APPENDIX B: TRIP GENERATION

Revised September 17, 2012
July 19, 2011
BAI No. 211044

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Land Use No. 210
Single-Family Detached Housing

Average Vehicle Trip Ends vs: Dwelling Units
Weekday

Number of Dwelling Units	196
Fitted Curve Equation	Ln (T) = 0.92 Ln (X) + 2.71, where T = Trips and X = No. of Units
Directional Distribution	50% entering, 50% exiting

0.92 Ln (196) + 2.71 = 1931.14, say 1931 total trips

1931 x 0.50 = 965.5, say 966 trips entering

1931 x 0.50 = 965.5, say 966 trips exiting

Average Vehicle Trip Ends vs: Dwelling Units
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Number of Dwelling Units	196
Average Trip Generation Rate	0.75
Directional Distribution	25% entering, 75% exiting

0.75 x 196 = 147 total trips

147 x 0.25 = 36.75, say 37 trips entering

147 x 0.75 = 110.25, say 110 trips exiting

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Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Average Vehicle Trip Ends vs: Dwelling Units
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Number of Dwelling Units	196
Average Trip Generation Rate	1.01
Directional Distribution	63% entering, 37% exiting

1.01 x 196 = 197.96, say 198 total trips

198 x 0.63 = 124.74, say 125 trips entering

198 x 0.37 = 73.26, say 73 trips exiting

Average Vehicle Trip Ends vs: Dwelling Units
Saturday
Peak Hour of Generator

Number of Dwelling Units	196
Fitted Curve Equation	T = 0.89 (X) + 9.56 where T = Trips and X = No. of Units
Directional Distribution	53% entering, 47% exiting

0.89 (196) + 9.56 = 184 total trips

184 x 0.53 = 97.52, say 98 trips entering

184 x 0.47 = 86.48, say 86 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Land Use No. 220
Apartment

Average Vehicle Trip Ends vs: Dwelling Units
Weekday

Number of Dwelling Units	230
Average Trip Generation Rate	6.65
Directional Distribution	50% entering, 50% exiting

6.65 x 230 = 1529.5, say 1530 total trips

1530 x 0.50 = 765 trips entering

1530 x 0.50 = 765 trips exiting

Average Vehicle Trip Ends vs: Dwelling Units
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Number of Dwelling Units	230
Average Trip Generation Rate	0.51
Directional Distribution	20% entering, 80% exiting

0.51 x 230 = 117.3, say 117 total trips

117 x 0.20 = 23.4, say 23 trips entering

117 x 0.80 = 93.6, say 94 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Average Vehicle Trip Ends vs: Dwelling Units
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Number of Dwelling Units	230
Fitted Curve Equation	T = 0.55 (X) + 17.65 where T = Trips and X = No. of Units
Directional Distribution	65% entering, 35% exiting

0.55 (230) + 17.65 = 144.15, say 144 total trips

144 x 0.65 = 93.60, say 94 trips entering

144 x 0.35 = 50.40, say 50 trips exiting

Average Vehicle Trip Ends vs: Dwelling Units
Saturday
Peak Hour of Generator

Number of Dwelling Units	230
Average Trip Generation Rate	0.52
Directional Distribution	50% entering, 50% exiting

0.52 x 230 = 119.6, say 120 total trips

120 x 0.50 = 60 trips entering

120 x 0.50 = 60 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Land Use No. 230
Residential Condominium/Townhouse

Average Vehicle Trip Ends vs: Dwelling Units
Weekday

Number of Dwelling Units	40
Fitted Curve Equation	Ln (T) = 0.87 Ln (X) + 2.46, where T = Trips and X = No. of Units
Directional Distribution	50% entering, 50% exiting

0.87 Ln (40) + 2.46 = 289.84, say 290 total trips

290 x 0.50 = 145 trips entering

290 x 0.50 = 145 trips exiting

Average Vehicle Trip Ends vs: Dwelling Units
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Number of Dwelling Units	40
Fitted Curve Equation	Ln (T) = 0.80 Ln (X) + 0.26, where T = Trips and X = No. of Units
Directional Distribution	17% entering, 83% exiting

0.80 Ln (40) + 0.26 = 24.81, say 25 total trips

25 x 0.17 = 4.25, say 4 trips entering

25 x 0.83 = 20.75, say 21 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Average Vehicle Trip Ends vs: Dwelling Units
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Number of Dwelling Units	40
Fitted Curve Equation	Ln (T) = 0.82 Ln (X) + 0.32, where T = Trips and X = No. of Units
Directional Distribution	67% entering, 33% exiting

0.82 Ln (40) + 0.32 = 28.36, say 28 total trips

28 x 0.67 = 18.76, say 19 trips entering

28 x 0.33 = 9.24, say 9 trips exiting

Average Vehicle Trip Ends vs: Dwelling Units
Saturday
Peak Hour of Generator

Number of Dwelling Units	40
Average Trip Generation Rate	0.47
Directional Distribution	54% entering, 46% exiting

0.47 x 40 = 18.8, say 19 total trips

19 x 0.54 = 10.26, say 10 trips entering

19 x 0.46 = 8.74, say 9 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Land Use No. 252
Senior Adult Housing – Attached

Average Vehicle Trip Ends vs: Occupied Dwelling Units
Weekday

Number of Occupied Dwelling Units	80
Average Trip Generation Rate	3.48
Directional Distribution	50% entering, 50% exiting

3.48 x 80 = 278.4, say 278 total trips

278 x 0.50 = 139 trips entering

278 x 0.50 = 139 trips exiting

Average Vehicle Trip Ends vs: Occupied Dwelling Units
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Number of Occupied Dwelling Units	80
Average Trip Generation Rate	0.13
Directional Distribution	36% entering, 64% exiting

0.13 x 80 = 10.4, say 11 total trips

11 x 0.36 = 3.96, say 4 trips entering

11 x 0.64 = 7.04, say 7 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Average Vehicle Trip Ends vs: Occupied Dwelling Units
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Number of Occupied Dwelling Units	80
Average Trip Generation Rate	0.16
Directional Distribution	60% entering, 40% exiting

0.16 x 80 = 12.8, say 13 total trips

13 x 0.60 = 7.8, say 8 trips entering

13 x 0.40 = 5.2, say 5 trips exiting

Average Vehicle Trip Ends vs: Occupied Dwelling Units
Saturday
Peak Hour of Generator

Number of Occupied Dwelling Units	80
Average Trip Generation Rate	0.30
Directional Distribution	50% entering, 50% exiting

0.30 x 80 = 24 total trips

24 x 0.50 = 12 trips entering

24 x 0.50 = 12 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Land Use No. 710
General Office Building

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
Weekday

Number of 1000 Sq. Feet GFA	14.223
Average Trip Generation Rate	11.01
Directional Distribution	50% entering, 50% exiting

11.01 x 14.223 = 156.6, say 157 total trips

157 x 0.50 = 78.5, say 79 trips entering

157 x 0.50 = 78.5, say 79 trips exiting

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
Weekday
A.M. Peak Hour

Number of 1000 Sq. Feet GFA	14.223
Average Trip Generation Rate	1.55
Directional Distribution	88% entering, 12% exiting

1.55 x 14.223 = 22.05, say 22 total trips

22 x 0.88 = 19.36, say 19 trips entering

22 x 0.12 = 2.64, say 3 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
Weekday
P.M. Peak Hour

Number of 1000 Sq. Feet GFA	14.223
Average Trip Generation Rate	1.49
Directional Distribution	17% entering, 83% exiting

1.49 x 14.223 = 21.19, say 21 total trips

21 x 0.17 = 3.57, say 4 trips entering

21 x 0.83 = 17.43, say 17 trips exiting

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
Saturday
Peak Hour of Generator

Number of 1000 Sq. Feet GFA	14.223
Fitted Curve Equation	Ln (T) = 0.81 Ln (X) – 0.12, where T = Trips and X = 1000 Sq. Feet GFA
Directional Distribution	54% entering, 46% exiting

0.81 Ln (14.223) – 0.12 = 7.62, say 8 total trips

8 x 0.54 = 4.32, say 4 trips entering

8 x 0.50 = 3.68, say 4 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Land Use No. 820
Shopping Center

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

1000 Sq. Feet Gross Leasable Area	5.5
Average Trip Generation Rate	1.00
Directional Distribution	61% entering, 39% exiting

1.00 x 5.5 = 5.5, say 6 total trips

6 x 0.61 = 3.66, say 4 trips entering

6 x 0.39 = 2.34, say 2 trips exiting

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
Saturday
Peak Hour of Generator

1000 Sq. Feet Gross Leasable Area	5.5
Average Trip Generation Rate	4.89
Directional Distribution	52% entering, 48% exiting

4.89 x 5.5 = 26.9, say 27 total trips

27 x 0.52 = 14.04, say 14 trips entering

27 x 0.48 = 12.96, say 13 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Land Use No. 814
Specialty Retail Center

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
Weekday

1000 Sq. Feet Gross Leasable Area	5.5
Fitted Curve Equation	T = 42.78 (X) + 37.66 where T = Trips and X = No. of Units
Directional Distribution	50% entering, 50% exiting

42.78 (5.5) + 37.66 = 272.95, say 273 total trips

273 x 0.50 = 136.5, say 137 trips entering

273 x 0.50 = 136.5, say 137 trips exiting

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Leasable Area
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

1000 Sq. Feet Gross Leasable Area	5.5
Average Trip Generation Rate	2.71
Directional Distribution	44% entering, 56% exiting

2.71 x 5.5 = 14.91, say 15 total trips

15 x 0.44 = 6.6, say 7 trips entering

15 x 0.56 = 8.4, say 8 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Land Use No. 932
High-Turnover (Sit-Down) Restaurant

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
Weekday

Number of 1000 Sq. Feet GFA	5.5
Average Trip Generation Rate	127.15
Directional Distribution	50% entering, 50% exiting

127.15 x 5.5 = 699.33, say 699 total trips

699 x 0.50 = 349.5, say 350 trips entering

699 x 0.50 = 349.5, say 350 trips exiting

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Number of 1000 sq. ft. GFA	5.5
Average Trip Generation rate	11.52
Directional Distribution	52% entering, 48% exiting

11.52 x 5.5 = 63.36, say 63 total trips

63 x 0.52 = 32.76, say 33 trips entering

63 x 0.48 = 30.24, say 30 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Number of 1000 sq. ft. GFA	5.5
Average Trip Generation rate	11.15
Directional Distribution	59% entering, 41% exiting

11.15 x 5.5 = 61.33, say 61 total trips

61 x 0.59 = 35.99, say 36 trips entering

61 x 0.41 = 25.01, say 25 trips exiting

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
Saturday
Peak Hour of Generator

Number of 1000 sq. ft. GFA	5.5
Average Trip Generation rate	14.07
Directional Distribution	53% entering, 47% exiting

14.07 x 5.5 = 77.39, say 77 total trips

77 x 0.53 = 40.81, say 41 trips entering

77 x 0.47 = 36.19, say 36 trips exiting

Trip Generation Calculations
Reynolds Farm
Post Road
North Kingstown, RI

Total Weekday Traffic:

966 + 765 + 145 + 139 + 79 + 137 + 350 = **2,581 trips entering**

966 + 765 + 145 + 139 + 79 + 137 + 350 = **2,581 trips exiting**

Total A.M. Peak Generated Traffic:

37 + 23 + 4 + 4 + 19 + 4 + 33 = **124 trips entering**

110 + 94 + 21 + 7 + 3 + 2 + 30 = **267 trips exiting**

Total P.M. Peak Generated Traffic:

125 + 94 + 19 + 8 + 4 + 7 + 36 = **293 trips entering**

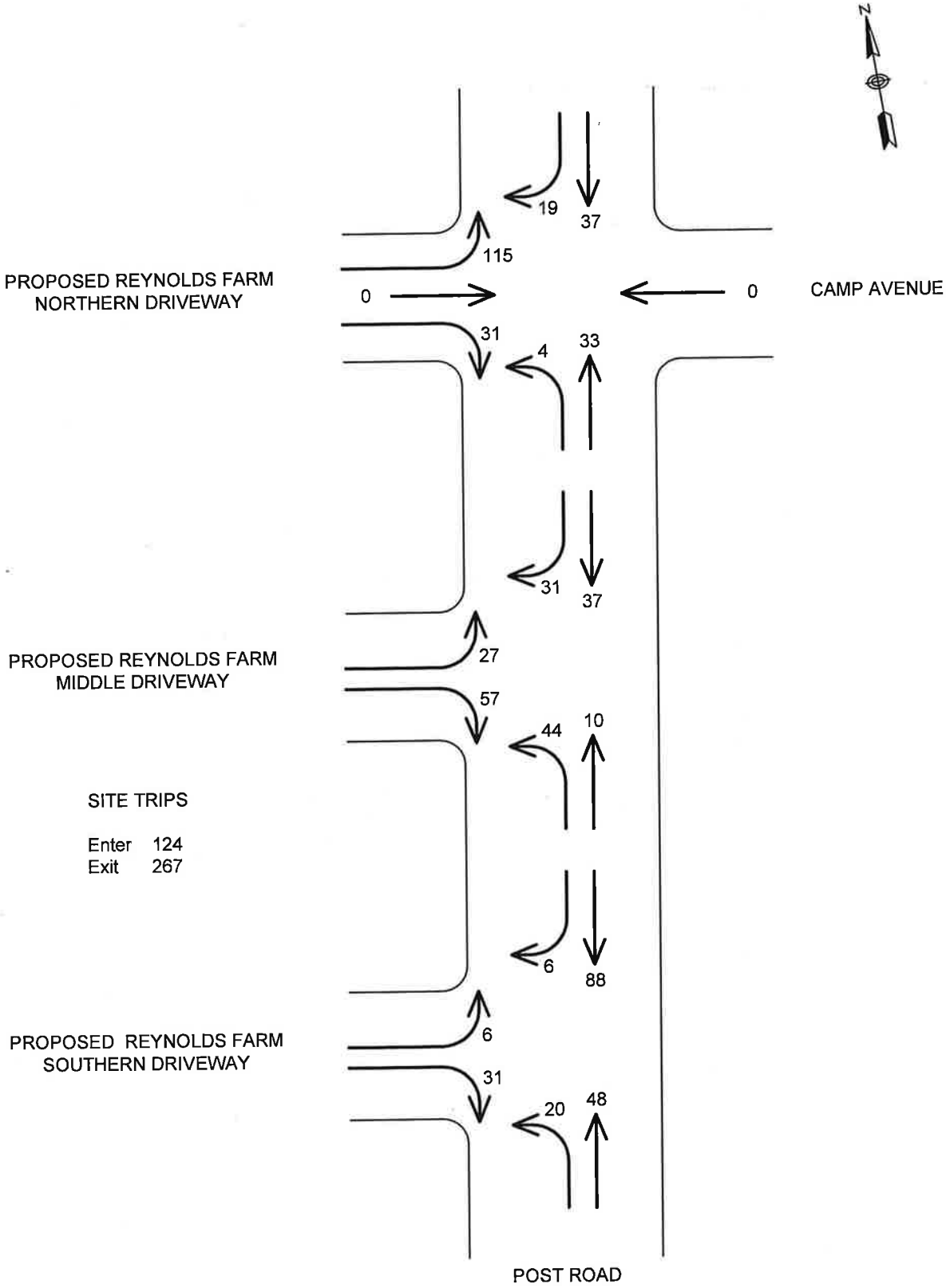
73 + 50 + 9 + 5 + 17 + 8 + 25 = **187 trips exiting**

Total Saturday Midday Peak Generated Traffic:

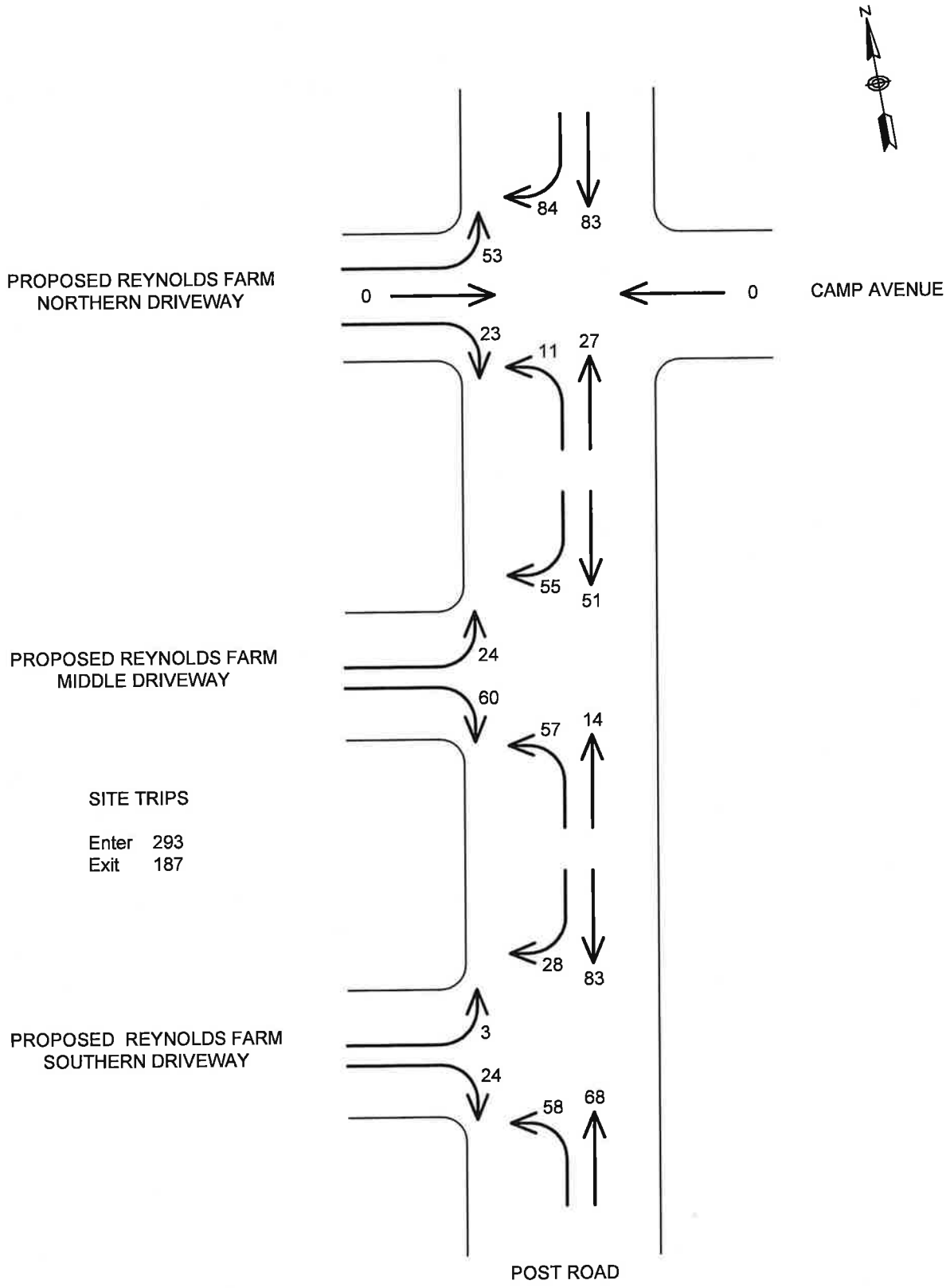
98 + 60 + 10 + 12 + 4 + 14 + 41 = **239 trips entering**

86 + 60 + 9 + 12 + 4 + 13 + 36 = **220 trips exiting**

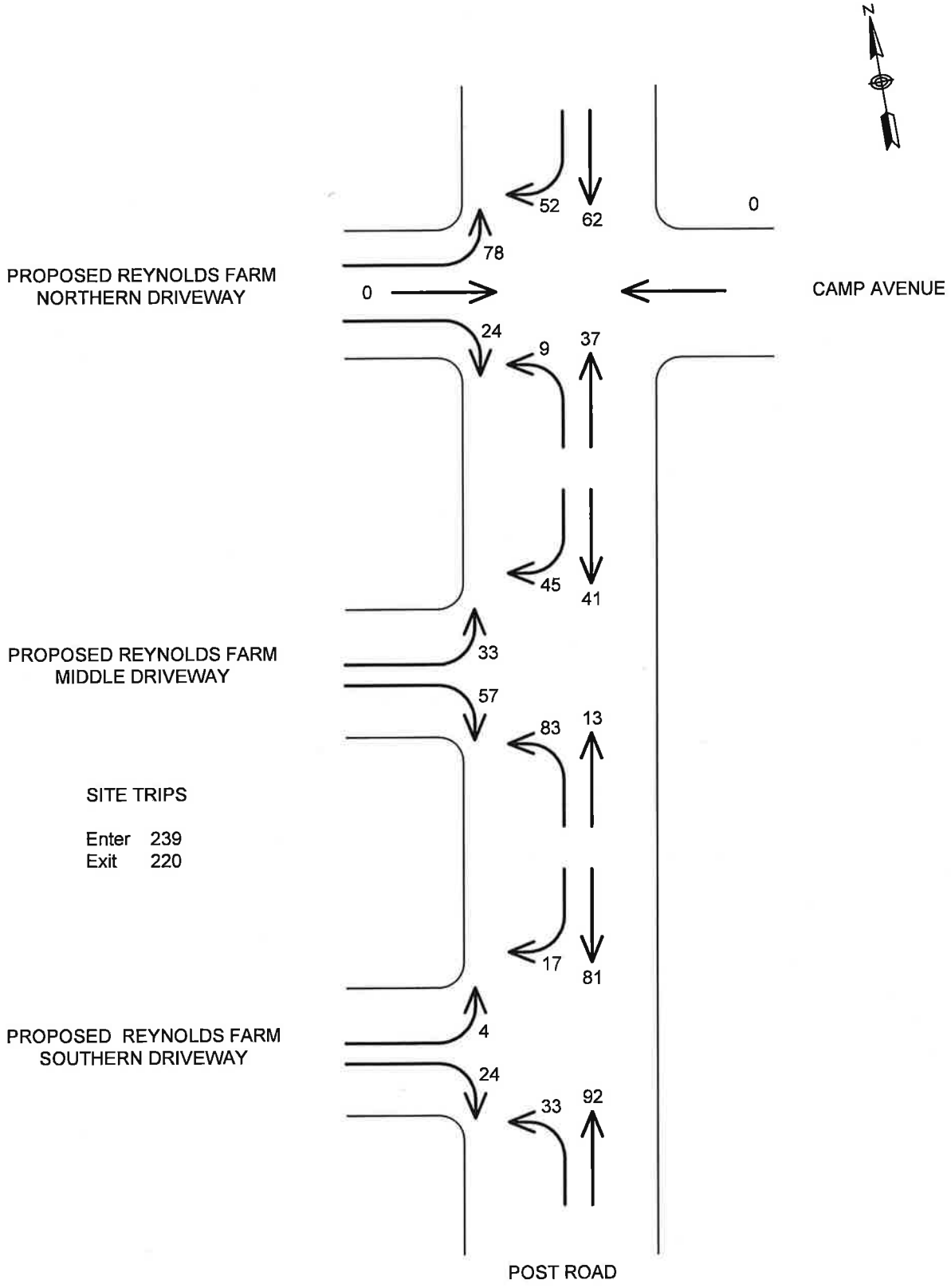
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS - AM PEAK



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS - PM PEAK

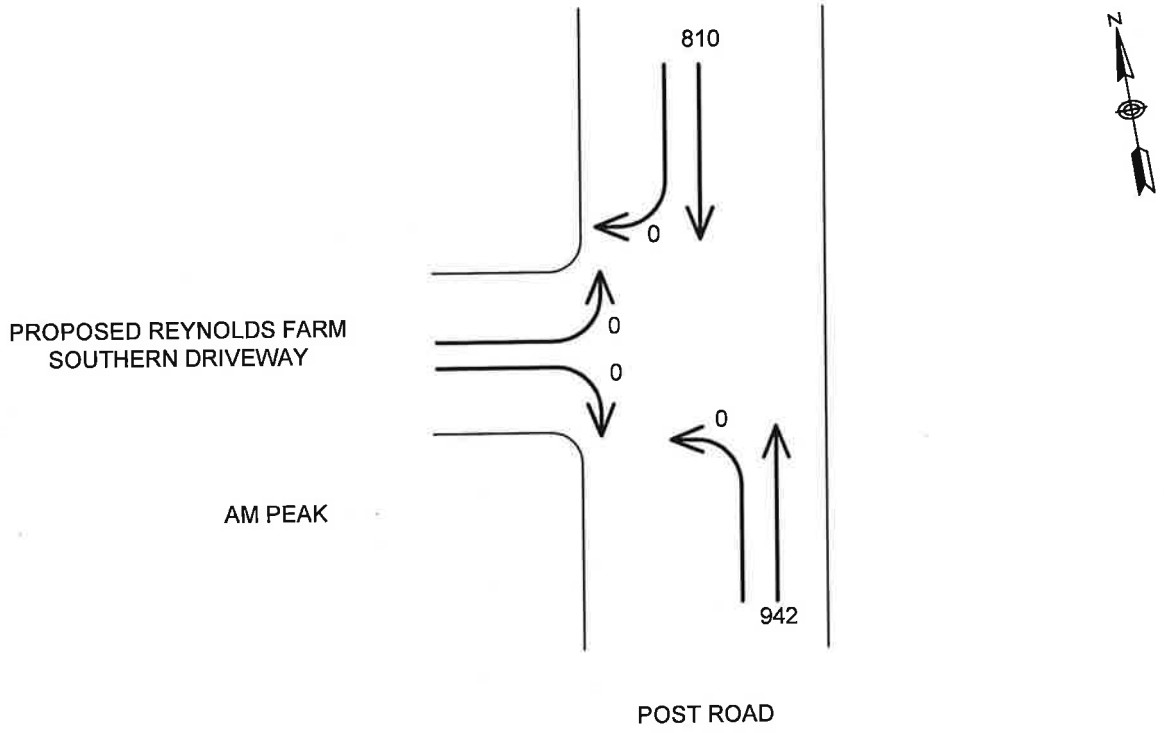


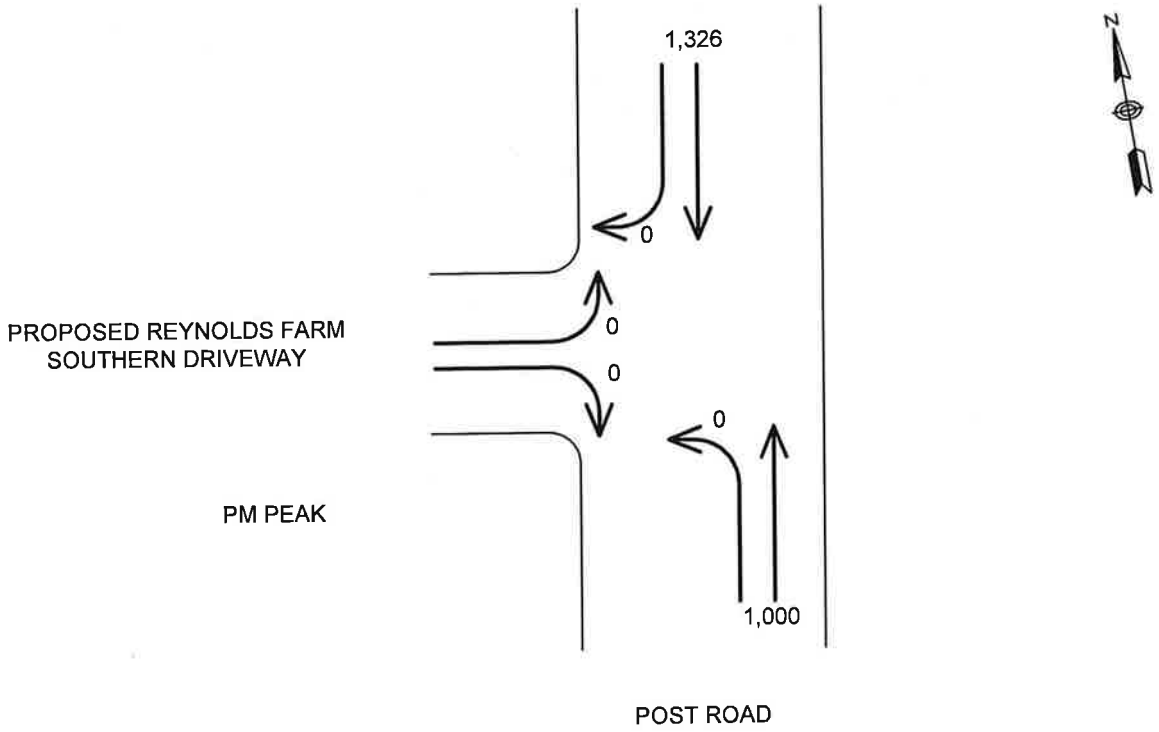
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS - SATURDAY MIDDAY PEAK



