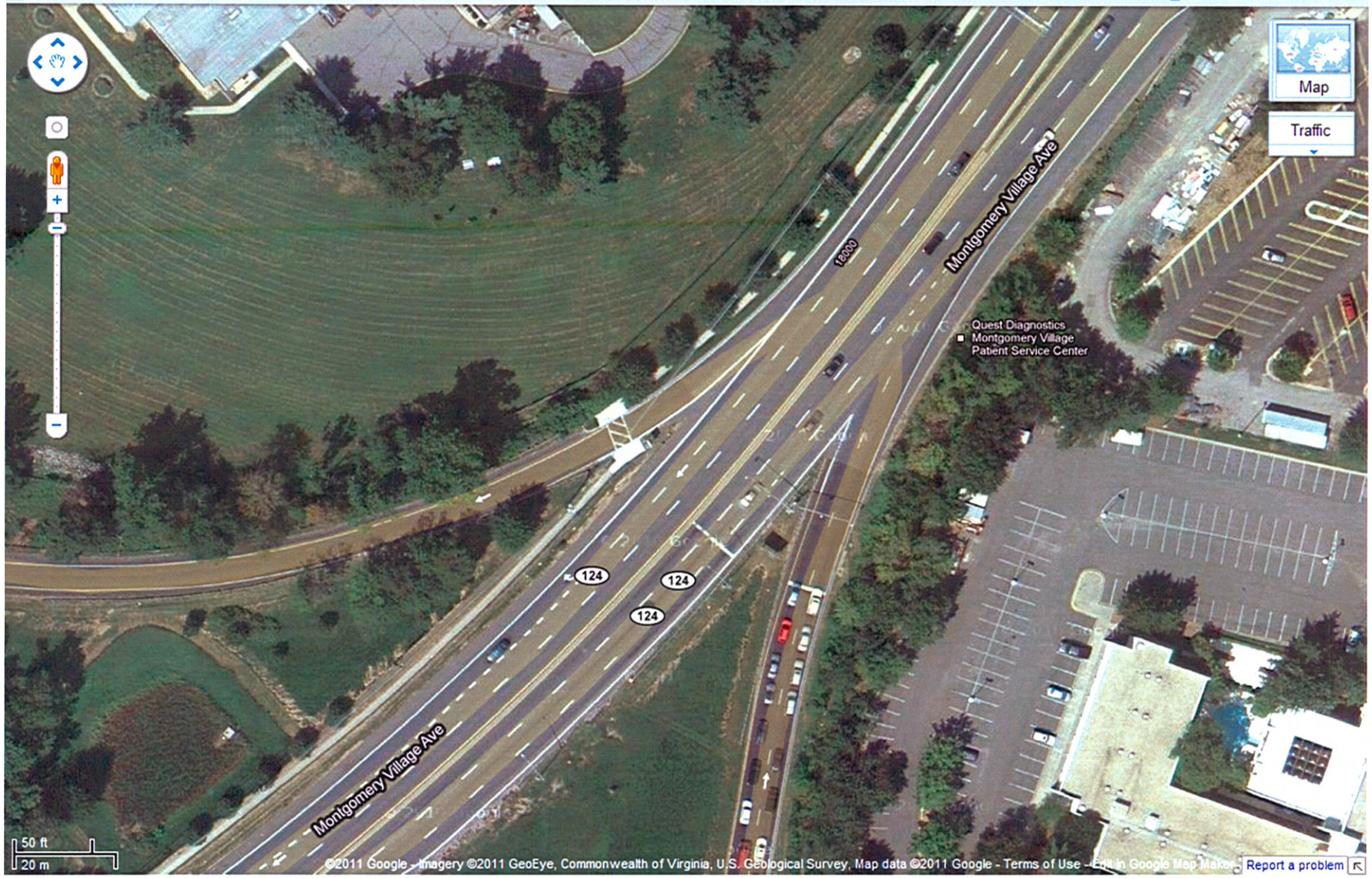
Sign in

Google maps

Int #7

Search Maps

Print Send Link



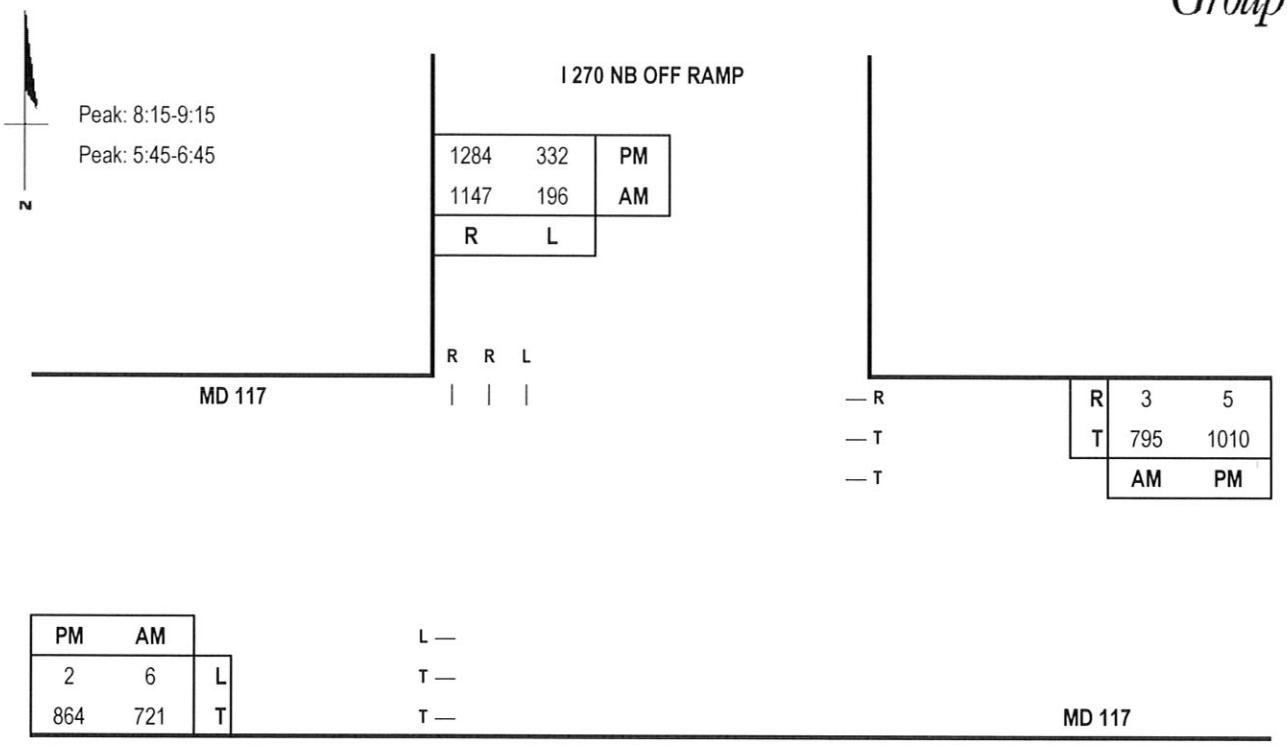
APPENDIX B

Capacity Analysis Worksheets

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 117
N/S Road: I 270 NB Off Ramp
Conditions: Existing Traffic

Date of Count: 6/7/2011
Day of Count: Tuesday
Analyst: Shulin Li



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
SB	1136	0.55	625				625
EB	721	0.55	397				443
WB	795	0.55	437	6	1.00	6	
						CLV TOTAL=	**1,068**
						Level of Service (LOS)=	**B**

AM V/C =0.67

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
SB	1280	0.55	704				704
EB	864	0.55	475				558
WB	1010	0.55	556	2	1.00	2	
						CLV TOTAL=	**1,262**
						Level of Service (LOS)=	**C**

PM V/C =0.79

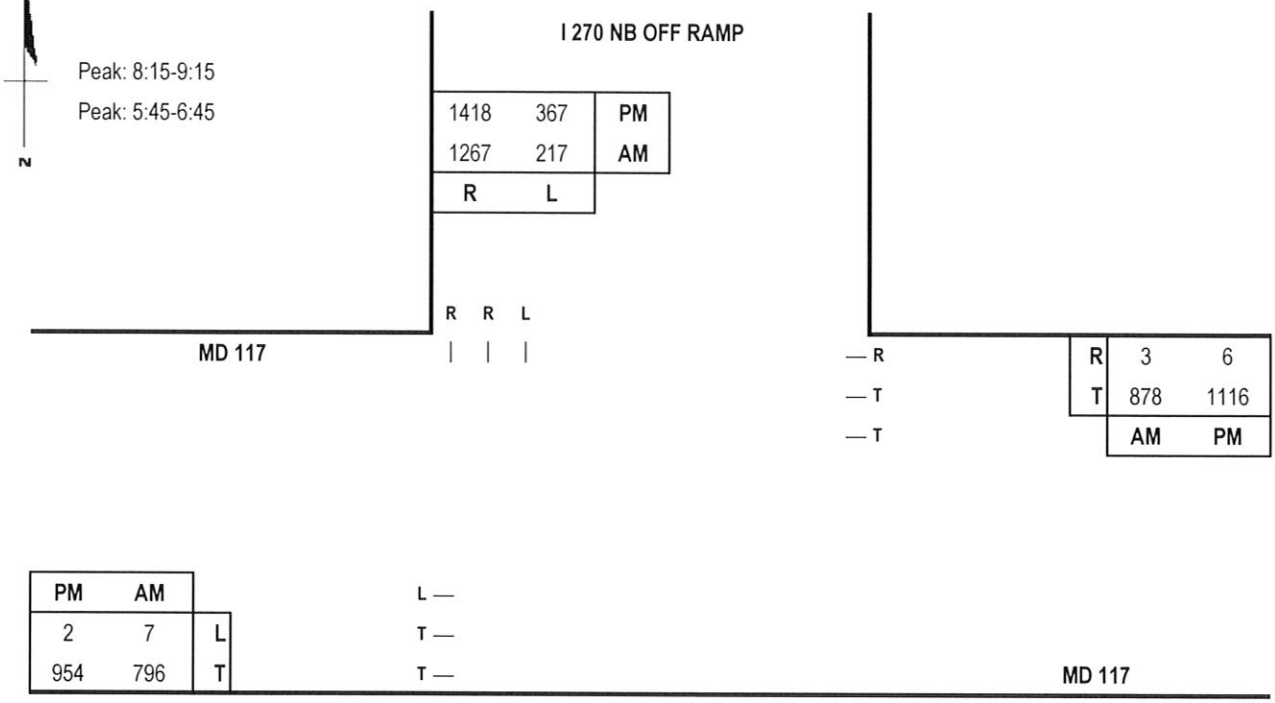
Scenario ID - EXIST1

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 117
N/S Road: I 270 NB Off Ramp
Conditions: Background Traffic

