Appendix C

CMS Analysis Worksheets

CMS Analysis Worksheets are ordered as follows:

- 2019 Existing Conditions
  - SR 2 & Delaware Park Drive
    - AM Peak
    - PM Peak
  - SR 4 & SR 58
    - AM Peak
    - PM Peak
  - SR 2 & Harmony Road
    - AM Peak
    - PM Peak
  - SR 2 & SR 7
    - AM Peak
    - PM Peak
  - SR 4 & Harmony Road
    - AM Peak
    - PM Peak
  - SR 58 & SR 1 / SR 7 Ramps
    - AM Peak
    - PM Peak
  - SR 58 & Cavaliers Country Club Drive
    - AM Peak
    - PM Peak
  - SR 273 & Chapman Road / Eagle Run Road
    - AM Peak
    - PM Peak
  - SR 273 & Old Baltimore Pike
    - AM Peak
    - PM Peak
- 2050 Forecast Conditions
  - SR 2 & Delaware Park Drive / Churchman's Road Extended
    - AM Peak
    - PM Peak
  - SR 4 & SR 58
    - AM Peak
    - PM Peak
  - SR 2 & Harmony Road
    - AM Peak
    - PM Peak
  - SR 2 & SR 7
    - AM Peak
    - PM Peak
  - SR 4 & Harmony Road
    - AM Peak
    - PM Peak
  - SR 58 & SR 1 / SR 7 Ramps
    - AM Peak
    - PM Peak
  - SR 58 & Cavaliers Country Club Drive Connector
    - AM Peak
    - PM Peak
  - SR 273 & Chapman Road / Eagle Run Road
    - AM Peak
    - PM Peak
  - SR 273 & Old Baltimore Pike
    - AM Peak
    - PM Peak

2019 Existing Conditions CMS Sheets

Rybinski ENGINEERING

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & Delaware Park Drive

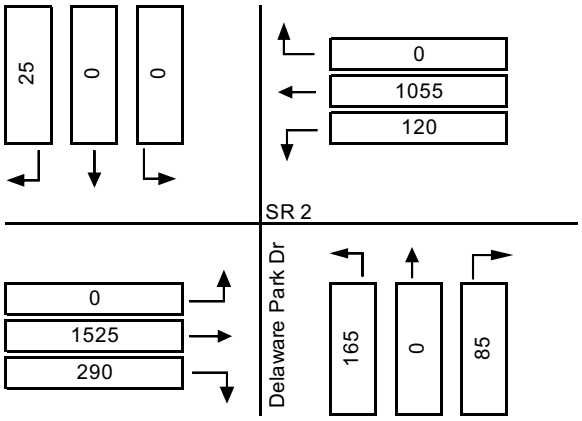
Count Date: 2019 Base Permit # N186

Scenario: AM Peak Peak Hour: 7:15-8:15 AM

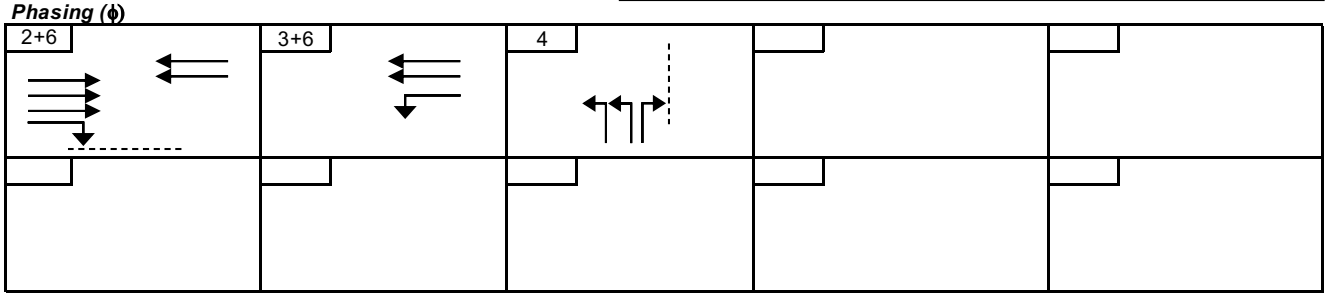
Computed By: JWC Date: 5/14/21

Checked By: VRH Date: 5/18/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1									
5									
2	EB T	1525	1525	0.40	610			610	*
6	WB T	1055	1055	0.55	581		120	461	
3	WB L	120	120	1.00	120			120	*
7									
4	NB	(.55)165 Or (.5)85	165	0.55	91			91	*
8									

NB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane; include at 50%. SB rights are separate from signal, exclude from analysis. EB rights are free, have a dedicated lane with an acceleration lane; exclude from calculation.

TOTAL	821
LEVEL OF SERVICE	A

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & Delaware Park Drive

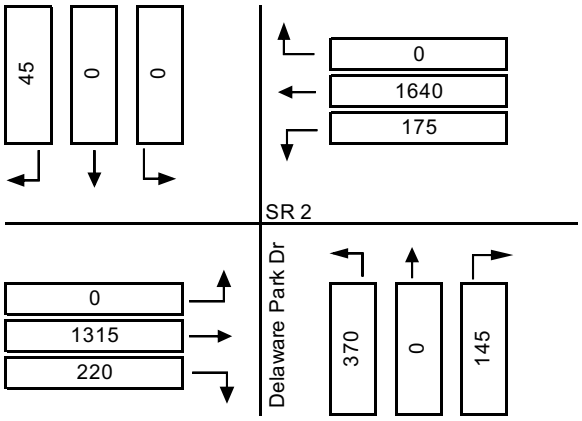
Count Date: 2019 Base Permit # N186

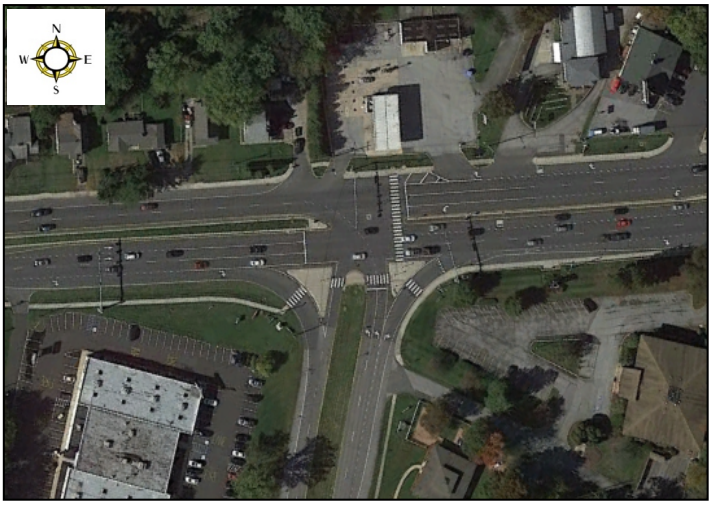
Scenario: PM Peak Peak Hour: 4:45-5:45PM

Computed By: JWC Date: 5/14/21

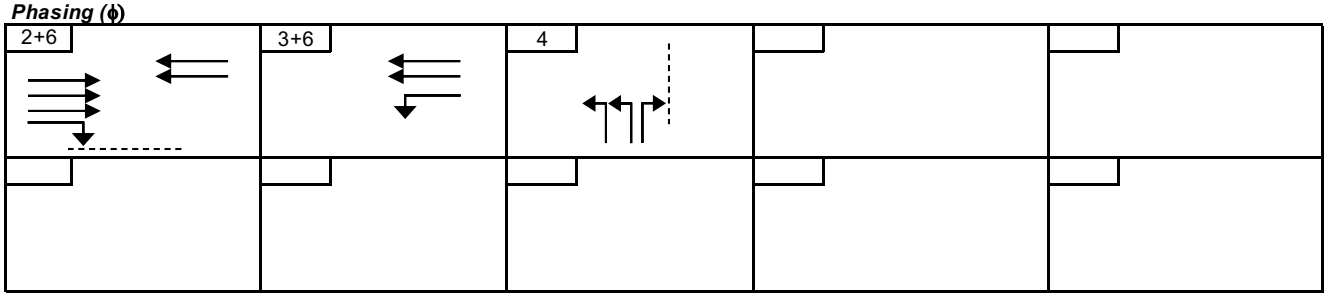
Checked By: VRH Date: 5/18/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1									
5									
2	EB T	1315	1315	0.40	526			526	
6	WB T	1640	1640	0.55	902		175	727	*
3	WB L	175	175	1.00	175			175	*
7									
4	NB	(.55)370 Or (.5)145	370	0.55	204			204	*
8									

NB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane; include at 50%. SB rights are separate from signal, exclude from analysis. EB rights are free, have a dedicated lane with an acceleration lane; exclude from calculation.

TOTAL	1106
LEVEL OF SERVICE	B

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 4 & SR 58 (Churchmans Road)

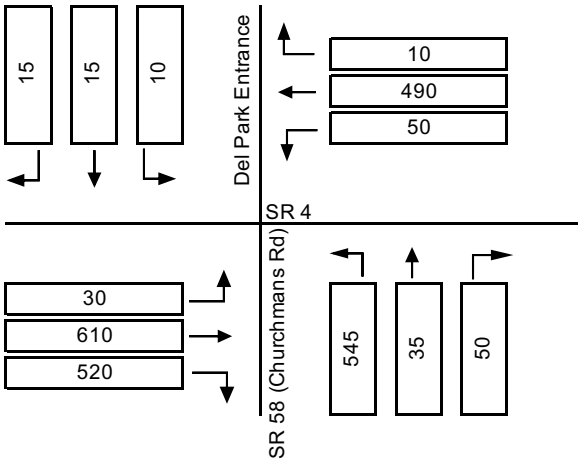
Count Date: 2019 Base Permit # N369

Scenario: AM Peak Peak Hour: 7:30-8:30 AM

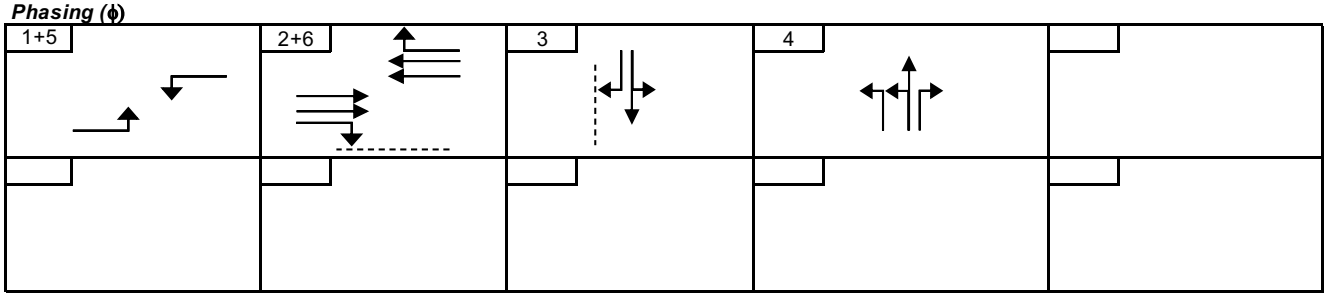
Computed By: JWC Date: 5/14/21

Checked By: VRH Date: 5/18/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	50	50	1.00	50			50	*
5	EB L	30	30	1.00	30			30	
2	EB T	(.55)610 Or (.5)520	610	0.55	336			336	*
6	WB T	(.55)490 Or (.5)10	490	0.55	270		20	250	
3	SB	15+10 Or (.5)15	25	1.00	25			25	*
7									
4	NB	(.55)545+35 Or (.5)50	335	1.00	335			335	*
8									
All rights are yield controlled and have a dedicated lane with no acceleration lane; include at 50%.							TOTAL	746	
							LEVEL OF SERVICE	A	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 4 & SR 58 (Churchmans Road)

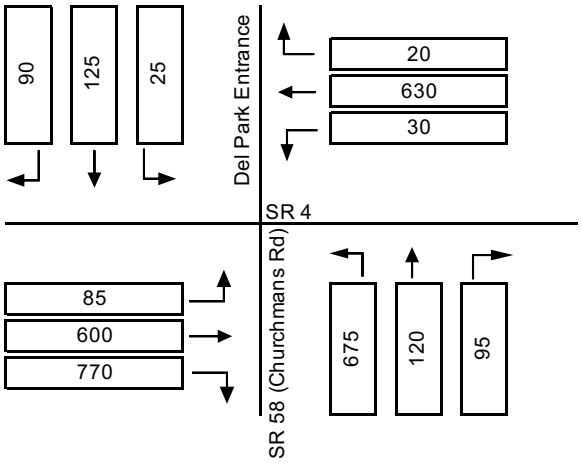
Count Date: 2019 Base Permit # N369

Scenario: PM Peak Peak Hour: 4:45-5:45 PM

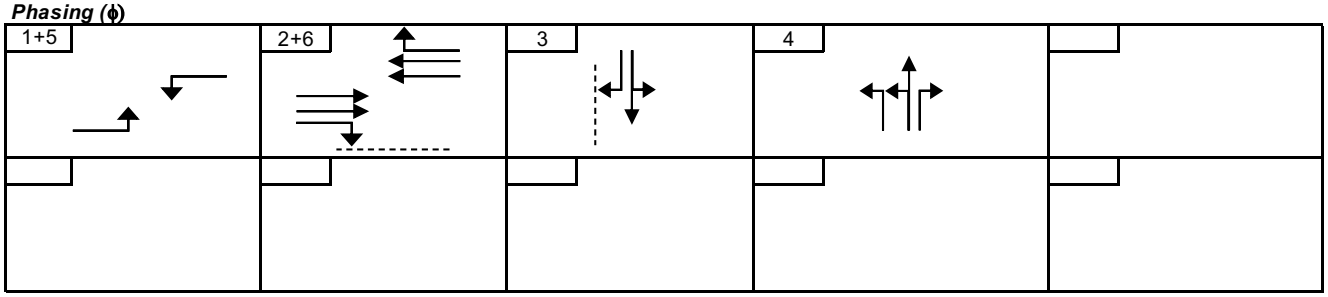
Computed By: JWC Date: 5/14/21

Checked By: VRH Date: 5/18/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	30	30	1.00	30			30	
5	EB L	85	85	1.00	85			85	*
2	EB T	(.55)600 Or (.5)770	385	1.00	385		55	330	
6	WB T	(.55)630 Or (.5)20	630	0.55	347			347	*
3	SB	125+25 Or (.5)90	150	1.00	150			150	*
7									
4	NB	(.55)675+120 Or (.5)95	492	1.00	492			492	*
8									
All rights are yield controlled and have a dedicated lane with no acceleration lane; include at 50%.							TOTAL	1074	
							LEVEL OF SERVICE	B	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & Harmony Road

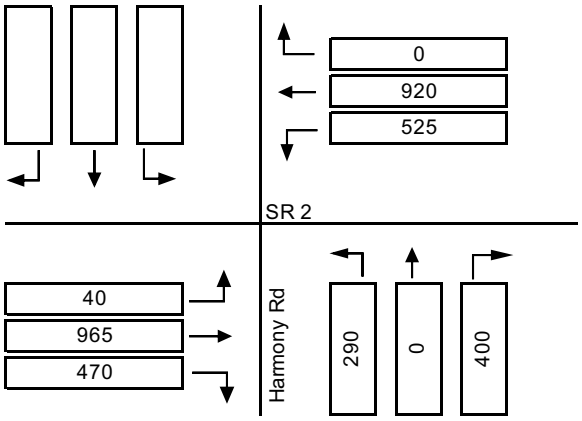
Count Date: 2019 Base Permit # N301

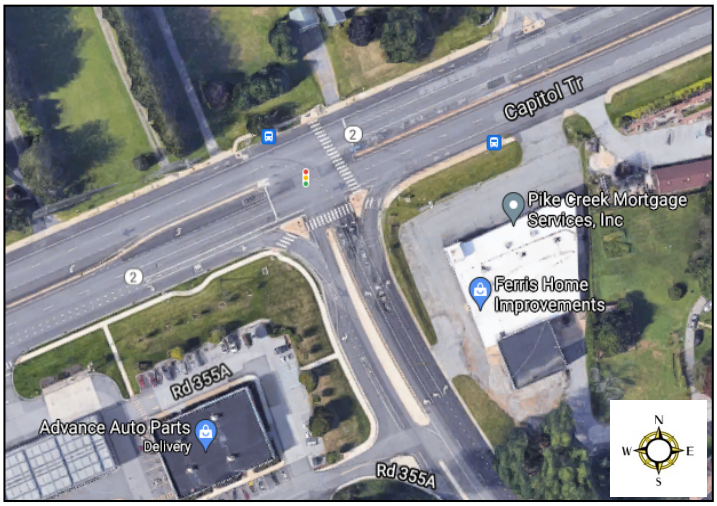
Scenario: AM Peak Peak Hour: 7:15-8:15 AM

