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May 10, 2016

Montgomery Township Planning Board
2261 Route 206
Belle Mead, NJ 08723
Attn: Board Members

**RE: RBA Group, Inc. Review
Country Club Meadows – Pike Run Plaza
New Jersey State Highway 206
Township of Montgomery
Somerset County, New Jersey
1126-14-001TE**

Dear Board Members:

In response to the comments from the RBA Group, Inc. in their March 14, 2016 letter, Dynamic Traffic has prepared revised analyses. Attached are the following:

- Revised Site Generated Traffic Volume Figures submitted to NJDOT based on their requirements for conducting a Traffic Impact Study Area report which includes the use of a "gravity model" to develop site traffic distribution. (Figures 1 through 6)
- Revised Future "No Build" (Figure A) and Future "Build" (Figure B) traffic volume figures
- Revised capacity analysis printouts (results tabulated below).

The specific comments are addressed as follows:

General Comments

1. Testimony will be provided regarding the use of the 8,000 square foot operations & maintenance building. This building will not generate any external traffic to/from the surrounding roadway network.
2. Testimony will be provided regarding the Belle Mead Griggstown Road/Route 206 improvements which are currently under review at NJDOT.
3. A Major Access Permit with Planning Review will be required from NJDOT. NJDOT is currently reviewing the Traffic Impact Study Area Report for the project and a comprehensive NJDOT Traffic Impact Analysis will be required which will dictate any improvements required along the Route 206 corridor.

Site Plan

4. Testimony will be provided regarding large wheelbase vehicles and their anticipated circulation pattern.

Traffic Impact Study

5. The intersection of Covert Drive and Belle Mead Griggstown Road was included in the updated analyses.
6. The revised trip distribution addresses this concern.
7. The revised trip distribution address this concern and allocates pass-by trips based on the existing traffic volumes, recognizing the propensity for pass-by traffic to occur as right-turns in and right-turns out.
8. The revised distribution includes traffic to/from the Country Club Meadows development.
9. The capacity analyses based on the HCM 2010 procedure are appended. It should be noted that NJDOT has requested analyses be performed in Synchro Version 8.
10. Mitigation to satisfy the NJDOT Level of Service criteria will be identified in the comprehensive NJDOT Traffic Impact Study.
11. NJDOT has indicated that the leftmost southbound lane along Route 206 should be converted into an exclusive left-turn lane for the subject property as this lane "drops" into the left-turn lane for Belle Mead Griggstown Road. The Belle Mead Griggstown Road left-turn ingress movement operates at Level of Service "A" without a left-turn lane.

The following Table indicates the results of the revised capacity analyses prepared using the HCM 2010 methodology:

Table I
Future Levels of Service

Intersection	Direction/ Movement		AM Peak Hour				PM Peak Hour				SAT Peak Hour			
			No Build		Build		No Build		Build		No Build		Build	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Route 206 & Pike Run Road	EB	LTR	E	62	E	61	D	53	D	53	D	36	D	36
	WB	LTR	F	224	F	224	D	53	D	53	C	35	C	35
	NB	L	B	13	B	14	B	12	B	15	B	12	B	15
		T	A	4	A	4	A	6	A	10	A	5	A	8
		R	A	1	A	1	A	1	A	1	A	1	A	1
	SB	L	A	6	A	6	A	8	A	8	A	9	A	9
		TR	C	21	C	23	B	20	C	22	C	23	C	29
	Overall		D	55	D	54	B	16	B	18	B	18	C	21
Route 206 & Belle Mead-Griggstown Rd.	WB	L	E	73	E	73	E	63	E	75	D	47	E	64
		R	D	46	D	46	D	49	D	43	D	37	C	31
	NB	TR	B	13	B	13	B	12	B	16	B	11	B	15
	SB	L	A	7	A	7	A	7	B	11	A	6	B	10
		T	A	4	A	5	A	2	A	2	A	2	A	2
	Overall		B	16	B	17	B	12	B	18	B	12	B	19
Belle Mead-Griggstown Road & Grayson Drive & Willow Road	EB	LT	B	10	B	11	B	12	B	15	A	9	B	12
		TR	A	9	A	10	B	10	B	12	A	8	A	10
	WB	LTR	A	10	B	10	A	10	B	11	A	9	B	10
	NB	LTR	B	11	B	12	B	13	C	16	A	9	B	11
	SB	LTR	A	10	B	10	B	10	B	13	A	8	A	10
Belle Mead-Griggstown Rd. & Site Driveway	EB	LT			A	8			A	8			A	9
	SB	LR			B	13			C	21			E	45
Belle Mead-Griggstown Rd. & Covert Drive	WB	LT	A	8	A	8	A	8	A	8	A	8	A	8
	NB	LR	B	12	B	12	B	12	B	15	B	12	C	17
Route 206 & Road B/ Site Driveway	EB	R			C	20			C	17			C	16
	WB	R			B	12			B	15			B	13
	SB	LT			B	10			B	12			B	11

a (#) - Unsignalized Intersection Level of Service (*-seconds of delay per vehicle)

A (#) - Signalized Intersection Level of Service (*-seconds of delay per vehicle)

It is noted that the westbound movements from Pike Run Road are calculated to operate at future Level of Service "F" under both no-build and build conditions based on the existing traffic signal timing. This is likely a specific result of the HCM 2010 procedure which does not project right-turn on red volumes. However, this intersection is currently being redesigned and as shown in the appended capacity analysis printout, can be re-timed to operate at acceptable Levels of Service.

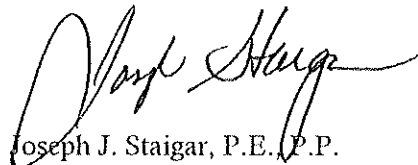
NJDOT will assess this intersection in their review of our NJDOT Traffic Impact Analysis and the design and traffic signal timing will be optimized to ensure an efficient future operation.

If you have any questions regarding this information, please do not hesitate to contact the undersigned.

Sincerely,
Dynamic Traffic, LLC



Craig W. Perego, P.E.
Principal



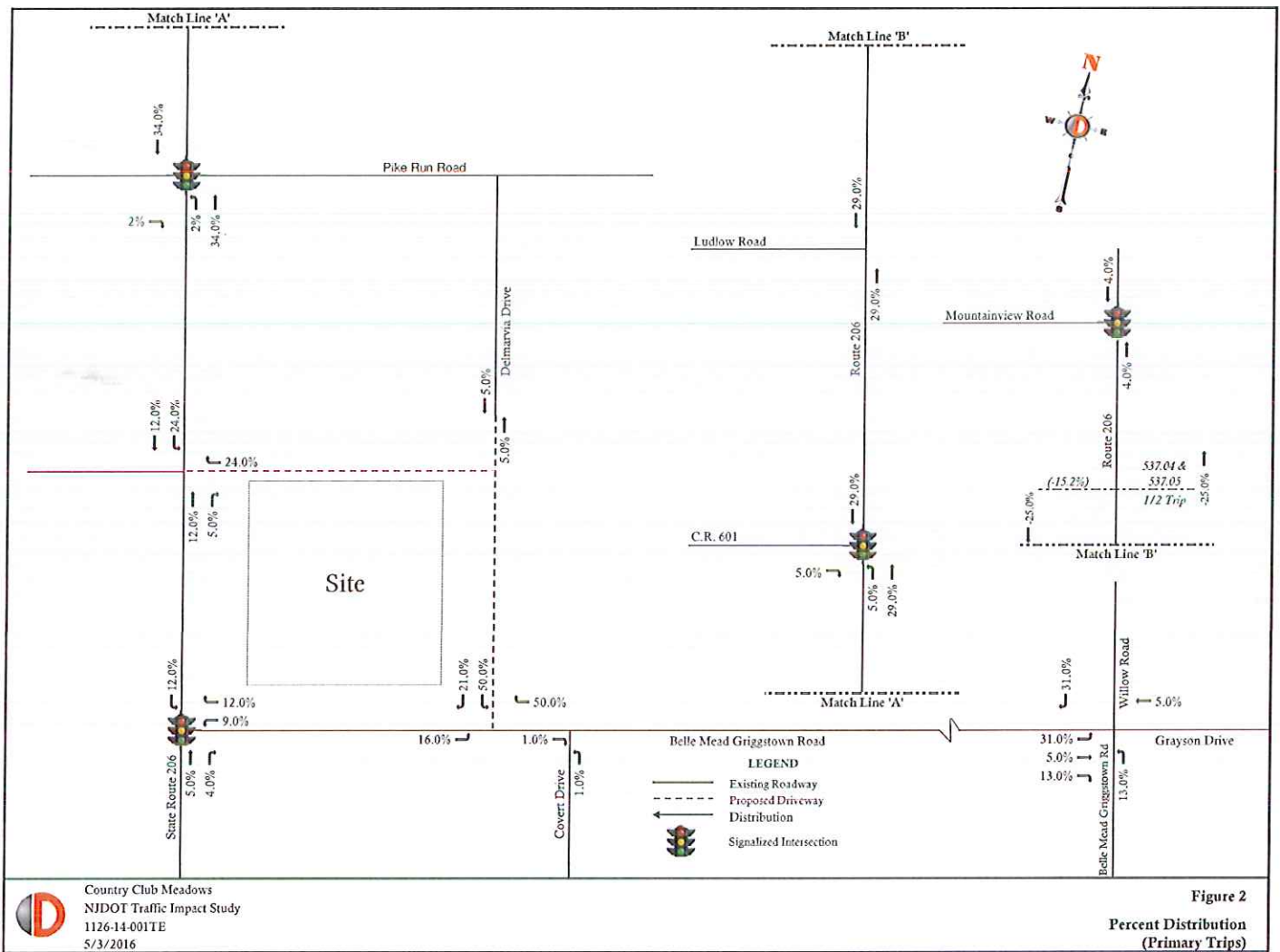
Joseph J. Staigar, P.E., P.P.
Senior Principal