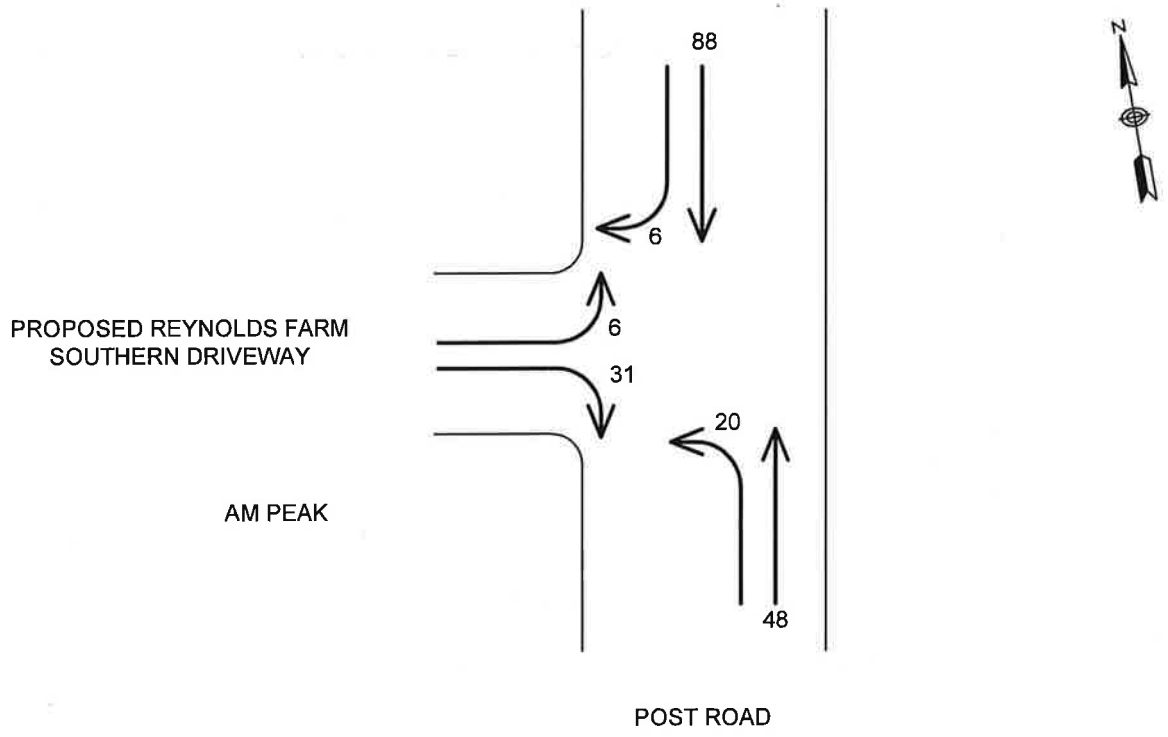
APPENDIX C: INTERSECTION CAPACITY ANALYSIS COMPUTATIONS

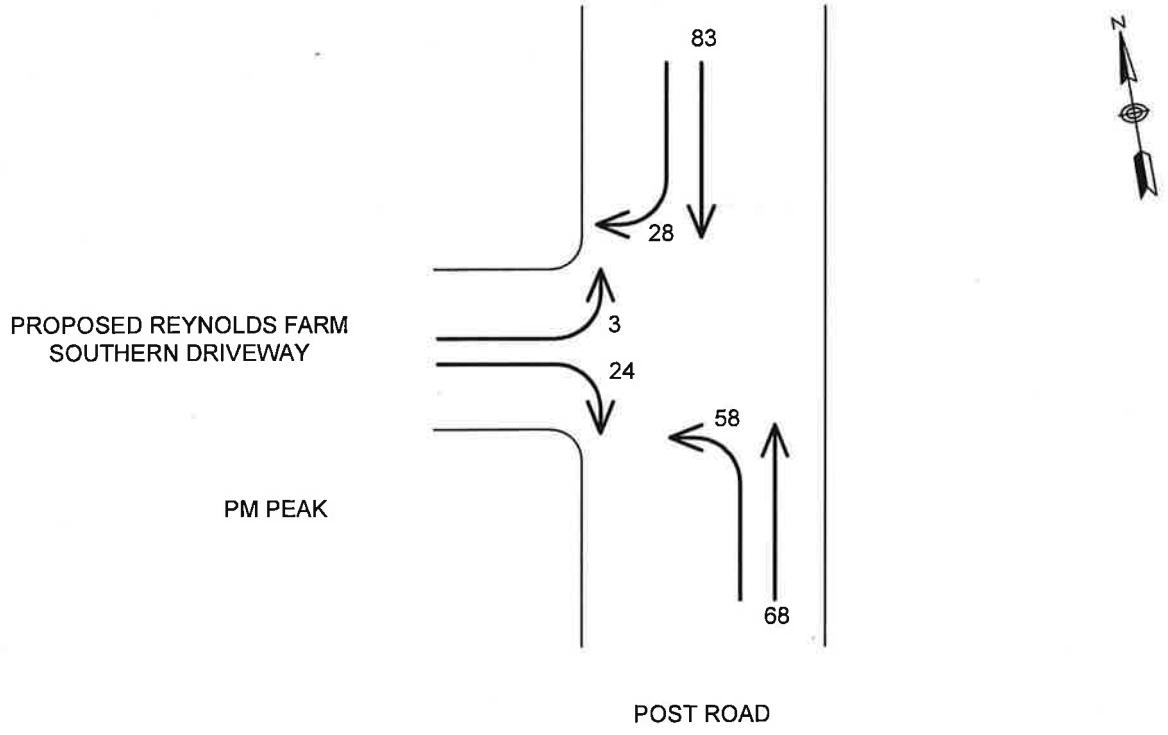
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
NO BUILD CONDITIONS



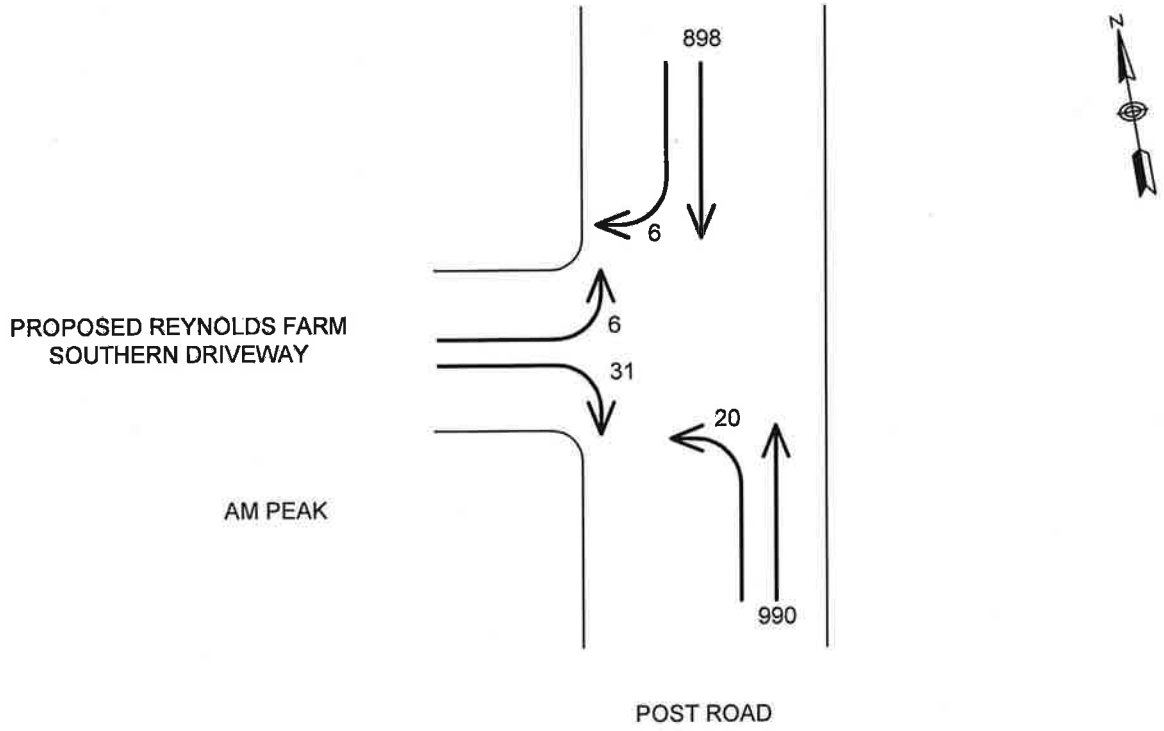


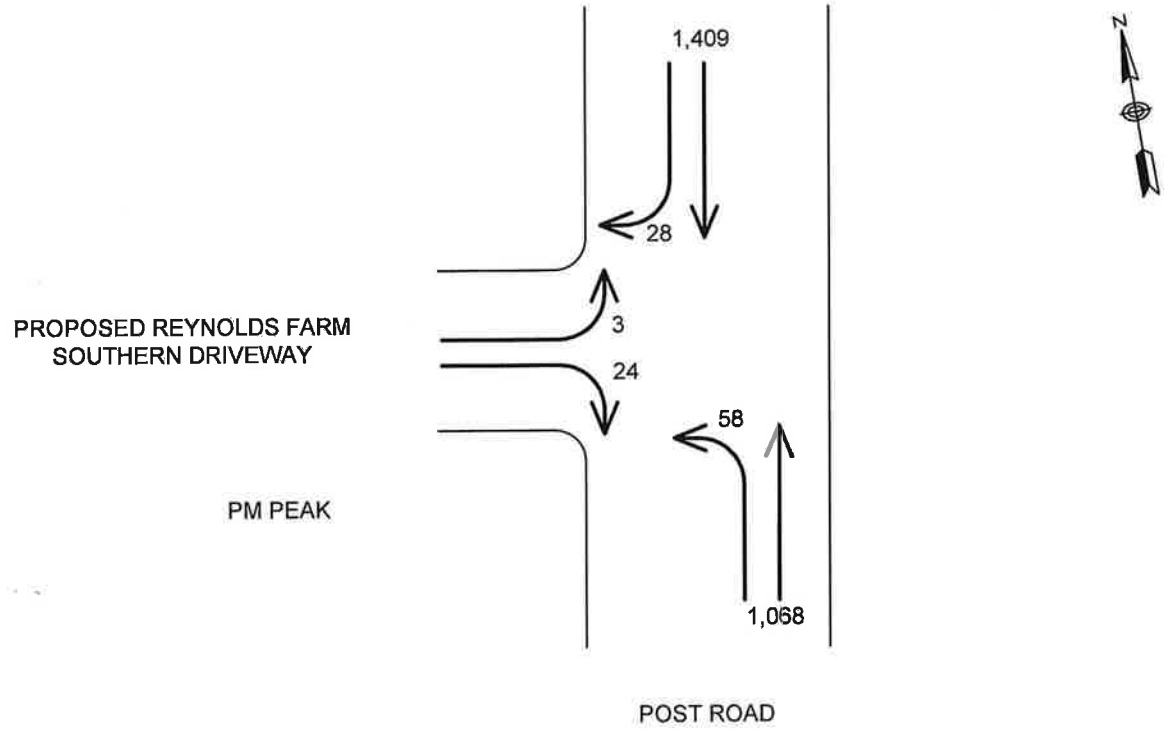
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS





TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
BUILD CONDITIONS





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	6	31	20	990	898	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.86	0.86	0.85	0.85
Hourly flow rate (vph)	7	34	23	1151	1056	7
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	1682	532	1064			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1682	532	1064			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	93	96			
cM capacity (veh/h)	84	497	663			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	41	407	767	704	359
Volume Left	7	23	0	0	0
Volume Right	34	0	0	0	7
cSH	277	663	1700	1700	1700
Volume to Capacity	0.15	0.04	0.45	0.41	0.21
Queue Length 95th (ft)	13	3	0	0	0
Control Delay (s)	20.3	1.1	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	20.3	0.4		0.0	
Approach LOS	C				

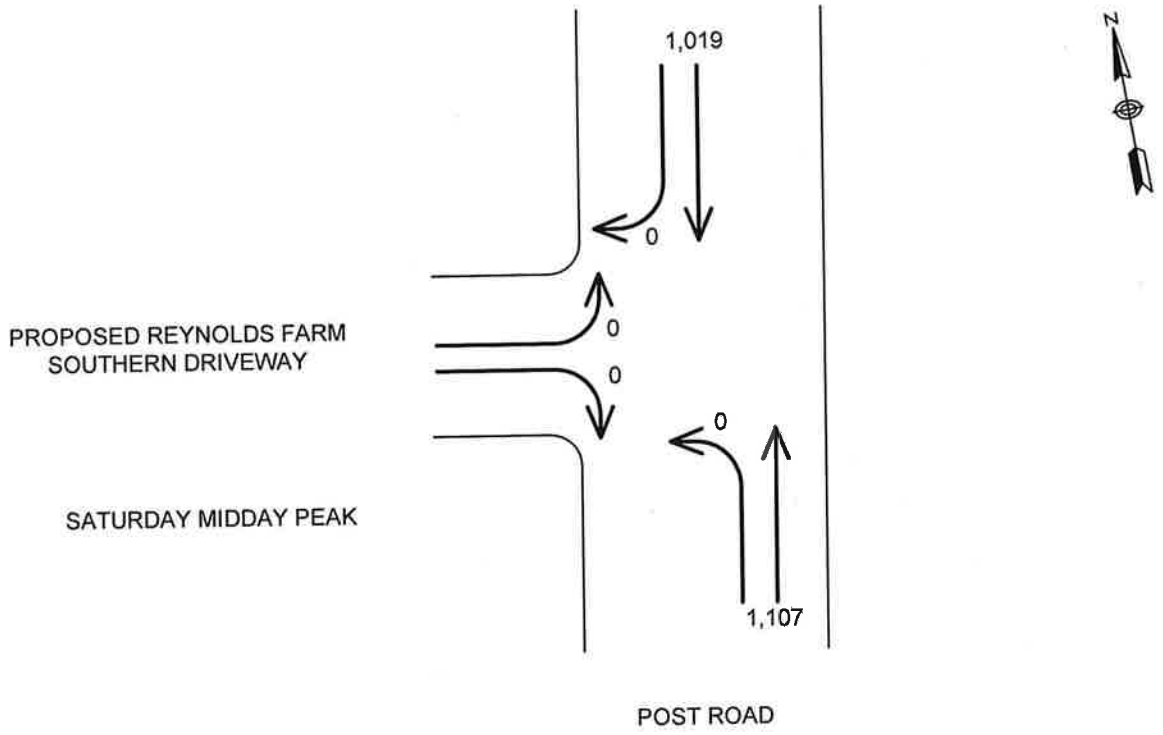
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	3	24	58	1068	1409	28
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.94	0.94	0.91	0.91
Hourly flow rate (vph)	3	27	62	1136	1548	31
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	2255	790	1579			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2255	790	1579			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	92	85			
cM capacity (veh/h)	31	338	422			

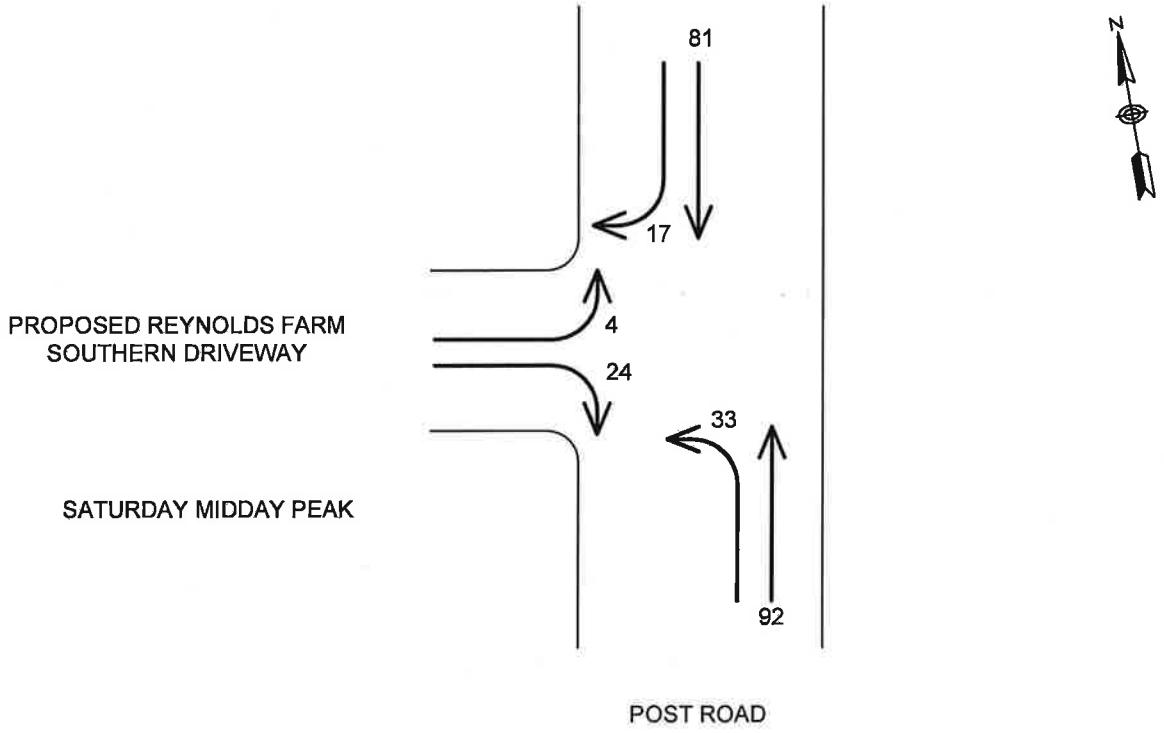
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	30	440	757	1032	547
Volume Left	3	62	0	0	0
Volume Right	27	0	0	0	31
cSH	160	422	1700	1700	1700
Volume to Capacity	0.19	0.15	0.45	0.61	0.32
Queue Length 95th (ft)	17	13	0	0	0
Control Delay (s)	32.7	4.5	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	32.7	1.7		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

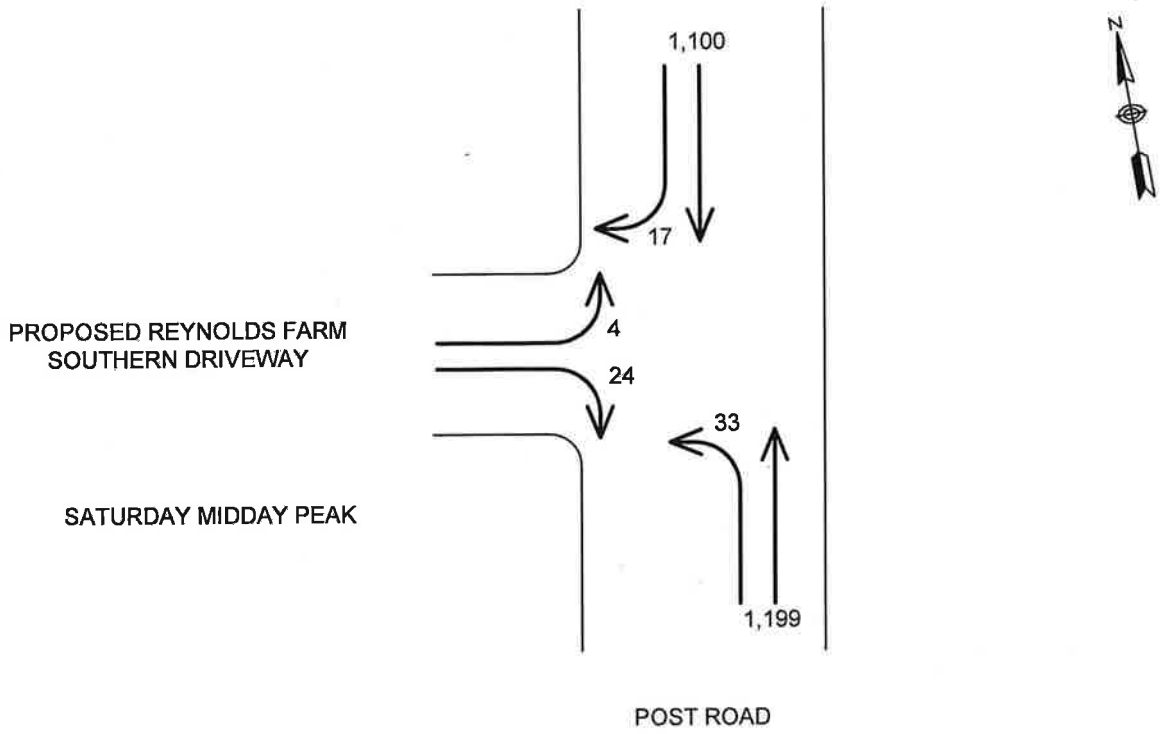
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
NO BUILD CONDITIONS



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
BUILD CONDITIONS

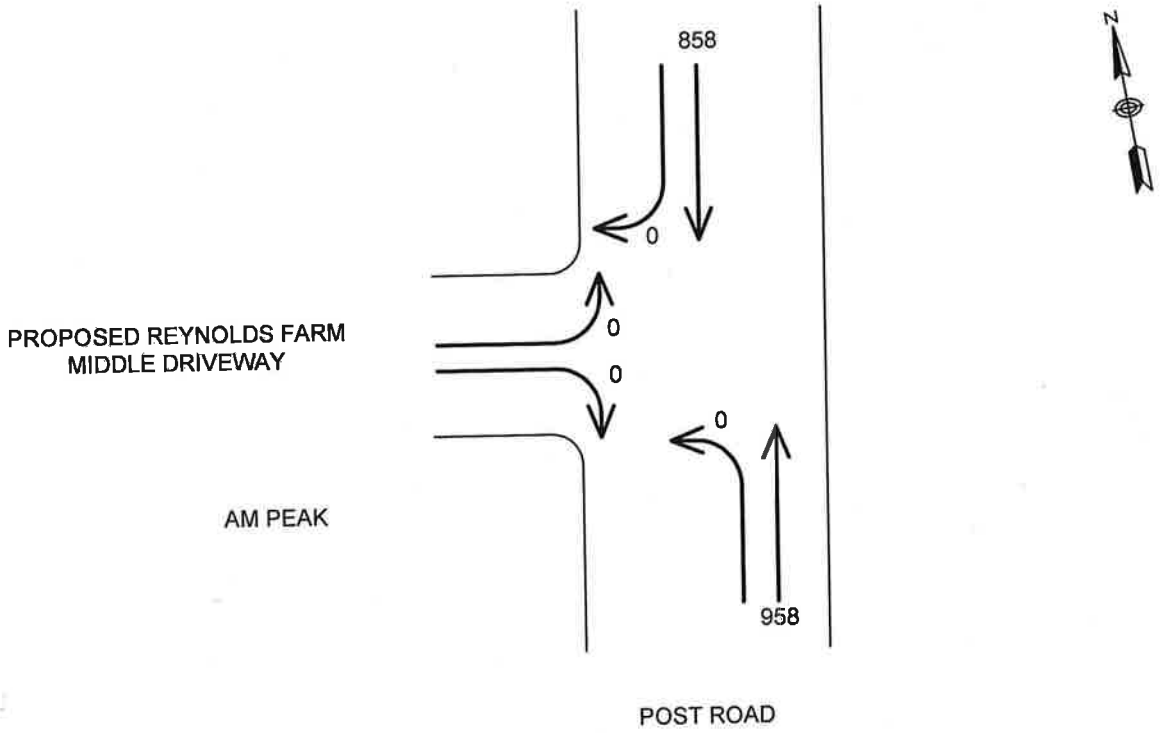


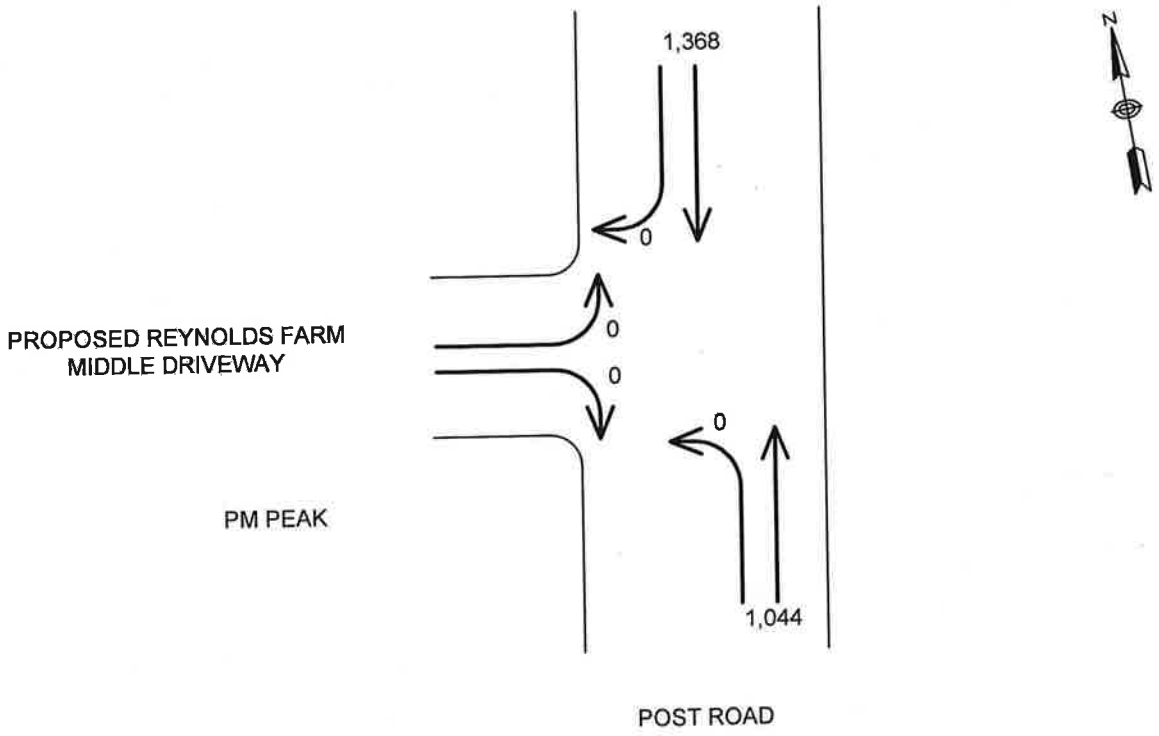
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	4	24	33	1199	1100	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.88	0.88
Hourly flow rate (vph)	4	27	37	1332	1250	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1999	635	1269			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1999	635	1269			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	94	93			
cM capacity (veh/h)	50	426	554			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	31	481	888	833	436
Volume Left	4	37	0	0	0
Volume Right	27	0	0	0	19
cSH	205	554	1700	1700	1700
Volume to Capacity	0.15	0.07	0.52	0.49	0.26
Queue Length 95th (ft)	13	5	0	0	0
Control Delay (s)	25.6	1.9	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	25.6	0.7		0.0	
Approach LOS	D				