Computed By: JWC Date: 5/17/21

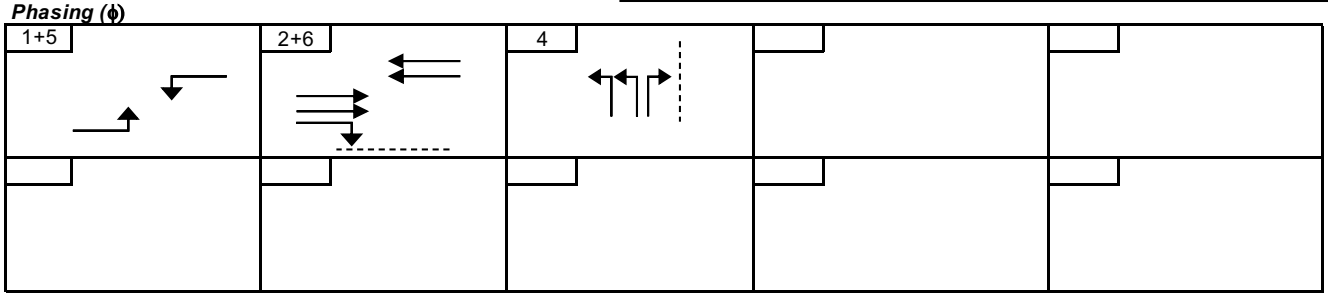
Checked By: VRH Date: 5/18/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	525	525	1.00	525			525	*
5	EB L	40	40	1.00	40			40	
2	EB T	(.55)965 Or (.5)470	965	0.55	531			531	*
6	WB T	920	920	0.55	506		485	21	
3									
7									
4	NB	(.55)290 Or (.5)400	200	1.00	200			200	*
8									
EB and NB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane; include at 50%.							TOTAL	1256	
							LEVEL OF SERVICE	C	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & Harmony Road

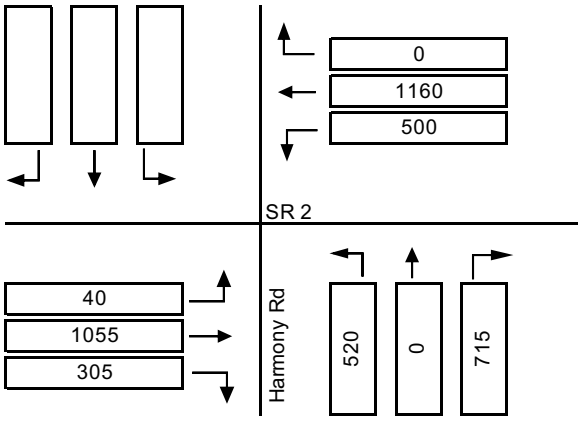
Count Date: 2019 Base Permit # N301

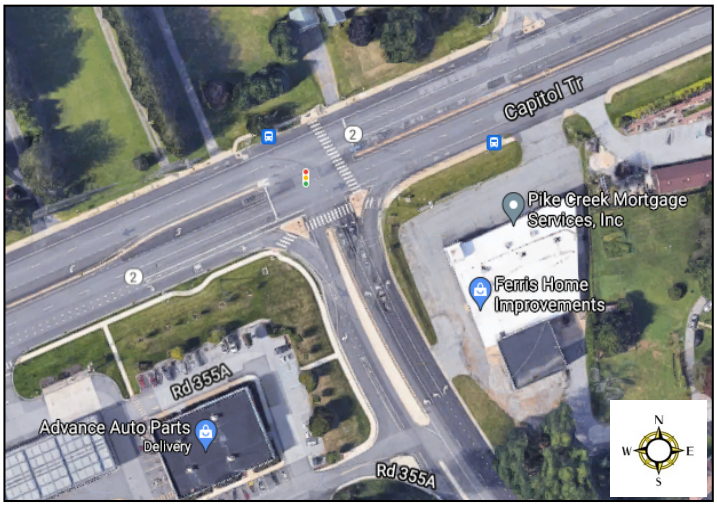
Scenario: PM Peak Peak Hour: 4:45-5:45 PM

Computed By: JWC Date: 5/17/21

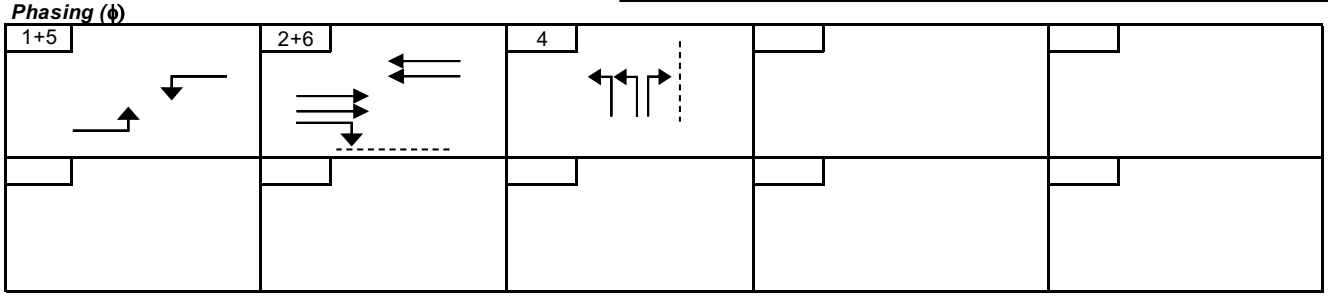
Checked By: VRH Date: 5/18/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	500	500	1.00	500			500	*
5	EB L	40	40	1.00	40			40	
2	EB T	(.55)1055 Or (.5)305	1055	0.55	581			581	*
6	WB T	1160	1160	0.55	638		460	178	
3									
7									
4	NB	(.55)520 Or (.5)715	358	1.00	358			358	*
8									
EB and NB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane; include at 50%.							TOTAL	1439	
							LEVEL OF SERVICE	D	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & SR 7

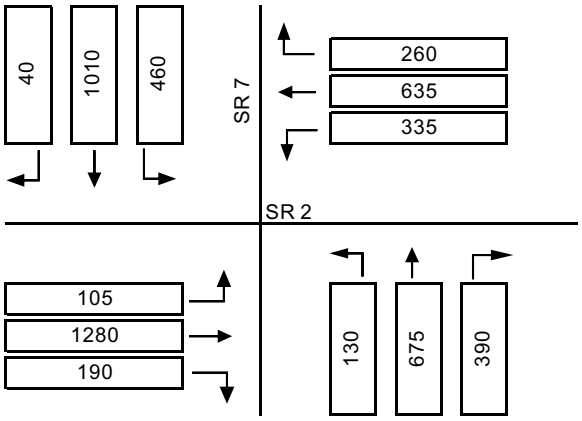
Count Date: 2019 Base Permit # N165

Scenario: AM Peak Peak Hour: 7:15-8:15 AM

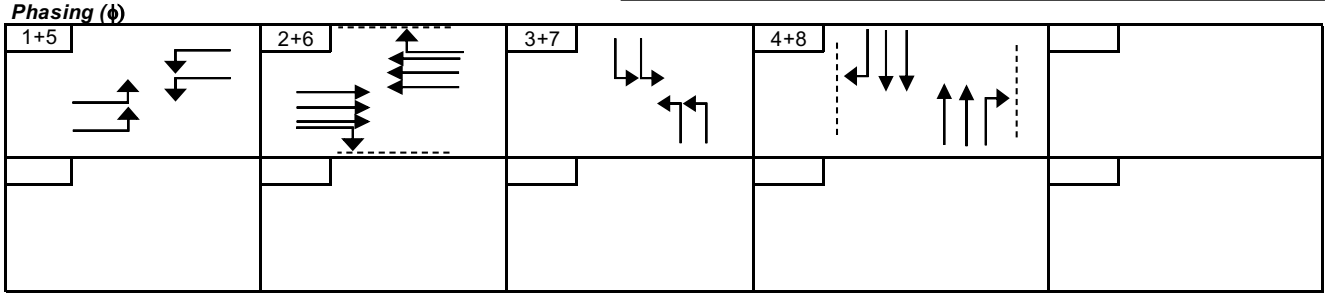
Computed By: JWC Date: 5/17/21

Checked By: VRH Date: 5/18/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	335	335	0.55	185			185	*
5	EB L	105	105	0.55	58			58	
2	EB T	(.4)1280 Or (.5)190	1280	0.40	512			512	*
6	WB T	(.4)635 Or (.5)260	635	0.40	254		127	127	
3	SB L	460	460	0.55	253			253	*
7	NB L	130	130	0.55	72			72	
4	NB T	(.55)675 Or (.5)390	675	0.55	372			372	
8	SB T	(.55)1010 Or 40	1010	0.55	556		181	375	*

EB, WB, and NB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane; include at 50%. SB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane but is often blocked during peak hour; include at 100%.

TOTAL	1325
LEVEL OF SERVICE	D

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & SR 7

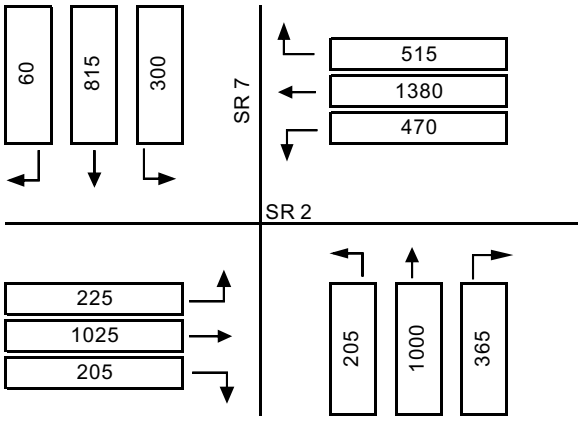
Count Date: 2019 Base Permit # N165

Scenario: PM Peak Peak Hour: 4:45-5:45 PM

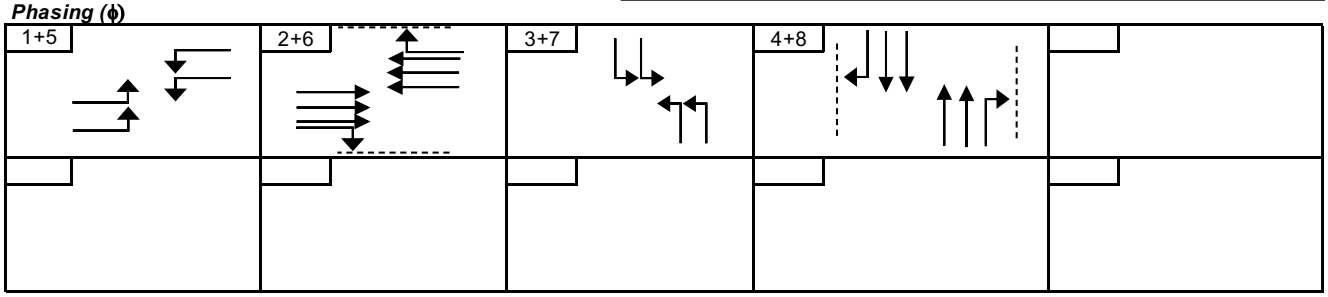
Computed By: JWC Date: 5/17/21

Checked By: VRH Date: 5/18/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	470	470	0.55	259			259	*
5	EB L	225	225	0.55	124			124	
2	EB T	(.4)1025 Or (.5)205	1025	0.40	410			410	
6	WB T	(.4)1380 Or (.5)515	1380	0.40	552		135	417	*
3	SB L	300	300	0.55	165			165	*
7	NB L	205	205	0.55	113			113	
4	NB T	(.55)1000 Or (.5)365	1000	0.55	550			550	*
8	SB T	(.55)815 Or 60	815	0.55	449		52	397	

EB, WB, and NB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane; include at 50%. SB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane but is often blocked during peak hour; include at 100%.

TOTAL	1391
LEVEL OF SERVICE	D

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 4 & Harmony Road

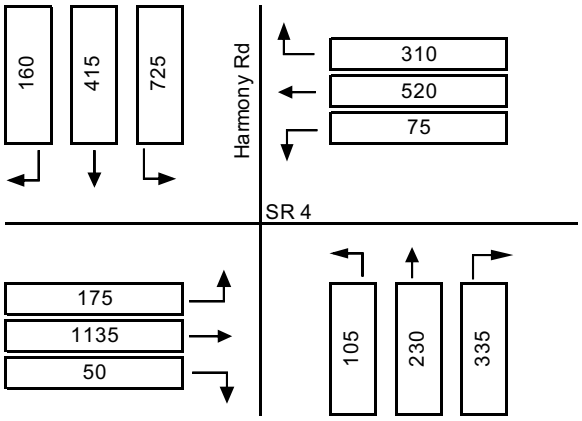
Count Date: 2019 Base Permit # N312

Scenario: AM Peak Peak Hour: 7:15-8:15 AM

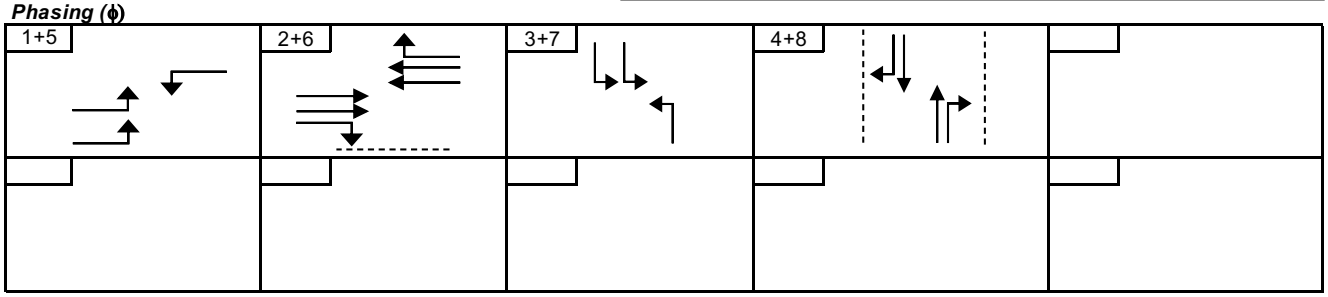
Computed By: JWC Date: 5/17/21

Checked By: VRH Date: 5/18/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	75	75	1.00	75			75	
5	EB L	175	175	0.55	97			97	*
2	EB T	(.55)1135 Or (.5)50	1135	0.55	625		22	603	*
6	WB T	(.55)520 Or (.5)310	520	0.55	286			286	
3	NB L	105	105	1.00	105			105	
7	SB L	725	725	0.55	399			399	*
4	SB T	415 Or (.5)160	415	1.00	415		294	121	
8	NB T	230 Or (.5)335	230	1.00	230			230	*
NB, SB and WB rights are channelized, yield controlled, have dedicated lanes and no acceleration lanes; include at 50%. EB rights are signalized, have a dedicated lane, right turn on red permitted; include at 50%.							TOTAL	1329	
							LEVEL OF SERVICE	D	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 4 & Harmony Road