Date of Count: 6/7/2011
Day of Count: Tuesday
Analyst: Shulin Li

Peak: 8:15-9:15
Peak: 5:45-6:45



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
SB	1254	0.55	690				690
EB	796	0.55	438				490
WB	878	0.55	483	7	1.00	7	
						CLV TOTAL=	**1,180**
						Level of Service (LOS)=	**C**

AM V/C =0.74

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
SB	1414	0.55	778				778
EB	954	0.55	525				616
WB	1116	0.55	614	2	1.00	2	
						CLV TOTAL=	**1,394**
						Level of Service (LOS)=	**D**

PM V/C =0.87

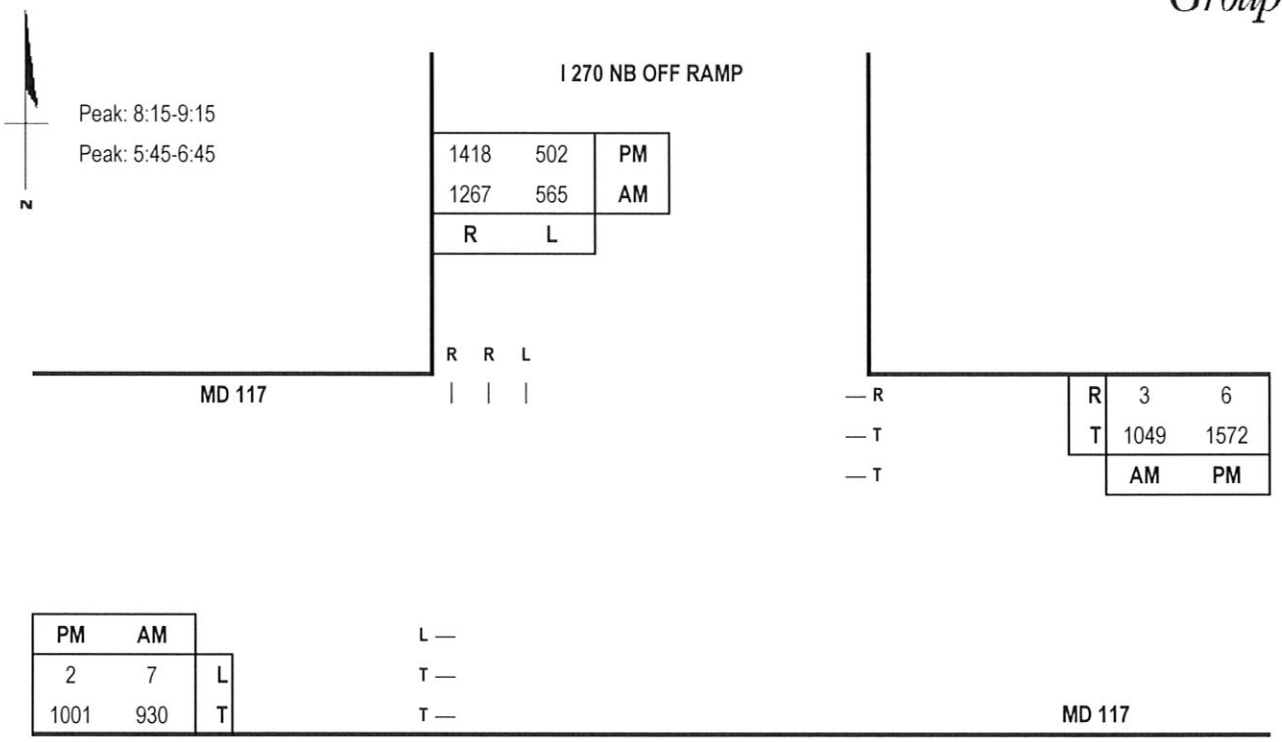
Scenario ID - BACK1

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 117
N/S Road: I 270 NB Off Ramp
Conditions: 2021 Total Traffic

Date of Count: 6/7/2011
Day of Count: Tuesday
Analyst: Shulin Li

The Traffic Group®



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
SB	1254	0.55	690				690
EB	930	0.55	512				584
WB	1049	0.55	577	7	1.00	7	
						CLV TOTAL=	**1,274**
						Level of Service (LOS)=	**C**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
SB	1414	0.55	778				778
EB	1001	0.55	551				867
WB	1572	0.55	865	2	1.00	2	
						CLV TOTAL=	**1,645**
						Level of Service (LOS)=	**F**

Scenario ID - TOT1

AM V/C =0.8

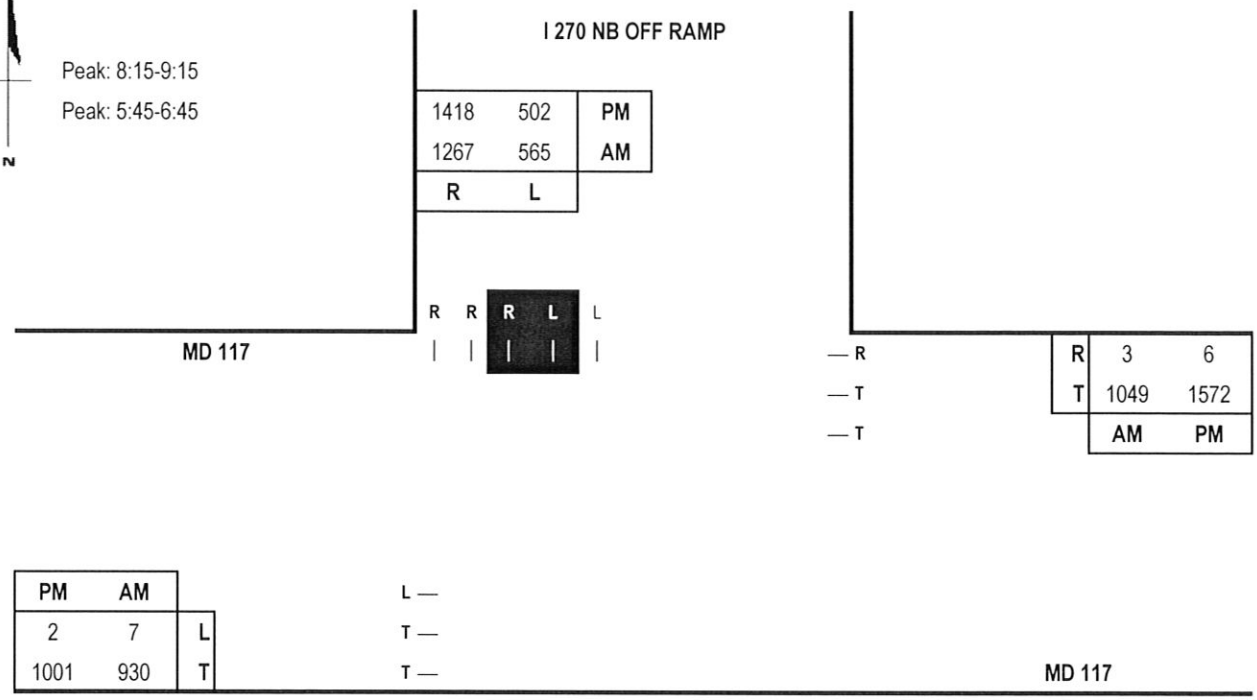
PM V/C =1.03

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 117
N/S Road: I 270 NB Off Ramp
Conditions: 2021 Total Traffic w/ improvement

Date of Count: 6/7/2011
Day of Count: Tuesday
Analyst: Shulin Li

Peak: 8:15-9:15
Peak: 5:45-6:45



Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
SB	1250	0.40	500				500
EB	930	0.55	512				584
WB	1049	0.55	577	7	1.00	7	
						CLV TOTAL=	1,084
						Level of Service (LOS)=	B

AM V/C =0.68

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
SB	1413	0.40	565				565
EB	1001	0.55	551				867
WB	1572	0.55	865	2	1.00	2	
						CLV TOTAL=	1,432
						Level of Service (LOS)=	D

PM V/C =0.9

Scenario ID - TOT1

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 117
N/S Road: Perry Pkwy/Business Access
Conditions: Existing Traffic