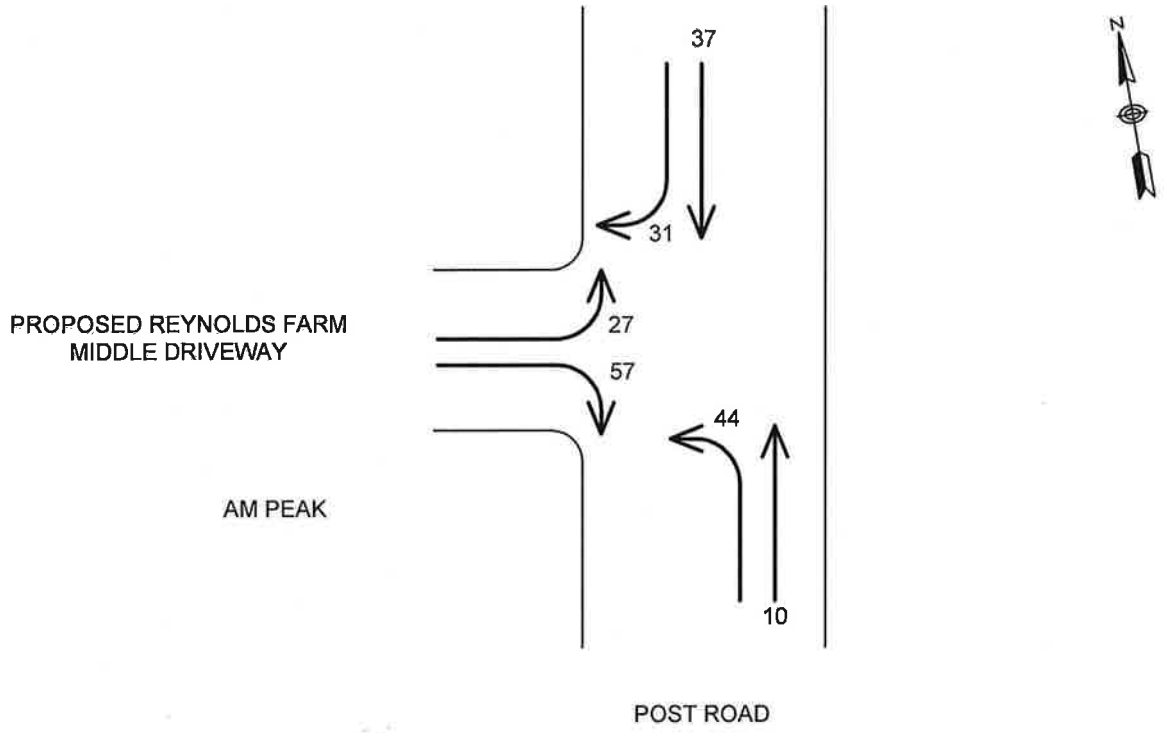
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

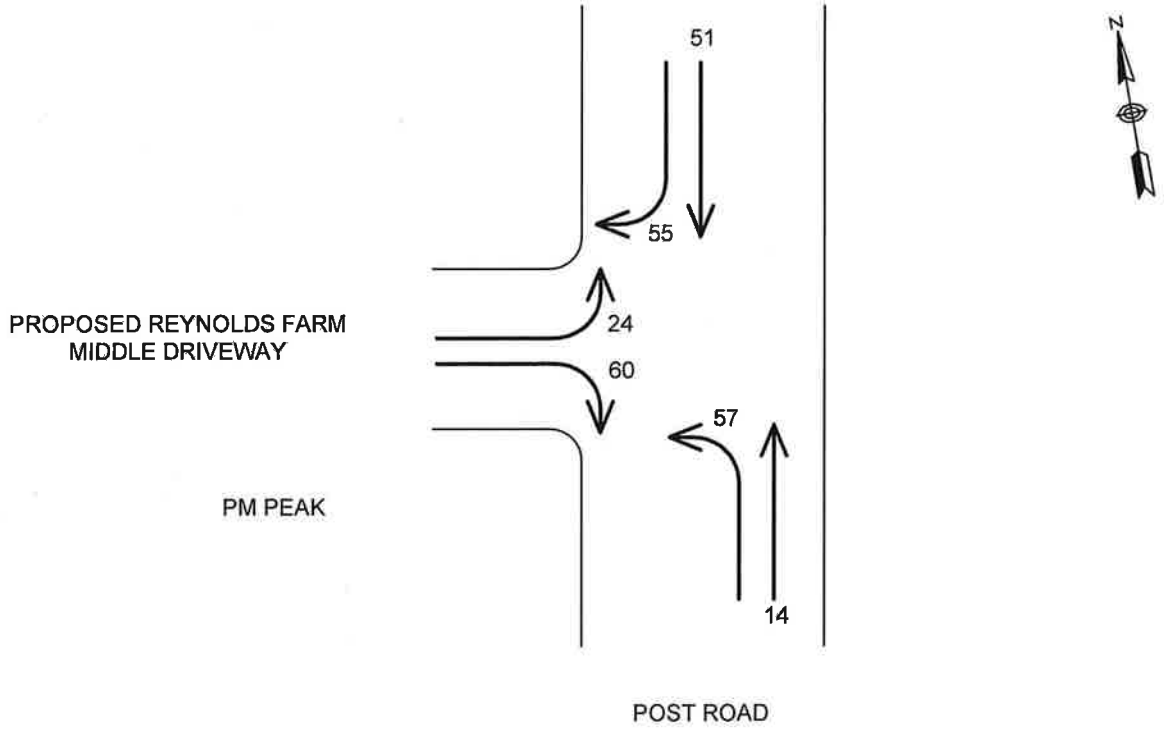
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
NO BUILD CONDITIONS



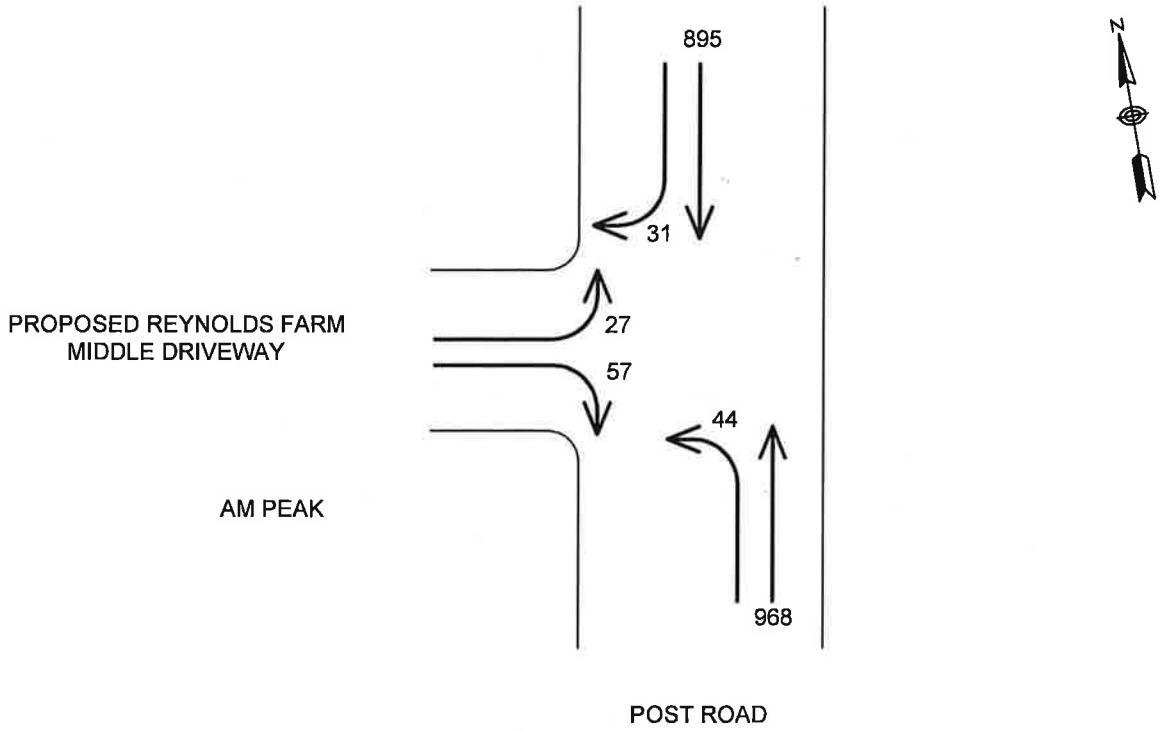


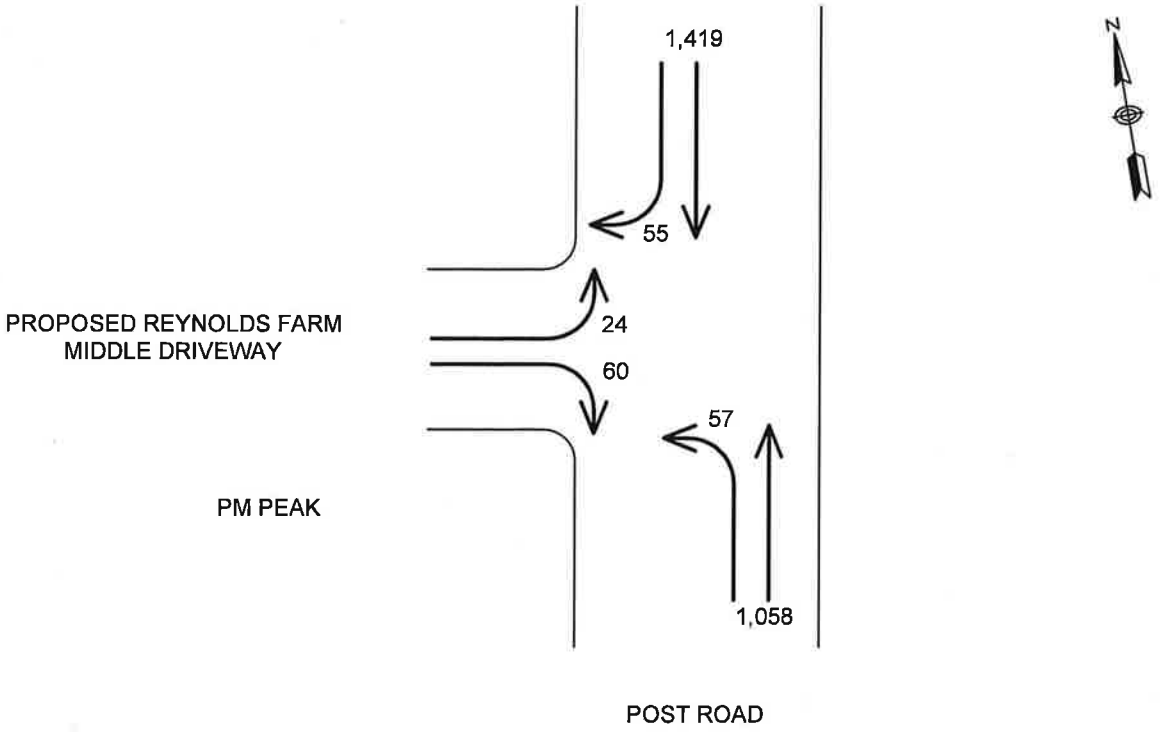
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS





TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
BUILD CONDITIONS





HCM Unsignalized Intersection Capacity Analysis
8: Proposed Reynolds Farm Middle Driveway & Post Road

9/21/2011

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	27	57	44	968	895	31
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.86	0.86
Hourly flow rate (vph)	30	63	49	1076	1041	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					843	
pX, platoon unblocked	0.89	0.89	0.89			
vC, conflicting volume	1694	538	1077			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1533	234	839			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	91	93			
cM capacity (veh/h)	91	689	716			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	30	63	407	717	694	383
Volume Left	30	0	49	0	0	0
Volume Right	0	63	0	0	0	36
cSH	91	689	716	1700	1700	1700
Volume to Capacity	0.33	0.09	0.07	0.42	0.41	0.23
Queue Length 95th (ft)	32	8	5	0	0	0
Control Delay (s)	63.2	10.8	2.0	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	27.6		0.7		0.0	
Approach LOS	D					

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
8: Proposed Reynolds Farm Middle Driveway & Post Road

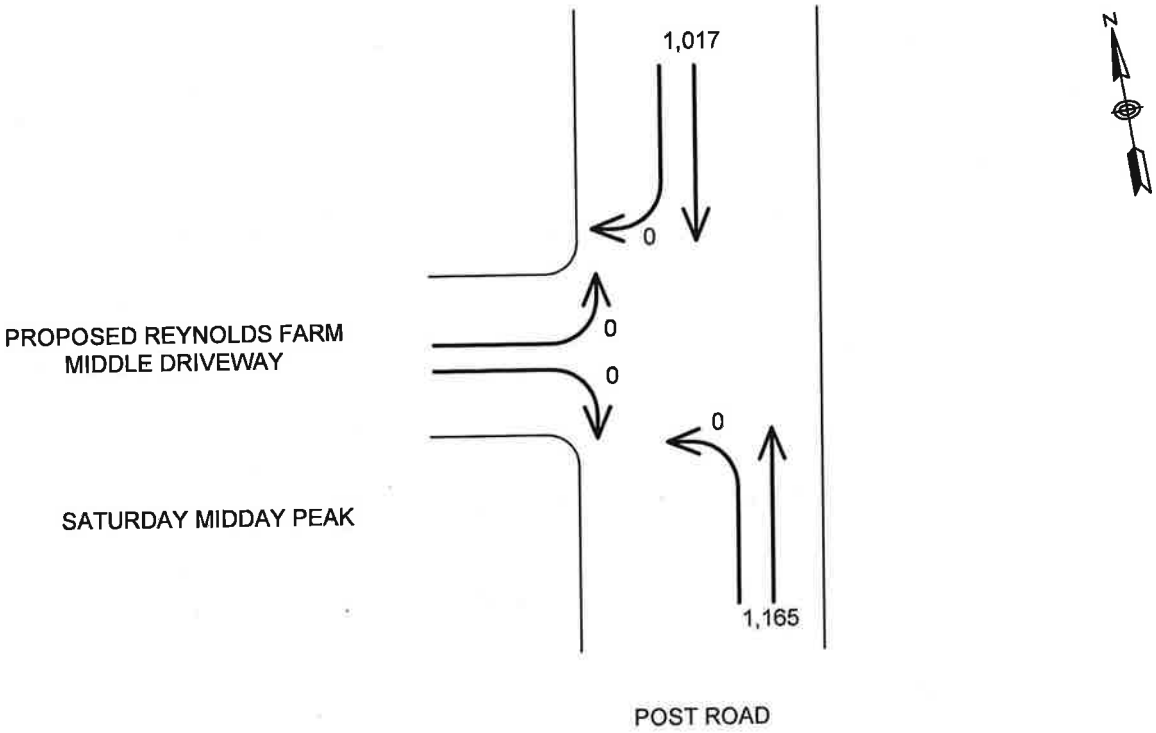
9/21/2011

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	24	60	57	1058	1419	55
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.93	0.93	0.87	0.87
Hourly flow rate (vph)	27	67	61	1138	1631	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					843	
pX, platoon unblocked	0.60	0.60	0.60			
vC, conflicting volume	2354	847	1694			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1917	0	812			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	16	90	88			
cM capacity (veh/h)	32	651	491			

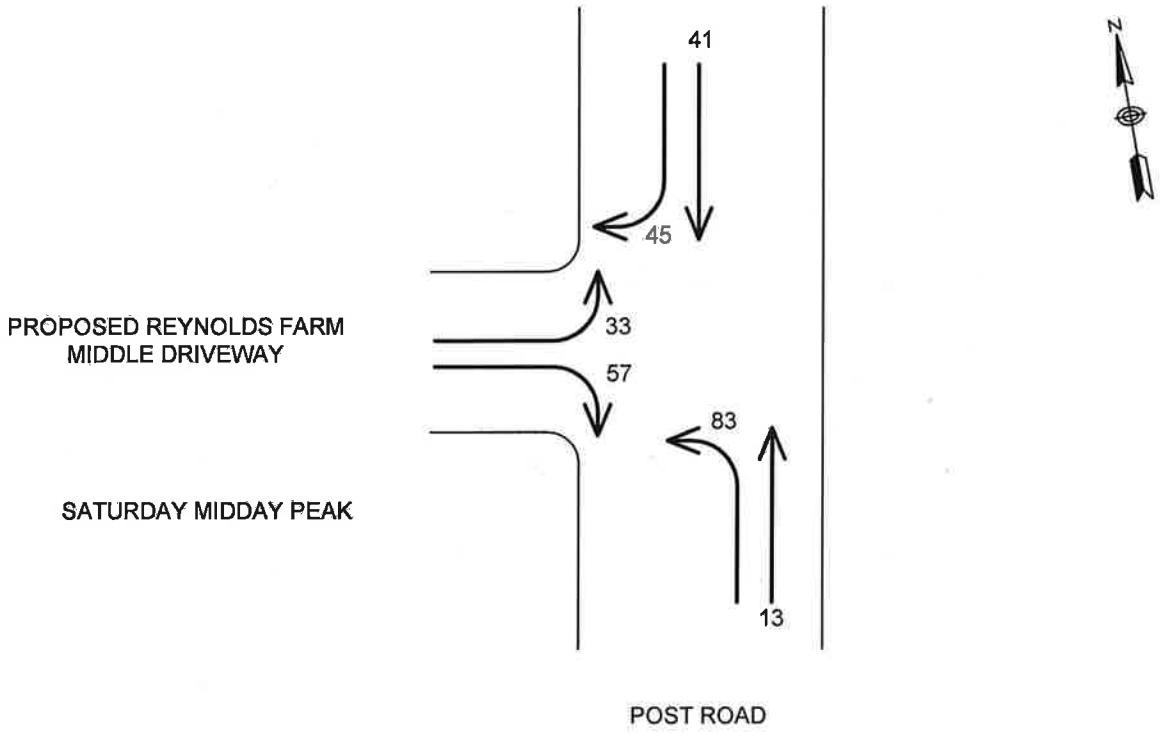
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	27	67	441	758	1087	607
Volume Left	27	0	61	0	0	0
Volume Right	0	67	0	0	0	63
cSH	32	651	491	1700	1700	1700
Volume to Capacity	0.84	0.10	0.12	0.45	0.64	0.36
Queue Length 95th (ft)	72	9	11	0	0	0
Control Delay (s)	293.5	11.2	3.7	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	91.8		1.4		0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

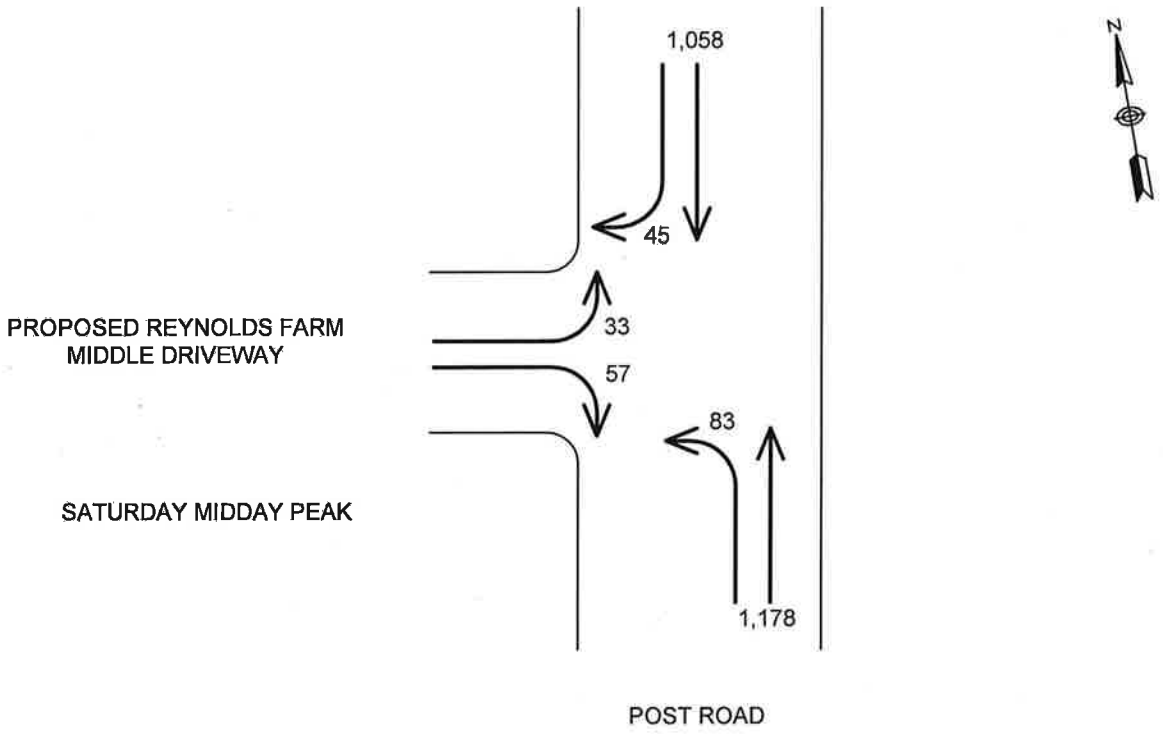
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
NO BUILD CONDITIONS



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
BUILD CONDITIONS



HCM Unsignalized Intersection Capacity Analysis
8: Proposed Reynolds Farm Middle Driveway & Post Road

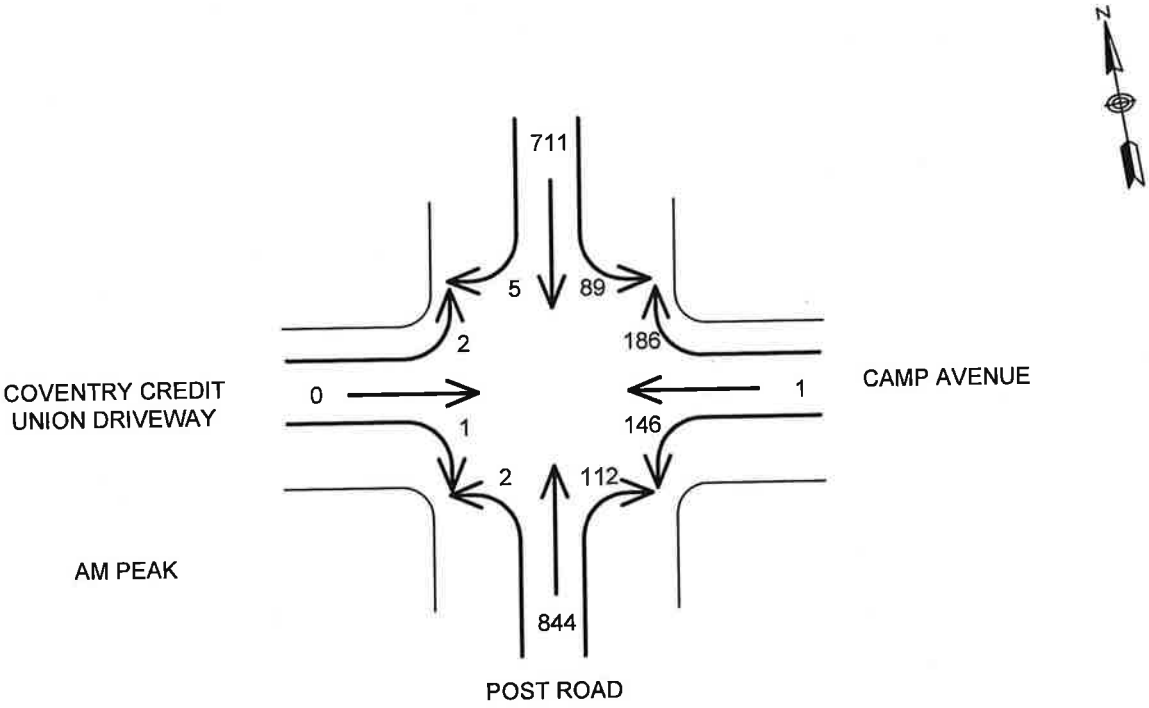
9/21/2011

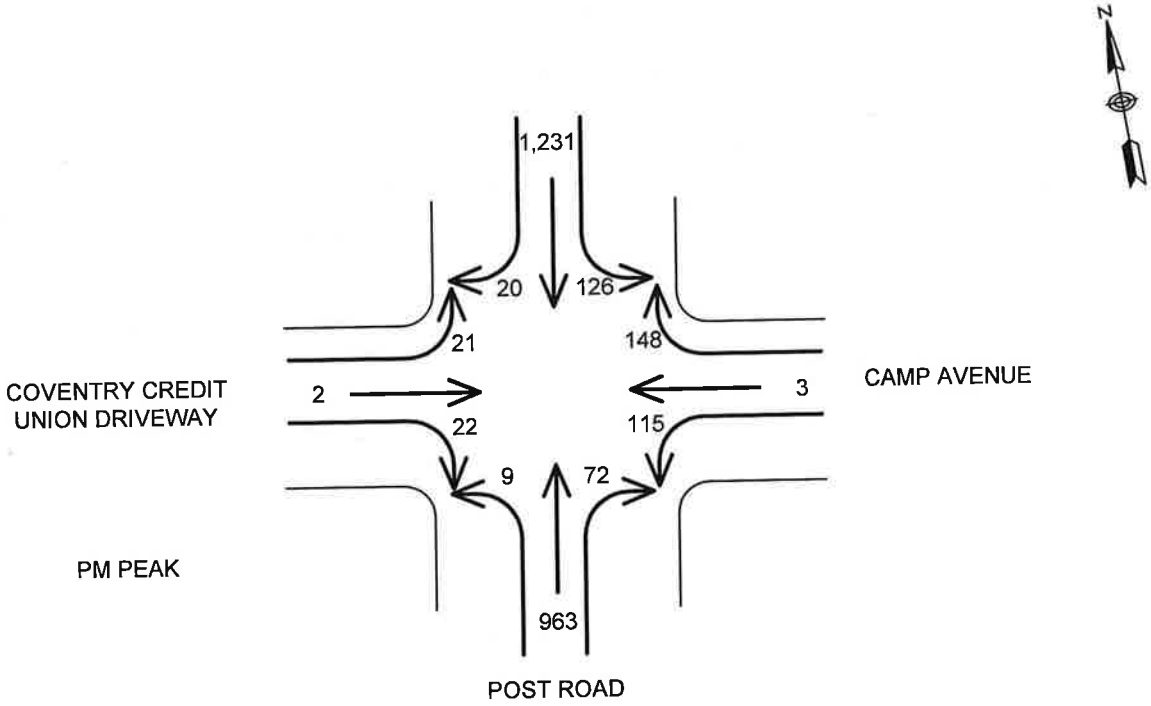
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	33	57	83	1178	1058	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.96	0.96	0.91	0.91
Hourly flow rate (vph)	37	63	86	1227	1163	49
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)					843	
pX, platoon unblocked	0.85	0.85	0.85			
vC, conflicting volume	1974	606	1212			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1791	179	893			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	32	91	87			
cM capacity (veh/h)	54	712	652			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	37	63	495	818	775	437
Volume Left	37	0	86	0	0	0
Volume Right	0	63	0	0	0	49
cSH	54	712	652	1700	1700	1700
Volume to Capacity	0.68	0.09	0.13	0.48	0.46	0.26
Queue Length 95th (ft)	69	7	11	0	0	0
Control Delay (s)	158.0	10.5	3.6	0.0	0.0	0.0
Lane LOS	F	B	A			
Approach Delay (s)	64.6		1.4		0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
NO BUILD CONDITIONS





