

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

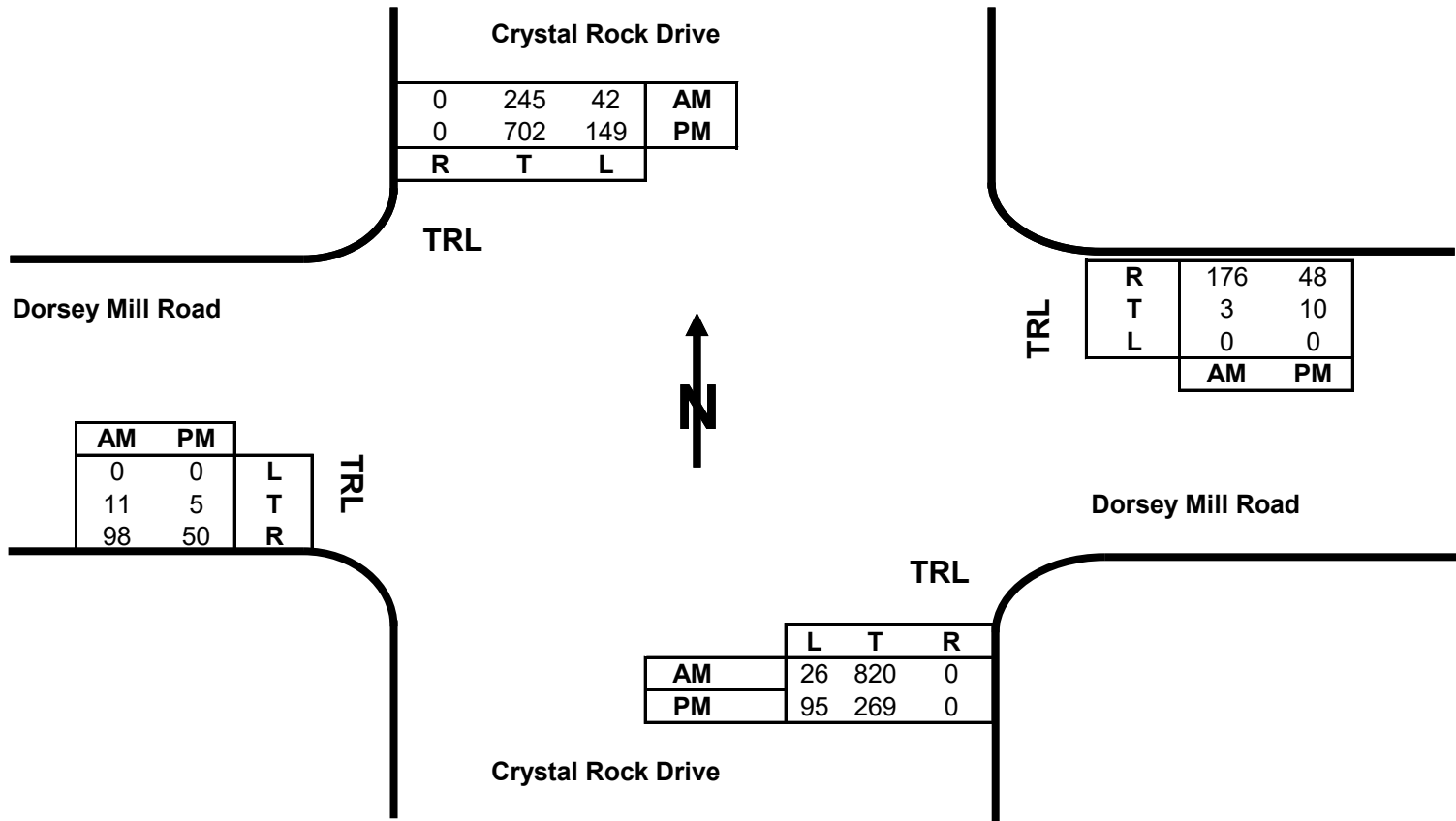


Intersection of: Crystal Rock Drive  
and: Dorsey Mill Road  
Conditions: Background

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s): Intersection does not exist in Existing Conditions.

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	846	1.000	846	42	1.000	42	0	888
SB	287	1.000	287	26	1.000	26	0	
EB	109	1.000	109	0	1.000	0	0	179
WB	179	1.000	179	0	1.000	0	0	
CLV Total =								1067
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	364	1.000	364	149	1.000	149	0	946
SB	851	1.000	851	95	1.000	95	0	
EB	55	1.000	55	0	1.000	0	0	58
WB	58	1.000	58	0	1.000	0	0	
CLV Total =								1004
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

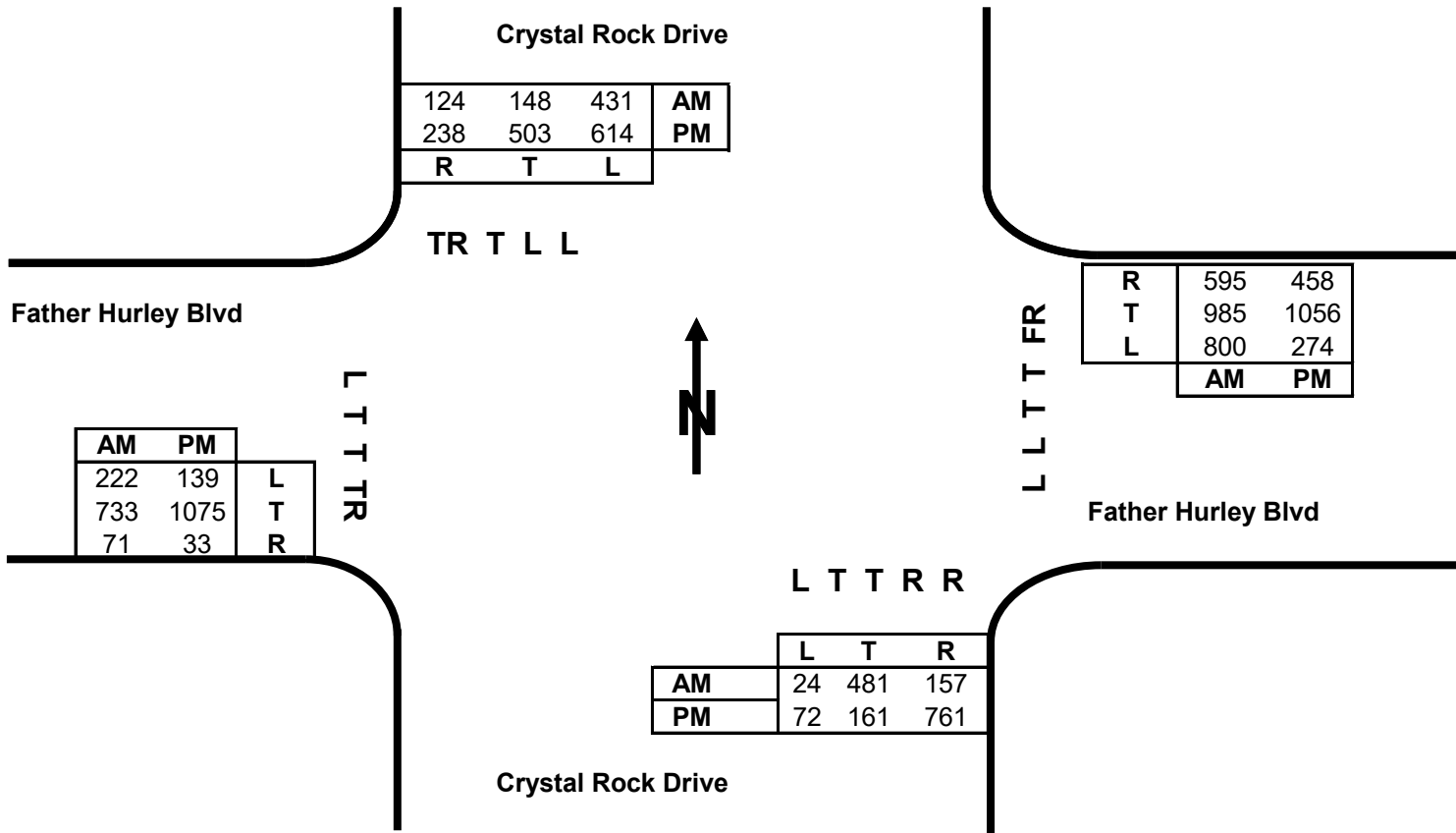


Intersection of: Crystal Rock Drive  
and: Father Hurley Blvd  
Conditions: Background

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s): PM NB right-turn check =  $761 \times 0.53 - 274 \times 0.53 - 0.53 \times (560 - 410)$

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	481	0.530	255	431	0.530	228	0	483
SB	272	0.530	144	24	1.000	24	0	
EB	804	0.370	297	800	0.530	424	0	744
WB	985	0.530	522	222	1.000	222	0	
CLV Total =								1227
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	161	0.530	85	614	0.530	325	179	504
SB	741	0.530	393	72	1.000	72	0	
EB	1108	0.370	410	274	0.530	145	0	699
WB	1056	0.530	560	139	1.000	139	0	
CLV Total =								1203
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

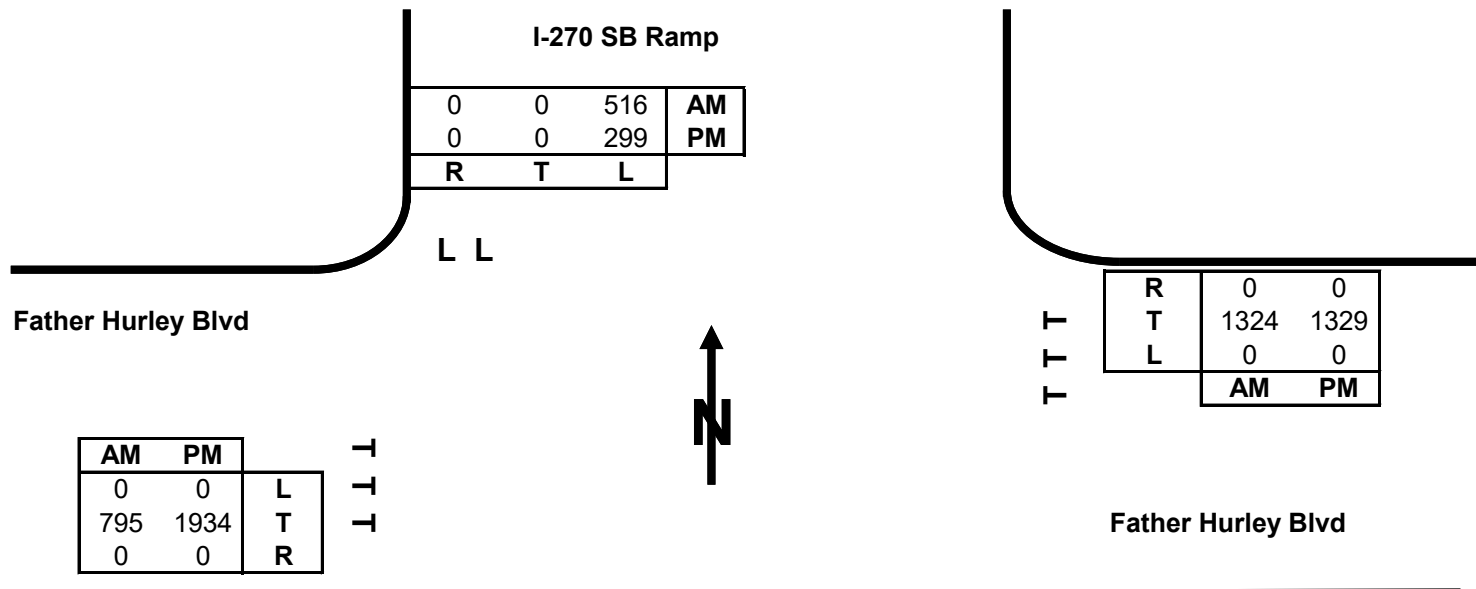


Intersection of: I-270 SB Ramp  
and: Father Hurley Blvd  
Conditions: Background

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	0	0.000	0	0	0.000	0	0	0
SB	516	0.530	273	0	0.000	0	0	273
EB	795	0.370	294	0	0.000	0	0	490
WB	1324	0.370	490	0	0.000	0	0	
CLV Total =								<b>763</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	0	0.000	0	0	0.000	0	0	0
SB	299	0.530	158	0	0.000	0	0	158
EB	1934	0.370	716	0	0.000	0	0	716
WB	1329	0.370	492	0	0.000	0	0	
CLV Total =								<b>874</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

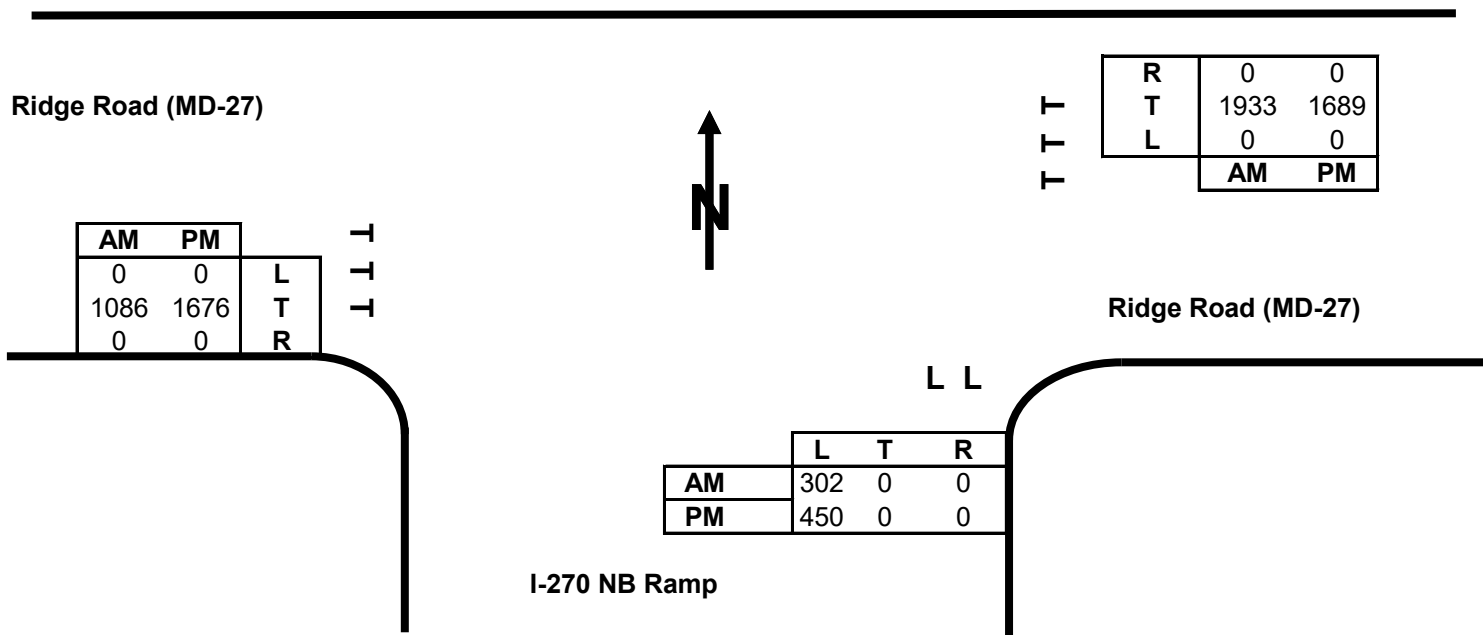
Century Park PAPF  
Silver Spring, MD



Intersection of: I-270 NB Ramp  
and: Ridge Road (MD-27)  
Conditions: Background

Date: June 1, 2014  
Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	302	0.530	160	0	0.000	0	0	160
SB	0	0.000	0	0	0.000	0	0	0
EB	1086	0.370	402	0	0.000	0	0	715
WB	1933	0.370	715	0	0.000	0	0	
CLV Total =								<b>875</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	450	0.530	239	0	0.000	0	0	239
SB	0	0.000	0	0	0.000	0	0	0
EB	1676	0.370	620	0	0.000	0	0	625
WB	1689	0.370	625	0	0.000	0	0	
CLV Total =								<b>864</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

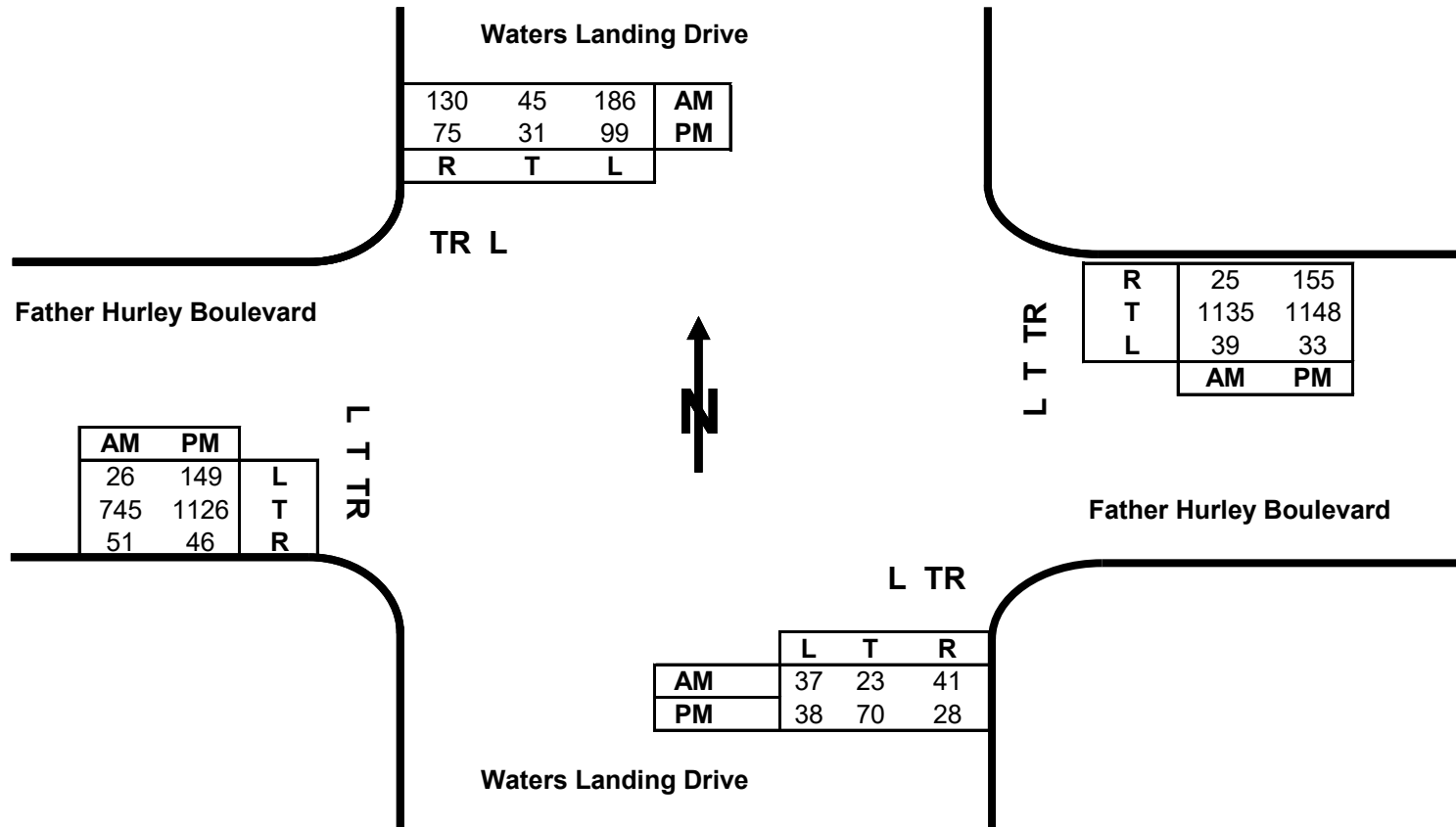


**Intersection of:** Waters Landing Drive  
**and:** Father Hurley Boulevard  
**Conditions:** Background

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	64	1.000	64	186	1.000	186	0	250
SB	175	1.000	175	37	1.000	37	0	
EB	796	0.530	422	39	1.000	39	0	641
WB	1160	0.530	615	26	1.000	26	0	
CLV Total =								891
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	98	1.000	98	99	1.000	99	0	197
SB	106	1.000	106	38	1.000	38	0	
EB	1172	0.530	621	33	1.000	33	0	840
WB	1303	0.530	691	149	1.000	149	0	
CLV Total =								1037
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

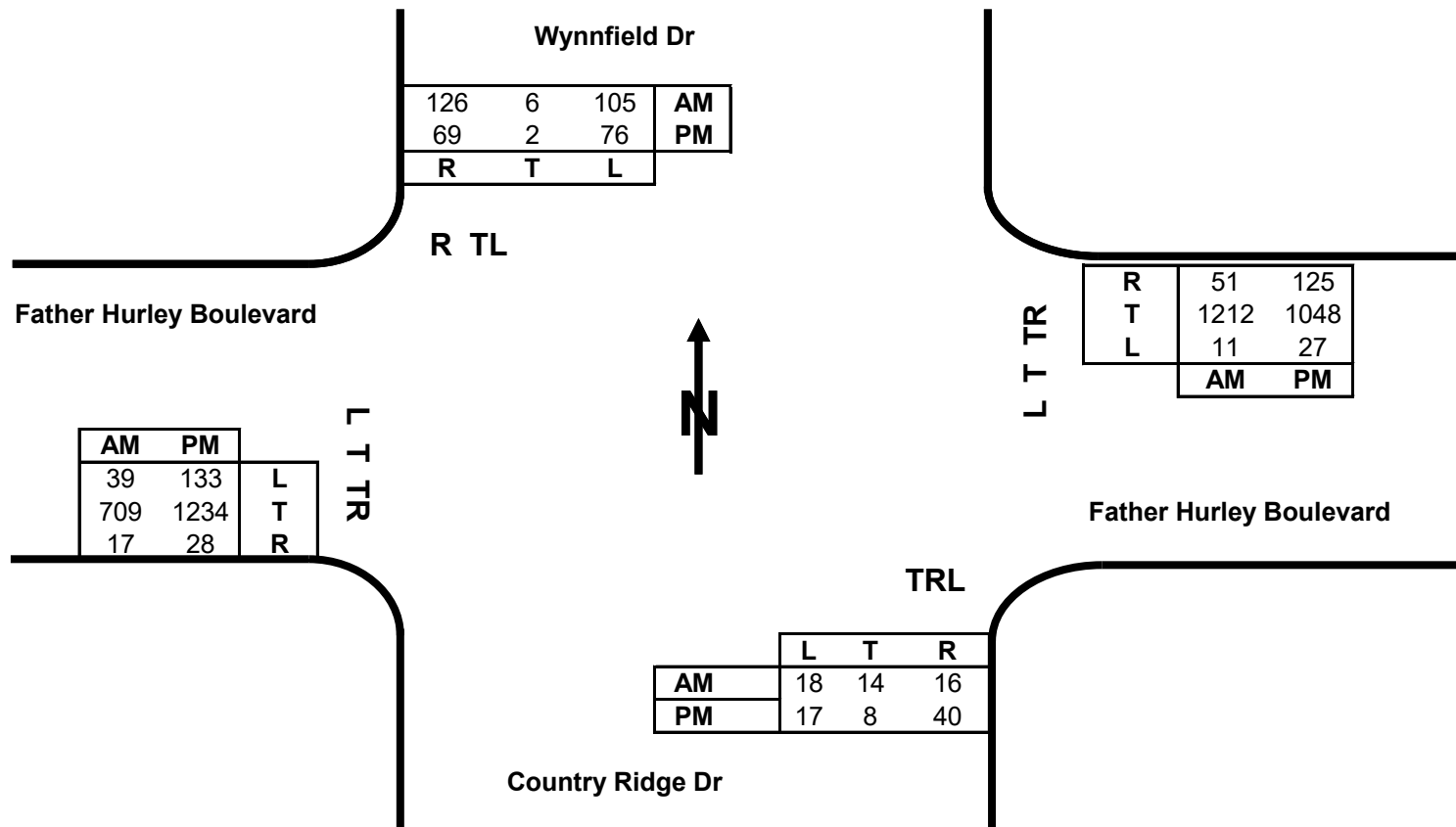


**Intersection of:** Wynnfield Dr/Country Ridge Dr  
**and:** Father Hurley Boulevard  
**Conditions:** Background

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	48	1.000	48	105	1.000	105	0	153
SB	111	1.000	111	18	1.000	18	87	
EB	726	0.530	385	11	1.000	11	0	708
WB	1263	0.530	669	39	1.000	39	0	
CLV Total =								<b>861</b>
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	65	1.000	65	76	1.000	76	0	141
SB	78	1.000	78	17	1.000	17	0	
EB	1262	0.530	669	27	1.000	27	0	755
WB	1173	0.530	622	133	1.000	133	0	
CLV Total =								<b>896</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

