

TECHNICAL MEMORANDUM

TO: Mr. Lenford C. Carey, Mayor
Michael D. Beall, Director of Public Works
Town of University Park

FROM: Edward Y. Papazian, P.E.
Andrew T. Smith, P.E.
Mike Shindledecker, E.I.T.
Kimley-Horn

DATE: December 20, 2017

SUBJECT: Closing of Sheridan Street at Baltimore Avenue
Draft Traffic Analysis

INTRODUCTION

The Town of University Park has directed Kimley-Horn to perform a traffic analysis that addresses safety concerns at the intersection of Baltimore Avenue (US Route 1) and Sheridan Street. This analysis investigated the feasibility of closing the west side of the Baltimore Avenue and Sheridan Street intersection. This study is based on a field inventory of existing conditions, a sight distance study, a review of crash data, traffic volume collection, the reassignment of traffic that would be affected by the closure of the intersection, and the results of the traffic impact of the closure.

The study area and site vicinity are shown in **Figure 1**.

EXISTING CONDITIONS

Field Inventory

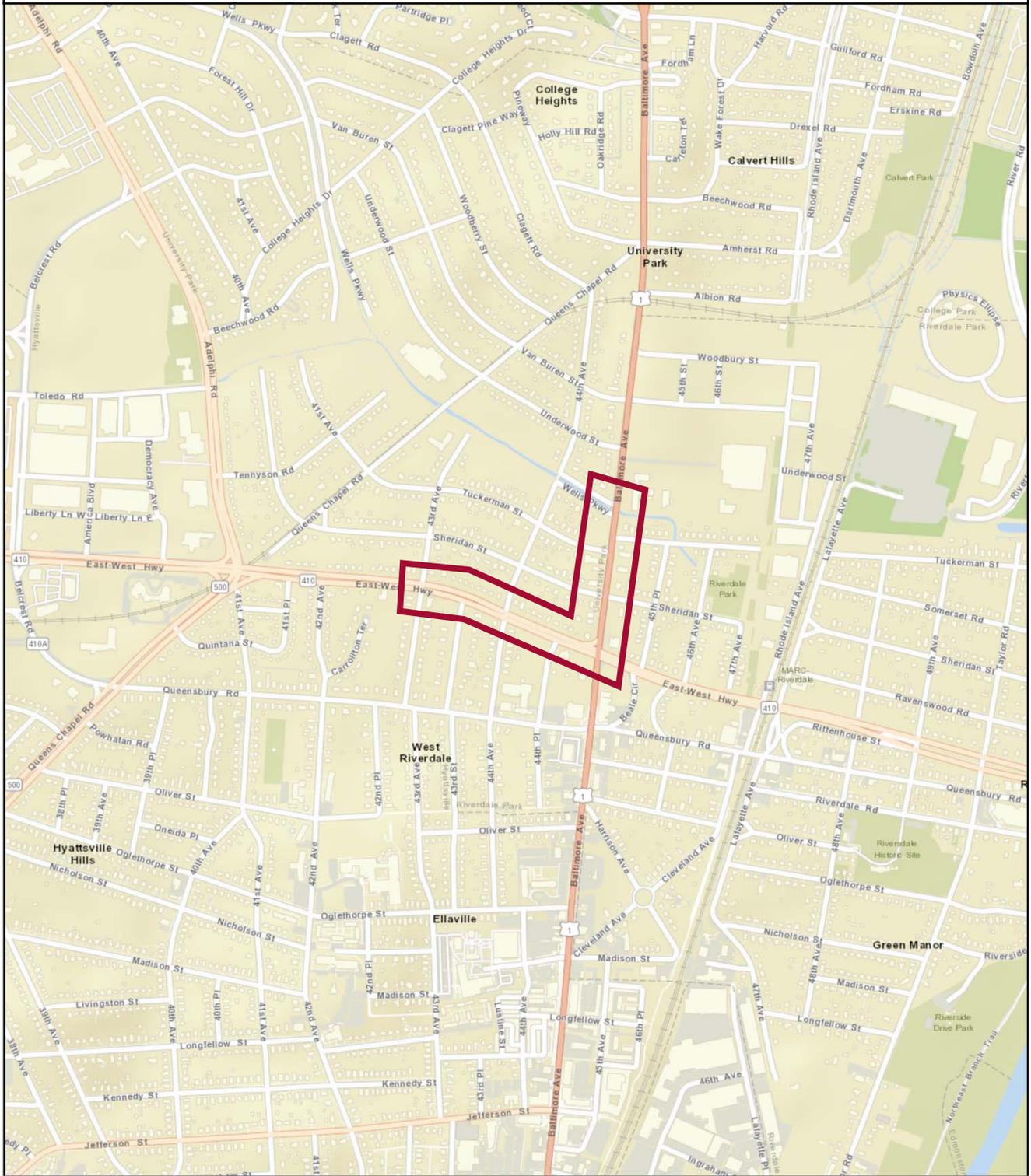
The study area is characterized by several local residential streets adjacent to two arterial roadways. Each are described below:

- Baltimore Avenue (US Route 1) runs north-south through the study area. It is a 5-lane undivided arterial with a center two-way left-turn lane. The speed limit is 30 mph.
- East-West Highway (MD Route 410) runs east-west through the study area. It is generally a 4-lane divided arterial, although it is 6 lanes in the vicinity of the study area. The speed limit is 35 mph.
- Wells Parkway is a local street which runs east-west in the study area and intersects with Baltimore Avenue approximately 1,000 feet north of East-West Highway (measured center line to center line). It consists of two two-way streets on either side of the Wells Run Stream. Only the street to the south of the stream is considered in this analysis. The statutory speed limit is 25 mph.

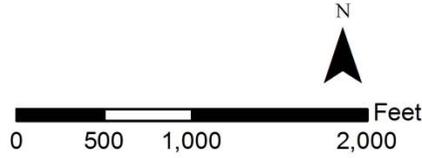


Closing of Sheridan Street at Baltimore Avenue

Figure 1: Site Vicinity



Legend:
 Study Area



- Tuckerman Street and Sheridan Street are local streets which run east-west in the study area and also intersect with Baltimore Avenue. Tuckerman Street intersects with Baltimore Avenue approximately 750 feet north of East-West Highway. Sheridan Street intersects with Baltimore Avenue approximately 425 feet north of East-West Highway. Traffic calming devices in the form of speed humps are present along Sheridan Street. The statutory speed limits on both streets are 25 mph.
- 44th Avenue and 43rd Avenue are local streets which run north-south in the study area and intersect with East-West Highway. The statutory speed limits for both are 25 mph.

To limit cut-through traffic along University Park neighborhood streets, several turn restrictions exist in the study area:

- Intersection of Baltimore Avenue and Wells Parkway: southbound right turn during the AM peak period from 6:30 to 9:30 AM, Monday-Friday
- Intersection of Baltimore Avenue and Tuckerman Street: Southbound right turn during the AM peak period from 6:30 to 9:30 AM, Monday-Friday
- Intersection of Baltimore Avenue and Sheridan Street:
 - Southbound right turn during the AM peak period from 6:30 to 9:30 AM, Monday-Friday
 - Eastbound left turn at all times
- Intersection of 44th Avenue and Sheridan Street: eastbound left turn, northbound through, and westbound right turn during the AM and PM peak periods from 6:30 to 9:30 AM and 4:30-6:30 PM, Monday-Friday

Area roadways, study intersections, lane designations, existing traffic control, and turn restrictions are shown in **Figure 2**.

Sight Distance Study

Given the intersection geometry, control type, and approach speeds, the following distances are required for sight lines along the eastbound approach of the intersection of Sheridan Street and Baltimore Avenue:

- 335 feet for left turns
- 290 feet for right turns and crossing maneuvers

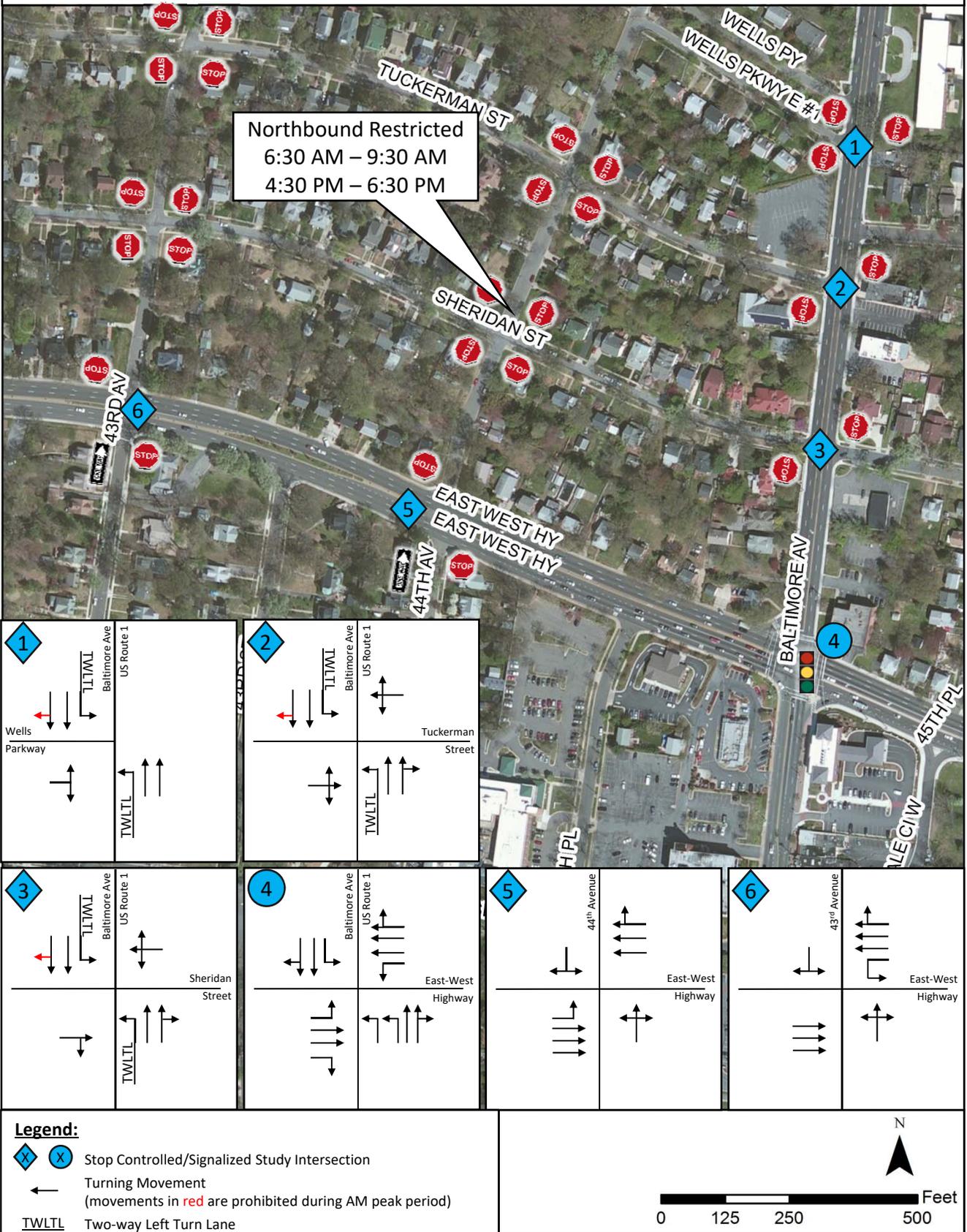
These values are determined from criteria outlined in AASHTO's *A Policy on the Geometric Design of Highways and Streets*.

Kimley-Horn observed the intersection sight distance for the eastbound Sheridan Street approach on November 21, 2017. Measurements show that while the sight distance to the right (south-facing) is sufficient, the sight distance to the left (north-facing) for the eastbound approach to Sheridan Street is approximately 108 feet. This is less than the minimum 290 feet required for crossing and right-turn maneuvers.



Closing of Sheridan Street at Baltimore Avenue

Figure 2: Existing Traffic Control and Lane Designations



Maintenance of the roadside landscaping on the northwest quadrant of the intersection may increase the sight distance; however, the narrow sidewalk, embankment on the west side, utility pole, and uphill grade on the southbound approach to the intersection limit sight distance as well. These conditions make it difficult for drivers to see southbound vehicles along Baltimore Avenue and perform safe turning movements from eastbound Sheridan Street. This is reflected in the crash data review contained in the next section.

Field sight distance is shown in **Figure 3**.

Figure 3: North-facing sight distance from eastbound Sheridan Street at Baltimore Avenue



Safety and Crash History

Crash data for the intersection of Baltimore Avenue and Sheridan Street was obtained from the Maryland State Highway Administration for the period from January 1, 2014 to December 31, 2016. A total of six crashes occurred during the three-year period. The following is a summary of crash types during the three-year period:

- Two crashes involved fixed objects
- Three crashes were angle crashes
- One crash was a rear-end collision

All three angle crashes involved southbound through vehicles on Baltimore Avenue. One of each eastbound movement was involved in each respective crash: eastbound left, through, and right. All three crashes occurred during the day time with dry conditions. The crash involving an eastbound right-turn vehicle resulted in a personal injury. The other crashes at the study intersection resulted in property damage only.

While the number of crashes at the intersection does not reflect a significant crash rate, angle crashes are typically indicative of safety issues at intersections and have a higher chance of causing occupant injuries.

Traffic Counts

As part of the traffic analysis of the intersection of Baltimore Avenue and Sheridan Street, traffic counts were collected at the following intersections:

- Baltimore Avenue and Wells Parkway
- Baltimore Avenue and Tuckerman Street
- Baltimore Avenue and Sheridan Street
- East-West Highway and 43rd Avenue
- East-West Highway and 44th Avenue

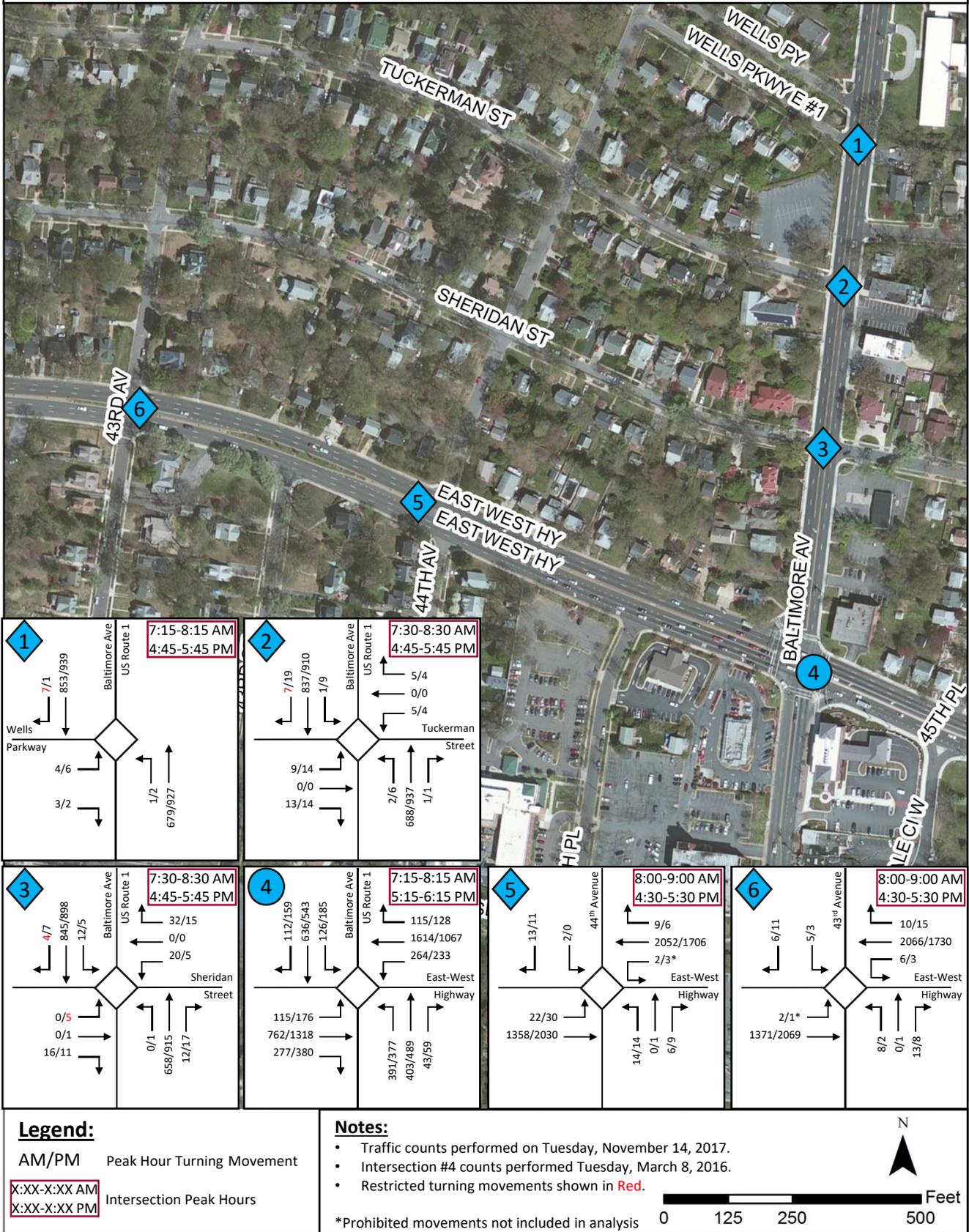
Traffic counts were conducted on Tuesday, November 14, 2017 from 6:30 AM to 9:30 AM and from 4:00 PM to 7:00 PM. Additionally, traffic counts for the intersection of Baltimore Avenue and East-West Highway were obtained from the Maryland State Highway Administration. The counts were performed on Tuesday, March 8, 2016.

Existing AM and PM peak hour traffic volumes are shown on **Figure 4**. Also shown on Figure 4 are the AM and PM peak hours of traffic at each intersection and those traffic movements that were restricted at the time they were made. The traffic count summary sheets are attached to this memorandum.



Closing of Sheridan Street at Baltimore Avenue

Figure 4: Existing Peak Hour Traffic Volumes



Traffic counts show that 16 vehicles turn right from eastbound Sheridan Street onto southbound Baltimore Avenue during the AM peak hour and 11 vehicles make this same right turn during the PM peak hour. Right turns are not restricted.

During the AM peak hour, four (4) vehicles make the prohibited southbound right-turn maneuver from Baltimore Avenue to Sheridan Street. Seven (7) vehicles perform the same right turn in the PM peak hour when right turns are not restricted.

Five (5) vehicles make the prohibited eastbound left-turn at the intersection during the PM peak hour. No vehicles perform this maneuver during the AM peak hour. This movement may be considered unsafe due to the sight distance issues mentioned above and the proximity to the intersection of Baltimore Avenue and East-West Highway. Similarly, one (1) vehicle performed an eastbound through movement during the PM peak hour. While this movement is not restricted, it may be considered unsafe for the same reasons that eastbound left-turn movements are unsafe.