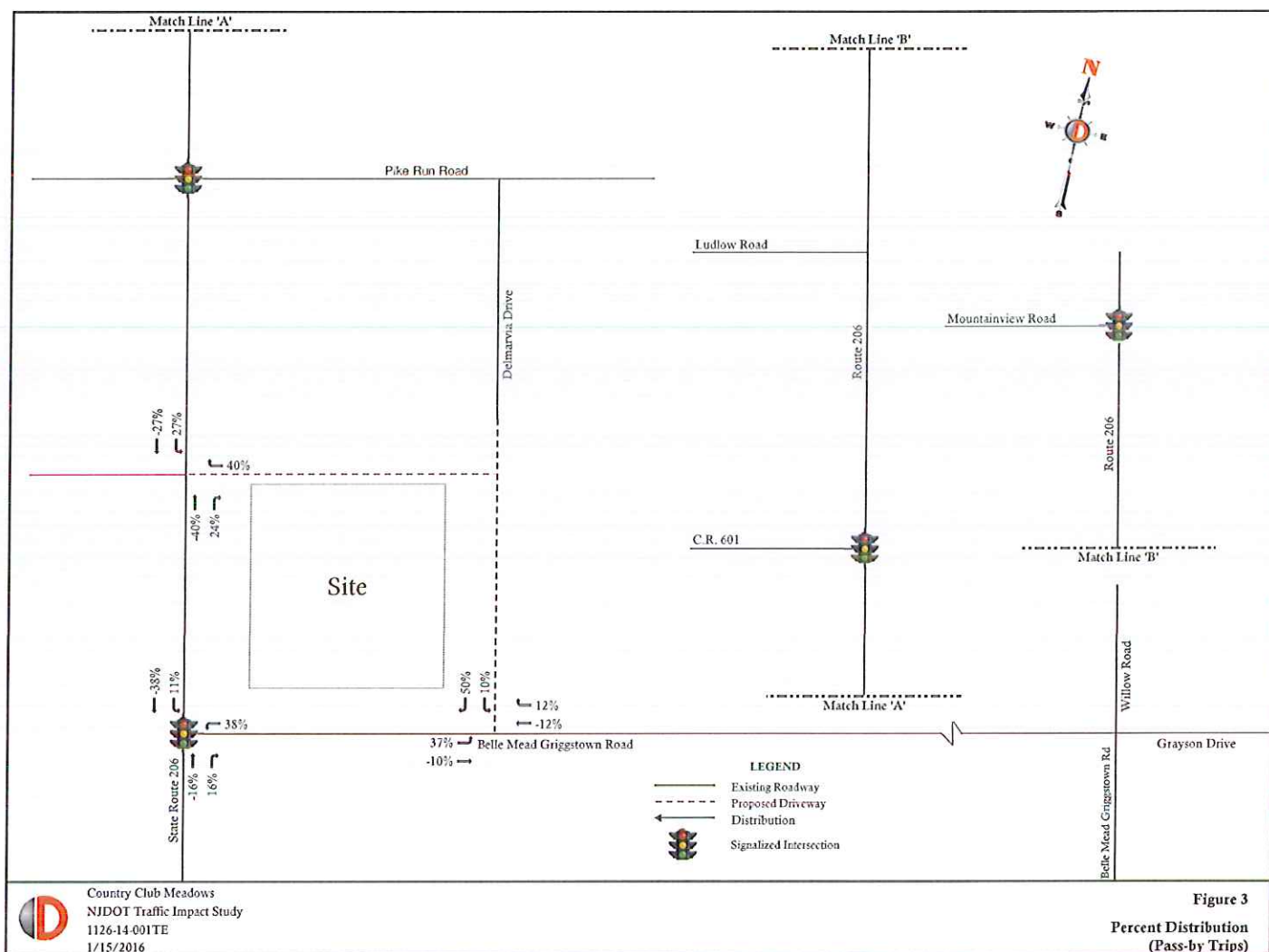


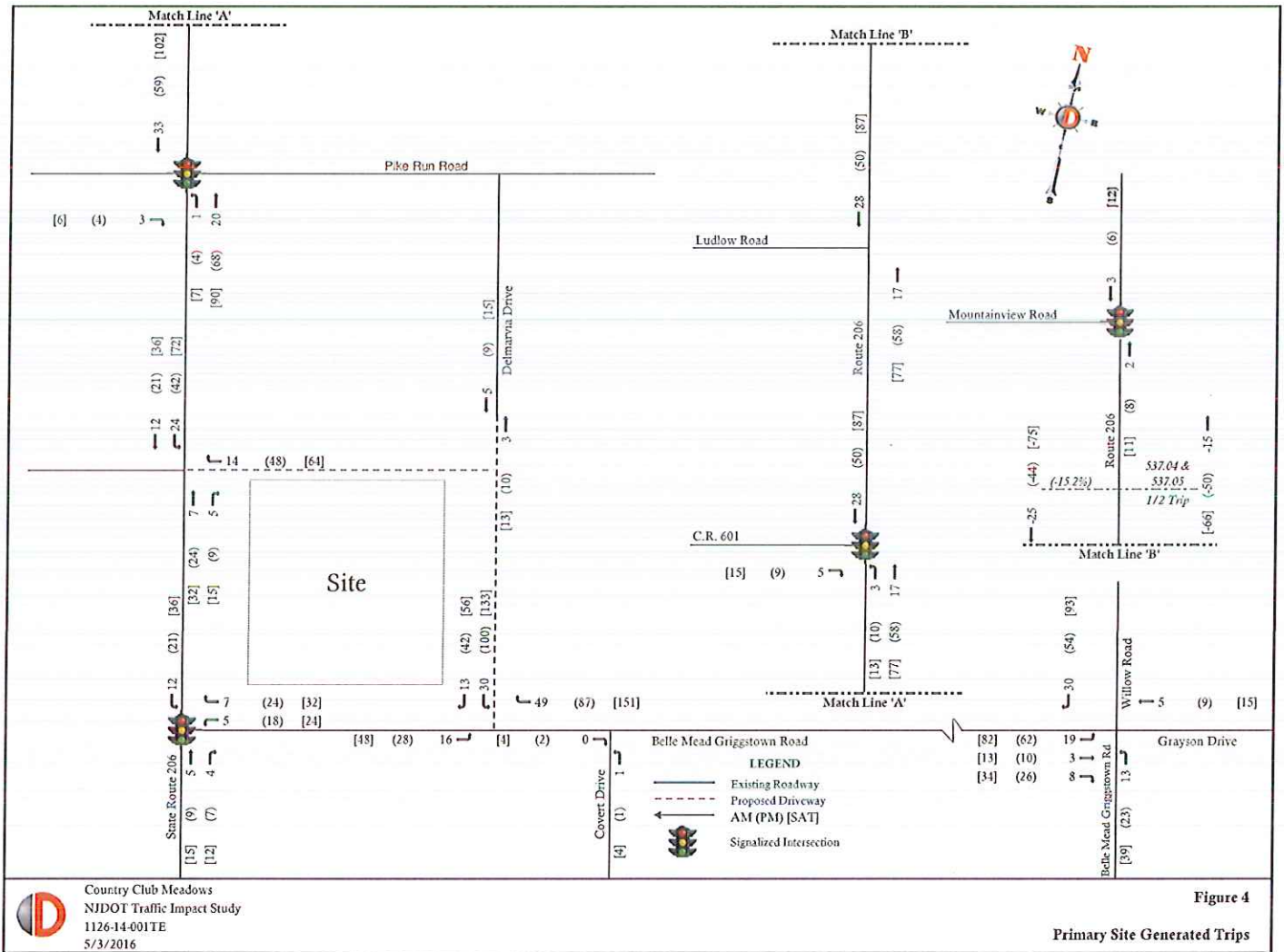
Country Club Meadows
 NJDOT Traffic Impact Study
 1126-14-001TE