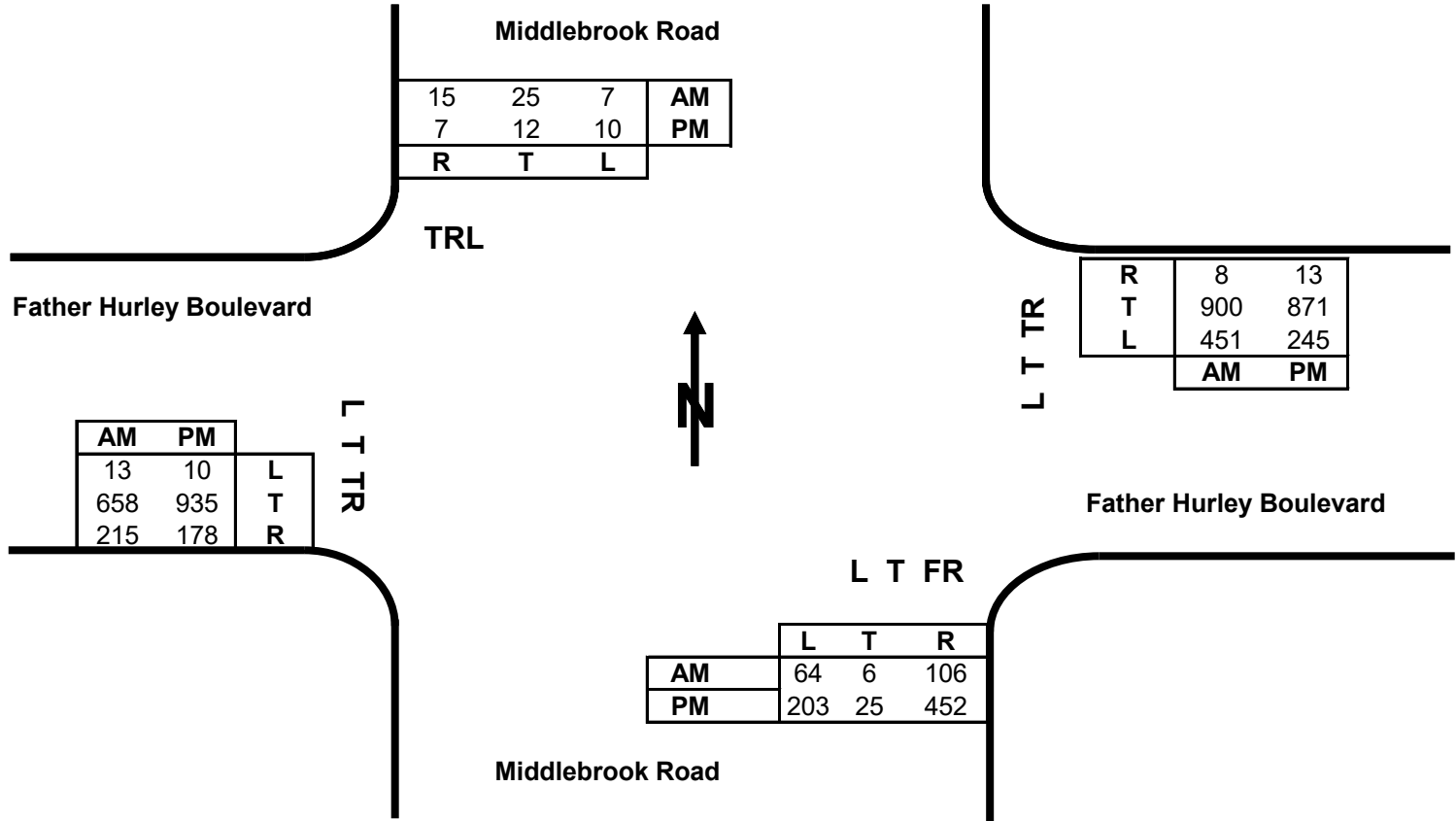


**Intersection of:** Middlebrook Road  
**and:** Father Hurley Boulevard  
**Conditions:** Background

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** Assume EB right does not turn right on red. Assume NB Middlebrook R acts as FR

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	6	1.000	6	7	1.000	7	0	111
SB	47	1.000	47	64	1.000	64	0	
EB	873	0.530	463	451	1.000	451	0	914
WB	908	0.530	481	13	1.000	13	0	
CLV Total =								1025
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	25	1.000	25	10	1.000	10	0	232
SB	29	1.000	29	203	1.000	203	0	
EB	1113	0.530	590	245	1.000	245	0	835
WB	884	0.530	469	10	1.000	10	0	
CLV Total =								1067
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

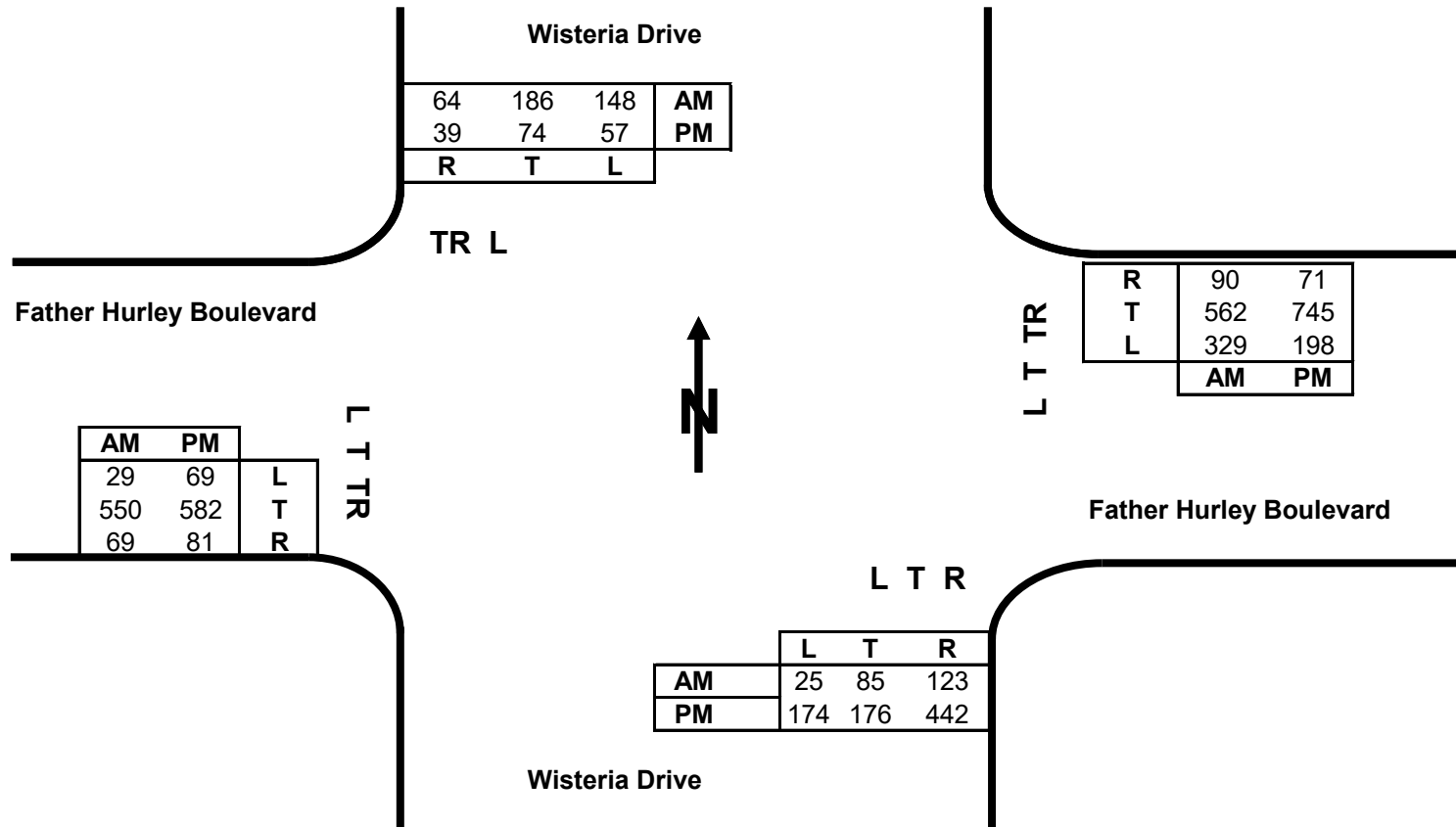


Intersection of: Wisteria Drive  
and: Father Hurley Boulevard  
Conditions: Background

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	85	1.000	85	148	1.000	148	0	275
SB	250	1.000	250	25	1.000	25	0	
EB	619	0.530	328	329	1.000	329	0	657
WB	652	0.530	346	29	1.000	29	0	
CLV Total =								<b>932</b>
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	176	1.000	176	57	1.000	57	68	301
SB	113	1.000	113	174	1.000	174	0	
EB	663	0.530	351	198	1.000	198	0	549
WB	816	0.530	432	69	1.000	69	0	
CLV Total =								<b>850</b>
Level of Service (LOS) =								



# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

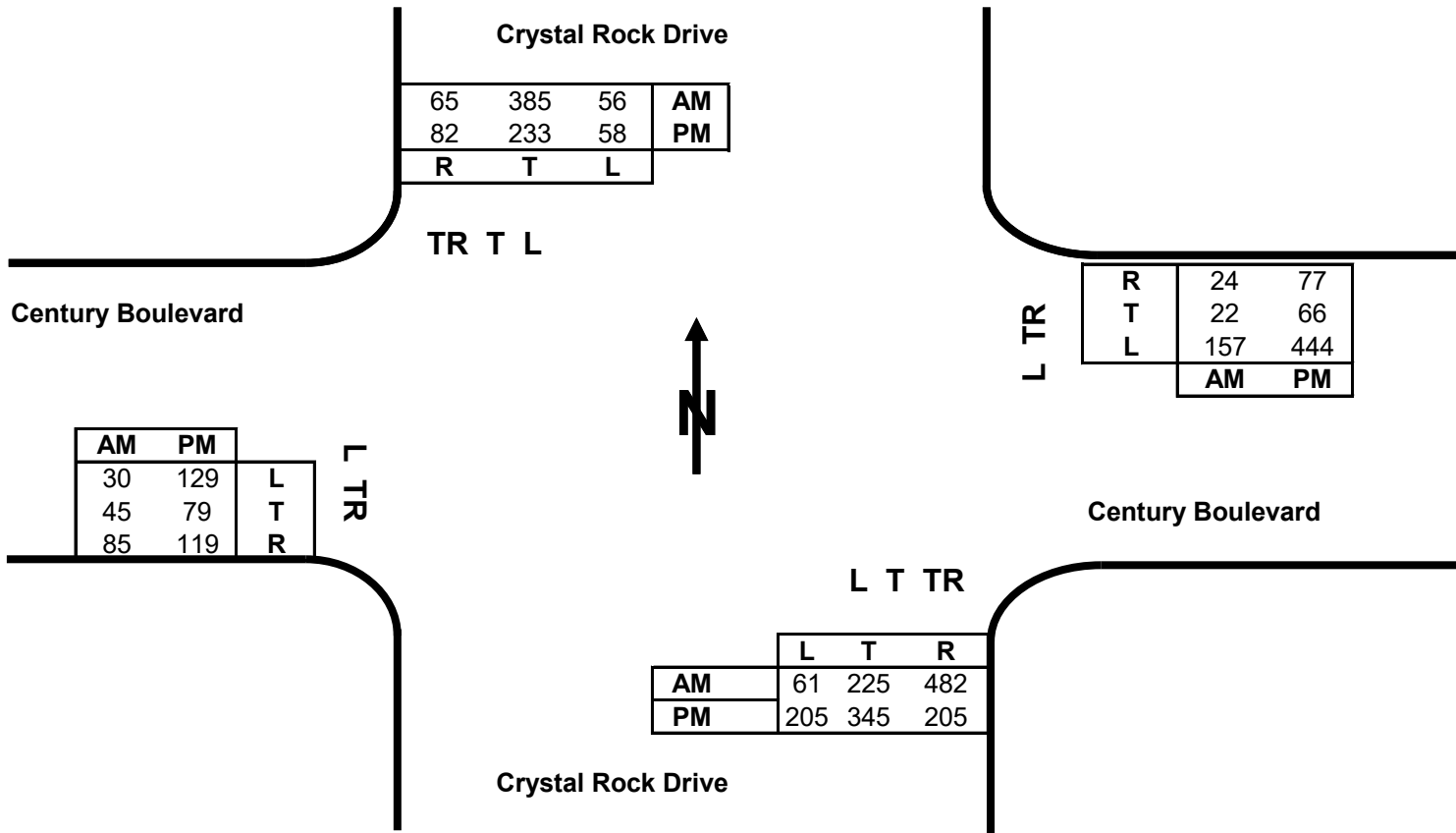


Intersection of: Crystal Rock Drive  
and: Century Boulevard  
Conditions: Background

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	707	0.530	375	56	1.000	56	325	431
SB	450	0.530	239	61	1.000	61	0	
EB	130	1.000	130	157	1.000	157	0	287
WB	46	1.000	46	30	1.000	30	0	
CLV Total =								718
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	550	0.530	292	58	1.000	58	0	372
SB	315	0.530	167	205	1.000	205	0	
EB	198	1.000	198	444	1.000	444	0	642
WB	143	1.000	143	129	1.000	129	0	
CLV Total =								1014
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

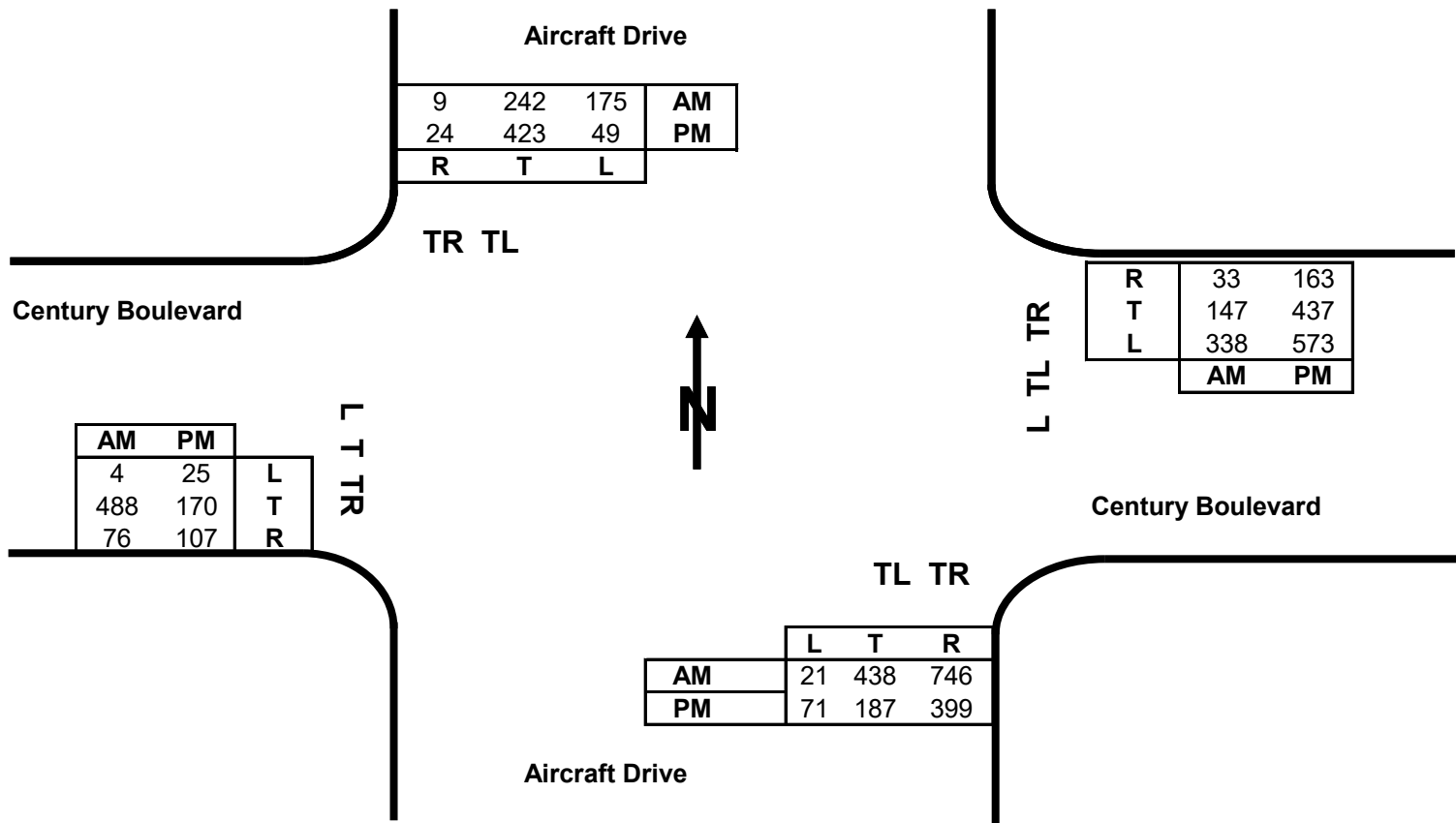


**Intersection of:** Aircraft Drive  
**and:** Century Boulevard  
**Conditions:** Background

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** Assume AM NB approach function as TL + R given NBR volume; AM NB thru CLV is governed by NBRs and is equal to [NBR - WB CLV]. In the PM, assume NBT volume uses both approach lanes.

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB Y  
WB Y

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	554	1.000	554	175	1.000	175	0	729
SB	426	0.530	226	21	1.000	21	0	
EB	564	0.530	299	4	1.000	4	0	299
WB	SPLIT PHASE			SPLIT PHASE				
WB	518	0.370	192	338	0.530	179	0	192
CLV Total =								1220
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	657	0.530	348	49	1.000	49	0	397
SB	496	0.530	263	71	1.000	71	0	
EB	277	0.530	147	25	1.000	25	0	147
WB	SPLIT PHASE			SPLIT PHASE				
WB	1173	0.370	434	573	0.530	304	0	434
CLV Total =								978
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

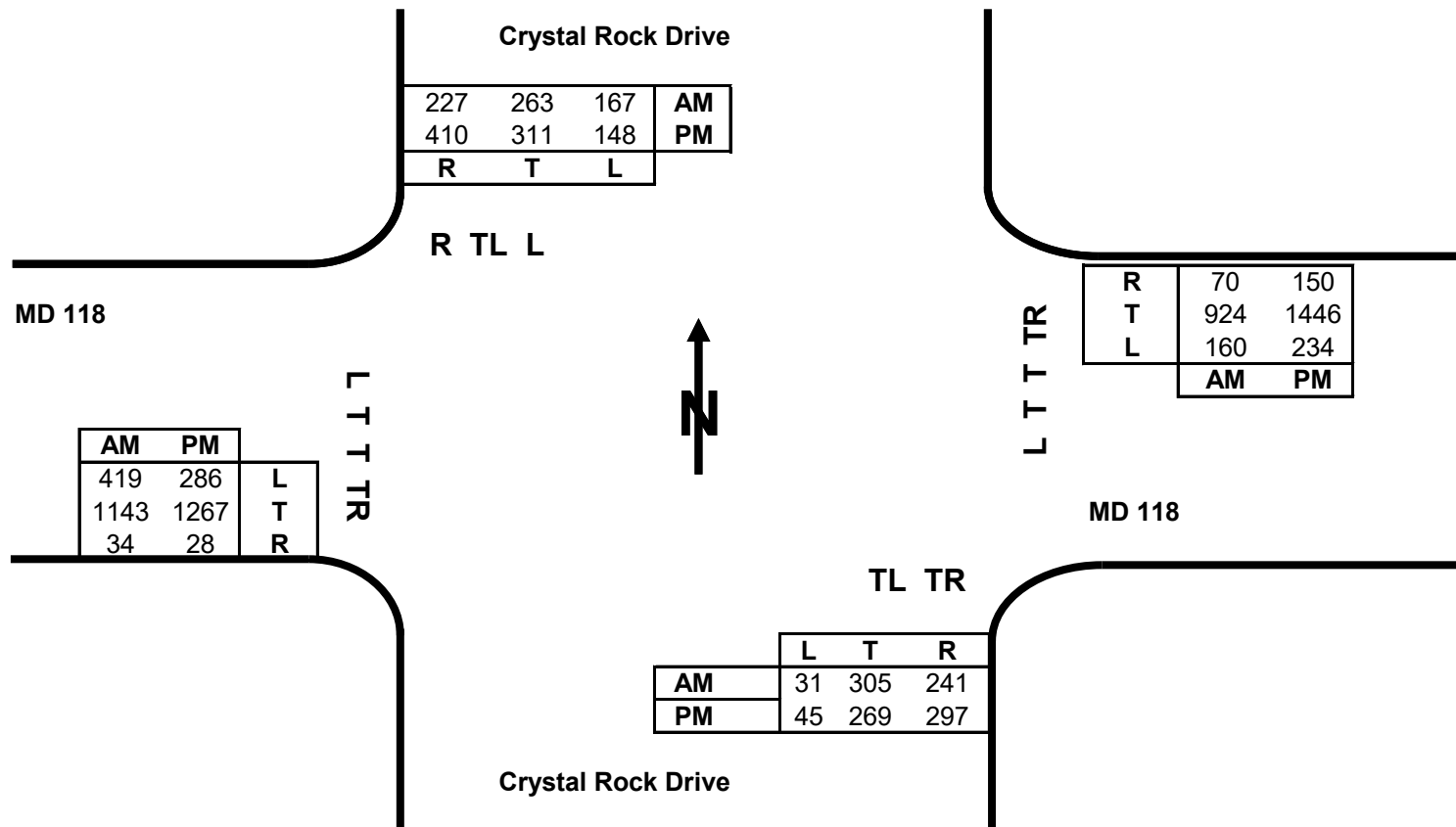


Intersection of: Crystal Rock Drive  
and: MD 118  
Conditions: Background

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	577	0.530	306	31	1.000	31	241	306
SPLIT PHASE								
SB	430	0.530	228	167	0.530	89	0	228
EB	1177	0.370	435	160	1.000	160	0	787
WB	994	0.370	368	419	1.000	419	0	
CLV Total =								<b>1321</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	611	0.530	324	45	1.000	45	297	324
SPLIT PHASE								
SB	459	0.530	243	31	1.000	31	124	243
EB	1295	0.370	479	234	1.000	234	0	877
WB	1596	0.370	591	286	1.000	286	0	
CLV Total =								<b>1444</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