Date of Count: 6/7/2011
Day of Count: Tuesday
Analyst: Shulin Li

The Traffic Group®

N

Peak: 8:15-9:15
Peak: 5:45-6:45

PERRY PKWY

263	14	145	PM
121	4	94	AM
R	T	L	

MD 117

R T L

R	141	232
T	665	730
L	8	23
	AM	PM

— R
— T
— T
— L

PM	AM	
220	180	L
880	710	T
31	4	R

L —
L —
T —
TR —

MD 117

LT R

adjusted lefts		L	T	R
15	AM	14	11	15
26	PM	13	15	16

BUSINESS ACCESS

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	26	1.00	26	94	1.00	94	120
SB	13	1.00	13	14	1.00	14	
EB	714	0.55	393	8	1.00	8	474
WB	665	0.55	366	180	0.60	108	

CLV TOTAL= **594**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	41	1.00	41	145	1.00	145	186
SB	131	1.00	131	13	1.00	13	
EB	911	0.55	501	23	1.00	23	534
WB	730	0.55	402	220	0.60	132	

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

Scenario ID - EXIST2

AM V/C =0.37

PM V/C =0.45

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 117
N/S Road: Perry Pkwy/Business Access
Conditions: Background Traffic

Date of Count: 6/7/2011
Day of Count: Tuesday
Analyst: Shulin Li

The Traffic Group®

N

Peak: 8:15-9:15
Peak: 5:45-6:45

PERRY PKWY

291	15	160	PM
134	4	104	AM
R	T	L	

MD 117

R T L

R	156	256
T	735	806
L	9	25
	AM	PM

— R
— T
— T
— L

PM	AM	
243	199	L
972	784	T
34	4	R

L —
L —
T —
TR —

MD 117

LT R

adjusted lefts		L	T	R
17	AM	15	12	17
28	PM	14	17	18

BUSINESS ACCESS

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	29	1.00	29	104	1.00	104	133
SB	15	1.00	15	15	1.00	15	
EB	788	0.55	433	9	1.00	9	523
WB	735	0.55	404	199	0.60	119	

CLV TOTAL= **656**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	45	1.00	45	160	1.00	160	205
SB	145	1.00	145	14	1.00	14	
EB	1006	0.55	553	25	1.00	25	589
WB	806	0.55	443	243	0.60	146	

CLV TOTAL= **794**
Level of Service (LOS)= **A**

Scenario ID - BACK2

AM V/C =0.41

PM V/C =0.5

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 117 **Date of Count:** 6/7/2011
N/S Road: Perry Pkwy/Business Access **Day of Count:** Tuesday
Conditions: 2021 Total Traffic **Analyst:** Shulin Li

The Traffic Group®

N

Peak: 8:15-9:15
Peak: 5:45-6:45

PERRY PKWY

	R	T	L
PM	677	15	192
AM	230	4	109

MD 117

R T L

	R	T	L
R	193	263	
T	810	876	
L	9	25	
	AM	PM	

	PM	AM
L	350	631
T	1047	834
R	34	4

L —
L —
T —
TR —

L —		
L —		
T —		
TR —		

MD 117

LT R

adjusted lefts

		L	T	R
30	AM	15	12	17
42	PM	14	17	18

BUSINESS ACCESS

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	42	1.00	42	109	1.00	109	151
SB	4	1.00	4	15	1.00	15	
EB	838	0.55	461	9	1.00	9	825
WB	810	0.55	446	631	0.60	379	
						CLV TOTAL=	**976**
						Level of Service (LOS)=	**A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	59	1.00	59	192	1.00	192	481
SB	467	1.00	467	14	1.00	14	
EB	1081	0.55	595	25	1.00	25	692
WB	876	0.55	482	350	0.60	210	
						CLV TOTAL=	**1,173**
						Level of Service (LOS)=	**C**

Scenario ID - TOT2 AM V/C =0.61 PM V/C =0.73

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Driveway/Dalamar St
N/S Road: MD 355
Conditions: Existing Traffic

Date of Count: 4/22/2009
Day of Count: Wednesday
Analyst: Shulin Li

The Traffic Group®

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

MD 355

14	1025	10	PM
6	2231	1	AM
R	T	L	

RT T T L

DALAMAR ST

— LTR

R	1	7
T	0	0
L	1	6
	AM	PM

adjusted lefts 1 7

3 1 adjusted lefts

PM	AM	
3	1	L
0	0	T
7	20	R

LTR —

DRIVEWAY

L T TR

	L	T	R
AM	8	506	2
PM	4	2229	30

MD 355

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	508	0.55	279	1	1.00	1	903
SB	2237	0.40	895	8	1.00	8	
EB	21	1.00	21	1	1.00	1	22
WB	2	1.00	2	1	1.00	1	

CLV TOTAL= **925**
Level of Service (LOS)= **A**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	2259	0.55	1242	10	1.00	10	1252
SB	1039	0.40	416	4	1.00	4	
EB	10	1.00	10	6	1.00	6	17
WB	14	1.00	14	3	1.00	3	

CLV TOTAL= **1,269**
Level of Service (LOS)= **C**

Scenario ID - EXIST3

AM V/C =0.58

PM V/C =0.79

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Driveway/Dalamar St
N/S Road: MD 355
Conditions: Background Traffic

Date of Count: 4/22/2009
Day of Count: Wednesday
Analyst: Shulin Li

The Traffic Group®

N

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

MD 355

15	1132	11	PM
7	2464	1	AM
R	T	L	

RT T T L

DALAMAR ST

— LTR

R	1	8
T	0	0
L	1	7
	AM	PM

adjusted lefts 1 8

3 1 adjusted lefts

PM	AM	
3	1	L
0	0	T
8	22	R

LTR —

L T TR

DRIVEWAY

	L	T	R
AM	9	559	2
PM	4	2462	33

MD 355

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	561	0.55	309	1	1.00	1	997
SB	2471	0.40	988	9	1.00	9	
EB	23	1.00	23	1	1.00	1	24
WB	2	1.00	2	1	1.00	1	
						CLV TOTAL=	**1,021**
						Level of Service (LOS)=	**B**

AM V/C =0.64

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	2495	0.55	1372	11	1.00	11	1383
SB	1147	0.40	459	4	1.00	4	
EB	11	1.00	11	7	1.00	7	19
WB	16	1.00	16	3	1.00	3	
						CLV TOTAL=	**1,402**
						Level of Service (LOS)=	**D**

PM V/C =0.88

Scenario ID - BACK3

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Driveway/Dalamar St
N/S Road: MD 355
Conditions: 2021 Total Traffic

Date of Count: 4/22/2009
Day of Count: Wednesday
Analyst: Shulin Li

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

MD 355

	R	T	L
PM	15	1175	11
AM	7	2476	1

RT T T L

DALAMAR ST

— LTR

	R	T	L
AM	1	0	1
PM	8	0	7

adjusted lefts 1 8

3 1 adjusted lefts

	PM	AM
L	3	1
T	0	0
R	164	119

LTR —

L T TR

DRIVEWAY

	L	T	R
AM	157	607	2
PM	104	2473	33

MD 355

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	609	0.55	335	1	1.00	1	1150
SB	2483	0.40	993	157	1.00	157	
EB	120	1.00	120	1	1.00	1	121
WB	2	1.00	2	1	1.00	1	

CLV TOTAL= **1,271**
Level of Service (LOS)= **C**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	2506	0.55	1378	11	1.00	11	1389
SB	1190	0.40	476	104	1.00	104	
EB	167	1.00	167	7	1.00	7	174
WB	16	1.00	16	3	1.00	3	

CLV TOTAL= **1,563**
Level of Service (LOS)= **E**

Scenario ID - TOT3

AM V/C =0.79

PM V/C =0.98

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Driveway/Dalamar St
N/S Road: MD 355
Conditions: 2021 Total Traffic w/ improvement

Date of Count: 4/22/2009
Day of Count: Wednesday
Analyst: Shulin Li

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

MD 355

15	1175	11	PM
7	2476	1	AM
R	T	L	

RT T T L

DALAMAR ST

— LTR

R	1	8
T	0	0
L	1	7
	AM	PM

adjusted lefts 1 8

3 1 adjusted lefts

PM	AM	
3	1	L
0	0	T
164	119	R

LT —

R —

L T T R

DRIVEWAY

	L	T	R
AM	157	607	2
PM	104	2473	33

MD 355

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	607	0.55	334	1	1.00	1	1150
SB	2483	0.40	993	157	1.00	157	
EB	1	1.00	1	1	1.00	1	3
WB	2	1.00	2	1	1.00	1	
						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
NB	2473	0.55	1360	11	1.00	11	1371
SB	1190	0.40	476	104	1.00	104	
EB	60	1.00	60	7	1.00	7	67
WB	16	1.00	16	3	1.00	3	
						CLV TOTAL=	1,438
						Level of Service (LOS)=	D

PM V/C =0.9

Scenario ID - TOT3

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Odendhal Ave/Driveway
N/S Road: MD 355
Conditions: Existing Traffic

Date of Count: 4/16/2009
Day of Week: Thursday
Analyst: Shulin Li

The Traffic Group®

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

N

MD 355

69	990	199	PM
40	1986	75	AM
R	T	L	

RT T L
| | |

DRIVEWAY

— LTR
— L

R	28	87
T	11	10
L	623	535
	AM	PM

PM	AM	
10	10	L
26	7	T
14	20	R

LTR —

L	T	T	TR

ODENDHAL AVE

	L	T	R
AM	2	442	76
PM	4	1962	276

MD 355

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	37	1.00	37				37
WB	662	0.60	397				397
NB	518	0.40	207	75	1.00	75	1116
SB	2026	0.55	1114	2	1.00	2	
						CLV TOTAL=	1,550
						Level of Service (LOS)=	E