Note that the overall low volume of vehicles performing maneuvers into and out of Sheridan Street reflects the difficulty and deficiencies at the existing intersection, regardless of restrictions on the turns.

Three (3) pedestrians crossed Baltimore Avenue at Sheridan Street during each of the AM and PM peak hours (six total). Note that no crosswalks are present across Baltimore Avenue at Sheridan Street.

PROPOSED MODIFICATIONS

The Town of University Park identified the intersection of Sheridan Street and Baltimore Avenue as a location with potential safety concerns. As such, the town requested that Kimley-Horn investigate the impact of closing the connection between Sheridan Street and Baltimore Avenue.

Traffic Reassignment

Peak hour trips were rerouted to accommodate a closure of Sheridan Street. These trips include all trips turning onto and turning from the west leg of Sheridan Street. In order to accommodate both a realistic reassignment and an assignment that does not include restricted movements, two analyses were conducted.

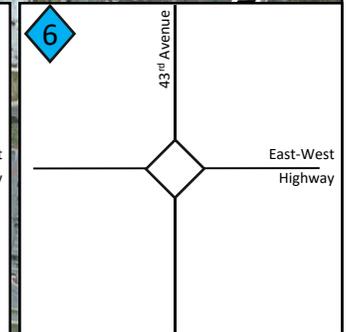
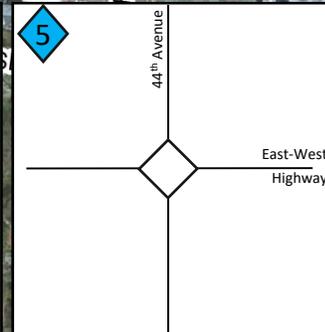
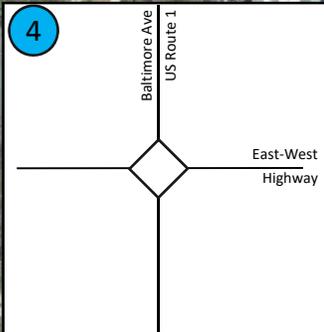
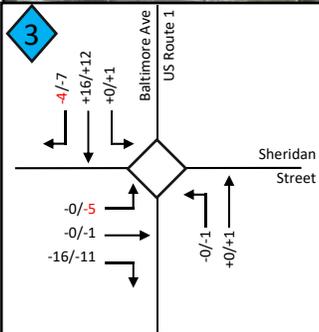
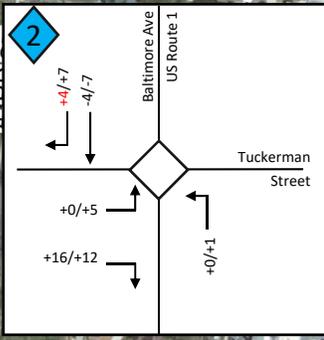
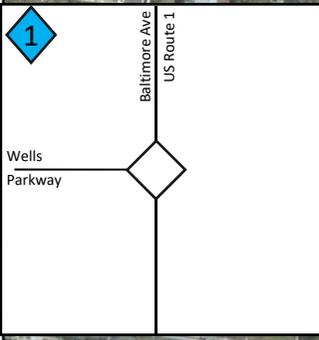
Scenario 1 volume reassignment assumes that drivers currently making the restricted southbound right-turn movement at Sheridan Street are using this route as a cut-through to avoid the East-West Highway intersection with Baltimore Avenue. The reassignment assumes these drivers will choose Tuckerman Street as a new cut-through route, even though the right turn is restricted. This reflects cut-through behavior and anticipated travel patterns in the area. Scenario 1 volume reassignment is shown in **Figure 5**. All of the turning movements at the Sheridan Street intersection, both restricted and permitted, were reassigned to Tuckerman Street. Total traffic volumes for Scenario 1 are shown in **Figure 6**.

Scenario 2 volume reassignment assumes that reassigned volumes will not be added to restricted movements. Scenario 2 volume reassignment is shown in **Figure 7** and reflects existing turning movements at Sheridan Street that were reassigned to several intersections. Total traffic volumes for Scenario 2 are shown in **Figure 8**.



Closing of Sheridan Street at Baltimore Avenue

Figure 5: Reassigned Traffic Volumes (Scenario 1)

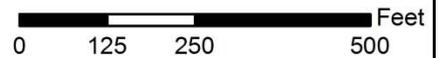


Legend:

AM/PM Peak Hour Reassignment

Notes:

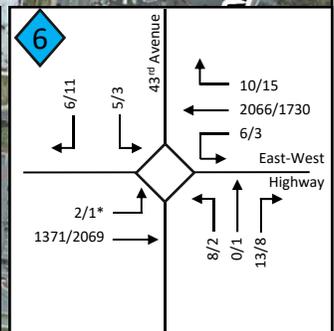
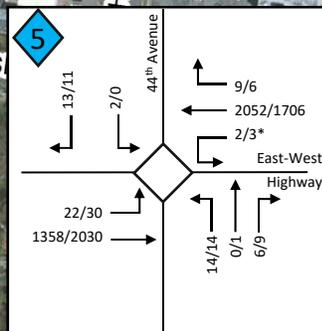
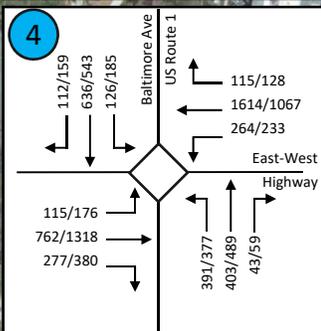
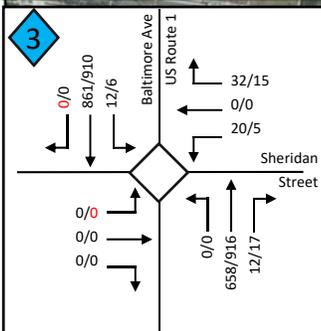
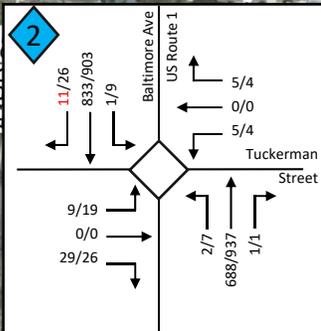
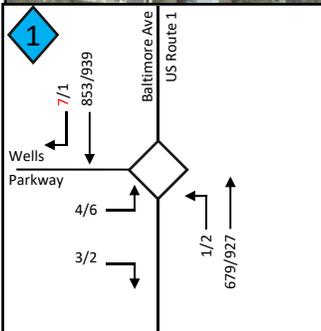
- Restricted turning movements shown in Red.





Closing of Sheridan Street at Baltimore Avenue

Figure 6: Total Traffic Volumes (Scenario 1)



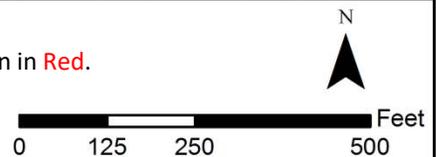
Legend:

AM/PM Reassigned Peak Hour Turing Movement

Notes:

- Restricted turning movements shown in Red.

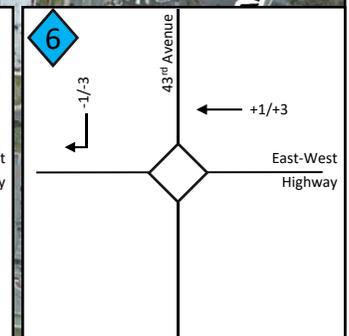
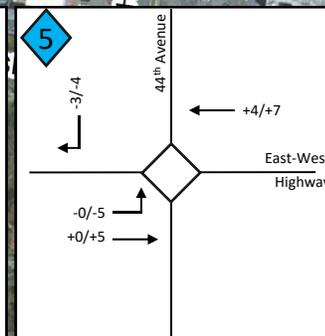
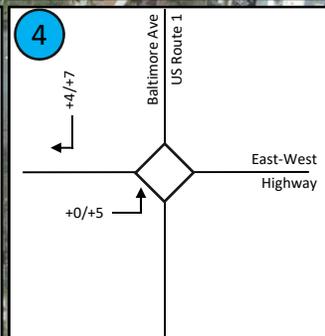
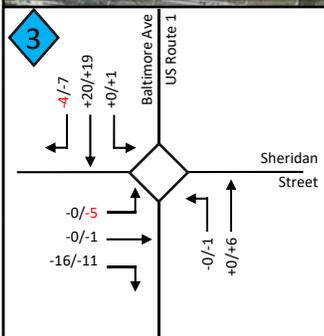
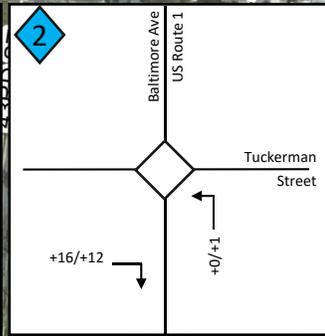
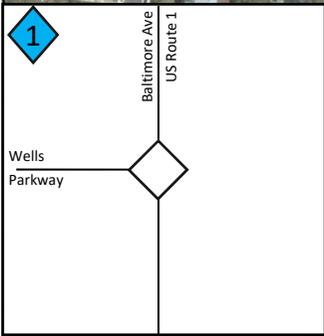
*Prohibited movements not included in analysis





Closing of Sheridan Street at Baltimore Avenue

Figure 7: Reassigned Traffic Volumes (Scenario 2)

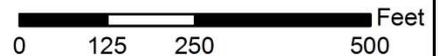


Legend:

AM/PM Peak Hour Reassignment

Notes:

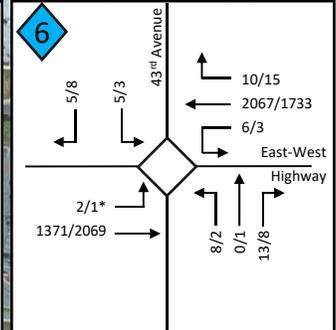
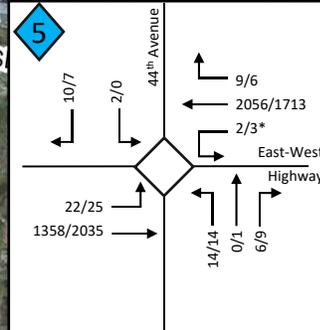
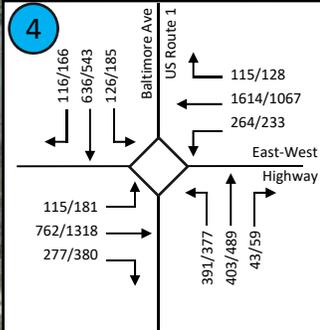
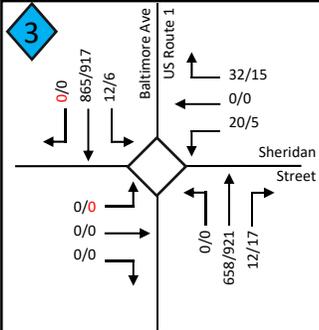
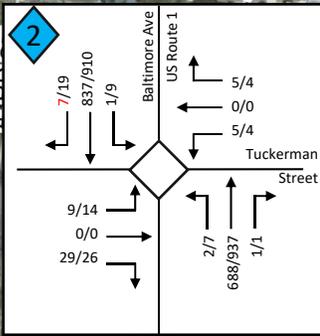
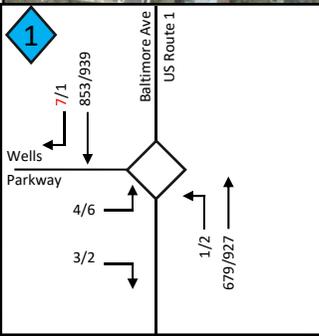
- Restricted turning movements shown in Red.





Closing of Sheridan Street at Baltimore Avenue

Figure 8: Total Traffic Volumes (Scenario 2)



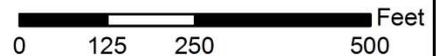
Legend:

AM/PM Reassigned Peak Hour Turing Movement

Notes:

- Restricted turning movements shown in Red.

*Prohibited movements not included in analysis



CAPACITY ANALYSIS

The Maryland State Highway Administration uses Critical Lane Volume (CLV) analysis to evaluate intersection performance. As part of this study, CLV of existing and proposed conditions were performed with the two aforementioned traffic reassignment scenarios. Results are summarized in **Table 1** below.

Table 1: Traffic Analysis Results

CLV Intersection	Existing Conditions		Scenario 1		Scenario 2	
	AM	PM	AM	PM	AM	PM
Baltimore Ave & Wells Pkwy	481	527	-	-	-	-
Baltimore Ave & Tuckerman St	493	559	509	577	509	571
Baltimore Ave & Sheridan St	521	544	526	539	528	542
Baltimore Ave & East-West Hwy	1,401	1,570	-	-	1,404	1,574
44 th St & East-West Hwy	814	887	-	-	812	889
43 rd & East-West Hwy	799	785	-	-	799	783

Note: U-turn movements were calculated as left-turn movements for the purpose of this analysis

'-' denotes no change in traffic volume, therefore, the CLV is unchanged from existing conditions

Discussion of Results

Signalized intersections with a CLV of 1,450 or better are considered to have adequate operations based on the Prince George's County *Transportation Review Guidelines*. Unsignalized intersections with a CLV of 1,150 or less are considered to have adequate operations under all development conditions.

Based on the above criteria, all study intersections operate at a satisfactory level of service with the exception of the intersection of Baltimore Avenue and East-West Highway in the PM peak hour. This intersection shows a failing CLV in existing conditions, with no change for Scenario 1 and an increase of four (4) CLV under conditions in Scenario 2.

Scenario 1 represents the use of Tuckerman Street for cut-through traffic as an alternative to Sheridan Street. The CLV results show minimal changes between existing and proposed conditions, with a CLV increase at the intersection of Baltimore Avenue and Tuckerman Street of 16 and 18 during AM and PM peak hours, respectively. The CLV of Baltimore Avenue and Sheridan increases by five (5) in the AM peak hour and decreases by five (5) in the PM peak hour.

Scenario 2 represents the routing of traffic through the intersection of Baltimore Avenue and East-West Highway. Similar to Scenario 1, the greatest change is at the intersection of Tuckerman Street with a CLV increase of 16 and 12 during AM and PM peak hours, respectively.

CONCLUSION

The eastbound approach of Sheridan Street at Baltimore Avenue has safety concerns including sight distance deficiency and crash history at the location. Three crashes may potentially be attributed to the configuration of the intersection and the conflict between eastbound and southbound vehicles.

The impact of closing the west side of the intersection will have minimal effect on the surrounding roadway network. This is demonstrated by the minimal changes in critical lane volumes at the surrounding study intersections.

The closure of Sheridan Street at Baltimore Avenue has the potential to further reduce cut-through traffic in the Town of University Park by limiting entrances to the local street network and encouraging use of area arterial roadways.

Based on the above information and analysis, the closure of the intersection of Sheridan Street with Baltimore Avenue will improve safety and will have a minimal impact on the existing traffic conditions.

Attachments:

- A. Crash Report for the Intersection of Baltimore Avenue and Sheridan Street
- B. Traffic Count Summary
- C. Critical Lane Volume Worksheets

ATTACHMENT A

Crash Report for the Intersection of Baltimore Avenue and Sheridan Street

Location: US 1 at Sheridan St
 County: Prince George's, D3 Period: January 01, 2014 To December 31, 2016

Logmiles: 2.69 At 0.43 Radius: 250 ft.
 Note:

YEAR >>	2014	2015	2016	Total
Fatal	0	0	0	0
No. Killed	0	0	0	0
Injury	0	0	1	1
No. Injured	0	0	1	1
Prop. Damage	1	3	1	5
Total Crashes	1	3	2	6
Severity Index	1	3	3	Avg 2
Opposite Dir.	0	0	0	0
Rear End	1	0	0	1
Sideswipe	0	0	0	0
Left Turn	0	0	0	0
Angle	0	1	2	3
Pedestrian	0	0	0	0
Parked Veh.	0	0	0	0
Fixed Object	0	2	0	2
Other	0	0	0	0
U-Turn	0	0	0	0
Backing	0	0	0	0
Animal	0	0	0	0
Railroad	0	0	0	0
Fire / Expl.	0	0	0	0
Overturn	0	0	0	0
Truck Related	0	0	0	0
Night Time	0	1	0	1
Wet Surface	1	0	0	1
Alcohol	0	0	0	0
Intersection	1	3	2	6
Total Vehicles	2	4	4	10
Total Trucks	0	0	0	0
Truck %	0.0	0.0	0.0	0.0

Comments:

Location: US 1 at Sheridan St

Logmiles: 2.69 At 0.43 Radius: 250 ft.

County: Prince George's, D3

Period: January 1, 2014 To December 31, 2016

Note:

SEVERITY											DAY OF THE WEEK									
FATAL	INJURY	P-DAMAGE		TOTAL		SUN	MON	TUE	WED	THU	FRI	SAT	UNK							
Accidents	1	5		6																
Veh Occ	1					1	1	1	1	1		1								
Pedestrian						AVG Severity Index: 2														
MONTH OF THE YEAR													CONDITION	DRIVER	PED					
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	UNK	Normal:	8						
	1		2	2		1							Alcohol:							
													Other:	2						
TIME													VEHICLES INVOLVED PER ACCIDENT							
12	01	02	03	04	05	06	07	08	09	10	11	UNK	1	2	3	4	5	6+	UNK	TOTAL
AM:		1						2					1	2	3	4	5	6+	UNK	10
PM:	1				1	1							2	4						
VEHICLE TYPE				SURFACE			MOVEMENTS													
Motorcycle/Moped		Tractor Trailer		1 Wet			NORTH			SOUTH			EAST			WEST				
5 Passenger Vehicle		Passenger Bus		5 Dry			LF	ST	RT	LF	ST	RT	LF	ST	RT	LF	ST	RT		
1 Sport Utility Veh		1 School Bus		Sno/Ice			1			5			1 1 1							
1 Pick-Up Truck		2 Emergency Veh		Mud																
Trucks (2+3 axles)		2 Other Types		Other			OTHER MOVEMENTS 1													
PROBABLE CAUSES													COLLISION TYPES				FATAL	INJURY	PROP	TOTAL
Influence of Drugs				Improper Lane Change									Opposite Dir		Related:					
Influence of Alcohol				Improper Backing									UnRelated:							
Influence of Medication				Improper Passing									Rear End		Related:		1	1		
Influence of Combined Subst.				Improper Signal									UnRelated:							
Physical/Mental Difficulty				Improper Parking									Sideswipe		Related:					
Fell Asleep/Fainted, etc.				Passenger Interfere/Obstruct.									UnRelated:							
Fail to give full Attention				Illegally in Roadway									Left Turn		Related:					
Lic. Restr. Non-compliance				Bicycle Violation									UnRelated:							
Fail to Drive in Single Lane				Clothing Not Visible									Angle		Related:		1	2	3	
Improper Right Turn on Red				Sleet, Hail, Freezing Rain									UnRelated:							
1 Fail to Yield Right-of-way				Severe Crosswinds									Pedestrian		Related:					
Fail to Obey Stop Sign				Rain, Snow									UnRelated:							
Fail to Obey Traffic Signal				Animal									Parked Vehicle		Related:					
Fail to Obey Other Control				Vision Obstruction									UnRelated:							
Fail to Keep Right of Center				Vehicle Defect									Other Collision		Related:					
Fail to Stop for School Bus				Wet									UnRelated:							
Wrong Way on One Way				Icy or Snow Covered									F	Bridge	01					
Exceeded Speed Limit				Debris or Obstruction									I	Building	02					
Operator Using Cell Phone				Ruts, Holes or Bumps									X	Culvert/Ditch	03					
Stopping in Lane Roadway				Road Under Construction									E	Curb	04		1	1		
1 Too Fast for Conditions				Traffic Control Device Inop.									D	Guardrail/Barrier	05					
Followed too Closely				Shoulders Low, Soft or High										Embankment	06					
Improper Turn				4 Other or Unknown									O	Fence	07					
													B	Light Pole	08					
													J	Sign Pole	09					
													E	Other Pole	10		1	1		
													C	Tree/Shrubbery	11					
													T	Contr. Barrier	12					
													S	Crash Attenuator	13					
														Other Fixed Object						
WEATHER				ILLUMINATION				TOTALS												
3 Clear / Cloudy		5 Day		14-16		6														
Foggy		Dawn/Dusk																		
1 Raining		1 Dark - Lights On																		
Snow / Sleet		Dark - No Lights																		
2 Other		Other																		

Location: US 1 at Sheridan St

Logmiles: 2.69 At 0.43 Radius: 250 ft.