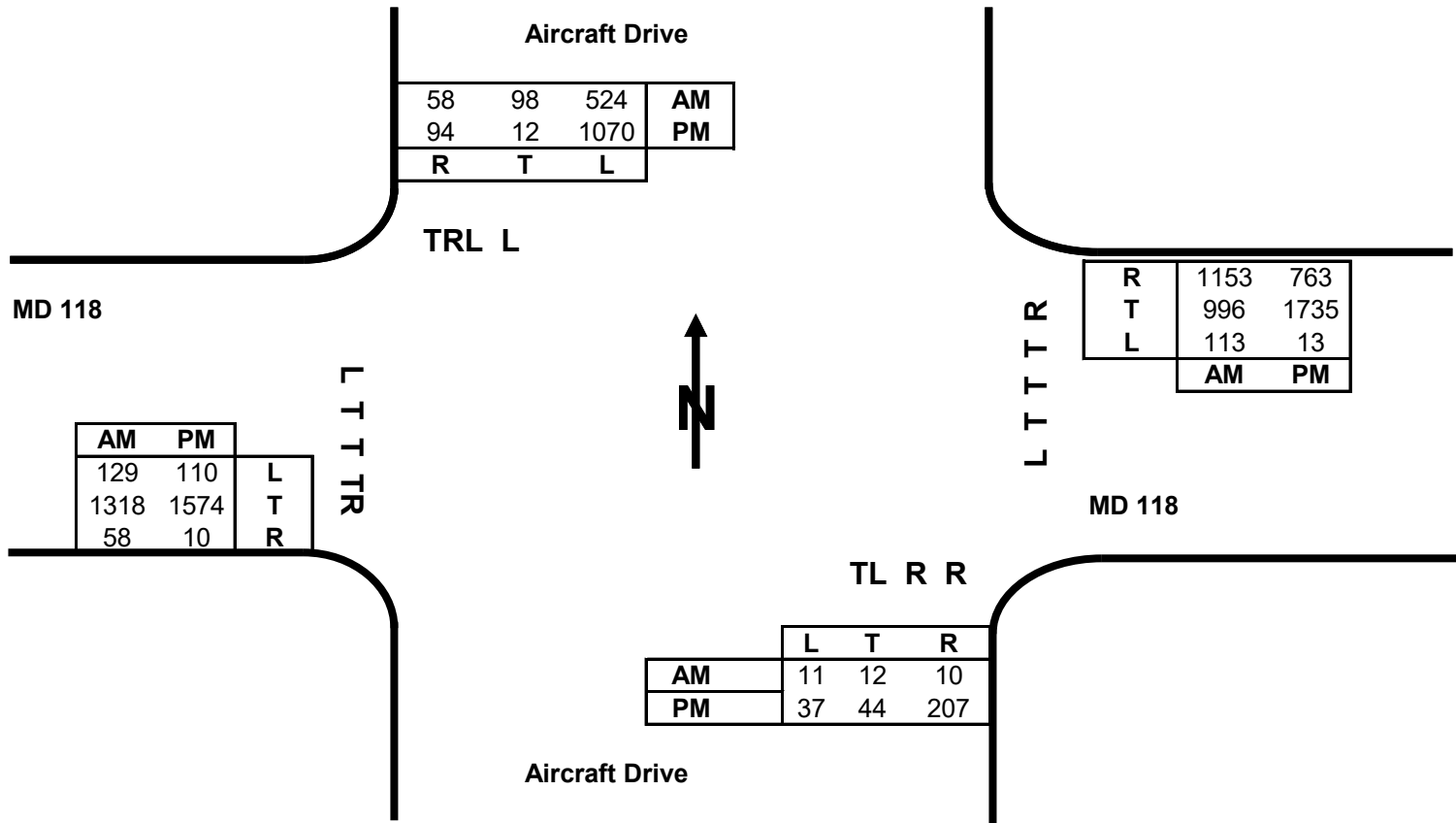


Intersection of: Aircraft Drive  
and: MD 118  
Conditions: Background

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s): PM NBR CLV = 0.53 \* NBR - WBL = 0.53 \* 207 - 13  
AM WB CLV = WBT + EBL + [WBR - SB CLV - WBT]

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	23	1.000	23	0	1.000	0	0	23
SPLIT PHASE								
SB	680	0.530	360	0	0.530	0	0	360
EB	1376	0.370	509	113	1.000	113	0	922
WB	996	0.370	369	129	1.000	129	424	
CLV Total =								<b>1305</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	81	0.530	43	0	1.000	0	97	97
SPLIT PHASE								
SB	1176	0.530	623	0	0.530	0	0	623
EB	1584	0.370	586	13	1.000	13	0	752
WB	1735	0.370	642	110	1.000	110	0	
CLV Total =								<b>1472</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

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Silver Spring, MD

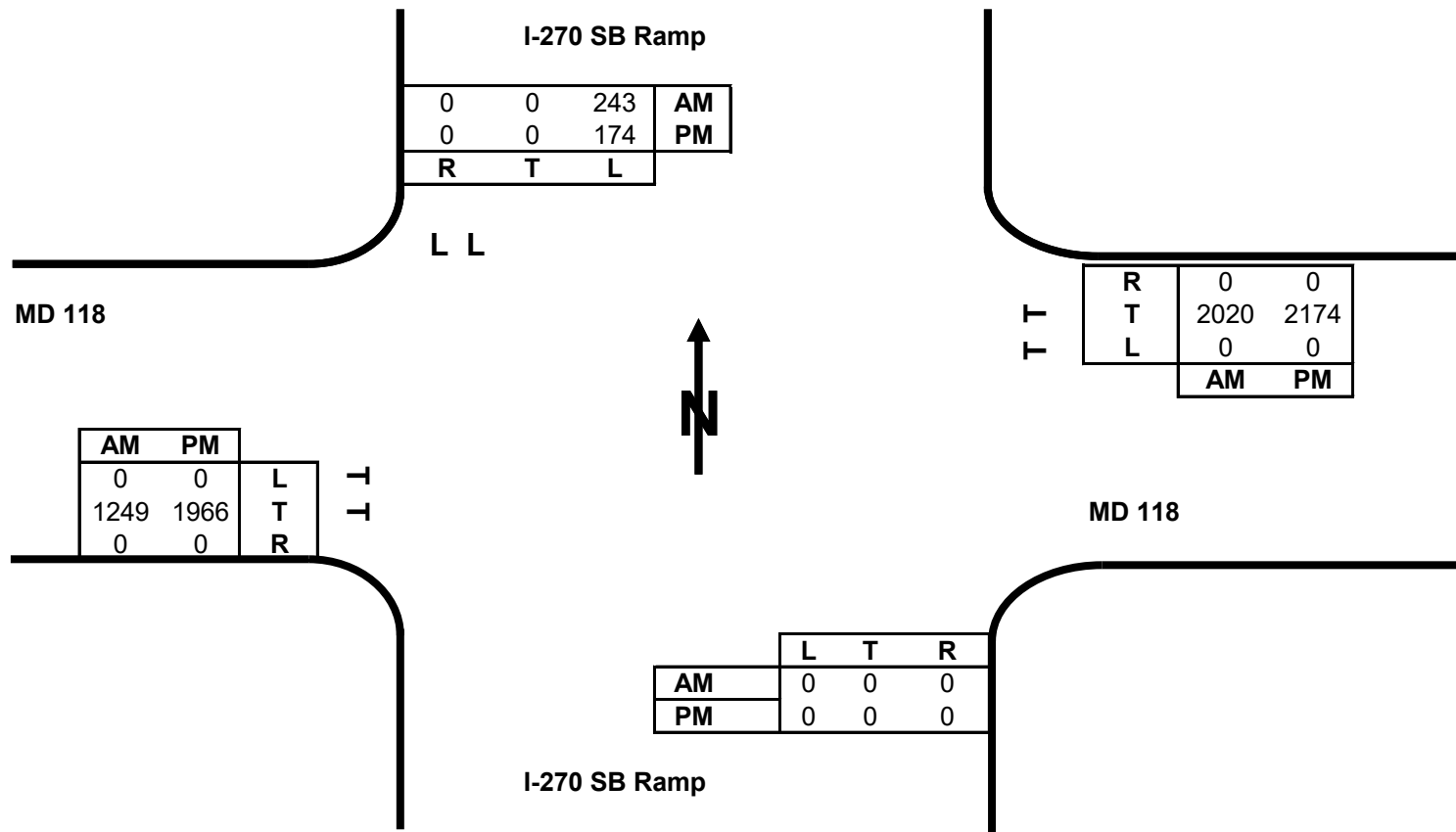


Intersection of: I-270 SB Ramp  
and: MD 118  
Conditions: Background

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	0	0.000	0	0	0.000	0	0	0
SB	243	0.530	129	0	0.000	0	0	129
EB	1249	0.530	662	0	0.000	0	0	1071
WB	2020	0.530	1071	0	0.000	0	0	
CLV Total =								<b>1200</b>
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	0	0.000	0	0	0.000	0	0	0
SB	174	0.530	92	0	0.530	0	0	92
EB	1966	0.530	1042	0	0.000	0	0	1152
WB	2174	0.530	1152	0	0.000	0	0	
CLV Total =								<b>1244</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

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Silver Spring, MD

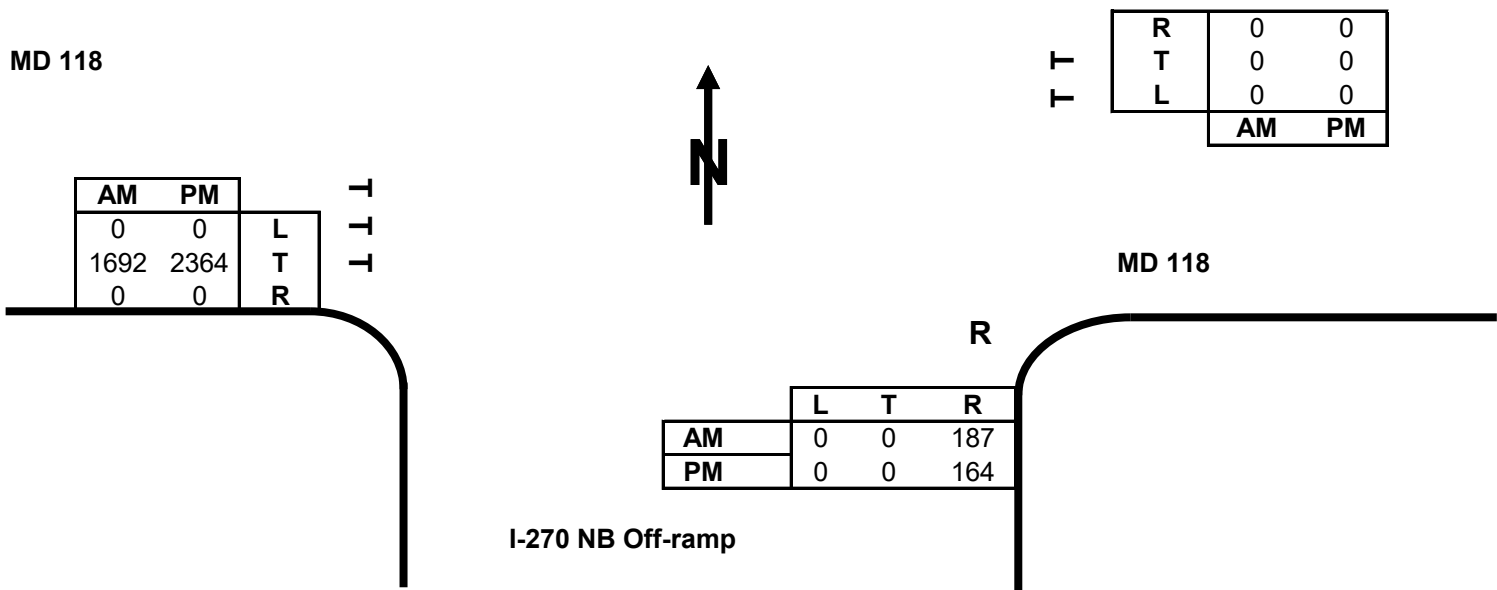


**Intersection of:** I-270 NB Off-ramp  
**and:** MD 118  
**Conditions:** Background

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** NBR is the stop-controlled I-270 NB off-ramp to Seneca Meadows.

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	187	1.000	187	0	0.000	0	0	187
SB	0	0.530	0	0	0.000	0	0	0
EB	1692	0.370	626	0	0.000	0	0	626
WB	0	0.000	0	0	0.000	0	0	0
CLV Total =								<b>813</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	164	1.000	164	0	0.000	0	0	164
SB	0	0.530	0	0	0.000	0	0	0
EB	2364	0.370	875	0	0.000	0	0	875
WB	0	0.530	0	0	0.000	0	0	0
CLV Total =								<b>1039</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

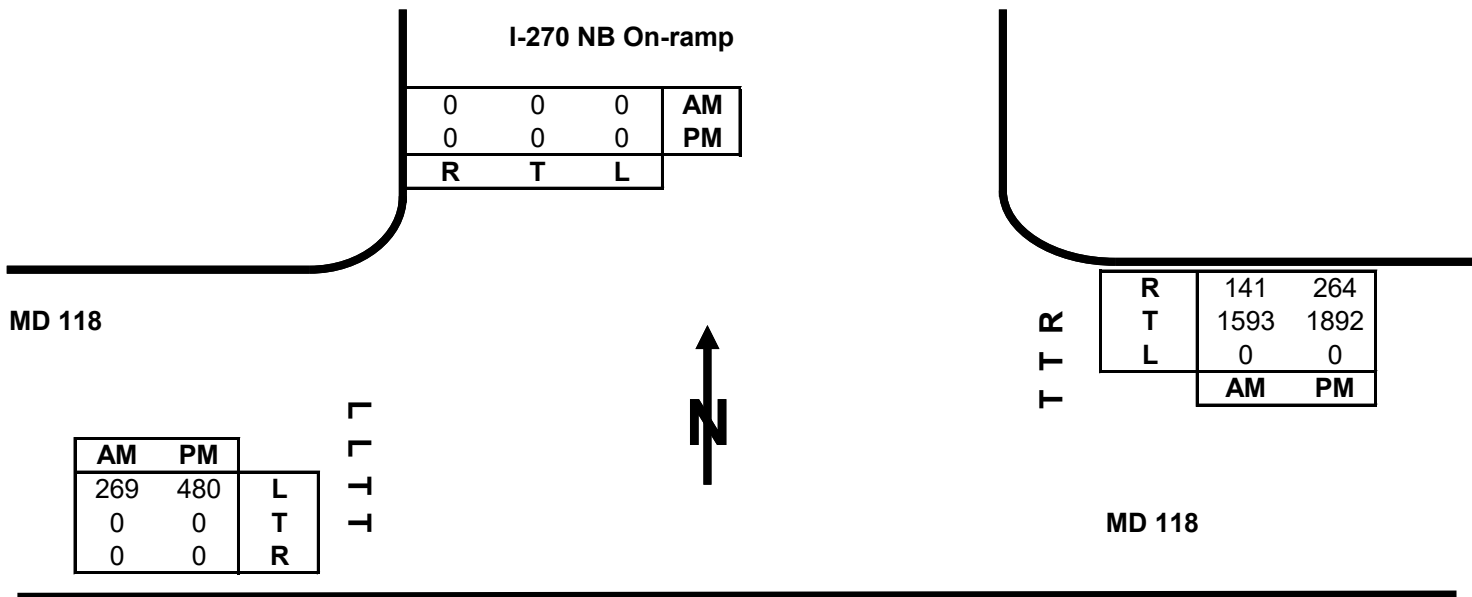
Century Park PAPF  
Silver Spring, MD



Intersection of: I-270 NB On-ramp  
and: MD 118  
Conditions: Background

Date: July 7, 2015  
Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** EBT is continuously served by green (no conflicting movement); WBR is a free channelized right.

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	0	0.000	0	0	0.000	0	0	0
SB	0	0.000	0	0	0.000	0	0	0
EB	0	0.530	0	0	0.000	0	0	987
WB	1593	0.530	844	269	0.530	143	141	987
CLV Total =								987
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	0	0.000	0	0	0.000	0	0	0
SB	0	0.000	0	0	0.000	0	0	0
EB	0	0.530	0	0	0.000	0	0	1257
WB	1892	0.530	1003	480	0.530	254	0	1257
CLV Total =								1257
Level of Service (LOS) =								

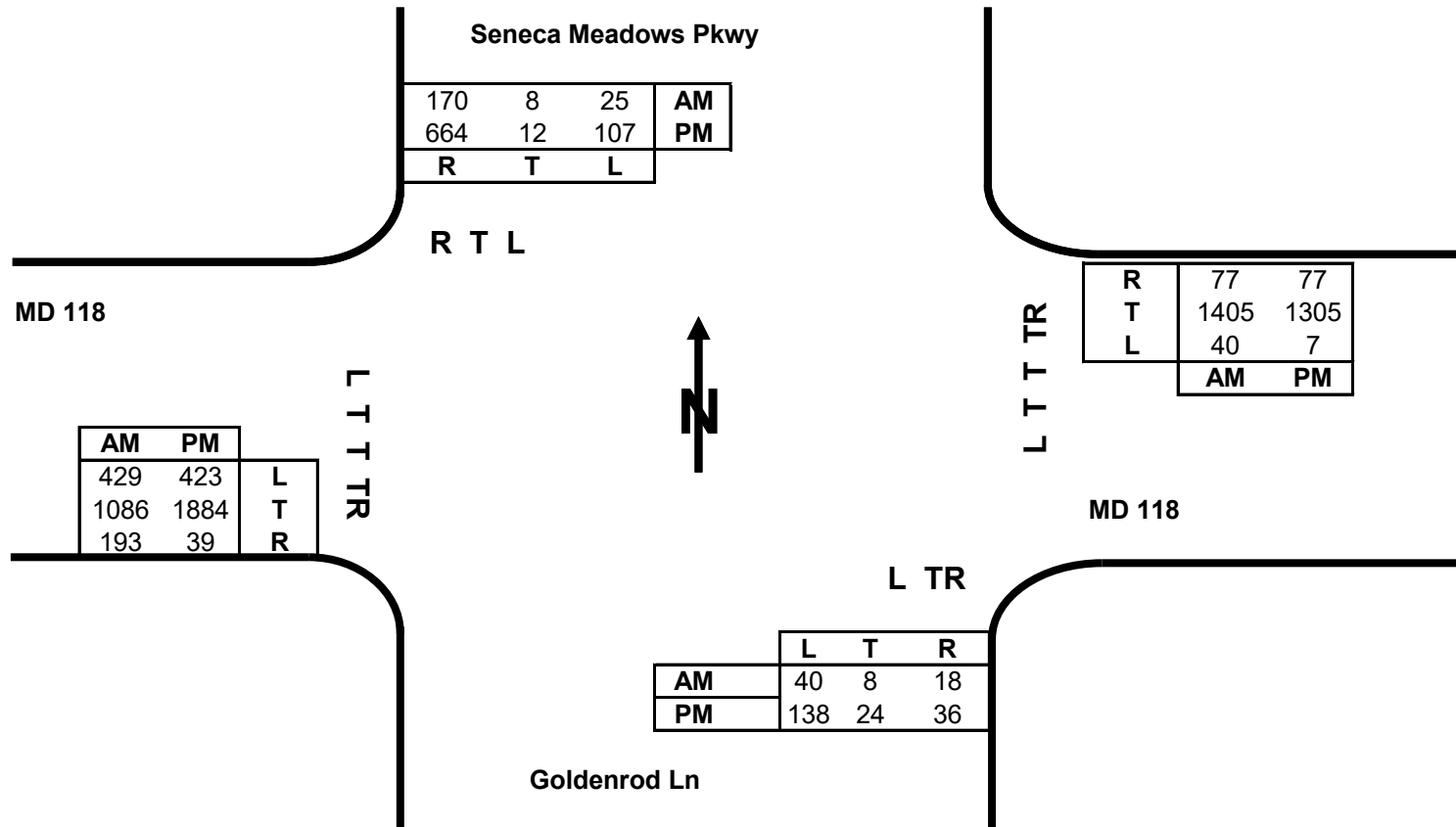
# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD



Intersection of: Seneca Meadows Pkwy/Goldenrod Ln      Date: June 1, 2014  
 and: MD 118  
 Conditions: Background      Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
 SB N  
 EB N  
 WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	26	1.000	26	25	1.000	25	0	51
SB	8	1.000	8	40	1.000	40	0	
EB	1279	0.370	473	40	1.000	40	0	977
WB	1482	0.370	548	429	1.000	429	0	
CLV Total =								<b>1028</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	60	1.000	60	107	1.000	107	0	379
SB	12	1.000	12	138	1.000	138	229	
EB	1923	0.370	712	7	1.000	7	0	934
WB	1382	0.370	511	423	1.000	423	0	
CLV Total =								<b>1313</b>
Level of Service (LOS) =								



# CRITICAL LANE VOLUME (CLV) METHODOLOGY

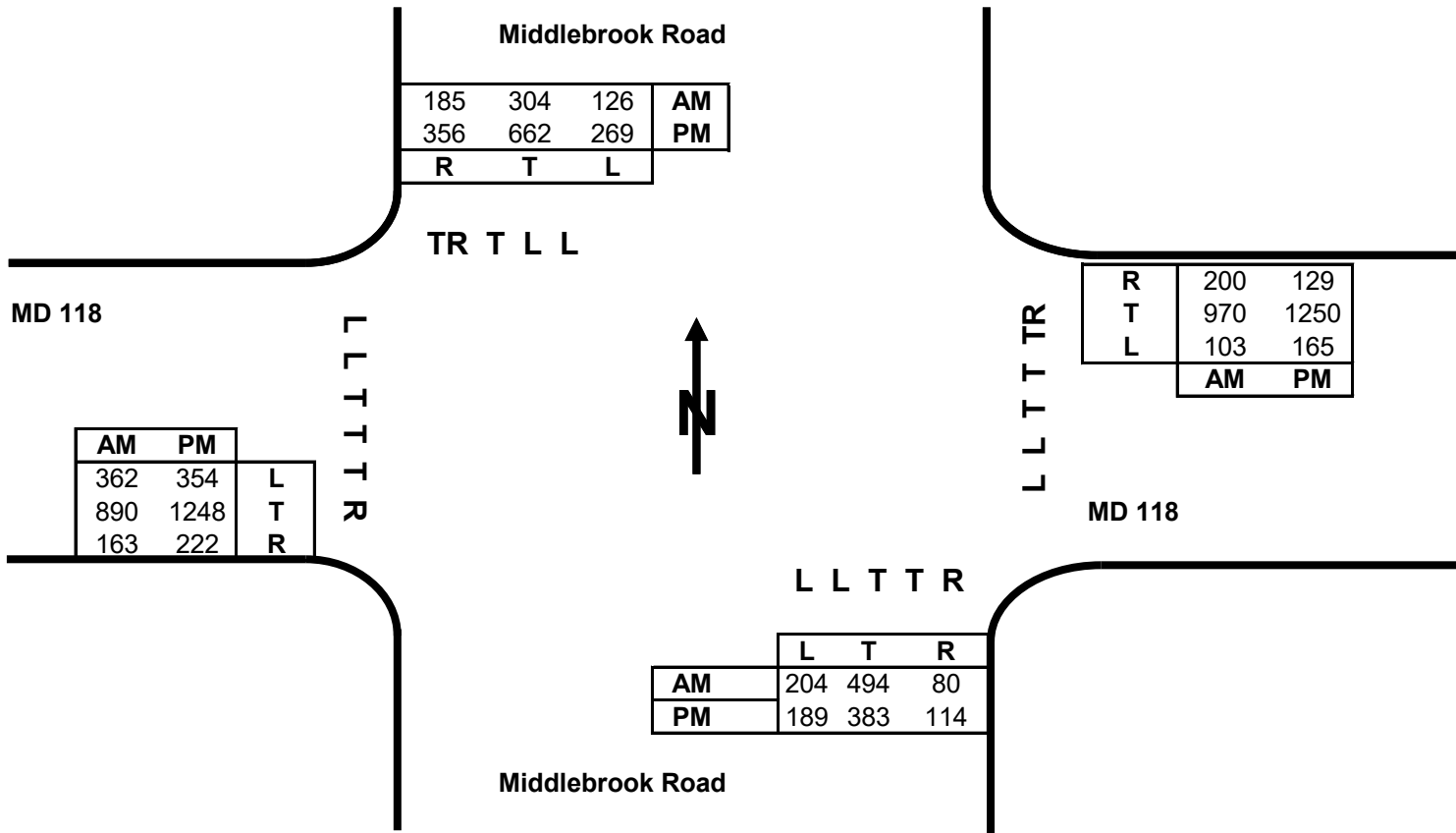
Century Park PAPF  
Silver Spring, MD



Intersection of: Middlebrook Road  
and: MD 118  
Conditions: Background

Date: July 7, 2015  
Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	494	0.530	262	126	0.530	67	0	367
SB	489	0.530	259	204	0.530	108	0	
EB	890	0.370	329	103	0.530	55	0	625
WB	1170	0.370	433	362	0.530	192	0	
CLV Total =								992
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	383	0.530	203	269	0.530	143	0	640
SB	1018	0.530	540	189	0.530	100	0	
EB	1248	0.370	462	165	0.530	87	0	698
WB	1379	0.370	510	354	0.530	188	0	
CLV Total =								1338
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAF  
Silver Spring, MD