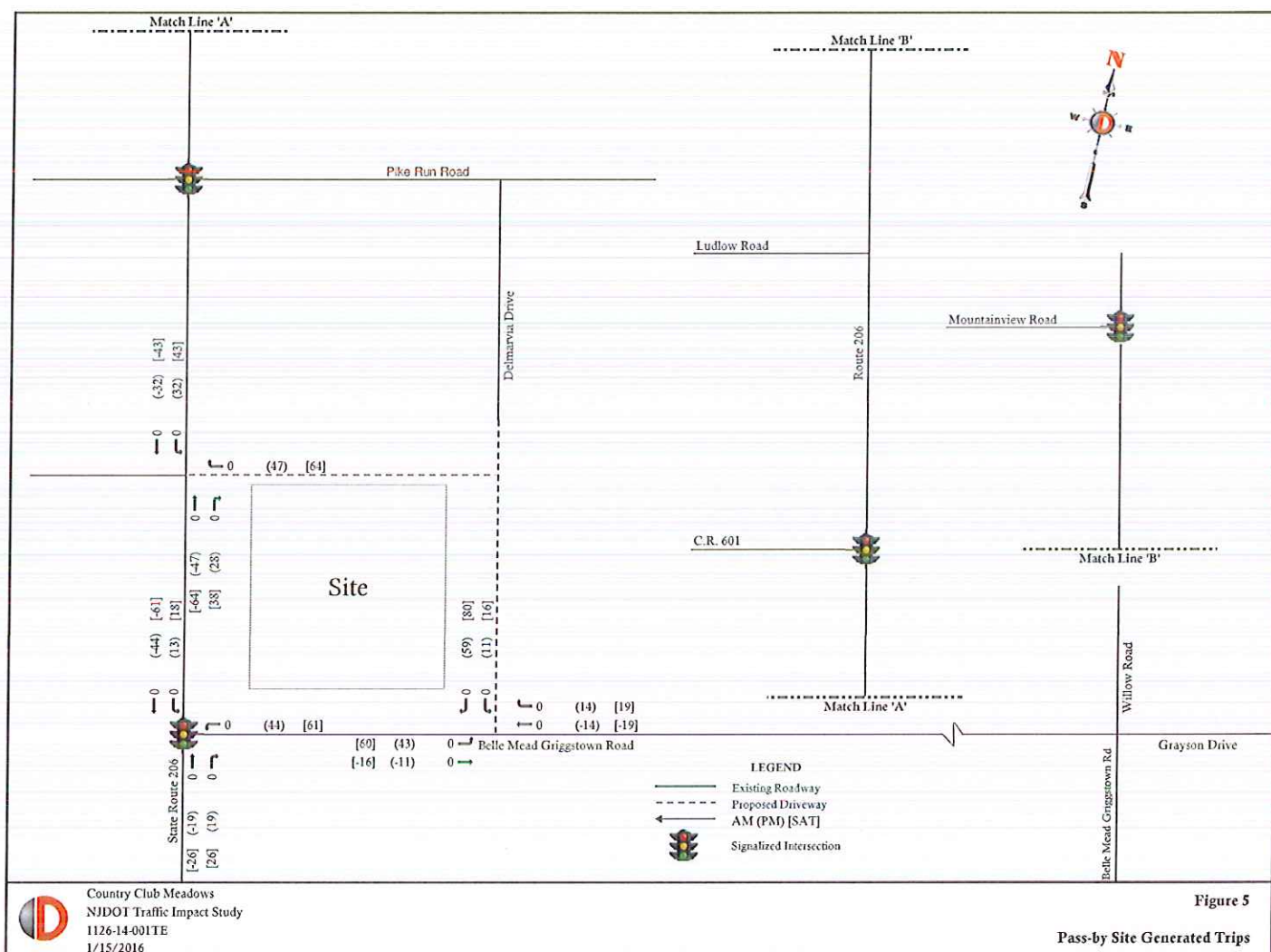
Figure 1

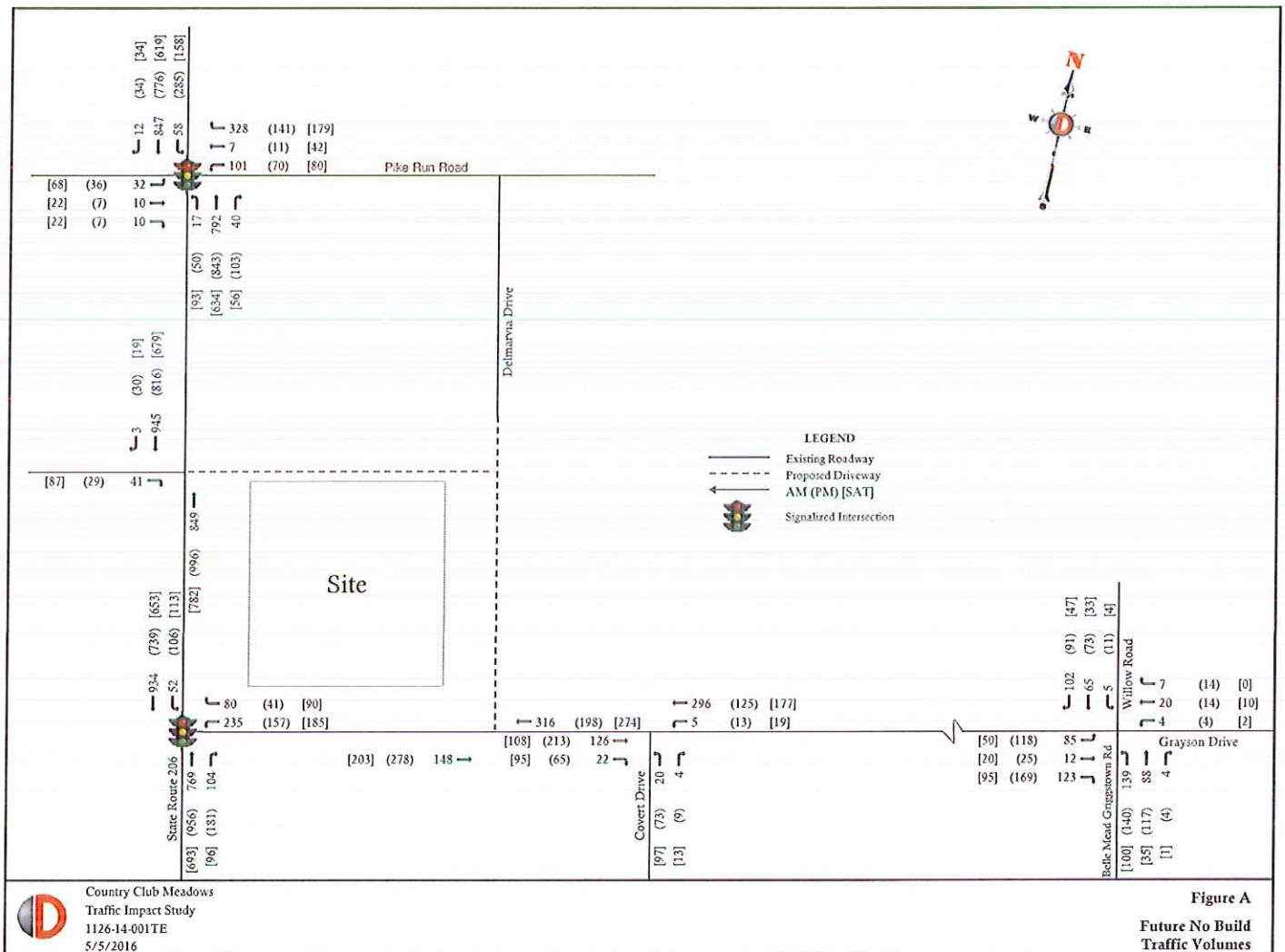
Site Location Map

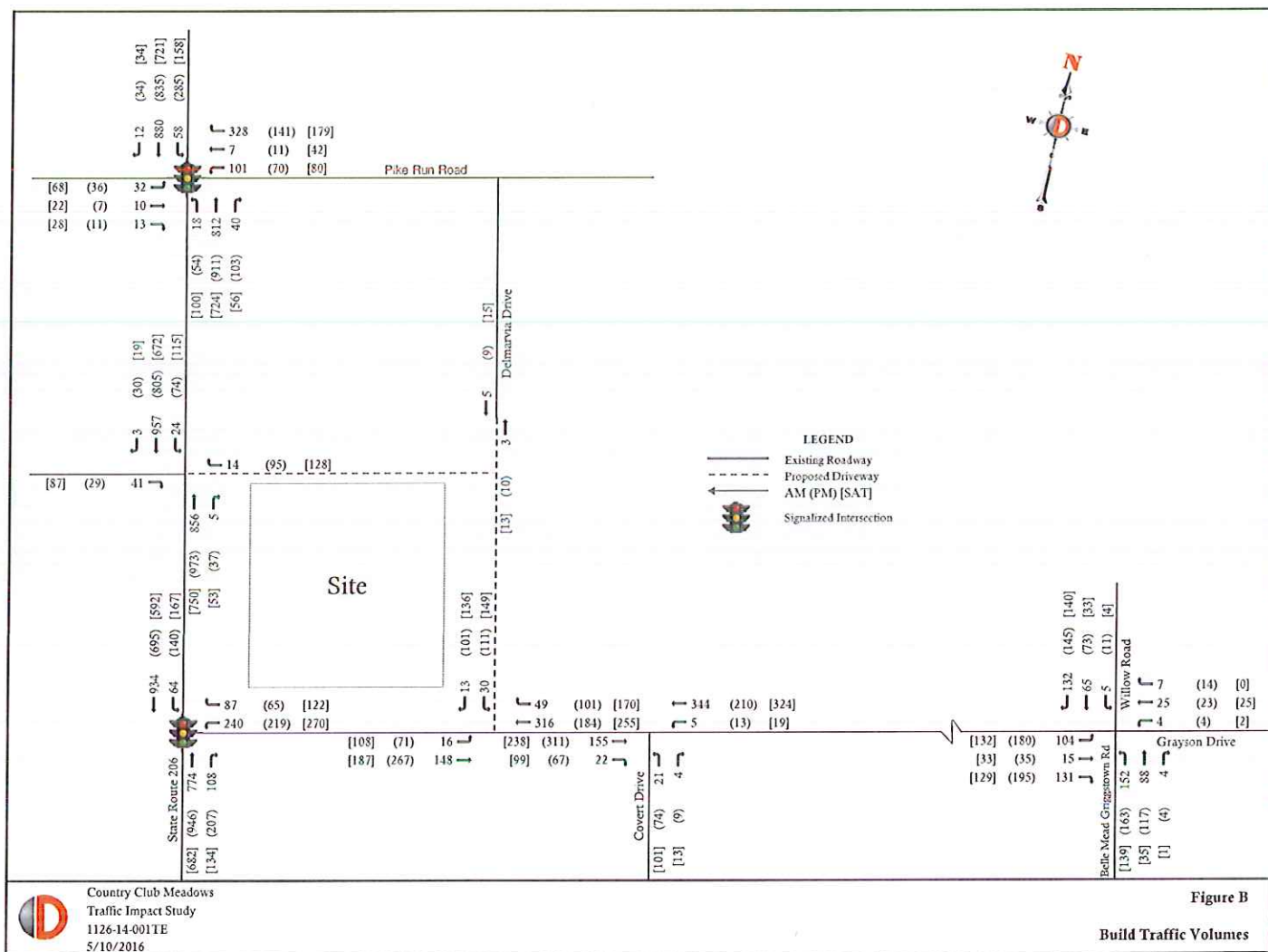












HCM 2010 Signalized Intersection Summary

1: Route 206 & Signalized Driveway/Pike Run Road

5/5/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	10	10	101	7	328	17	792	40	58	847	12
Future Volume (veh/h)	32	10	10	101	7	328	17	792	40	58	847	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	35	11	11	109	8	353	18	852	43	62	911	13
Adj No. of Lanes	0	2	0	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	130	130	261	17	240	327	1180	1003	556	1160	17
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.12	1.00	1.00	0.06	0.63	0.63
Sat Flow, veh/h	0	779	779	1218	103	1441	1774	1863	1583	1774	1832	26
Grp Volume(v), veh/h	35	0	22	117	0	353	18	852	43	62	0	924
Grp Sat Flow(s),veh/h/ln	0	0	1558	1322	0	1441	1774	1863	1583	1774	0	1858
Q Serve(g_s), s	0.0	0.0	1.4	9.0	0.0	20.0	0.4	0.0	0.0	1.3	0.0	43.5
Cycle Q Clear(g_c), s	20.0	0.0	1.4	10.4	0.0	20.0	0.4	0.0	0.0	1.3	0.0	43.5
Prop In Lane	1.00		0.50	0.93		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	60	0	260	278	0	240	327	1180	1003	556	0	1177
V/C Ratio(X)	0.58	0.00	0.08	0.42	0.00	1.47	0.06	0.72	0.04	0.11	0.00	0.79
Avail Cap(c_a), veh/h	60	0	260	278	0	240	371	1180	1003	600	0	1177
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	60.0	0.0	42.3	46.5	0.0	50.0	13.0	0.0	0.0	5.9	0.0	16.0
Incr Delay (d2), s/veh	13.6	0.0	0.1	1.0	0.0	232.8	0.1	3.8	0.1	0.1	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.6	3.7	0.0	23.5	0.2	1.3	0.0	0.7	0.0	23.8
LnGrp Delay(d),s/veh	73.6	0.0	42.4	47.6	0.0	282.8	13.1	3.8	0.1	6.0	0.0	21.3
LnGrp LOS	E		D	D		F	B	A	A	A		C
Approach Vol, veh/h	57				470		913				986	
Approach Delay, s/veh	61.5				224.2		3.9				20.4	
Approach LOS	E				F		A				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	10.0	83.0			27.0	10.0	83.0	27.0				
Change Period (Y+Rc), s	3.0	7.0			7.0	3.0	7.0	7.0				
Max Green Setting (Gmax), s	10.0	73.0			20.0	10.0	73.0	20.0				
Max Q Clear Time (g_c+I1), s	3.3	2.0			22.0	2.4	45.5	22.0				
Green Ext Time (p_c), s	0.0	20.7			0.0	0.0	14.7	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			54.6									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

2: Route 206 & Belle Mead Griggstown Road

5/5/2016

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	235	80	769	104	52	934		
Future Volume (veh/h)	235	80	769	104	52	934		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	250	85	818	111	55	994		
Adj No. of Lanes	1	1	2	0	1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	280	250	1960	266	459	1352		
Arrive On Green	0.16	0.16	0.63	0.63	0.12	1.00		
Sat Flow, veh/h	1774	1583	3225	425	1774	1863		
Grp Volume(v), veh/h	250	85	462	467	55	994		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1788	1774	1863		
Q Serve(g_s), s	16.6	5.7	15.9	15.9	1.1	0.0		
Cycle Q Clear(g_c), s	16.6	5.7	15.9	15.9	1.1	0.0		
Prop In Lane	1.00	1.00		0.24	1.00			
Lane Grp Cap(c), veh/h	280	250	1107	1118	459	1352		
V/C Ratio(X)	0.89	0.34	0.42	0.42	0.12	0.74		
Avail Cap(c_a), veh/h	325	290	1107	1118	459	1352		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	49.6	45.0	11.4	11.4	6.6	0.0		
Incr Delay (d2), s/veh	23.2	0.8	1.2	1.1	0.1	3.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.9	2.6	8.1	8.1	0.5	1.3		
LnGrp Delay(d),s/veh	72.7	45.8	12.5	12.5	6.7	3.6		
LnGrp LOS	E	D	B	B	A	A		
Approach Vol, veh/h	335		929			1049		
Approach Delay, s/veh	65.9		12.5			3.8		
Approach LOS	E		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.0	82.1				94.1		25.9
Change Period (Y+Rc), s	5.0	7.0				7.0		7.0
Max Green Setting (Gmax), s	7.0	72.0				84.0		22.0
Max Q Clear Time (g_c+I1), s	3.1	17.9				2.0		18.6
Green Ext Time (p_c), s	0.0	20.2				22.0		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			16.3					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