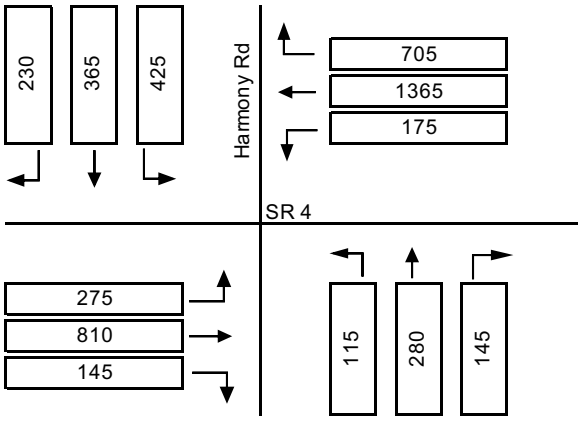
Count Date: 2019 Base Permit # N312

Scenario: PM Peak Peak Hour: 4:45-5:45 PM

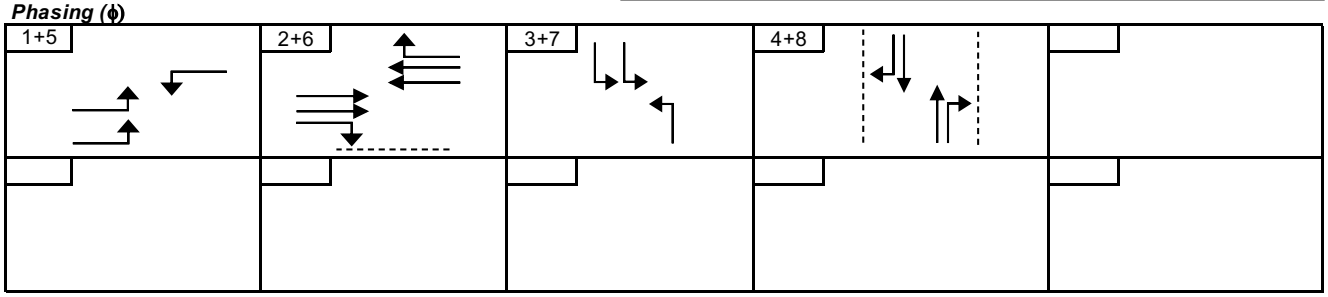
Computed By: JWC Date: 5/17/21

Checked By: VRH Date: 5/18/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	175	175	1.00	175			175	*
5	EB L	275	275	0.55	152			152	
2	EB T	(.55)810 Or (.5)145	810	0.55	446			446	
6	WB T	(.55)1365 Or (.5)705	1365	0.55	751		23	728	*
3	NB L	115	115	1.00	115			115	
7	SB L	425	425	0.55	234			234	*
4	SB T	365 Or (.5)230	365	1.00	365		119	246	
8	NB T	280 Or (.5)145	280	1.00	280			280	*
NB, SB and WB rights are channelized, yield controlled, have dedicated lanes and no acceleration lanes; include at 50%. EB rights are signalized, have a dedicated lane, right turn on red permitted; include at 50%.							TOTAL	1417	
							LEVEL OF SERVICE	D	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 58 & SR 7 Ramps

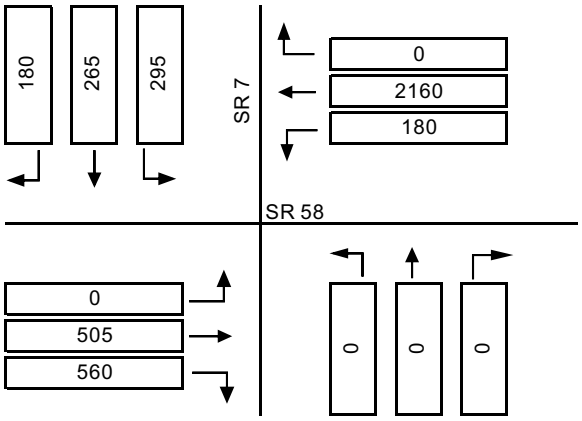
Count Date: 2019 Base Permit # N191

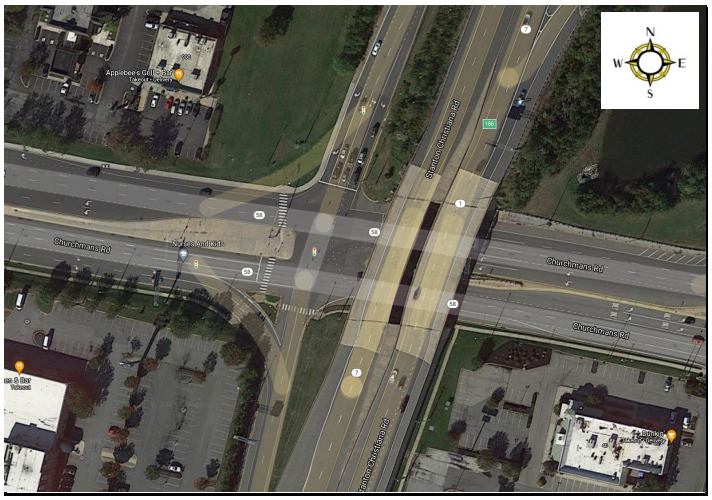
Scenario: AM Peak Peak Hour: 7:30-8:30 AM

Computed By: JMM Date: 5/17/21

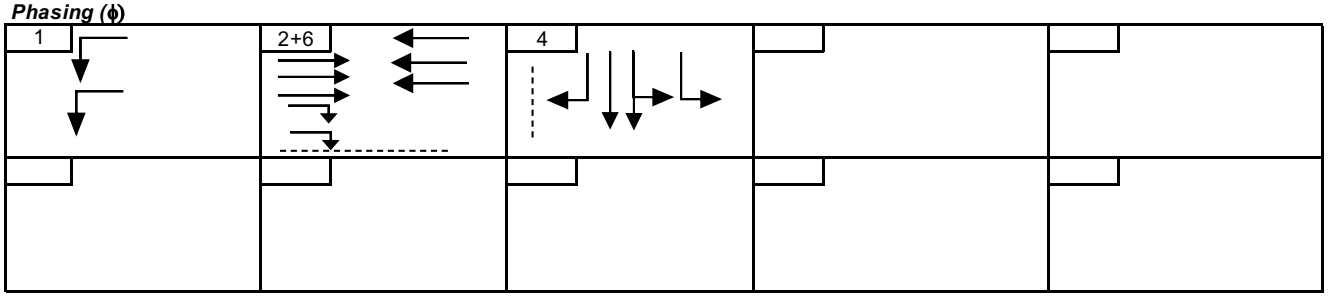
Checked By: VRH Date: 5/18/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	180	180	0.55	99			99	*
5									
2	EB T	(.4)505 Or (.55)560	560	0.55	308			308	
6	WB T	2160	2160	0.40	864		99	765	*
3									
7									
4	SB	(.5)180 Or (.55)265+(.55)295	308	1.00	308			308	*
8									
EB rights are signalized with right on red not permitted; include at 100%. SB rights are signalized with right on red permitted; include at 50%.							TOTAL	1172	
							LEVEL OF SERVICE	C	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 58 & SR 7 Ramps

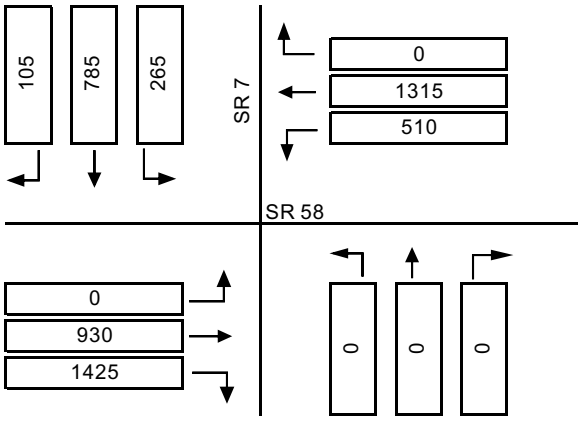
Count Date: 2019 Base Permit # N191

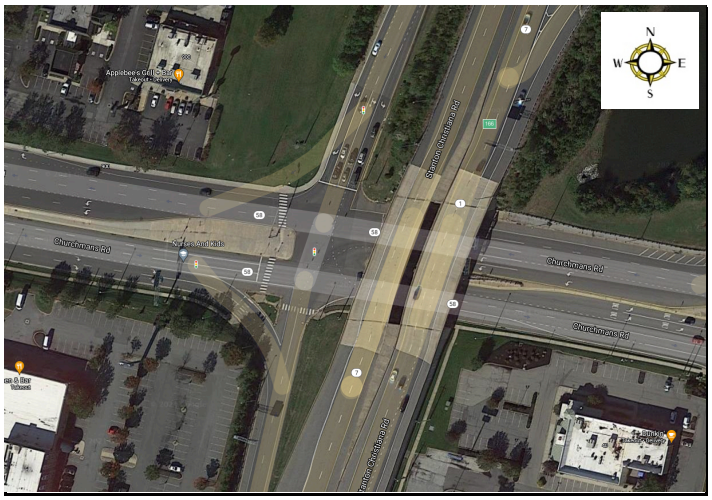
Scenario: PM Peak Peak Hour: 4:30-5:30 PM

Computed By: JMM Date: 5/17/21

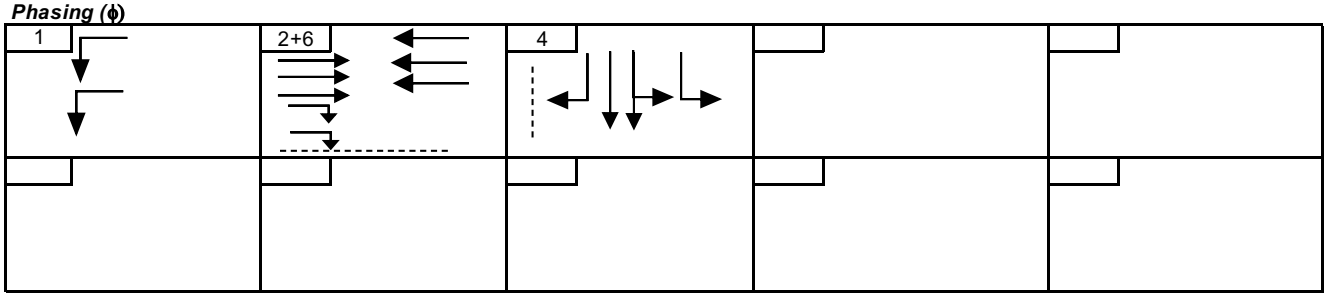
Checked By: VRH Date: 5/18/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	510	510	0.55	281			281	*
5									
2	EB T	(.4)930 Or (.55)1425	1425	0.55	784			784	*
6	WB T	1315	1315	0.40	526		281	245	
3									
7									
4	SB	(.5)105 Or (.55)785+(.55)265	578	1.00	578			578	*
8									
EB rights are signalized with right on red not permitted; include at 100%. SB rights are signalized with right on red permitted; include at 50%.							TOTAL	1643	
							LEVEL OF SERVICE	F	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 58 & CCC Connector

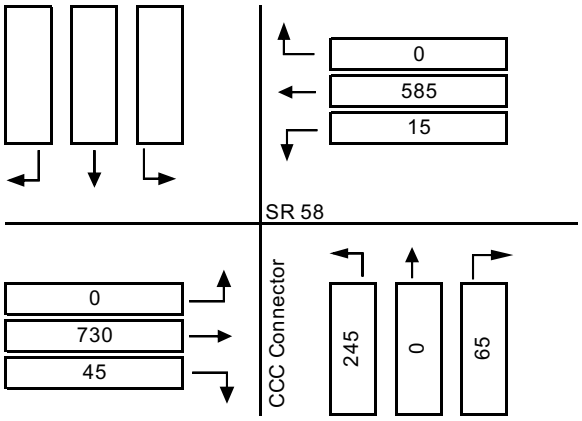
Count Date: 2019 Base Permit # N389

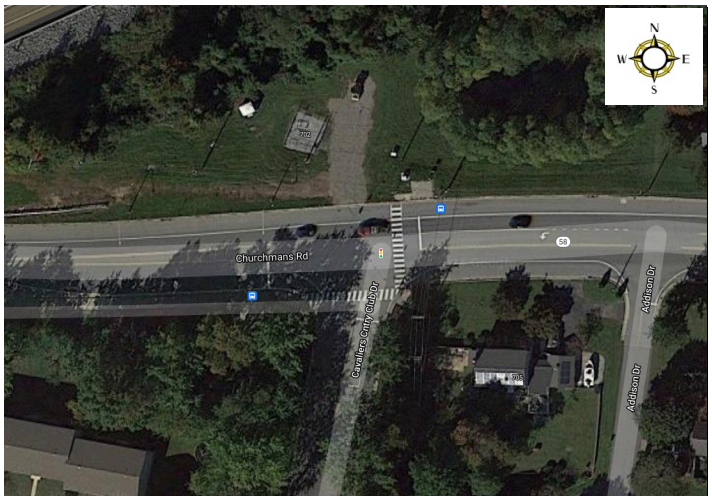
Scenario: AM Peak Peak Hour: 7:45-8:45 AM

Computed By: JMM Date: 5/17/21

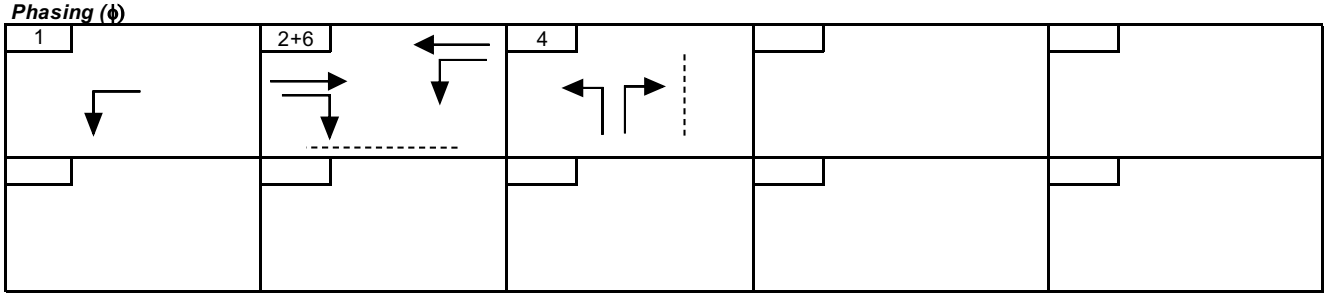
Checked By: VRH Date: 5/18/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	15	15	1.00	15			15	*
5									
2	EB T	730 Or (.5)45	730	1.00	730			730	*
6	WB T	585	585	1.00	585		15	570	
3									
7									
4	NB	245 Or (.5)65	245	1.00	245			245	*
8									
EB and NB right turns are signalized, right on red permitted, have a dedicated lane; include at 50%.							TOTAL	990	
							LEVEL OF SERVICE	A	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 58 & CCC Connector

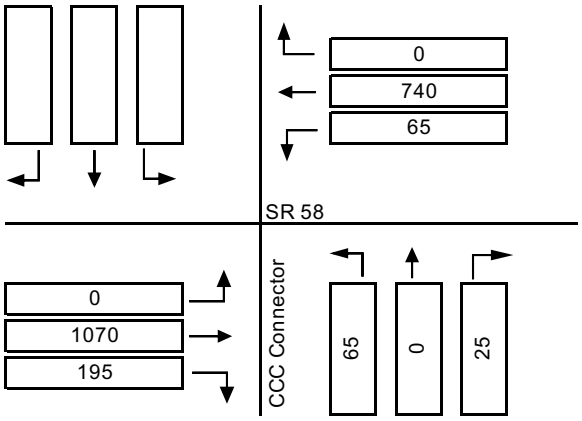
Count Date: 2019 Base Permit # N389

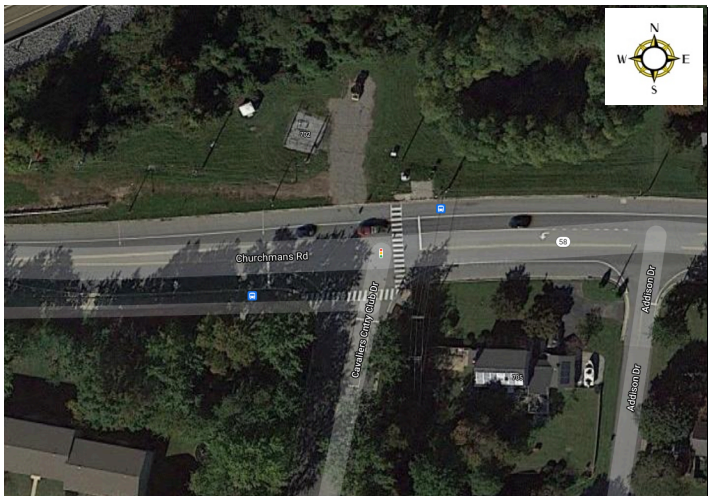
Scenario: PM Peak Peak Hour: 4:45-5:45 PM