Lanes, Volumes, Timings
2: CCU Driveway & Post Road

10/26/2011

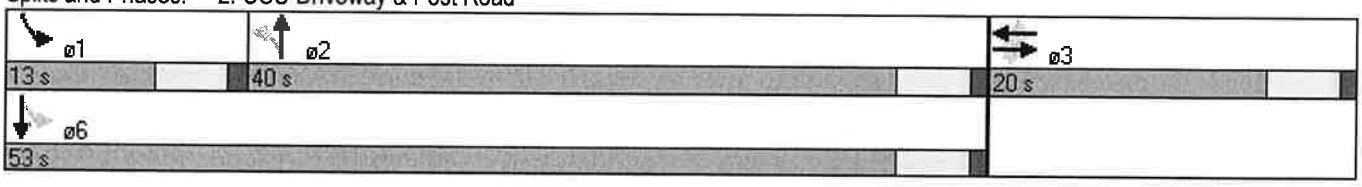
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	0	1	146	1	186	2	844	112	89	711	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	13	12	11	12	12	10	12	12	10	12
Storage Length (ft)	50		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850		0.925			0.983			0.999	
Flt Protected		0.950			0.979						0.994	
Satd. Flow (prot)	0	1805	834	0	1573	0	0	3128	0	0	3080	0
Flt Permitted		0.480			0.857			0.954			0.650	
Satd. Flow (perm)	0	912	834	0	1377	0	0	2984	0	0	2014	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			1		79			27			2	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		317			776			1732			363	
Travel Time (s)		8.6			15.1			23.6			5.5	
Peak Hour Factor	0.75	0.75	0.75	0.91	0.91	0.91	0.90	0.90	0.90	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	100%	8%	0%	4%	50%	5%	12%	14%	8%	0%
Adj. Flow (vph)	3	0	1	160	1	204	2	938	124	98	781	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	1	0	365	0	0	1064	0	0	884	0
Turn Type	Perm		Perm	Perm			Perm			pm+pt		
Protected Phases		3			3			2		1	6	
Permitted Phases	3		3	3			2			6		
Detector Phase	3	3	3	3	3		2	2		1	1 6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		7.0	7.0		6.0	7.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		11.0	12.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	0.0	40.0	40.0	0.0	13.0	53.0	0.0
Total Split (%)	27.4%	27.4%	27.4%	27.4%	27.4%	0.0%	54.8%	54.8%	0.0%	17.8%	72.6%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min		None	Min	
Act Effct Green (s)		15.1	15.1		15.1			28.0			41.1	
Actuated g/C Ratio		0.23	0.23		0.23			0.42			0.62	
v/c Ratio		0.01	0.01		0.97			0.83			0.64	
Control Delay		23.0	19.0		65.6			23.0			9.2	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		23.0	19.0		65.6			23.0			9.2	
LOS		C	B		E			C			A	
Approach Delay		22.0			65.6			23.0			9.2	
Approach LOS		C			E			C			A	
Queue Length 50th (ft)		1	0		120			187			86	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		6	3		#313			262			119	
Internal Link Dist (ft)		237			696			1652			283	
Turn Bay Length (ft)												
Base Capacity (vph)		208	191		375			1599			1598	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.01	0.01		0.97			0.67			0.55	

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 66.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 24.4 Intersection LOS: C
Intersection Capacity Utilization 88.1% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: CCU Driveway & Post Road



Lanes, Volumes, Timings
2: CCU Driveway & Post Road

10/26/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	2	22	115	3	148	9	963	72	126	1231	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	13	12	11	12	12	10	12	12	10	12
Storage Length (ft)	50		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850		0.925			0.990			0.998	
Flt Protected		0.957			0.979						0.995	
Satd. Flow (prot)	0	1724	1669	0	1574	0	0	3231	0	0	3253	0
Flt Permitted		0.579			0.845			0.933			0.586	
Satd. Flow (perm)	0	1043	1669	0	1358	0	0	3015	0	0	1916	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31		78			14			4	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		317			776			1732			363	
Travel Time (s)		8.6			15.1			23.6			5.5	
Peak Hour Factor	0.70	0.70	0.70	0.64	0.64	0.64	0.93	0.93	0.93	0.84	0.84	0.84
Heavy Vehicles (%)	6%	0%	0%	8%	0%	4%	13%	3%	5%	1%	3%	6%
Adj. Flow (vph)	30	3	31	180	5	231	10	1035	77	150	1465	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	31	0	416	0	0	1122	0	0	1639	0
Turn Type	Perm		Perm	Perm			Perm			pm+pt		
Protected Phases		3			3			2		1	6	
Permitted Phases	3		3	3			2			6		
Detector Phase	3	3	3	3	3		2	2		1	1 6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		7.0	7.0		6.0	7.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		11.0	12.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	0.0	40.0	40.0	0.0	13.0	53.0	0.0
Total Split (%)	27.4%	27.4%	27.4%	27.4%	27.4%	0.0%	54.8%	54.8%	0.0%	17.8%	72.6%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min		None	Min	
Act Effct Green (s)		15.0	15.0		15.0			35.0			48.0	
Actuated g/C Ratio		0.21	0.21		0.21			0.48			0.66	
v/c Ratio		0.15	0.08		1.22			0.77			1.16	
Control Delay		26.0	10.1		147.7			20.0			97.4	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		26.0	10.1		147.7			20.0			97.4	
LOS		C	B		F			C			F	
Approach Delay		18.3			147.7			20.0			97.4	
Approach LOS		B			F			C			F	
Queue Length 50th (ft)		12	0		~206			206			~353	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		27	13		#207			286			#481	
Internal Link Dist (ft)		237			696			1652			283	
Turn Bay Length (ft)												
Base Capacity (vph)		214	368		341			1453			1408	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.15	0.08		1.22			0.77			1.16	

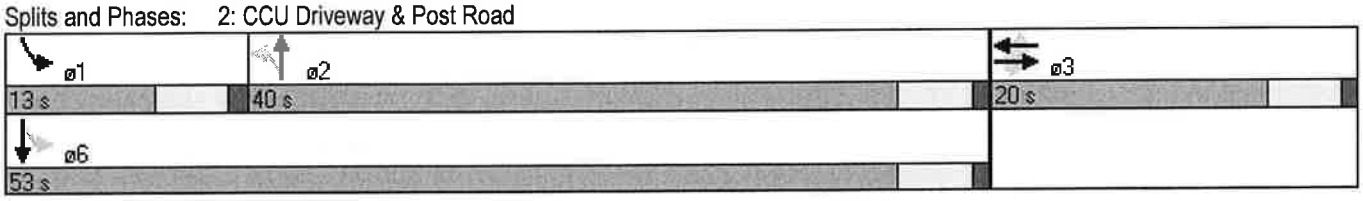
Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 73
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.22
Intersection Signal Delay: 75.5 Intersection LOS: E
Intersection Capacity Utilization 102.3% ICU Level of Service G
Analysis Period (min) 15

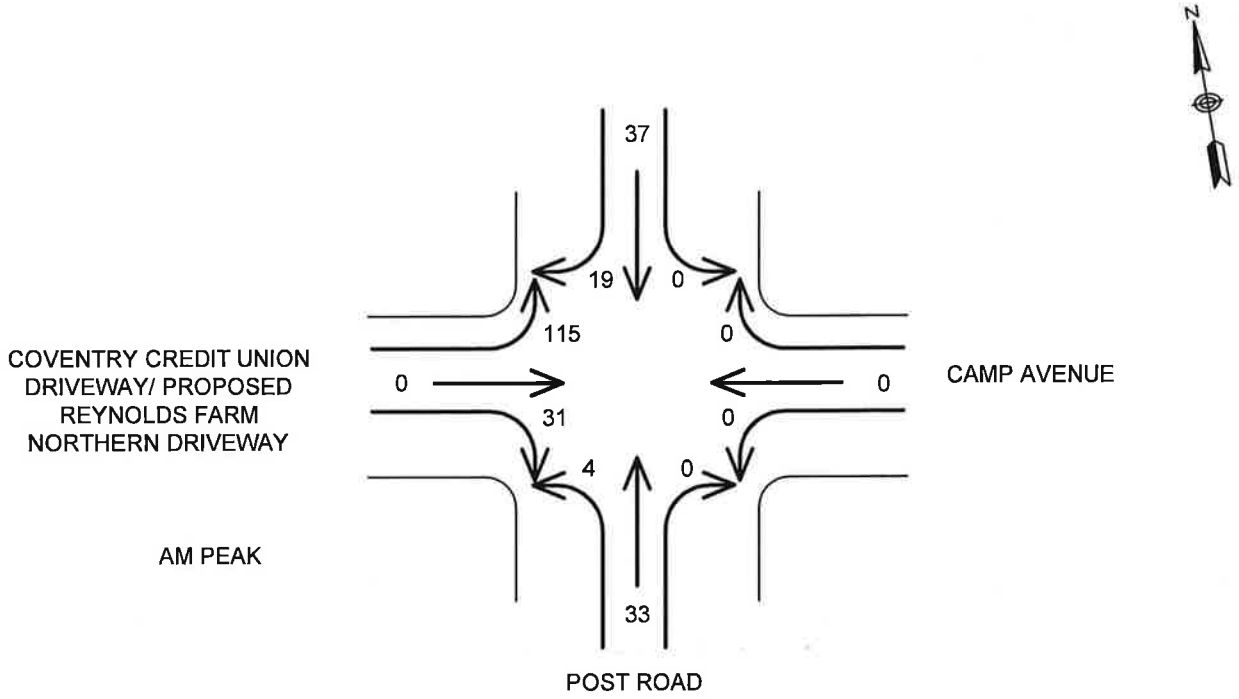
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

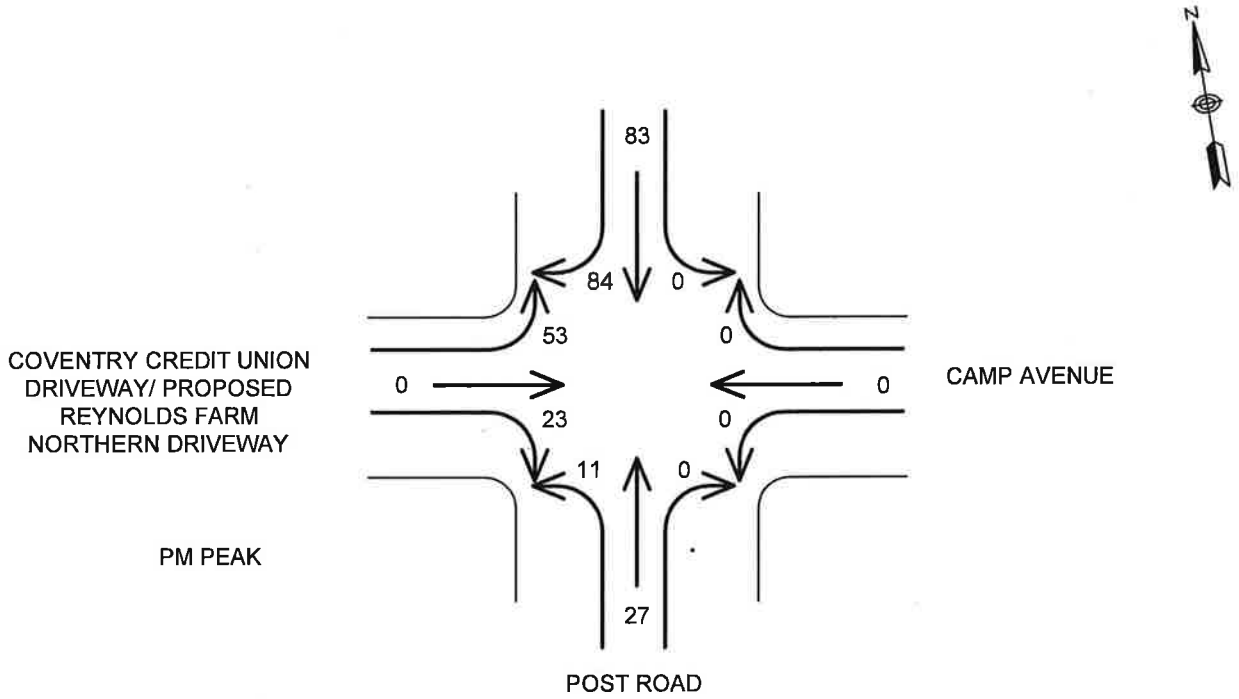
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: CCU Driveway & Post Road

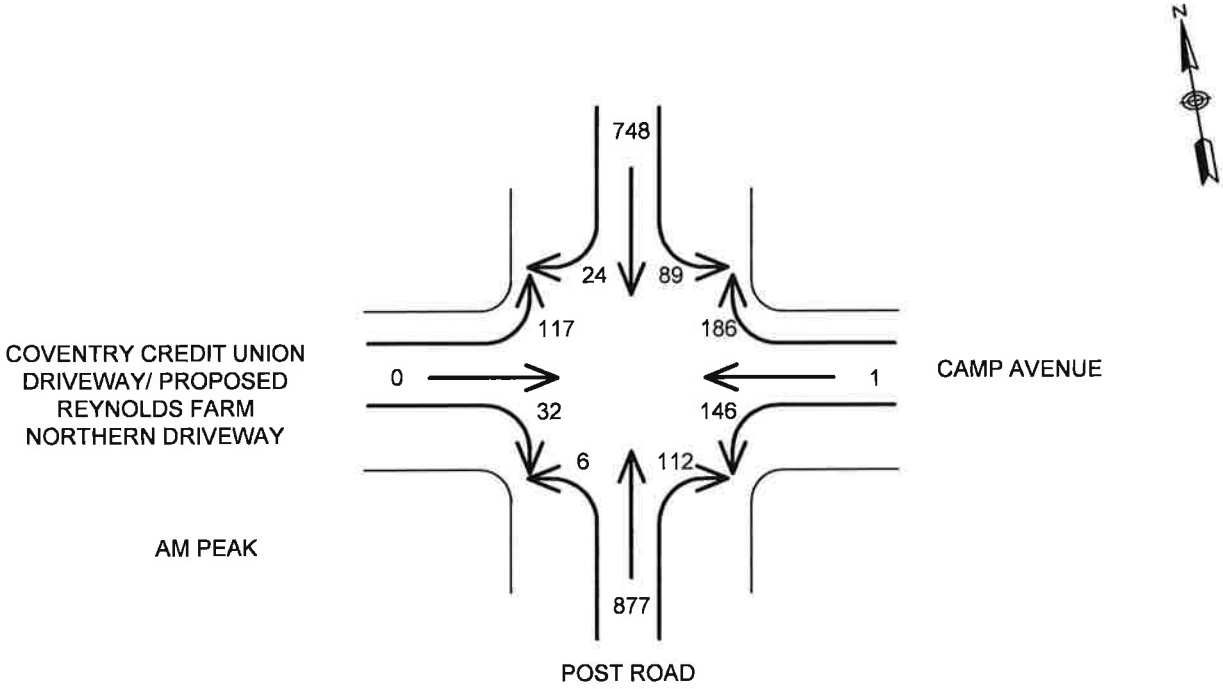


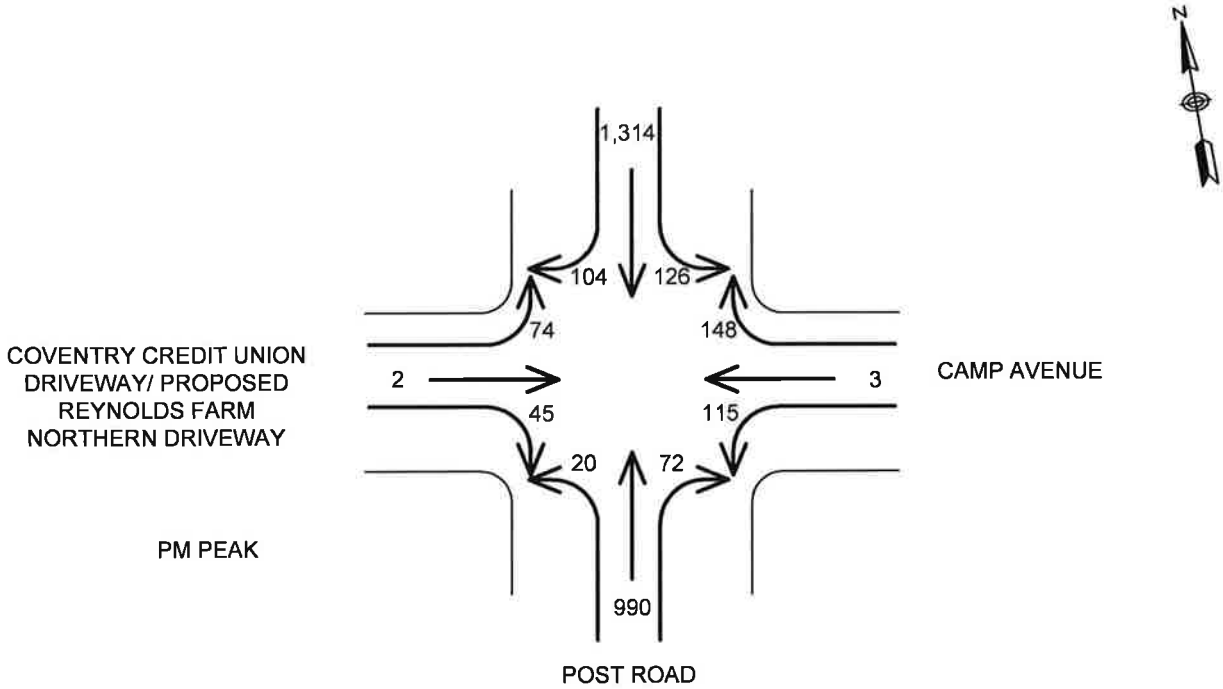
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS





TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
BUILD CONDITIONS





Lanes, Volumes, Timings
2: CCU Driveway & Post Road

10/26/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	117	0	32	146	1	186	6	887	112	89	748	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	13	12	11	12	12	10	12	12	10	12
Storage Length (ft)	50		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850		0.925			0.983			0.996	
Flt Protected		0.950			0.979						0.995	
Satd. Flow (prot)	0	1805	1620	0	1573	0	0	3129	0	0	3080	0
Flt Permitted		0.477			0.786			0.949			0.643	
Satd. Flow (perm)	0	906	1620	0	1263	0	0	2969	0	0	1991	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			43		79			25			8	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		317			776			843			363	
Travel Time (s)		8.6			15.1			11.5			5.5	
Peak Hour Factor	0.75	0.75	0.75	0.91	0.91	0.91	0.90	0.90	0.90	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	3%	8%	0%	4%	17%	5%	12%	14%	8%	0%
Adj. Flow (vph)	156	0	43	160	1	204	7	986	124	98	822	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	43	0	365	0	0	1117	0	0	946	0
Turn Type	Perm		Perm	Perm			Perm			pm+pt		
Protected Phases		3			3			2		1	6	
Permitted Phases	3		3	3			2			6		
Detector Phase	3	3	3	3	3		2	2		1	1 6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		7.0	7.0		6.0	7.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		11.0	12.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	0.0	40.0	40.0	0.0	13.0	53.0	0.0
Total Split (%)	27.4%	27.4%	27.4%	27.4%	27.4%	0.0%	54.8%	54.8%	0.0%	17.8%	72.6%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min		None	Min	
Act Effct Green (s)		15.1	15.1		15.1			29.4			42.5	
Actuated g/C Ratio		0.22	0.22		0.22			0.43			0.63	
v/c Ratio		0.77	0.11		1.06			0.86			0.68	
Control Delay		55.0	9.2		92.0			24.2			9.8	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		55.0	9.2		92.0			24.2			9.8	
LOS		D	A		F			C			A	
Approach Delay		45.1			92.0			24.2			9.8	
Approach LOS		D			F			C			A	
Queue Length 50th (ft)		63	0		~149			204			94	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		#127	17		#325			284			130	
Internal Link Dist (ft)		237			696			763			283	
Turn Bay Length (ft)												
Base Capacity (vph)		202	395		343			1558			1554	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.77	0.11		1.06			0.72			0.61	

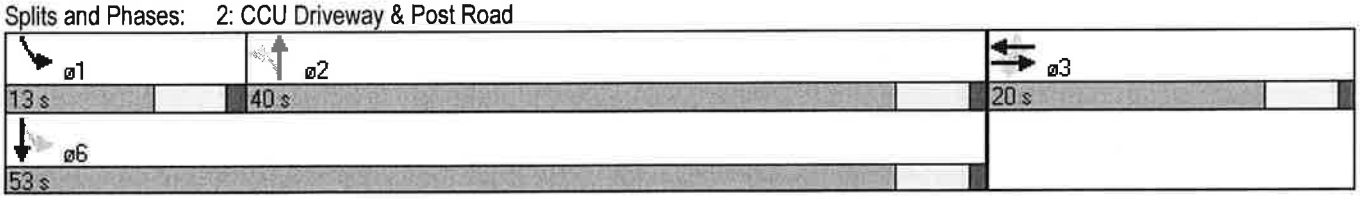
Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 67.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 30.0 Intersection LOS: C
Intersection Capacity Utilization 91.0% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: CCU Driveway & Post Road



Lanes, Volumes, Timings
2: CCU Driveway & Post Road

10/26/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	117	0	32	146	1	186	6	887	112	89	748	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	13	10	10	10	12	10	12	12	10	12
Storage Length (ft)	50		0	0		50	0		0	0		0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.983			0.996	
Flt Protected		0.950			0.953						0.995	
Satd. Flow (prot)	0	1805	1620	0	1566	1449	0	3129	0	0	3080	0
Flt Permitted		0.590			0.566			0.949			0.639	
Satd. Flow (perm)	0	1121	1620	0	930	1449	0	2969	0	0	1978	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			43			180		20			8	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		317			776			843			363	
Travel Time (s)		8.6			15.1			11.5			5.5	
Peak Hour Factor	0.75	0.75	0.75	0.91	0.91	0.91	0.90	0.90	0.90	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	3%	8%	0%	4%	17%	5%	12%	14%	8%	0%
Adj. Flow (vph)	156	0	43	160	1	204	7	986	124	98	822	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	43	0	161	204	0	1117	0	0	946	0
Turn Type	Perm		Perm	Perm		Perm	Perm			pm+pt		
Protected Phases		3			3			2		1	6	
Permitted Phases	3		3	3		3	2			6		
Detector Phase	3	3	3	3	3	3	2	2		1	1 6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	7.0	7.0		6.0	7.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	12.0	12.0		11.0	12.0	
Total Split (s)	19.0	19.0	19.0	19.0	19.0	19.0	46.0	46.0	0.0	25.0	71.0	0.0
Total Split (%)	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	51.1%	51.1%	0.0%	27.8%	78.9%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	Min	Min		None	Min	
Act Effct Green (s)		14.2	14.2		14.2	14.2		33.9			55.2	
Actuated g/C Ratio		0.18	0.18		0.18	0.18		0.43			0.69	
v/c Ratio		0.78	0.13		0.97	0.50		0.88			0.59	
Control Delay		62.6	11.8		101.9	12.5		29.5			6.8	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		62.6	11.8		101.9	12.5		29.5			6.8	
LOS		E	B		F	B		C			A	
Approach Delay		51.6			52.0			29.5			6.8	
Approach LOS		D			D			C			A	
Queue Length 50th (ft)		78	0		~84	10		254			88	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		#153	20		#229	76		366			118	
Internal Link Dist (ft)		237			696			763			283	
Turn Bay Length (ft)						50						
Base Capacity (vph)		200	325		166	406		1561			1937	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.78	0.13		0.97	0.50		0.72			0.49	

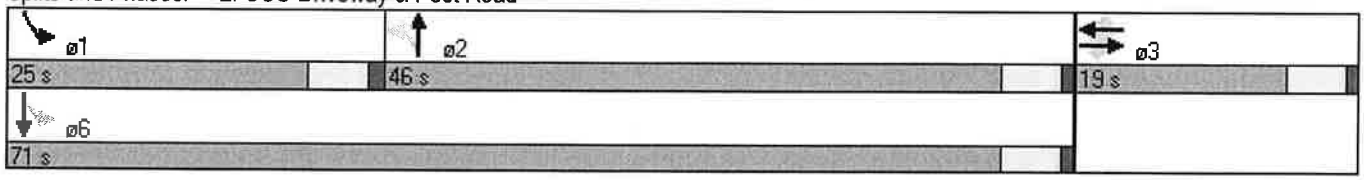
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 79.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 26.1 Intersection LOS: C
Intersection Capacity Utilization 79.6% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: CCU Driveway & Post Road



Lanes, Volumes, Timings
2: CCU Driveway & Post Road

10/26/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	2	45	115	3	148	20	990	72	126	1314	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	13	12	11	12	12	10	12	12	10	12
Storage Length (ft)	50		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850		0.925			0.990			0.990	
Flt Protected		0.954			0.979			0.999			0.996	
Satd. Flow (prot)	0	1713	1669	0	1574	0	0	3225	0	0	3224	0
Flt Permitted		0.447			0.809			0.881			0.582	
Satd. Flow (perm)	0	802	1669	0	1301	0	0	2844	0	0	1884	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53		78			14			21	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		317			776			843			363	
Travel Time (s)		8.6			15.1			11.5			5.5	
Peak Hour Factor	0.70	0.70	0.70	0.64	0.64	0.64	0.93	0.93	0.93	0.84	0.84	0.84
Heavy Vehicles (%)	6%	0%	0%	8%	0%	4%	13%	3%	5%	1%	3%	6%
Adj. Flow (vph)	106	3	64	180	5	231	22	1065	77	150	1564	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	64	0	416	0	0	1164	0	0	1838	0
Turn Type	Perm		Perm	Perm			Perm			pm+pt		
Protected Phases		3			3			2		1	6	
Permitted Phases	3		3	3			2			6		
Detector Phase	3	3	3	3	3		2	2		1	1 6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		7.0	7.0		6.0	7.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		11.0	12.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	0.0	40.0	40.0	0.0	13.0	53.0	0.0
Total Split (%)	27.4%	27.4%	27.4%	27.4%	27.4%	0.0%	54.8%	54.8%	0.0%	17.8%	72.6%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min		None	Min	
Act Effct Green (s)		15.0	15.0		15.0			35.0			48.0	
Actuated g/C Ratio		0.21	0.21		0.21			0.48			0.66	
v/c Ratio		0.66	0.17		1.26			0.85			1.32	
Control Delay		48.7	10.7		165.8			24.2			165.8	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		48.7	10.7		165.8			24.2			165.8	
LOS		D	B		F			C			F	
Approach Delay		34.7			165.8			24.2			165.8	
Approach LOS		C			F			C			F	
Queue Length 50th (ft)		46	4		~212			227			~580	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		73	21		#213			#336			#644	
Internal Link Dist (ft)		237			696			763			283	
Turn Bay Length (ft)												
Base Capacity (vph)		165	385		329			1371			1393	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.66	0.17		1.26			0.85			1.32	

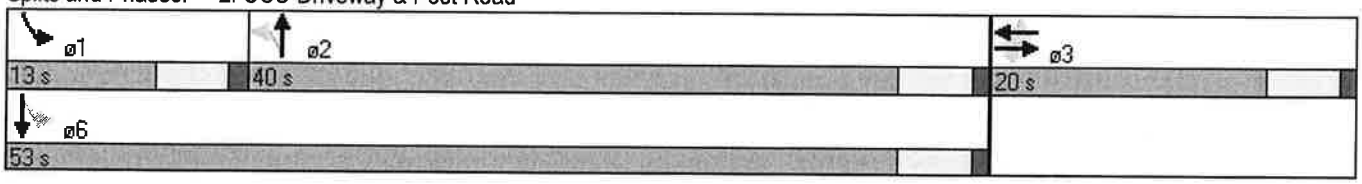
Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 73
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.32
Intersection Signal Delay: 113.6 Intersection LOS: F
Intersection Capacity Utilization 108.3% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: CCU Driveway & Post Road