1: Route 206 & Signalized Driveway/Pike Run Road

5/5/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	7	7	70	11	141	50	843	103	285	776	34
Future Volume (veh/h)	36	7	7	70	11	141	50	843	103	285	776	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	39	8	8	79	12	158	54	947	116	320	872	37
Adj No. of Lanes	0	2	0	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.89	0.92	0.89	0.92	0.89	0.89	0.89	0.89	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	121	121	239	32	223	348	1162	988	531	1144	49
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.12	1.00	1.00	0.08	0.65	0.65
Sat Flow, veh/h	398	779	779	1179	210	1441	1774	1863	1583	1774	1774	75
Grp Volume(v), veh/h	39	0	16	91	0	158	54	947	116	320	0	909
Grp Sat Flow(s),veh/h/ln	398	0	1558	1389	0	1441	1774	1863	1583	1774	0	1849
Q Serve(g_s), s	3.8	0.0	1.1	6.5	0.0	12.5	1.2	0.0	0.0	7.5	0.0	41.2
Cycle Q Clear(g_c), s	16.3	0.0	1.1	7.5	0.0	12.5	1.2	0.0	0.0	7.5	0.0	41.2
Prop In Lane	1.00		0.50	0.87		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	122	0	241	271	0	223	348	1162	988	531	0	1193
V/C Ratio(X)	0.32	0.00	0.07	0.34	0.00	0.71	0.16	0.82	0.12	0.60	0.00	0.76
Avail Cap(c_a), veh/h	136	0	260	288	0	240	392	1162	988	538	0	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.8	0.0	43.3	46.3	0.0	48.1	12.2	0.0	0.0	5.9	0.0	14.9
Incr Delay (d2), s/veh	1.5	0.0	0.1	0.7	0.0	8.5	0.2	6.3	0.2	1.9	0.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.5	2.8	0.0	5.5	0.6	2.0	0.1	3.8	0.0	22.2
LnGrp Delay(d),s/veh	57.3	0.0	43.4	47.0	0.0	56.6	12.4	6.3	0.2	7.8	0.0	19.5
LnGrp LOS	E		D	D		E	B	A	A	A		B
Approach Vol, veh/h	55			249			1117			1229		
Approach Delay, s/veh	53.3			53.1			6.0			16.4		
Approach LOS	D			D			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	81.9		25.6	10.0	84.4		25.6				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0		7.0				
Max Green Setting (Gmax), s	10.0	73.0		20.0	10.0	73.0		20.0				
Max Q Clear Time (g_c+I1), s	9.5	2.0		18.3	3.2	43.2		14.5				
Green Ext Time (p_c), s	0.1	23.8		0.3	0.0	16.8		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				16.3								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

2: Route 206 & Belle Mead Griggstown Road

5/5/2016

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	157	41	956	181	106	739		
Future Volume (veh/h)	157	41	956	181	106	739		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	169	44	1028	195	114	795		
Adj No. of Lanes	1	1	2	0	1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	201	179	1991	377	388	1435		
Arrive On Green	0.11	0.11	0.67	0.67	0.12	1.00		
Sat Flow, veh/h	1774	1583	3064	562	1774	1863		
Grp Volume(v), veh/h	169	44	611	612	114	795		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1764	1774	1863		
Q Serve(g_s), s	11.2	3.0	20.9	21.0	2.1	0.0		
Cycle Q Clear(g_c), s	11.2	3.0	20.9	21.0	2.1	0.0		
Prop In Lane	1.00	1.00		0.32	1.00			
Lane Grp Cap(c), veh/h	201	179	1186	1182	388	1435		
V/C Ratio(X)	0.84	0.25	0.52	0.52	0.29	0.55		
Avail Cap(c_a), veh/h	325	290	1186	1182	388	1435		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	52.2	48.5	10.0	10.0	6.6	0.0		
Incr Delay (d2), s/veh	10.3	0.7	1.6	1.6	0.4	1.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.1	1.4	10.5	10.7	1.0	0.6		
LnGrp Delay(d),s/veh	62.5	49.3	11.6	11.6	7.0	1.5		
LnGrp LOS	E	D	B	B	A	A		
Approach Vol, veh/h	213		1223			909		
Approach Delay, s/veh	59.8		11.6			2.2		
Approach LOS	E		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.0	87.4				99.4		20.6
Change Period (Y+Rc), s	5.0	7.0				7.0		7.0
Max Green Setting (Gmax), s	7.0	72.0				84.0		22.0
Max Q Clear Time (g_c+I1), s	4.1	23.0				2.0		13.2
Green Ext Time (p_c), s	0.1	20.0				22.5		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			12.3					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