County: Prince George's, D3

Period: January 01, 2014 To December 31, 2016

Note:

MilePt	Int Rel	Date	Severity	Time	Light	Surface	Alc Rel	FixObj	Collision	Movement		Probable Cause
										V1	V2	
US1												
2.690	✓	02152015	Property	02A	Night	Dry		04	FXOBJ	Su	--	Other or Unknown
2.690	✓	05232015	Property	01P	Day	Dry		10	FXOBJ	NS	--	Other or Unknown
2.690	✓	07272015	Property	06P	Day	Dry			ANGLE	EL	SS	Other or Unknown
2.690	✓	04142016	1 Injured	05P	Day	Dry			ANGLE	ES	SS	Fail to yield right-of-way
2.690	✓	05042016	Property	08A	Day	Dry			ANGLE	SS	ER	Other or Unknown
2.700	✓	04292014	Property	08A	Day	Wet			RREND	SS	SS	Too fast for conditions

Fixed Object: 01 = Bridge 02 = Building 03 = Culvert/Ditch 04 = Curb 05 = Guardrail/Barrier 06 = Embankment 07 = Fence
 08 = Light Pole 09 = Sign Post 10 = Other Pole 11 = Tree/Shrubbery 12 = Construction Barrier 13 = Crash Attenuator



Office of Traffic & Safety
 Traffic Development & Support Division
 Crash Analysis Safety Team

Location: US 1 at Sheridan St
 County: PRINCE GEORGES
 Study Period: 01/01/2014 to 12/31/2016
 Analyst: WMACLEOD Date: 12/02/2017



Sheridan St

04

02/13/15-P-2A-D

04/29/14-P-8A-W



07/27/15-P-6P-D

04/14/16-11-5P-D

05/04/16-P-8A-D

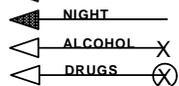
10

05/23/15-P-1P-D

Sheridan St



DATE-SEVERITY-TIME-SURFACE



SEVERITY

F - Fatalities
 I - Injured
 P - Property Damage Only
 SURFACE
 D - Dry Surface
 W - Wet Surface
 I - Icy Surface
 S - Snowy Surface

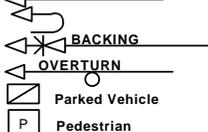
00 - Not Applicable
 01 - Bridge or Overpass
 02 - Building
 03 - Culvert or Ditch
 04 - Curb
 05 - Guardrail or Barrier
 06 - Embankment
 07 - Fence

08 - Light Support Pole
 09 - Sign Support Pole
 10 - Other Pole
 11 - Tree Shrubbery
 12 - Construction Barrier
 13 - Crash Attenuator
 88 - Other
 99 - Unknown

B - Bicycle
 P - Other Pedalcycle
 C - Other Conveyance
 T - Railway Train
 A - Animal
 O - Other Object
 S - Spilled Cargo
 J - Jackknife

U - Units Separated
 N - Other Non collision
 D - Off Road
 R - Downhill Runaway
 F - Explosion or Fire
 ? - Unknown

U - TURN



ATTACHMENT B

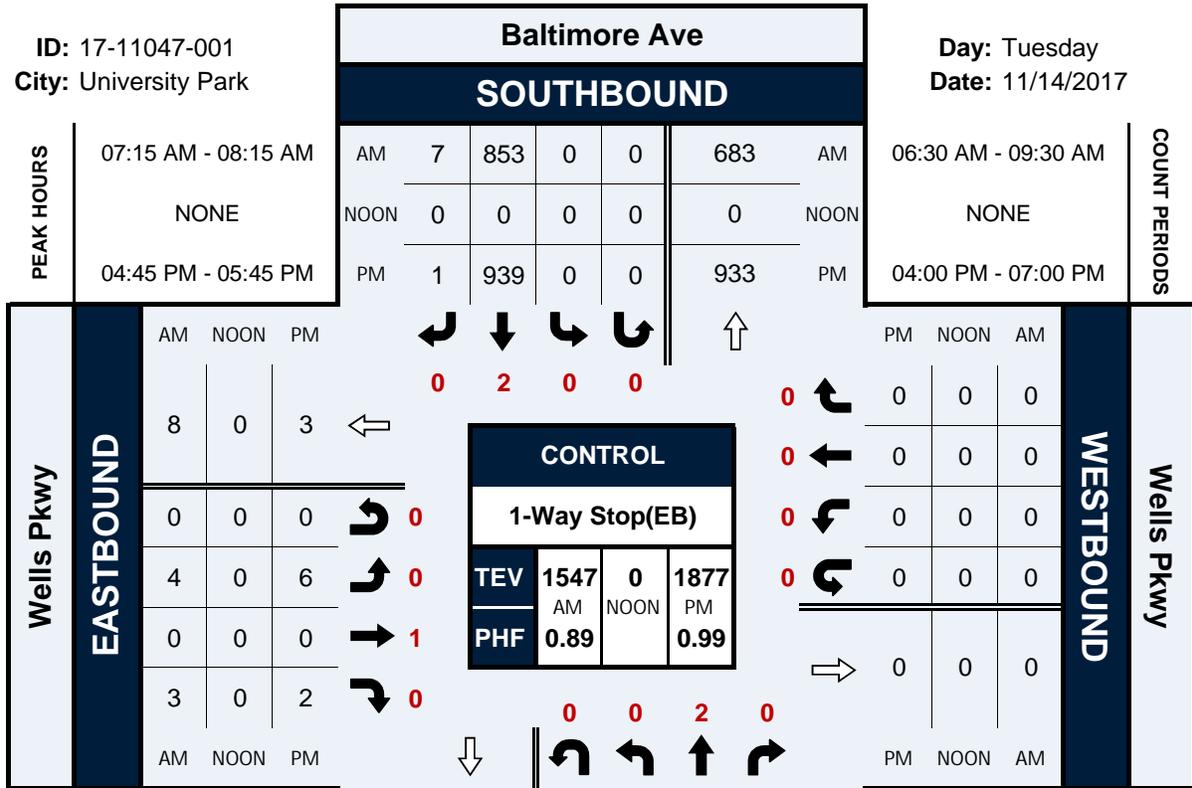
Traffic Count Summaries

Baltimore Ave & Wells Pkwy

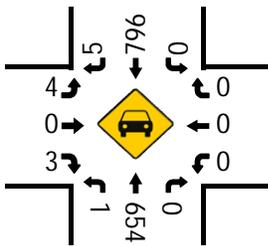
Peak Hour Turning Movement Count

ID: 17-11047-001
City: University Park

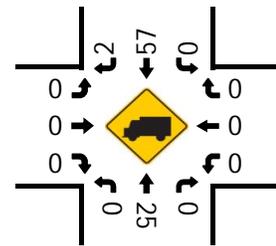
Day: Tuesday
Date: 11/14/2017



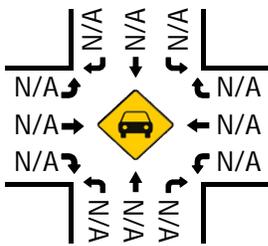
Cars (AM)



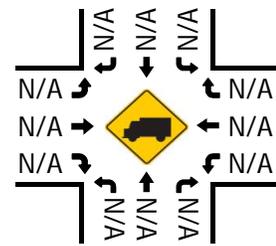
HT (AM)



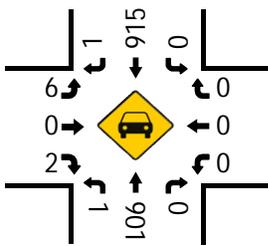
Cars (NOON)



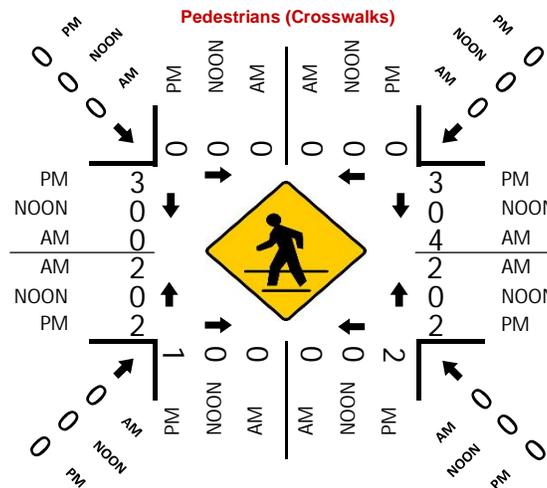
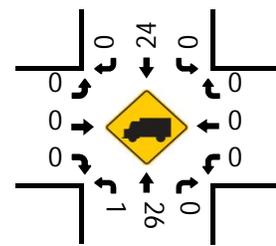
HT (NOON)



Cars (PM)



HT (PM)

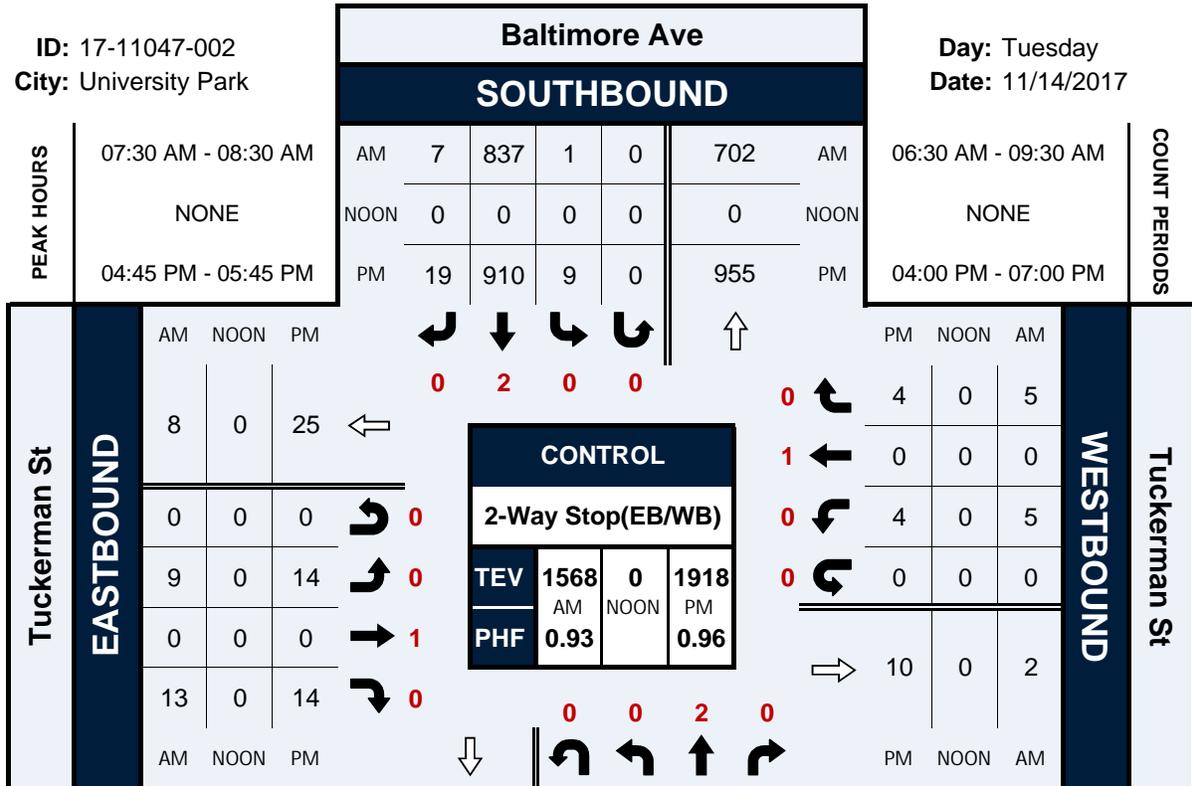


Baltimore Ave & Tuckerman St

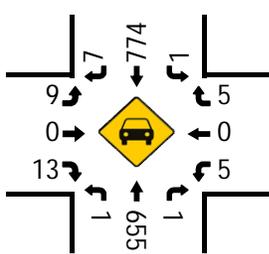
Peak Hour Turning Movement Count

ID: 17-11047-002
City: University Park

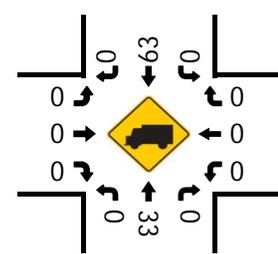
Day: Tuesday
Date: 11/14/2017



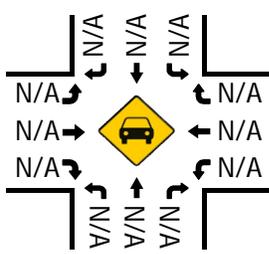
Cars (AM)



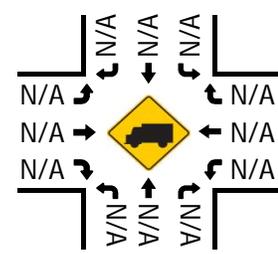
HT (AM)



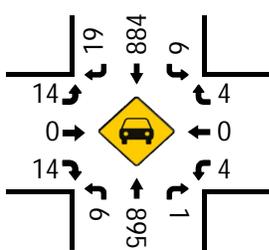
Cars (NOON)



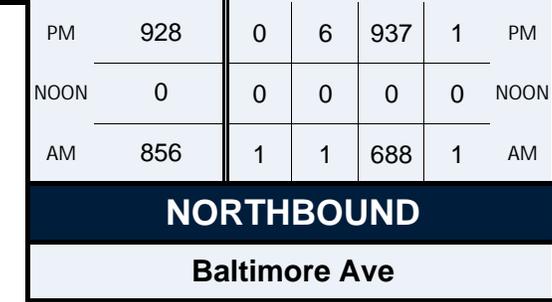
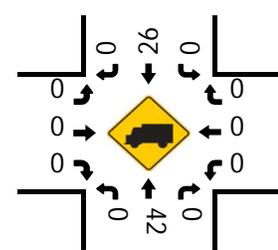
HT (NOON)



Cars (PM)

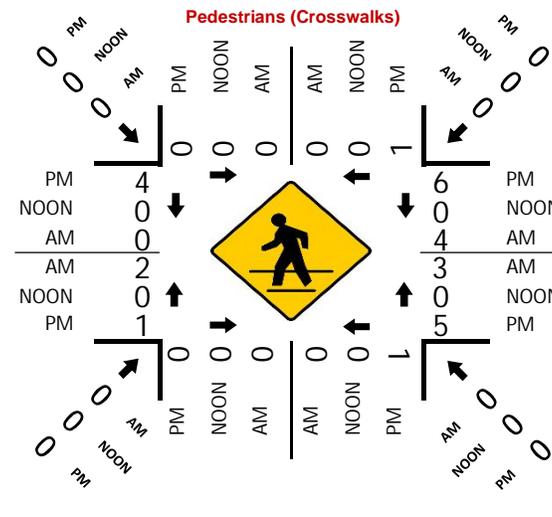


HT (PM)



NORTHBOUND

Baltimore Ave

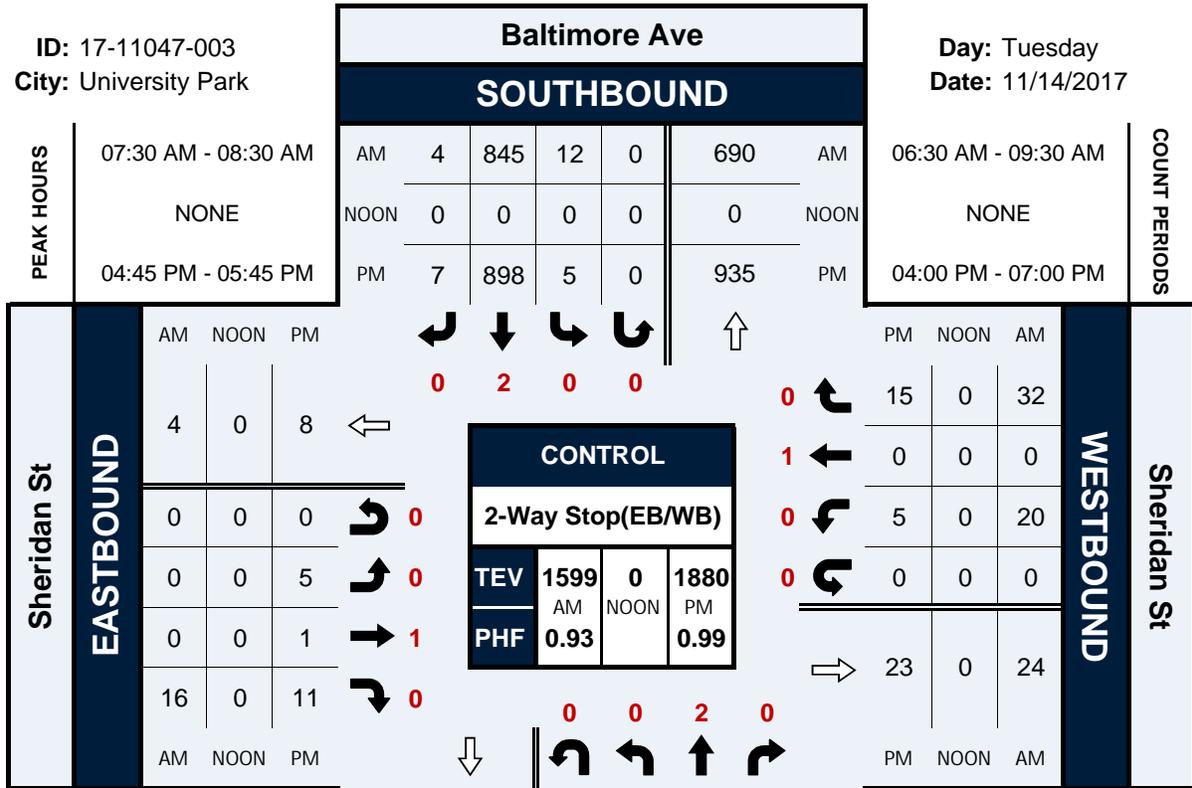


Baltimore Ave & Sheridan St

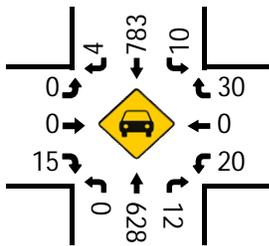
Peak Hour Turning Movement Count

ID: 17-11047-003
City: University Park

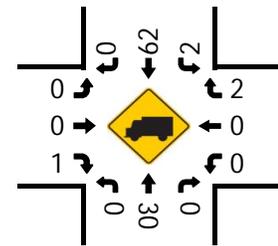
Day: Tuesday
Date: 11/14/2017



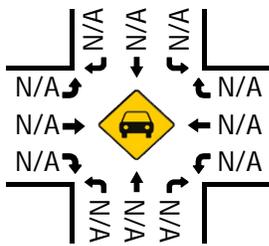
Cars (AM)