Computed By: JMM Date: 5/17/21

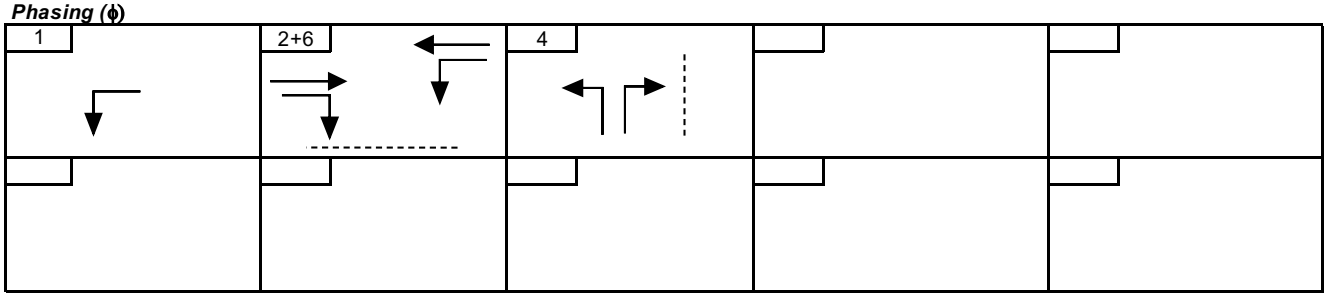
Checked By: VRH Date: 5/18/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	65	65	1.00	65			65	*
5									
2	EB T	1070 Or (.5)195	1070	1.00	1070			1070	*
6	WB T	740	740	1.00	740		65	675	
3									
7									
4	NB	65 Or (.5)25	65	1.00	65			65	*
8									
EB and NB right turns are signalized, right on red permitted, have a dedicated lane; include at 50%.							TOTAL	1200	
							LEVEL OF SERVICE	C	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 273 & Chapman Road/Eagle Run Road

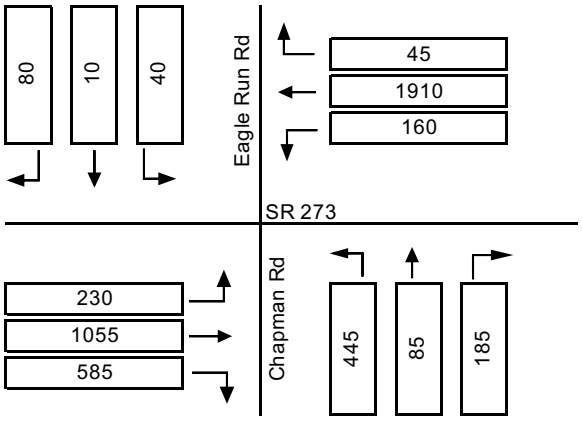
Count Date: 2019 Base Permit # N367

Scenario: AM Peak Peak Hour: 7:15-8:15 AM

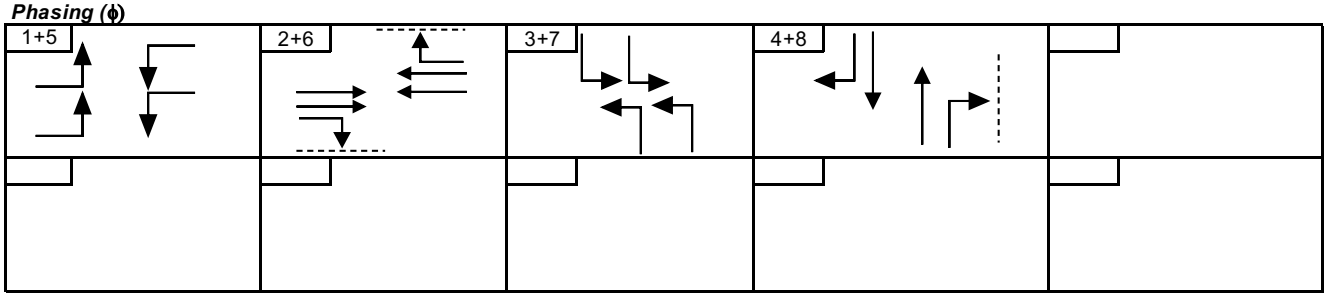
Computed By: JMM Date: 5/17/21

Checked By: VRH Date: 5/18/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	160	160	0.55	88			88	
5	EB L	230	230	0.55	127			127	*
2	EB T	(.55)1055 Or (.5)585	1055	0.55	581		39	542	
6	WB T	(.55)1910 Or (.5)45	1910	0.55	1051			1051	*
3	SB L	40	40	0.55	22			22	
7	NB L	445	445	0.55	245			245	*
4	NB T	85 Or (.5)185	93	1.00	93		223	0	
8	SB T	10 Or (.5)80	40	1.00	40			40	*
NB and SB right turns are signalized, right on red permitted, have a dedicated lane; include at 50%. WB and EB right turns are channelized, yield controlled, have a dedicated lane, and have no acceleration lane; include at 50%.							TOTAL	1463	
							LEVEL OF SERVICE	E	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 273 & Chapman Road/Eagle Run Road

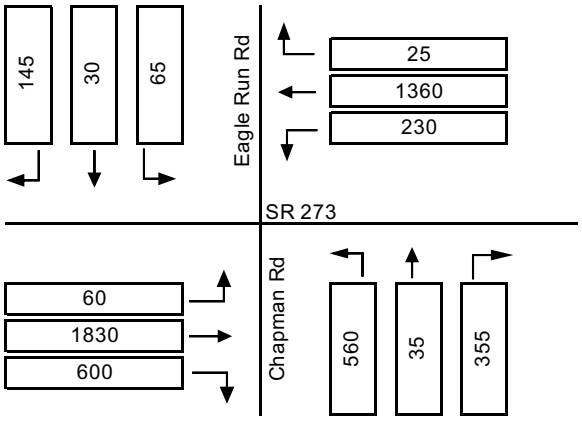
Count Date: 2019 Base Permit # N367

Scenario: PM Peak Peak Hour: 4:30-5:30 PM

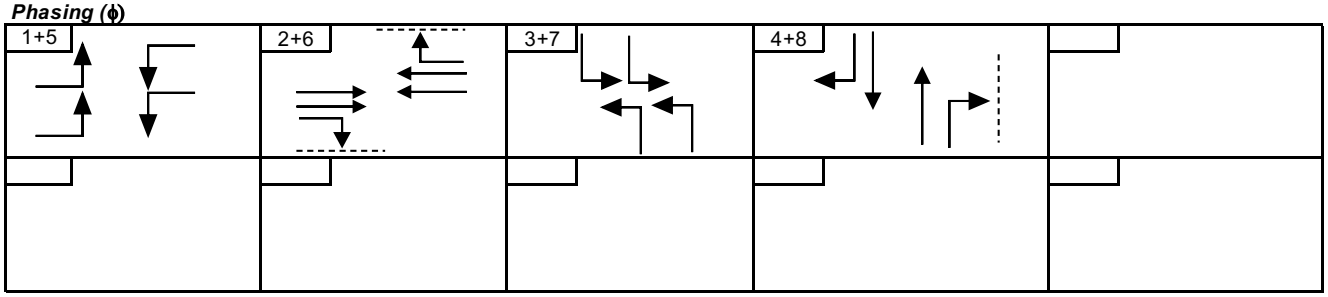
Computed By: JMM Date: 5/17/21

Checked By: VRH Date: 5/18/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	230	230	0.55	127			127	*
5	EB L	60	60	0.55	33			33	
2	EB T	(.55)1830 Or (.5)600	1830	0.55	1007			1007	*
6	WB T	(.55)1360 Or (.5)25	1360	0.55	748		94	654	
3	SB L	65	65	0.55	36			36	
7	NB L	560	560	0.55	308			308	*
4	NB T	35 Or (.5)355	178	1.00	178		272	0	
8	SB T	30 Or (.5)145	73	1.00	73			73	*
NB and SB right turns are signalized, right on red permitted, have a dedicated lane; include at 50%. WB and EB right turns are channelized, yield controlled, have a dedicated lane, and have no acceleration lane; include at 50%.							TOTAL	1515	
							LEVEL OF SERVICE	E	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 273 & Old Baltimore Pike

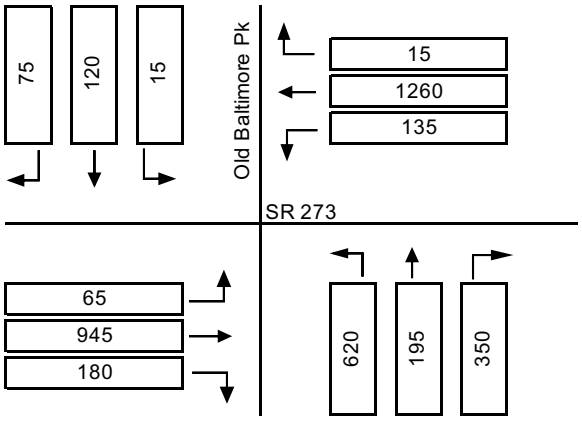
Count Date: 2019 Base Permit # N351

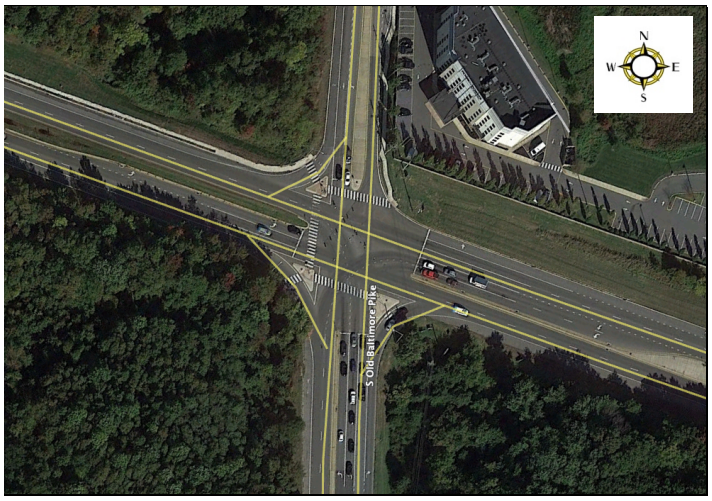
Scenario: AM Peak Peak Hour: 7:30-8:30 AM

Computed By: JMM Date: 5/17/21

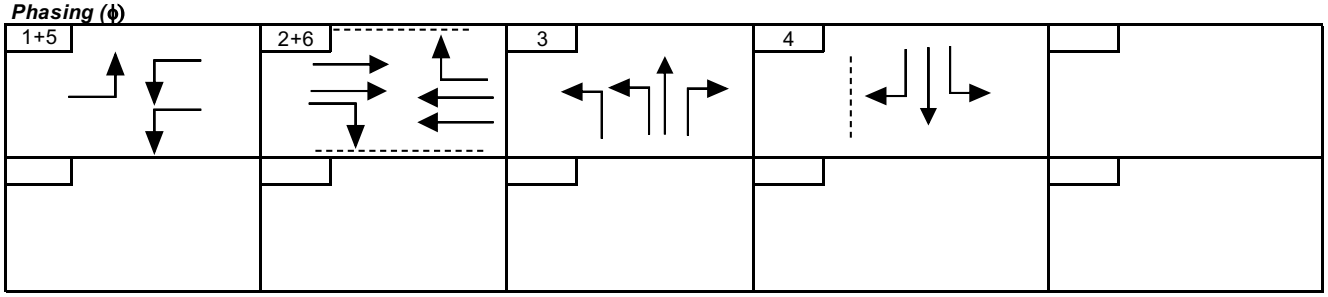
Checked By: VRH Date: 5/18/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	135	135	0.55	75			75	*
5	EB L	65	65	1.00	65			65	
2	EB T	(.55)945 Or (.5)180	945	0.55	520			520	
6	WB T	(.55)1260 Or (.5)15	1260	0.55	693		10	683	*
3	NB	(.55)620 Or 195 Or (.5)350	620	0.55	341			341	*
7									
4	SB	15 Or 120 Or (.5)75	120	1.00	120			120	*
8									
EB, NB, and SB right turns are channelized, yield controlled, and have a dedicated lane with no acceleration lane; include at 50%. WB right turns are signalized and have a dedicated lane with right on red permitted; include at 50%.							TOTAL	1219	
							LEVEL OF SERVICE	C	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 273 & Old Baltimore Pike

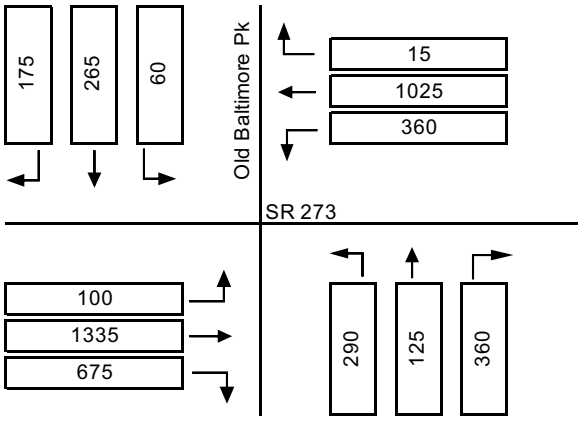
Count Date: 2019 Base Permit # N351

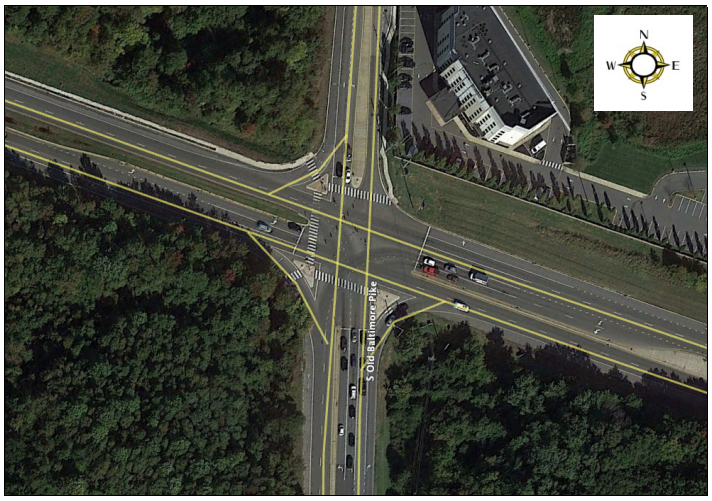
Scenario: PM Peak Peak Hour: 5:00-6:00 PM

Computed By: JMM Date: 5/17/21

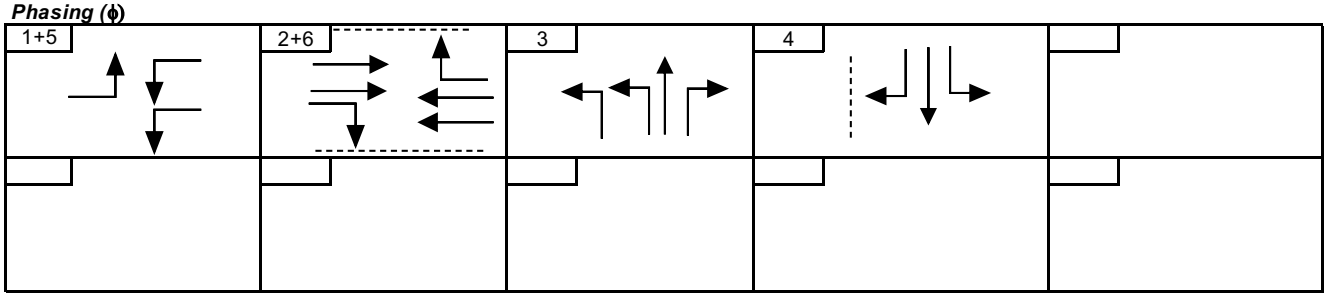
Checked By: VRH Date: 5/18/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	360	360	0.55	198			198	*
5	EB L	100	100	1.00	100			100	
2	EB T	(.55)1335 Or (.5)675	1335	0.55	735			735	*
6	WB T	(.55)1025 Or (.5)15	1025	0.55	564		98	466	
3	NB	(.55)290 Or 125 Or (.5)360	180	1.00	180			180	*
7									
4	SB	60 Or 265 Or (.5)175	265	1.00	265			265	*
8									
EB, NB, and SB right turns are channelized, yield controlled, and have a dedicated lane with no acceleration lane; include at 50%. WB right turns are signalized and have a dedicated lane with right on red permitted; include at 50%.							TOTAL	1378	
							LEVEL OF SERVICE	D	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