1: Route 206 & Signalized Driveway/Pike Run Road

5/5/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	22	22	80	42	179	93	634	56	158	619	34
Future Volume (veh/h)	68	22	22	80	42	179	93	634	56	158	619	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	74	24	24	90	46	201	101	712	63	178	696	37
Adj No. of Lanes	0	2	0	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.89	0.92	0.89	0.92	0.89	0.89	0.89	0.89	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	168	168	255	118	311	362	963	819	576	907	48
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.16	1.00	1.00	0.08	0.52	0.52
Sat Flow, veh/h	465	779	779	872	544	1441	1774	1863	1583	1774	1753	93
Grp Volume(v), veh/h	74	0	48	136	0	201	101	712	63	178	0	733
Grp Sat Flow(s),veh/h/ln	465	0	1558	1416	0	1441	1774	1863	1583	1774	0	1846
Q Serve(g_s), s	5.8	0.0	2.2	5.9	0.0	11.4	2.1	0.0	0.0	4.1	0.0	28.6
Cycle Q Clear(g_c), s	17.2	0.0	2.2	8.1	0.0	11.4	2.1	0.0	0.0	4.1	0.0	28.6
Prop In Lane	1.00		0.50	0.66		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	180	0	337	372	0	311	362	963	819	576	0	955
V/C Ratio(X)	0.41	0.00	0.14	0.37	0.00	0.65	0.28	0.74	0.08	0.31	0.00	0.77
Avail Cap(c_a), veh/h	187	0	346	382	0	320	421	963	819	636	0	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.0	0.0	28.5	31.1	0.0	32.1	11.9	0.0	0.0	8.2	0.0	17.4
Incr Delay (d2), s/veh	1.5	0.0	0.2	0.6	0.0	4.3	0.4	5.1	0.2	0.3	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	1.0	3.0	0.0	4.9	1.1	1.4	0.0	2.0	0.0	16.0
LnGrp Delay(d),s/veh	41.5	0.0	28.7	31.7	0.0	36.4	12.3	5.1	0.2	8.5	0.0	23.3
LnGrp LOS	D		C	C		D	B	A	A	A		C
Approach Vol, veh/h	122			337			876			911		
Approach Delay, s/veh	36.4			34.5			5.6			20.4		
Approach LOS	D			C			A			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	53.6		26.4	10.0	53.6		26.4				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0		7.0				
Max Green Setting (Gmax), s	10.0	43.0		20.0	10.0	43.0		20.0				
Max Q Clear Time (g_c+I1), s	6.1	2.0		19.2	4.1	30.6		13.4				
Green Ext Time (p_c), s	0.2	12.2		0.3	0.1	7.0		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay				17.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary 2: Route 206 & Belle Mead Griggstown Road

5/5/2016

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	185	90	693	96	113	653		
Future Volume (veh/h)	185	90	693	96	113	653		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	199	97	745	103	122	702		
Adj No. of Lanes	1	1	2	0	1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	242	216	1865	258	483	1319		
Arrive On Green	0.14	0.14	0.60	0.60	0.11	1.00		
Sat Flow, veh/h	1774	1583	3217	432	1774	1863		
Grp Volume(v), veh/h	199	97	422	426	122	702		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1787	1774	1863		
Q Serve(g_s), s	9.8	5.1	11.4	11.4	2.2	0.0		
Cycle Q Clear(g_c), s	9.8	5.1	11.4	11.4	2.2	0.0		
Prop In Lane	1.00	1.00		0.24	1.00			
Lane Grp Cap(c), veh/h	242	216	1056	1066	483	1319		
V/C Ratio(X)	0.82	0.45	0.40	0.40	0.25	0.53		
Avail Cap(c_a), veh/h	355	317	1056	1066	483	1319		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	37.8	35.8	9.6	9.6	6.0	0.0		
Incr Delay (d2), s/veh	9.6	1.5	1.1	1.1	0.3	1.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.5	2.3	5.8	5.9	1.1	0.6		
LnGrp Delay(d),s/veh	47.4	37.2	10.7	10.7	6.2	1.5		
LnGrp LOS	D	D	B	B	A	A		
Approach Vol, veh/h	296		848			824		
Approach Delay, s/veh	44.1		10.7			2.2		
Approach LOS	D		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.0	60.7				70.7		19.3
Change Period (Y+Rc), s	5.0	7.0				7.0		7.0
Max Green Setting (Gmax), s	5.0	48.0				58.0		18.0
Max Q Clear Time (g_c+I1), s	4.2	13.4				2.0		11.8
Green Ext Time (p_c), s	0.0	11.5				12.7		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			12.2					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

1: Route 206 & Signalized Driveway/Pike Run Road

5/5/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	10	13	101	7	328	18	812	40	58	880	12
Future Volume (veh/h)	32	10	13	101	7	328	18	812	40	58	880	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	35	11	14	109	8	353	20	873	43	62	946	13
Adj No. of Lanes	0	2	0	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	113	144	258	17	240	305	1180	1003	548	1161	16
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.12	1.00	1.00	0.06	0.63	0.63
Sat Flow, veh/h	0	679	864	1201	102	1441	1774	1863	1583	1774	1833	25
Grp Volume(v), veh/h	35	0	25	117	0	353	20	873	43	62	0	959
Grp Sat Flow(s),veh/h/ln	0	0	1543	1303	0	1441	1774	1863	1583	1774	0	1858
Q Serve(g_s), s	0.0	0.0	1.6	9.0	0.0	20.0	0.4	0.0	0.0	1.3	0.0	46.9
Cycle Q Clear(g_c), s	20.0	0.0	1.6	10.7	0.0	20.0	0.4	0.0	0.0	1.3	0.0	46.9
Prop In Lane	1.00		0.56	0.93		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	60	0	257	275	0	240	305	1180	1003	548	0	1177
V/C Ratio(X)	0.58	0.00	0.10	0.43	0.00	1.47	0.07	0.74	0.04	0.11	0.00	0.81
Avail Cap(c_a), veh/h	60	0	257	275	0	240	349	1180	1003	592	0	1177
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	60.0	0.0	42.4	46.8	0.0	50.0	14.3	0.0	0.0	5.9	0.0	16.7
Incr Delay (d2), s/veh	13.6	0.0	0.2	1.0	0.0	232.8	0.1	4.2	0.1	0.1	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.7	3.7	0.0	23.5	0.3	1.4	0.0	0.7	0.0	25.8
LnGrp Delay(d),s/veh	73.6	0.0	42.5	47.8	0.0	282.8	14.4	4.2	0.1	6.0	0.0	22.9
LnGrp LOS	E		D	D		F	B	A	A	A		C
Approach Vol, veh/h	60				470				936		1021	
Approach Delay, s/veh	60.6				224.3				4.2		21.9	
Approach LOS	E				F				A		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	10.0	83.0	27.0		10.0	83.0	27.0					
Change Period (Y+Rc), s	3.0	7.0	7.0		3.0	7.0	7.0					
Max Green Setting (Gmax), s	10.0	73.0	20.0		10.0	73.0	20.0					
Max Q Clear Time (g_c+I1), s	3.3	2.0	22.0		2.4	48.9	22.0					
Green Ext Time (p_c), s	0.1	28.5	0.0		0.0	16.2	0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	54.4											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary 2: Belle Mead Griggstown Road & Route 206

5/5/2016

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	240	87	774	108	64	934		
Future Volume (veh/h)	240	87	774	108	64	934		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	255	93	823	115	68	994		
Adj No. of Lanes	1	1	2	0	1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	285	254	1943	271	454	1346		
Arrive On Green	0.16	0.16	0.62	0.62	0.08	0.96		
Sat Flow, veh/h	1774	1583	3213	436	1774	1863		
Grp Volume(v), veh/h	255	93	467	471	68	994		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1786	1774	1863		
Q Serve(g_s), s	16.9	6.3	16.2	16.2	1.4	8.5		
Cycle Q Clear(g_c), s	16.9	6.3	16.2	16.2	1.4	8.5		
Prop In Lane	1.00	1.00		0.24	1.00			
Lane Grp Cap(c), veh/h	285	254	1102	1112	454	1346		
V/C Ratio(X)	0.90	0.37	0.42	0.42	0.15	0.74		
Avail Cap(c_a), veh/h	325	290	1102	1112	454	1346		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	49.4	44.9	11.6	11.6	7.1	0.8		
Incr Delay (d2), s/veh	23.8	0.9	1.2	1.2	0.2	3.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.2	2.8	8.3	8.3	0.7	4.7		
LnGrp Delay(d),s/veh	73.2	45.8	12.8	12.8	7.3	4.5		
LnGrp LOS	E	D	B	B	A	A		
Approach Vol, veh/h	348		938			1062		
Approach Delay, s/veh	65.9		12.8			4.6		
Approach LOS	E		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.0	81.7				93.7		26.3
Change Period (Y+Rc), s	5.0	7.0				7.0		7.0
Max Green Setting (Gmax), s	7.0	72.0				84.0		22.0
Max Q Clear Time (g_c+I1), s	3.4	18.2				10.5		18.9
Green Ext Time (p_c), s	0.0	25.1				28.1		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			17.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