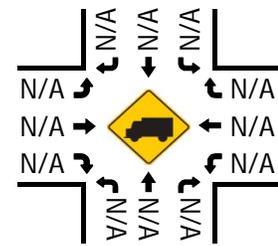
HT (AM)



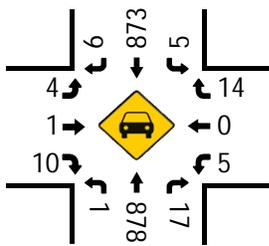
Cars (NOON)



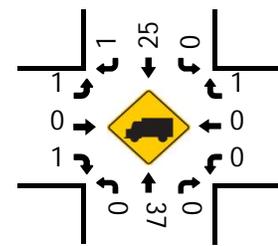
HT (NOON)



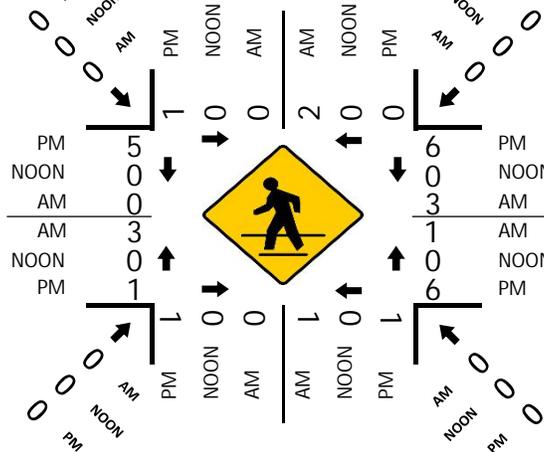
Cars (PM)



HT (PM)



Pedestrians (Crosswalks)



Maryland Department of Transportation
State Highway Administration Data Services Engineering Division
Turning Movement Count Study - Field Sheet

Station ID: S1997160010

County: Prince Georges

Comments:

Date: Tuesday 03/08/2016

Town: none

Location: US 1 at MD 410

Weather: Sunny

Interval (dd): 15 min

PEAK HOURS	AM PERIOD 6:00AM-12:00PM	Start	End	Volume	LOS	V/C	PM PERIOD 12:00PM-19:00P	Start	End	Volume	LOS	V/C
		07:15	08:15	4858	E	0.91		17:15	18:15	5114	E	0.98

Hour Ending	US 1					US 1					MD 410					MD 410					Grand Total
	From North					From South					From East					From West					
	U.Turn	Left	Through	Right	TOTAL	U.Turn	Left	Throug	Right	TOTAL	U.Turn	Left	Throug	RIGHT	TOTAL	U.Turn	Left	Throug	Right	TOTAL	
6:00	0	14	61	5	80	0	37	36	11	84	0	45	203	15	263	1	13	94	49	157	584
6:15	0	13	82	10	105	0	58	41	12	111	0	47	250	19	316	0	15	161	48	224	756
6:30	0	18	120	14	152	0	71	32	9	112	0	57	332	19	408	0	15	149	52	216	888
6:45	0	21	150	23	194	0	86	55	11	152	0	63	326	107	496	0	24	153	58	235	1077
7:00	0	27	156	19	202	0	66	51	8	125	0	71	423	34	528	1	16	162	63	242	1097
7:15	0	26	159	26	211	0	95	94	14	203	0	65	415	27	507	0	28	177	65	270	1191
7:30	0	40	165	21	226	0	94	97	10	201	0	68	415	39	522	0	25	178	71	274	1223
7:45	0	32	143	33	208	0	113	112	6	231	0	59	387	24	470	0	24	229	74	327	1236
8:00	0	28	169	32	229	0	89	100	13	202	0	72	397	25	494	0	38	178	67	283	1208
8:15	0	25	146	28	199	0	97	83	10	190	0	54	365	35	454	0	25	186	71	282	1125
8:30	0	15	127	25	167	0	96	74	13	183	0	56	354	35	445	0	41	180	57	278	1073
8:45	0	27	110	23	160	0	69	90	29	188	0	63	354	37	454	0	35	151	56	242	1044
9:00	0	30	129	34	193	0	78	94	10	182	0	61	290	26	377	0	28	154	52	234	986
9:15	0	30	116	40	186	0	96	88	13	197	0	55	285	21	361	0	35	183	45	263	1007
9:30	0	37	103	37	177	0	68	78	17	163	0	56	311	29	396	1	31	185	52	269	1005
9:45	0	31	120	33	184	0	59	85	31	175	0	59	259	30	348	0	35	150	50	235	942
10:00	0	24	104	29	157	0	68	77	27	172	0	54	198	28	280	0	30	163	43	236	845
10:15	0	31	104	16	151	0	72	83	21	176	0	48	171	22	241	1	32	201	48	282	850
10:30	0	22	98	22	142	0	54	86	13	153	0	38	238	31	307	0	26	180	53	259	861
10:45	0	19	86	20	125	0	76	79	20	175	0	47	190	26	263	0	22	189	38	249	812

Station ID: S1997160010

County: Prince Georges

Comments:

Date: Tuesday 03/08/2016

Town: none

Location: US 1 at MD 410

Weather: Sunny

Interval (dd): 15 min

PEAK HOURS	AM PERIOD 6:00AM-12:00PM					LOS	V/C	PM PERIOD 12:00PM-19:00P				
	Start 07:15	End 08:15	Volume 4858	Start 17:15	End 18:15			Volume 5114	LOS E	V/C 0.98		

11:00	0	20	101	28	149	0	66	74	21	161	0	47	215	25	287	0	22	129	30	181	778
11:15	0	45	110	33	188	0	53	93	25	171	0	41	180	25	246	0	32	185	42	259	864
11:30	0	32	92	29	153	0	60	81	23	164	1	52	202	21	276	0	36	156	40	232	825
11:45	0	31	88	36	155	0	65	99	25	189	1	58	194	28	281	0	36	172	43	251	876
12:00	0	23	76	33	132	0	61	88	25	174	1	62	188	30	281	0	37	198	52	287	874
12:15	0	26	87	34	147	0	64	92	20	176	0	65	182	17	264	1	45	211	62	319	906
12:30	0	30	124	42	196	0	60	93	20	173	0	47	181	16	244	0	31	207	62	300	913
12:45	0	24	93	37	154	0	69	93	18	180	0	66	209	18	293	0	40	223	56	319	946
13:00	0	34	95	52	181	0	59	96	14	169	0	58	208	32	298	1	33	212	71	317	965
13:15	0	31	105	33	169	0	75	83	19	177	0	52	205	26	283	0	34	213	70	317	946
13:30	0	44	85	26	155	0	55	108	17	180	0	58	196	21	275	0	35	189	49	273	883
13:45	0	31	107	21	159	0	68	116	17	201	0	43	182	22	247	0	36	190	47	273	880
14:00	0	36	110	29	175	0	75	96	17	188	0	50	195	16	261	0	18	219	64	301	925
14:15	0	44	114	35	193	0	62	90	12	164	0	38	216	25	279	1	38	235	40	314	950
14:30	0	46	107	33	186	0	85	87	10	182	0	48	211	21	280	1	30	218	55	304	952
14:45	0	29	112	46	187	0	88	87	22	197	0	44	227	16	287	0	40	224	74	338	1009
15:00	0	24	104	27	155	0	68	90	25	183	0	58	242	21	321	0	43	221	88	352	1011
15:15	0	54	102	44	200	0	82	98	16	196	0	28	259	19	306	0	20	242	52	314	1016
15:30	0	57	215	46	318	0	93	112	35	240	0	34	234	22	290	0	24	180	44	248	1096
15:45	0	47	195	28	270	0	63	115	34	212	2	58	235	31	326	0	27	230	58	315	1123
16:00	0	56	134	48	238	0	90	119	11	220	0	58	192	36	286	1	31	249	83	364	1108
16:15	0	48	112	47	207	0	90	127	13	230	0	51	268	26	345	0	36	270	62	368	1150
16:30	0	44	121	40	205	0	82	130	21	233	0	39	230	25	294	0	36	283	90	409	1141
16:45	0	47	129	35	211	0	71	130	21	222	0	47	270	31	348	2	46	319	104	471	1252
17:00	0	61	127	49	237	0	86	119	13	218	0	57	251	28	336	0	52	308	73	433	1224
17:15	0	55	139	39	233	0	103	113	16	232	0	61	263	41	365	1	57	334	97	489	1319

Station ID: S1997160010

County: Prince Georges

Comments:

Date: Tuesday 03/08/2016

Town: none

Location: US 1 at MD 410

Weather: Sunny

Interval (dd): 15 min

PEAK HOURS	AM PERIOD 6:00AM-12:00PM					PM PERIOD 12:00PM-19:00P				
	Start 07:15	End 08:15	Volume 4858	LOS E	V/C 0.91	Start 17:15	End 18:15	Volume 5114	LOS E	V/C 0.98

17:30	0	43	143	32	218	0	94	126	12	232	0	60	266	30	356	0	44	342	89	475	1281
17:45	0	43	130	41	214	0	87	128	13	228	0	59	286	32	377	1	38	317	87	443	1262
18:00	0	44	131	47	222	0	93	122	18	233	0	53	252	25	330	1	37	325	107	470	1255
18:15	0	54	134	37	225	0	75	130	32	237	0	51	289	34	374	0	57	279	95	431	1267
18:30	0	41	132	41	214	0	86	142	31	259	0	74	295	30	399	0	32	199	72	303	1175
18:45	0	37	135	43	215	0	92	140	23	255	0	64	254	30	348	0	35	129	65	229	1047
TOTAL:	0	1791	6237	1681	9709	0	3962	4952	937	9851	5	2819	13440	1449	17713	14	1696	10811	3235	15756	53029
AM Peak:	0	126	636	112	874	0	391	403	43	837	0	264	1614	115	1993	0	115	762	277	1154	4858
PM Peak:	0	185	543	159	887	0	377	489	59	925	0	233	1067	128	1428	3	176	1318	380	1874	5114

Station ID: S1997160010

County: Prince Georges

Comments:

Date: Tuesday 03/08/2016

Town: none

Location: US 1 at MD 410

Weather: Sunny

Interval (dd): 15 min

PEAK HOURS	AM PERIOD 6:00AM-12:00PM	Start	End	Volume	LOS	V/C	PM PERIOD 12:00PM-19:00P	Start	End	Volume	LOS	V/C
		07:15	08:15	4858	E	0.91		17:15	18:15	5114	E	0.98

Hour Ending	US 1 North Leg			US 1 South Leg			MD 410 East Leg			MD 410 West Leg			
	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	
6:00	0	0	0	0	1	0	0	0	0	0	0	0	
6:15	0	1	0	0	0	0	0	0	0	0	0	0	
6:30	0	1	0	0	0	0	0	0	0	0	1	0	
6:45	0	0	0	0	1	0	0	6	0	0	0	0	
7:00	0	0	0	0	0	0	0	0	0	0	0	0	
7:15	0	0	0	0	1	0	0	0	0	0	0	1	0
7:30	0	0	0	0	1	0	0	0	0	0	0	3	0
7:45	0	0	0	0	3	0	0	0	0	0	0	0	0
8:00	0	0	0	0	1	0	0	0	0	0	0	0	0
8:15	0	1	0	0	0	0	0	0	0	0	0	1	0
8:30	0	2	0	0	0	0	0	2	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	0	0	0	0	1	0	0	0	0	0	0	3	0
9:30	0	0	0	0	4	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	1	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	2	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	1	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	1	0	0	0	0	0	0	1	0
11:15	0	0	0	0	1	0	0	0	0	0	0	0	0
11:30	0	2	0	0	2	0	0	0	0	0	0	1	0
11:45	0	0	0	0	0	0	0	1	0	0	0	0	0
12:00	0	0	0	0	3	0	0	1	0	0	0	1	0
12:15	0	2	0	0	0	0	0	4	0	0	0	2	0
12:30	0	0	0	0	2	0	0	0	0	0	0	0	0
12:45	0	0	0	0	1	0	0	0	0	0	0	2	0

Station ID: S1997160010

County: Prince Georges

Comments:

Date: Tuesday 03/08/2016

Town: none

Location: US 1 at MD 410

Weather: Sunny

Interval (dd): 15 min

PEAK HOURS	AM PERIOD 6:00AM-12:00PM	Start	End	Volume	LOS	V/C	PM PERIOD 12:00PM-19:00P	Start	End	Volume	LOS	V/C
		07:15	08:15	4858	E	0.91		17:15	18:15	5114	E	0.98

13:00	0	0	0	0	0	0	0	2	0	0	1	0
13:15	0	0	0	0	0	0	0	1	0	0	0	0
13:30	0	2	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	2	0	0	0	0
14:00	0	4	0	0	0	0	0	0	0	0	0	0
14:15	0	1	0	0	0	0	0	0	0	0	1	0
14:30	0	1	0	0	4	0	0	0	0	0	0	0
14:45	0	1	0	0	0	0	0	1	0	0	0	0
15:00	0	1	0	0	0	0	0	1	0	0	0	0
15:15	0	2	0	0	0	0	0	1	0	0	1	0
15:30	0	1	0	0	0	0	0	2	0	0	0	0
15:45	0	2	0	0	1	0	0	0	0	0	1	0
16:00	0	0	0	0	1	0	0	1	0	0	1	0
16:15	0	1	0	0	2	0	0	0	0	0	0	0
16:30	0	0	0	0	2	0	0	0	0	0	1	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	1	0	0	2	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	2	0	0	1	0	0	0	0	0	0	0
17:45	0	8	0	0	2	0	0	0	0	0	0	0
18:00	0	0	0	0	1	0	0	1	0	0	0	0
18:15	0	1	0	0	1	0	0	0	0	0	0	0
18:30	0	2	0	0	1	0	0	1	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	5	0
Total:	0	41	0	0	43	0	0	27	0	0	27	0
AM Pe	0	0	0	0	6	0	0	0	0	0	4	0
PM Pe	0	10	0	0	4	0	0	1	0	0	0	0

Station ID: S1997160010

County: Prince Georges

Comments:

Date: Tuesday 03/08/2016

Town: none

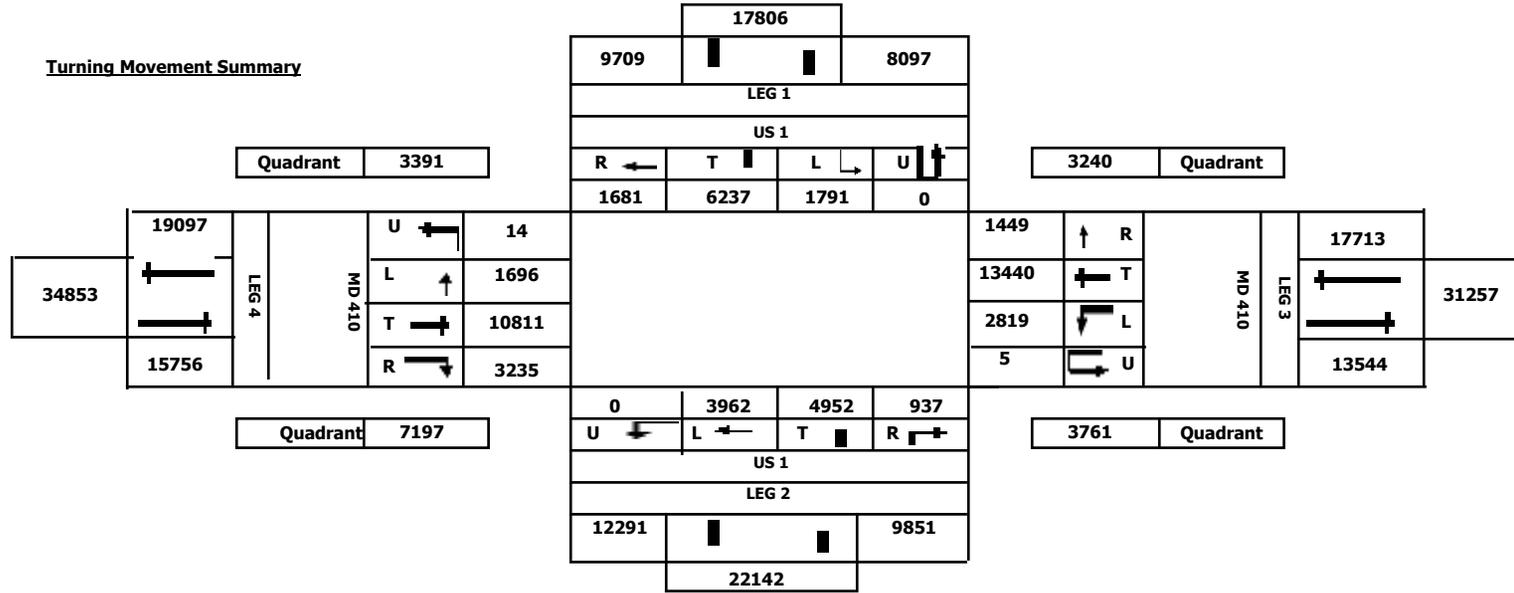
Location: US 1 at MD 410

Weather: Sunny

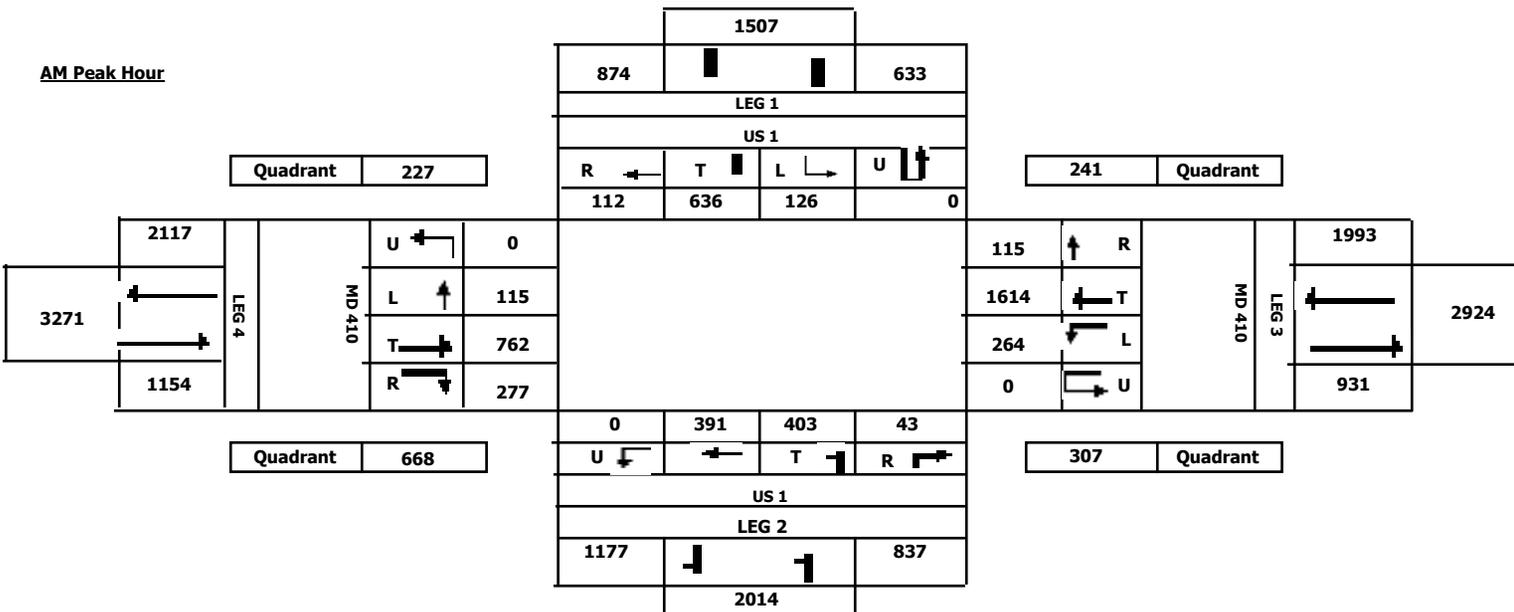
Interval: 15 min
(dd):