Lanes, Volumes, Timings
2: CCU Driveway & Post Road

10/26/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	2	45	115	3	148	20	990	72	126	1314	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	13	10	10	10	12	10	12	12	10	12
Storage Length (ft)	50		0	0		50	0		0	0		0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850			0.850		0.990			0.990	
Flt Protected		0.954			0.954			0.999			0.996	
Satd. Flow (prot)	0	1713	1669	0	1570	1449	0	3225	0	0	3224	0
Flt Permitted		0.445			0.654			0.875			0.561	
Satd. Flow (perm)	0	799	1669	0	1076	1449	0	2825	0	0	1816	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			177		11			22	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		317			776			843			363	
Travel Time (s)		8.6			15.1			11.5			5.5	
Peak Hour Factor	0.70	0.70	0.70	0.64	0.64	0.64	0.93	0.93	0.93	0.84	0.84	0.84
Heavy Vehicles (%)	6%	0%	0%	8%	0%	4%	13%	3%	5%	1%	3%	6%
Adj. Flow (vph)	106	3	64	180	5	231	22	1065	77	150	1564	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	64	0	185	231	0	1164	0	0	1838	0
Turn Type	Perm		Perm	Perm		Perm	Perm			pm+pt		
Protected Phases		3			3			2		1	6	
Permitted Phases	3		3	3		3	2			6		
Detector Phase	3	3	3	3	3	3	2	2		1	1 6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	7.0	7.0		6.0	7.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	12.0	12.0		11.0	12.0	
Total Split (s)	19.0	19.0	19.0	19.0	19.0	19.0	46.0	46.0	0.0	25.0	71.0	0.0
Total Split (%)	21.1%	21.1%	21.1%	21.1%	21.1%	21.1%	51.1%	51.1%	0.0%	27.8%	78.9%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	Min	Min		None	Min	
Act Effct Green (s)		14.0	14.0		14.0	14.0		41.0			66.0	
Actuated g/C Ratio		0.16	0.16		0.16	0.16		0.46			0.73	
v/c Ratio		0.88	0.20		1.11	0.62		0.90			1.11	
Control Delay		94.2	11.0		139.8	17.9		33.6			72.4	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		94.2	11.0		139.8	17.9		33.6			72.4	
LOS		F	B		F	B		C			E	
Approach Delay		63.4			72.1			33.6			72.4	
Approach LOS		E			E			C			E	
Queue Length 50th (ft)		61	0		~121	27		307			~421	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		#109	19		#150	37		#452			#526	
Internal Link Dist (ft)		237			696			763			283	
Turn Bay Length (ft)						50						
Base Capacity (vph)		124	314		167	375		1293			1650	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.88	0.20		1.11	0.62		0.90			1.11	

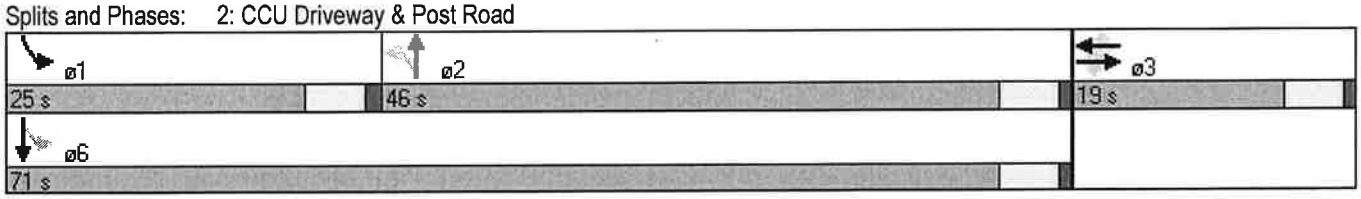
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 59.4 Intersection LOS: E
Intersection Capacity Utilization 99.2% ICU Level of Service F
Analysis Period (min) 15

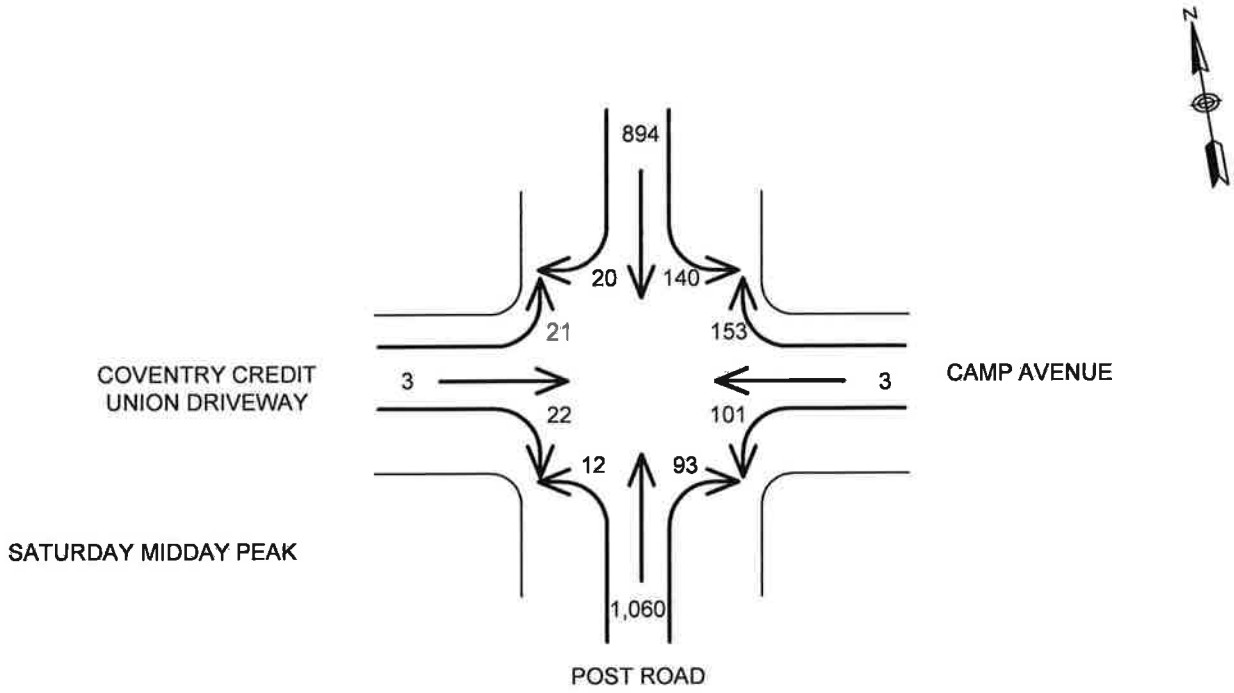
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: CCU Driveway & Post Road



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
NO BUILD CONDITIONS



Lanes, Volumes, Timings
2: CCU Driveway & Post Road

10/26/2011

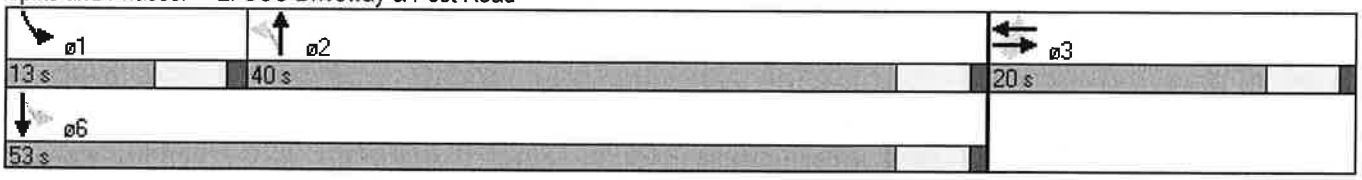
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	3	22	101	3	153	12	1060	93	140	894	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	13	12	11	12	12	10	12	12	10	12
Storage Length (ft)	50		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor								1.00			1.00	
Frt			0.850		0.920			0.988			0.997	
Flt Protected		0.958			0.981						0.993	
Satd. Flow (prot)	0	1820	1669	0	1651	0	0	3259	0	0	3274	0
Flt Permitted		0.621			0.858			0.940			0.544	
Satd. Flow (perm)	0	1180	1669	0	1444	0	0	3064	0	0	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			28		91			17			5	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		317			776			1732			363	
Travel Time (s)		8.6			15.1			23.6			5.5	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.79	0.79	0.79	0.85	0.85	0.85	0.96	0.96	0.96	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	2%	4%	1%	2%	0%
Adj. Flow (vph)	27	4	28	119	4	180	12	1104	97	152	972	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	31	28	0	303	0	0	1213	0	0	1146	0
Turn Type	Perm		Perm	Perm			Perm			pm+pt		
Protected Phases		3			3			2		1	6	
Permitted Phases	3		3	3			2			6		
Detector Phase	3	3	3	3	3		2	2		1	1 6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		7.0	7.0		6.0	7.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		11.0	12.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	0.0	40.0	40.0	0.0	13.0	53.0	0.0
Total Split (%)	27.4%	27.4%	27.4%	27.4%	27.4%	0.0%	54.8%	54.8%	0.0%	17.8%	72.6%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min		None	Min	
Act Effct Green (s)		13.5	13.5		13.5			31.4			44.6	
Actuated g/C Ratio		0.20	0.20		0.20			0.46			0.65	
v/c Ratio		0.13	0.08		0.85			0.85			0.85	
Control Delay		25.4	10.5		42.4			23.5			15.5	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		25.4	10.5		42.4			23.5			15.5	
LOS		C	B		D			C			B	
Approach Delay		18.3			42.4			23.5			15.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			D			C			B	
Queue Length 50th (ft)		11	0		92			231			122	
Queue Length 95th (ft)		29	16		#198			319			#184	
Internal Link Dist (ft)		237			696			1652			283	
Turn Bay Length (ft)												
Base Capacity (vph)		263	395		393			1605			1461	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.12	0.07		0.77			0.76			0.78	

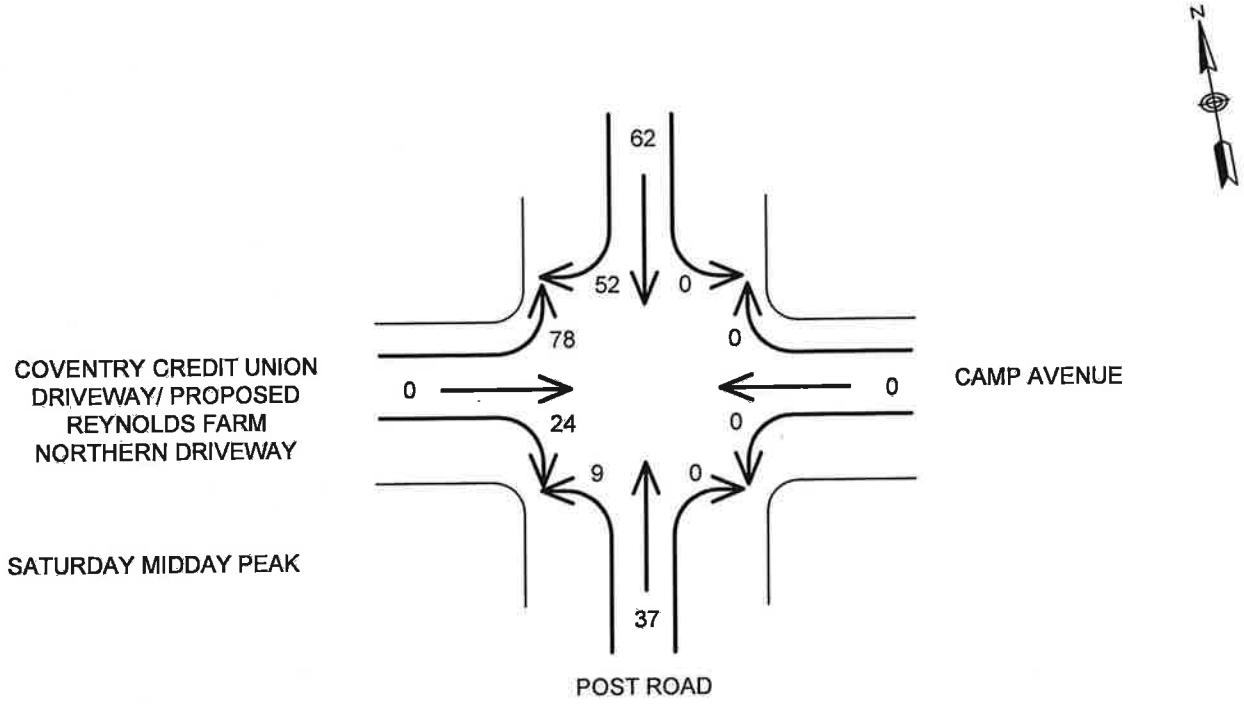
Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 68.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 22.1 Intersection LOS: C
Intersection Capacity Utilization 96.3% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

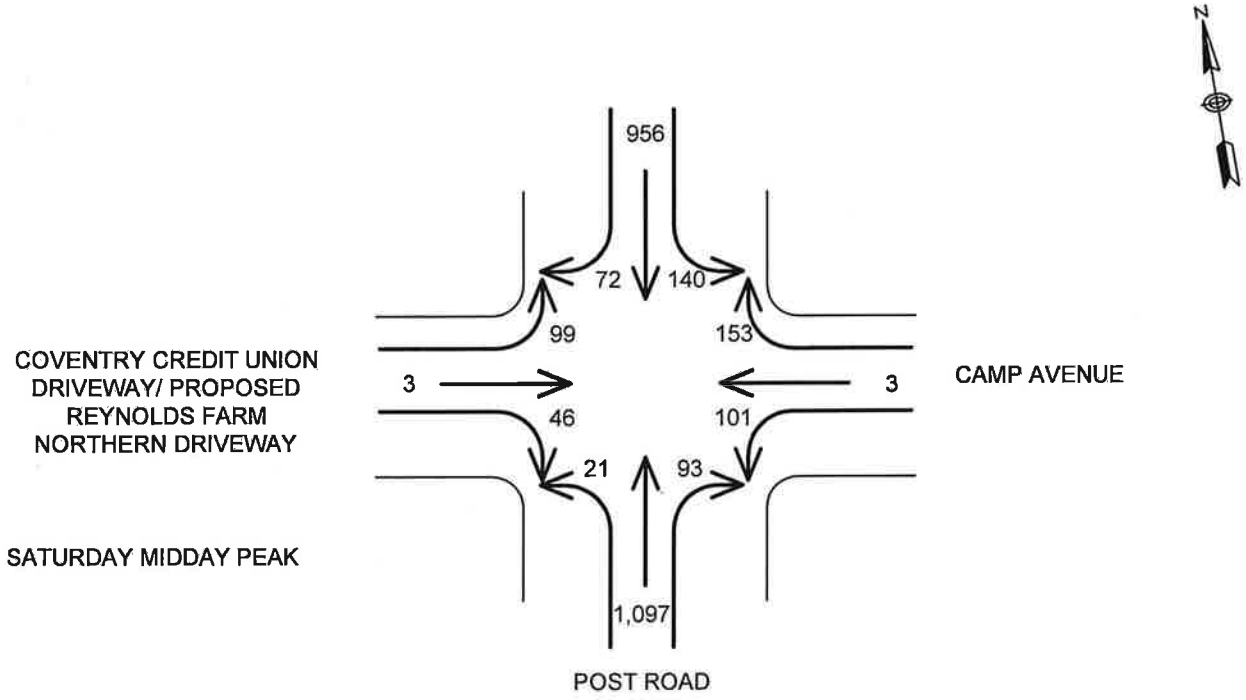
Splits and Phases: 2: CCU Driveway & Post Road



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
BUILD CONDITIONS



Lanes, Volumes, Timings
2: CCU Driveway & Post Road

10/26/2011

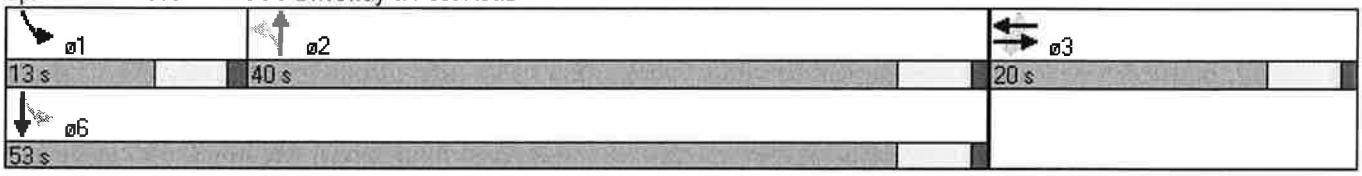
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	99	3	46	101	3	153	21	1097	93	140	956	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	13	12	11	12	12	10	12	12	10	12
Storage Length (ft)	50		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor								1.00			1.00	
Frt			0.850		0.920			0.988			0.991	
Flt Protected		0.954			0.981			0.999			0.994	
Satd. Flow (prot)	0	1813	1669	0	1651	0	0	3257	0	0	3257	0
Flt Permitted		0.460			0.815			0.915			0.541	
Satd. Flow (perm)	0	874	1669	0	1372	0	0	2983	0	0	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58		91			16			19	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		317			776			843			363	
Travel Time (s)		8.6			15.1			11.5			5.5	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.79	0.79	0.79	0.85	0.85	0.85	0.96	0.96	0.96	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	2%	4%	1%	2%	0%
Adj. Flow (vph)	125	4	58	119	4	180	22	1143	97	152	1039	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	58	0	303	0	0	1262	0	0	1269	0
Turn Type	Perm		Perm	Perm			Perm			pm+pt		
Protected Phases		3			3			2		1	6	
Permitted Phases	3		3	3			2			6		
Detector Phase	3	3	3	3	3		2	2		1	1 6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		7.0	7.0		6.0	7.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		11.0	12.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	0.0	40.0	40.0	0.0	13.0	53.0	0.0
Total Split (%)	27.4%	27.4%	27.4%	27.4%	27.4%	0.0%	54.8%	54.8%	0.0%	17.8%	72.6%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min		None	Min	
Act Effct Green (s)		14.0	14.0		14.0			34.3			47.3	
Actuated g/C Ratio		0.20	0.20		0.20			0.48			0.66	
v/c Ratio		0.75	0.16		0.89			0.87			0.94	
Control Delay		56.3	8.6		49.0			25.3			24.7	
Queue Delay		0.0	0.0		0.0			0.0			0.0	
Total Delay		56.3	8.6		49.0			25.3			24.7	
LOS		E	A		D			C			C	
Approach Delay		41.5			49.0			25.3			24.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			D			C			C	
Queue Length 50th (ft)		55	0		94			252			141	
Queue Length 95th (ft)		#110	21		#206			#395			#282	
Internal Link Dist (ft)		237			696			763			283	
Turn Bay Length (ft)												
Base Capacity (vph)		185	398		361			1477			1370	
Starvation Cap Reductn		0	0		0			0			0	
Spillback Cap Reductn		0	0		0			0			0	
Storage Cap Reductn		0	0		0			0			0	
Reduced v/c Ratio		0.70	0.15		0.84			0.85			0.93	

Intersection Summary

Area Type: Other
Cycle Length: 73
Actuated Cycle Length: 71.3
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 28.4 Intersection LOS: C
Intersection Capacity Utilization 101.0% ICU Level of Service G
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: CCU Driveway & Post Road



Lanes, Volumes, Timings
2: CCU Driveway & Post Road

10/26/2011

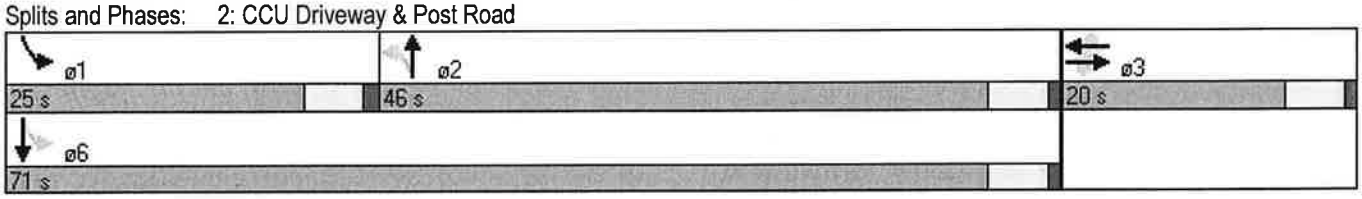
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	99	3	46	101	3	153	21	1097	93	140	956	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	13	10	10	10	12	10	12	12	10	12
Storage Length (ft)	50		0	0		50	0		0	0		0
Storage Lanes	1		1	0		1	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor								1.00			1.00	
Frt			0.850			0.850		0.988			0.991	
Flt Protected		0.954			0.954			0.999			0.994	
Satd. Flow (prot)	0	1813	1669	0	1676	1507	0	3257	0	0	3258	0
Flt Permitted		0.630			0.612			0.913			0.525	
Satd. Flow (perm)	0	1197	1669	0	1075	1507	0	2976	0	0	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58			180		12			19	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		317			776			843			363	
Travel Time (s)		8.6			15.1			11.5			5.5	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.79	0.79	0.79	0.85	0.85	0.85	0.96	0.96	0.96	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	2%	4%	1%	2%	0%
Adj. Flow (vph)	125	4	58	119	4	180	22	1143	97	152	1039	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	58	0	123	180	0	1262	0	0	1269	0
Turn Type	Perm		Perm	Perm		Perm	Perm			pm+pt		
Protected Phases		3			3			2		1	6	
Permitted Phases	3		3	3		3	2			6		
Detector Phase	3	3	3	3	3	3	2	2		1	1 6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	7.0	7.0		6.0	7.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	12.0	12.0		11.0	12.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	46.0	46.0	0.0	25.0	71.0	0.0
Total Split (%)	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	50.5%	50.5%	0.0%	27.5%	78.0%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	Min	Min		None	Min	
Act Effct Green (s)		13.0	13.0		13.0	13.0		38.9			62.5	
Actuated g/C Ratio		0.15	0.15		0.15	0.15		0.45			0.73	
v/c Ratio		0.71	0.19		0.75	0.47		0.93			0.80	
Control Delay		57.9	11.0		64.7	10.0		36.1			9.6	
Queue Delay		0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay		57.9	11.0		64.7	10.0		36.1			9.6	
LOS		E	B		E	A		D			A	
Approach Delay		43.4			32.2			36.1			9.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			C			D			A	
Queue Length 50th (ft)		70	0		68	0		348			141	
Queue Length 95th (ft)		113	25		#137	47		#504			184	
Internal Link Dist (ft)		237			696			763			283	
Turn Bay Length (ft)						50						
Base Capacity (vph)		212	344		191	416		1449			1711	
Starvation Cap Reductn		0	0		0	0		0			0	
Spillback Cap Reductn		0	0		0	0		0			0	
Storage Cap Reductn		0	0		0	0		0			0	
Reduced v/c Ratio		0.61	0.17		0.64	0.43		0.87			0.74	

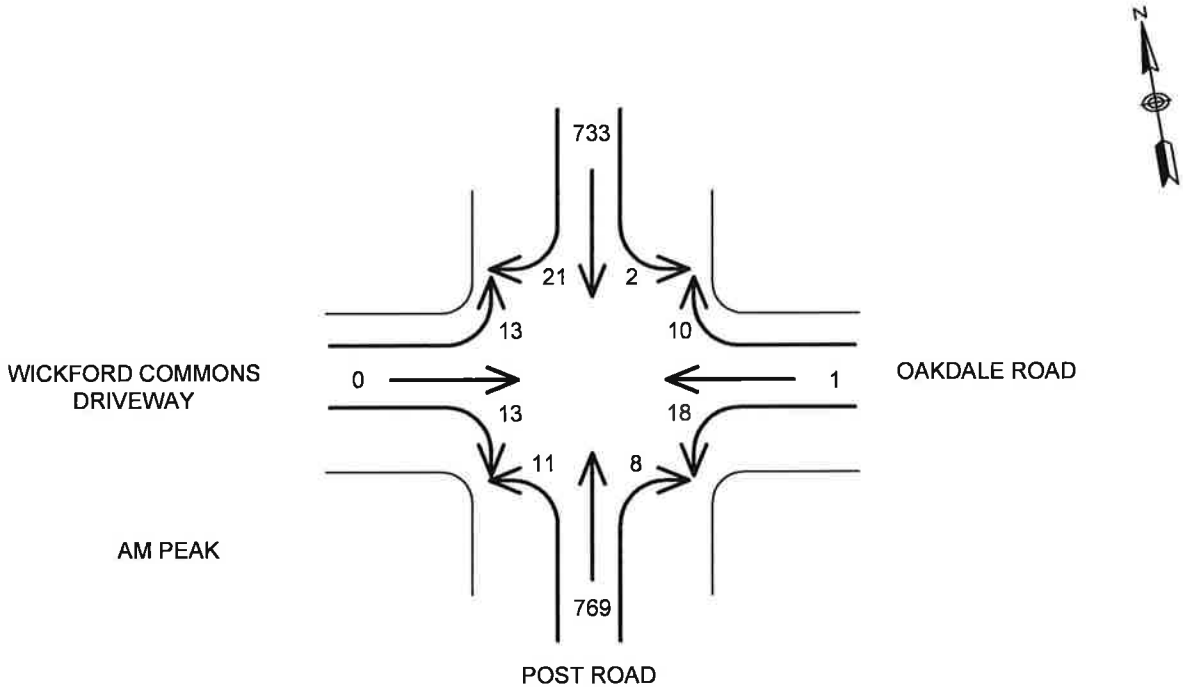
Intersection Summary

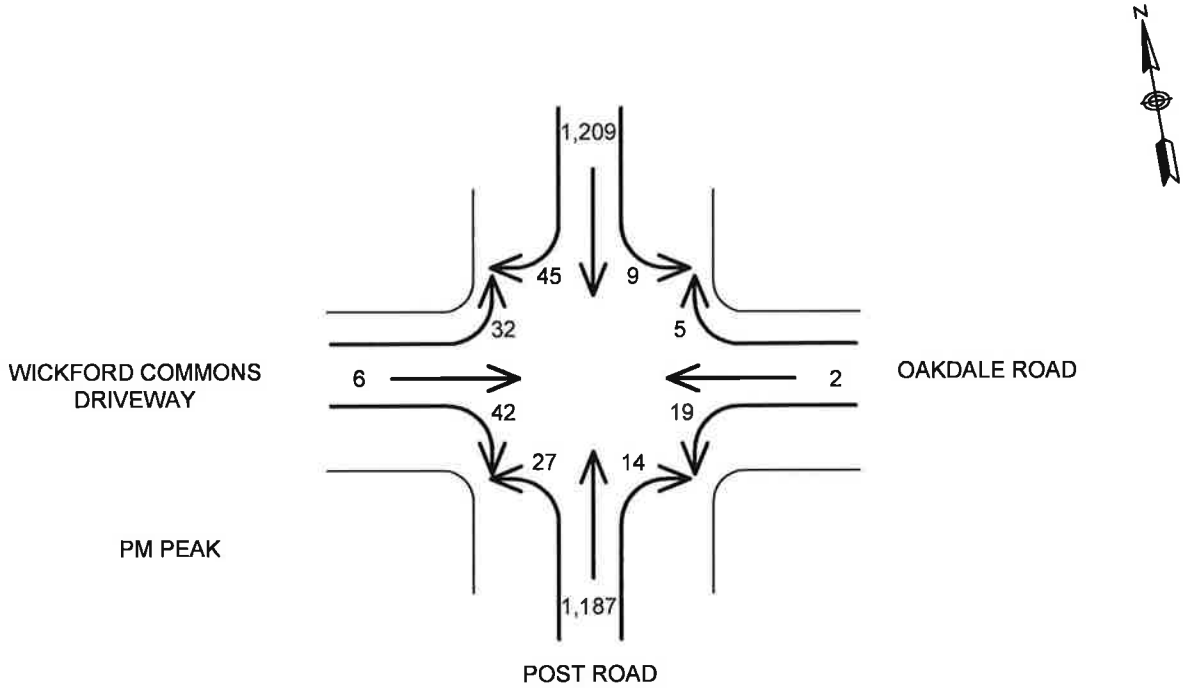
Area Type: Other
Cycle Length: 91
Actuated Cycle Length: 85.7
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 25.1 Intersection LOS: C
Intersection Capacity Utilization 91.6% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: CCU Driveway & Post Road