2050 Forecasted Conditions CMS Sheets

Rybinski ENGINEERING

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & Delaware Park Drive

Count Date: 2050 Forecasted Permit # N186

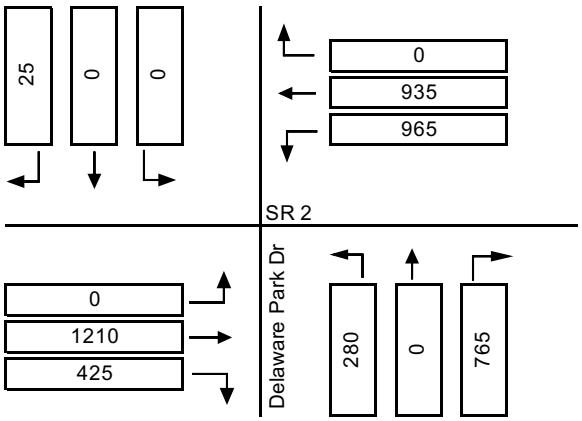
Project: S, Churchmans Road Extended, SR 2 to SR 4

Scenario: AM Peak Peak Hour: 7:15-8:15 AM

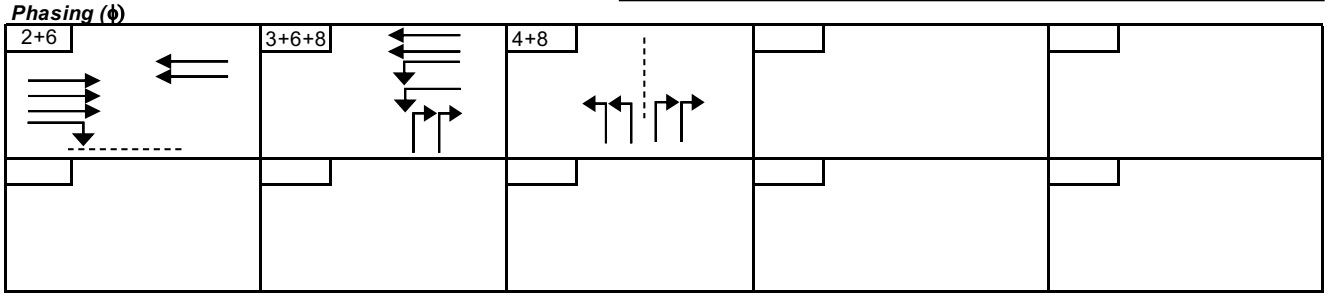
Computed By: JWC Date: 8/16/21

Checked By: VRH Date: 8/17/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1									
5									
2	EB T	1210	1210	0.40	484			484	*
6	WB T	935	935	0.55	515		531	0	
3	WB L	965	965	0.55	531			531	*
7									
4	NB L	280	280	0.55	154			154	*
8	NB R	765	765	0.55	421		531	0	
NB rights are signalized with no right turn on red permitted and have dedicated lanes with no acceleration lane; include at 100%. SB rights are separate from signal, exclude from analysis. EB rights are free, have a dedicated lane with an acceleration lane; exclude from calculation.							TOTAL	1169	
							LEVEL OF SERVICE	C	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & Delaware Park Drive

Count Date: 2050 Forecasted Permit # N186

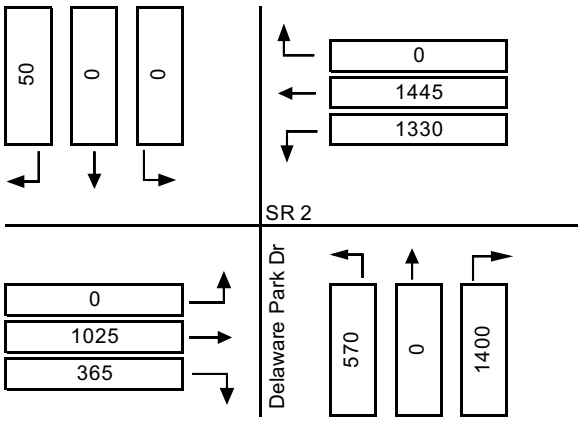
Project: S, Churchmans Road Extended, SR 2 to SR 4

Scenario: PM Peak Peak Hour: 4:45-5:45 PM

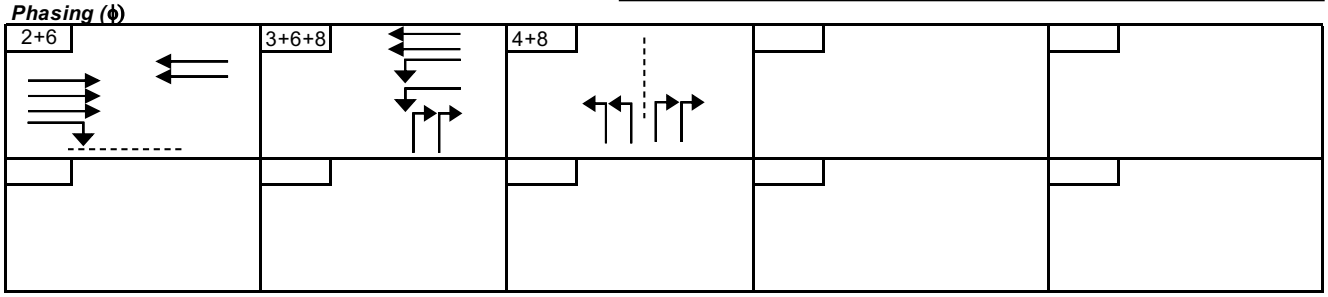
Computed By: JWC Date: 8/16/21

Checked By: VRH Date: 8/17/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1									
5									
2	EB T	1025	1025	0.40	410			410	*
6	WB T	1445	1445	0.55	795		732	63	
3	WB L	1330	1330	0.55	732			732	*
7									
4	NB L	570	570	0.55	314			314	*
8	NB R	1400	1400	0.55	770		732	38	
NB rights are signalized with no right turn on red permitted and have dedicated lanes with no acceleration lane; include at 100%. SB rights are separate from signal, exclude from analysis. EB rights are free, have a dedicated lane with an acceleration lane; exclude from calculation.							TOTAL	1456	
							LEVEL OF SERVICE	E	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 4 & SR 58 (Churchmans Road)

Count Date: 2050 Forecasted Permit # N369

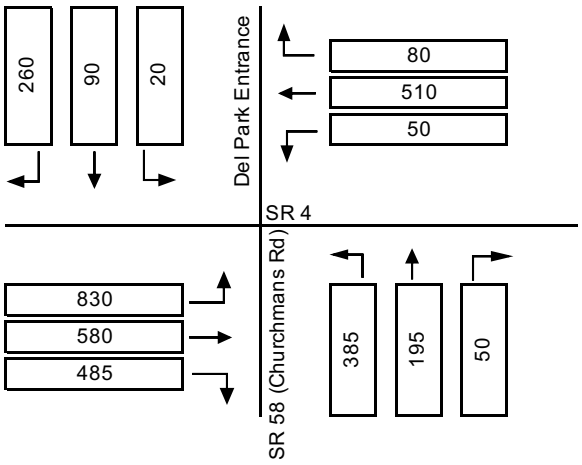
Project: S, Churchmans Road Extended, SR 2 to SR 4

Scenario: AM Peak Peak Hour: 7:30-8:30 AM

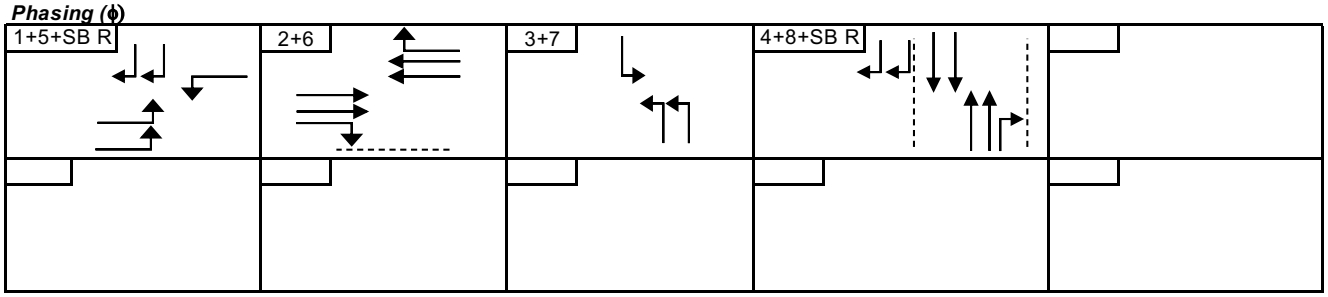
Computed By: JWC Date: 8/16/21

Checked By: VRH Date: 8/17/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	50	50	1.00	50			50	
5	EB L	830	830	0.55	457			457	*
2	EB T	(.55)580 Or (.5)485	580	0.55	319		407	0	
6	WB T	(.55)510 Or (.5)80	510	0.55	281			281	*
3	SB L	20	20	1.00	20			20	
7	NB L	385	385	0.55	212			212	*
4	NB T	(.55)195 Or (.5)50	195	0.55	108		192	0	
8	SB T	(.55)90 Or ((0.55)260)-457	90	0.55	50			50	*
EB, WB, SB rights are yield controlled and have a dedicated lane with no acceleration lane; include at 50%. SB rights are signalized with no right on red permitted; include at 100%.							TOTAL	1000	
							LEVEL OF SERVICE	B	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 4 & SR 58 (Churchmans Road)

Count Date: 2050 Forecasted Permit # N369

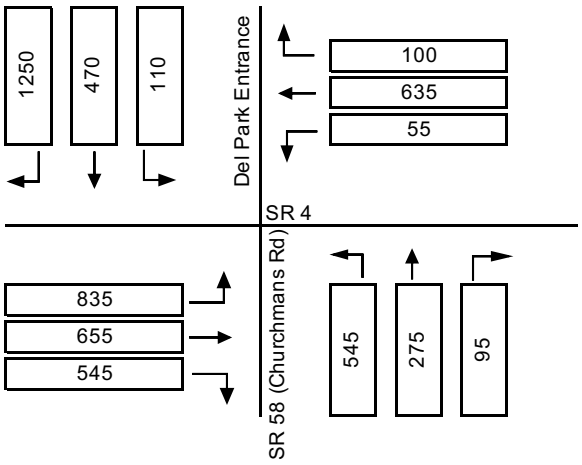
Project: S, Churchmans Road Extended, SR 2 to SR 4

Scenario: PM Peak Peak Hour: 4:45-5:45 PM

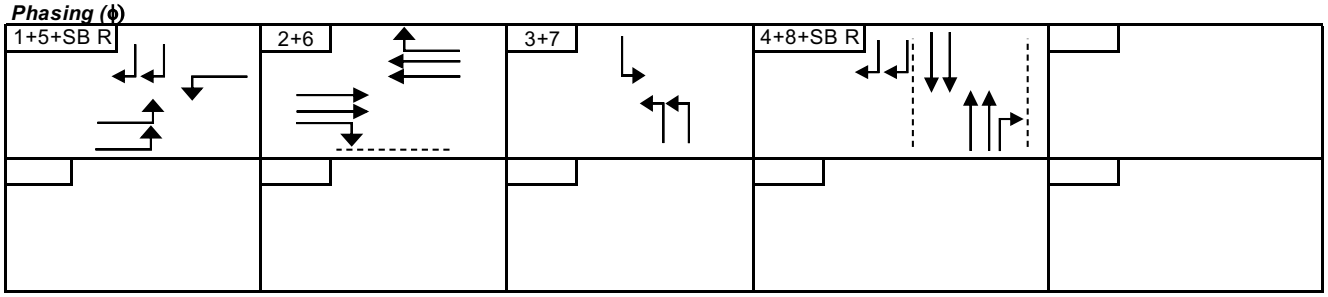
Computed By: JWC Date: 8/16/21

Checked By: VRH Date: 8/17/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	55	55	1.00	55			55	
5	EB L	835	835	0.55	460			460	*
2	EB T	(.55)655 Or (.5)545	655	0.55	361		405	0	
6	WB T	(.55)635 Or (.5)100	635	0.55	350			350	*
3	SB L	110	110	1.00	110			110	
7	NB L	545	545	0.55	300			300	*
4	NB T	(.55)275 Or (.5)95	275	0.55	152		190	0	
8	SB T	(.55)470 Or ((.55)1250)-460	470	0.55	259			259	*
EB, WB, SB rights are yield controlled and have a dedicated lane with no acceleration lane; include at 50%. SB rights are signalized with no right on red permitted; include at 100%.							TOTAL	1369	
							LEVEL OF SERVICE	D	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & Harmony Road

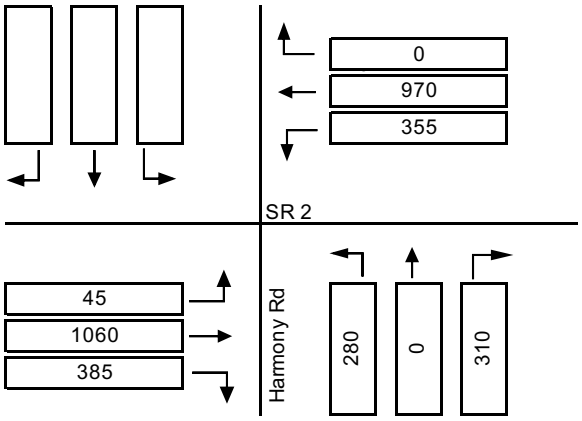
Count Date: 2050 Forecasted Permit # N301

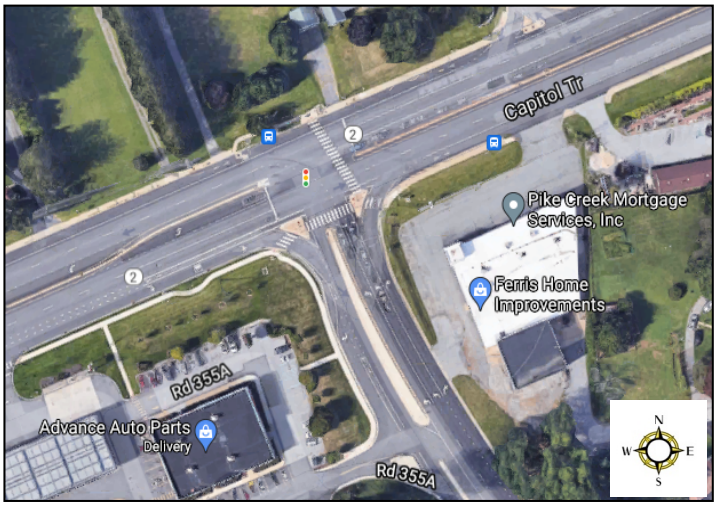
Scenario: AM Peak Peak Hour: 7:15-8:15 AM

Computed By: JWC Date: 8/16/21

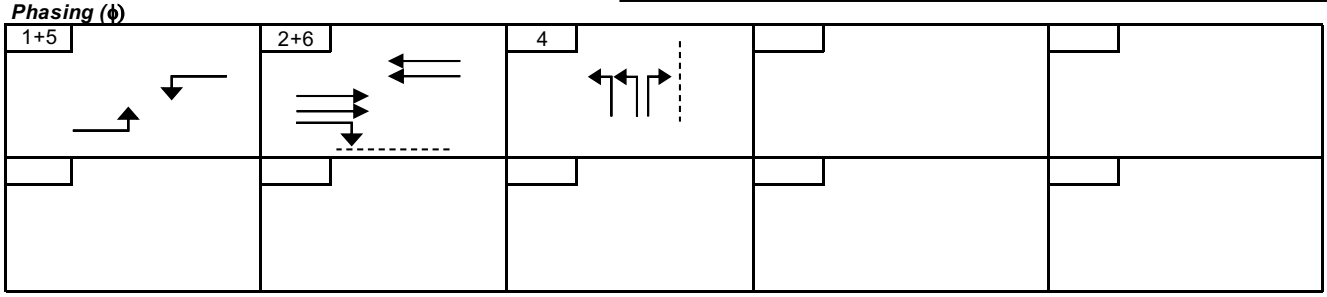
Checked By: VRH Date: 8/17/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	355	355	1.00	355			355	*
5	EB L	45	45	1.00	45			45	
2	EB T	(.55)1060 Or (.5)385	1060	0.55	583			583	*
6	WB T	970	970	0.55	534		310	224	
3									
7									
4	NB	(.55)280 Or (.5)310	155	1.00	155			155	*
8									
EB and NB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane; include at 50%.							TOTAL	1093	
							LEVEL OF SERVICE	B	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & Harmony Road