PEAK HOURS	AM PERIOD 6:00AM-12:00PM	Start	End	Volume	LOS	V/C	PM PERIOD 12:00PM-19:00P	Start	End	Volume	LOS	V/C
		07:15	08:15	4858	E	0.91		17:15	18:15	5114	E	0.98

Turning Movement Summary



AM Peak Hour

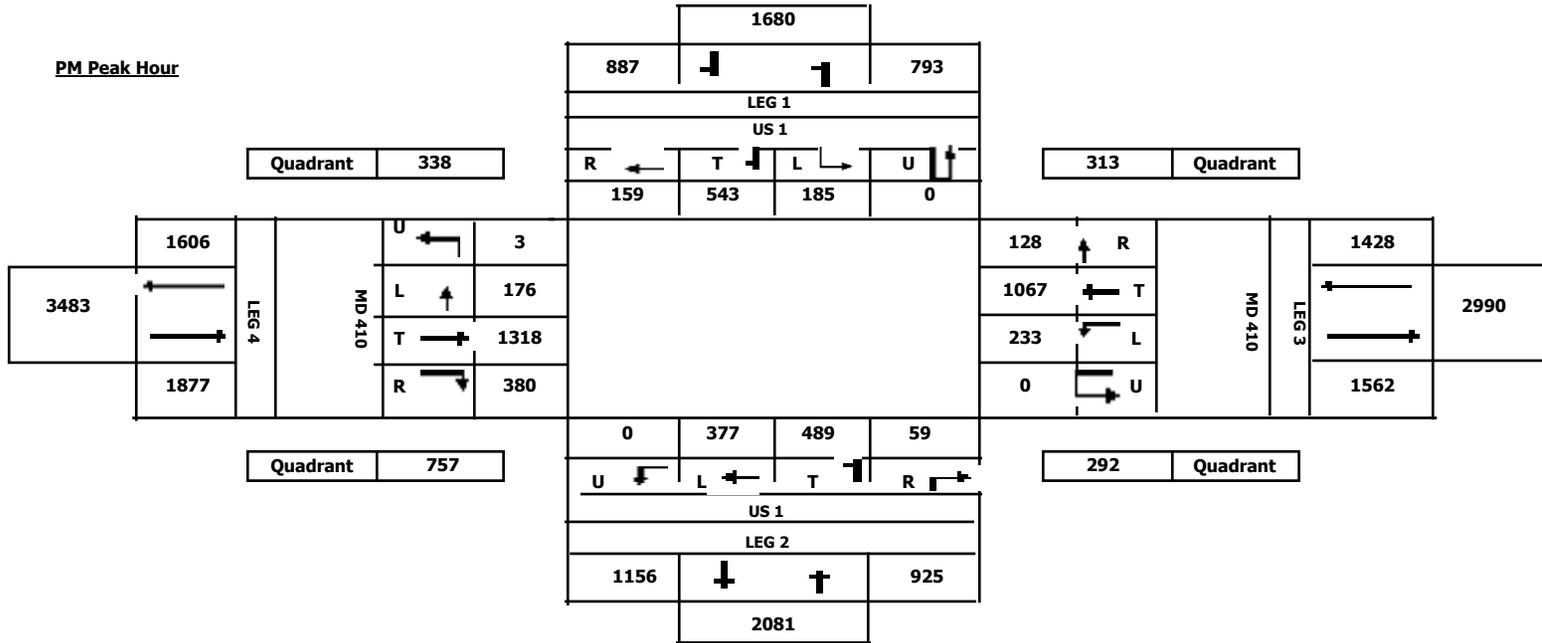


Station ID: S1997160010
Date: Tuesday 03/08/2016
Location: US 1 at MD 410
Interval (dd): 15 min

County: Prince Georges
Town: none
Weather: Sunny

Comments:

PEAK HOURS	AM PERIOD 6:00AM-12:00PM	Start	End	Volume	LOS	V/C	PM PERIOD 12:00PM-19:00P	Start	End	Volume	LOS	V/C
		07:15	08:15	4858	E	0.91		17:15	18:15	5114	E	0.98

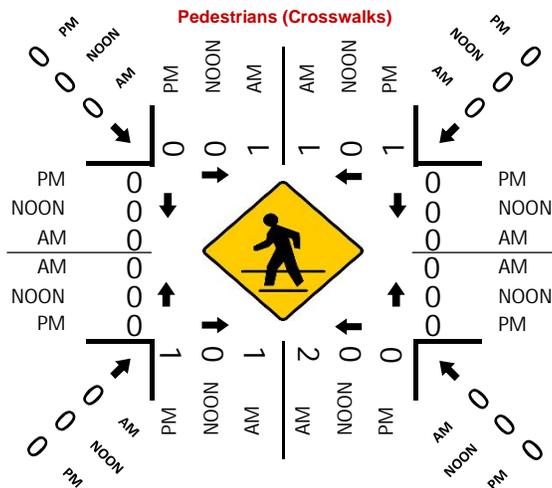
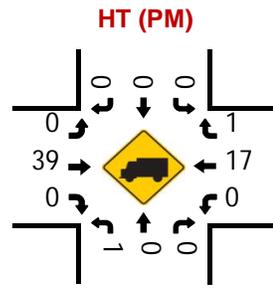
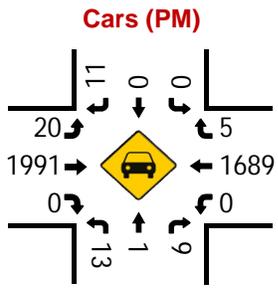
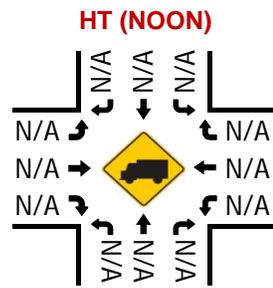
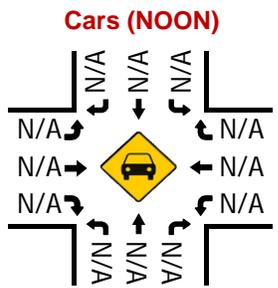
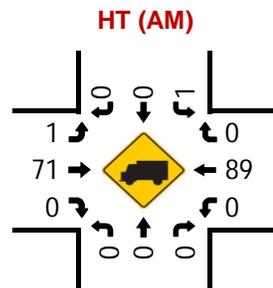
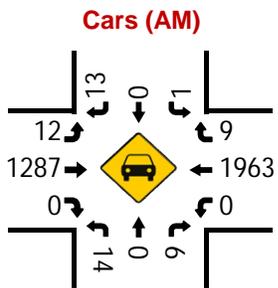
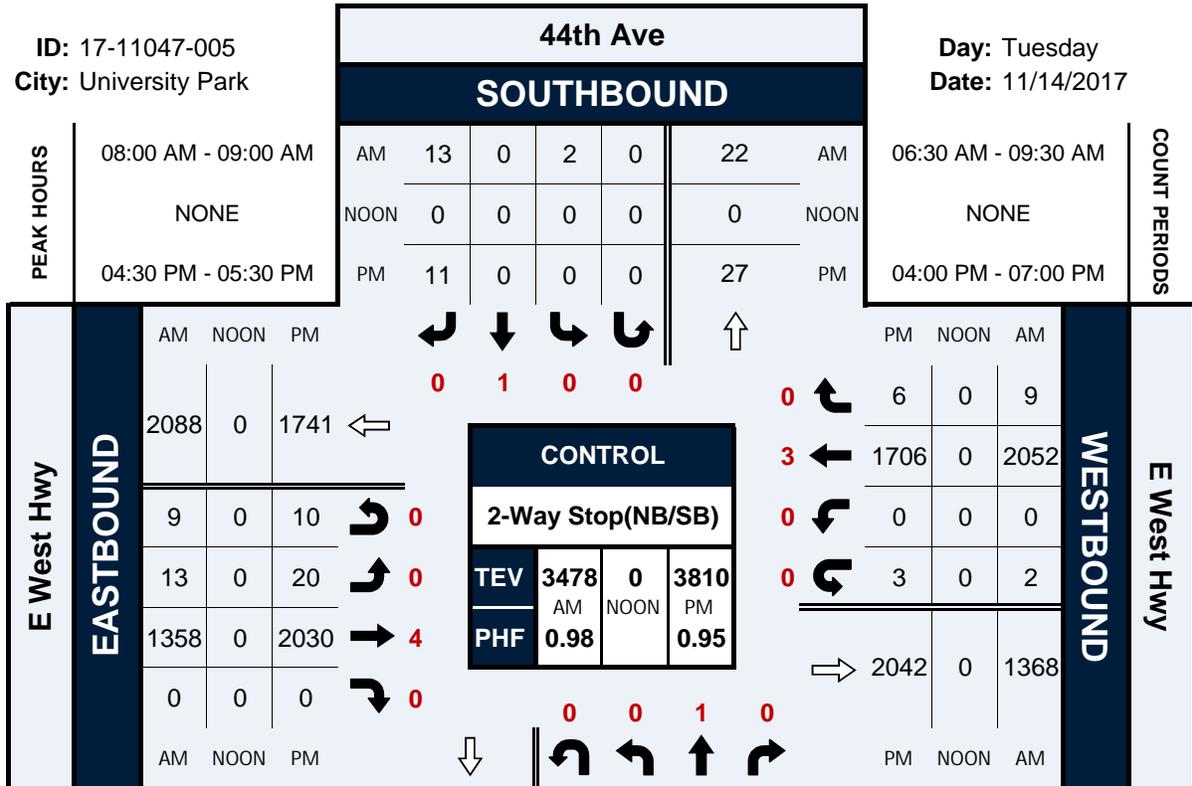


44th Ave & E West Hwy

Peak Hour Turning Movement Count

ID: 17-11047-005
City: University Park

Day: Tuesday
Date: 11/14/2017

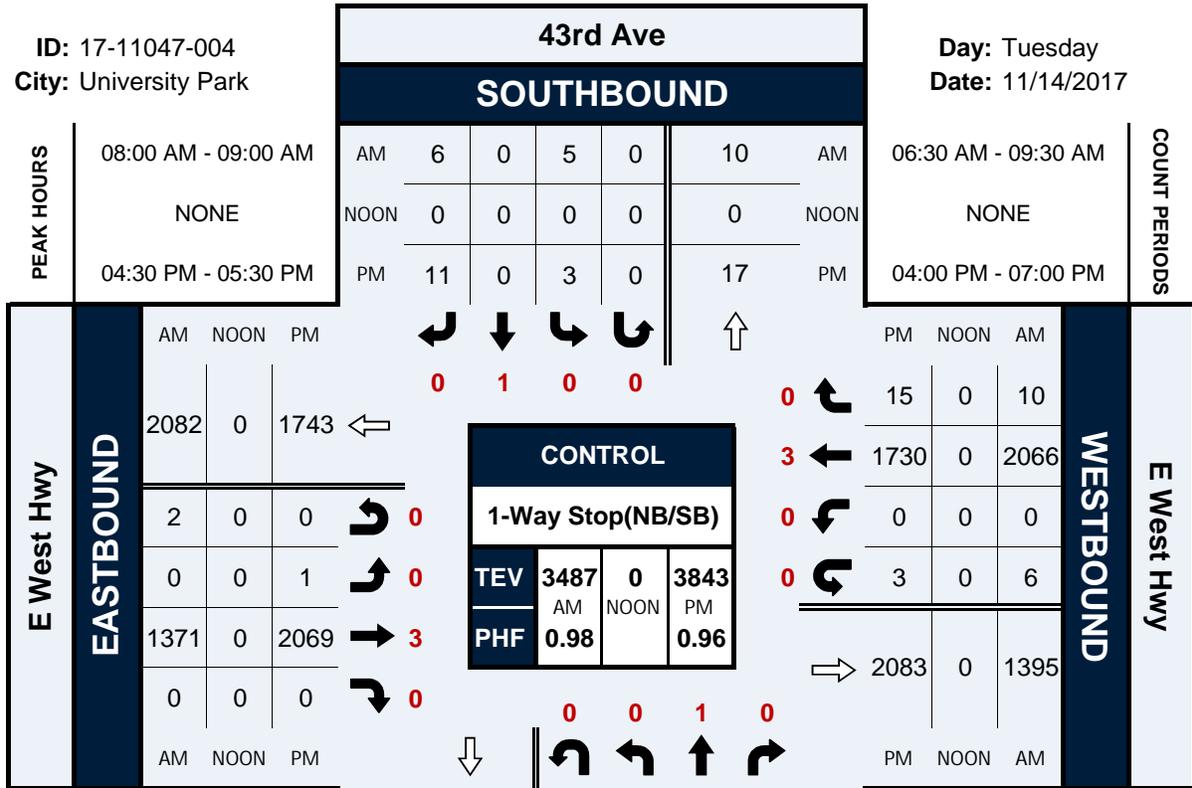


43rd Ave & E West Hwy

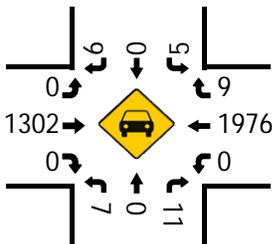
Peak Hour Turning Movement Count

ID: 17-11047-004
City: University Park

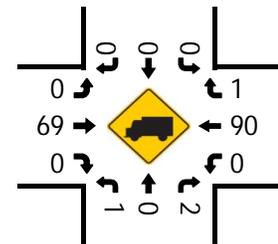
Day: Tuesday
Date: 11/14/2017



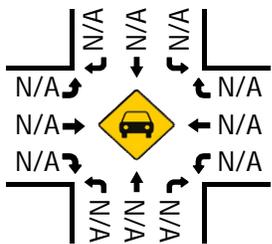
Cars (AM)



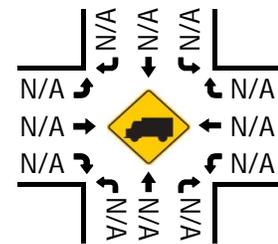
HT (AM)



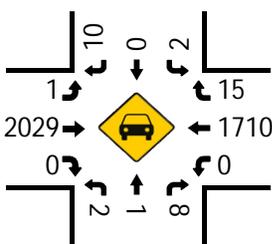
Cars (NOON)



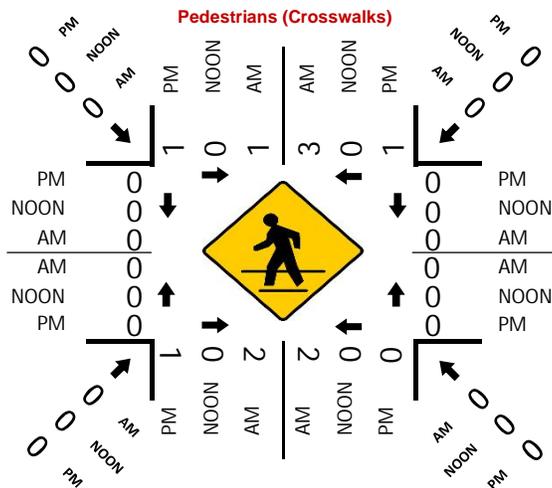
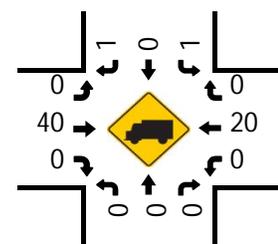
HT (NOON)



Cars (PM)



HT (PM)