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
NO BUILD CONDITIONS





Lanes, Volumes, Timings
7: Post Road & Wickford Commons/Oakdale Road

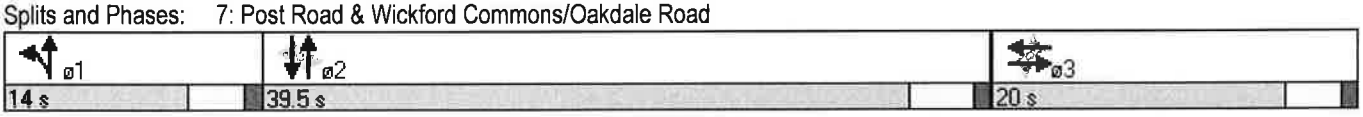
9/17/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	0	13	18	1	10	11	769	8	2	733	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	16	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			1.00			1.00			1.00	
Frt		0.932			0.955			0.998			0.996	
Flt Protected		0.976			0.970			0.999				
Satd. Flow (prot)	0	1679	0	0	1923	0	0	3294	0	0	3254	0
Flt Permitted		0.817			0.812			0.949			0.954	
Satd. Flow (perm)	0	1405	0	0	1607	0	0	3129	0	0	3104	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		82			16			3			5	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		376			492			614			949	
Travel Time (s)		10.3			9.6			8.4			14.4	
Confl. Peds. (#/hr)			2	2			1		1	1		1
Peak Hour Factor	0.82	0.82	0.82	0.61	0.61	0.61	0.93	0.93	0.93	0.84	0.84	0.84
Heavy Vehicles (%)	9%	0%	9%	6%	0%	0%	0%	2%	0%	0%	3%	6%
Adj. Flow (vph)	16	0	16	30	2	16	12	827	9	2	873	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	48	0	0	848	0	0	900	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		3			3		1	1 2			2	
Permitted Phases	3			3			1 2			2		
Detector Phase	3	3		3	3		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0			7.0	7.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		11.0			11.5	11.5	
Total Split (s)	20.0	20.0		20.0	20.0		14.0			39.5	39.5	
Total Split (%)	27.2%	27.2%		27.2%	27.2%		19.0%			53.7%	53.7%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.0			4.0						4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None			Max	Max	
Act Effct Green (s)		6.4			6.4			44.8			35.6	
Actuated g/C Ratio		0.11			0.11			0.76			0.60	
v/c Ratio		0.14			0.25			0.35			0.48	
Control Delay		1.9			23.0			2.5			9.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		1.9			23.0			2.5			9.0	
LOS		A			C			A			A	
Approach Delay		1.9			23.0			2.5			9.0	
Approach LOS		A			C			A			A	
Queue Length 50th (ft)		0			12			34			103	
Queue Length 95th (ft)		0			24			62			147	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		296			412			534			869	
Turn Bay Length (ft)												
Base Capacity (vph)		446			453			2475			1869	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.07			0.11			0.34			0.48	

Intersection Summary	
Area Type:	Other
Cycle Length: 73.5	
Actuated Cycle Length: 59.1	
Natural Cycle: 40	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay: 6.3	**Intersection LOS: A**
Intersection Capacity Utilization 40.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Post Road & Wickford Commons/Oakdale Road



Lanes, Volumes, Timings
7: Post Road & Wickford Commons/Oakdale Road

9/17/2012

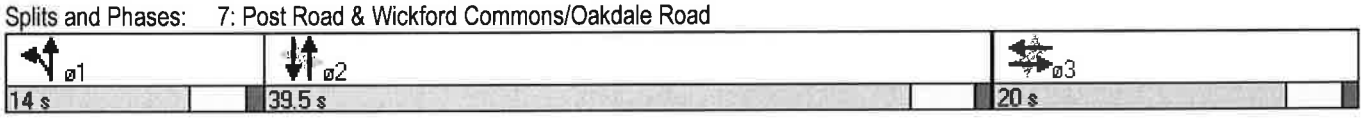
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	6	42	19	2	5	27	1187	14	9	1209	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	16	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor								1.00			1.00	
Frt		0.929			0.974			0.998			0.995	
Flt Protected		0.980			0.965			0.999				
Satd. Flow (prot)	0	1845	0	0	2024	0	0	3327	0	0	3318	0
Flt Permitted		0.853			0.782			0.917			0.945	
Satd. Flow (perm)	0	1606	0	0	1640	0	0	3054	0	0	3135	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			7			3			7	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		376			492			614			949	
Travel Time (s)		10.3			9.6			8.4			14.4	
Confl. Peds. (#/hr)							3					3
Peak Hour Factor	0.83	0.83	0.83	0.72	0.72	0.72	0.96	0.96	0.96	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	39	7	51	26	3	7	28	1236	15	10	1406	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	97	0	0	36	0	0	1279	0	0	1468	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		3			3		1	1 2			2	
Permitted Phases	3			3			1 2			2		
Detector Phase	3	3		3	3		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0			7.0	7.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		11.0			11.5	11.5	
Total Split (s)	20.0	20.0		20.0	20.0		14.0			39.5	39.5	
Total Split (%)	27.2%	27.2%		27.2%	27.2%		19.0%			53.7%	53.7%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.0			4.0						4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None			Max	Max	
Act Effct Green (s)		7.2			7.2			45.4			35.4	
Actuated g/C Ratio		0.12			0.12			0.73			0.57	
v/c Ratio		0.42			0.18			0.57			0.83	
Control Delay		20.8			24.2			4.6			18.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.8			24.2			4.6			18.2	
LOS		C			C			A			B	
Approach Delay		20.8			24.2			4.6			18.2	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)		17			11			67			235	
Queue Length 95th (ft)		49			27			131			#367	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		296			412			534			869	
Turn Bay Length (ft)												
Base Capacity (vph)		453			429			2292			1777	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.21			0.08			0.56			0.83	

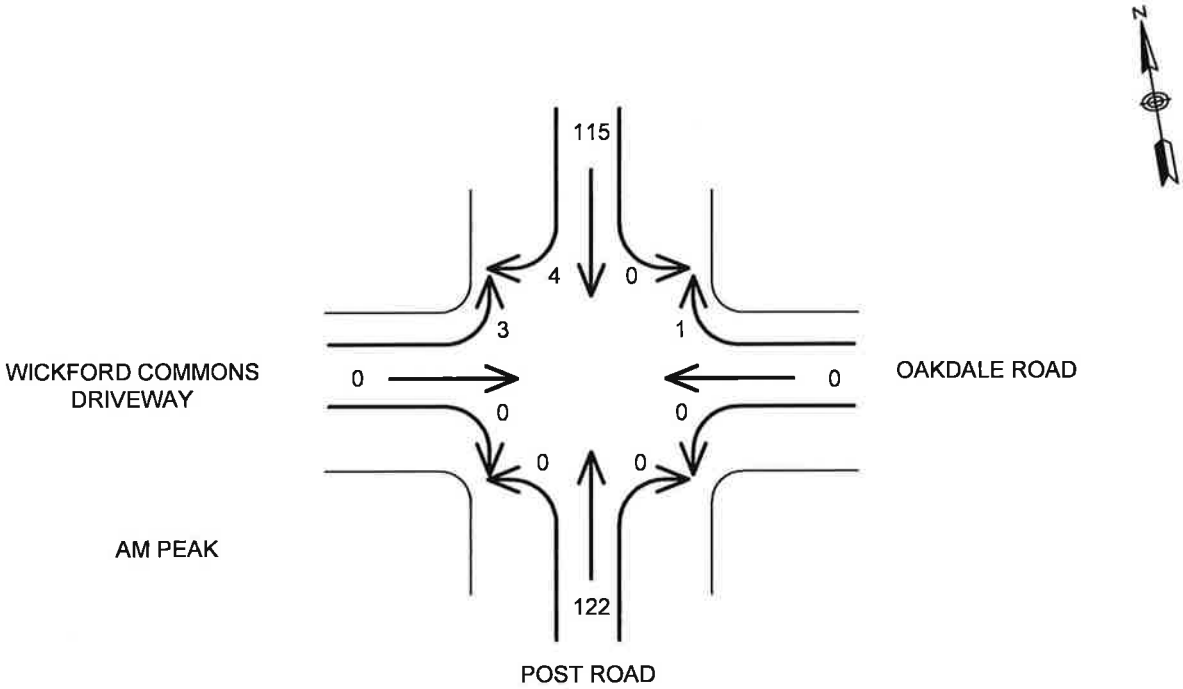
Intersection Summary

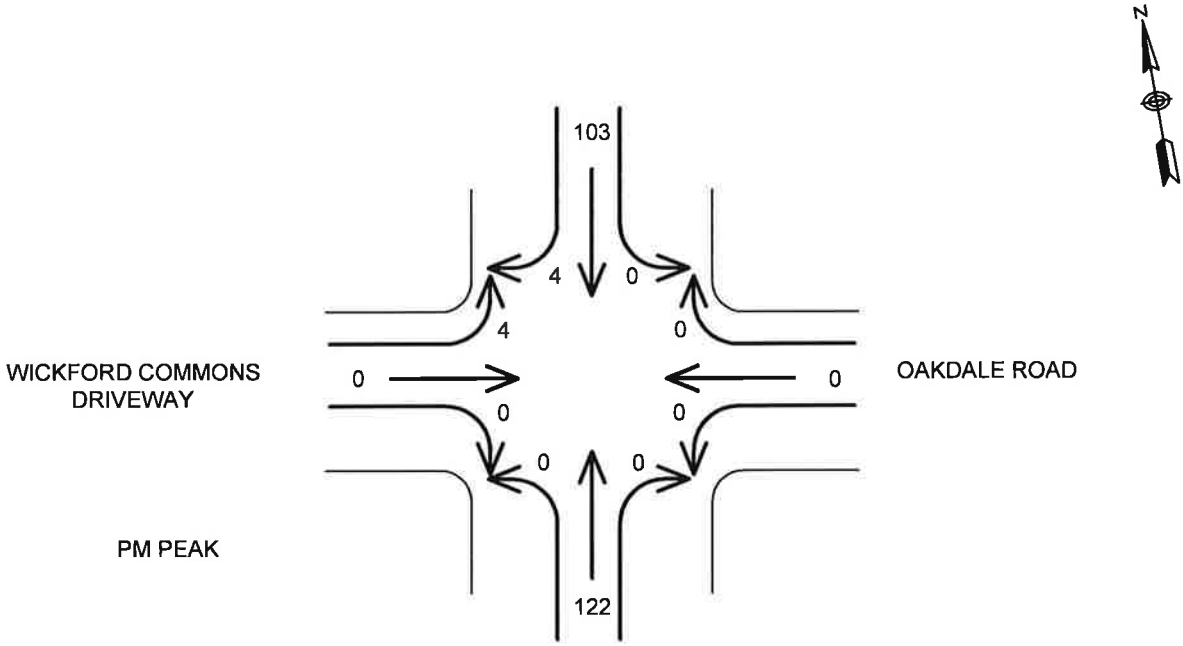
Area Type: Other
Cycle Length: 73.5
Actuated Cycle Length: 62.5
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 12.3 **Intersection LOS: B**
Intersection Capacity Utilization 63.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: Post Road & Wickford Commons/Oakdale Road

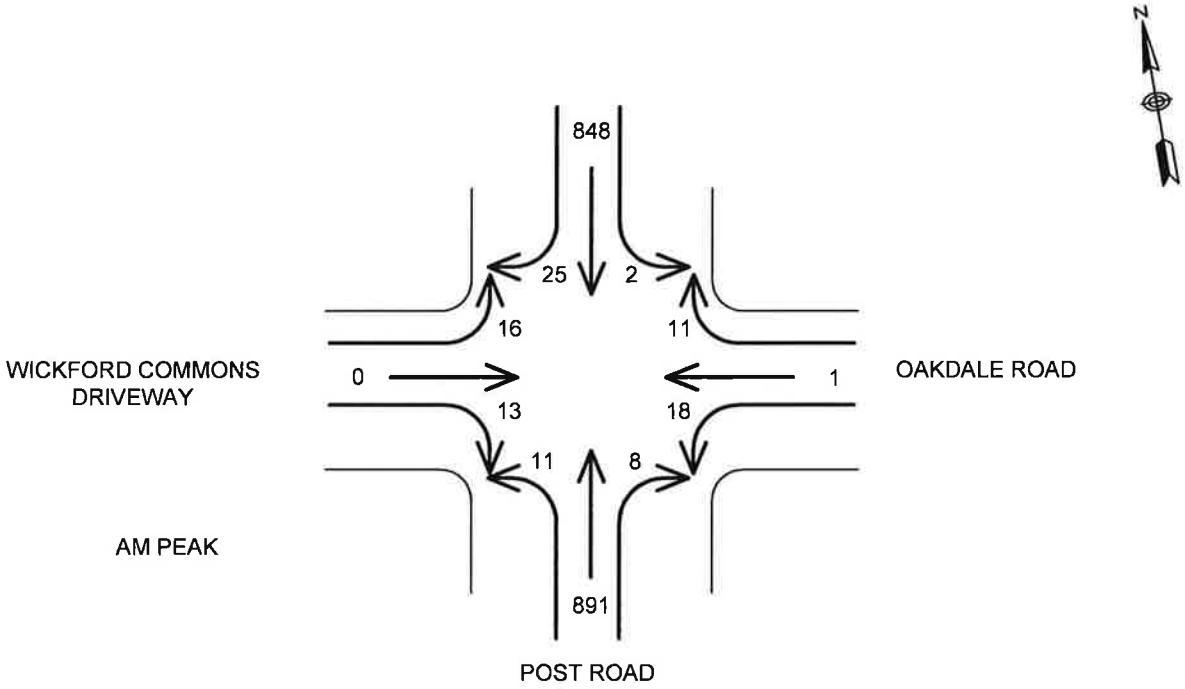


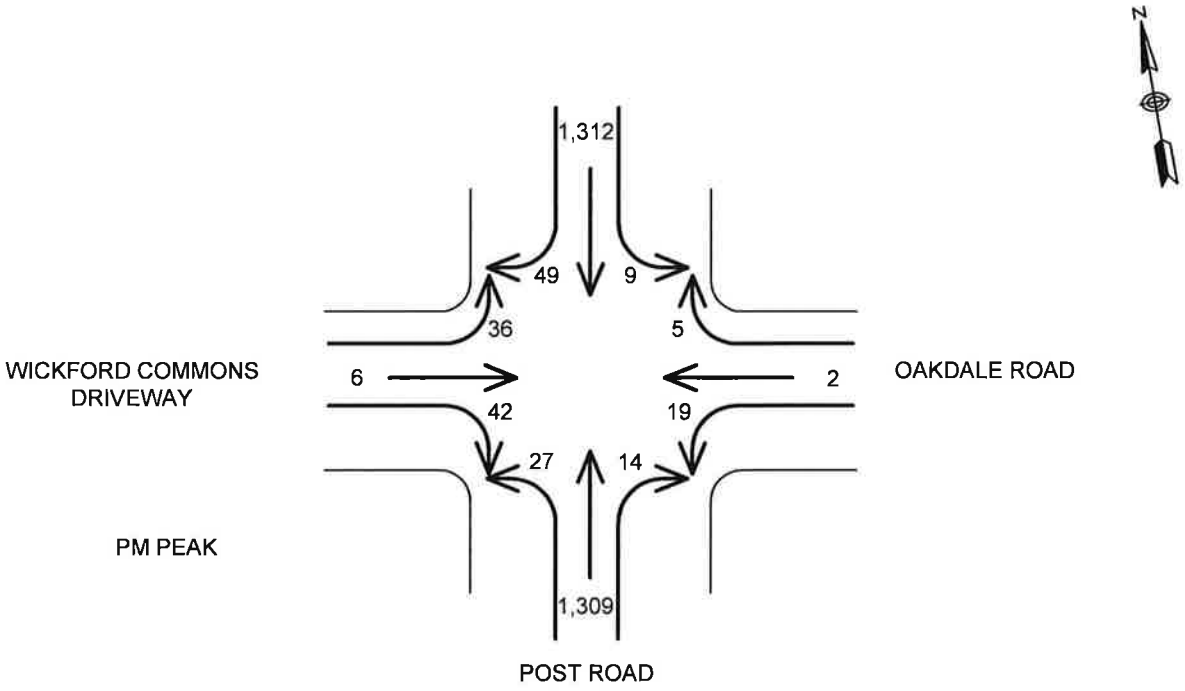
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS





TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
BUILD CONDITIONS





Lanes, Volumes, Timings
13: Post Road & Wickford Commons/Oakdale Road

9/17/2012

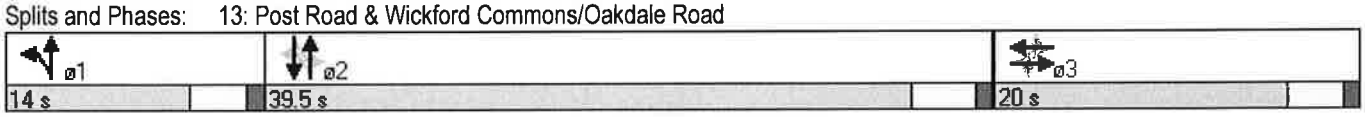
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	0	13	18	1	11	11	891	8	2	848	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	16	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			1.00			1.00			1.00	
Frt		0.940			0.951			0.999			0.996	
Flt Protected		0.973			0.971			0.999				
Satd. Flow (prot)	0	1689	0	0	1919	0	0	3297	0	0	3254	0
Flt Permitted		0.813			0.795			0.949			0.954	
Satd. Flow (perm)	0	1412	0	0	1569	0	0	3132	0	0	3104	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		82			18			2			5	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		376			492			614			949	
Travel Time (s)		10.3			9.6			8.4			14.4	
Confl. Peds. (#/hr)			2	2			1		1	1		1
Peak Hour Factor	0.82	0.82	0.82	0.61	0.61	0.61	0.93	0.93	0.93	0.84	0.84	0.84
Heavy Vehicles (%)	9%	0%	9%	6%	0%	0%	0%	2%	0%	0%	3%	6%
Adj. Flow (vph)	20	0	16	30	2	18	12	958	9	2	1010	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	50	0	0	979	0	0	1042	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		3			3		1	1 2			2	
Permitted Phases	3			3			1 2			2		
Detector Phase	3	3		3	3		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0			7.0	7.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		11.0			11.5	11.5	
Total Split (s)	20.0	20.0		20.0	20.0		14.0			39.5	39.5	
Total Split (%)	27.2%	27.2%		27.2%	27.2%		19.0%			53.7%	53.7%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.0			4.0						4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None			Max	Max	
Act Effct Green (s)		6.5			6.5			44.8			35.5	
Actuated g/C Ratio		0.11			0.11			0.76			0.60	
v/c Ratio		0.16			0.27			0.41			0.56	
Control Delay		2.9			22.7			2.8			10.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		2.9			22.7			2.8			10.1	
LOS		A			C			A			B	
Approach Delay		2.9			22.7			2.8			10.1	
Approach LOS		A			C			A			B	
Queue Length 50th (ft)		0			12			42			130	
Queue Length 95th (ft)		3			24			76			181	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		296			412			534			869	
Turn Bay Length (ft)												
Base Capacity (vph)		446			443			2470			1863	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.08			0.11			0.40			0.56	

Intersection Summary

Area Type: Other
Cycle Length: 73.5
Actuated Cycle Length: 59.2
Natural Cycle: 45
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 6.9 **Intersection LOS: A**
Intersection Capacity Utilization 43.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Post Road & Wickford Commons/Oakdale Road



Lanes, Volumes, Timings
13: Post Road & Wickford Commons/Oakdale Road

9/17/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	6	42	19	2	5	27	1309	14	9	1312	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	16	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor								1.00			1.00	
Frt		0.932			0.974			0.998			0.995	
Flt Protected		0.979			0.965			0.999				
Satd. Flow (prot)	0	1849	0	0	2024	0	0	3327	0	0	3318	0
Flt Permitted		0.845			0.771			0.916			0.944	
Satd. Flow (perm)	0	1596	0	0	1617	0	0	3051	0	0	3132	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			7			3			7	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		376			492			614			949	
Travel Time (s)		10.3			9.6			8.4			14.4	
Confl. Peds. (#/hr)							3					3
Peak Hour Factor	0.83	0.83	0.83	0.72	0.72	0.72	0.96	0.96	0.96	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	43	7	51	26	3	7	28	1364	15	10	1526	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	101	0	0	36	0	0	1407	0	0	1593	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		3			3		1	1 2			2	
Permitted Phases	3			3			1 2			2		
Detector Phase	3	3		3	3		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0			7.0	7.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		11.0			11.5	11.5	
Total Split (s)	20.0	20.0		20.0	20.0		14.0			39.5	39.5	
Total Split (%)	27.2%	27.2%		27.2%	27.2%		19.0%			53.7%	53.7%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.0			4.0						4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None			Max	Max	
Act Effct Green (s)		7.4			7.4			45.4			35.4	
Actuated g/C Ratio		0.12			0.12			0.72			0.56	
v/c Ratio		0.43			0.18			0.62			0.90	
Control Delay		21.4			24.2			5.4			23.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.4			24.2			5.4			23.2	
LOS		C			C			A			C	
Approach Delay		21.4			24.2			5.4			23.2	
Approach LOS		C			C			A			C	
Queue Length 50th (ft)		19			11			81			278	
Queue Length 95th (ft)		52			27			158			#461	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		296			412			534			869	
Turn Bay Length (ft)												
Base Capacity (vph)		449			422			2283			1770	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.22			0.09			0.62			0.90	

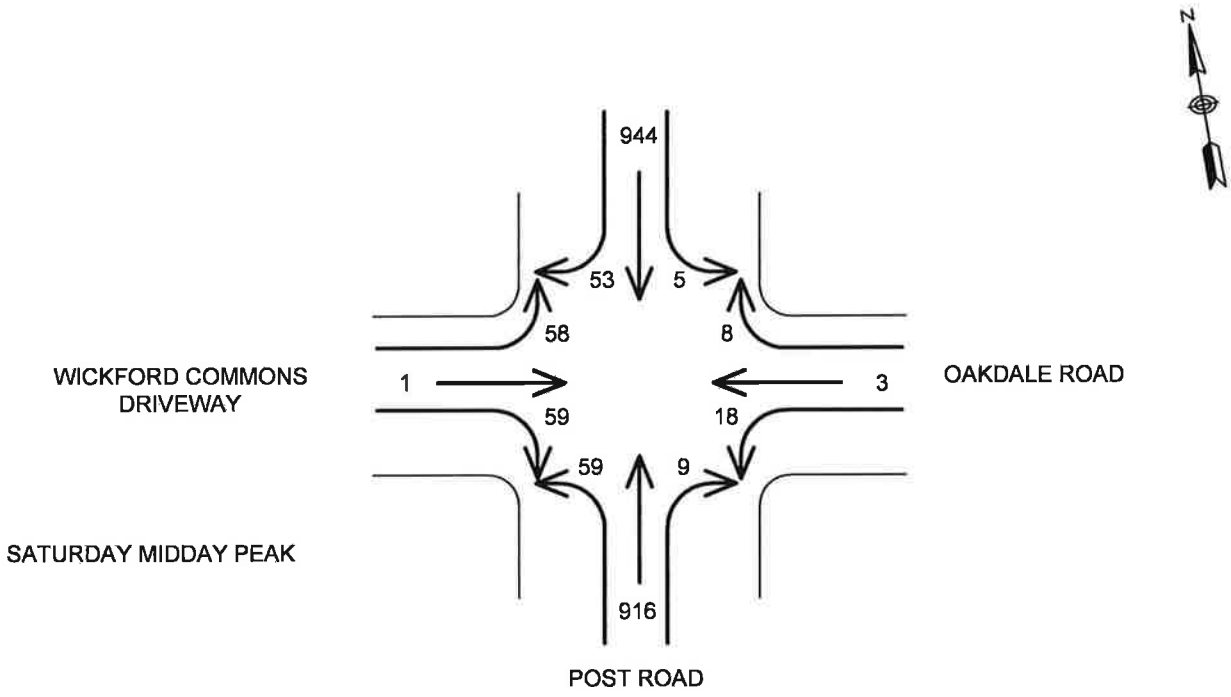
Intersection Summary

Area Type: Other
Cycle Length: 73.5
Actuated Cycle Length: 62.7
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 15.2 **Intersection LOS: B**
Intersection Capacity Utilization 67.5% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Post Road & Wickford Commons/Oakdale Road

ø1	ø2	ø3
14 s	39.5 s	20 s

TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
NO BUILD CONDITIONS



Lanes, Volumes, Timings
7: Post Road & Wickford Commons/Oakdale Road

9/17/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	1	59	18	3	8	59	916	9	5	944	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	16	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.932			0.963			0.999			0.992	
Flt Protected		0.976			0.970			0.997				
Satd. Flow (prot)	0	1826	0	0	2011	0	0	3325	0	0	3281	0
Flt Permitted		0.825			0.743			0.843			0.950	
Satd. Flow (perm)	0	1543	0	0	1541	0	0	2811	0	0	3117	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			11			2			11	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		376			492			614			949	
Travel Time (s)		10.3			9.6			8.4			14.4	
Peak Hour Factor	0.90	0.90	0.90	0.72	0.72	0.72	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%
Adj. Flow (vph)	64	1	66	25	4	11	69	1078	11	5	1026	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	131	0	0	40	0	0	1158	0	0	1089	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		3			3		1	1 2			2	
Permitted Phases	3			3			1 2			2		
Detector Phase	3	3		3	3		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0			7.0	7.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		11.0			11.5	11.5	
Total Split (s)	20.0	20.0		20.0	20.0		14.0			39.5	39.5	
Total Split (%)	27.2%	27.2%		27.2%	27.2%		19.0%			53.7%	53.7%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.0			4.0						4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None			Max	Max	
Act Effct Green (s)		8.2			8.2			45.3			35.5	
Actuated g/C Ratio		0.13			0.13			0.71			0.56	
v/c Ratio		0.51			0.19			0.56			0.62	
Control Delay		22.8			22.2			4.9			12.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.8			22.2			4.9			12.8	
LOS		C			C			A			B	
Approach Delay		22.8			22.2			4.9			12.8	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)		25			11			64			147	
Queue Length 95th (ft)		71			27			118			245	
Internal Link Dist (ft)		296			412			534			869	
Turn Bay Length (ft)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		442			402			2126			1748	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.30			0.10			0.54			0.62	