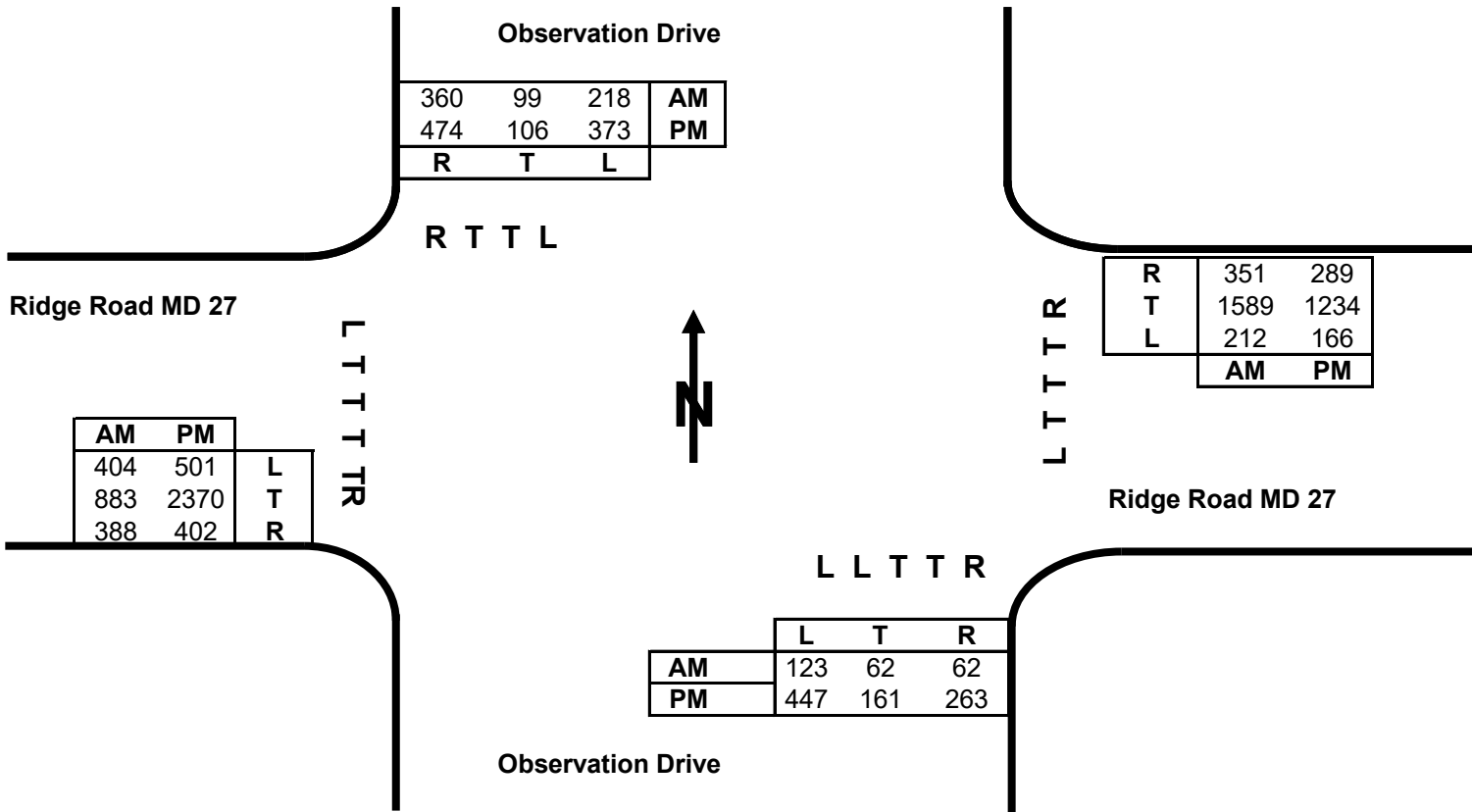


Intersection of: Observation Drive  
and: Ridge Road MD 27  
Conditions: Background

Date: July 7, 2015

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

- NB N
- SB N
- EB N
- WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	62	0.530	33	218	1.000	218	0	251
SB	99	0.530	52	123	0.530	65	0	
EB	1271	0.300	381	212	1.000	212	0	
WB	1589	0.370	588	404	1.000	404	0	
CLV Total =								1243
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	161	0.530	85	373	1.000	373	12	470
SB	106	0.530	56	447	0.530	237	0	
EB	2772	0.300	832	166	1.000	166	0	
WB	1234	0.370	457	501	1.000	501	0	
CLV Total =								1468
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

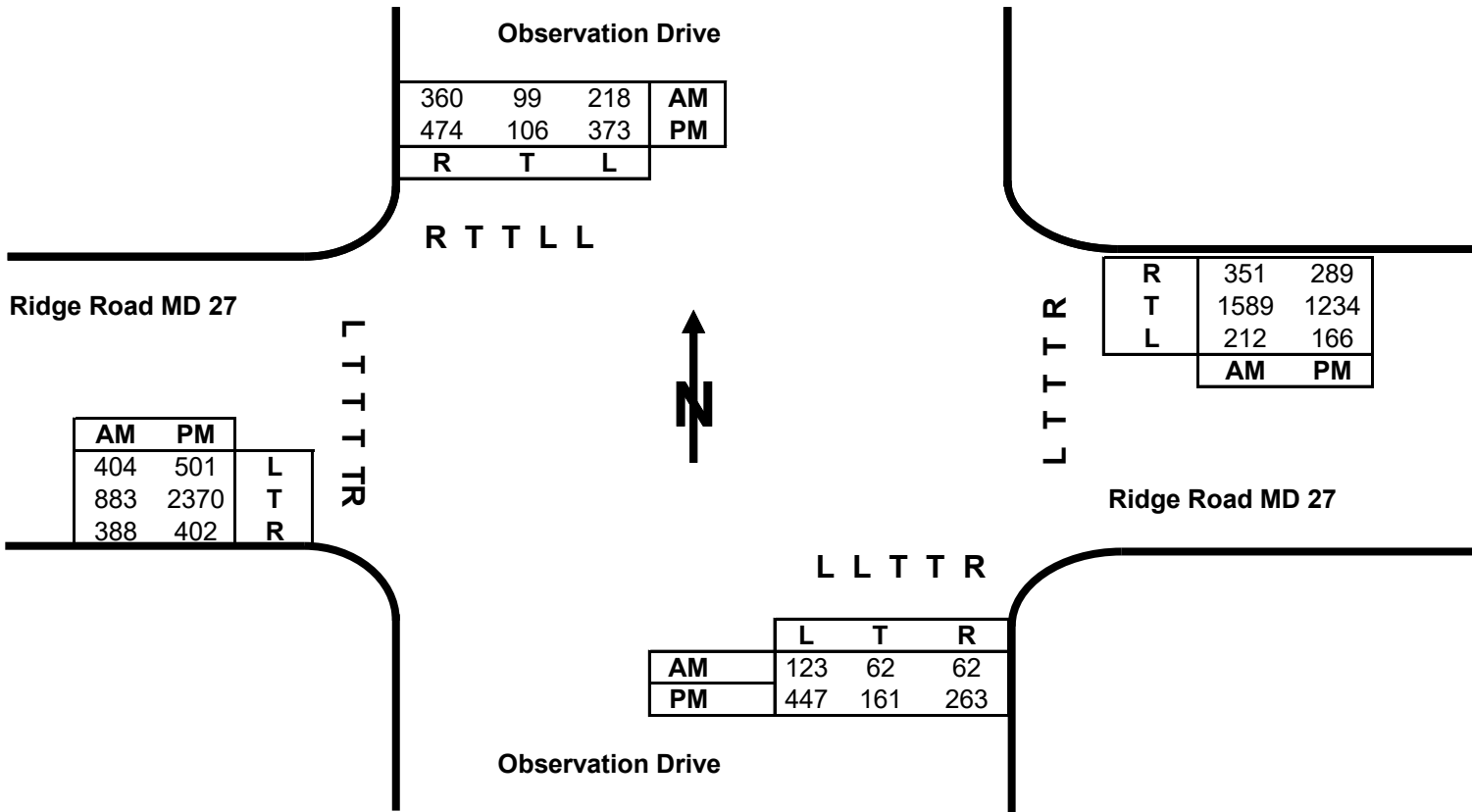
Century Park PAF  
Silver Spring, MD



**Intersection of:** Observation Drive  
**and:** Ridge Road MD 27  
**Conditions:** Background (w/ Improvement)

**Date:** July 7, 2015  
**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** Second southbound left turn lane assumed as an improvement under background conditions.

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	62	0.530	33	218	0.530	116	0	149
SB	99	0.530	52	123	0.530	65	0	
EB	1271	0.300	381	212	1.000	212	0	992
WB	1589	0.370	588	404	1.000	404	0	
CLV Total =								1141
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	161	0.530	85	373	0.530	198	12	295
SB	106	0.530	56	447	0.530	237	0	
EB	2772	0.300	832	166	1.000	166	0	998
WB	1234	0.370	457	501	1.000	501	91	
CLV Total =								1293
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

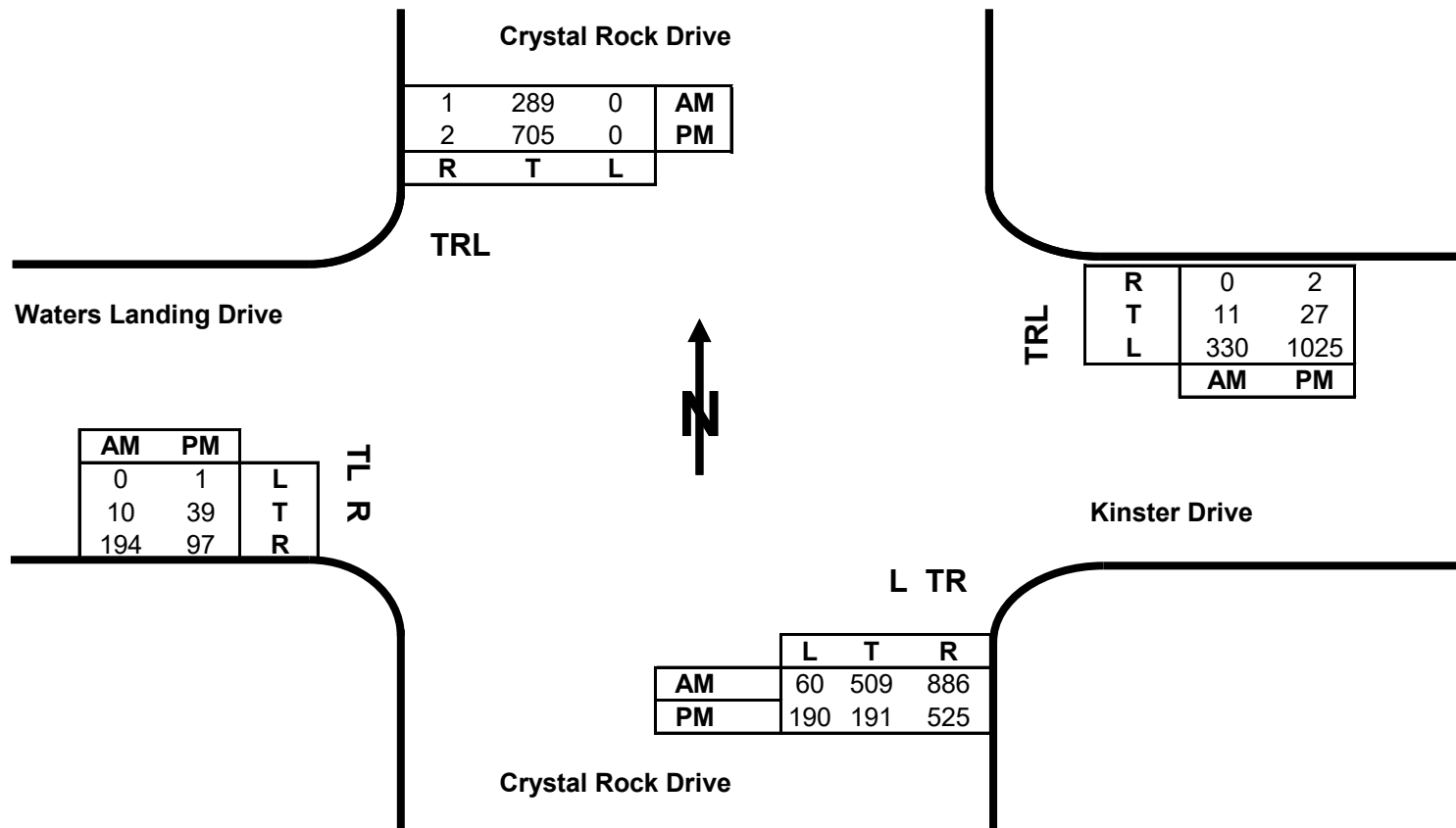


**Intersection of:** Crystal Rock Drive  
**and:** Kinster Dr / Waters Landing Dr  
**Conditions:** Total Future

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** Stop-controlled for EB and WB approaches. Two-phase operation assumed per LATR guidelines. WB approach is modeled as TLR but functions more like TL + TR.

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	1395	1.000	1395	0	1.000	0	0	1395
SB	290	1.000	290	60	1.000	60	0	
EB	10	1.000	10	330	1.000	330	124	464
WB	341	1.000	341	0	1.000	0	0	
CLV Total =								<b>1859</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	716	1.000	716	0	1.000	0	0	897
SB	707	1.000	707	190	1.000	190	0	
EB	40	1.000	40	1025	1.000	1025	0	1065
WB	1054	1.000	1054	1	1.000	1	0	
CLV Total =								<b>1962</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

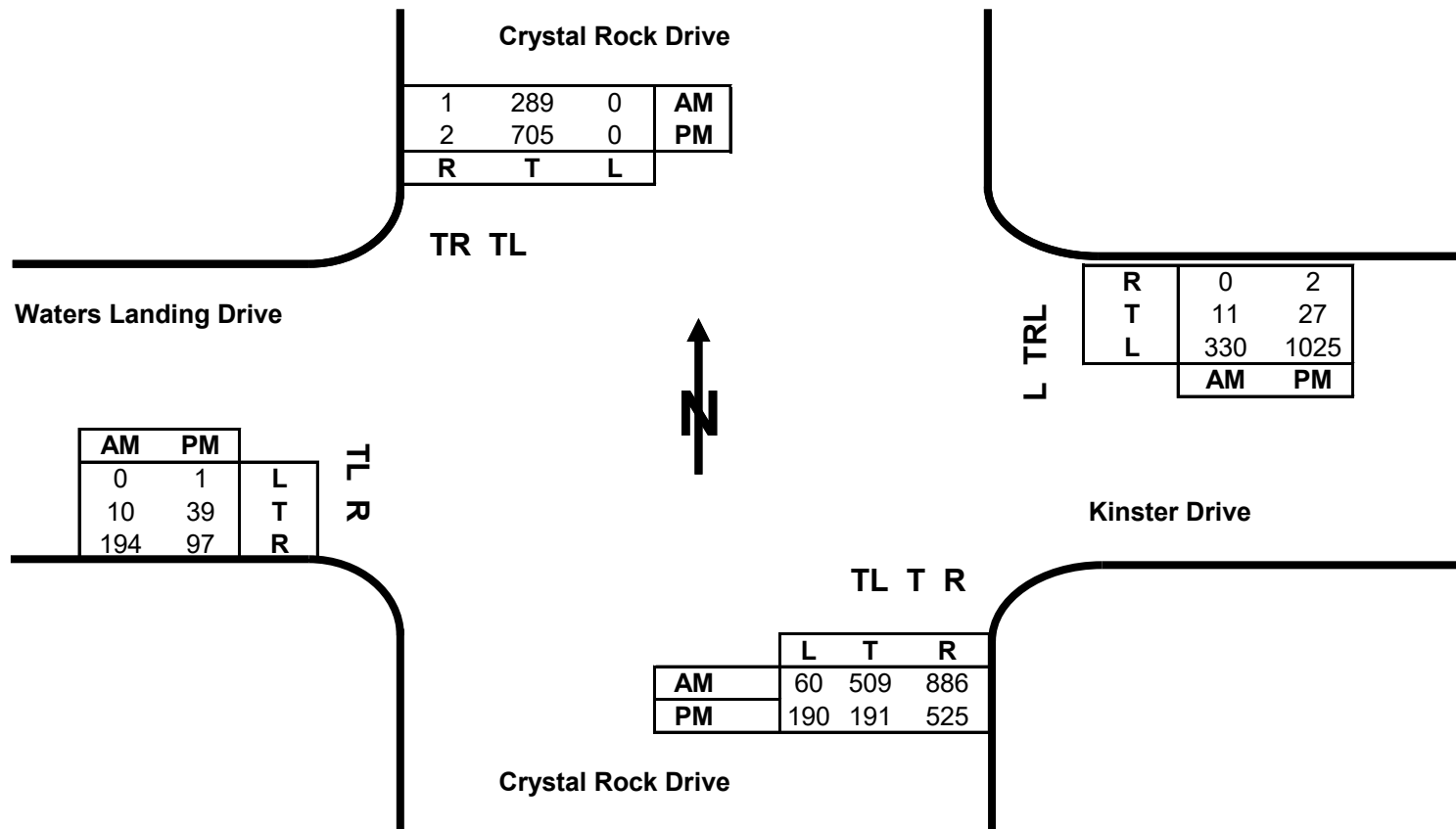


**Intersection of:** Crystal Rock Drive  
**and:** Kinster Dr / Waters Landing Dr  
**Conditions:** Total Future (w/ Improvements)

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** Signalized intersection with additional lanes as documented in report. Split-phase operation assumed for EB/WB movements. For split-phase operations, approach CLV is the maximum of through, left, or right CLV.

$$AM\ NBR\ CLV = NBR - [WB\ CLV + NBT\ CLV]$$

### Split Phase?

NB N  
SB N  
EB Y  
WB Y

### Capacity Analysis-

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	569	0.530	302	0	1.000	0	403	705
SB	290	0.530	154	60	1.000	60	0	
EB	10	1.000	10	0	1.000	0	124	124
SPLIT PHASE				SPLIT PHASE				
WB	341	0.530	181	330	0.530	175	0	181
CLV Total =								<b>1010</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	381	0.530	202	0	1.000	0	0	565
SB	707	0.530	375	190	1.000	190	0	
EB	40	1.000	40	1	1.000	1	0	40
SPLIT PHASE				SPLIT PHASE				
WB	1054	0.530	559	1025	0.530	543	0	559
CLV Total =								<b>1164</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

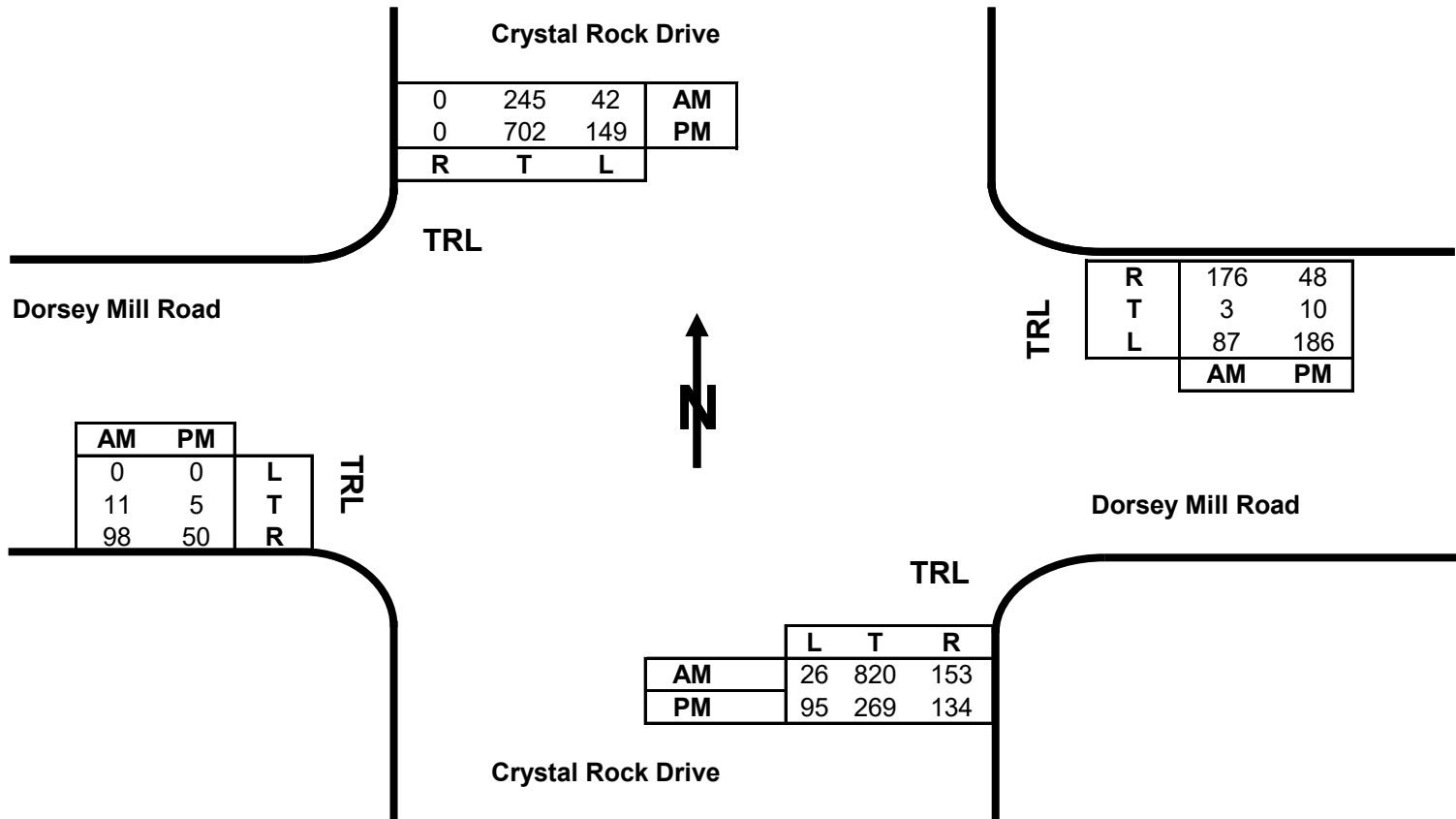


**Intersection of:** Crystal Rock Drive  
**and:** Dorsey Mill Road  
**Conditions:** Total Future

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** Intersection does not exist in Existing Conditions.