ATTACHMENT C

Critical Lane Volume Worksheets

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

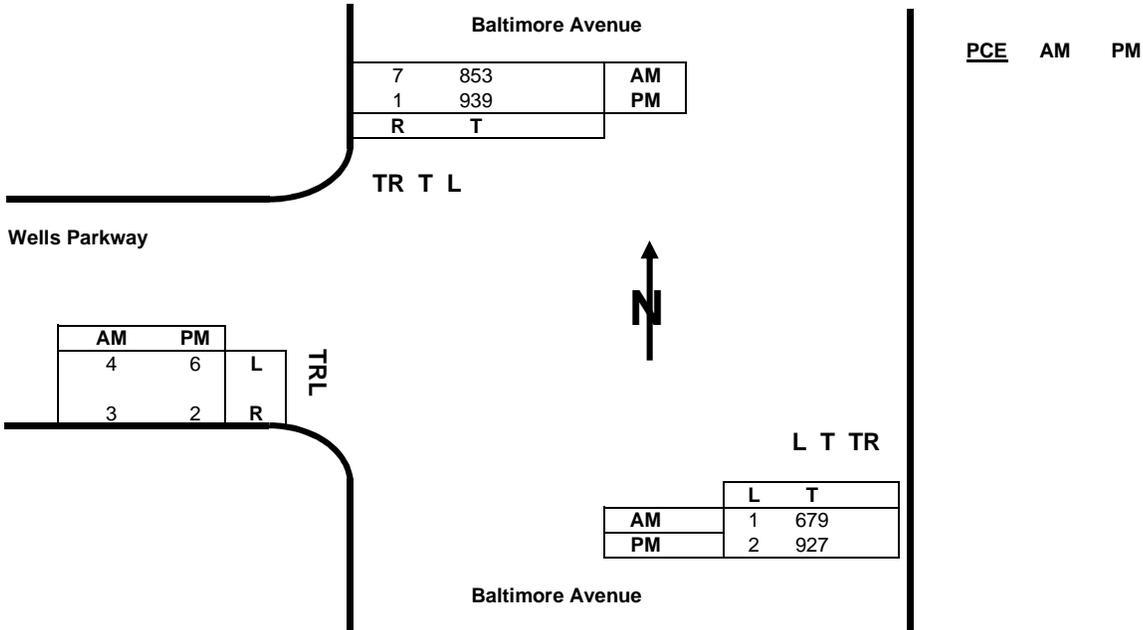


Intersection of: Baltimore Avenue
and: Wells Parkway
Conditions: Existing

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 1
SBR restricted during AM peak

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour									
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV		
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total			
NB	679	0.550	373	0	1.000	0	474	NB	927	0.550	510	0	1.000	0	519		
SB	860	0.550	473	1	1.000	1		SB	940	0.550	517	2	1.000	2			
EB	7	1.000	7					EB	8	1.000	8					8	
WB	0	0.000	0					WB	0	0.000	0					0	
CLV Total =							481	CLV Total =							527		
Level of Service (LOS) =								A	Level of Service (LOS) =								A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

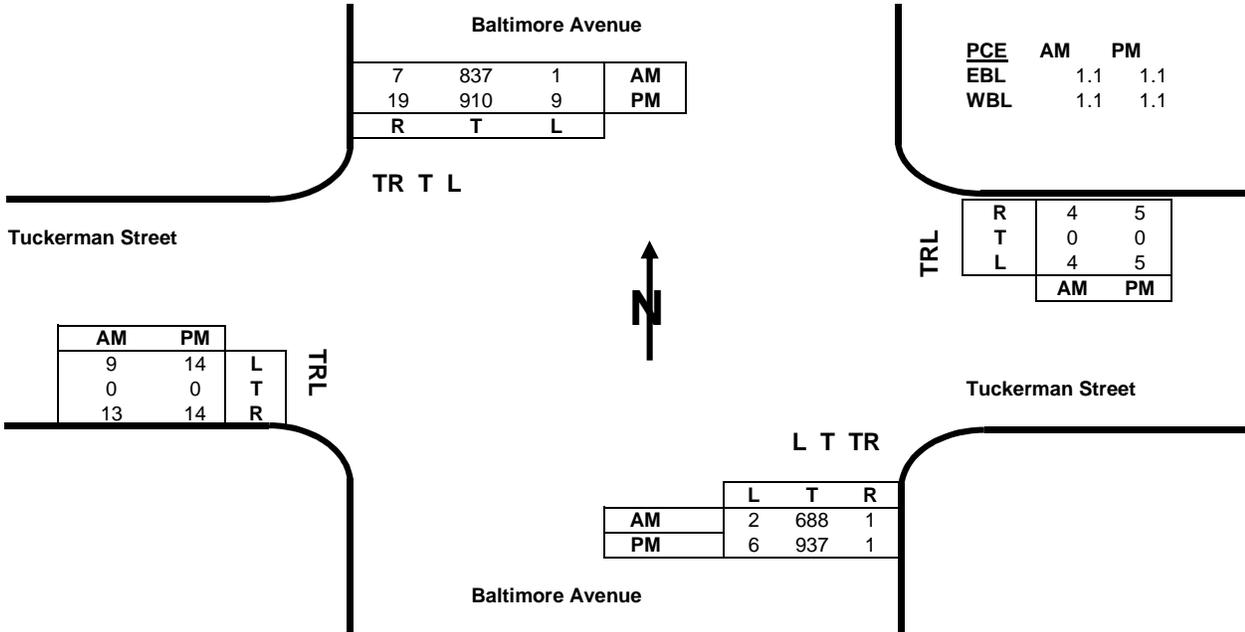


Intersection of: Baltimore Avenue
and: Tuckerman Street
Conditions: Existing

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 2
SBR restricted during AM peak

Capacity Analysis-

Morning Peak Hour							Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	689	0.550	379	1	1.000	1	466	NB	938	0.550	516	9	1.000	9	525
SB	844	0.550	464	2	1.000	2		SB	929	0.550	511	6	1.000	6	
EB	23	1.000	23	4	1.000	4		EB	29	1.000	29	5	1.000	5	
WB	8	1.000	8	9	1.000	9		WB	11	1.000	11	14	1.000	14	
CLV Total =							493	CLV Total =							559
Level of Service (LOS) =							A	Level of Service (LOS) =							A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

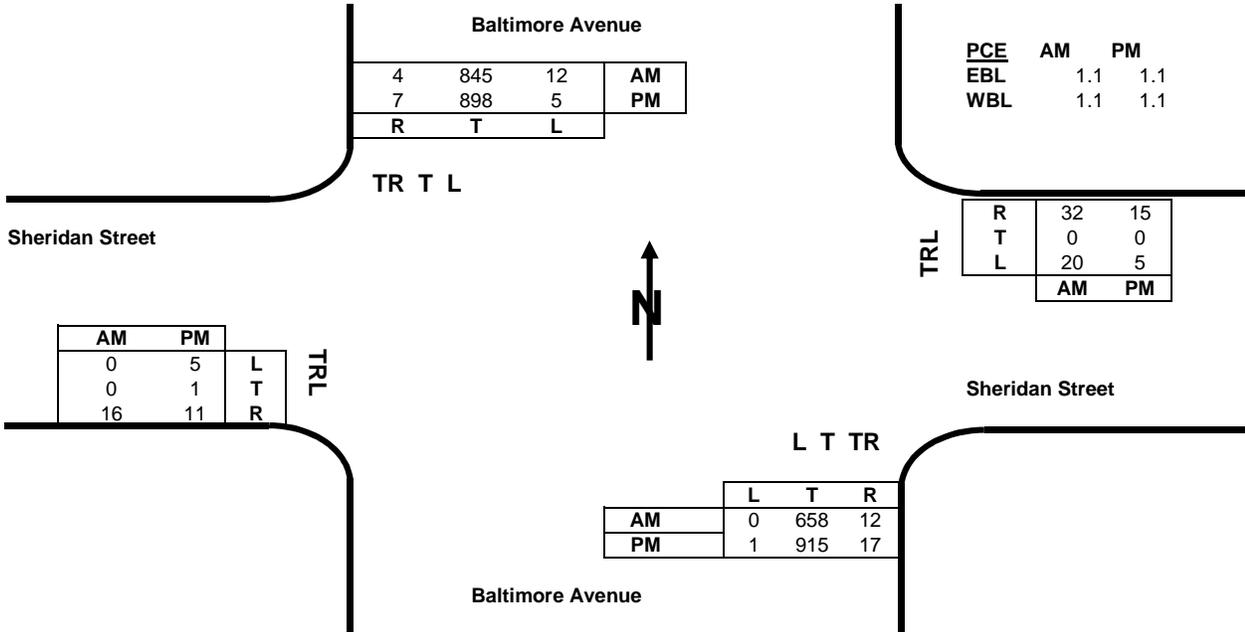


Intersection of: Baltimore Avenue
and: Sheridan Street
Conditions: Existing

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 3
SBR restricted during AM peak
EBL restricted at all times but considered in analysis

Capacity Analysis-

Morning Peak Hour							Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	670	0.550	369	12	1.000	12	467	NB	932	0.550	513	5	1.000	5	518
SB	849	0.550	467	0	1.000	0		SB	905	0.550	498	1	1.000	1	
EB	16	1.000	16	20	1.000	20		EB	18	1.000	18	5	1.000	5	
WB	54	1.000	54	0	1.000	0		WB	21	1.000	21	5	1.000	5	
CLV Total =							521	CLV Total =							544
Level of Service (LOS) =							A	Level of Service (LOS) =							A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

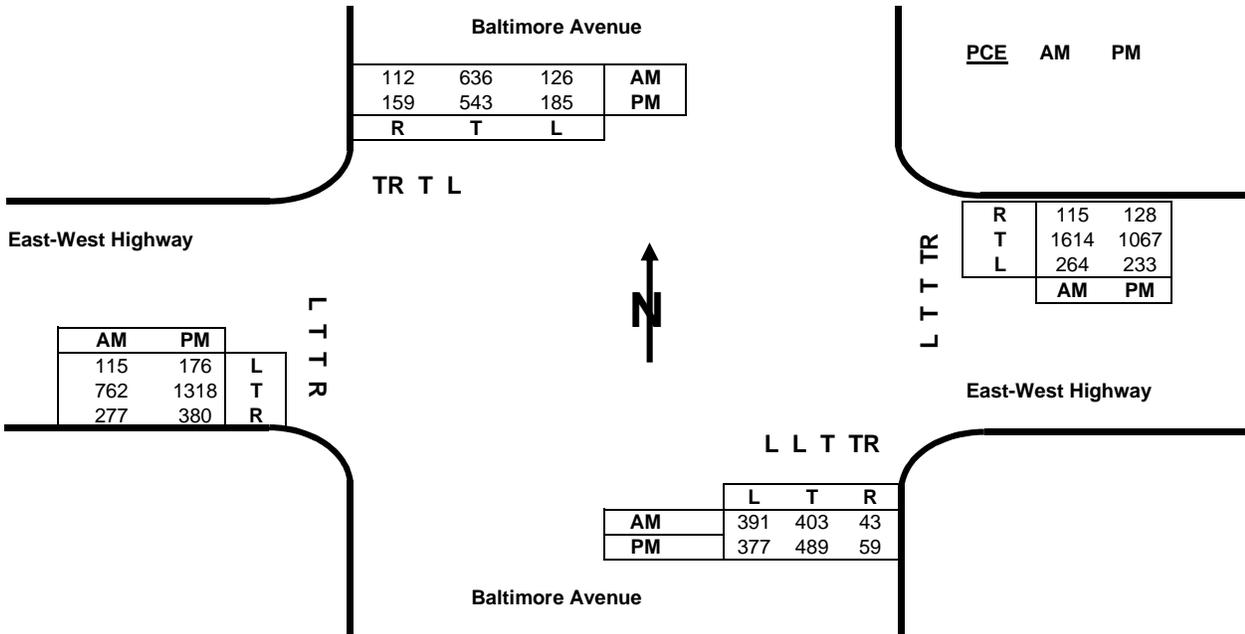


Intersection of: Baltimore Avenue
and: East-West Highway
Conditions: Existing

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 4

Capacity Analysis-

Split Phase? (Y or N)

NB N EB N
SB N WB N

Morning Peak Hour								Evening Peak Hour									
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV		
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total			
NB	446	0.550	245	126	1.000	126	646 755	NB	548	0.550	301	185	1.000	185	612 958		
SB	748	0.550	411	391	0.600	235		SB	702	0.550	386	377	0.600	226			
EB	762	0.550	419	264	1.000	264		EB	1318	0.550	725	233	1.000	233			
WB	1729	0.370	640	115	1.000	115		WB	1195	0.370	442	176	1.000	176			
CLV Total =							1401	CLV Total =							1570		
Level of Service (LOS) =								D	Level of Service (LOS) =								E

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

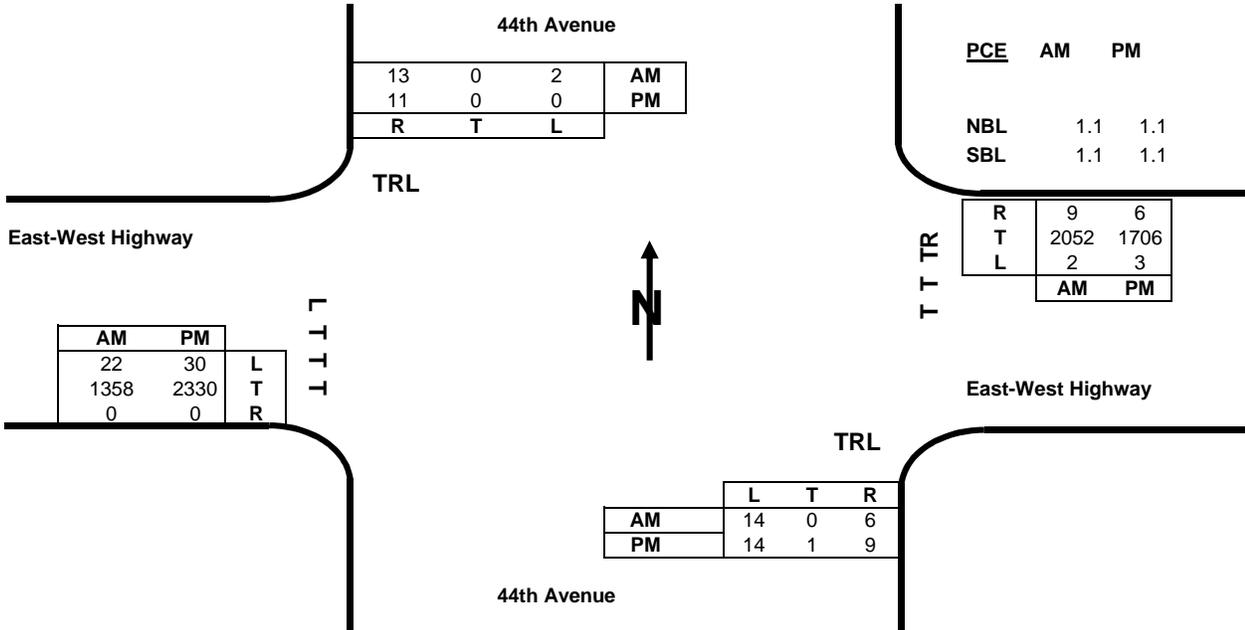


Intersection of: 44th Avenue
and: East-West Highway
Conditions: Existing

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 5

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour							
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	21	1.000	21	2	1.000	2	29 785	NB	25	1.000	25	0	1.000	0	25 862
SB	15	1.000	15	14	1.000	14		SB	11	1.000	11	14	1.000	14	
EB	1358	0.370	502	2	0.000	0		EB	2330	0.370	862	3	0.000	0	
WB	2061	0.370	763	22	1.000	22		WB	1712	0.370	633	30	1.000	30	
CLV Total =							814	CLV Total =							887
Level of Service (LOS) =							A	Level of Service (LOS) =							A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

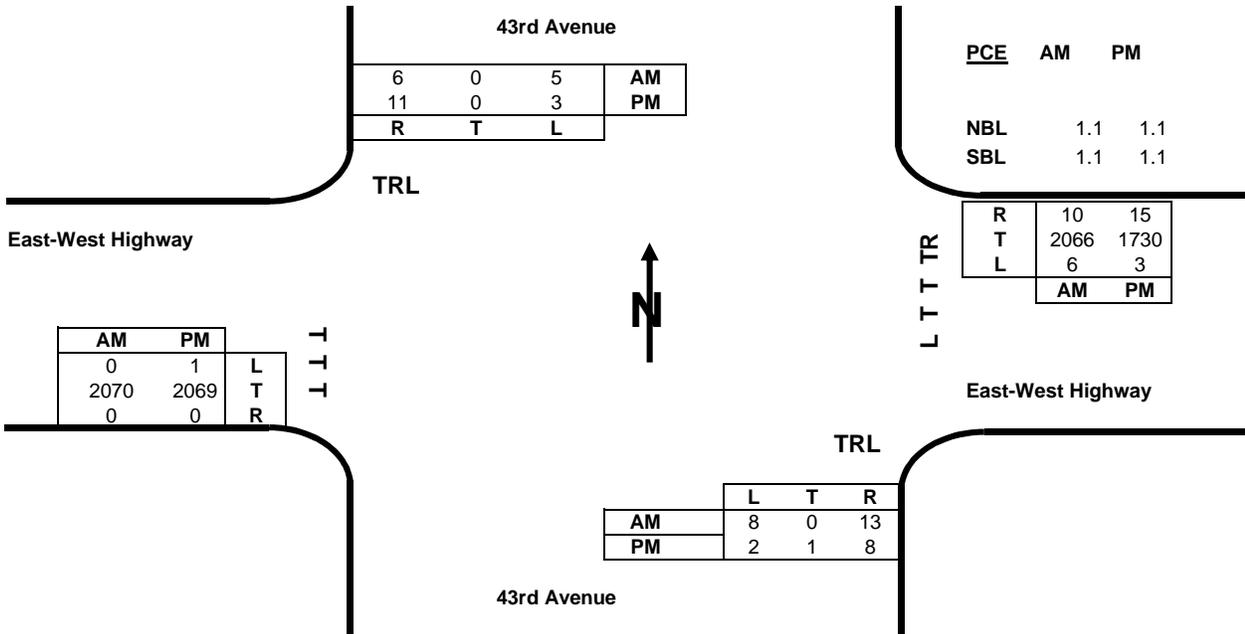


Intersection of: 43rd Avenue
and: East-West Highway
Conditions: Existing

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 6
Note that 1 eastbound left turn vehicle performed illegal movement; reallocated to eastbound through for analysis

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour							
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	22	1.000	22	5	1.000	5	27 772	NB	11	1.000	11	3	1.000	3	16 769
SB	12	1.000	12	8	1.000	8		SB	14	1.000	14	2	1.000	2	
EB	2070	0.370	766	6	1.000	6		EB	2069	0.370	766	3	1.000	3	
WB	2076	0.370	768	0	0.000	0		WB	1745	0.370	646	1	0.000	0	
CLV Total =							799	CLV Total =							785
Level of Service (LOS) =							A	Level of Service (LOS) =							A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