1: Route 206 & Signalized Driveway/Pike Run Road

5/5/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	7	11	70	11	141	54	911	103	285	835	34
Future Volume (veh/h)	36	7	11	70	11	141	54	911	103	285	835	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	39	8	12	79	12	158	59	1024	116	320	938	37
Adj No. of Lanes	0	2	0	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.89	0.92	0.89	0.92	0.89	0.89	0.89	0.89	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	95	143	235	32	223	307	1162	988	508	1148	45
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.12	1.00	1.00	0.08	0.64	0.64
Sat Flow, veh/h	398	613	920	1156	206	1441	1774	1863	1583	1774	1780	70
Grp Volume(v), veh/h	39	0	20	91	0	158	59	1024	116	320	0	975
Grp Sat Flow(s),veh/h/ln	398	0	1533	1362	0	1441	1774	1863	1583	1774	0	1850
Q Serve(g_s), s	3.8	0.0	1.3	6.5	0.0	12.5	1.3	0.0	0.0	7.5	0.0	47.5
Cycle Q Clear(g_c), s	16.3	0.0	1.3	7.9	0.0	12.5	1.3	0.0	0.0	7.5	0.0	47.5
Prop In Lane	1.00		0.60	0.87		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	122	0	238	267	0	223	307	1162	988	508	0	1193
V/C Ratio(X)	0.32	0.00	0.08	0.34	0.00	0.71	0.19	0.88	0.12	0.63	0.00	0.82
Avail Cap(c_a), veh/h	136	0	255	284	0	240	351	1162	988	514	0	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.8	0.0	43.4	46.5	0.0	48.1	14.6	0.0	0.0	5.9	0.0	16.0
Incr Delay (d2), s/veh	1.5	0.0	0.2	0.8	0.0	8.5	0.3	9.7	0.2	2.4	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.6	2.8	0.0	5.5	0.8	3.1	0.1	3.9	0.0	26.2
LnGrp Delay(d),s/veh	57.3	0.0	43.6	47.3	0.0	56.6	14.9	9.7	0.2	8.4	0.0	22.2
LnGrp LOS	E		D	D		E	B	A	A	A		C
Approach Vol, veh/h	59			249			1199			1295		
Approach Delay, s/veh	52.7			53.2			9.1			18.8		
Approach LOS	D			D			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.6	81.8		25.6	10.0	84.4		25.6				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0		7.0				
Max Green Setting (Gmax), s	10.0	73.0		20.0	10.0	73.0		20.0				
Max Q Clear Time (g_c+I1), s	9.5	2.0		18.3	3.3	49.5		14.5				
Green Ext Time (p_c), s	0.1	28.7		0.3	0.0	16.1		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay	18.4											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary 2: Route 206 & Belle Mead Griggstown Road

5/5/2016

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	243	30	1013	181	142	716		
Future Volume (veh/h)	243	30	1013	181	142	716		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	261	32	1089	195	153	770		
Adj No. of Lanes	1	1	2	0	1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	289	258	1862	332	336	1342		
Arrive On Green	0.16	0.16	0.62	0.62	0.12	1.00		
Sat Flow, veh/h	1774	1583	3095	536	1774	1863		
Grp Volume(v), veh/h	261	32	641	643	153	770		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1768	1774	1863		
Q Serve(g_s), s	17.3	2.1	25.8	26.1	3.6	0.0		
Cycle Q Clear(g_c), s	17.3	2.1	25.8	26.1	3.6	0.0		
Prop In Lane	1.00	1.00		0.30	1.00			
Lane Grp Cap(c), veh/h	289	258	1098	1097	336	1342		
V/C Ratio(X)	0.90	0.12	0.58	0.59	0.45	0.57		
Avail Cap(c_a), veh/h	325	290	1098	1097	336	1342		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	49.3	42.9	13.6	13.6	10.4	0.0		
Incr Delay (d2), s/veh	25.3	0.2	2.3	2.3	1.0	1.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.5	0.9	13.1	13.4	1.8	0.7		
LnGrp Delay(d),s/veh	74.6	43.1	15.8	15.9	11.3	1.8		
LnGrp LOS	E	D	B	B	B	A		
Approach Vol, veh/h	293		1284			923		
Approach Delay, s/veh	71.1		15.9			3.4		
Approach LOS	E		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.0	81.4				93.4		26.6
Change Period (Y+Rc), s	5.0	7.0				7.0		7.0
Max Green Setting (Gmax), s	7.0	72.0				84.0		22.0
Max Q Clear Time (g_c+I1), s	5.6	28.1				2.0		19.3
Green Ext Time (p_c), s	0.0	19.7				23.3		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			17.7					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

1: Route 206 & Signalized Driveway/Pike Run Road

5/5/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	22	22	80	42	179	93	710	56	158	701	34
Future Volume (veh/h)	68	22	22	80	42	179	93	710	56	158	701	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	74	24	24	90	46	201	101	798	63	178	788	37
Adj No. of Lanes	0	2	0	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.89	0.92	0.89	0.92	0.89	0.89	0.89	0.89	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	168	168	255	118	311	303	963	819	549	913	43
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.16	1.00	1.00	0.08	0.52	0.52
Sat Flow, veh/h	465	779	779	872	544	1441	1774	1863	1583	1774	1765	83
Grp Volume(v), veh/h	74	0	48	136	0	201	101	798	63	178	0	825
Grp Sat Flow(s),veh/h/ln	465	0	1558	1416	0	1441	1774	1863	1583	1774	0	1848
Q Serve(g_s), s	5.8	0.0	2.2	5.9	0.0	11.4	2.1	0.0	0.0	4.1	0.0	35.0
Cycle Q Clear(g_c), s	17.2	0.0	2.2	8.1	0.0	11.4	2.1	0.0	0.0	4.1	0.0	35.0
Prop In Lane	1.00		0.50	0.66		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	180	0	337	372	0	311	303	963	819	549	0	956
V/C Ratio(X)	0.41	0.00	0.14	0.37	0.00	0.65	0.33	0.83	0.08	0.32	0.00	0.86
Avail Cap(c_a), veh/h	187	0	346	382	0	320	362	963	819	608	0	956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.0	0.0	28.5	31.1	0.0	32.1	14.4	0.0	0.0	8.2	0.0	18.9
Incr Delay (d2), s/veh	1.5	0.0	0.2	0.6	0.0	4.3	0.6	8.1	0.2	0.3	0.0	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	1.0	3.0	0.0	4.9	1.1	2.2	0.0	2.0	0.0	20.3
LnGrp Delay(d),s/veh	41.5	0.0	28.7	31.7	0.0	36.4	15.1	8.1	0.2	8.5	0.0	29.1
LnGrp LOS	D		C	C		D	B	A	A	A		C
Approach Vol, veh/h		122			337			962			1003	
Approach Delay, s/veh		36.4			34.5			8.4			25.5	
Approach LOS		D			C			A			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	53.6		26.4	10.0	53.6		26.4				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0		7.0				
Max Green Setting (Gmax), s	10.0	43.0		20.0	10.0	43.0		20.0				
Max Q Clear Time (g_c+I1), s	6.1	2.0		19.2	4.1	37.0		13.4				
Green Ext Time (p_c), s	0.2	15.1		0.3	0.1	4.4		1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			20.5									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary 2: Route 206 & Belle Mead Griggstown Road

5/5/2016

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	303	73	787	96	171	620		
Future Volume (veh/h)	303	73	787	96	171	620		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	326	78	846	103	184	667		
Adj No. of Lanes	1	1	2	0	1	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	355	317	1695	206	393	1200		
Arrive On Green	0.20	0.20	0.53	0.53	0.11	1.00		
Sat Flow, veh/h	1774	1583	3270	387	1774	1863		
Grp Volume(v), veh/h	326	78	471	478	184	667		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1794	1774	1863		
Q Serve(g_s), s	16.2	3.7	15.2	15.2	4.3	0.0		
Cycle Q Clear(g_c), s	16.2	3.7	15.2	15.2	4.3	0.0		
Prop In Lane	1.00	1.00		0.22	1.00			
Lane Grp Cap(c), veh/h	355	317	944	957	393	1200		
V/C Ratio(X)	0.92	0.25	0.50	0.50	0.47	0.56		
Avail Cap(c_a), veh/h	355	317	944	957	393	1200		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	35.3	30.3	13.4	13.4	9.4	0.0		
Incr Delay (d2), s/veh	28.3	0.4	1.9	1.9	0.9	1.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.7	1.7	7.8	7.9	2.1	0.6		
LnGrp Delay(d),s/veh	63.5	30.7	15.2	15.2	10.3	1.9		
LnGrp LOS	E	C	B	B	B	A		
Approach Vol, veh/h	404		949			851		
Approach Delay, s/veh	57.2		15.2			3.7		
Approach LOS	E		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.0	55.0				65.0		25.0
Change Period (Y+Rc), s	5.0	7.0				7.0		7.0
Max Green Setting (Gmax), s	5.0	48.0				58.0		18.0
Max Q Clear Time (g_c+I1), s	6.3	17.2				2.0		18.2
Green Ext Time (p_c), s	0.0	11.7				13.5		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			18.5					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
1: Route 206 & Signalized Driveway/Pike Run Road