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								<b>AM</b>
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	<b>CLV</b>
	VOL	x LUF	= Total	VOL	x LUF	= Total		
<b>NB</b>	999	1.000	999	42	1.000	42	0	1041
<b>SB</b>	287	1.000	287	26	1.000	26	0	
<b>EB</b>	109	1.000	109	87	1.000	87	0	266
<b>WB</b>	266	1.000	266	0	1.000	0	0	
CLV Total =								<b>1307</b>
Level of Service (LOS) =								

Evening Peak Hour								<b>PM</b>
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	<b>CLV</b>
	VOL	x LUF	= Total	VOL	x LUF	= Total		
<b>NB</b>	498	1.000	498	149	1.000	149	0	946
<b>SB</b>	851	1.000	851	95	1.000	95	0	
<b>EB</b>	55	1.000	55	186	1.000	186	0	244
<b>WB</b>	244	1.000	244	0	1.000	0	0	
CLV Total =								<b>1190</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

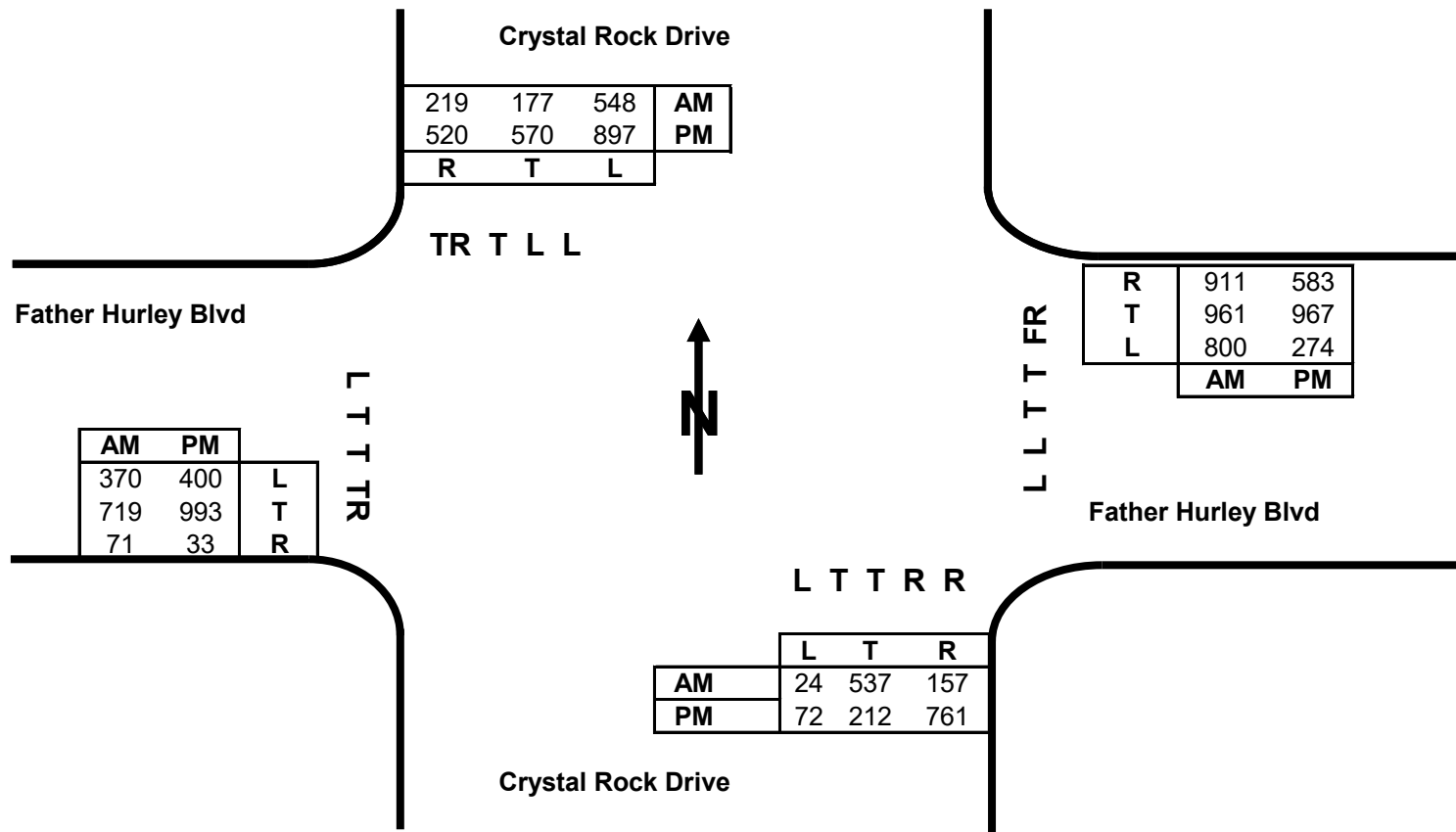


**Intersection of:** Crystal Rock Drive  
**and:** Father Hurley Blvd  
**Conditions:** Total Future (w/o 2nd EBL)

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** This represents the Total Future Conditions with the Background Improvements, but not the final recommended improvement of a 2nd EBL lane.

PM NB right-turn check =  $761 \cdot 0.53 - 274 \cdot 0.53 - (513 - 380) \cdot 0.53$

### Split Phase?

- NB N
- SB N
- EB N
- WB N

### Capacity Analysis-

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	537	0.530	285	548	0.530	290	0	575
SB	396	0.530	210	24	1.000	24	0	
EB	790	0.370	292	800	0.530	424	0	879
WB	961	0.530	509	370	1.000	370	0	
CLV Total =								1454
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	212	0.530	112	897	0.530	475	188	663
SB	1090	0.530	578	72	1.000	72	0	
EB	1026	0.370	380	274	0.530	145	0	913
WB	967	0.530	513	400	1.000	400	0	
CLV Total =								1576
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

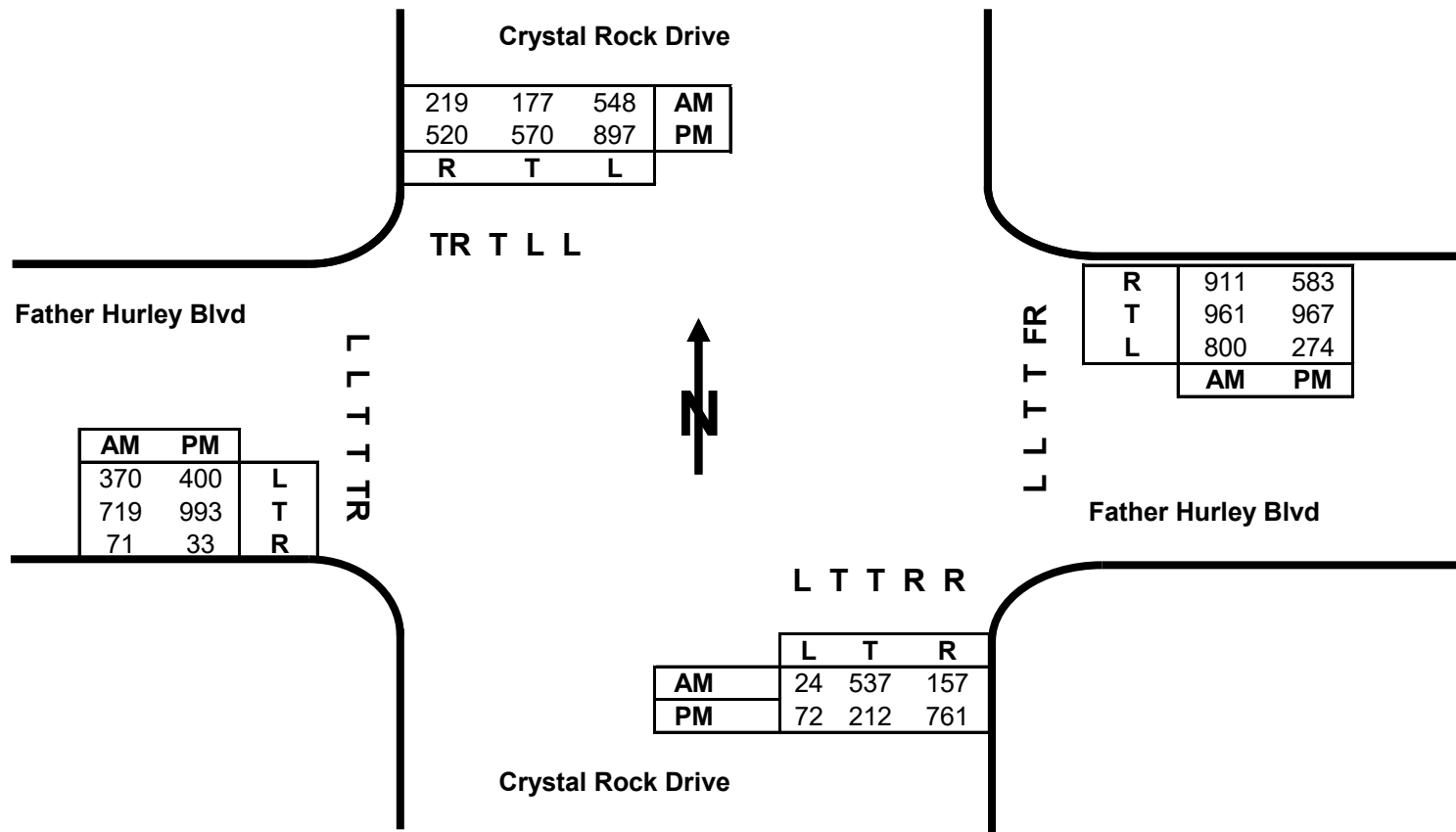


**Intersection of:** Crystal Rock Drive  
**and:** Father Hurley Blvd  
**Conditions:** Total Future (w/ 2nd EBL)

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** This represents the Total Future Conditions with Background Improvements and with recommended improvement of a 2nd EBL lane.

PM NB right-turn check =  $761 \cdot 0.53 - 274 \cdot 0.53 - (513 - 380) \cdot 0.53$

### Split Phase?

- NB N
- SB N
- EB N
- WB N

### Capacity Analysis-

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	537	0.530	285	548	0.530	290	0	575
SB	396	0.530	210	24	1.000	24	0	
EB	790	0.370	292	800	0.530	424	0	716
WB	961	0.530	509	370	0.530	196	0	
CLV Total =								1291
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	212	0.530	112	897	0.530	475	188	663
SB	1090	0.530	578	72	1.000	72	0	
EB	1026	0.370	380	274	0.530	145	0	725
WB	967	0.530	513	400	0.530	212	0	
CLV Total =								1388
Level of Service (LOS) =								



# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

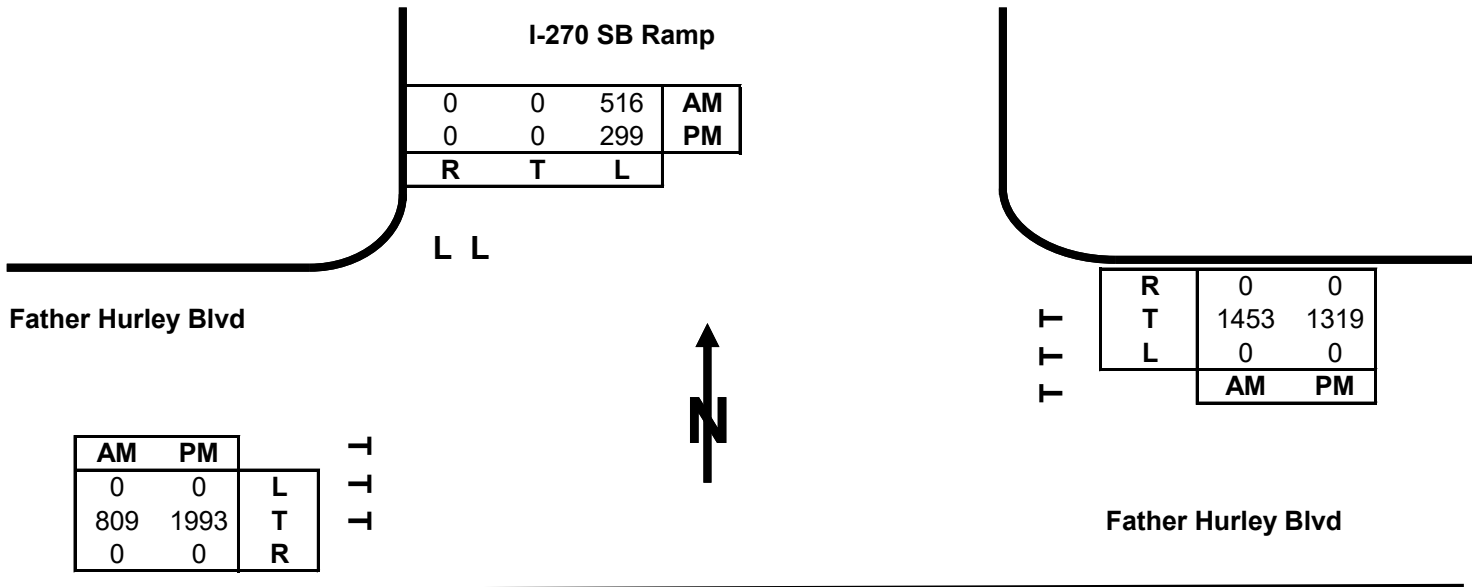


Intersection of: I-270 SB Ramp  
and: Father Hurley Blvd  
Conditions: Total Future

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	0	0.000	0	0	0.000	0	0	0
SB	516	0.530	273	0	0.000	0	0	273
EB	809	0.370	299	0	0.000	0	0	538
WB	1453	0.370	538	0	0.000	0	0	
CLV Total =								<b>811</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	0	0.000	0	0	0.000	0	0	0
SB	299	0.530	158	0	0.000	0	0	158
EB	1993	0.370	737	0	0.000	0	0	737
WB	1319	0.370	488	0	0.000	0	0	
CLV Total =								<b>895</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

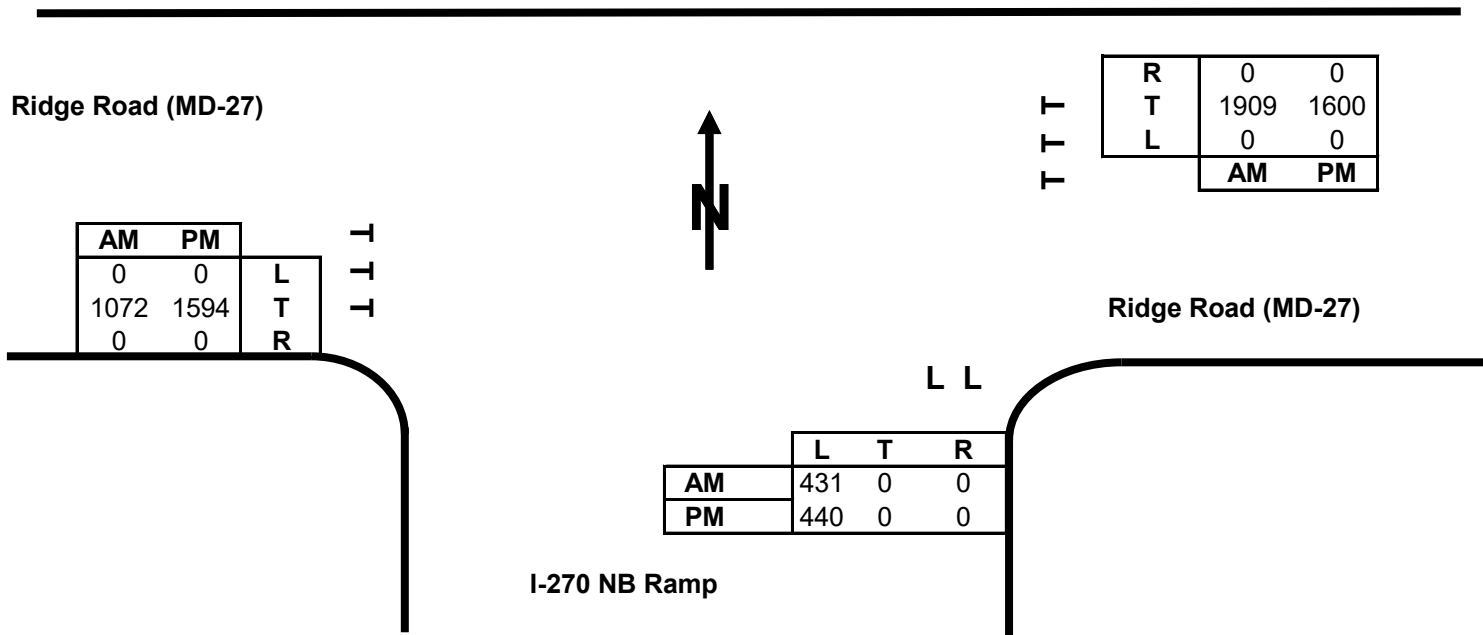


Intersection of: I-270 NB Ramp  
and: Ridge Road (MD-27)  
Conditions: Total Future

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	431	0.530	228	0	0.000	0	0	228
SB	0	0.000	0	0	0.000	0	0	0
EB	1072	0.370	397	0	0.000	0	0	706
WB	1909	0.370	706	0	0.000	0	0	
CLV Total =								<b>934</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	440	0.530	233	0	0.000	0	0	233
SB	0	0.000	0	0	0.000	0	0	0
EB	1594	0.370	590	0	0.000	0	0	592
WB	1600	0.370	592	0	0.000	0	0	
CLV Total =								<b>825</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

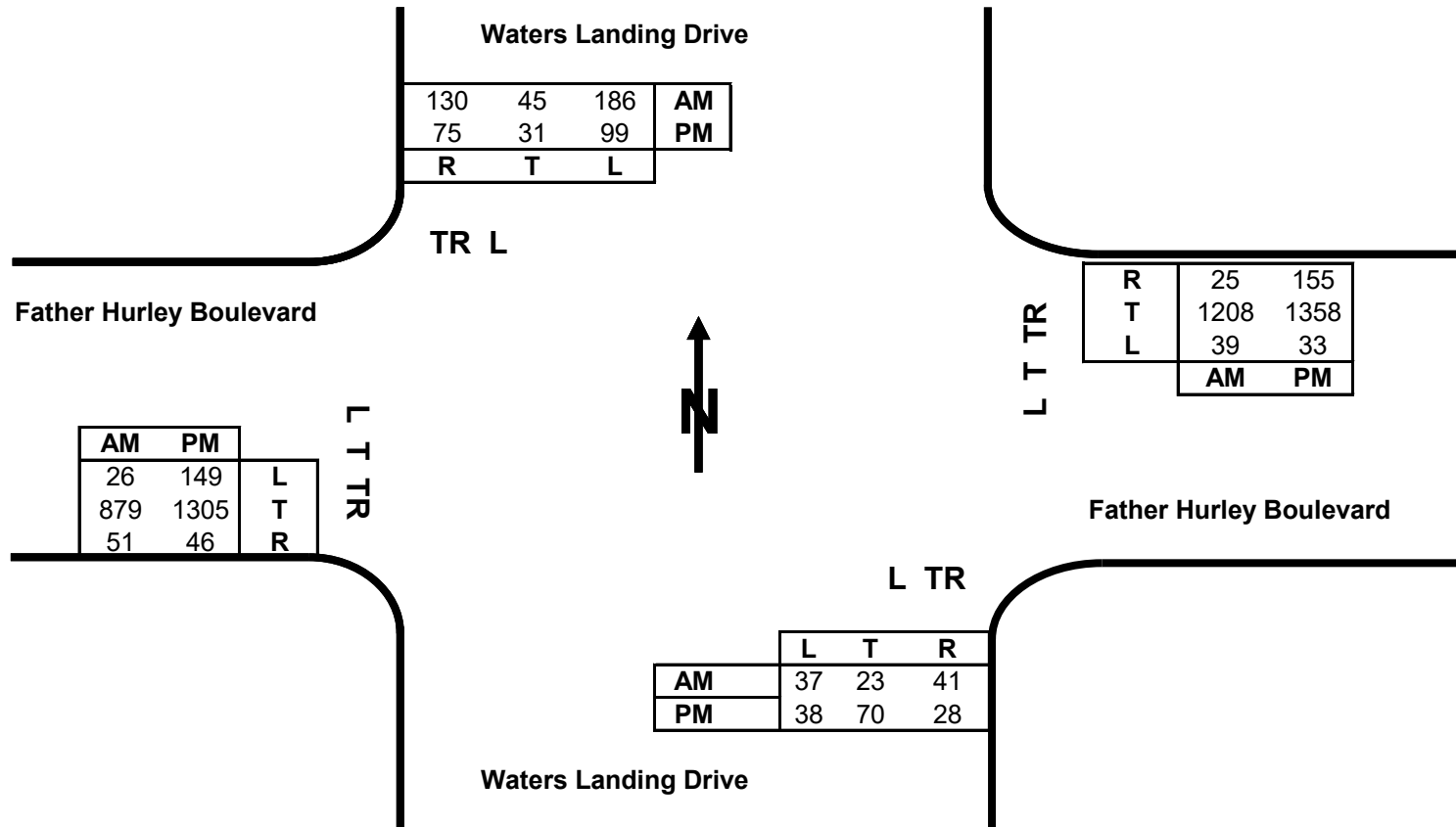


Intersection of: Waters Landing Drive  
and: Father Hurley Boulevard  
Conditions: Total Future

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	64	1.000	64	186	1.000	186	0	250
SB	175	1.000	175	37	1.000	37	0	
EB	930	0.530	493	39	1.000	39	0	679
WB	1233	0.530	653	26	1.000	26	0	
CLV Total =								<b>929</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	98	1.000	98	99	1.000	99	0	197
SB	106	1.000	106	38	1.000	38	0	
EB	1351	0.530	716	33	1.000	33	0	951
WB	1513	0.530	802	149	1.000	149	0	
CLV Total =								<b>1148</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

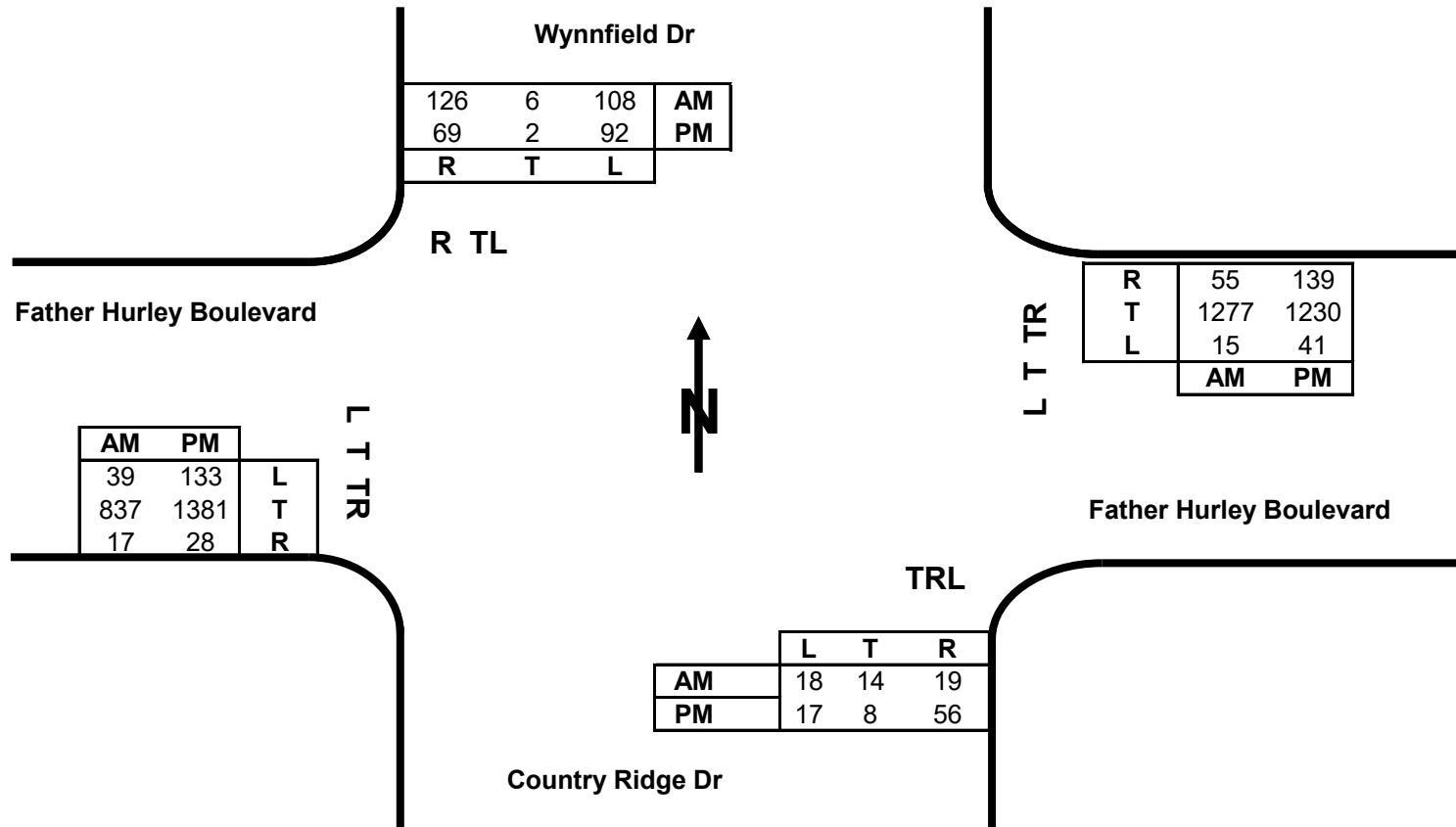


Intersection of: Wynnfield Dr/Country Ridge Dr  
and: Father Hurley Boulevard  
Conditions: Total Future