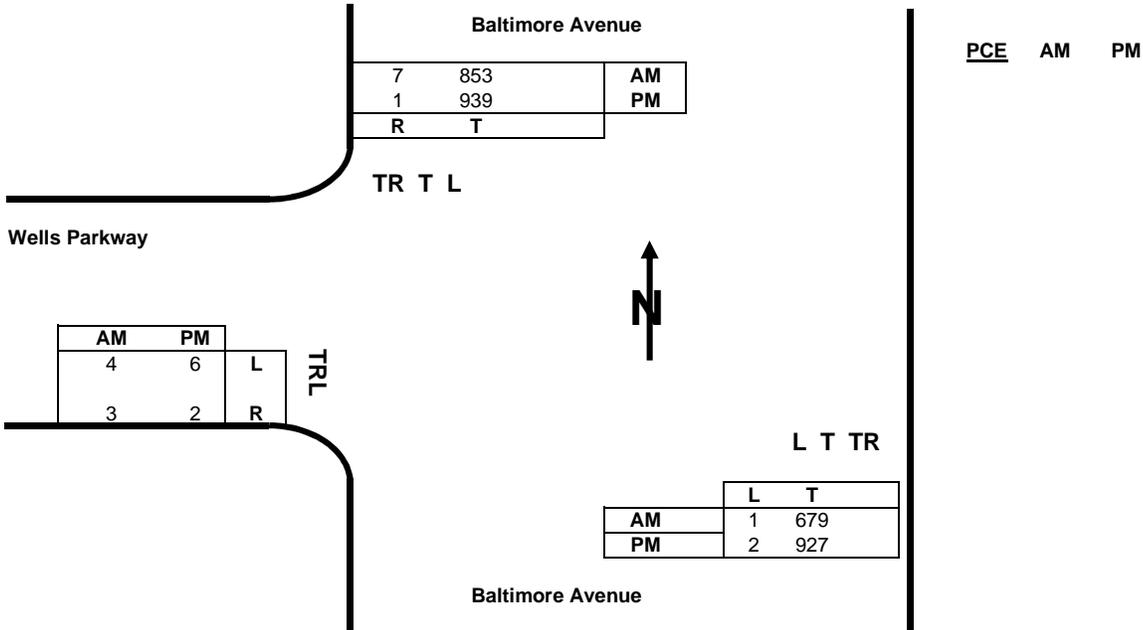


Intersection of: Baltimore Avenue
and: Wells Parkway
Conditions: Scenario 1

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 1
SBR restricted during AM peak

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour									
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV		
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total			
NB	679	0.550	373	0	1.000	0	474	NB	927	0.550	510	0	1.000	0	519		
SB	860	0.550	473	1	1.000	1		SB	940	0.550	517	2	1.000	2			
EB	7	1.000	7					EB	8	1.000	8					8	
WB	0	0.000	0					WB	0	0.000	0					0	
CLV Total =							481	CLV Total =							527		
Level of Service (LOS) =								A	Level of Service (LOS) =								A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

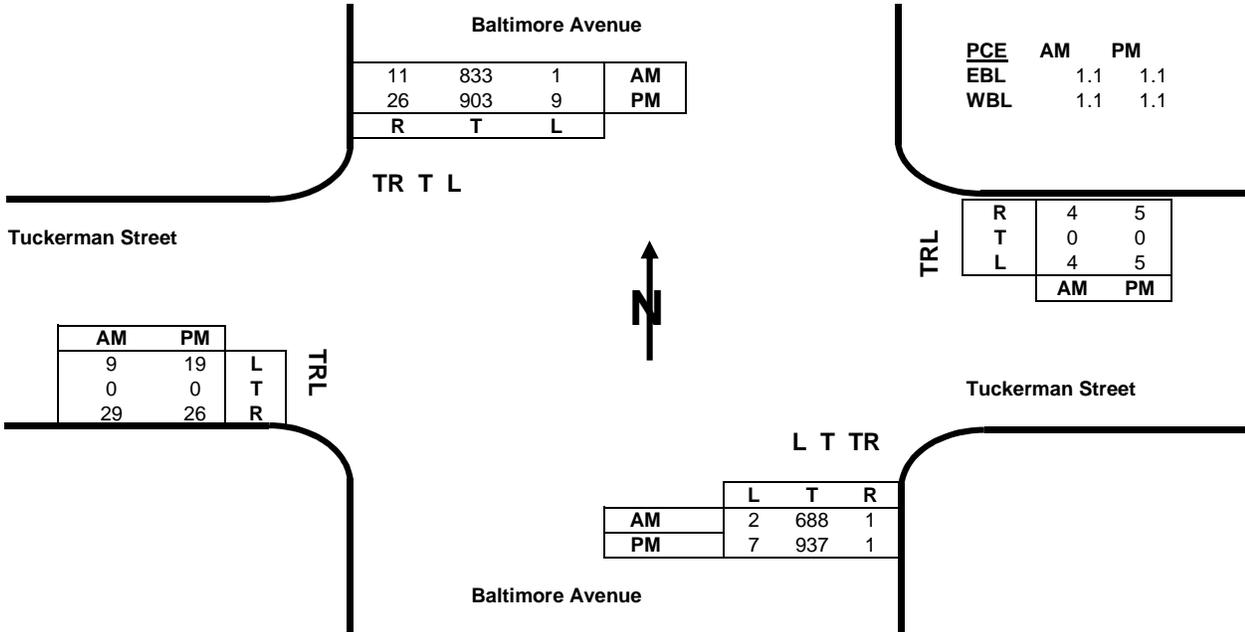


Intersection of: Baltimore Avenue
and: Tuckerman Street
Conditions: Scenario 1

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 2
SBR restricted during AM peak

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour							
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	689	0.550	379	1	1.000	1	466	NB	938	0.550	516	9	1.000	9	525
SB	844	0.550	464	2	1.000	2		SB	929	0.550	511	7	1.000	7	
EB	39	1.000	39	4	1.000	4		EB	47	1.000	47	5	1.000	5	
WB	8	1.000	8	9	1.000	9		WB	11	1.000	11	19	1.000	19	
CLV Total =							509	CLV Total =							577
Level of Service (LOS) =							A	Level of Service (LOS) =							A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

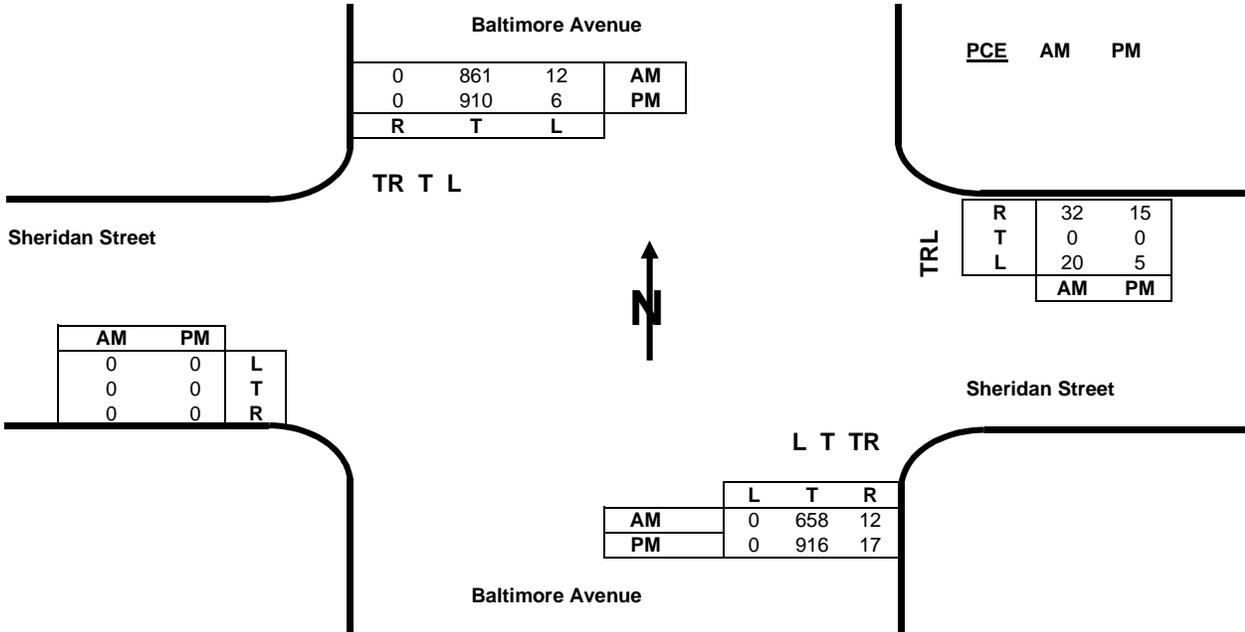


Intersection of: Baltimore Avenue
and: Sheridan Street
Conditions: Scenario 1

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 3
SBR restricted during AM peak
EBL restricted at all times but considered in analysis

Capacity Analysis-

Morning Peak Hour							Evening Peak Hour									
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV	
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	670	0.550	369	12	1.000	12	474	NB	933	0.550	513	6	1.000	6	519	
SB	861	0.550	474	0	1.000	0		SB	910	0.550	501	0	1.000	0		
EB	0	1.000	0					EB	0	1.000	0					0
WB	52	1.000	52					WB	20	1.000	20					20
CLV Total =							526	CLV Total =							539	
Level of Service (LOS) =							A	Level of Service (LOS) =							A	

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

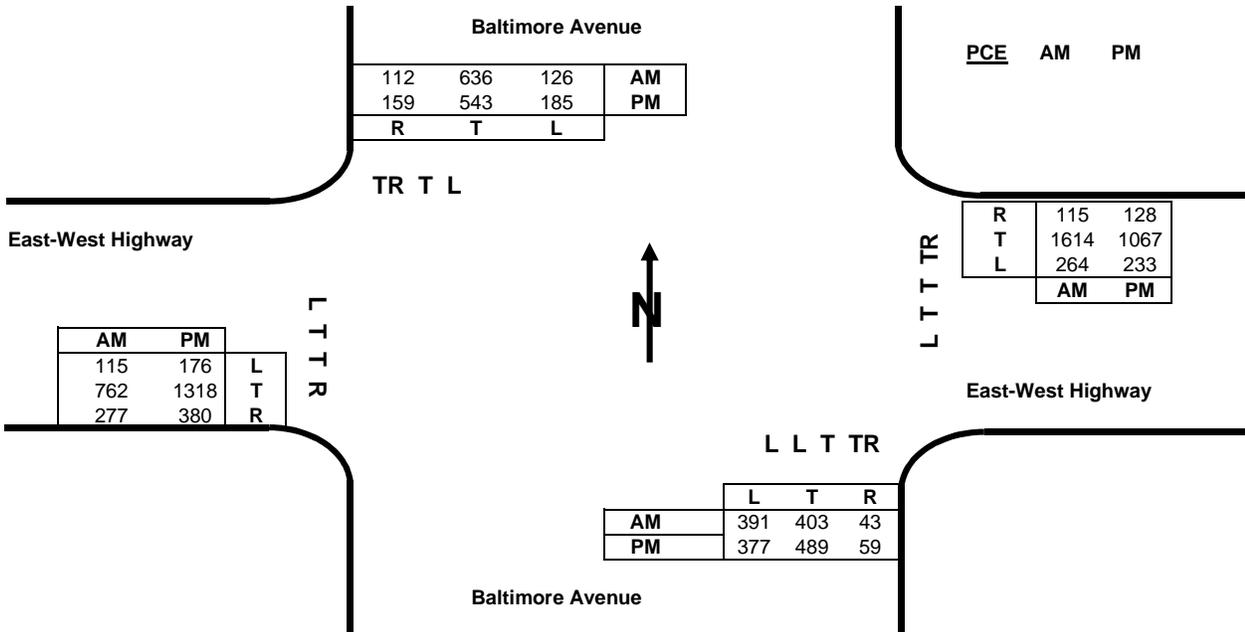


Intersection of: Baltimore Avenue
and: East-West Highway
Conditions: Scenario 1

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 4

Capacity Analysis-

Split Phase? (Y or N)

NB N EB N
SB N WB N

Morning Peak Hour								Evening Peak Hour							
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	446	0.550	245	126	1.000	126	646	NB	548	0.550	301	185	1.000	185	612
SB	748	0.550	411	391	0.600	235		SB	702	0.550	386	377	0.600	226	
EB	762	0.550	419	264	1.000	264		EB	1318	0.550	725	233	1.000	233	
WB	1729	0.370	640	115	1.000	115		WB	1195	0.370	442	176	1.000	176	
CLV Total =							1401	CLV Total =							1570
Level of Service (LOS) = D								Level of Service (LOS) = E							

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

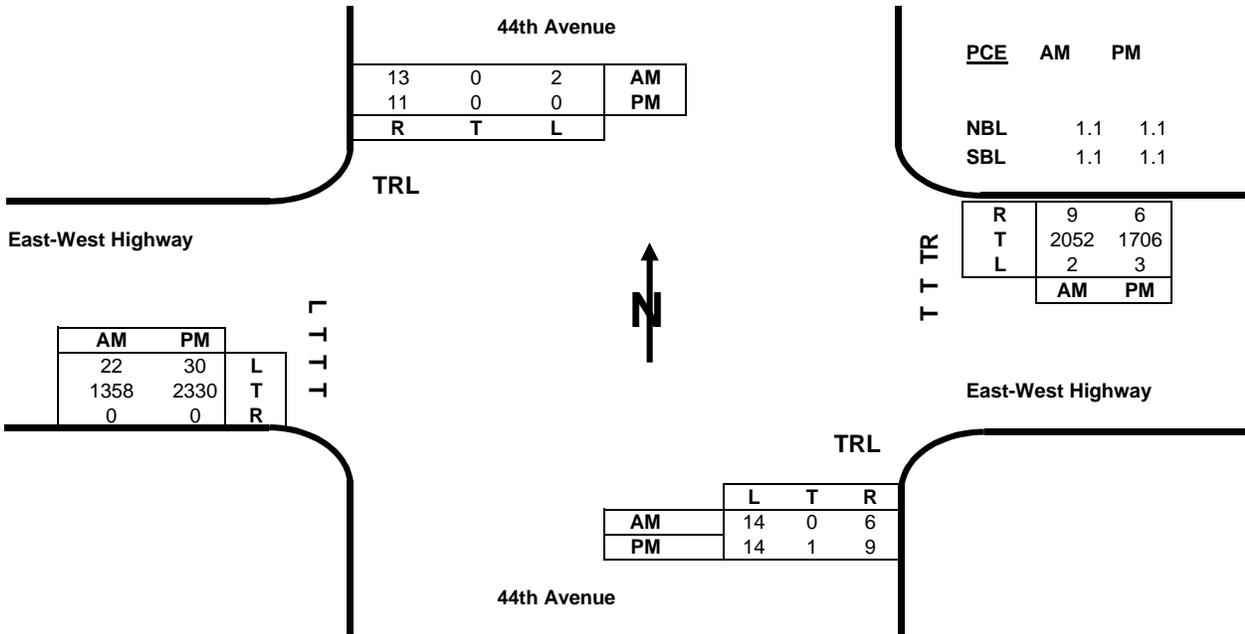


Intersection of: 44th Avenue
and: East-West Highway
Conditions: Scenario 1

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 5

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour							
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	21	1.000	21	2	1.000	2	29 785	NB	25	1.000	25	0	1.000	0	25 862
SB	15	1.000	15	14	1.000	14		SB	11	1.000	11	14	1.000	14	
EB	1358	0.370	502	2	0.000	0		EB	2330	0.370	862	3	0.000	0	
WB	2061	0.370	763	22	1.000	22		WB	1712	0.370	633	30	1.000	30	
CLV Total =							814	CLV Total =							887
Level of Service (LOS) =							A	Level of Service (LOS) =							A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

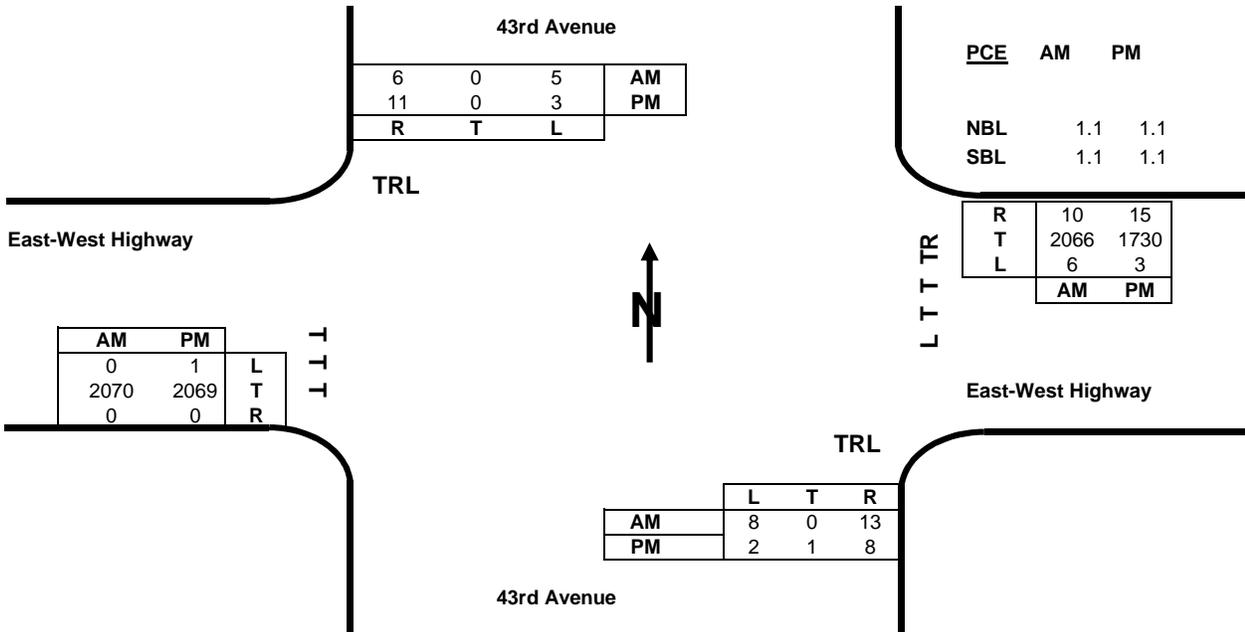


Intersection of: 43rd Avenue
and: East-West Highway
Conditions: Scenario 1

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 6
Note that 1 eastbound left turn vehicle performed illegal movement; reallocated to eastbound through for analysis

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour							
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	22	1.000	22	5	1.000	5	27 772	NB	11	1.000	11	3	1.000	3	16 769
SB	12	1.000	12	8	1.000	8		SB	14	1.000	14	2	1.000	2	
EB	2070	0.370	766	6	1.000	6		EB	2069	0.370	766	3	1.000	3	
WB	2076	0.370	768	0	0.000	0		WB	1745	0.370	646	1	0.000	0	
CLV Total =							799	CLV Total =							785
Level of Service (LOS) =							A	Level of Service (LOS) =							A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