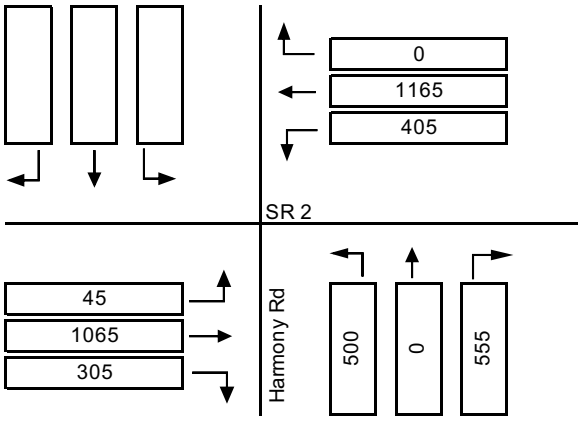
Count Date: 2050 Forecasted Permit # N301

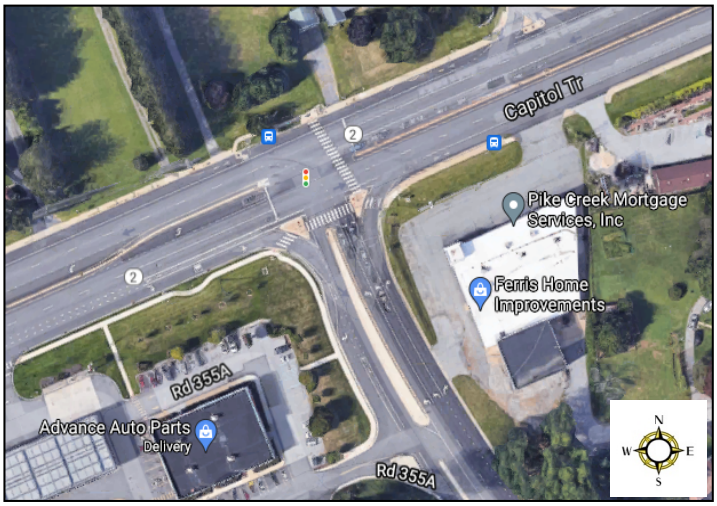
Scenario: PM Peak Peak Hour: 4:45-5:45 PM

Computed By: JWC Date: 8/16/21

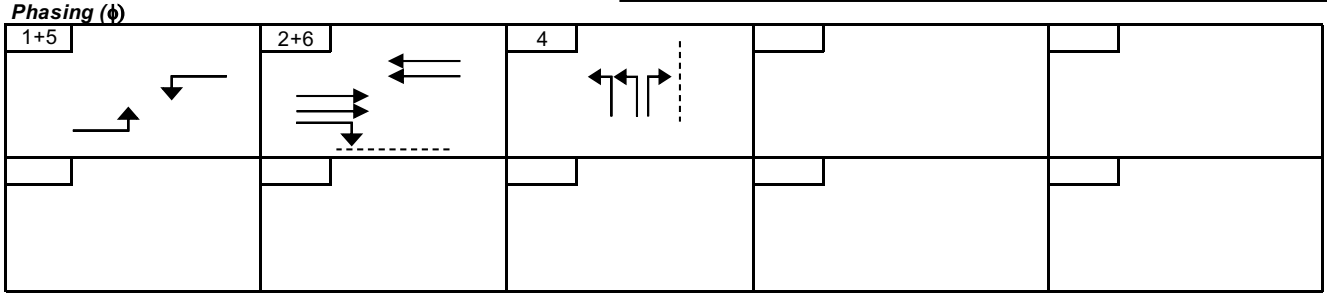
Checked By: VRH Date: 8/17/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	405	405	1.00	405			405	*
5	EB L	45	45	1.00	45			45	
2	EB T	(.55)1065 Or (.5)305	1065	0.55	586			586	*
6	WB T	1165	1165	0.55	641		360	281	
3									
7									
4	NB	(.55)500 Or (.5)555	278	1.00	278			278	*
8									
EB and NB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane; include at 50%.							TOTAL	1269	
							LEVEL OF SERVICE	C	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & SR 7

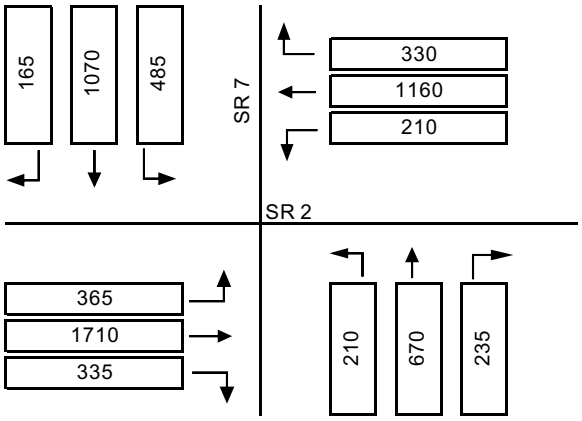
Count Date: 2050 Forecasted Permit # N165

Scenario: AM Peak Peak Hour: 7:15-8:15 AM

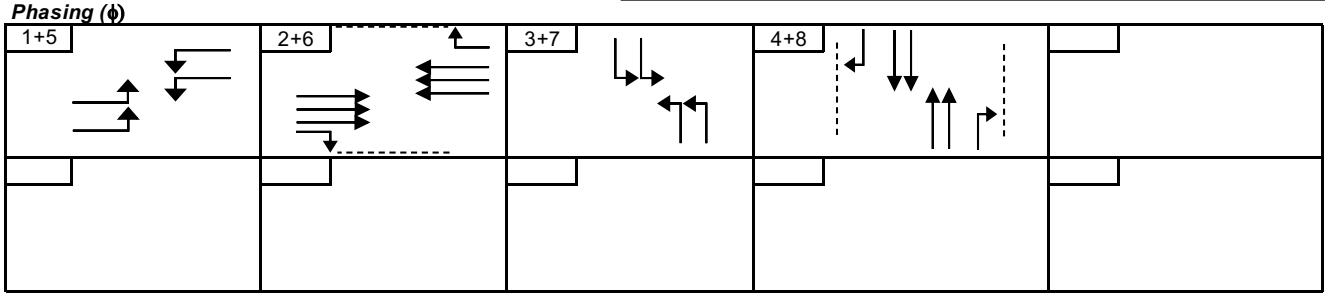
Computed By: JWC Date: 8/16/21

Checked By: VRH Date: 8/17/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	210	210	0.55	116			116	
5	EB L	365	365	0.55	201			201	*
2	EB T	(.4)1710 Or (.5)335	1710	0.40	684		85	599	*
6	WB T	(.4)1160 Or (.5)330	1160	0.40	464			464	
3	SB L	485	485	0.55	267			267	*
7	NB L	210	210	0.55	116			116	
4	NB T	(.55)670 Or (.5)235	670	0.55	369			369	
8	SB T	(.55)1070 Or 165	1070	0.55	589		151	438	*

EB, WB, and NB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane; include at 50%. SB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane but is often blocked during peak hour; include at 100%.

TOTAL	1505
LEVEL OF SERVICE	E

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 2 & SR 7

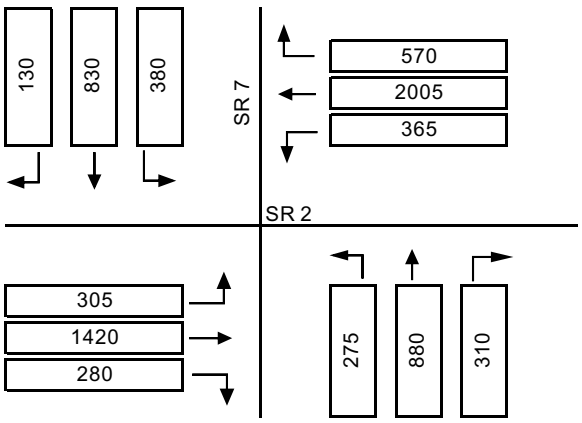
Count Date: 2050 Forecasted Permit # N165

Scenario: PM Peak Peak Hour: 4:45-5:45 PM

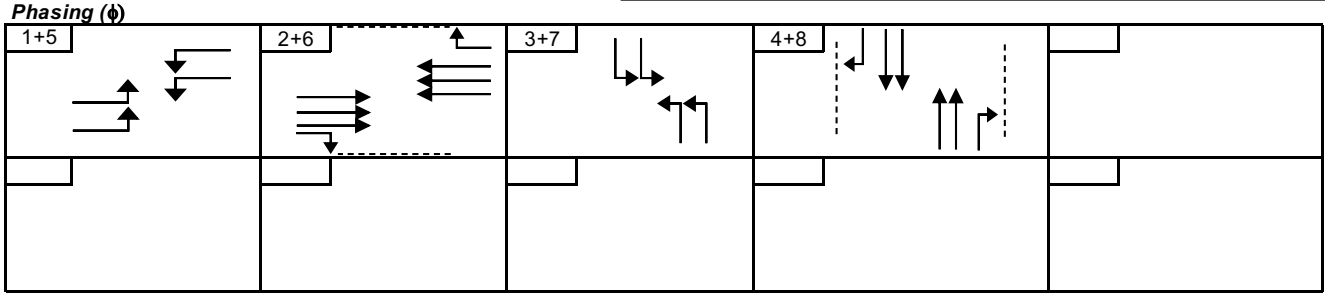
Computed By: JWC Date: 8/16/21

Checked By: VRH Date: 8/17/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	365	365	0.55	201			201	*
5	EB L	305	305	0.55	168			168	
2	EB T	(.4)1420 Or (.5)280	1420	0.40	568			568	
6	WB T	(.4)2005 Or (.5)570	2005	0.40	802		33	769	*
3	SB L	380	380	0.55	209			209	*
7	NB L	275	275	0.55	152			152	
4	NB T	(.55)880 Or (.5)310	880	0.55	484			484	*
8	SB T	(.55)830 Or 130	830	0.55	457		57	400	

EB, WB, and NB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane; include at 50%. SB rights are channelized, yield controlled and have a dedicated lane with no acceleration lane but is often blocked during peak hour; include at 100%.

TOTAL	1663
LEVEL OF SERVICE	F

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 4 & Harmony Road

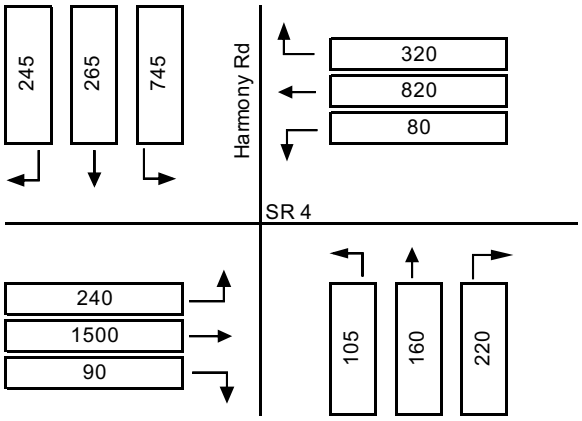
Count Date: 2050 Forecasted Permit # N312

Scenario: AM Peak Peak Hour: 7:15-8:15 AM

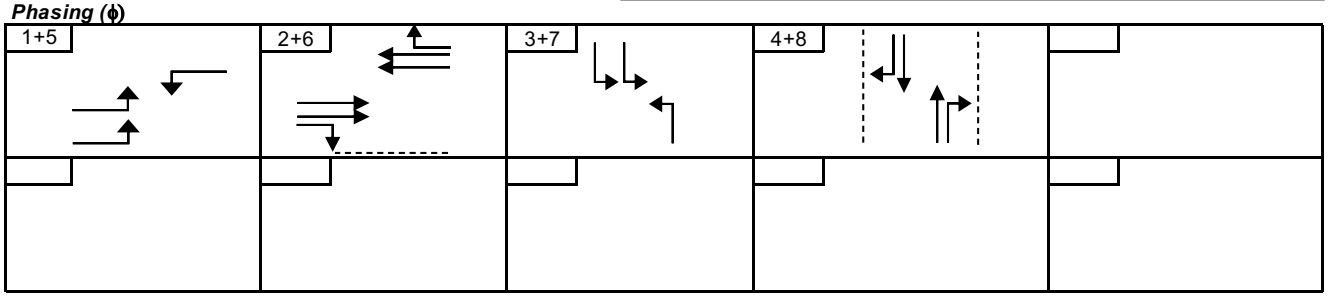
Computed By: JWC Date: 8/16/21

Checked By: VRH Date: 8/17/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	80	80	1.00	80			80	
5	EB L	240	240	0.55	132			132	*
2	EB T	(.55)1500 Or (.5)90	1500	0.55	825		52	773	*
6	WB T	(.55)820 Or (.5)320	820	0.55	451			451	
3	NB L	105	105	1.00	105			105	
7	SB L	745	745	0.55	410			410	*
4	SB T	265 Or (.5)245	265	1.00	265		305	0	
8	NB T	160 Or (.5)220	160	1.00	160			160	*
NB, SB and WB rights are channelized, yield controlled, have dedicated lanes and no acceleration lanes; include at 50%. EB rights are signalized, have a dedicated lane, right turn on red permitted; include at 50%.							TOTAL	1475	
							LEVEL OF SERVICE	E	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 4 & Harmony Road

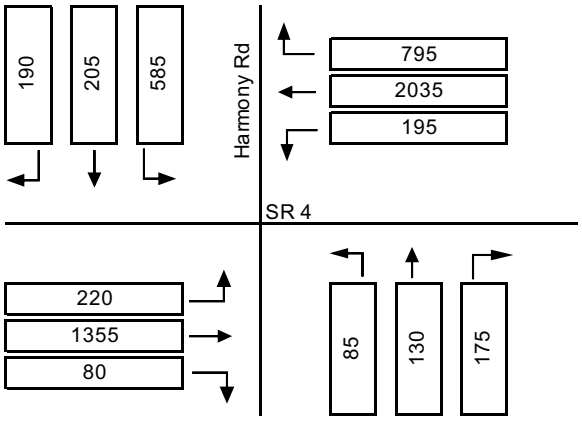
Count Date: 2050 Forecasted Permit # N312

Scenario: PM Peak Peak Hour: 4:45-5:45 PM

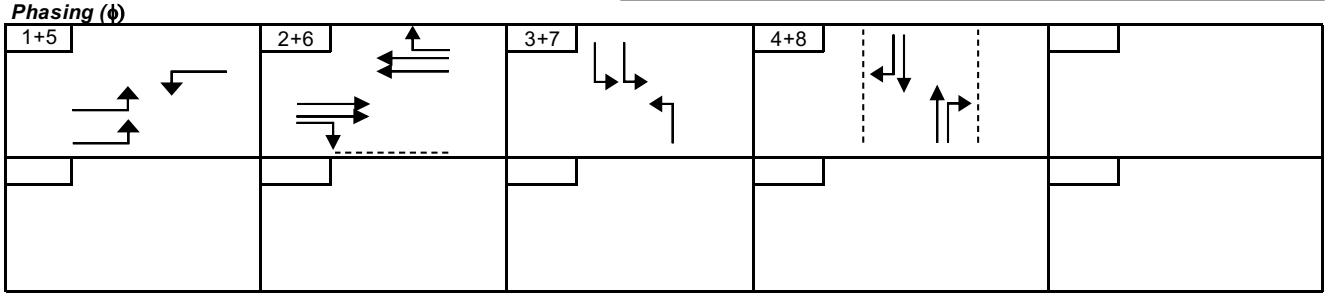
Computed By: JWC Date: 8/16/21

Checked By: VRH Date: 8/17/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	195	195	1.00	195			195	*
5	EB L	220	220	0.55	121			121	
2	EB T	(.55)1355 Or (.5)80	1355	0.55	746			746	
6	WB T	(.55)2035 Or (.5)795	2035	0.55	1120		74	1046	*
3	NB L	85	85	1.00	85			85	
7	SB L	585	585	0.55	322			322	*
4	SB T	205 Or (.5)190	205	1.00	205		237	0	
8	NB T	130 Or (.5)175	130	1.00	130			130	*
NB, SB and WB rights are channelized, yield controlled, have dedicated lanes and no acceleration lanes; include at 50%. EB rights are signalized, have a dedicated lane, right turn on red permitted; include at 50%.							TOTAL	1693	
							LEVEL OF SERVICE	F	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 58 & SR 7 Ramps