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	51	1.000	51	108	1.000	108	0	159
SB	114	1.000	114	18	1.000	18	87	
EB	854	0.530	453	15	1.000	15	0	745
WB	1332	0.530	706	39	1.000	39	0	
CLV Total =								<b>904</b>
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	81	1.000	81	92	1.000	92	0	173
SB	94	1.000	94	17	1.000	17	0	
EB	1409	0.530	747	41	1.000	41	0	859
WB	1369	0.530	726	133	1.000	133	0	
CLV Total =								<b>1032</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

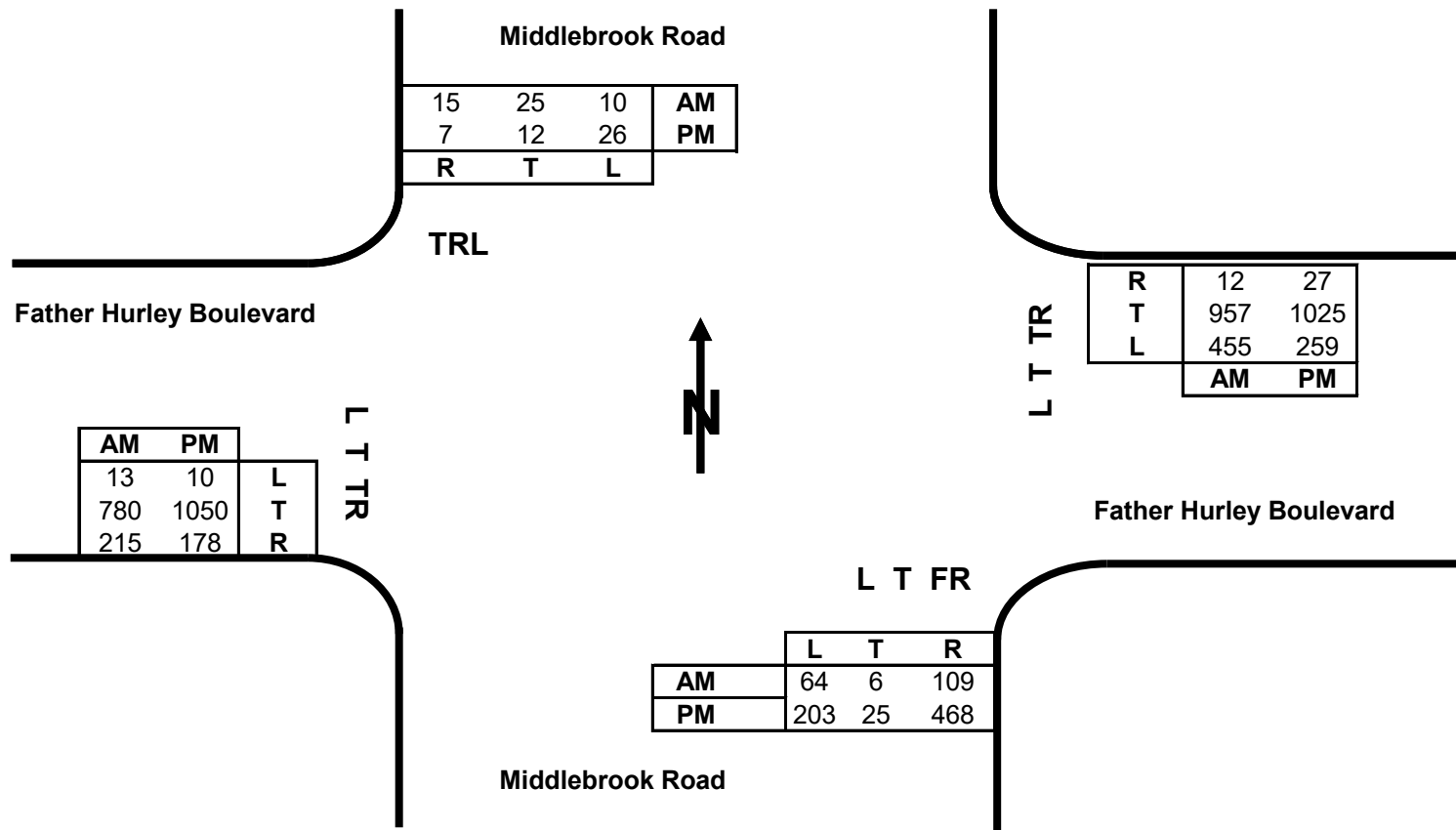


**Intersection of:** Middlebrook Road  
**and:** Father Hurley Boulevard  
**Conditions:** Total Future

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** Assume EB right does not turn right on red. Assume NB Middlebrook R acts as FR

## Capacity Analysis-

### Split Phase?

**NB** N  
**SB** N  
**EB** N  
**WB** N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
<b>NB</b>	6	1.000	6	10	1.000	10	0	114
<b>SB</b>	50	1.000	50	64	1.000	64	0	
<b>EB</b>	995	0.530	527	455	1.000	455	0	982
<b>WB</b>	969	0.530	514	13	1.000	13	0	
CLV Total =								<b>1096</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
<b>NB</b>	25	1.000	25	26	1.000	26	0	248
<b>SB</b>	45	1.000	45	203	1.000	203	0	
<b>EB</b>	1228	0.530	651	259	1.000	259	0	910
<b>WB</b>	1052	0.530	558	10	1.000	10	0	
CLV Total =								<b>1158</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

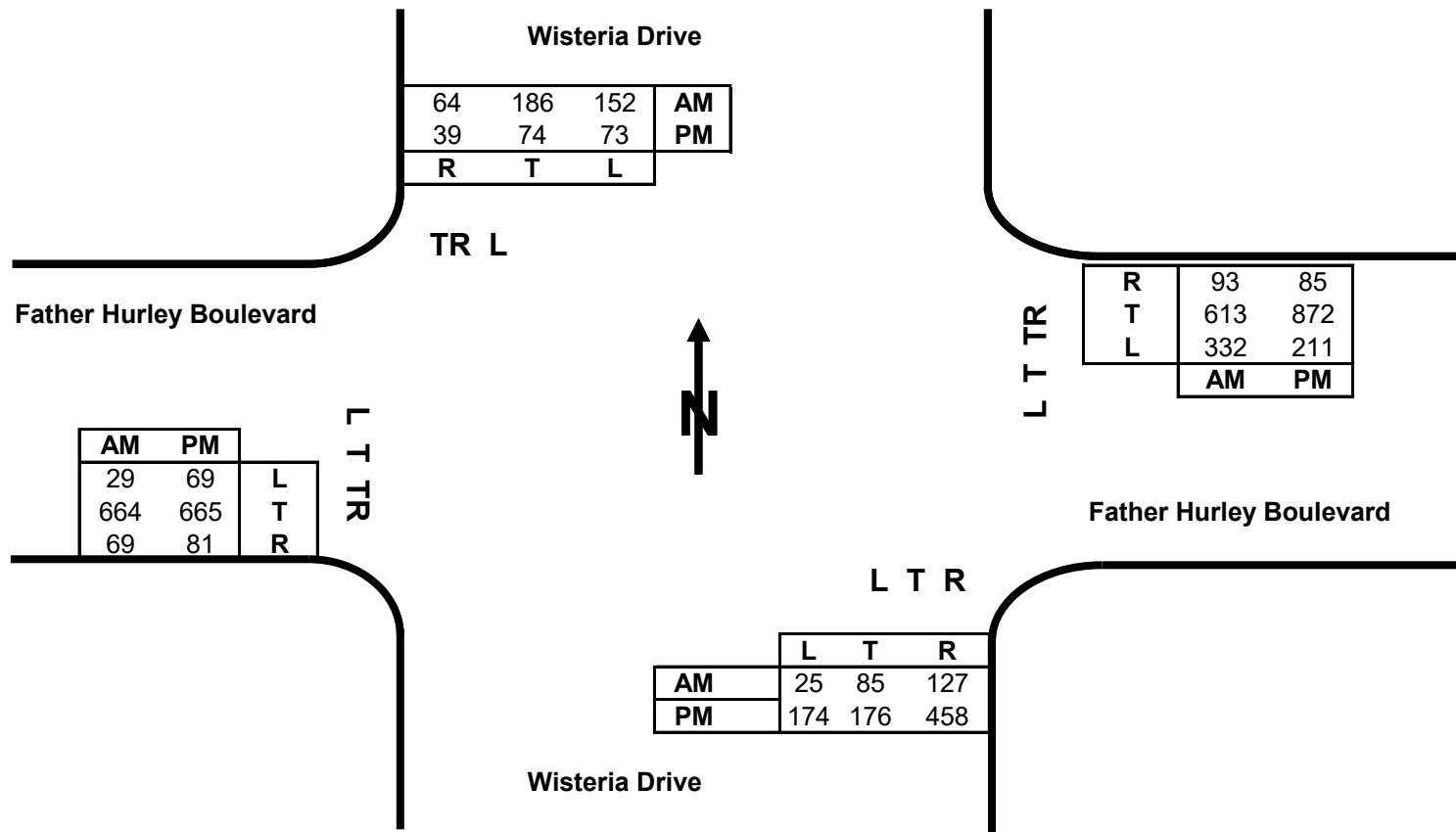


Intersection of: Wisteria Drive  
and: Father Hurley Boulevard  
Conditions: Total Future

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	85	1.000	85	152	1.000	152	0	275
SB	250	1.000	250	25	1.000	25	0	
EB	733	0.530	388	332	1.000	332	0	720
WB	706	0.530	374	29	1.000	29	0	
CLV Total =								995
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	176	1.000	176	73	1.000	73	71	320
SB	113	1.000	113	174	1.000	174	0	
EB	746	0.530	395	211	1.000	211	0	606
WB	957	0.530	507	69	1.000	69	0	
CLV Total =								926
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

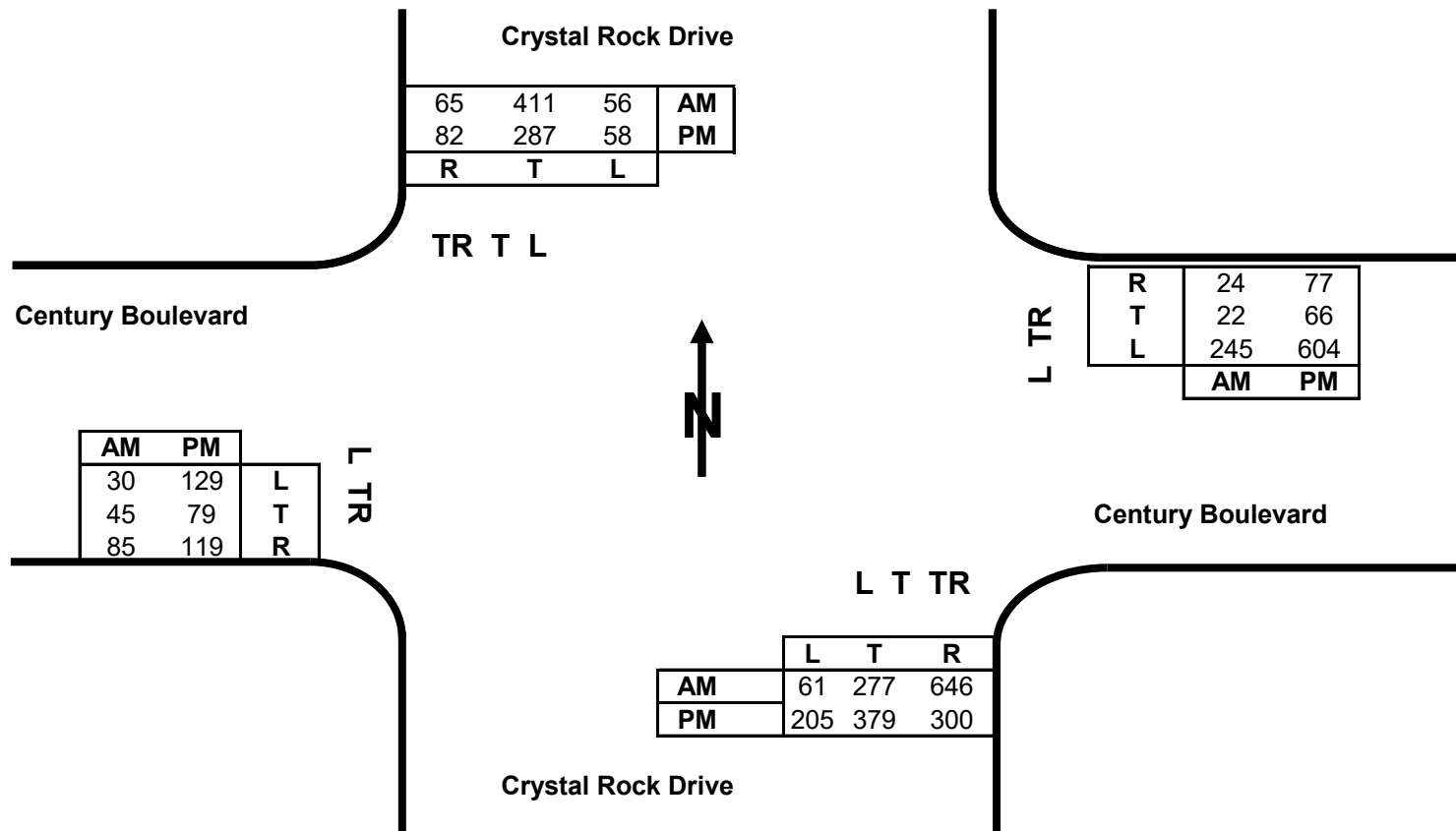


Intersection of: Crystal Rock Drive  
and: Century Boulevard  
Conditions: Total Future

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	923	0.530	489	56	1.000	56	401	545
SB	476	0.530	252	61	1.000	61	0	
EB	130	1.000	130	245	1.000	245	0	375
WB	46	1.000	46	30	1.000	30	0	
CLV Total =								920
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	679	0.530	360	58	1.000	58	0	418
SB	369	0.530	196	205	1.000	205	0	
EB	198	1.000	198	604	1.000	604	0	802
WB	143	1.000	143	129	1.000	129	0	
CLV Total =								1220
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

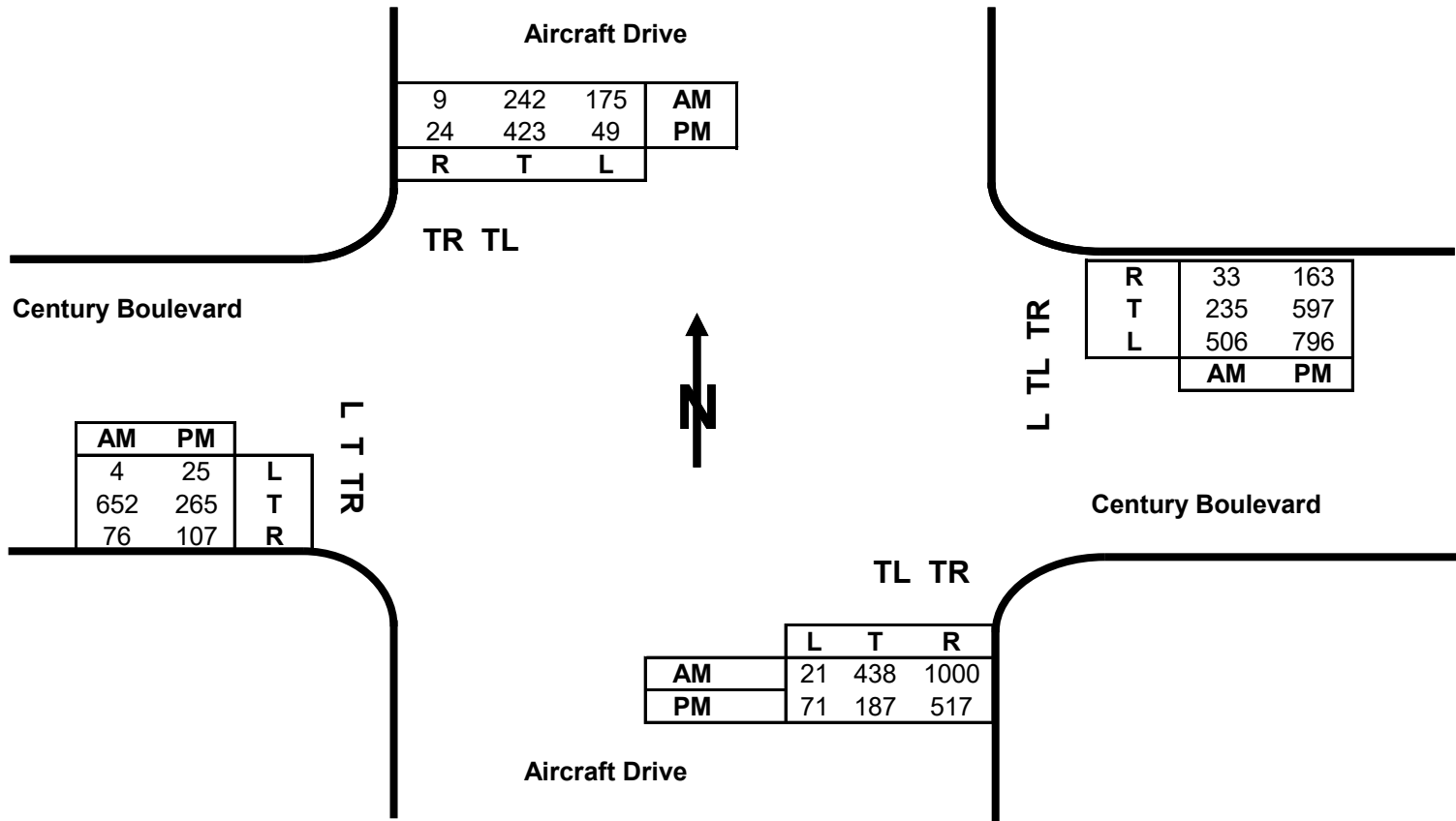


Intersection of: Aircraft Drive  
and: Century Boulevard  
Conditions: Total Future

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** Assume AM NB approach function as TL + R given NBR volume; AM NB thru CLV is governed by NBRs and is equal to [NBR - WB CLV]. In the PM, assume NBT volume uses both approach lanes.

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB Y  
WB Y

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	714	1.000	714	175	1.000	175	0	889
SB	426	0.530	226	21	1.000	21	0	
EB	728	0.530	386	4	1.000	4	0	386
WB	SPLIT PHASE			SPLIT PHASE				
WB	774	0.370	286	506	0.530	268	0	286
CLV Total =								1561
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	775	0.530	411	49	1.000	49	0	460
SB	496	0.530	263	71	1.000	71	0	
EB	372	0.530	197	25	1.000	25	0	197
WB	SPLIT PHASE			SPLIT PHASE				
WB	1556	0.370	576	796	0.530	422	0	576
CLV Total =								1233
Level of Service (LOS) =								



# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

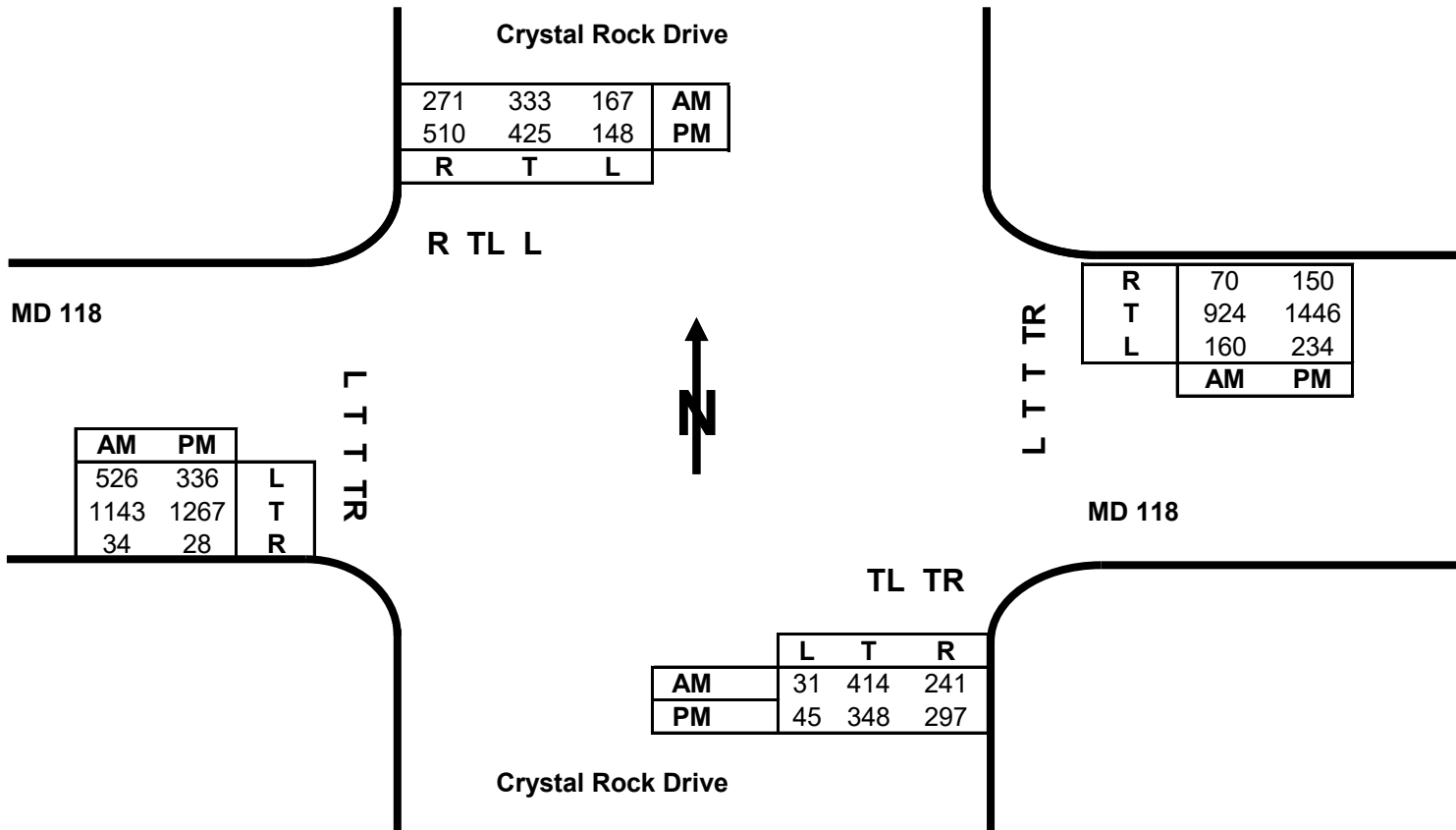


Intersection of: Crystal Rock Drive  
and: MD 118  
Conditions: Total Future

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	686	0.530	364	31	1.000	31	241	364
SPLIT PHASE								
SB	500	0.530	265	167	0.530	89	0	265
EB	1177	0.370	435	160	1.000	160	0	894
WB	994	0.370	368	526	1.000	526	0	
CLV Total =								<b>1523</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	690	0.530	366	45	1.000	45	297	366
SPLIT PHASE								
SB	573	0.530	304	31	1.000	31	174	304
EB	1295	0.370	479	234	1.000	234	0	927
WB	1596	0.370	591	336	1.000	336	0	
CLV Total =								<b>1597</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