Timing Mitigation
5/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	10	13	101	7	328	18	812	40	58	880	12
Future Volume (veh/h)	32	10	13	101	7	328	18	812	40	58	880	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	35	11	14	109	8	353	20	873	43	62	946	13
Adj No. of Lanes	0	2	0	0	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.93	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	78	175	223	380	26	372	194	1009	858	492	993	14
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.12	1.00	1.00	0.06	0.54	0.54
Sat Flow, veh/h	70	679	864	1247	100	1441	1774	1863	1583	1774	1833	25
Grp Volume(v), veh/h	35	0	25	117	0	353	20	873	43	62	0	959
Grp Sat Flow(s),veh/h/ln	70	0	1543	1347	0	1441	1774	1863	1583	1774	0	1858
Q Serve(g_s), s	2.1	0.0	1.5	8.0	0.0	28.9	0.5	0.0	0.0	1.7	0.0	58.7
Cycle Q Clear(g_c), s	31.0	0.0	1.5	9.5	0.0	28.9	0.5	0.0	0.0	1.7	0.0	58.7
Prop In Lane	1.00		0.56	0.93		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	78	0	399	406	0	372	194	1009	858	492	0	1007
V/C Ratio(X)	0.45	0.00	0.06	0.29	0.00	0.95	0.10	0.87	0.05	0.13	0.00	0.95
Avail Cap(c_a), veh/h	78	0	399	406	0	372	239	1009	858	537	0	1007
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.5	0.0	33.5	37.0	0.0	43.7	23.0	0.0	0.0	9.9	0.0	26.0
Incr Delay (d2), s/veh	4.0	0.0	0.1	0.4	0.0	33.5	0.2	9.9	0.1	0.1	0.0	19.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.6	3.2	0.0	14.9	0.3	2.8	0.0	0.8	0.0	35.2
LnGrp Delay(d),s/veh	63.5	0.0	33.6	37.4	0.0	77.2	23.2	9.9	0.1	10.1	0.0	45.1
LnGrp LOS	E		C	D		E	C	A	A	B		D
Approach Vol, veh/h		60			470			936			1021	
Approach Delay, s/veh		51.0			67.3			9.7			42.9	
Approach LOS		D			E			A			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	72.0		38.0	10.0	72.0		38.0				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0		7.0				
Max Green Setting (Gmax), s	10.0	62.0		31.0	10.0	62.0		31.0				
Max Q Clear Time (g_c+I1), s	3.7	2.0		33.0	2.5	60.7		30.9				
Green Ext Time (p_c), s	0.0	26.9		0.0	0.0	1.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			35.2									
HCM 2010 LOS			D									

HCS+: Unsignalized Intersections Release 5.6

Phone:
E-Mail:

Fax:

ALL-WAY STOP CONTROL (AWSC) ANALYSIS

Analyst: EH
Agency/Co.: Dynamic Traffic
Date Performed: 11/10/2015
Analysis Time Period: AM Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Future No Build
Project ID: 1126-14-001TE
East/West Street: Belle Mead Griggstown Road
North/South Street: Willow Road

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	85	12	123	4	20	7	139	88	4	5	65	102
% Thrus Left Lane			50									

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT	TR	LTR		LTR		LTR	
PHF	0.86	0.86	0.86		0.86		0.86	
Flow Rate	104	149	35		267		198	
% Heavy Veh	6	6	41		6		8	
No. Lanes		2		1		1		1
Opposing-Lanes		1		2		1		1
Conflicting-lanes		1		1		2		2
Geometry group		5		4a		2		2
Duration, T	0.25 hrs.							

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	104	149	35		267		198	
Left-Turn	98	0	4		161		5	
Right-Turn	0	143	8		4		118	
Prop. Left-Turns	0.9	0.0	0.1		0.6		0.0	
Prop. Right-Turns	0.0	1.0	0.2		0.0		0.6	
Prop. Heavy Vehicle	0.1	0.1	0.4		0.1		0.1	
Geometry Group		5		4a		2		2
Adjustments Exhibit 17-33:								
hLT-adj		0.5		0.2		0.2		0.2

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	104	149	35		267		198	
Service Time	4.0	2.9	4.2		3.2		2.9	
Utilization, x	0.18	0.21	0.06		0.38		0.27	
Dep. headway, hd	6.34	5.18	6.23		5.17		4.85	
Capacity	354	399	285		517		448	
Delay	10.45	9.29	9.63		11.34		9.61	
LOS	B	A	A		B		A	
Approach:								
Delay	9.77		9.63		11.34		9.61	
LOS	A		A		B		A	
Intersection Delay	10.28		Intersection		LOS B			

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Phone:
E-Mail:

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ALL-WAY STOP CONTROL (AWSC) ANALYSIS

Analyst: EH
Agency/Co.: Dynamic Traffic
Date Performed: 11/10/2015
Analysis Time Period: PM Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Future No Build
Project ID: 1126-14-001TE
East/West Street: Belle Mead Griggstown Road
North/South Street: Willow Road

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	118	25	169	4	14	14	140	117	4	11	73	91
% Thrus Left Lane	50											

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT	TR	LTR		LTR		LTR	
PHF	0.86	0.86	0.86		0.86		0.86	
Flow Rate	150	211	36		302		201	
% Heavy Veh	4	4	41		5		7	
No. Lanes		2		1		1		1
Opposing-Lanes		1		2		1		1
Conflicting-lanes		1		1		2		2
Geometry group		5		4a		2		2
Duration, T	0.25 hrs.							

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	150	211	36		302		201	
Left-Turn	137	0	4		162		12	
Right-Turn	0	196	16		4		105	
Prop. Left-Turns	0.9	0.0	0.1		0.5		0.1	
Prop. Right-Turns	0.0	0.9	0.4		0.0		0.5	
Prop. Heavy Vehicle	0.0	0.0	0.4		0.0		0.1	
Geometry Group		5		4a		2		2
Adjustments Exhibit 17-33:								
hLT-adj		0.5		0.2		0.2		0.2

hRT-adj	-0.7	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	0.5	-0.6	0.5	-0.2

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	150	211	36		302		201	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.13	0.19	0.03		0.27		0.18	
hd, final value	6.48	5.36	6.48		5.46		5.27	
x, final value	0.27	0.31	0.06		0.46		0.29	
Move-up time, m		2.3		2.0		2.0		2.0
Service Time	4.2	3.1	4.5		3.5		3.3	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	150	211	36		302		201	
Service Time	4.2	3.1	4.5		3.5		3.3	
Utilization, x	0.27	0.31	0.06		0.46		0.29	
Dep. headway, hd	6.48	5.36	6.48		5.46		5.27	
Capacity	400	461	286		552		451	
Delay	11.55	10.49	9.93		12.98		10.45	
LOS	B	B	A		B		B	
Approach:								
Delay		10.93		9.93		12.98		10.45
LOS		B		A		B		B
Intersection Delay	11.47				Intersection LOS B			

HCS+: Unsignalized Intersections Release 5.6

Phone:
E-Mail:

Fax:

ALL-WAY STOP CONTROL (AWSC) ANALYSIS

Analyst: EH
Agency/Co.: Dynamic Traffic
Date Performed: 11/10/2015
Analysis Time Period: Saturday Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Future No Build
Project ID: 1126-14-001TE
East/West Street: Belle Mead Griggstown Road
North/South Street: Willow Road

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	50	20	95	2	10	0	100	35	1	4	33	47
% Thrus Left Lane	50											

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT	TR	LTR		LTR		LTR	
PHF	0.87	0.87	0.87		0.87		0.87	
Flow Rate	68	120	13		155		95	
% Heavy Veh	9	9	80		10		16	
No. Lanes		2		1		1		1
Opposing-Lanes		1		2		1		1
Conflicting-lanes		1		1		2		2
Geometry group		5		4a		2		2
Duration, T	0.25 hrs.							

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	68	120	13		155		95	
Left-Turn	57	0	2		114		4	
Right-Turn	0	109	0		1		54	
Prop. Left-Turns	0.8	0.0	0.2		0.7		0.0	
Prop. Right-Turns	0.0	0.9	0.0		0.0		0.6	
Prop. Heavy Vehicle	0.1	0.1	0.8		0.1		0.2	
Geometry Group		5		4a		2		2
Adjustments Exhibit 17-33:								
hLT-adj		0.5		0.2		0.2		0.2

hRT-adj	-0.7	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	0.6	-0.5	1.4	0.3
				-0.1

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	68	120	13		155		95	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.06	0.11	0.01		0.14		0.08	
hd, final value	5.71	4.65	6.27		4.83		4.54	
x, final value	0.11	0.16	0.02		0.21		0.12	
Move-up time, m		2.3		2.0		2.0		2.0
Service Time	3.4	2.4	4.3		2.8		2.5	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	68	120	13		155		95	
Service Time	3.4	2.4	4.3		2.8		2.5	
Utilization, x	0.11	0.16	0.02		0.21		0.12	
Dep. headway, hd	5.71	4.65	6.27		4.83		4.54	
Capacity	318	370	263		405		345	
Delay	9.10	8.20	9.41		9.09		8.16	
LOS	A	A	A		A		A	
Approach:								
Delay		8.53		9.41		9.09		8.16
LOS		A		A		A		A
Intersection Delay	8.67						Intersection LOS A	

HCS+: Unsignalized Intersections Release 5.6

Phone:
E-Mail:

Fax:

ALL-WAY STOP CONTROL(AWSC) ANALYSIS

Analyst: CWP
Agency/Co.: Dynamic Traffic
Date Performed: 5/5/2016
Analysis Time Period: AM Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Future Build
Project ID: 1126-14-001TE
East/West Street: Belle Mead Griggstown Road
North/South Street: Willow Road

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	104	15	131	4	25	7	152	88	4	5	65	132
% Thrus Left Lane	50											

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT	TR	LTR		LTR		LTR	
PHF	0.86	0.86	0.86		0.86		0.86	
Flow Rate	128	161	41		282		233	
% Heavy Veh	6	6	41		6		8	
No. Lanes	2		1		1		1	
Opposing-Lanes	1		2		1		1	
Conflicting-lanes	1		1		2		2	
Geometry group	5		4a		2		2	
Duration, T	0.25 hrs.							