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	50	1.00	50				50
WB	632	0.55	348				348
NB	2238	0.40	895	199	1.00	199	1094
SB	1059	0.55	582	4	1.00	4	
						CLV TOTAL=	1,492
						Level of Service (LOS)=	E

Scenario ID - EXIST4

AM V/C =0.97

PM V/C =0.93

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Odendhal Ave/Driveway
N/S Road: MD 355
Conditions: Background Traffic

Date of Count: 4/16/2009
Day of Week: Thursday
Analyst: Shulin Li

The Traffic Group®

N

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

MD 355

76	1094	220	PM
44	2194	83	AM
R	T	L	

RT T L

DRIVEWAY

— LTR
— L

R	31	96
T	12	11
L	688	591
	AM	PM

PM	AM	
11	11	L
29	8	T
15	22	R

LTR —

L T T TR

ODENDHAL AVE

	L	T	R
AM	2	488	84
PM	4	2167	305

MD 355

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	41	1.00	41				41
WB	731	0.60	439				439
NB	572	0.40	229	83	1.00	83	1233
SB	2238	0.55	1231	2	1.00	2	
						CLV TOTAL=	1,713
						Level of Service (LOS)=	F

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	55	1.00	55				55
WB	698	0.55	384				384
NB	2472	0.40	989	220	1.00	220	1209
SB	1170	0.55	644	4	1.00	4	
						CLV TOTAL=	1,648
						Level of Service (LOS)=	F

Scenario ID - BACK4

AM V/C =1.07

PM V/C =1.03

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Odendhal Ave/Driveway
N/S Road: MD 355
Conditions: 2021 Total Traffic

Date of Count: 4/16/2009
Day of Week: Thursday
Analyst: Shulin Li

The Traffic Group®

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

N

MD 355

76	1137	220	PM
44	2206	83	AM
R	T	L	

RT T L

DRIVEWAY

— LTR
— L

R	31	96
T	12	11
L	688	591
	AM	PM

PM	AM	
11	11	L
29	8	T
15	22	R

LTR —

L T T TR

ODENDHAL AVE

	L	T	R
AM	2	536	84
PM	4	2178	305

MD 355

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	41	1.00	41				41
WB	688	0.60	413				413
NB	620	0.40	248	83	1.00	83	1240
SB	2250	0.55	1238	2	1.00	2	
						CLV TOTAL=	1,694
						Level of Service (LOS)=	F

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	55	1.00	55				55
WB	698	0.55	384				384
NB	2483	0.40	993	220	1.00	220	1213
SB	1213	0.55	667	4	1.00	4	
						CLV TOTAL=	1,652
						Level of Service (LOS)=	F

Scenario ID - TOT4

AM V/C =1.06

PM V/C =1.03

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

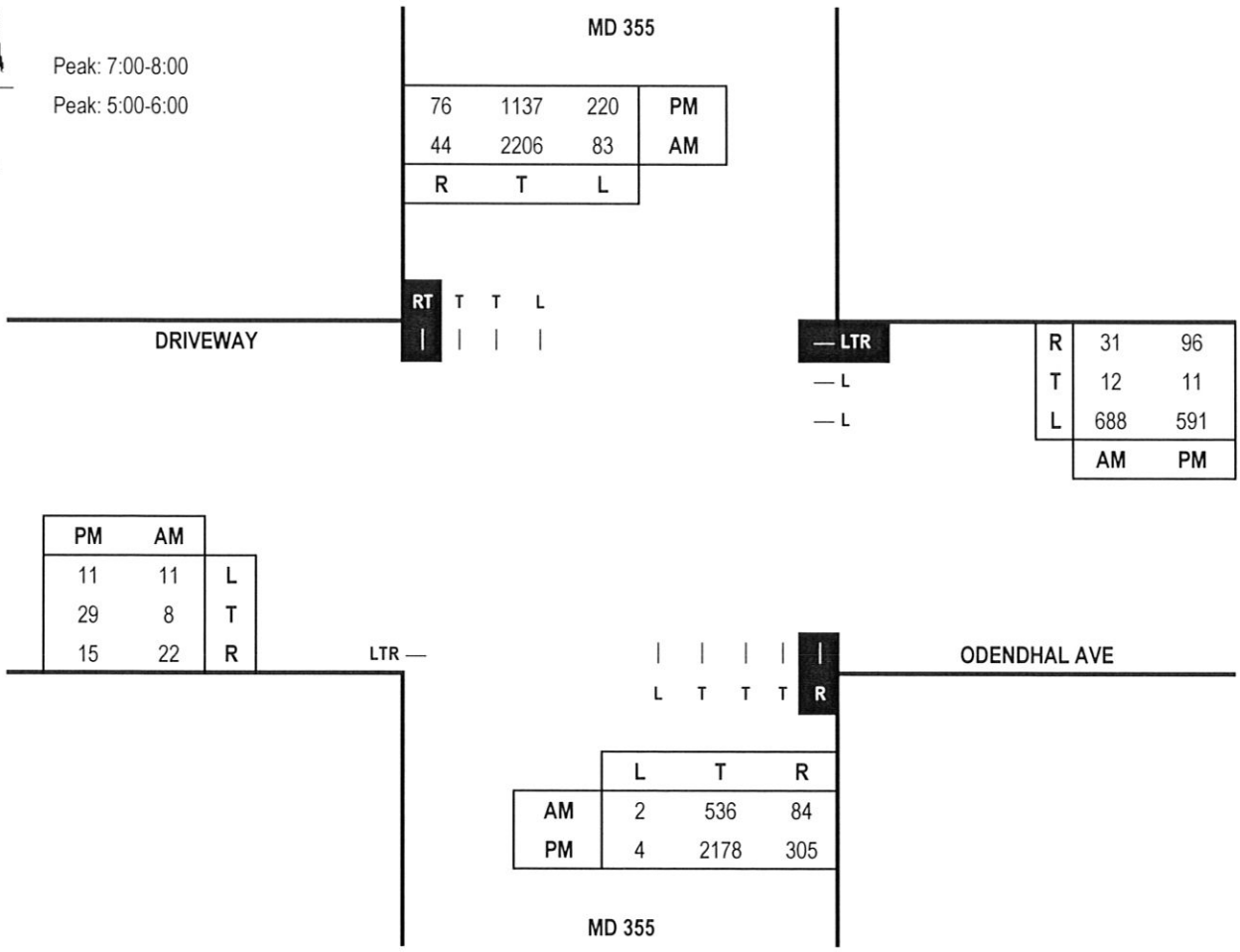
E/W Road: Odendhal Ave/Driveway
N/S Road: MD 355
Conditions: 2021 Total Traffic w/ improvement

Date of Count: 4/16/2009
Day of Week: Thursday
Analyst: Shulin Li

The Traffic Group®

N

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



Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	41	1.00	41				41
WB	731	0.40	292				292
NB	536	0.40	214	83	1.00	83	902
SB	2250	0.40	900	2	1.00	2	
						CLV TOTAL=	1,235
						Level of Service (LOS)=	C

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	55	1.00	55				55
WB	698	0.40	279				279
NB	2178	0.40	871	220	1.00	220	1091
SB	1213	0.40	485	4	1.00	4	
						CLV TOTAL=	1,425
						Level of Service (LOS)=	D

Scenario ID - TOT4

AM V/C =0.77

PM V/C =0.89

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Lakeforest Blvd/Perry Pkwy
N/S Road: MD 355
Conditions: Existing Traffic

Date of Count: 6/7/2011
Day of Week: Tuesday
Analyst: Shulin Li

The Traffic Group®

N

Peak: 7:30-8:30
Peak: 5:15-6:15

MD 355

	R	T	L
PM	156	703	197
AM	138	1443	82

RT T T L L

PERRY PKWY

TR	R	66	136
LT	T	146	202
L	L	220	218
		AM	PM

	PM	AM
L	263	117
T	324	64
R	110	45

L —
LT —
TR —

L L T T TR

LAKEFOREST BLVD

	L	T	R
AM	56	432	45
PM	217	1138	187

MD 355

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	226	0.40	90				90
WB	432	0.40	173				173
NB	477	0.40	191	82	0.60	49	666
SB	1581	0.40	632	56	0.60	34	
						CLV TOTAL=	929
						Level of Service (LOS)=	A

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	697	0.40	279				279
WB	556	0.40	222				222
NB	1325	0.40	530	197	0.60	118	648
SB	859	0.40	344	217	0.60	130	
						CLV TOTAL=	1,149
						Level of Service (LOS)=	B

Scenario ID - EXIST5

AM V/C =0.58

PM V/C =0.72

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Lakeforest Blvd/Perry Pkwy
N/S Road: MD 355
Conditions: Background Traffic

Date of Count: 6/7/2011
Day of Week: Tuesday
Analyst: Shulin Li

The Traffic Group®

N

Peak: 7:30-8:30
Peak: 5:15-6:15

MD 355

	R	T	L
PM	172	777	218
AM	152	1594	91

RT T T L L

PERRY PKWY

TR	R	73	150
LT	T	161	223
L	L	243	241
		AM	PM

	PM	AM
L	291	129
LT	358	71
TR	122	50

L L T T TR

LAKEFOREST BLVD

	L	T	R
AM	62	477	50
PM	240	1257	207

MD 355

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	250	0.40	100				100
WB	477	0.40	191				191
NB	527	0.40	211	91	0.60	55	735
SB	1746	0.40	698	62	0.60	37	
						CLV TOTAL=	1,026
						Level of Service (LOS)=	B