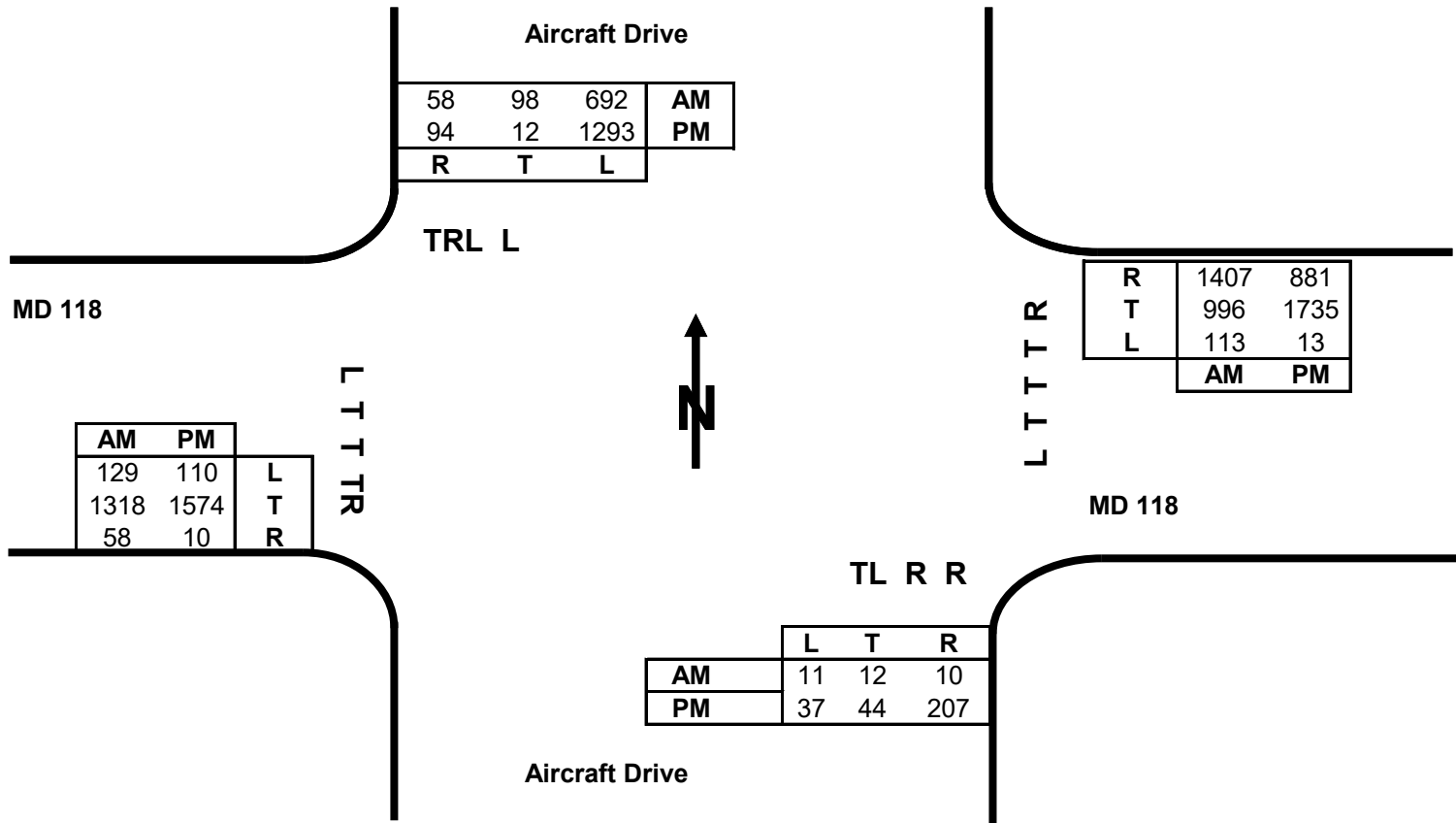


Intersection of: Aircraft Drive  
and: MD 118  
Conditions: Total Future

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s): PM NBR CLV = 0.53 \* NBR - WBL = 0.53 \* 207 - 13  
AM WB CLV = WBT + EBL + [WBR - SB CLV - WBT]

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	23	1.000	23	0	1.000	0	0	23
SPLIT PHASE								
SB	848	0.530	449	0	0.530	0	0	449
EB	1376	0.370	509	113	1.000	113	0	1087
WB	996	0.370	369	129	1.000	129	589	
CLV Total =								<b>1559</b>
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	81	0.530	43	0	1.000	0	97	97
SPLIT PHASE								
SB	1399	0.530	741	0	0.530	0	0	741
EB	1584	0.370	586	13	1.000	13	0	752
WB	1735	0.370	642	110	1.000	110	0	
CLV Total =								<b>1590</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

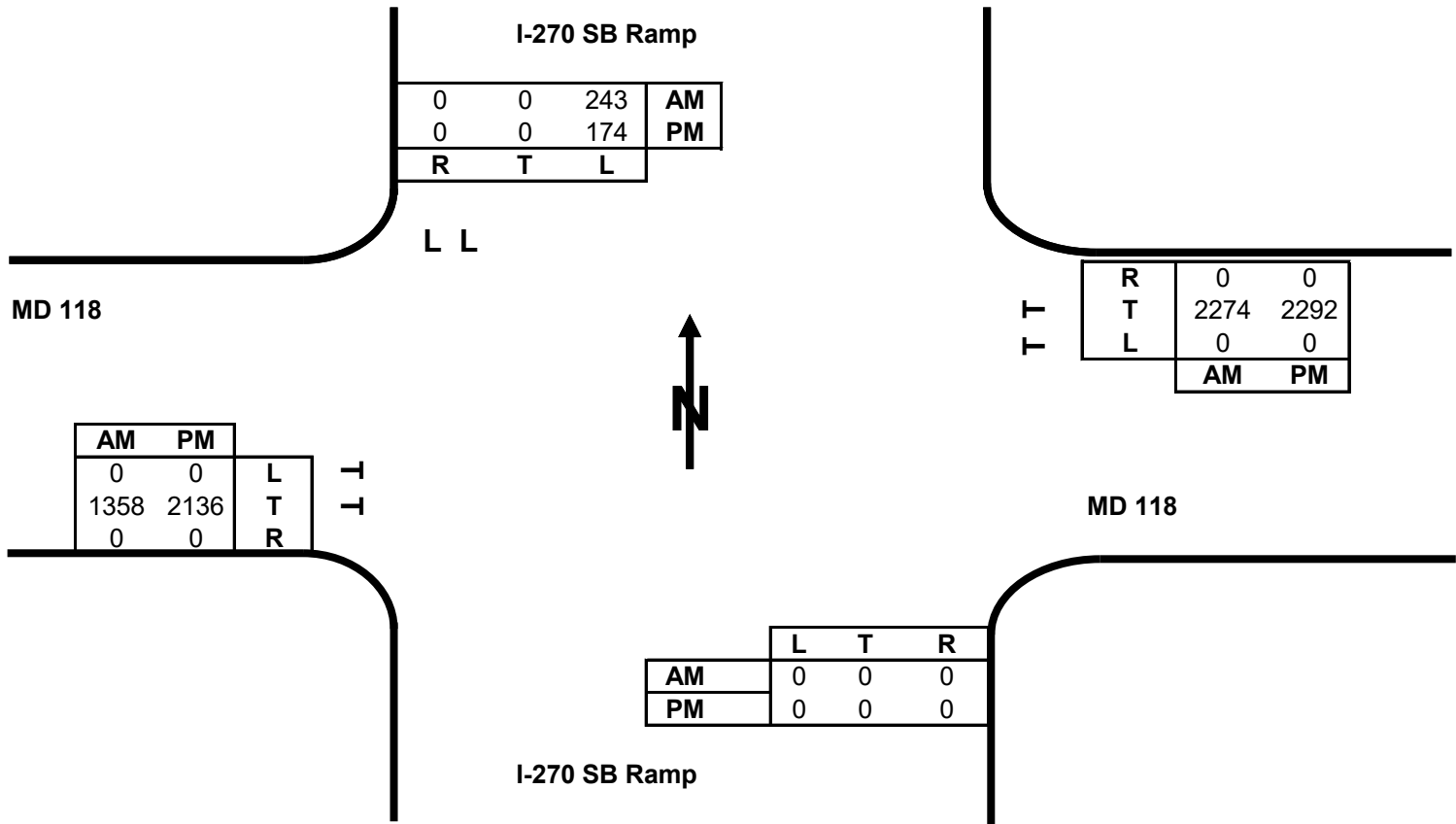


Intersection of: I-270 SB Ramp  
and: MD 118  
Conditions: Total Future

Date: June 1, 2014

Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	0	0.000	0	0	0.000	0	0	0
SB	243	0.530	129	0	0.000	0	0	129
EB	1358	0.530	720	0	0.000	0	0	1205
WB	2274	0.530	1205	0	0.000	0	0	
CLV Total =								1334
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	0	0.000	0	0	0.000	0	0	0
SB	174	0.530	92	0	0.530	0	0	92
EB	2136	0.530	1132	0	0.000	0	0	1215
WB	2292	0.530	1215	0	0.000	0	0	
CLV Total =								1307
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

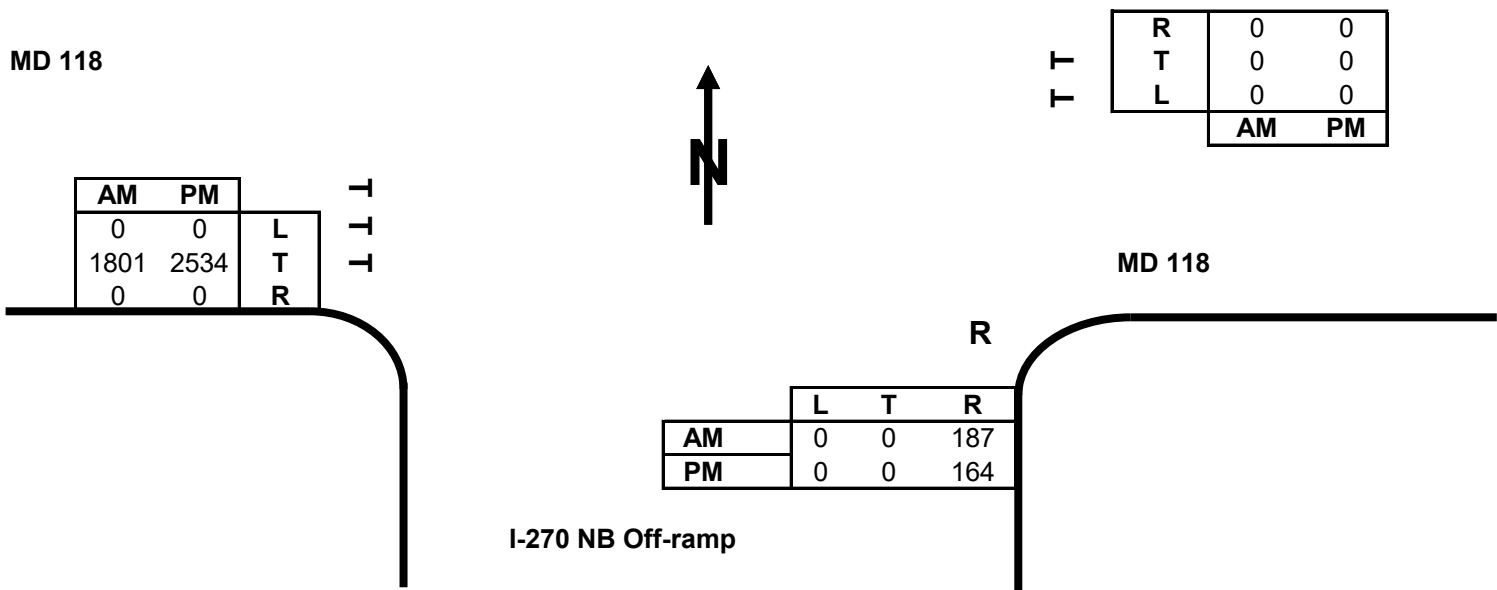


**Intersection of:** I-270 NB Off-ramp  
**and:** MD 118  
**Conditions:** Total Future

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** NBR is the stop-controlled I-270 NB off-ramp to Seneca Meadows.

### Capacity Analysis-

#### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	187	1.000	187	0	0.000	0	0	187
SB	0	0.530	0	0	0.000	0	0	0
EB	1801	0.370	666	0	0.000	0	0	666
WB	0	0.000	0	0	0.000	0	0	
CLV Total =								853
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	164	1.000	164	0	0.000	0	0	164
SB	0	0.530	0	0	0.000	0	0	0
EB	2534	0.370	938	0	0.000	0	0	938
WB	0	0.530	0	0	0.000	0	0	
CLV Total =								1102
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

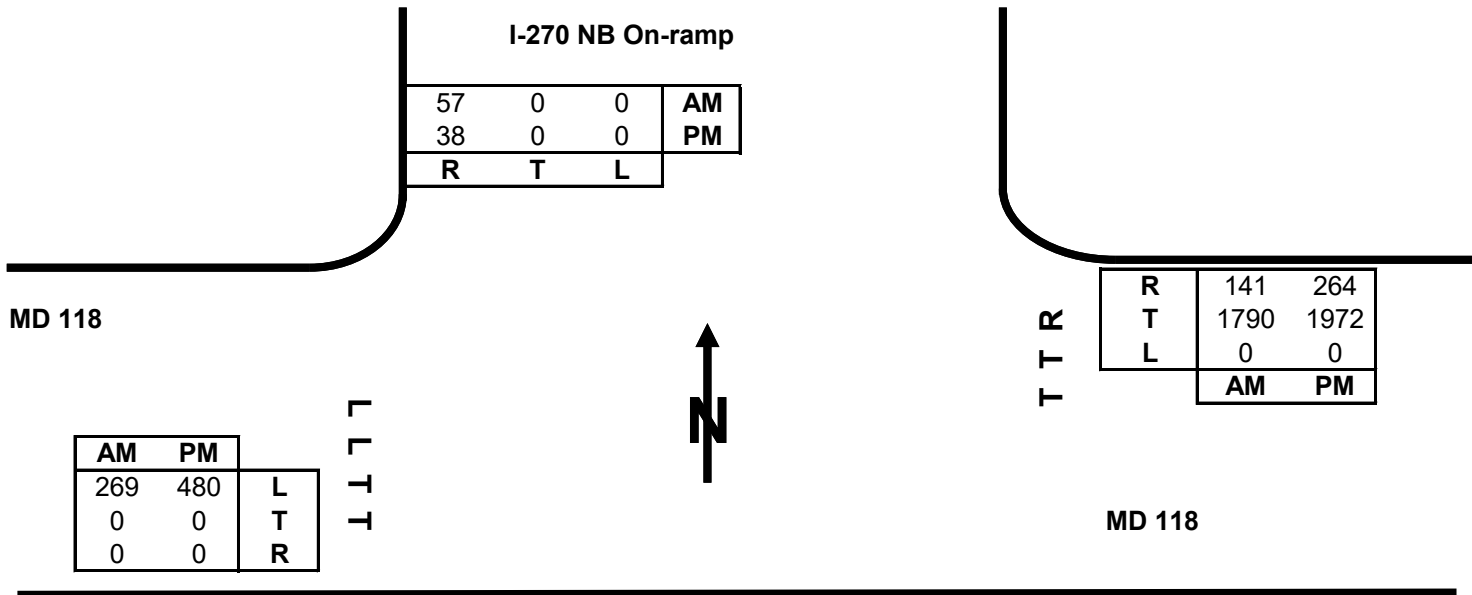
Century Park PAPF  
Silver Spring, MD



Intersection of: I-270 NB On-ramp  
and: MD 118  
Conditions: Total Future

Date: July 7, 2015  
Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** EBT is continuously served by green (no conflicting movement); WBR is a free channelized right.

## Capacity Analysis-

### Split Phase?

NB Y  
SB Y  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	0	0.000	0	0	0.000	0	0	0
SB	0	0.000	0	0	0.000	0	0	0
EB	0	0.530	0	0	0.000	0	0	1092
WB	1790	0.530	949	269	0.530	143	141	1092
CLV Total =								<b>1092</b>
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	0	0.000	0	0	0.000	0	0	0
SB	0	0.000	0	0	0.000	0	0	0
EB	0	0.530	0	0	0.000	0	0	1299
WB	1972	0.530	1045	480	0.530	254	0	1299
CLV Total =								<b>1299</b>
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

Century Park PAPF  
Silver Spring, MD

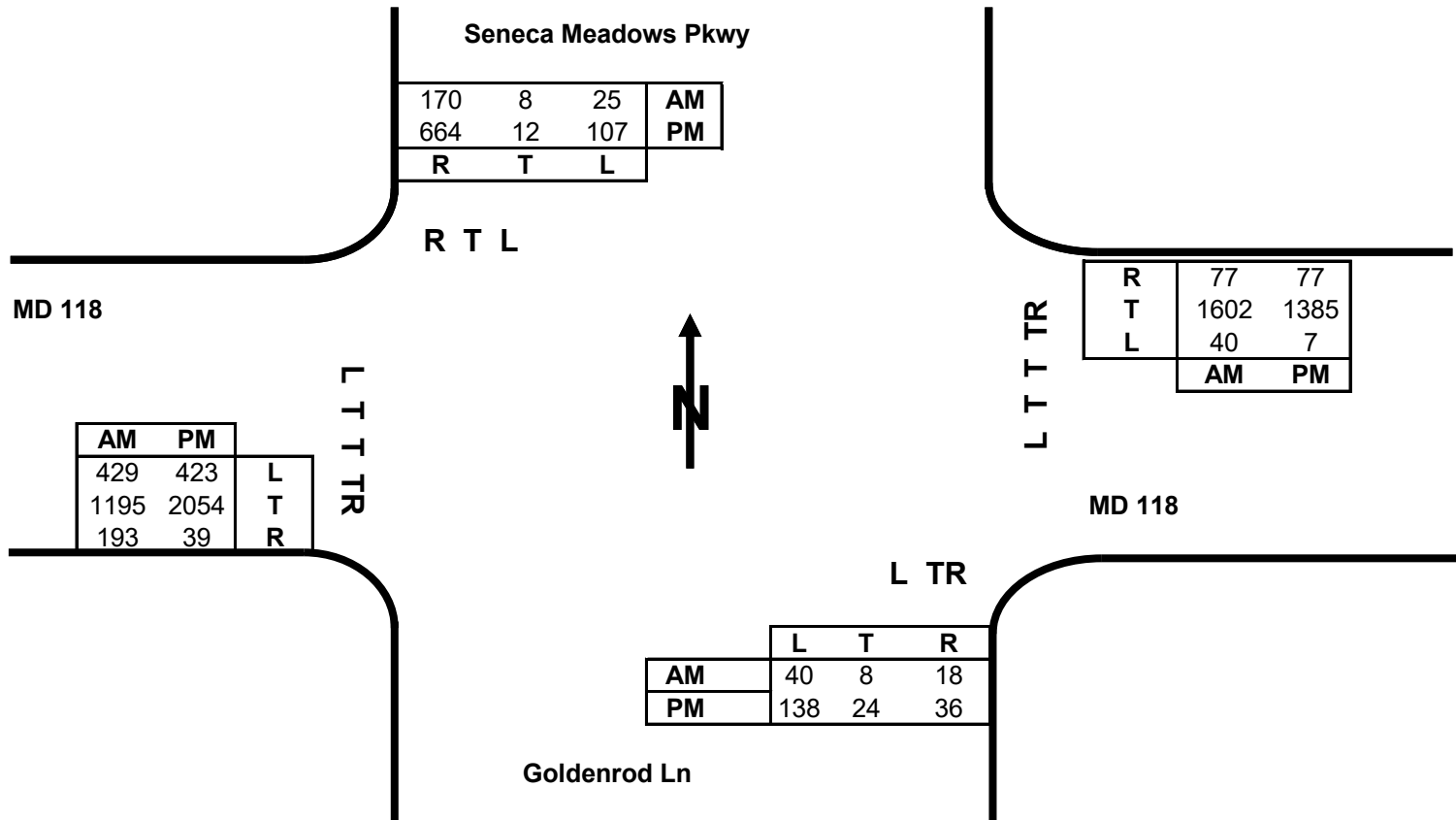


**Intersection of:** Seneca Meadows Pkwy/Goldenrod Ln  
**and:** MD 118  
**Conditions:** Total Future

**Date:** June 1, 2014

**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	26	1.000	26	25	1.000	25	0	51
SB	8	1.000	8	40	1.000	40	0	
EB	1388	0.370	514	40	1.000	40	0	1050
WB	1679	0.370	621	429	1.000	429	0	
CLV Total =								1101
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	60	1.000	60	107	1.000	107	0	379
SB	12	1.000	12	138	1.000	138	229	
EB	2093	0.370	774	7	1.000	7	0	964
WB	1462	0.370	541	423	1.000	423	0	
CLV Total =								1343
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

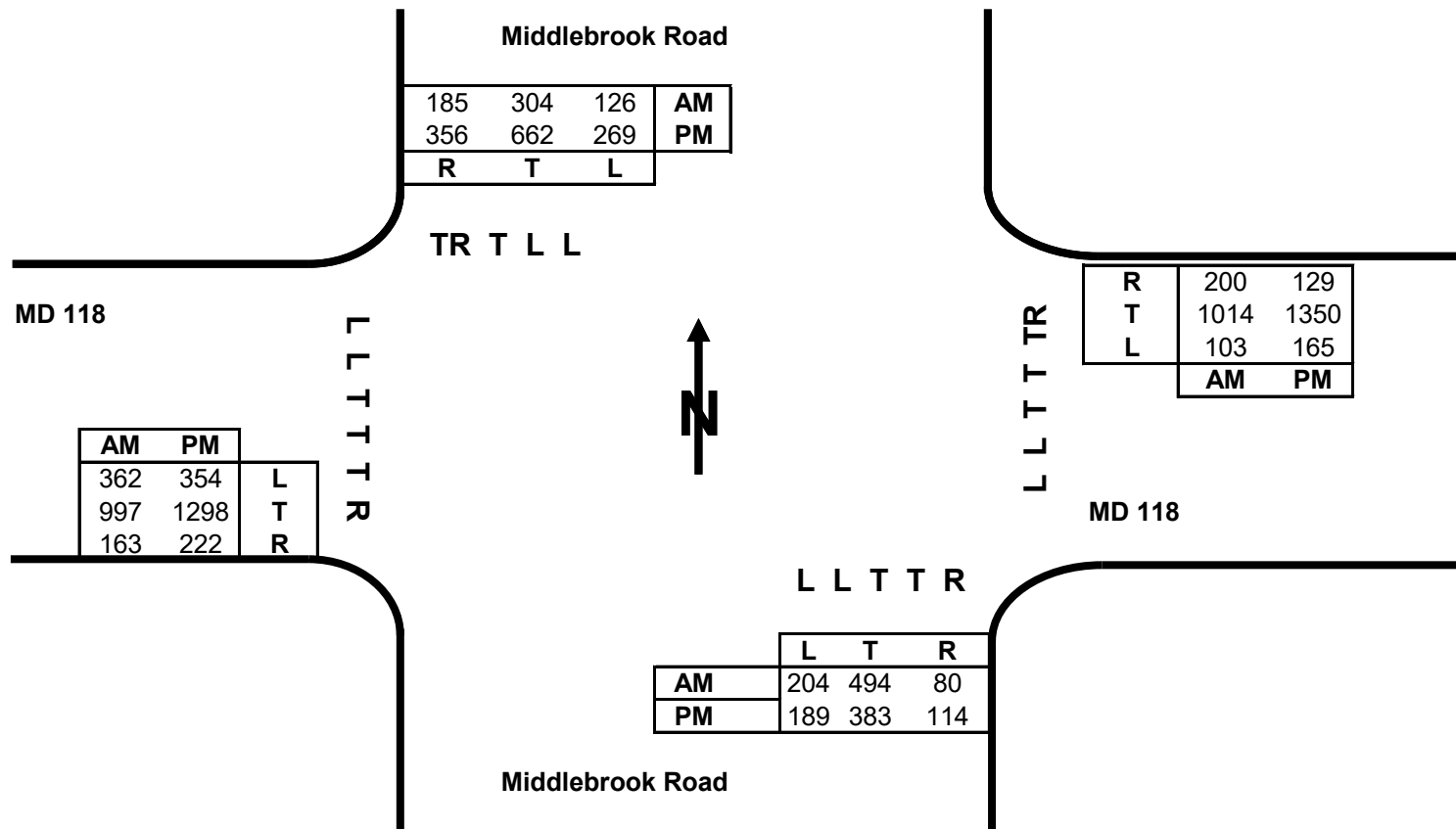
Century Park PAPF  
Silver Spring, MD



Intersection of: Middlebrook Road  
and: MD 118  
Conditions: Total Future

Date: July 7, 2015  
Analyst: Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