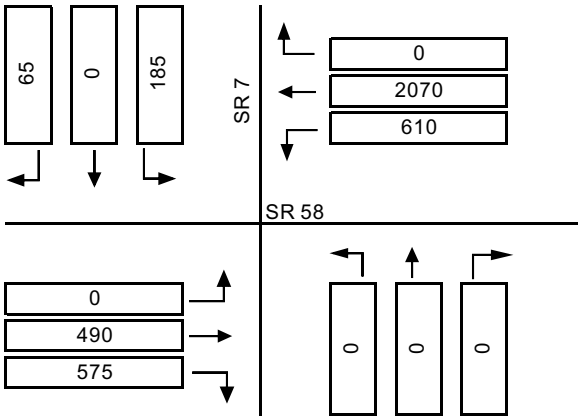
Count Date: 2050 Forecasted Permit # N191

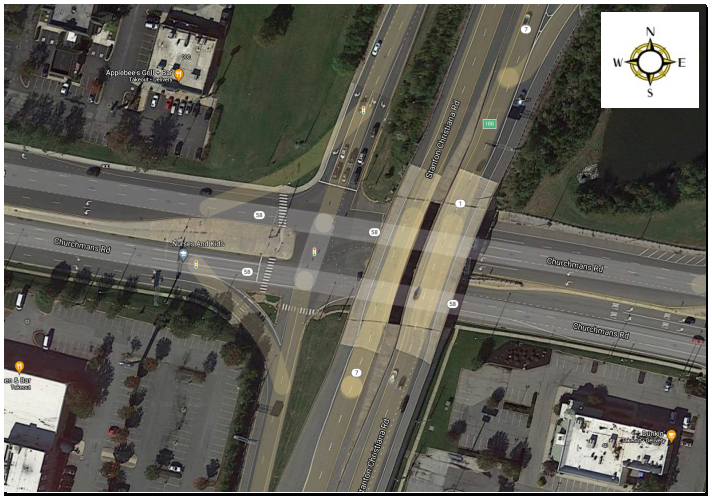
Project: Y, Southbound SR 1 to Southbound I-95 Connection
Z, Southbound SR 1 to Northbound I-95 Connection

Scenario: AM Peak Peak Hour: 7:30-8:30 AM

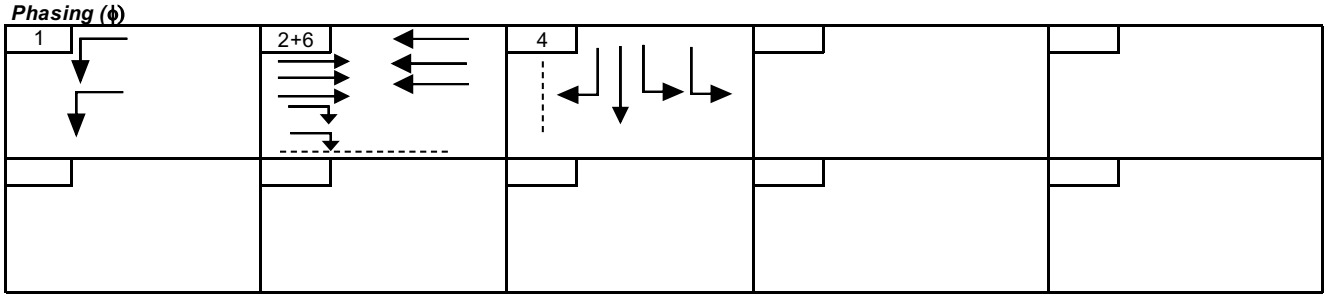
Computed By: JWC Date: 8/16/21
Checked By: VRH Date: 8/17/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	610	610	0.55	336			336	*
5									
2	EB T	(.4)490 Or (.55)575	575	0.55	317			317	
6	WB T	2070	2070	0.40	828		336	492	*
3									
7									
4	SB	(.5)65 Or 0 Or (.55)185	185	0.55	102			102	*
8									
EB rights are signalized with right on red not permitted; include at 100%. SB rights are signalized with right on red permitted; include at 50%.							TOTAL	930	
							LEVEL OF SERVICE	A	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 58 & SR 7 Ramps

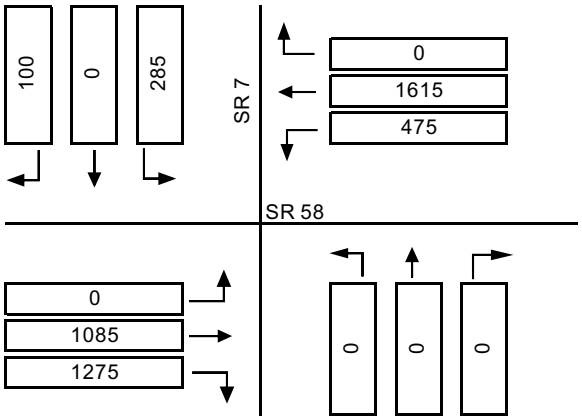
Count Date: 2050 Forecasted Permit # N191

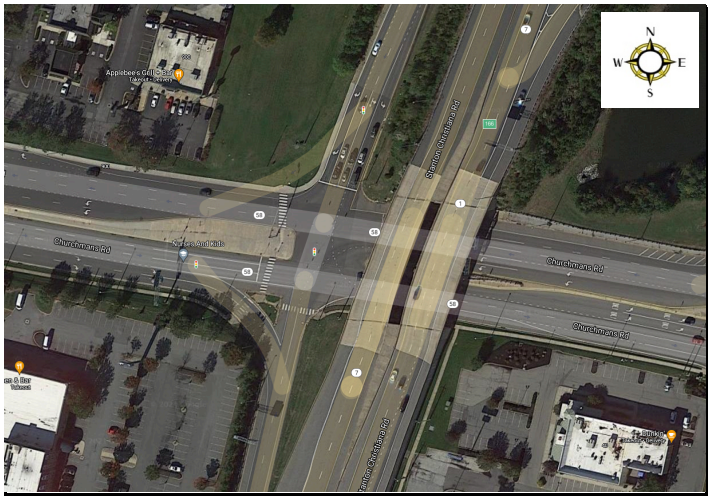
Project: Y, Southbound SR 1 to Southbound I-95 Connection
Z, Southbound SR 1 to Northbound I-95 Connection

Scenario: PM Peak Peak Hour: 4:30-5:30 PM

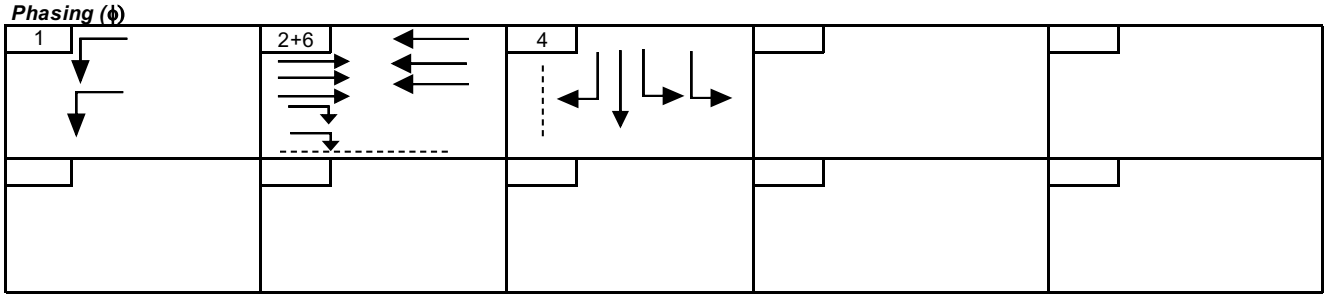
Computed By: JWC Date: 8/16/21
Checked By: VRH Date: 8/17/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	475	475	0.55	262			262	*
5									
2	EB T	(.4)1085 Or (.55)1275	1275	0.55	702			702	*
6	WB T	1615	1615	0.40	646		262	384	
3									
7									
4	SB	(.5)100 Or 0 Or (.55)285	285	0.55	157			157	*
8									
EB rights are signalized with right on red not permitted; include at 100%. SB rights are signalized with right on red permitted; include at 50%.							TOTAL	1121	
							LEVEL OF SERVICE	B	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 58 & CCC Connector

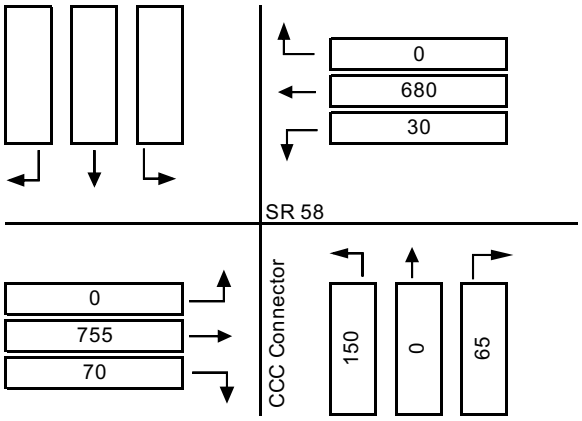
Count Date: 2050 Forecasted Permit # N389

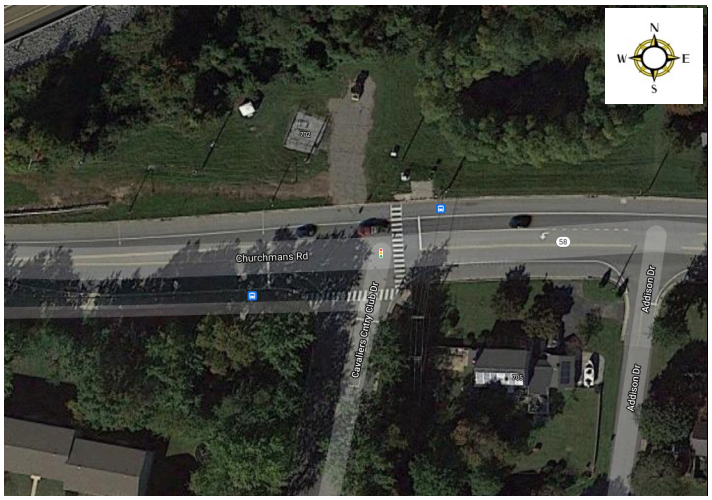
Scenario: AM Peak Peak Hour: 7:45-8:45 AM

Computed By: JWC Date: 8/16/21

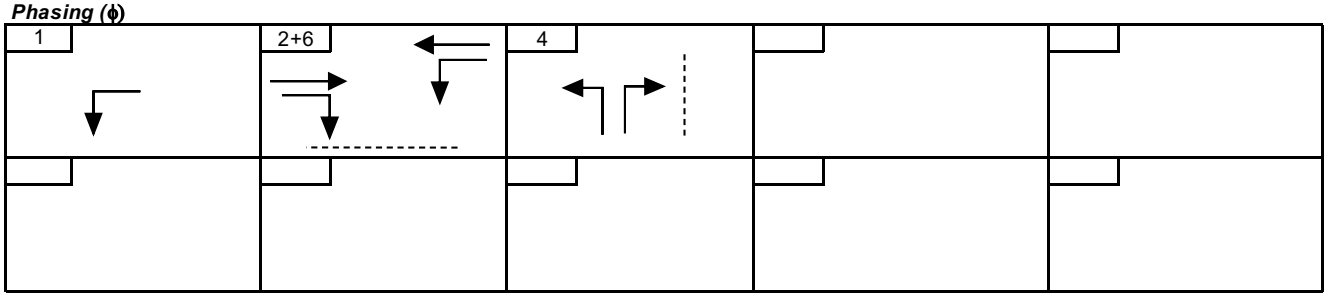
Checked By: VRH Date: 8/17/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	30	30	1.00	30			30	*
5									
2	EB T	755 Or (.5)70	755	1.00	755			755	*
6	WB T	680	680	1.00	680		30	650	
3									
7									
4	NB	150 Or (.5)65	150	1.00	150			150	*
8									
EB and NB right turns are signalized, right on red permitted, have a dedicated lane; include at 50%.							TOTAL	935	
							LEVEL OF SERVICE	A	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 58 & CCC Connector

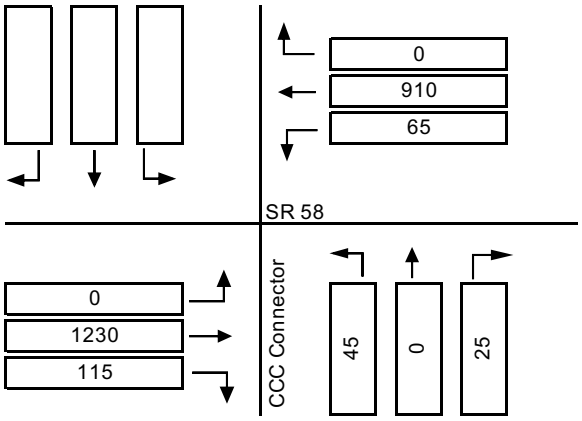
Count Date: 2050 Forecasted Permit # N389

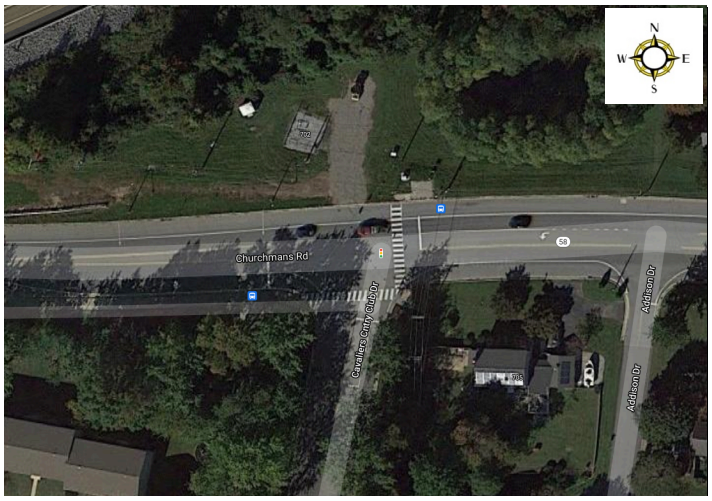
Scenario: PM Peak Peak Hour: 4:45-5:45 PM

Computed By: JWC Date: 8/16/21

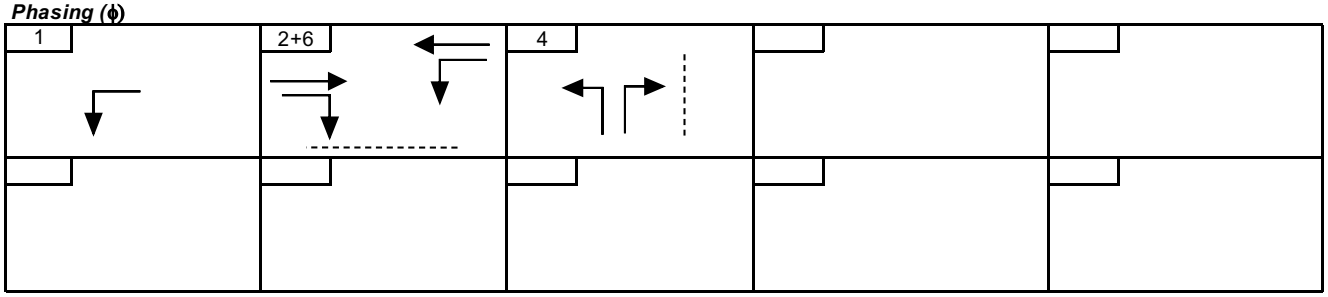
Checked By: VRH Date: 8/17/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	65	65	1.00	65			65	*
5									
2	EB T	1230 Or (.5)115	1230	1.00	1230			1230	*
6	WB T	910	910	1.00	910		65	845	
3									
7									
4	NB	45 Or (.5)25	45	1.00	45			45	*
8									
EB and NB right turns are signalized, right on red permitted, have a dedicated lane; include at 50%.							TOTAL	1340	
							LEVEL OF SERVICE	D	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 273 & Chapman Road/Eagle Run Road