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	771	0.40	308				308
WB	614	0.40	246				246
NB	1464	0.40	586	218	0.60	131	717
SB	949	0.40	380	240	0.60	144	
						CLV TOTAL=	1,271
						Level of Service (LOS)=	C

Scenario ID - BACK5

AM V/C =0.64

PM V/C =0.79

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Lakeforest Blvd/Perry Pkwy
N/S Road: MD 355
Conditions: 2021 Total Traffic

Date of Count: 6/7/2011
Day of Week: Tuesday
Analyst: Shulin Li

The Traffic Group®

N

Peak: 7:30-8:30
Peak: 5:15-6:15

MD 355

	R	T	L
PM	243	777	218
AM	405	1594	91

RT T T L L

PERRY PKWY

R (TR)	73	150
T (LT)	333	269
L (L)	243	241
	AM	PM

	PM	AM
L	523	193
T (LT)	513	112
R (TR)	165	62

L T T R R

LAKEFOREST BLVD

	L	T	R
AM	110	477	50
PM	251	1257	207

MD 355

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	367	0.40	147				147
WB	649	0.40	260				260
NB	527	0.40	211	91	0.60	55	866
SB	1999	0.40	800	110	0.60	66	
						CLV TOTAL=	1,273
						Level of Service (LOS)=	C

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	1201	0.40	480				480
WB	660	0.40	264				264
NB	1464	0.40	586	218	0.60	131	717
SB	1020	0.40	408	251	0.60	151	
						CLV TOTAL=	1,461
						Level of Service (LOS)=	E

Scenario ID - TOT5

AM V/C =0.8

PM V/C =0.91

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: Lakeforest Blvd/Perry Pkwy
N/S Road: MD 355
Conditions: 2021 Total Traffic w/ improvement

Date of Count: 6/7/2011
Day of Week: Tuesday
Analyst: Shulin Li

The Traffic Group®

Peak: 7:30-8:30
Peak: 5:15-6:15

N

MD 355

	R	T	L
PM	243	777	218
AM	405	1594	91

RT T T L L

PERRY PKWY

	R	T	L
AM	523	513	165
PM	193	112	62

L —
LT —
T —
R —

	L	T	R
AM	110	477	50
PM	251	1257	207

L L T T TR

LAKEFOREST BLVD

— TR
— LT
— L

	AM	PM
R	73	150
T	333	269
L	243	241

MD 355

Capacity Analysis - East/West Split

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
EB	305	0.40	122				122
WB	649	0.40	260				260
NB	527	0.40	211	91	0.60	55	866
SB	1999	0.40	800	110	0.60	66	
						CLV TOTAL=	1,248
						Level of Service (LOS)=	C

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
EB	1036	0.40	414				414
WB	660	0.40	264				264
NB	1464	0.40	586	218	0.60	131	717
SB	1020	0.40	408	251	0.60	151	
						CLV TOTAL=	1,395
						Level of Service (LOS)=	D

Scenario ID - TOT5

AM V/C =0.78

PM V/C =0.87

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 124 **Date of Count:** 6/7/2011
N/S Road: I 270 NB Onramp/I 270 Nb Offramp **Day of Count:** Tuesday
Conditions: Existing Traffic **Analyst:** Shulin Li

The Traffic Group®

N

Peak: 8:15-9:15
Peak: 5:00-6:00

I 270 NB ONRAMP

MD 124

Eastbound MD 124 only

PM	AM	
0	0	L
1574	1114	T
0	0	R

T —
T —
T —

R R

MD 124

	L	T	R
AM	0	0	940
PM	0	0	2039

I 270 NB OFFRAMP

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	940	0.55	517	0	0.00	0	517
SB	0	0.00	0	0	0.00	0	
EB	1114	0.40	446	0	0.00	0	446
WB	2483	0.00	0	0	0.00	0	
						CLV TOTAL=	963
						Level of Service (LOS)=	A

AM V/C =0.6

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	2039	0.55	1121	0	0.00	0	1121
SB	0	0.00	0	0	0.00	0	
EB	1574	0.40	630	0	0.00	0	630
WB	2254	0.00	0	0	0.00	0	
						CLV TOTAL=	1,751
						Level of Service (LOS)=	F

PM V/C =1.09

Scenario ID - EXIST7

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 124 **Date of Count:** 6/7/2011
N/S Road: I 270 NB Onramp/I 270 Nb Offramp **Day of Count:** Tuesday
Conditions: Background Traffic **Analyst:** Shulin Li

The Traffic Group®

N

Peak: 8:15-9:15
Peak: 5:00-6:00

I 270 NB ONRAMP

MD 124

Eastbound MD 124 only

PM	AM	
0	0	L
1739	1231	T
0	0	R

T —
T —
T —

R R

MD 124

	L	T	R
AM	0	0	1038
PM	0	0	2252

I 270 NB OFFRAMP

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	1038	0.55	571	0	0.00	0	571
SB	0	0.00	0	0	0.00	0	
EB	1231	0.40	492	0	0.00	0	492
WB	2743	0.00	0	0	0.00	0	
						CLV TOTAL=	1,063
						Level of Service (LOS)=	B

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	2252	0.55	1239	0	0.00	0	1239
SB	0	0.00	0	0	0.00	0	
EB	1739	0.40	696	0	0.00	0	696
WB	2490	0.00	0	0	0.00	0	
						CLV TOTAL=	1,935
						Level of Service (LOS)=	F

Scenario ID - BACK7

AM V/C =0.66

PM V/C =1.21

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 124 **Date of Count:** 6/7/2011
N/S Road: I 270 NB Onramp/I 270 Nb Offramp **Day of Count:** Tuesday
Conditions: 2021 Total Traffic **Analyst:** Shulin Li

The Traffic Group®

N

Peak: 8:15-9:15
Peak: 5:00-6:00

I 270 NB ONRAMP

MD 124

Eastbound MD 124 only

PM	AM	
0	0	L
1755	1297	T
0	0	R

T —
T —
T —

MD 124

R R

	L	T	R
AM	0	0	910
PM	0	0	1867

I 270 NB OFFRAMP

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	910	0.55	501	0	0.00	0	501
SB	0	0.00	0	0	0.00	0	
EB	1297	0.40	519	0	0.00	0	519
WB	2755	0.00	0	0	0.00	0	

CLV TOTAL= **1,020**
Level of Service (LOS)= **B**

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	1867	0.55	1027	0	0.00	0	1027
SB	0	0.00	0	0	0.00	0	
EB	1755	0.40	702	0	0.00	0	702
WB	2554	0.00	0	0	0.00	0	

CLV TOTAL= **1,729**
Level of Service (LOS)= **F**

Scenario ID - TOT7

AM V/C =0.64

PM V/C =1.08

CRITICAL LANE VOLUME (CLV) METHODOLOGY
for MSHA

E/W Road: MD 124
N/S Road: I 270 NB Onramp/I 270 Nb Offramp
Conditions: 2021 Total Traffic w/ improvement

Date of Count: 6/7/2011
Day of Count: Tuesday
Analyst: Shulin Li

The Traffic Group®

N

Peak: 8:15-9:15
Peak: 5:00-6:00

I 270 NB ONRAMP

MD 124

Eastbound MD 124 only

PM	AM	
0	0	L
1755	1297	T
0	0	R

T —
T —
T —

R R R

MD 124

	L	T	R
AM	0	0	910
PM	0	0	1867

I 270 NB OFFRAMP

Capacity Analysis

Morning Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	AM CLV
NB	910	0.40	364	0	0.00	0	364
SB	0	0.00	0	0	0.00	0	
EB	1297	0.40	519	0	0.00	0	519
WB	2755	0.00	0	0	0.00	0	

CLV TOTAL= **883**
Level of Service (LOS)= **A**

AM V/C =0.55

Evening Peak Hour

Dir	Thru Volumes VOL	x LUF	= Total	+ Opposing Lefts VOL	x LUF	= Total	PM CLV
NB	1867	0.40	747	0	0.00	0	747
SB	0	0.00	0	0	0.00	0	
EB	1755	0.40	702	0	0.00	0	702
WB	2554	0.00	0	0	0.00	0	

CLV TOTAL= **1,449**
Level of Service (LOS)= **D**

PM V/C =0.91

Scenario ID - TOT7

SIDRA INTERSECTION

Output Tables

Montgomery Fair Grounds

Existing am

Run Information

Table S.14 - Summary of Input and Output Data

Montgomery Fair Grounds
Existing am
Intersection ID: 7
Roundabout

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (ft)	Shrt Lane (ft)
West: New W leg												
1 LT	5	105		110	3				0.087	6.0	14	1600
2 TR		76	41	117	2				0.087	6.1	14	1600
	5	181	41	227	3				0.087	6.0	14	
South: New S leg												
1 LTR	48	5	37	90	3				0.101	10.4	13	1600
	48	5	37	90	3				0.101	10.4	13	
East: New E leg												
1 LT	94	79		173	2				0.127	9.3	22	1600
2 TR		151	36	187	2				0.127	5.6	22	1600
	94	230	36	360	2				0.127	7.4	22	
North: New N leg												
1 LTR	16	4	13	33	9				0.044	10.9	5	1600
	16	4	13	33	9				0.044	10.9	5	

ALL VEHICLES	Total Flow	% HV	Max X	Aver. Delay	Max Queue
	710	3	0.127	7.5	22

Peak flow period = 15 minutes.