Comment(s):

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	AM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	494	0.530	262	126	0.530	67	0	367
SB	489	0.530	259	204	0.530	108	0	
EB	997	0.370	369	103	0.530	55	0	641
WB	1214	0.370	449	362	0.530	192	0	
CLV Total =								1008
Level of Service (LOS) =								

Evening Peak Hour								
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	PM
	VOL	x LUF	= Total	VOL	x LUF	= Total		CLV
NB	383	0.530	203	269	0.530	143	0	640
SB	1018	0.530	540	189	0.530	100	0	
EB	1298	0.370	480	165	0.530	87	0	735
WB	1479	0.370	547	354	0.530	188	0	
CLV Total =								1375
Level of Service (LOS) =								

# CRITICAL LANE VOLUME (CLV) METHODOLOGY

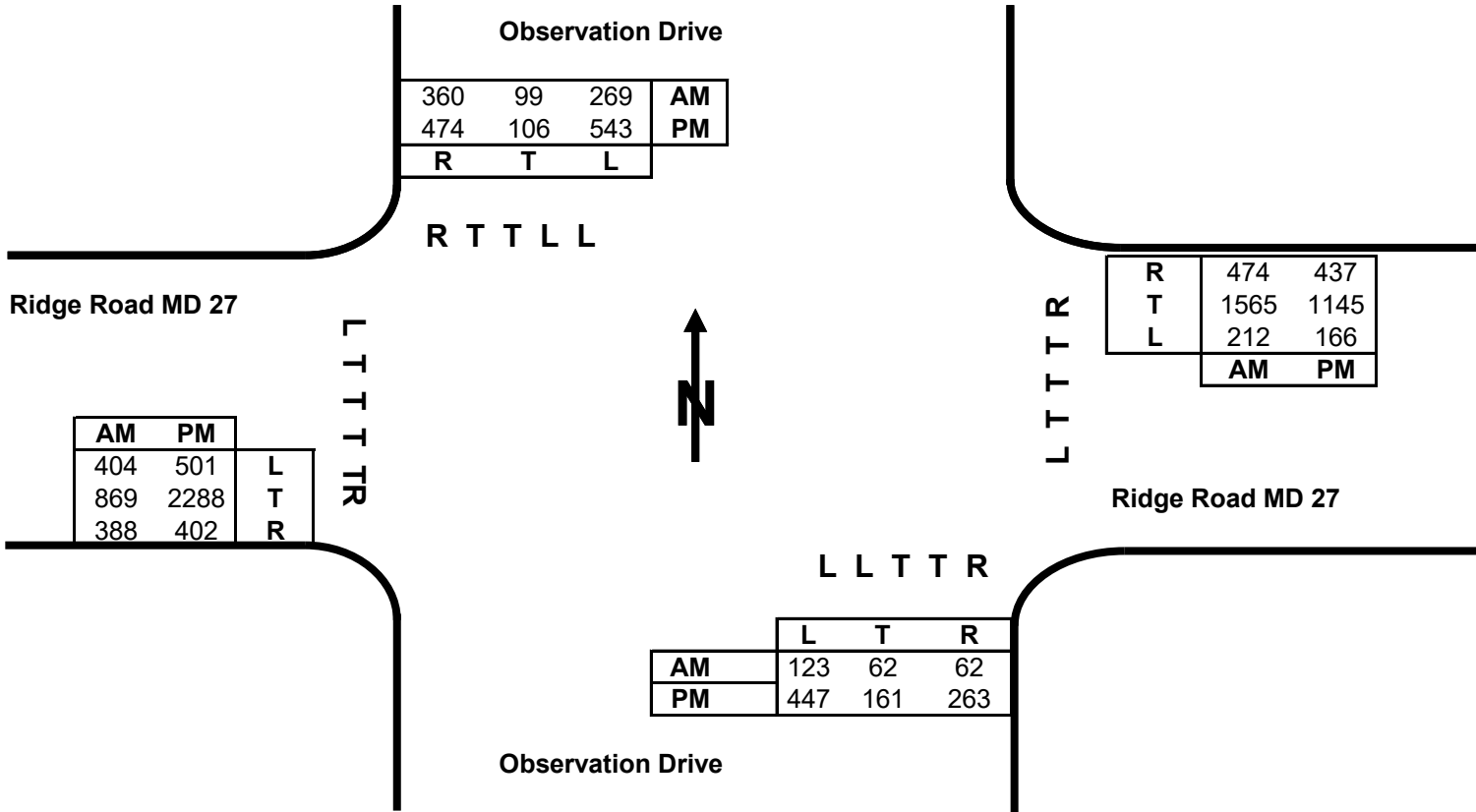
Century Park PAF  
Silver Spring, MD



**Intersection of:** Observation Drive  
**and:** Ridge Road MD 27  
**Conditions:** Total Future (w/ Improvement)

**Date:** July 7, 2015  
**Analyst:** Kimley-Horn

## LANE USE + TRAFFIC VOLUMES



**Comment(s):** Improvement is a 2nd southbound left-turn lane.

## Capacity Analysis-

### Split Phase?

NB N  
SB N  
EB N  
WB N

Morning Peak Hour								AM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	62	0.530	33	269	0.530	143	0	176
SB	99	0.530	52	123	0.530	65	0	
EB	1257	0.300	377	212	1.000	212	0	983
WB	1565	0.370	579	404	1.000	404	0	
CLV Total =								<b>1159</b>
Level of Service (LOS) =								

Evening Peak Hour								PM
Dir	Approach Volumes			+ Opposing Lefts			Right Turn Check	CLV
	VOL	x LUF	= Total	VOL	x LUF	= Total		
NB	161	0.530	85	543	0.530	288	12	385
SB	106	0.530	56	447	0.530	237	0	
EB	2690	0.300	807	166	1.000	166	0	973
WB	1145	0.370	424	501	1.000	501	149	
CLV Total =								<b>1358</b>
Level of Service (LOS) =								



HCM Unsignalized Intersection Capacity Analysis  
3: Crystal Rock Dr & Waters Landing Dr/Kinster Dr

AM Unsignalized  
8/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	10	194	330	11	0	60	509	886	0	289	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	11	211	359	12	0	65	553	963	0	314	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1004	1961	315	1696	1480	1035	315			1516		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1004	1961	315	1696	1480	1035	315			1516		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	82	71	0	90	100	95			100		
cM capacity (veh/h)	195	60	726	43	119	282	1245			440		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1
Volume Total	0	222	371	65	1516	315
Volume Left	0	0	359	65	0	0
Volume Right	0	211	0	0	963	1
cSH	1700	470	44	1245	1700	440
Volume to Capacity	0.00	0.47	8.45	0.05	0.89	0.00
Queue Length 95th (ft)	0	62	Err	4	0	0
Control Delay (s)	0.0	19.3	Err	8.1	0.0	0.0
Lane LOS	A	C	F	A		
Approach Delay (s)	19.3		Err	0.3		0.0
Approach LOS	C		F			

Intersection Summary		
Average Delay		1490.9
Intersection Capacity Utilization	122.5%	ICU Level of Service H
Analysis Period (min)		15

Lanes, Volumes, Timings  
3: Crystal Rock Dr & Waters Landing Dr/Kinster Dr

AM Signalized  
8/17/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖	↔			↕	↗		↕	
Volume (vph)	0	10	194	330	11	0	60	509	886	0	289	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		150	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Fr <sub>t</sub>			0.850						0.850			
Fl <sub>t</sub> Protected				0.950	0.955			0.995				
Satd. Flow (prot)	0	1863	1583	1681	1690	0	0	3522	1583	0	3539	0
Fl <sub>t</sub> Permitted				0.950	0.955			0.804				
Satd. Flow (perm)	0	1863	1583	1681	1690	0	0	2846	1583	0	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			234						963			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		1657			2048			1625			1905	
Travel Time (s)		45.2			55.9			31.7			37.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	11	211	359	12	0	65	553	963	0	314	1
Shared Lane Traffic (%)			48%									
Lane Group Flow (vph)	0	11	211	187	184	0	0	618	963	0	315	0
Turn Type		NA	Perm	Split	NA		pm+pt	NA	Perm		NA	
Protected Phases		4		8	8		5		2		6	
Permitted Phases	4		4				2		2	6		
Detector Phase	4	4	4	8	8		5	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		4.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		10.0	23.0	23.0	17.0	17.0	
Total Split (s)	21.0	21.0	21.0	21.0	21.0		10.0	28.0	28.0	18.0	18.0	
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%		14.3%	40.0%	40.0%	25.7%	25.7%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		4.0	22.0	22.0	12.0	12.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0		0.0		0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Lead/Lag							Lead			Lag		Lag
Lead-Lag Optimize?							Yes			Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max	Max	Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	10.0	10.0	10.0	10.0	10.0			12.0	12.0	6.0	6.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0	0	0	
Act Effect Green (s)		6.8	6.8	11.5	11.5			22.1	22.1		12.1	
Actuated g/C Ratio		0.12	0.12	0.20	0.20			0.38	0.38		0.21	
v/c Ratio		0.05	0.54	0.57	0.56			0.55	0.80		0.43	
Control Delay		24.3	9.0	28.7	28.3			17.1	8.3		23.4	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		24.3	9.0	28.7	28.3			17.1	8.3		23.4	
LOS		C	A	C	C			B	A		C	

Lanes, Volumes, Timings  
 3: Crystal Rock Dr & Waters Landing Dr/Kinster Dr

AM Signalized  
 8/17/2015

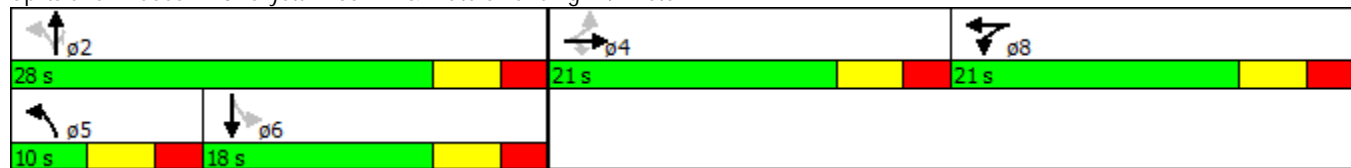


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		9.7			28.5			11.7			23.4	
Approach LOS		A			C			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	58.5
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	15.5
Intersection LOS:	B
Intersection Capacity Utilization:	82.0%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 3: Crystal Rock Dr & Waters Landing Dr/Kinster Dr



HCM Unsignalized Intersection Capacity Analysis  
 3: Crystal Rock Dr & Waters Landing Dr/Kinster Dr

PM Unsignalized  
 8/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	39	97	1025	27	2	190	191	525	0	705	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	42	105	1114	29	2	207	208	571	0	766	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1405	1959	767	1800	1674	493	768			778		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1405	1959	767	1800	1674	493	768			778		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	12	74	0	59	100	76			100		
cM capacity (veh/h)	66	48	402	9	72	576	846			838		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1
Volume Total	1	148	1146	207	778	768
Volume Left	1	0	1114	207	0	0
Volume Right	0	105	2	0	571	2
cSH	66	129	10	846	1700	838
Volume to Capacity	0.02	1.14	118.04	0.24	0.46	0.00
Queue Length 95th (ft)	1	218	Err	24	0	0
Control Delay (s)	60.8	189.7	Err	10.6	0.0	0.0
Lane LOS	F	F	F	B		
Approach Delay (s)	188.8		Err	2.2		0.0
Approach LOS	F		F			

Intersection Summary		
Average Delay		3768.5
Intersection Capacity Utilization	159.2%	ICU Level of Service
Analysis Period (min)		15
		H

Lanes, Volumes, Timings  
3: Crystal Rock Dr & Waters Landing Dr/Kinster Dr

PM Signalized  
8/17/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖	↔			↕	↗		↕	
Volume (vph)	1	39	97	1025	27	2	190	191	525	0	705	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		150	0		0
Storage Lanes	0		1	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Frt			0.850		0.999				0.850			
Flt Protected		0.999		0.950	0.955			0.976				
Satd. Flow (prot)	0	1861	1583	1681	1688	0	0	3454	1583	0	3539	0
Flt Permitted		0.999		0.950	0.955			0.588				
Satd. Flow (perm)	0	1861	1583	1681	1688	0	0	2081	1583	0	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164						571			
Link Speed (mph)		25			25			35				35
Link Distance (ft)		1657			2048			1625				1905
Travel Time (s)		45.2			55.9			31.7				37.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	42	105	1114	29	2	207	208	571	0	766	2
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	43	105	568	577	0	0	415	571	0	768	0
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA	Perm		NA	
Protected Phases	4	4		8	8		5	2				6
Permitted Phases			4				2		2	6		
Detector Phase	4	4	4	8	8		5	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		4.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		10.0	23.0	23.0	17.0	17.0	
Total Split (s)	21.0	21.0	21.0	39.0	39.0		13.0	40.0	40.0	27.0	27.0	
Total Split (%)	21.0%	21.0%	21.0%	39.0%	39.0%		13.0%	40.0%	40.0%	27.0%	27.0%	
Maximum Green (s)	15.0	15.0	15.0	33.0	33.0		7.0	34.0	34.0	21.0	21.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		Max	Max	Max	Max	Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	10.0	10.0	10.0	10.0	10.0			12.0	12.0	6.0	6.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0	0	0	
Act Effect Green (s)		7.6	7.6	33.1	33.1			34.1	34.1		21.1	
Actuated g/C Ratio		0.08	0.08	0.37	0.37			0.38	0.38		0.23	
v/c Ratio		0.28	0.37	0.92	0.93			0.94dl	0.60		0.93	
Control Delay		44.3	5.4	51.5	53.2			22.9	4.9		54.1	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		44.3	5.4	51.5	53.2			22.9	4.9		54.1	
LOS		D	A	D	D			C	A		D	

Lanes, Volumes, Timings  
 3: Crystal Rock Dr & Waters Landing Dr/Kinster Dr

PM Signalized  
 8/17/2015

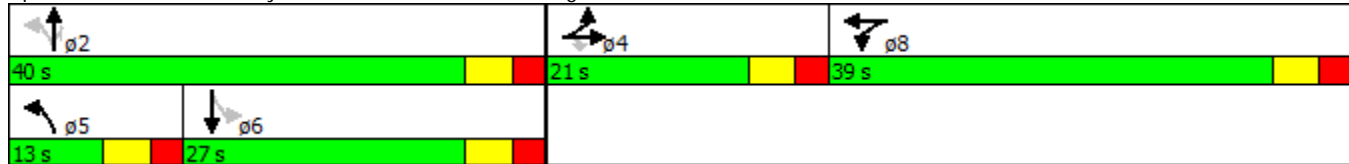


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		16.7			52.4			12.5			54.1	
Approach LOS		B			D			B			D	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	90.3
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	38.2
Intersection LOS:	D
Intersection Capacity Utilization:	81.2%
ICU Level of Service:	D
Analysis Period (min):	15
dl	Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 3: Crystal Rock Dr & Waters Landing Dr/Kinster Dr

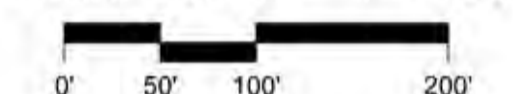


SEAL

KEY PLAN

SCALE

PLAN SCALE: 1"=100'



No.	DATE	BY	Description
REVISIONS			
DRAWN BY			
APPROVED BY			
CHECKED BY			
DATE	Sept. 10, 2014		
TITLE			

REVISIONS

DRAWN BY

APPROVED BY

CHECKED BY

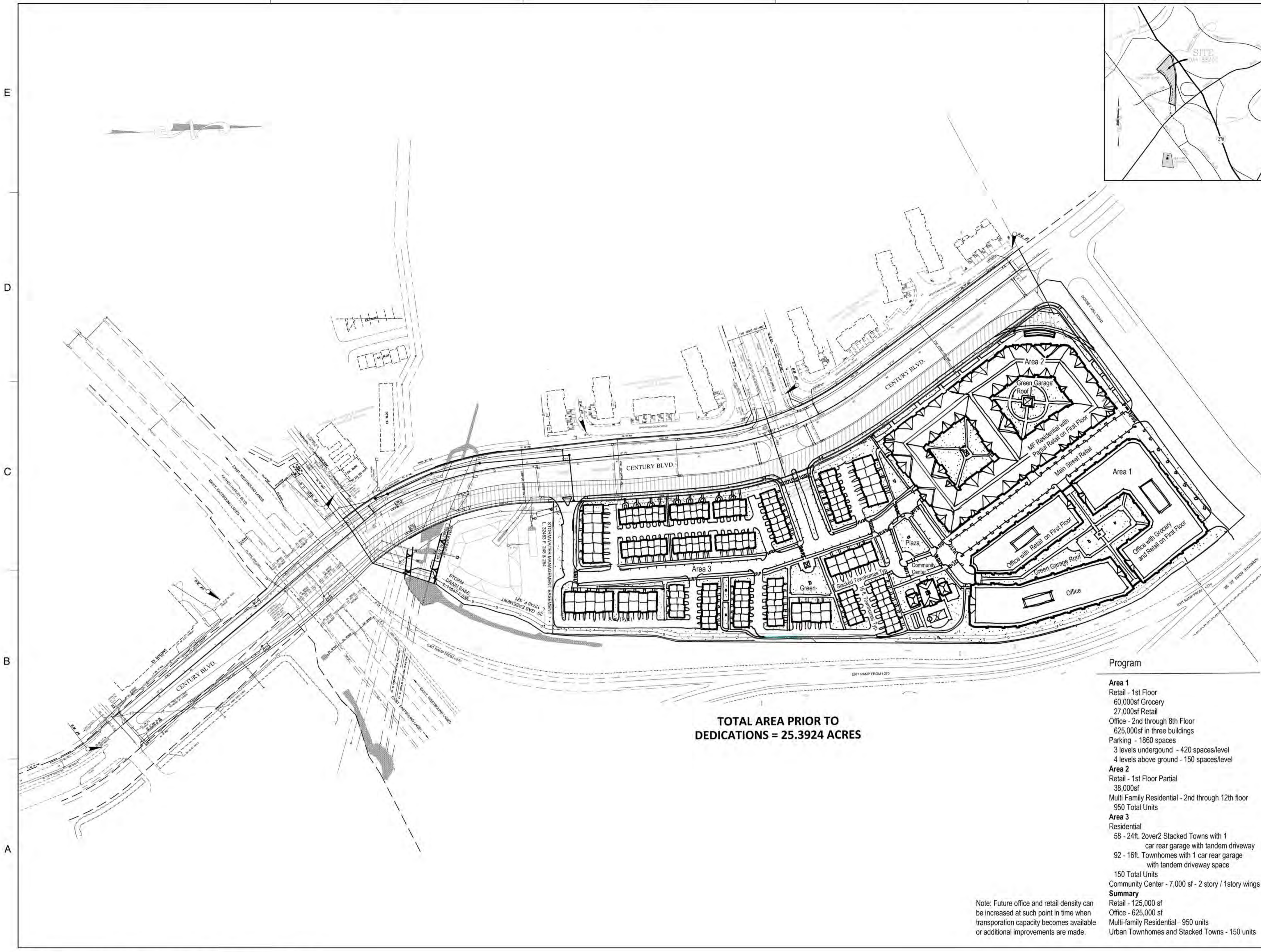
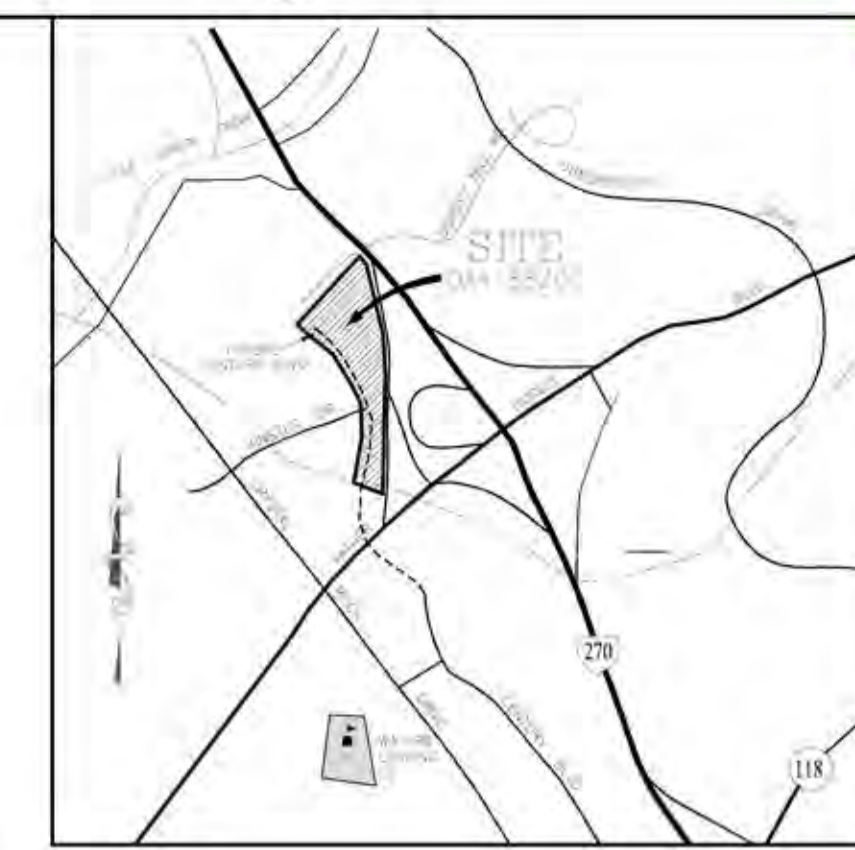
DATE Sept. 10, 2014

TITLE

**CONCEPT PLAN**

PROJECT NO.

SHEET NO. 1



**TOTAL AREA PRIOR TO DEDICATIONS = 25.3924 ACRES**

**Program**

<b>Area 1</b>	Retail - 1st Floor	60,000sf Grocery
		27,000sf Retail
	Office - 2nd through 8th Floor	625,000sf in three buildings
	Parking	- 1860 spaces
		3 levels underground - 420 spaces/level
		4 levels above ground - 150 spaces/level
<b>Area 2</b>	Retail - 1st Floor Partial	38,000sf
	Multi Family Residential - 2nd through 12th floor	950 Total Units
<b>Area 3</b>	Residential	
	58 - 24ft. 2over2 Stacked Towns with 1 car rear garage with tandem driveway	
	92 - 16ft. Townhomes with 1 car rear garage with tandem driveway space	
	150 Total Units	
	Community Center - 7,000 sf - 2 story / 1story wings	
<b>Summary</b>		
	Retail - 125,000 sf	
	Office - 625,000 sf	
	Multi-family Residential - 950 units	
	Urban Townhomes and Stacked Towns - 150 units	

Note: Future office and retail density can be increased at such point in time when transportation capacity becomes available or additional improvements are made.