Count Date: 2050 Forecasted Permit # N367

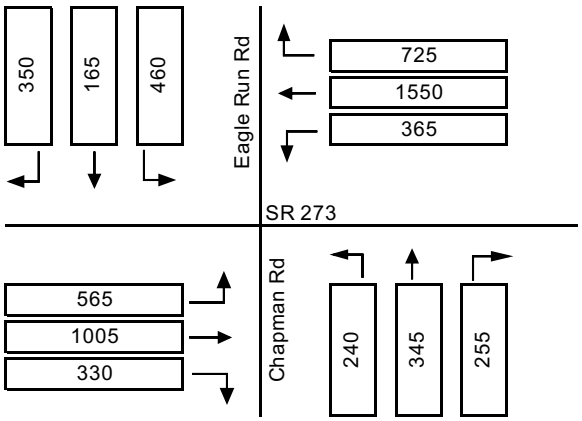
Project: U, SR 273: 3rd lane NB & SB between SR 1 and I-95

Scenario: AM Peak Peak Hour: 7:15-8:15 AM

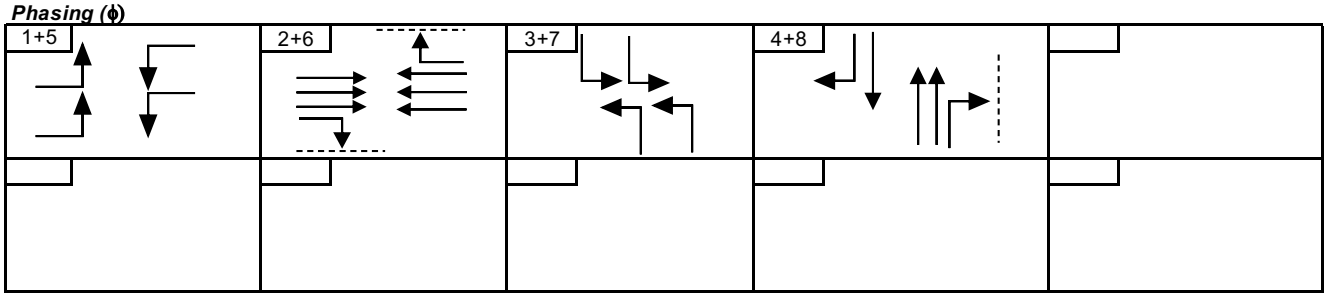
Computed By: JWC Date: 8/16/21

Checked By: VRH Date: 8/17/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	365	365	0.55	201			201	
5	EB L	565	565	0.55	311			311	*
2	EB T	(.4)1005 Or (.5)330	1005	0.40	402		110	292	
6	WB T	(.4)1550 Or (.5)725	1550	0.40	620			620	*
3	SB L	460	460	0.55	253			253	*
7	NB L	240	240	0.55	132			132	
4	NB T	(.55)345 Or (.5)255	345	0.55	190			190	*
8	SB T	165 Or (.5)350	175	1.00	175		121	54	
NB and SB right turns are signalized, right on red permitted, have a dedicated lane; include at 50%. WB and EB right turns are channelized, yield controlled, have a dedicated lane, and have no acceleration lane; include at 50%.						TOTAL		1374	
						LEVEL OF SERVICE		D	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 273 & Chapman Road/Eagle Run Road

Count Date: 2050 Forecasted Permit # N367

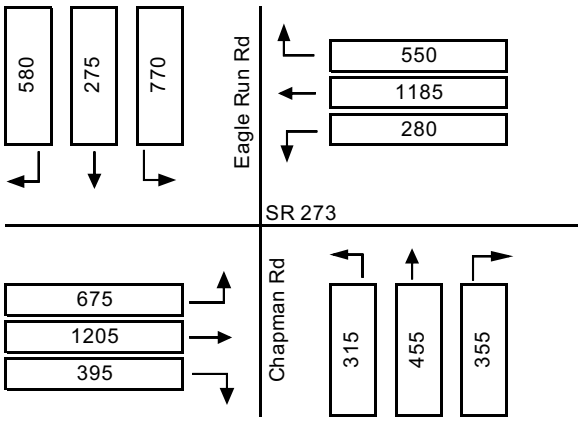
Project: U, SR 273: 3rd lane NB & SB between SR 1 and I-95

Scenario: PM Peak Peak Hour: 4:30-5:30 PM

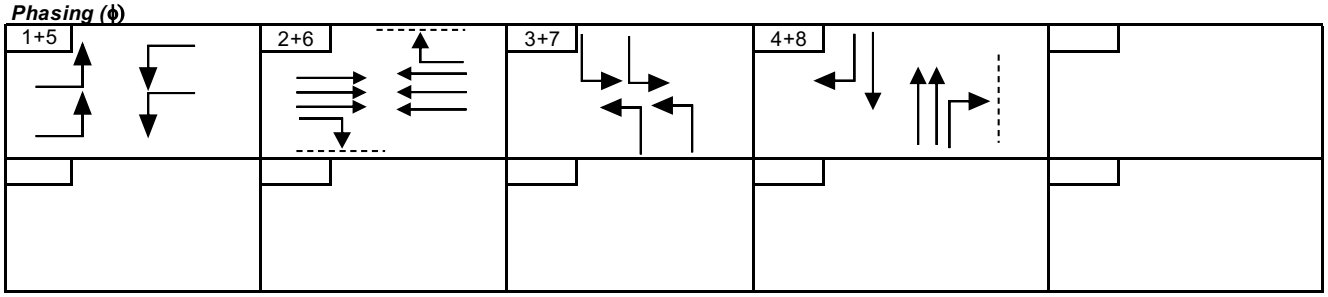
Computed By: JWC Date: 8/16/21

Checked By: VRH Date: 8/17/21

Lane Configuration:



Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	280	280	0.55	154			154	
5	EB L	675	675	0.55	372			372	*
2	EB T	(.4)1205 Or (.5)395	1205	0.40	482		218	264	
6	WB T	(.4)1185 Or (.5)550	1185	0.40	474			474	*
3	SB L	770	770	0.55	424			424	*
7	NB L	315	315	0.55	174			174	
4	NB T	(.55)455 Or (.5)355	455	0.55	251			251	*
8	SB T	275 Or (.5)580	290	1.00	290		250	40	
NB and SB right turns are signalized, right on red permitted, have a dedicated lane; include at 50%. WB and EB right turns are channelized, yield controlled, have a dedicated lane, and have no acceleration lane; include at 50%.						TOTAL		1521	
						LEVEL OF SERVICE		E	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts
LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 273 & Old Baltimore Pike

Count Date: 2050 Forecasted Permit # N351

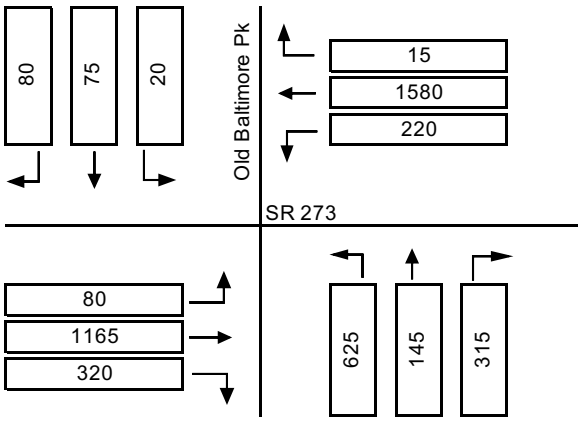
Project: U, SR 273: 3rd lane NB & SB between SR 1 and I-95

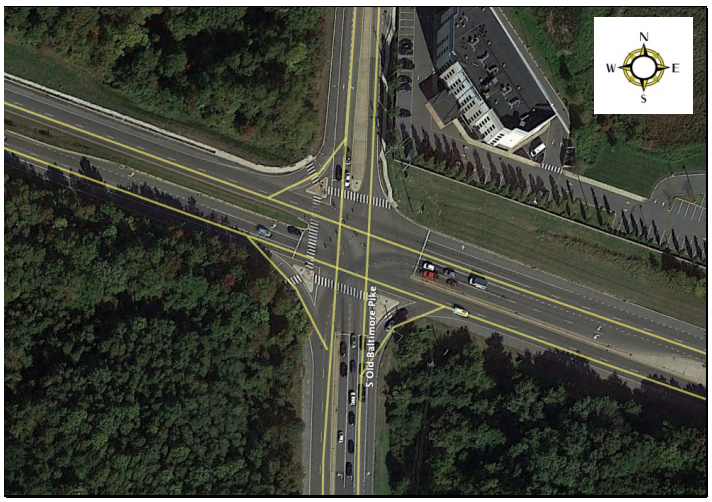
Scenario: AM Peak Peak Hour: 7:30-8:30 AM

Computed By: JWC Date: 8/16/21

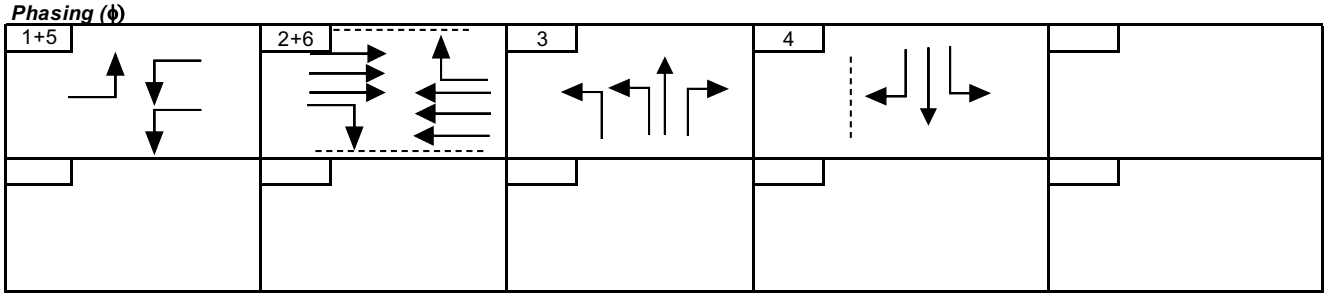
Checked By: VRH Date: 8/17/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	220	220	0.55	121			121	*
5	EB L	80	80	1.00	80			80	
2	EB T	(.4)1165 Or (.5)320	1165	0.40	466			466	
6	WB T	(.4)1580 Or (.5)15	1580	0.40	632		41	591	*
3	NB	(.55)625 Or 145 Or (.5)315	625	0.55	344			344	*
7									
4	SB	80 Or 75 Or (.5)20	80	1.00	80			80	*
8									
EB, NB, and SB right turns are channelized, yield controlled, and have a dedicated lane with no acceleration lane; include at 50%. WB right turns are signalized and have a dedicated lane with right on red permitted; include at 50%.							TOTAL	1136	
							LEVEL OF SERVICE	B	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts

LTC = Left Turn Credit

CRITICAL LANE MOVEMENT SUMMATION AND LEVEL OF SERVICE

Location: SR 273 & Old Baltimore Pike

Count Date: 2050 Forecasted Permit # N351

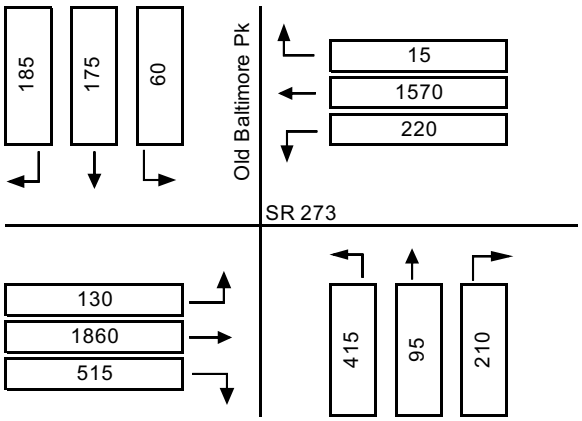
Project: U, SR 273: 3rd lane NB & SB between SR 1 and I-95

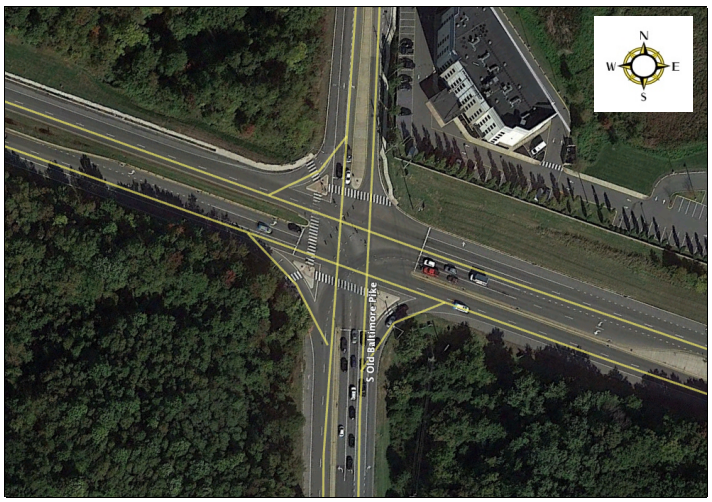
Scenario: PM Peak Peak Hour: 5:00-6:00 PM

Computed By: JWC Date: 8/16/21

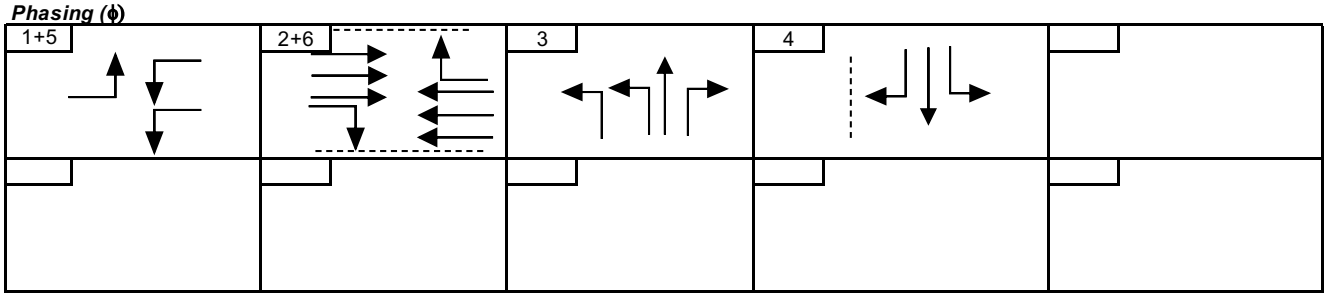
Checked By: VRH Date: 8/17/21

Lane Configuration:





Phasing (ϕ)



ϕ	Movement	Volume		LU	Lane Volume	OL (Add)	LTC (Subtract)	Critical Lane Volume	CM (*)
1	WB L	220	220	0.55	121			121	
5	EB L	130	130	1.00	130			130	*
2	EB T	(.4)1860 Or (.5)515	1860	0.40	744		9	735	*
6	WB T	(.4)1570 Or (.5)15	1570	0.40	628			628	
3	NB	(.55)415 Or 95 Or (.5)210	415	0.55	229			229	*
7									
4	SB	60 Or 175 Or (.5)185	175	1.00	175			175	*
8									
EB, NB, and SB right turns are channelized, yield controlled, and have a dedicated lane with no acceleration lane; include at 50%. WB right turns are signalized and have a dedicated lane with right on red permitted; include at 50%.							TOTAL	1269	
							LEVEL OF SERVICE	C	

Level of Service

Level	Critical Movement Volume
A	Less than 1,000 veh/hr
B	1,000 to 1,150 veh/hr
C	1,151 to 1,300 veh/hr
D	1,301 to 1,450 veh/hr
E	1,451 to 1,600 veh/hr
F	More than 1,600 veh/hr

Lane Use Factors

No. of Lanes	Lane Use Factor (LU)
1	1.00
2	0.55
3	0.40
4	0.30

OL = Opposing Lefts

LTC = Left Turn Credit