Queue values in this table are 95% back of queue (feet).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Table S.15 - Capacity and Level of Service

Montgomery Fair Grounds
Existing am
Intersection ID: 7
Roundabout

Mov ID	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue 95% Back (vehs)	(ft)
West: New W leg								
5L	L	5	57	0.088	12.7	B	0.6	14
2T	T	181	2072	0.087	5.7	A	0.6	14
2R	R	41	469	0.087	6.9	A	0.6	14
South: New S leg								
3L	L	48	476	0.101	13.3	B	0.5	13
8T	T	5	50	0.100	6.2	A	0.5	13
8R	R	37	367	0.101	7.3	A	0.5	13
East: New E leg								
1L	L	94	738	0.127*	12.5	B	0.9	22
6T	T	230	1806	0.127*	5.4	A	0.9	22
6R	R	36	283	0.127*	6.7	A	0.9	22
North: New N leg								
7L	L	16	367	0.044	14.1	B	0.2	5
4T	T	4	92	0.043	7.0	A	0.2	5
4R	R	13	298	0.044	8.1	A	0.2	5
ALL VEHICLES:		710		0.127	7.5	A	0.9	22

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
SIDRA Output Guide or the Output section of the on-line help.
* Maximum v/c ratio, or critical green periods

SIDRA SOLUTIONS

Site: ex am
F:\2008\2008-0725\eng\7 RA existing condition.aap
Processed Jun 28, 2011 02:44:42PM

A1665, The Traffic Group, Inc., Large Office
Produced by SIDRA Intersection 3.2.2.1563
Copyright ©2000-2008 Akcelik and Associates Pty Ltd
www.sidrasolutions.com

SIDRA INTERSECTION

Output Tables

Montgomery Fair Grounds

Existing pm

Run Information

Table S.14 - Summary of Input and Output Data

Montgomery Fair Grounds
Existing pm
Intersection ID: 7
Roundabout

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (ft)	Shrt Lane (ft)
West: New W leg												
1 LT	13	251		264	2				0.250	7.3	47	1600
2 TR		184	106	290	2				0.250	7.2	48	1600
	13	435	106	554	2				0.250	7.3	48	
South: New S leg												
1 LTR	81	13	133	227	3				0.320	11.2	47	1600
	81	13	133	227	3				0.320	11.2	47	
East: New E leg												
1 LT	232	58		290	2				0.226	11.4	45	1600
2 TR		194	122	316	2				0.226	6.1	45	1600
	232	252	122	606	2				0.226	8.7	45	
North: New N leg												
1 LTR	52	23	54	129	2				0.185	11.4	24	1600
	52	23	54	129	2				0.185	11.4	24	
ALL VEHICLES				Total Flow 1516	% HV 2				Max X 0.320	Aver. Delay 8.8	Max Queue 48	

Peak flow period = 15 minutes.

Queue values in this table are 95% back of queue (feet).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Table S.15 - Capacity and Level of Service

Montgomery Fair Grounds
Existing pm
Intersection ID: 7
Roundabout

Mov ID	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue 95% Back (vehs)	(ft)
West: New W leg								
5L	L	13	52	0.250	14.0	B	1.8	47
2T	T	435	1739	0.250	6.9	A	1.9	48
2R	R	106	424	0.250	8.0	A	1.9	48
South: New S leg								
3L	L	81	253	0.320*	15.2	B	1.9	47
8T	T	13	41	0.317	8.1	A	1.9	47
8R	R	133	416	0.320*	9.1	A	1.9	47
East: New E leg								
1L	L	232	1027	0.226	12.8	B	1.8	45
6T	T	252	1115	0.226	5.7	A	1.8	45
6R	R	122	540	0.226	6.9	A	1.8	45
North: New N leg								
7L	L	52	281	0.185	15.2	B	1.0	24
4T	T	23	124	0.185	8.1	A	1.0	24
4R	R	54	292	0.185	9.1	A	1.0	24
ALL VEHICLES:		1516		0.320	8.8	A	1.9	48

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
SIDRA Output Guide or the Output section of the on-line help.
* Maximum v/c ratio, or critical green periods
" Movement Level of service has been determined using adjacent lane
v/c ratio rather than short lane v/c ratio (v/c=1.0)

SIDRA SOLUTIONS

Site: ex pm
F:\2008\2008-0725\eng\7 RA existing condition.aap
Processed Jun 28, 2011 02:44:42PM

A1665, The Traffic Group, Inc., Large Office
Produced by SIDRA Intersection 3.2.2.1563
Copyright ©2000-2008 Akcelik and Associates Pty Ltd
www.sidrasolutions.com

SIDRA INTERSECTION

Output Tables

Montgomery Fair Grounds

Total am

Run Information

Table S.14 - Summary of Input and Output Data

```
Montgomery Fair Grounds
Total am
Intersection ID: 7
Roundabout

-----------------------------------------------------------------------------
 Lane   Demand Flow (veh/h)       Adj.  Eff Grn   Deg   Aver. Longest Shrt
 No.   --------------------  %HV  Basic  (secs)   Sat   Delay  Queue  Lane
          L    T    R   Tot       Satf. 1st 2nd    x    (sec)   (ft)  (ft)
-----------------------------------------------------------------------------
 West: New W leg
1 LT      5  177        182    3                 0.145    6.0    25  1600
2 TR         150   46   196    2                 0.145    6.0    25  1600
        ---------------------------------------------------------------------
          5  327   46   378    2                 0.145    6.0    25
-----------------------------------------------------------------------------
 South: New S leg
1 LTR    53    5   41    99    3                 0.124   11.2    16  1600
        ---------------------------------------------------------------------
         53    5   41    99    3                 0.124   11.2    16
-----------------------------------------------------------------------------
 East: New E leg
1 LT    103  328        431    2                 0.315    7.2    67  1600
2 TR         439   39   478    2                 0.315    5.6    68  1600
        ---------------------------------------------------------------------
        103  767   39   909    2                 0.315    6.4    68
-----------------------------------------------------------------------------
 North: New N leg
1 LTR    17    4   14    35    9                 0.064   13.1     8  1600
        ---------------------------------------------------------------------
         17    4   14    35    9                 0.064   13.1     8
=============================================================================
 ALL VEHICLES          Total   %                  Max   Aver.   Max
                       Flow   HV                   X    Delay  Queue
                       1421    2                 0.315    6.8    68
=============================================================================
Peak flow period = 15 minutes.

Queue values in this table are 95% back of queue (feet).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-
      controlled intersections and apply only to continuous lanes.
```

Table S.15 - Capacity and Level of Service

Montgomery Fair Grounds
Total am
Intersection ID: 7
Roundabout

Mov ID	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue 95% Back (vehs)	(ft)
West: New W leg								
5L	L	5	34	0.147	12.8	B	1.0	25
2T	T	327	2248	0.145	5.8	A	1.0	25
2R	R	46	316	0.146	7.0	A	1.0	25
South: New S leg								
3L	L	53	427	0.124	14.1	B	0.6	16
8T	T	5	40	0.125	6.9	A	0.6	16
8R	R	41	330	0.124	8.0	A	0.6	16
East: New E leg								
1L	L	103	327	0.315*	12.6	B	2.6	67
6T	T	767	2436	0.315*	5.5	A	2.7	68
6R	R	39	124	0.315*	6.7	A	2.7	68
North: New N leg								
7L	L	17	266	0.064	16.4	B	0.3	8
4T	T	4	63	0.063	9.2	A	0.3	8
4R	R	14	219	0.064	10.3	B	0.3	8
ALL VEHICLES:		1421		0.315	6.8	A	2.7	68

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
SIDRA Output Guide or the Output section of the on-line help.
* Maximum v/c ratio, or critical green periods
" Movement Level of service has been determined using adjacent lane
v/c ratio rather than short lane v/c ratio (v/c=1.0)

SIDRA SOLUTIONS

Site: tot am
F:\2008\2008-0725\eng\7 RA existing condition.aap
Processed Jul 19, 2011 08:56:21AM

A1665, The Traffic Group, Inc., Large Office
Produced by SIDRA Intersection 3.2.2.1563
Copyright ©2000-2008 Akcelik and Associates Pty Ltd
www.sidrasolutions.com

SIDRA INTERSECTION

Output Tables

Montgomery Fair Grounds

Total pm

Run Information

Table S.14 - Summary of Input and Output Data

```
Montgomery Fair Grounds
Total pm
Intersection ID: 7
Roundabout

-----------------------------------------------------------------------------
 Lane   Demand Flow (veh/h)       Adj.  Eff Grn   Deg   Aver. Longest Shrt
 No.   --------------------  %HV  Basic  (secs)   Sat   Delay  Queue  Lane
          L    T    R   Tot       Satf. 1st 2nd    x    (sec)   (ft)  (ft)
-----------------------------------------------------------------------------
 West: New W leg
1 LT     14  497        511    2                 0.497    7.9   113  1600
2 TR         451  117   568    2                 0.497    7.7   116  1600
        ---------------------------------------------------------------------
         14  948  117  1079    2                 0.497    7.8   116
-----------------------------------------------------------------------------
 South: New S leg
1 LTR    89   14  147   250    2                 0.509   15.4    88  1600
        ---------------------------------------------------------------------
         89   14  147   250    2                 0.509   15.4    88
-----------------------------------------------------------------------------
 East: New E leg
1 LT    255  131        386    2                 0.304   10.5    67  1600
2 TR         286  136   422    2                 0.304    6.2    68  1600
        ---------------------------------------------------------------------
        255  417  136   808    2                 0.304    8.2    68
-----------------------------------------------------------------------------
 North: New N leg
1 LTR    57   26   60   143    2                 0.232   12.3    31  1600
        ---------------------------------------------------------------------
         57   26   60   143    2                 0.232   12.3    31
=============================================================================
 ALL VEHICLES          Total   %                  Max   Aver.   Max
                       Flow   HV                   X    Delay  Queue
                       2280    2                 0.519    9.1   116
=============================================================================
Peak flow period = 15 minutes.

Queue values in this table are 95% back of queue (feet).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-
      controlled intersections and apply only to continuous lanes.
```