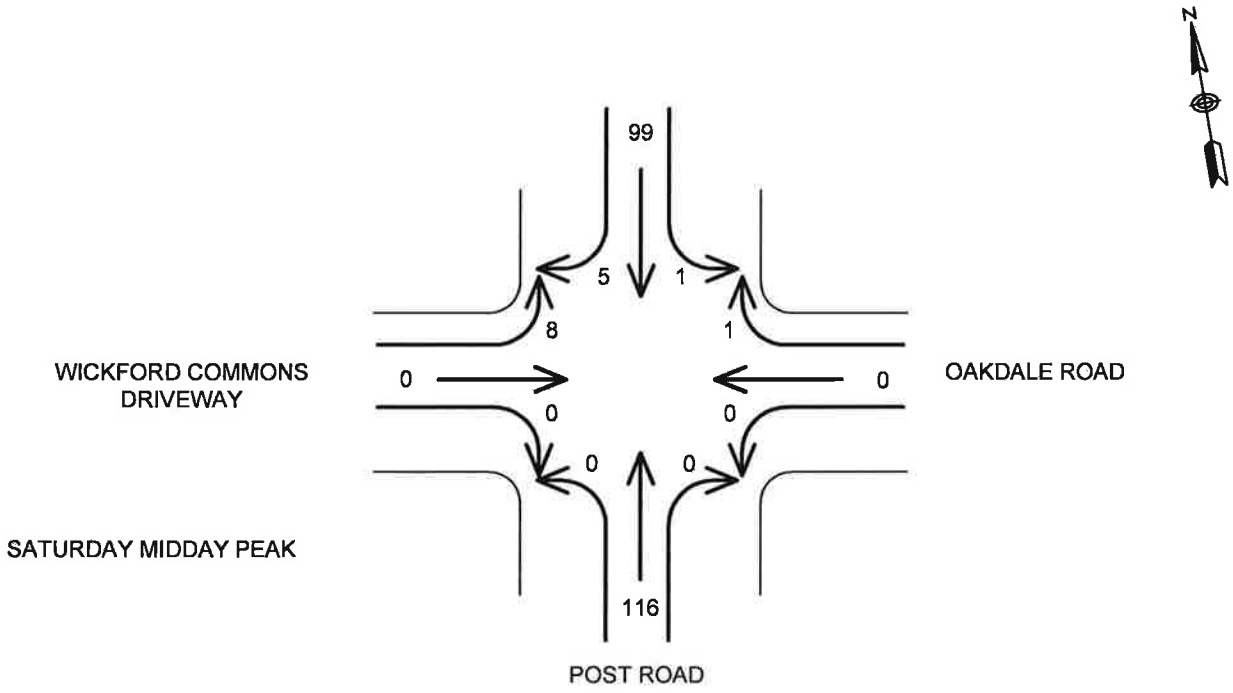
Intersection Summary

Area Type: Other
Cycle Length: 73.5
Actuated Cycle Length: 63.4
Natural Cycle: 55
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 9.7 **Intersection LOS: A**
Intersection Capacity Utilization 73.3% ICU Level of Service D
Analysis Period (min) 15

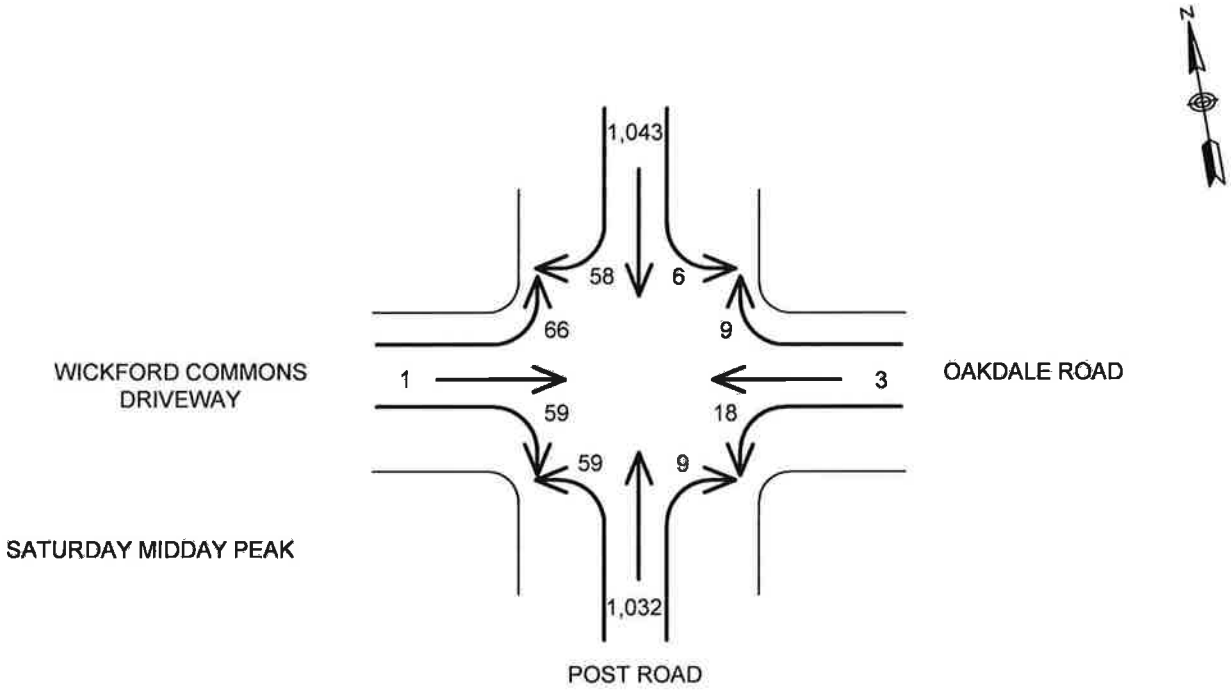
Splits and Phases: 7: Post Road & Wickford Commons/Oakdale Road

ø1	ø2	ø3
14 s	39.5 s	20 s

TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
BUILD CONDITIONS



Lanes, Volumes, Timings
13: Post Road & Wickford Commons/Oakdale Road

9/17/2012

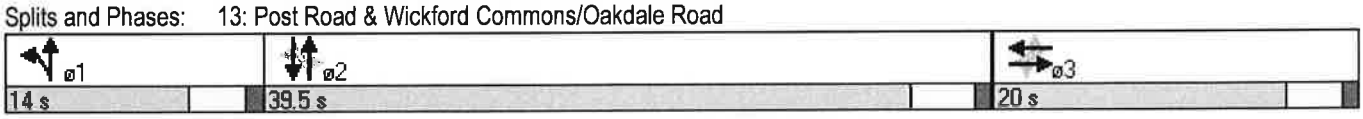
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	1	59	18	3	9	59	1032	9	6	1043	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	16	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.936			0.960			0.999			0.992	
Flt Protected		0.975			0.970			0.997				
Satd. Flow (prot)	0	1830	0	0	2005	0	0	3325	0	0	3281	0
Flt Permitted		0.814			0.765			0.838			0.947	
Satd. Flow (perm)	0	1528	0	0	1581	0	0	2794	0	0	3107	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			12			2			10	
Link Speed (mph)		25			35			50			45	
Link Distance (ft)		376			492			614			949	
Travel Time (s)		10.3			9.6			8.4			14.4	
Peak Hour Factor	0.90	0.90	0.90	0.72	0.72	0.72	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%
Adj. Flow (vph)	73	1	66	25	4	12	69	1214	11	7	1134	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	0	0	41	0	0	1294	0	0	1204	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		3			3		1	1 2			2	
Permitted Phases	3			3			1 2			2		
Detector Phase	3	3		3	3		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		7.0			7.0	7.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		11.0			11.5	11.5	
Total Split (s)	20.0	20.0		20.0	20.0		14.0			39.5	39.5	
Total Split (%)	27.2%	27.2%		27.2%	27.2%		19.0%			53.7%	53.7%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.0			4.0						4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None			Max	Max	
Act Effct Green (s)		8.9			8.9			45.5			35.5	
Actuated g/C Ratio		0.14			0.14			0.71			0.55	
v/c Ratio		0.54			0.18			0.63			0.70	
Control Delay		25.2			21.2			6.2			14.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		25.2			21.2			6.2			14.8	
LOS		C			C			A			B	
Approach Delay		25.2			21.2			6.2			14.8	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)		32			11			83			179	
Queue Length 95th (ft)		80			27			151			298	
Internal Link Dist (ft)		296			412			534			869	
Turn Bay Length (ft)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		427			408			2091			1721	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.33			0.10			0.62			0.70	

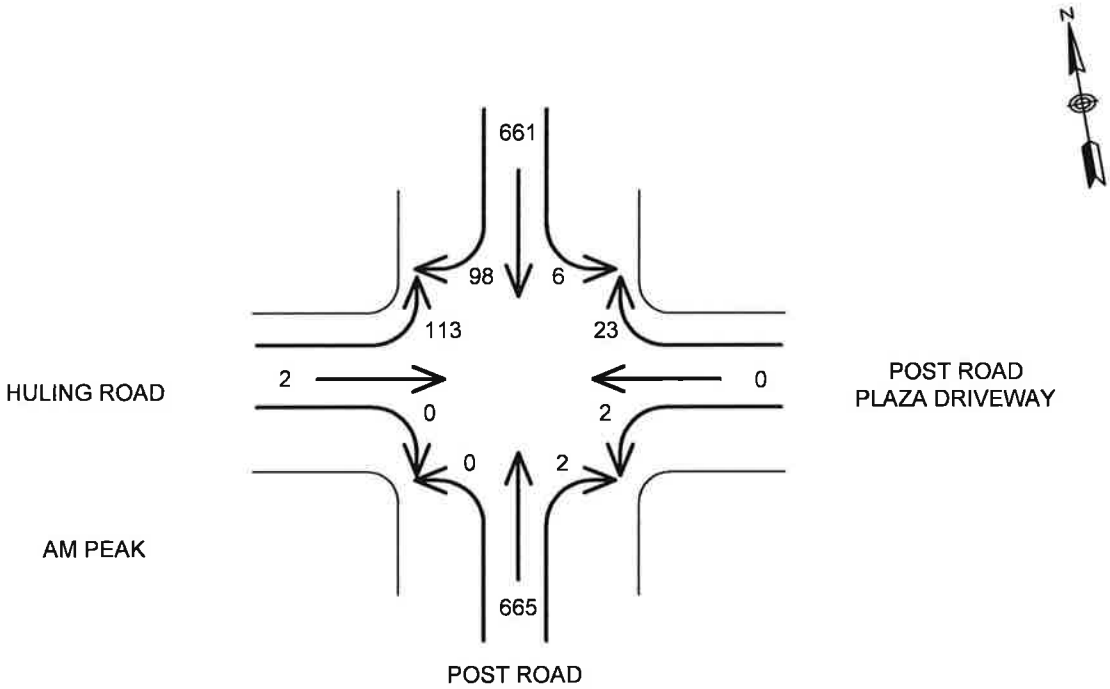
Intersection Summary

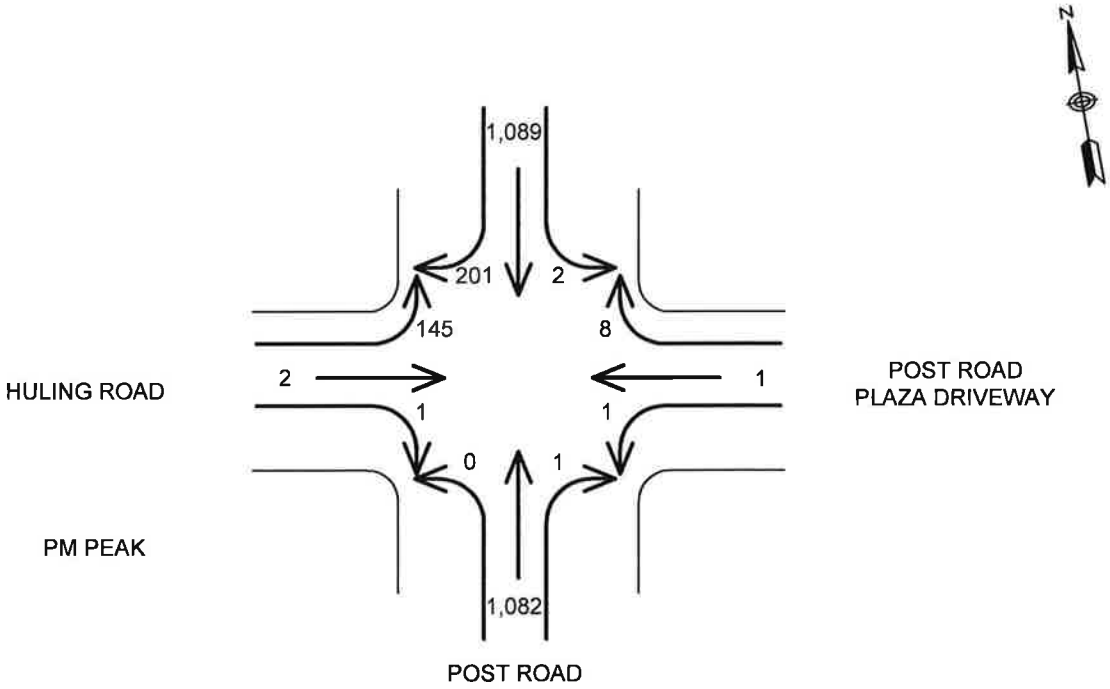
Area Type: Other
Cycle Length: 73.5
Actuated Cycle Length: 64.2
Natural Cycle: 55
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 11.3 **Intersection LOS: B**
Intersection Capacity Utilization 80.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Post Road & Wickford Commons/Oakdale Road



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
NO BUILD CONDITIONS





Lanes, Volumes, Timings
8: Post Road & Huling Road/Post Road Plaza

9/18/2012

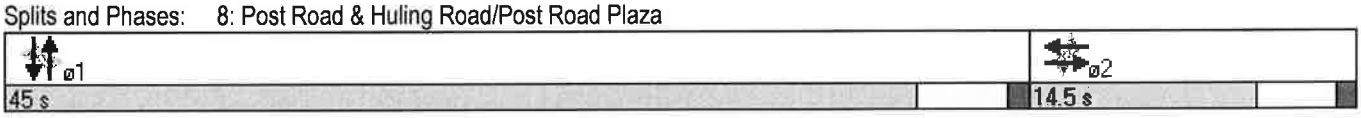
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	113	2	0	2	0	23	0	665	2	6	661	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	15	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor								1.00			1.00	
Frt					0.877						0.981	
Flt Protected		0.953			0.996							
Satd. Flow (prot)	0	1682	0	0	1605	0	0	3271	0	0	3115	0
Flt Permitted		0.704			0.974						0.950	
Satd. Flow (perm)	0	1243	0	0	1570	0	0	3271	0	0	2959	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					37			1			59	
Link Speed (mph)		35			25			50			45	
Link Distance (ft)		328			211			722			614	
Travel Time (s)		6.4			5.8			9.8			9.3	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.85	0.85	1.00	0.72	0.72	0.72	1.00	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles (%)	7%	50%	0%	0%	0%	15%	0%	3%	0%	0%	6%	5%
Adj. Flow (vph)	133	2	0	3	0	32	0	723	2	7	743	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	135	0	0	35	0	0	725	0	0	860	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	8.5	8.5		8.5	8.5		45.0	45.0		45.0	45.0	
Total Split (s)	14.5	14.5		14.5	14.5		45.0	45.0		45.0	45.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		75.6%	75.6%		75.6%	75.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			5.0			5.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		9.3			9.3			44.0			44.0	
Actuated g/C Ratio		0.16			0.16			0.74			0.74	
v/c Ratio		0.70			0.13			0.30			0.39	
Control Delay		45.2			9.4			4.0			4.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		45.2			9.4			4.0			4.3	
LOS		D			A			A			A	
Approach Delay		45.2			9.4			4.0			4.3	
Approach LOS		D			A			A			A	
Queue Length 50th (ft)		46			0			45			54	
Queue Length 95th (ft)		#105			13			67			80	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		248			131			642			534	
Turn Bay Length (ft)												
Base Capacity (vph)		208			294			2415			2200	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.65			0.12			0.30			0.39	

Intersection Summary

Area Type: Other
Cycle Length: 59.5
Actuated Cycle Length: 59.6
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 7.4 **Intersection LOS: A**
Intersection Capacity Utilization 54.3% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Post Road & Huling Road/Post Road Plaza



Lanes, Volumes, Timings
8: Post Road & Huling Road/Post Road Plaza

9/17/2012

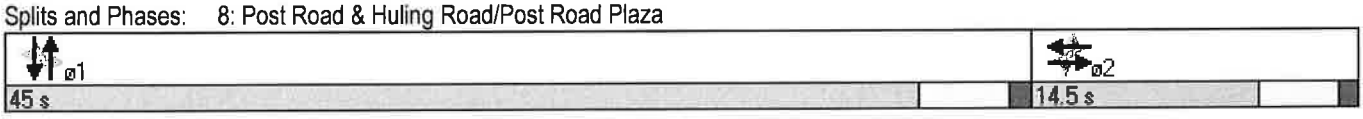
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	145	2	1	1	1	8	0	1082	1	2	1089	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	15	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.999			0.886						0.977	
Flt Protected		0.953			0.996							
Satd. Flow (prot)	0	1809	0	0	1844	0	0	3336	0	0	3249	0
Flt Permitted		0.721			0.976						0.954	
Satd. Flow (perm)	0	1369	0	0	1807	0	0	3336	0	0	3100	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					11						77	
Link Speed (mph)		35			25			50			45	
Link Distance (ft)		328			211			722			614	
Travel Time (s)		6.4			5.8			9.8			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.75	0.75	0.75	0.96	0.96	0.96	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	3%
Adj. Flow (vph)	154	2	1	1	1	11	0	1127	1	2	1238	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	157	0	0	13	0	0	1128	0	0	1468	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	8.5	8.5		8.5	8.5		45.0	45.0		45.0	45.0	
Total Split (s)	14.5	14.5		14.5	14.5		45.0	45.0		45.0	45.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		75.6%	75.6%		75.6%	75.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			5.0			5.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		9.6			9.6			42.8			42.8	
Actuated g/C Ratio		0.16			0.16			0.69			0.69	
v/c Ratio		0.74			0.05			0.49			0.68	
Control Delay		47.4			13.5			5.5			7.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		47.4			13.5			5.5			7.4	
LOS		D			B			A			A	
Approach Delay		47.4			13.5			5.5			7.4	
Approach LOS		D			B			A			A	
Queue Length 50th (ft)		54			1			84			127	
Queue Length 95th (ft)		#131			10			119			180	
Internal Link Dist (ft)		248			131			642			534	
Turn Bay Length (ft)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		222			302			2305			2166	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.71			0.04			0.49			0.68	

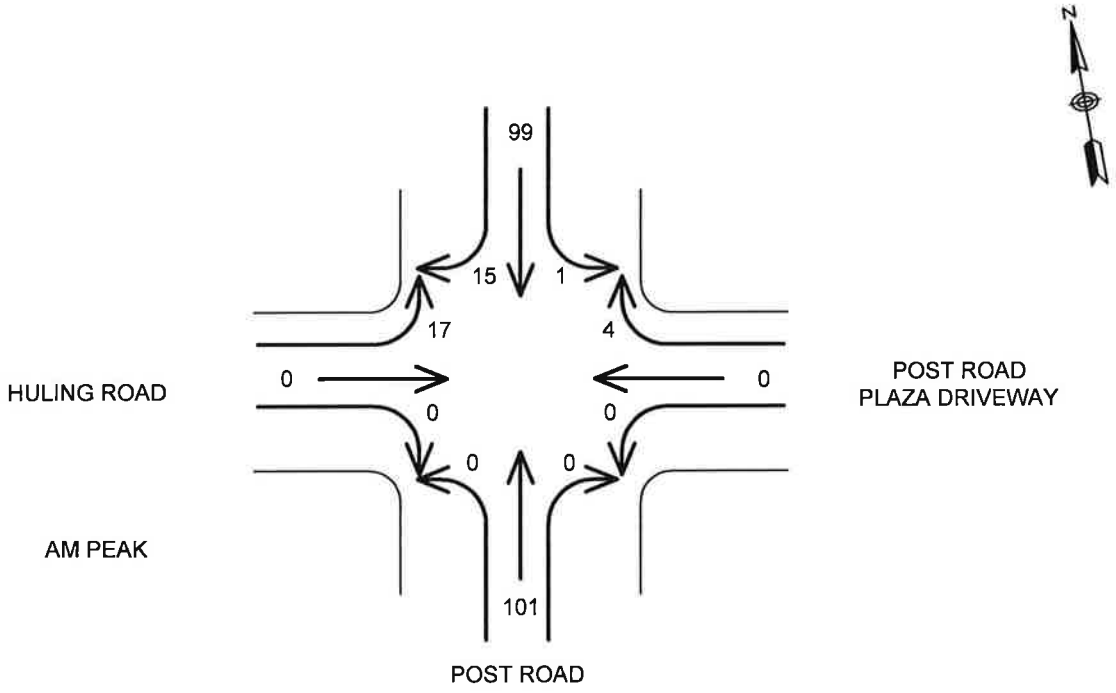
Intersection Summary

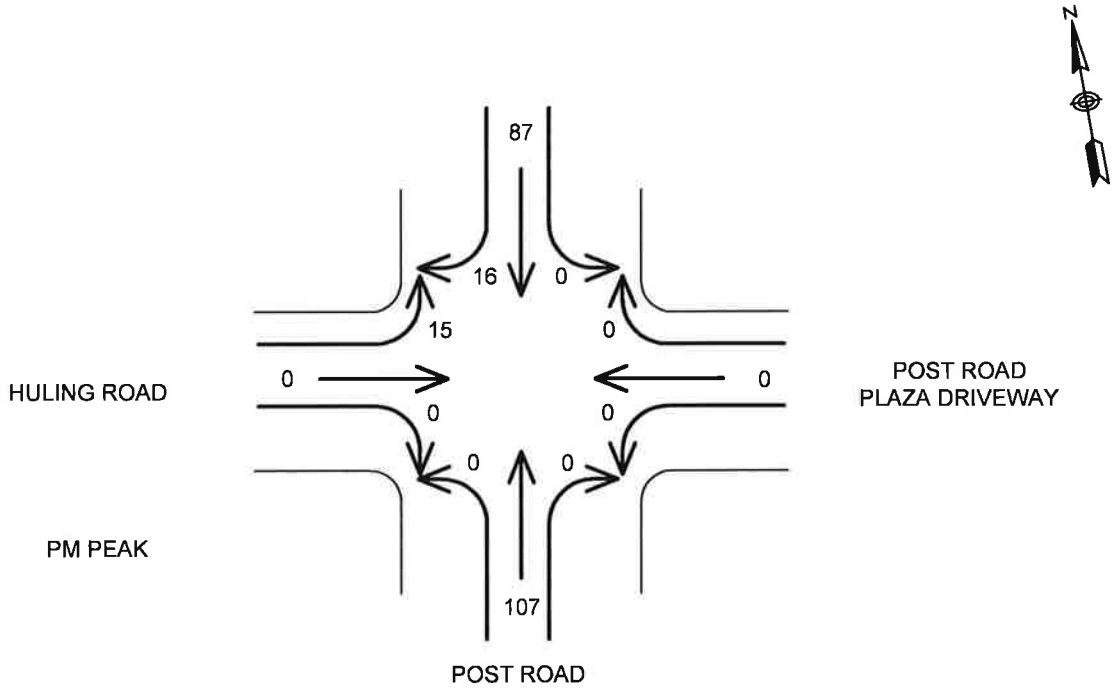
Area Type: Other
Cycle Length: 59.5
Actuated Cycle Length: 61.9
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 8.9 **Intersection LOS: A**
Intersection Capacity Utilization 60.7% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Post Road & Huling Road/Post Road Plaza

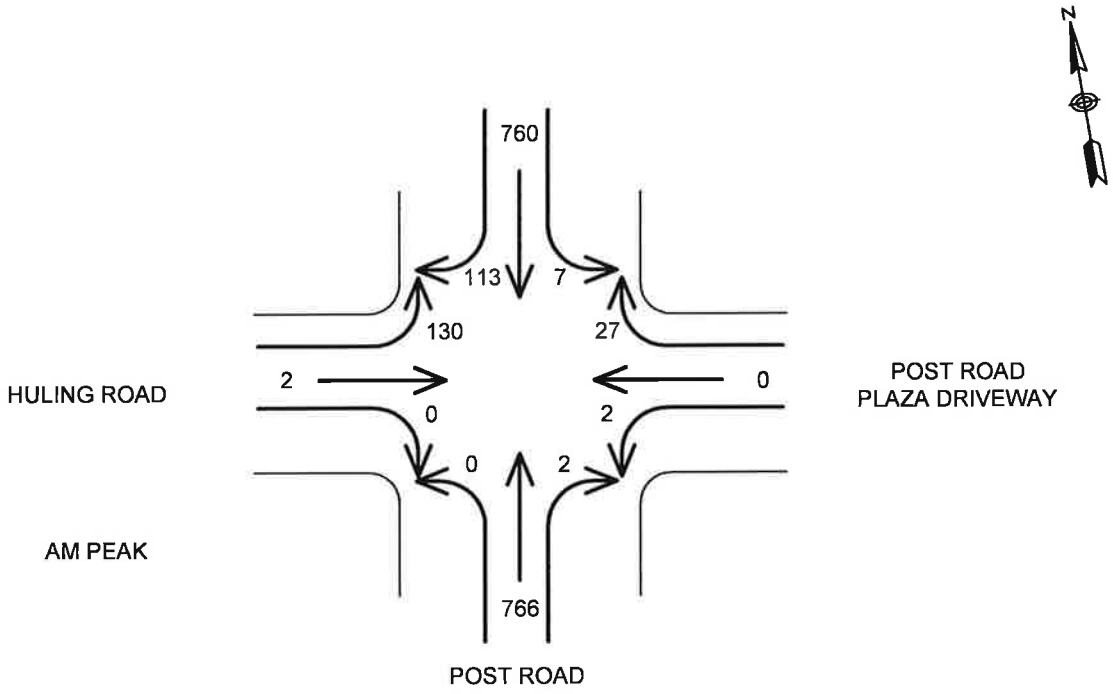


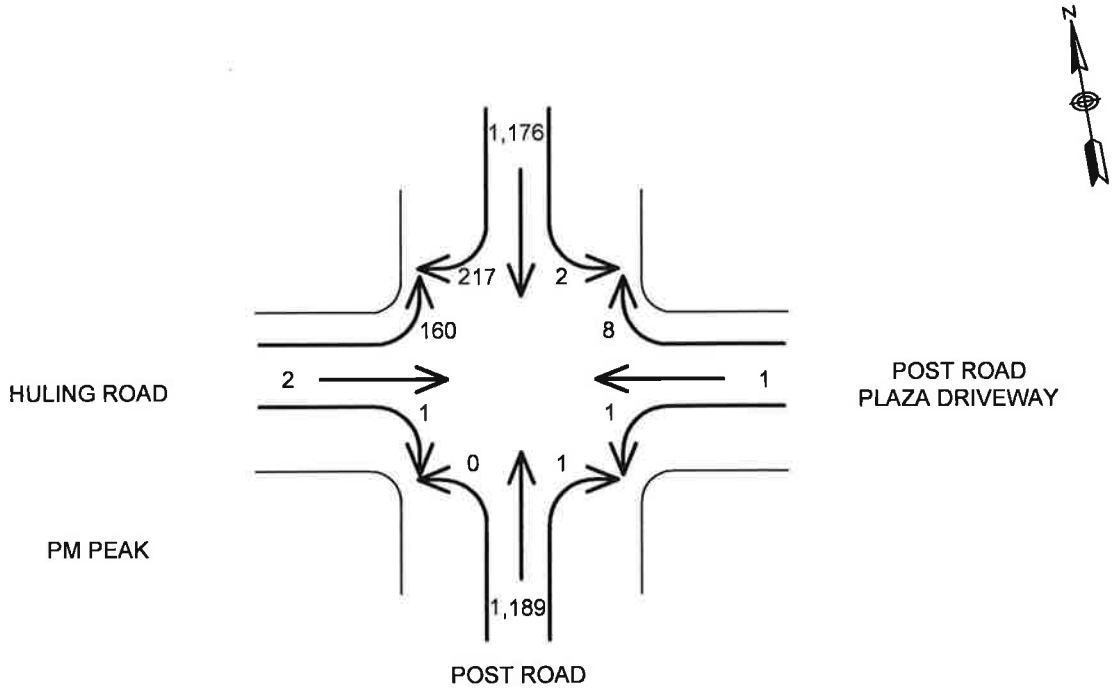
TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS





TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
BUILD CONDITIONS





Lanes, Volumes, Timings
14: Post Road & Huling Road/Post Road Plaza

9/18/2012

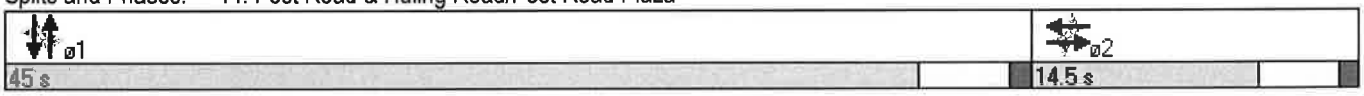
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	2	0	2	0	27	0	766	2	7	760	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	15	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor								1.00			1.00	
Frt					0.875						0.981	
Flt Protected		0.953			0.996							
Satd. Flow (prot)	0	1684	0	0	1599	0	0	3271	0	0	3115	0
Flt Permitted		0.699			0.977						0.949	
Satd. Flow (perm)	0	1235	0	0	1569	0	0	3271	0	0	2956	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					38			1			60	
Link Speed (mph)		35			25			50			45	
Link Distance (ft)		328			211			722			614	
Travel Time (s)		6.4			5.8			9.8			9.3	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.85	0.85	1.00	0.72	0.72	0.72	1.00	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles (%)	7%	50%	0%	0%	0%	15%	0%	3%	0%	0%	6%	5%
Adj. Flow (vph)	153	2	0	3	0	38	0	833	2	8	854	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	155	0	0	41	0	0	835	0	0	989	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	8.5	8.5		8.5	8.5		45.0	45.0		45.0	45.0	
Total Split (s)	14.5	14.5		14.5	14.5		45.0	45.0		45.0	45.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		75.6%	75.6%		75.6%	75.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			5.0			5.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		9.7			9.7			42.8			42.8	
Actuated g/C Ratio		0.16			0.16			0.69			0.69	
v/c Ratio		0.80			0.15			0.37			0.48	
Control Delay		56.5			10.4			4.7			5.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		56.5			10.4			4.7			5.2	
LOS		E			B			A			A	
Approach Delay		56.5			10.4			4.7			5.2	
Approach LOS		E			B			A			A	
Queue Length 50th (ft)		54			1			55			67	
Queue Length 95th (ft)		#126			16			80			98	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		248			131			642			534	
Turn Bay Length (ft)												
Base Capacity (vph)		200			286			2255			2056	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.78			0.14			0.37			0.48	

Intersection Summary

Area Type: Other
Cycle Length: 59.5
Actuated Cycle Length: 62.1
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 9.0 **Intersection LOS: A**
Intersection Capacity Utilization 55.2% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Post Road & Huling Road/Post Road Plaza



Lanes, Volumes, Timings
14: Post Road & Huling Road/Post Road Plaza

9/18/2012

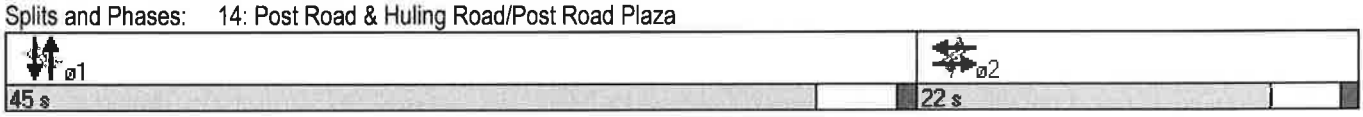
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	2	0	2	0	27	0	766	2	7	760	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	15	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor								1.00			1.00	
Frt					0.875						0.981	
Flt Protected		0.953			0.996							
Satd. Flow (prot)	0	1684	0	0	1599	0	0	3271	0	0	3115	0
Flt Permitted		0.699			0.977						0.949	
Satd. Flow (perm)	0	1235	0	0	1569	0	0	3271	0	0	2956	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					38			1			43	
Link Speed (mph)		35			25			50			45	
Link Distance (ft)		328			211			722			614	
Travel Time (s)		6.4			5.8			9.8			9.3	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.85	0.85	1.00	0.72	0.72	0.72	1.00	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles (%)	7%	50%	0%	0%	0%	15%	0%	3%	0%	0%	6%	5%
Adj. Flow (vph)	153	2	0	3	0	38	0	833	2	8	854	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	155	0	0	41	0	0	835	0	0	989	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	8.5	8.5		8.5	8.5		45.0	45.0		45.0	45.0	
Total Split (s)	22.0	22.0		22.0	22.0		45.0	45.0		45.0	45.0	
Total Split (%)	32.8%	32.8%		32.8%	32.8%		67.2%	67.2%		67.2%	67.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			5.0			5.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		12.4			12.4			44.3			44.3	
Actuated g/C Ratio		0.20			0.20			0.71			0.71	
v/c Ratio		0.64			0.12			0.36			0.47	
Control Delay		35.0			8.8			5.9			6.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		35.0			8.8			5.9			6.6	
LOS		D			A			A			A	
Approach Delay		35.0			8.8			5.9			6.6	
Approach LOS		D			A			A			A	
Queue Length 50th (ft)		54			1			65			82	
Queue Length 95th (ft)		99			15			121			152	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		248			131			642			534	
Turn Bay Length (ft)												
Base Capacity (vph)		345			466			2309			2099	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.45			0.09			0.36			0.47	

Intersection Summary

Area Type: Other
Cycle Length: 67
Actuated Cycle Length: 62.7
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 8.6 **Intersection LOS: A**
Intersection Capacity Utilization 55.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 14: Post Road & Huling Road/Post Road Plaza



Lanes, Volumes, Timings
14: Post Road & Huling Road/Post Road Plaza

9/17/2012

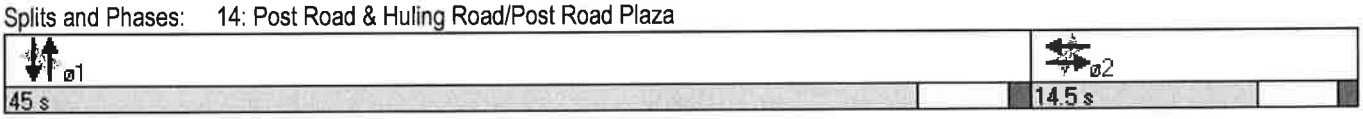
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	2	1	1	1	8	0	1189	1	2	1176	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	15	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.999			0.886						0.977	
Flt Protected		0.953			0.996							
Satd. Flow (prot)	0	1809	0	0	1844	0	0	3336	0	0	3249	0
Flt Permitted		0.721			0.978						0.954	
Satd. Flow (perm)	0	1369	0	0	1811	0	0	3336	0	0	3100	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					11						78	
Link Speed (mph)		35			25			50			45	
Link Distance (ft)		328			211			722			614	
Travel Time (s)		6.4			5.8			9.8			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.75	0.75	0.75	0.96	0.96	0.96	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	3%
Adj. Flow (vph)	170	2	1	1	1	11	0	1239	1	2	1336	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	13	0	0	1240	0	0	1585	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	8.5	8.5		8.5	8.5		45.0	45.0		45.0	45.0	
Total Split (s)	14.5	14.5		14.5	14.5		45.0	45.0		45.0	45.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		75.6%	75.6%		75.6%	75.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			5.0			5.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		9.8			9.8			42.7			42.7	
Actuated g/C Ratio		0.16			0.16			0.69			0.69	
v/c Ratio		0.80			0.04			0.54			0.74	
Control Delay		53.4			13.5			6.0			8.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		53.4			13.5			6.0			8.5	
LOS		D			B			A			A	
Approach Delay		53.4			13.5			6.0			8.5	
Approach LOS		D			B			A			A	
Queue Length 50th (ft)		60			1			97			148	
Queue Length 95th (ft)		#148			10			138			211	
Internal Link Dist (ft)		248			131			642			534	
Turn Bay Length (ft)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		222			303			2294			2156	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.78			0.04			0.54			0.74	

Intersection Summary

Area Type: Other
Cycle Length: 59.5
Actuated Cycle Length: 62
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 10.1 **Intersection LOS: B**
Intersection Capacity Utilization 64.5% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Post Road & Huling Road/Post Road Plaza



Lanes, Volumes, Timings
14: Post Road & Huling Road/Post Road Plaza

9/17/2012

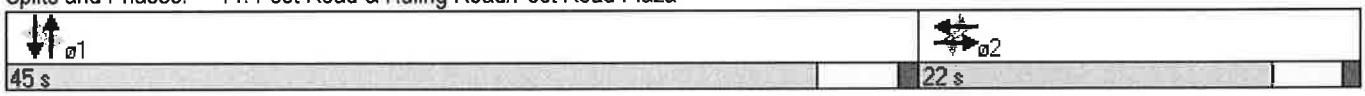
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	2	1	1	1	8	0	1189	1	2	1176	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	15	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.999			0.886						0.977	
Flt Protected		0.953			0.996							
Satd. Flow (prot)	0	1809	0	0	1844	0	0	3336	0	0	3249	0
Flt Permitted		0.721			0.977						0.954	
Satd. Flow (perm)	0	1369	0	0	1809	0	0	3336	0	0	3100	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					11						56	
Link Speed (mph)		35			25			50			45	
Link Distance (ft)		328			211			722			614	
Travel Time (s)		6.4			5.8			9.8			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.75	0.75	0.75	0.96	0.96	0.96	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	3%
Adj. Flow (vph)	170	2	1	1	1	11	0	1239	1	2	1336	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	13	0	0	1240	0	0	1585	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	8.5	8.5		8.5	8.5		45.0	45.0		45.0	45.0	
Total Split (s)	22.0	22.0		22.0	22.0		45.0	45.0		45.0	45.0	
Total Split (%)	32.8%	32.8%		32.8%	32.8%		67.2%	67.2%		67.2%	67.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			5.0			5.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		12.4			12.4			43.6			43.6	
Actuated g/C Ratio		0.20			0.20			0.71			0.71	
v/c Ratio		0.63			0.03			0.53			0.72	
Control Delay		33.2			11.8			7.4			10.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		33.2			11.8			7.4			10.7	
LOS		C			B			A			B	
Approach Delay		33.2			11.8			7.4			10.7	
Approach LOS		C			B			A			B	
Queue Length 50th (ft)		60			1			117			184	
Queue Length 95th (ft)		116			10			208			324	
Internal Link Dist (ft)		248			131			642			534	
Turn Bay Length (ft)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		389			522			2351			2201	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.44			0.02			0.53			0.72	

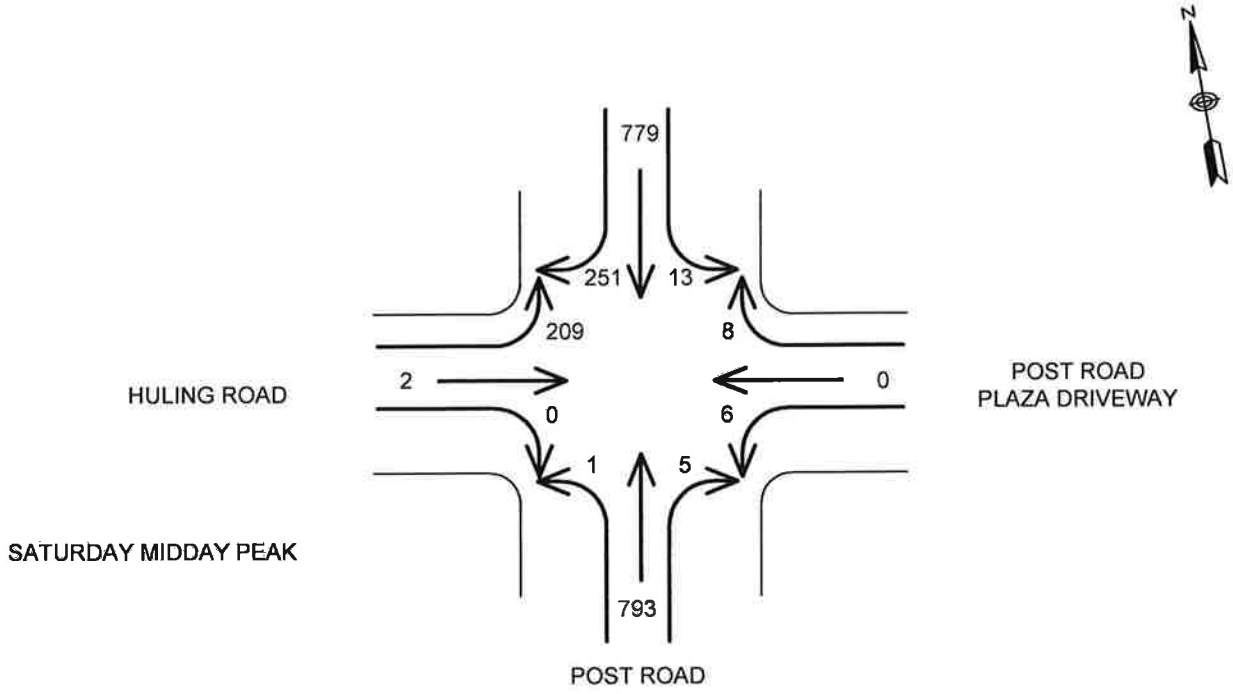
Intersection Summary

Area Type: Other
Cycle Length: 67
Actuated Cycle Length: 61.8
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 10.7 **Intersection LOS: B**
Intersection Capacity Utilization 64.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Post Road & Huling Road/Post Road Plaza



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
NO BUILD CONDITIONS



Lanes, Volumes, Timings
8: Post Road & Huling Road/Post Road Plaza

9/17/2012

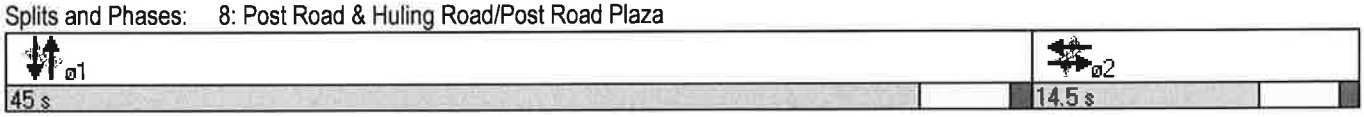
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	209	2	0	6	0	8	1	793	5	13	779	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	15	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.923			0.999			0.964	
Flt Protected		0.953			0.979						0.999	
Satd. Flow (prot)	0	1793	0	0	1889	0	0	3333	0	0	3209	0
Flt Permitted		0.707			0.943			0.954			0.942	
Satd. Flow (perm)	0	1330	0	0	1819	0	0	3180	0	0	3026	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					37			2			155	
Link Speed (mph)		35			25			50			45	
Link Distance (ft)		328			211			722			614	
Travel Time (s)		6.4			5.8			9.8			9.3	
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.91	0.91	0.91	0.89	0.89	0.89
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	1%	0%	9%	1%	1%
Adj. Flow (vph)	258	2	0	12	0	16	1	871	5	15	875	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	260	0	0	28	0	0	877	0	0	1172	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	8.5	8.5		8.5	8.5		45.0	45.0		45.0	45.0	
Total Split (s)	14.5	14.5		14.5	14.5		45.0	45.0		45.0	45.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		75.6%	75.6%		75.6%	75.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			5.0			5.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		10.0			10.0			40.0			40.0	
Actuated g/C Ratio		0.17			0.17			0.67			0.67	
v/c Ratio		1.17			0.08			0.41			0.56	
Control Delay		141.2			7.7			5.1			5.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		141.2			7.7			5.1			5.6	
LOS		F			A			A			A	
Approach Delay		141.2			7.7			5.1			5.6	
Approach LOS		F			A			A			A	
Queue Length 50th (ft)		~114			0			59			76	
Queue Length 95th (ft)		#205			3			86			113	
Internal Link Dist (ft)		248			131			642			534	
Turn Bay Length (ft)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		223			336			2138			2085	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		1.17			0.08			0.41			0.56	

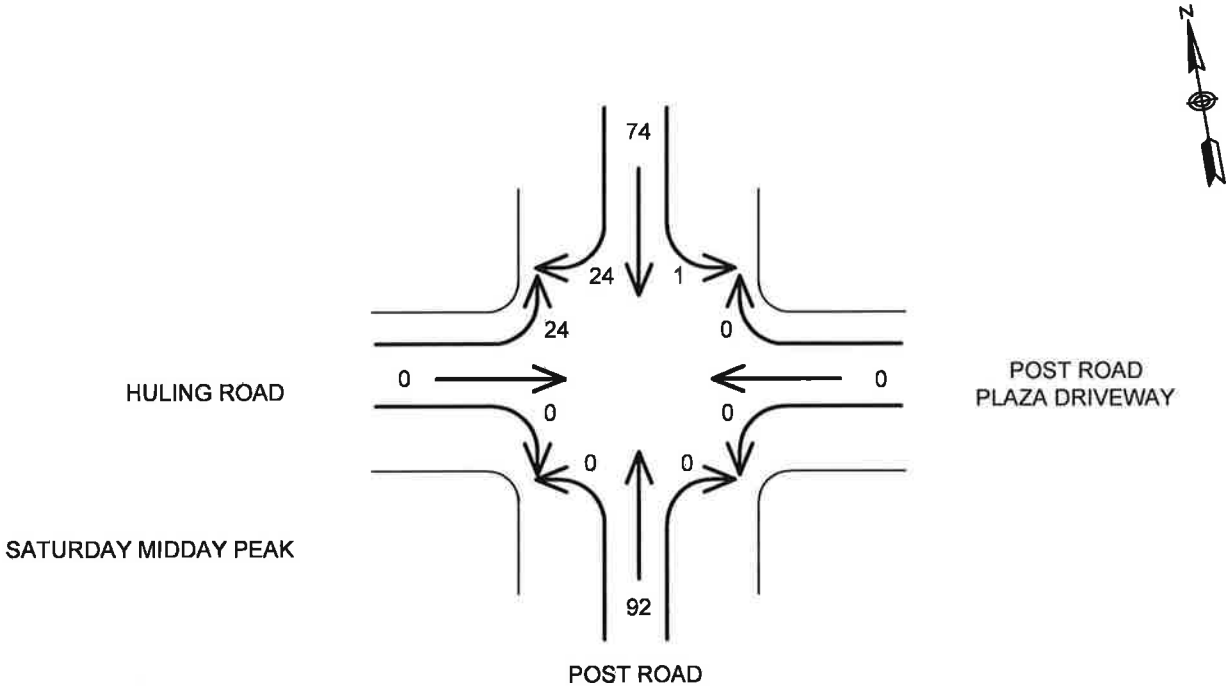
Intersection Summary

Area Type: Other
Cycle Length: 59.5
Actuated Cycle Length: 59.5
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 20.5 **Intersection LOS: C**
Intersection Capacity Utilization 65.3% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

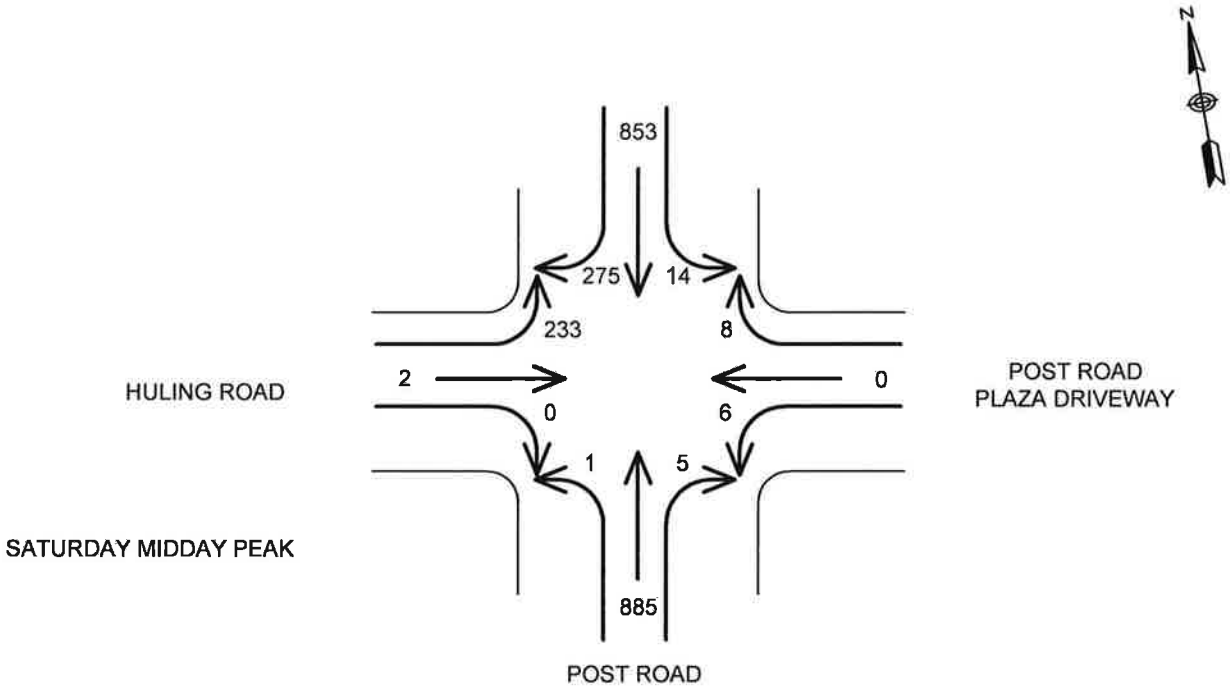
Splits and Phases: 8: Post Road & Huling Road/Post Road Plaza



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
SITE GENERATED TRIPS



TRAFFIC VOLUMES
REYNOLDS FARM
POST ROAD, NORTH KINGSTOWN, RI
BUILD CONDITIONS



Lanes, Volumes, Timings
14: Post Road & Huling Road/Post Road Plaza

9/17/2012

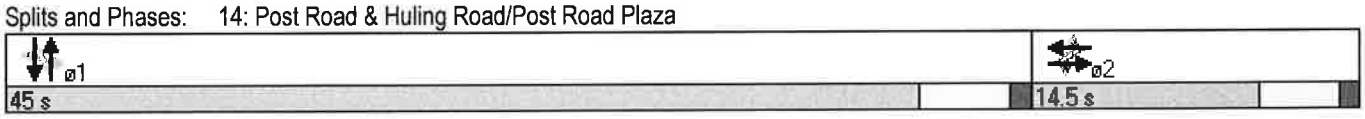
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	233	2	0	6	0	8	1	885	5	14	853	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	15	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.923			0.999			0.964	
Flt Protected		0.953			0.979						0.999	
Satd. Flow (prot)	0	1793	0	0	1889	0	0	3333	0	0	3209	0
Flt Permitted		0.707			0.969			0.954			0.940	
Satd. Flow (perm)	0	1330	0	0	1869	0	0	3180	0	0	3020	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					37			2			156	
Link Speed (mph)		35			25			50			45	
Link Distance (ft)		328			211			722			614	
Travel Time (s)		6.4			5.8			9.8			9.3	
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.91	0.91	0.91	0.89	0.89	0.89
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	1%	0%	9%	1%	1%
Adj. Flow (vph)	288	2	0	12	0	16	1	973	5	16	958	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	290	0	0	28	0	0	979	0	0	1283	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	8.5	8.5		8.5	8.5		45.0	45.0		45.0	45.0	
Total Split (s)	14.5	14.5		14.5	14.5		45.0	45.0		45.0	45.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		75.6%	75.6%		75.6%	75.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			5.0			5.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		10.0			10.0			40.0			40.0	
Actuated g/C Ratio		0.17			0.17			0.67			0.67	
v/c Ratio		1.30			0.08			0.46			0.62	
Control Delay		191.1			7.7			5.5			6.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		191.1			7.7			5.5			6.2	
LOS		F			A			A			A	
Approach Delay		191.1			7.7			5.5			6.2	
Approach LOS		F			A			A			A	
Queue Length 50th (ft)		~138			0			70			91	
Queue Length 95th (ft)		#231			3			100			134	
Internal Link Dist (ft)		248			131			642			534	
Turn Bay Length (ft)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		223			344			2138			2081	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		1.30			0.08			0.46			0.62	

Intersection Summary

Area Type: Other
Cycle Length: 59.5
Actuated Cycle Length: 59.5
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.30
Intersection Signal Delay: 26.7 Intersection LOS: C
Intersection Capacity Utilization 70.2% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Post Road & Huling Road/Post Road Plaza



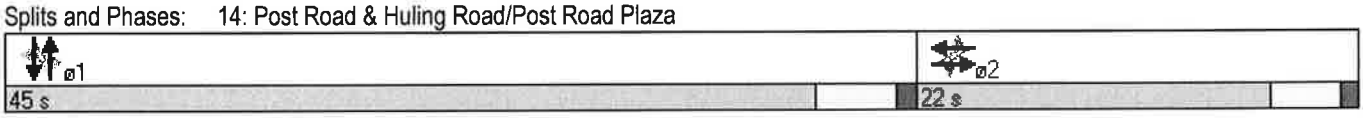
Lanes, Volumes, Timings
14: Post Road & Huling Road/Post Road Plaza

9/17/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	233	2	0	6	0	8	1	885	5	14	853	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	15	12	12	10	12	12	10	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.923			0.999			0.964	
Flt Protected		0.953			0.979						0.999	
Satd. Flow (prot)	0	1793	0	0	1889	0	0	3333	0	0	3209	0
Flt Permitted		0.707			0.870			0.954			0.939	
Satd. Flow (perm)	0	1330	0	0	1678	0	0	3180	0	0	3017	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					33			1			113	
Link Speed (mph)		35			25			50			45	
Link Distance (ft)		328			211			722			614	
Travel Time (s)		6.4			5.8			9.8			9.3	
Peak Hour Factor	0.81	0.81	0.81	0.50	0.50	0.50	0.91	0.91	0.91	0.89	0.89	0.89
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	1%	0%	9%	1%	1%
Adj. Flow (vph)	288	2	0	12	0	16	1	973	5	16	958	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	290	0	0	28	0	0	979	0	0	1283	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	8.5	8.5		8.5	8.5		45.0	45.0		45.0	45.0	
Total Split (s)	22.0	22.0		22.0	22.0		45.0	45.0		45.0	45.0	
Total Split (%)	32.8%	32.8%		32.8%	32.8%		67.2%	67.2%		67.2%	67.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			5.0			5.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		16.6			16.6			40.0			40.0	
Actuated g/C Ratio		0.25			0.25			0.61			0.61	
v/c Ratio		0.87			0.06			0.51			0.69	
Control Delay		51.9			7.2			8.8			10.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		51.9			7.2			8.8			10.5	
LOS		D			A			A			B	
Approach Delay		51.9			7.2			8.8			10.5	
Approach LOS		D			A			A			B	
Queue Length 50th (ft)		112			0			108			152	
Queue Length 95th (ft)		#199			4			151			215	
Internal Link Dist (ft)		248			131			642			534	
Turn Bay Length (ft)												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		352			468			1925			1871	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.82			0.06			0.51			0.69	

Intersection Summary

Area Type: Other
Cycle Length: 67
Actuated Cycle Length: 66.1
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 14.5 **Intersection LOS: B**
Intersection Capacity Utilization 70.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Post Road & Huling Road/Post Road Plaza