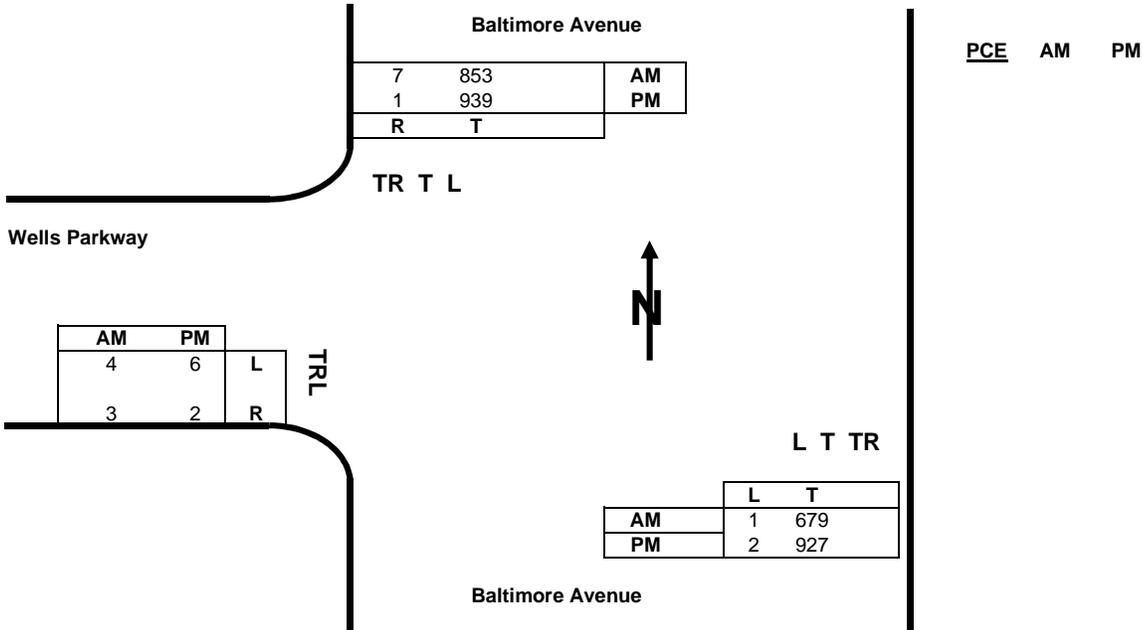


Intersection of: Baltimore Avenue
and: Wells Parkway
Conditions: Scenario 2

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 1
SBR restricted during AM peak

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour									
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV		
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total			
NB	679	0.550	373	0	1.000	0	474	NB	927	0.550	510	0	1.000	0	519		
SB	860	0.550	473	1	1.000	1		SB	940	0.550	517	2	1.000	2			
EB	7	1.000	7					EB	8	1.000	8					8	
WB	0	0.000	0					WB	0	0.000	0					0	
CLV Total =							481	CLV Total =							527		
Level of Service (LOS) =								A	Level of Service (LOS) =								A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

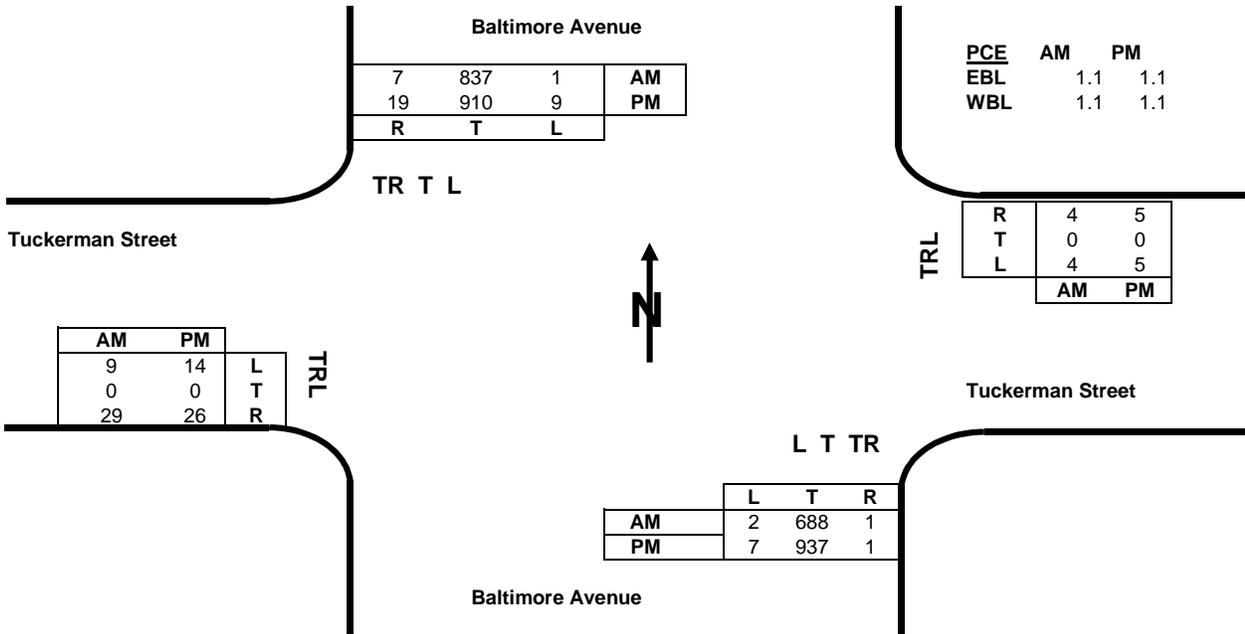


Intersection of: Baltimore Avenue
and: Tuckerman Street
Conditions: Scenario 2

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 2
SBR restricted during AM peak

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour							
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	689	0.550	379	1	1.000	1	466	NB	938	0.550	516	9	1.000	9	525
SB	844	0.550	464	2	1.000	2		SB	929	0.550	511	7	1.000	7	
EB	39	1.000	39	4	1.000	4		EB	41	1.000	41	5	1.000	5	
WB	8	1.000	8	9	1.000	9		WB	11	1.000	11	14	1.000	14	
CLV Total =							509	CLV Total =							571
Level of Service (LOS) =							A	Level of Service (LOS) =							A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

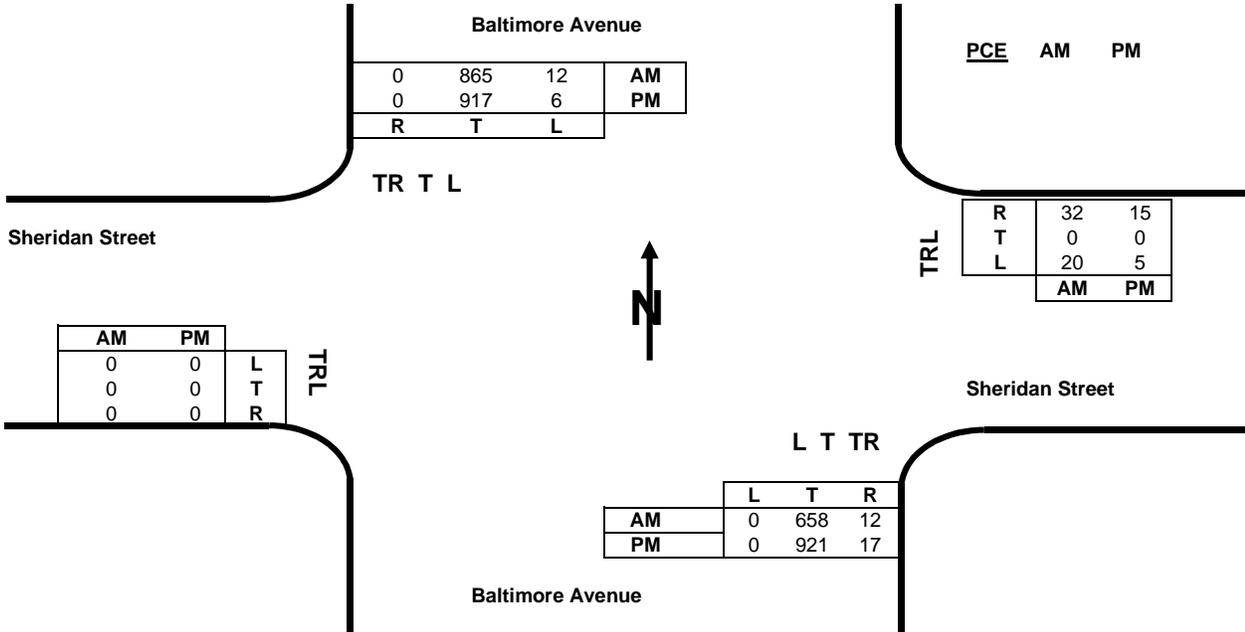


Intersection of: Baltimore Avenue
and: Sheridan Street
Conditions: Scenario 2

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 3
SBR restricted during AM peak
EBL restricted at all times but considered in analysis

Capacity Analysis-

Morning Peak Hour							Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	670	0.550	369	12	1.000	12	476	NB	938	0.550	516	6	1.000	6	522
SB	865	0.550	476	0	1.000	0		SB	917	0.550	504	0	1.000	0	
EB	0	1.000	0	20	1.000	20		EB	0	1.000	0	5	1.000	5	
WB	52	1.000	52	0	1.000	0		WB	20	1.000	20	0	1.000	0	
CLV Total =							528	CLV Total =							542
Level of Service (LOS) =							A	Level of Service (LOS) =							A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

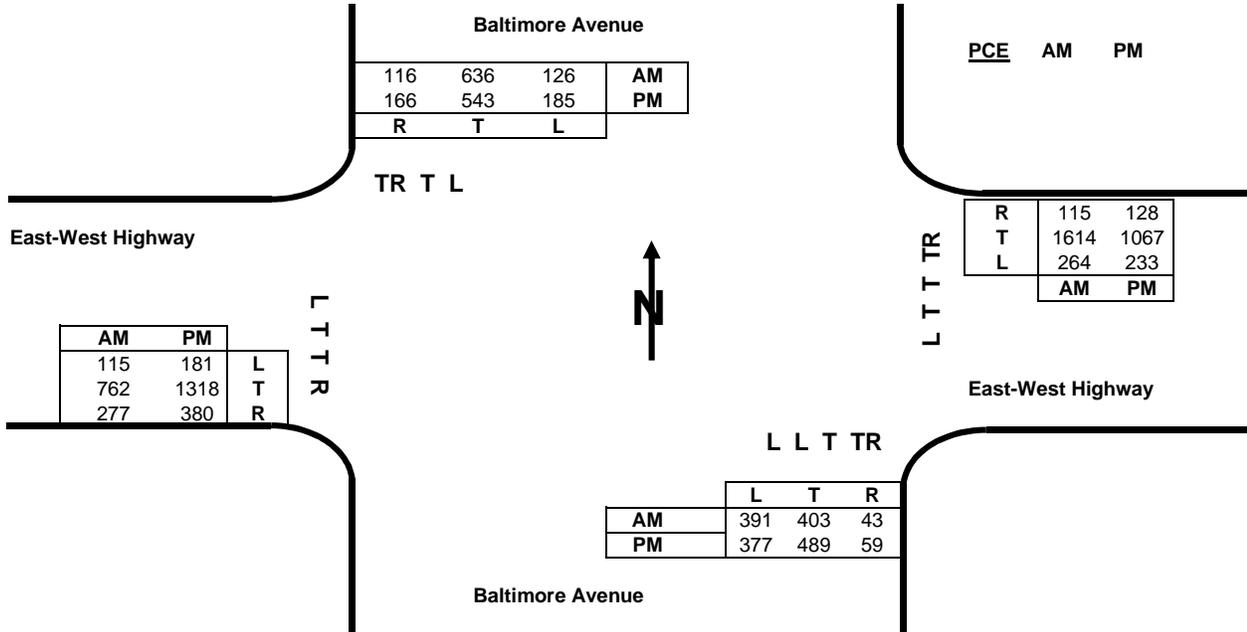


Intersection of: Baltimore Avenue
and: East-West Highway
Conditions: Scenario 2

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 4

Capacity Analysis-

Split Phase? (Y or N)

NB N EB N
SB N WB N

Morning Peak Hour							AM
Dir	Approach Volumes			+ Opposing Lefts			CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	446	0.550	245	126	1.000	126	649
SB	752	0.550	414	391	0.600	235	
EB	762	0.550	419	264	1.000	264	755
WB	1729	0.370	640	115	1.000	115	
CLV Total =							1404
Level of Service (LOS) =							D

Evening Peak Hour							PM
Dir	Approach Volumes			+ Opposing Lefts			CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	548	0.550	301	185	1.000	185	616
SB	709	0.550	390	377	0.600	226	
EB	1318	0.550	725	233	1.000	233	958
WB	1195	0.370	442	181	1.000	181	
CLV Total =							1574
Level of Service (LOS) =							E

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

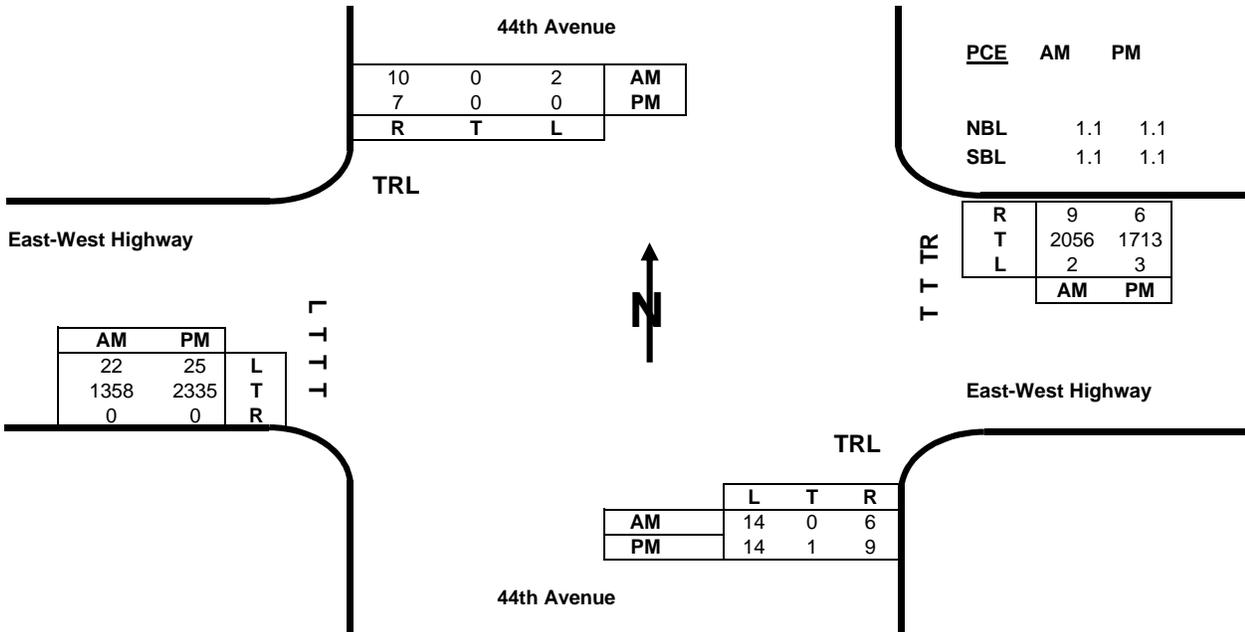


Intersection of: 44th Avenue
and: East-West Highway
Conditions: Scenario 2

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 5

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour							
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	21	1.000	21	2	1.000	2	26	NB	25	1.000	25	0	1.000	0	25
SB	12	1.000	12	14	1.000	14	786	SB	7	1.000	7	14	1.000	14	864
EB	1358	0.370	502	2	0.000	0		EB	2335	0.370	864	3	0.000	0	
WB	2065	0.370	764	22	1.000	22	812	WB	1719	0.370	636	25	1.000	25	889
CLV Total =							812	CLV Total =							889
Level of Service (LOS) =							A	Level of Service (LOS) =							A

CRITICAL LANE VOLUME (CLV) METHODOLOGY

Sheridan Street Closure
University Park, Maryland

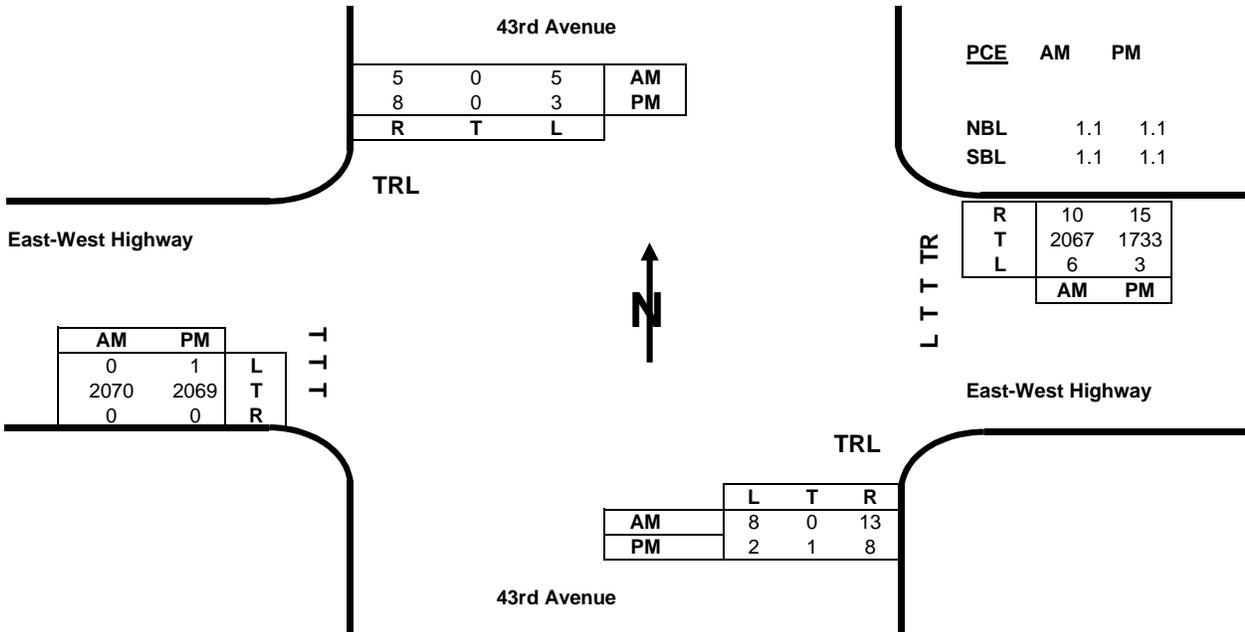


Intersection of: 43rd Avenue
and: East-West Highway
Conditions: Scenario 2

Date: Dec-17

Analyst: Kimley-Horn

LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection 6
Note that 1 eastbound left turn vehicle performed illegal movement; reallocated to eastbound through for analysis

Capacity Analysis-

Morning Peak Hour								Evening Peak Hour							
Dir	Approach Volumes			+ Opposing Lefts			AM CLV	Dir	Approach Volumes			+ Opposing Lefts			PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total			VOL	x LUF	= Total	VOL	x LUF	= Total	
NB	22	1.000	22	5	1.000	5	27 772	NB	11	1.000	11	3	1.000	3	14 769
SB	11	1.000	11	8	1.000	8		SB	11	1.000	11	2	1.000	2	
EB	2070	0.370	766	6	1.000	6		EB	2069	0.370	766	3	1.000	3	
WB	2077	0.370	768	0	0.000	0		WB	1748	0.370	647	1	0.000	0	
CLV Total =							799	CLV Total =							783
Level of Service (LOS) =							A	Level of Service (LOS) =							A