Table S.15 - Capacity and Level of Service

Montgomery Fair Grounds
Total pm
Intersection ID: 7
Roundabout

Mov ID	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue 95% Back (vehs)	(ft)
West: New W leg								
5L	L	14	28	0.500	14.8	B	4.5	113
2T	T	948	1909	0.497	7.6	A	4.6	116
2R	R	117	236	0.496	8.7	A	4.6	116
South: New S leg								
3L	L	89	175	0.509	19.4	B	3.4	88
8T	T	14	27	0.519*	12.3	B	3.4	88
8R	R	147	289	0.509	13.3	B	3.4	88
East: New E leg								
1L	L	255	839	0.304	12.9	B	2.6	67
6T	T	417	1372	0.304	5.8	A	2.7	68
6R	R	136	447	0.304	7.0	A	2.7	68
North: New N leg								
7L	L	57	245	0.233	16.1	B	1.2	31
4T	T	26	112	0.232	9.0	A	1.2	31
4R	R	60	258	0.233	10.0	B	1.2	31
ALL VEHICLES:		2280		0.519	9.1	A	4.6	116

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
SIDRA Output Guide or the Output section of the on-line help.
* Maximum v/c ratio, or critical green periods
" Movement Level of service has been determined using adjacent lane
v/c ratio rather than short lane v/c ratio (v/c=1.0)

SIDRA SOLUTIONS

Site: Total pm
F:\2008\2008-0725\eng\7 RA existing condition.aap
Processed Jul 19, 2011 08:56:21AM

A1665, The Traffic Group, Inc., Large Office
Produced by SIDRA Intersection 3.2.2.1563
Copyright ©2000-2008 Akcelik and Associates Pty Ltd
www.sidrasolutions.com

APPENDIX C

SHA CTP Items

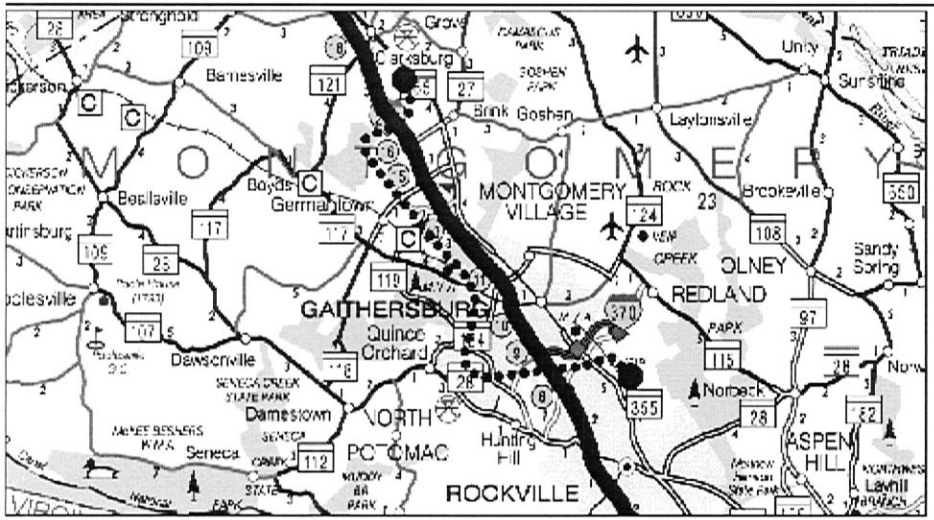
Maryland Department of Transportation

CONSOLIDATED TRANSPORTATION PROGRAM

2011 State Report on Transportation • FY 2011-2016

Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
Beverley K. Swaim-Staley, Secretary

Printed on recycled paper



PROJECT: Corridor Cities Transitway (CCT)

DESCRIPTION: Transit portion of a multi-modal corridor study to consider transit and highway improvements in the I-270/US 15 corridor in Montgomery and Frederick Counties from Shady Grove Metro Station to I-70. The Corridor Cities Transitway (CCT) would be either a light rail transit (LRT) or bus rapid transit (BRT) line along a 14-mile corridor from Rockville through Quince Orchard, Gaithersburg and Germantown to Clarksburg. Another option under study is "premium bus" service along proposed I-270 High Occupancy Vehicle (HOV)/managed lanes.

JUSTIFICATION: The purpose and need for the project is to relieve congestion and improve safety due to existing and projected growth within the I-270/US 15 Corridor. The CCT would also enhance mobility by serving existing and future transit-oriented land uses in the corridor.

SMART GROWTH STATUS: ☐ Project Not Location Specific or Not Subject to PFA Law

- ☒ Project Inside PFA
- ☐ Project Outside PFA
- ☐ PFA Status Yet to Be Determined

- ☐ Grandfathered
- ☐ Exception Will Be Required
- ☐ Exception Granted

ASSOCIATED IMPROVEMENTS:
SHA - I-70/I-270 Interchange
SHA - I-70, MD 85 Extended and MD 355 Relocated
SHA - MD 80 and MD 355 Relocated
SHA - I-70, Mt. Phillip Road to MD 144

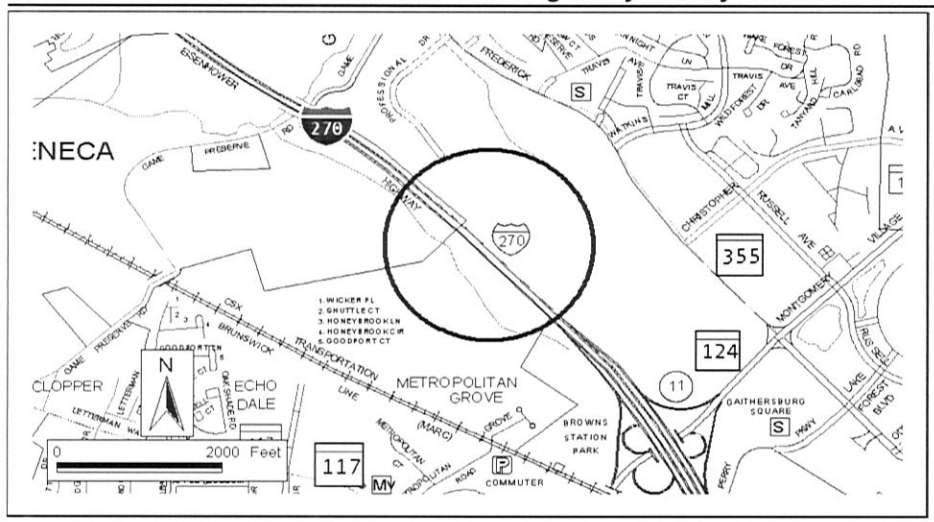
STATUS: Selection of locally preferred alternative and preliminary engineering to begin during current fiscal year.

SIGNIFICANT CHANGE FROM FY 2010 - 15 CTP: Total Estimated Cost decreased $5.0 million to reflect deletion of the Balance to Complete funding.

POTENTIAL FUNDING SOURCE: ☒ SPECIAL ☒ FEDERAL ☐ GENERAL ☐ OTHER

PHASE	TOTAL ESTIMATED COST ($000)	EXPEND THRU 2010	CURRENT YEAR 2011	BUDGET YEAR 2012	PROJECTED CASH REQUIREMENTS FOR PLANNING PURPOSES ONLY ....2013....	....2014....	....2015....	....2016....	SIX YEAR TOTAL	BALANCE TO COMPLETE
Planning	18,184	6,819	4,000	7,365	0	0	0	0	11,365	0
Engineering	25,000	0	0	5,000	10,000	10,000	0	0	25,000	0
Right-of-way	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0
Total	43,184	6,819	4,000	12,365	10,000	10,000	0	0	36,365	0
Federal-Aid	19,187	1,505	1,500	6,182	5,000	5,000	0	0	17,682	0

Funding is contingent upon successful entry into the New Starts program.
1108



PROJECT: I-270/Watkins Mill Road Extended

DESCRIPTION: Construct a new interchange at Watkins Mill Road Extended.

JUSTIFICATION: This project would support economic development and relieve existing congestion at the I-270/MD 124 interchange and the MD 355/MD 124 intersection. It would provide access from I-270 to the Metropolitan Grove Road (MARC) commuter rail station.

SMART GROWTH STATUS: ☐ Project Not Location Specific or Not Subject to PFA Law

- [X] Project Inside PFA
- [ ] Project Outside PFA
- [ ] PFA Status Yet To Be Determined

- [ ] Grandfathered
- [ ] Exception Will Be Required
- [ ] Exception Granted

ASSOCIATED IMPROVEMENTS:
InterCounty Connector (Line 2)
I-270 and US 15 Multi-Modal Corridor Study (Line 6)

STATUS: Partial Engineering underway. The County is contributing $2.4 million towards engineering. The cost shown is SHA share only. The County and SHA are discussing an additional $2.5 million to complete Engineering on the bridge.

SIGNIFICANT CHANGE FROM FY 2010 - 15 CTP: None.

POTENTIAL FUNDING SOURCE: [X] SPECIAL [X] FEDERAL [ ] GENERAL [ ] OTHER

PROJECT CASH FLOW

PHASE	TOTAL ESTIMATED COST ($000)	EXPEND THRU 2010	CURRENT YEAR 2011	BUDGET YEAR 2012	FOR PLANNING PURPOSES ONLY ....2013....	....2014....	....2015....	....2016....	SIX YEAR TOTAL	BALANCE TO COMPLETE
Planning	1,178	1,178	0	0	0	0	0	0	0	0
Engineering	770	496	0	0	274	0	0	0	274	0
Right-of-way	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0
Total	1,948	1,674	0	0	274	0	0	0	274	0
Federal-Aid	825	825	0	0	0	0	0	0	0	0

CLASSIFICATION:

STATE - Principal Arterial

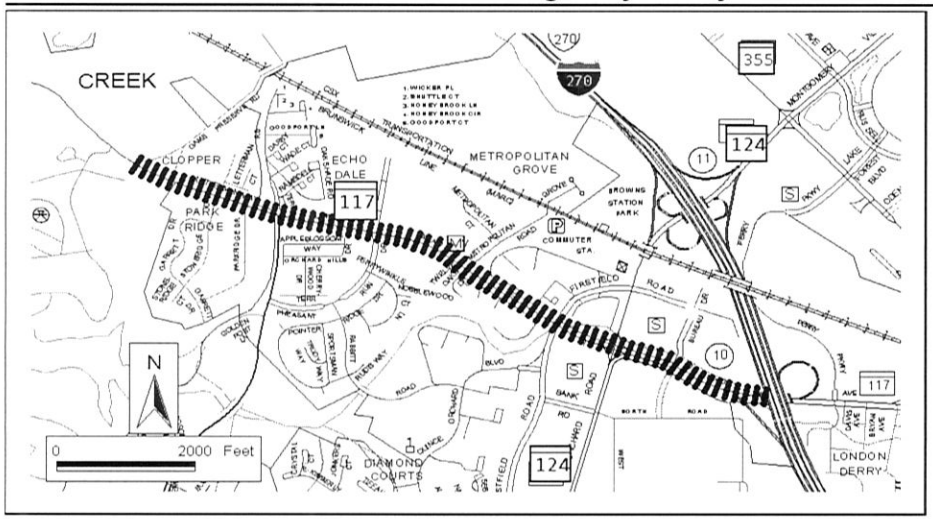
FEDERAL - Interstate

STATE SYSTEM : Primary

DAILY TRAFFIC : (USAGE IMPACTS)

CURRENT (2010) - 160,000

PROJECTED (2030) - 191,500



PROJECT: MD 117, Clopper Road

DESCRIPTION: Construct intersection capacity improvements from Great Seneca Park to I-270 (1.73 miles). Sidewalks will be included where appropriate, including multi-use pathway on the south side. Wide curb lanes will accommodate bicycles.

JUSTIFICATION: MD 117 is a heavily traveled commuter route. Capacity improvements are needed to relieve existing and future congestion associated with planned and approved development in Germantown that will exceed the current capacity of the highway.

SMART GROWTH STATUS: ☐ Project Not Location Specific or Not Subject to PFA Law

- ☒ Project Inside PFA
- ☐ Project Outside PFA
- ☐ PFA Status Yet To Be Determined

- ☐ Grandfathered
- ☐ Exception Will Be Required
- ☐ Exception Granted

ASSOCIATED IMPROVEMENTS:
I-270/Watkins Mill Road Extended Interchange (Line 7)

STATUS: Project on hold.

SIGNIFICANT CHANGE FROM FY 2010 - 15 CTP: None.

POTENTIAL FUNDING SOURCE: ☒ SPECIAL ☒ FEDERAL ☐ GENERAL ☐ OTHER

PROJECT CASH FLOW

PHASE	TOTAL ESTIMATED COST ($000)	EXPEND THRU 2010	CURRENT YEAR 2011	BUDGET YEAR 2012	FOR PLANNING PURPOSES ONLY ....2013....	....2014....	....2015....	....2016....	SIX YEAR TOTAL	BALANCE TO COMPLETE
Planning	1,030	1,030	0	0	0	0	0	0	0	0
Engineering	1,901	1,901	0	0	0	0	0	0	0	0
Right-of-way	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0
Total	2,931	2,931	0	0	0	0	0	0	0	0
Federal-Aid	721	721	0	0	0	0	0	0	0	0

CLASSIFICATION:

STATE - Minor Arterial

FEDERAL - Minor Arterial

STATE SYSTEM : Secondary

DAILY TRAFFIC : (USAGE IMPACTS)

CURRENT (2010) - 44,700

PROJECTED (2030) - 56,600

SAFETY, CONGESTION RELIEF, HIGHWAY AND BRIDGE PRESERVATION PROGRAM

STATE HIGHWAY ADMINISTRATION -- MONTGOMERY COUNTY LINE 17 (cont'd)

ITEM NO.	ROUTE NO.	DESCRIPTION AND IMPROVEMENT TYPE	TOTAL ESTIMATED COST ($000's)	CONSTRUCTION START Status as of December 1, 2010
		Fiscal Years 2011 and 2012 (cont'd)		
		Resurface/Rehabilitate (cont'd)		
23	MD 187	Old Georgetown Road; 150 feet south of Center Drive to North Brook Lane; safety and resurface (ARRA PROJECT)	1,866	Completed
24	MD 193	University Boulevard; US 29 to I 495; resurfacing (ARRA PROJECT)	400	FY 2012
25	MD 193	University Boulevard West; Arcola Avenue to US 29; safety and resurface	2,734	FY 2011
26	MD 193	University Boulevard; MD 586 to Arcola Avenue; safety and resurface (ARRA PROJECT)	3,435	Under construction
27	MD 198	Spencerville Road; MD 650 to Peach Orchard Road; resurfacing (ARRA PROJECT)	410	FY 2011
28	I 270	Eisenhower Memorial Highway; I 495 to south of MD 187; resurface	3,661	FY 2012
29	I 270	Eisenhower Memorial Highway; southbound Muddy Branch Road to north of Middlebrook Road; resurface	6,965	Under construction
30	I 270	Eisenhower Memorial Highway; all ramps from Middlebrook Road to MD 109; resurfacing (ARRA PROJECT)	500	Completed
31	I 270	Eisenhower Memorial Highway; all ramps from Montrose Road to MD 189; resurfacing (ARRA PROJECT)	500	Completed
32	MD 320	Piney Branch Road; DC line to MD 193; resurface	2,402	FY 2012
33	MD 355	Wisconsin Avenue; DC Line to MD 191; resurface	1,867	FY 2012
34	MD 355	Wisconsin Avenue; MD 187 to Chelsea Lane; resurface	2,633	FY 2012
35	MD 355	Frederick Road; Travis Road to Middlebrook Road; resurfacing (ARRA PROJECT)	1,800	Completed

SAFETY, CONGESTION RELIEF, HIGHWAY AND BRIDGE PRESERVATION PROGRAM

STATE HIGHWAY ADMINISTRATION -- MONTGOMERY COUNTY LINE 17 (cont'd)

ITEM NO.	ROUTE NO.	DESCRIPTION AND IMPROVEMENT TYPE	TOTAL ESTIMATED COST ($000's)	CONSTRUCTION START Status as of December 1, 2010
		Fiscal Years 2011 and 2012 (cont'd)		
		Resurface/Rehabilitate (cont'd)		
36	MD 355	Frederick Road; MD 124 to Travis Avenue; resurfacing (ARRA PROJECT)	500	Completed
37	MD 355	Rockville Pike; Templeton Place to MD 911; resurfacing (ARRA PROJECT)	480	FY 2011
38	MD 410	Ethan Allen Avenue; Park Avenue to MD 650; resurface	1,144	FY 2012
39	MD 410	East West Highway; MD 185 to MD 390; resurfacing (ARRA PROJECT)	700	FY 2012
40	I 495	Capital Beltway; Potomac River to I 270; safety and resurface (ARRA PROJECT)	7,609	Completed
41	I 495 WB	Capital Beltway; Seminary Road to US 29; resurface	5,148	FY 2012
42	MD 547	Knowles Avenue; Weymouth Street to MD 185; resurfacing (ARRA PROJECT)	160	FY 2011
43	MD 547	Strathmore Avenue; MD 355 to Flanders Avenue; resurfacing (ARRA PROJECT)	130	FY 2011
44	MD 650	New Hampshire Avenue; Northampton Drive to Elton Road; resurfacing (ARRA PROJECT)	700	FY 2012
45	MD 650	New Hampshire Avenue; MD 410 to Holton Lane; safety and resurface (ARRA PROJECT) (Project also shown in Prince George's County)	1,444	Completed
46	MD 787	Flower Avenue; MD 195 to MD 320; resurface	915	FY 2012
		Safety/Spot Improvement		
47		Areawide Traffic Barrier improvements along I 270 and I 270Y; guard rail	5,697	FY 2012
48	MD 97	Georgia Avenue; Hermitage Avenue to Randolph Road; ADA improvements (ARRA PROJECT)	350	Completed