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	128	161	41		282		233	
Left-Turn	120	0	4		176		5	
Right-Turn	0	152	8		4		153	
Prop. Left-Turns	0.9	0.0	0.1		0.6		0.0	
Prop. Right-Turns	0.0	0.9	0.2		0.0		0.7	
Prop. Heavy Vehicle	0.1	0.1	0.4		0.1		0.1	
Geometry Group	5		4a		2		2	
Adjustments Exhibit 17-33:								
hLT-adj	0.5		0.2		0.2		0.2	

HCS+: Unsignalized Intersections Release 5.6

Phone:
E-Mail:

Fax:

ALL-WAY STOP CONTROL (AWSC) ANALYSIS

Analyst: CP
Agency/Co.: Dynamic Traffic
Date Performed: 5/5/16
Analysis Time Period: PM Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Future Build
Project ID: 1126-14-001TE
East/West Street: Belle Mead Griggstown Road
North/South Street: Willow Road

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	180	35	195	4	23	14	163	117	4	11	73	145
% Thrus Left Lane	50											

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT	TR	LTR		LTR		LTR	
PHF	0.86	0.86	0.86		0.86		0.86	
Flow Rate	228	246	46		329		264	
% Heavy Veh	4	4	41		5		7	
No. Lanes	2		1		1		1	
Opposing-Lanes	1		2		1		1	
Conflicting-lanes	1		1		2		2	
Geometry group	5		4a		2		2	
Duration, T	0.25	hrs.						

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	228	246	46		329		264	
Left-Turn	209	0	4		189		12	
Right-Turn	0	226	16		4		168	
Prop. Left-Turns	0.9	0.0	0.1		0.6		0.0	
Prop. Right-Turns	0.0	0.9	0.3		0.0		0.6	
Prop. Heavy Vehicle	0.0	0.0	0.4		0.0		0.1	
Geometry Group	5		4a		2		2	
Adjustments Exhibit 17-33:								
hLT-adj	0.5		0.2		0.2		0.2	

hRT-adj	-0.7	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7
hadj, computed	0.5	-0.6	0.5	0.2
				-0.3

Worksheet 4 - Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow rate	228	246	46		329		264	
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.20	0.22	0.04		0.29		0.23	
hd, final value	6.88	5.76	7.22		5.98		5.69	
x, final value	0.436	0.394	0.092		0.547		0.417	
Move-up time, m		2.3		2.0		2.0		2.0
Service Time	4.6	3.5	5.2		4.0		3.7	

Worksheet 5 - Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rate	228	246	46		329		264	
Service Time	4.6	3.5	5.2		4.0		3.7	
Utilization, x	0.436	0.394	0.092		0.547		0.417	
Dep. headway, hd	6.88	5.76	7.22		5.98		5.69	
Capacity	518	631	511		598		629	
95% Queue Length								
Delay	14.8	12.1	11.0		16.0		12.7	
LOS	B	B	B		C		B	
Approach:								
Delay		13.4		11.0		16.0		12.7
LOS		B		B		C		B
Intersection Delay	13.9				Intersection LOS	B		

HCS+: Unsignalized Intersections Release 5.6

Phone:
E-Mail:

Fax:

ALL-WAY STOP CONTROL (AWSC) ANALYSIS

Analyst: CWP
Agency/Co.: Dynamic Traffic
Date Performed: 5/5/16
Analysis Time Period: Saturday Peak
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year: Future Build
Project ID: 1126-14-001TE
East/West Street: Belle Mead Griggstown Road
North/South Street: Willow Road

Worksheet 2 - Volume Adjustments and Site Characteristics

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Volume	132	33	129	2	25	0	139	35	1	4	33	140
% Thrus Left Lane	50											

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT	TR	LTR		LTR		LTR	
PHF	0.87	0.87	0.87		0.87		0.87	
Flow Rate	169	167	30		200		201	
% Heavy Veh	9	9	80		10		16	
No. Lanes	2		1		1		1	
Opposing-Lanes	1		2		1		1	
Conflicting-lanes	1		1		2		2	
Geometry group	5		4a		2		2	
Duration, T	0.25	hrs.						

Worksheet 3 - Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Flow Rates:								
Total in Lane	169	167	30		200		201	
Left-Turn	151	0	2		159		4	
Right-Turn	0	148	0		1		160	
Prop. Left-Turns	0.9	0.0	0.1		0.8		0.0	
Prop. Right-Turns	0.0	0.9	0.0		0.0		0.8	
Prop. Heavy Vehicle	0.1	0.1	0.8		0.1		0.2	
Geometry Group	5		4a		2		2	
Adjustments Exhibit 17-33:								
hLT-adj	0.5		0.2		0.2		0.2	

Worksheet 4 - Departure Headway and Service Time

Worksheet 5 - Capacity and Level of Service

HCS 2010 Two-Way Stop Control Summary Report

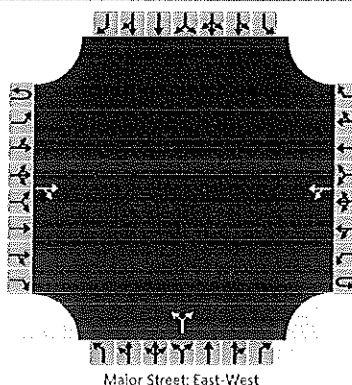
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/10/2016
Analysis Year	2016
Time Analyzed	No Build AM Peak Hour
Intersection Orientation	East-West
Project Description	Pike Run Plaza

Site Information

Intersection	Covert Drive
Jurisdiction	
East/West Street	Belle Mead Griggstown Rd.
North/South Street	Covert Drive
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			126	22		5	296			20		4				
Percent Heavy Vehicles						3				3		3				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						327						26				
Capacity						1410						575				
v/c Ratio						0.23						0.05				
95% Queue Length						0.0						0.1				
Control Delay (s/veh)						7.6						11.6				
Level of Service (LOS)						A						B				
Approach Delay (s/veh)					0.1				11.6							
Approach LOS									B							

HCS 2010 Two-Way Stop Control Summary Report

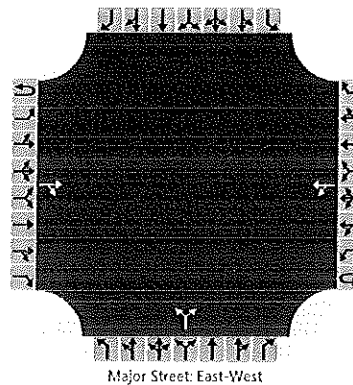
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/10/2016
Analysis Year	2016
Time Analyzed	No Build PM Peak Hour
Intersection Orientation	East-West
Project Description	Pike Run Plaza

Site Information

Intersection	Covert Drive
Jurisdiction	
East/West Street	Belle Mead Griggstown Rd.
North/South Street	Covert Drive
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			213	65		13	125			73		9				
Percent Heavy Vehicles						3				3		3				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						150					89					
Capacity						1251					589					
v/c Ratio						0.12					0.15					
95% Queue Length						0.0					0.5					
Control Delay (s/veh)						7.9					12.2					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					0.8				12.2							
Approach LOS									B							

HCS 2010 Two-Way Stop Control Summary Report

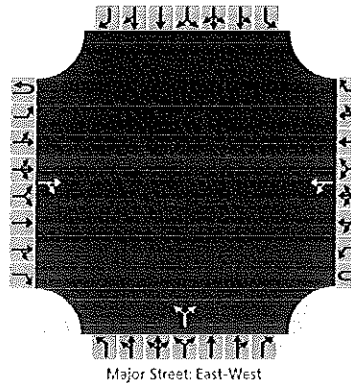
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/10/2016
Analysis Year	2016
Time Analyzed	No Build SAT Peak Hour
Intersection Orientation	East-West
Project Description	Pike Run Plaza

Site Information

Intersection	Covert Drive
Jurisdiction	
East/West Street	Belle Mead Griggstown Rd.
North/South Street	Covert Drive
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			108	95		19	177			97		13				
Percent Heavy Vehicles						3				3		3				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						213						119				
Capacity						1342						616				
v/c Ratio						0.16						0.19				
95% Queue Length						0.0						0.7				
Control Delay (s/veh)						7.7						12.2				
Level of Service (LOS)						A						B				
Approach Delay (s/veh)					0.9				12.2							
Approach LOS									B							

HCS 2010 Two-Way Stop Control Summary Report

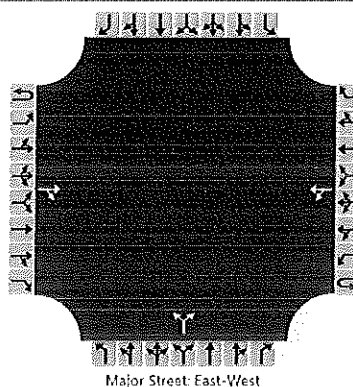
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/10/2016
Analysis Year	2016
Time Analyzed	Build AM Peak Hour
Intersection Orientation	East-West
Project Description	Pike Run Plaza

Site Information

Intersection	Covert Drive
Jurisdiction	
East/West Street	Belle Mead Griggstown Rd.
North/South Street	Covert Drive
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			155	22		5	344			21		4				
Percent Heavy Vehicles						3				3		3				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)					379					27						
Capacity					1374					517						
v/c Ratio					0.28					0.05						
95% Queue Length					0.0					0.2						
Control Delay (s/veh)					7.6					12.4						
Level of Service (LOS)					A					B						
Approach Delay (s/veh)					0.1				12.4							
Approach LOS									B							

HCS 2010 Two-Way Stop Control Summary Report

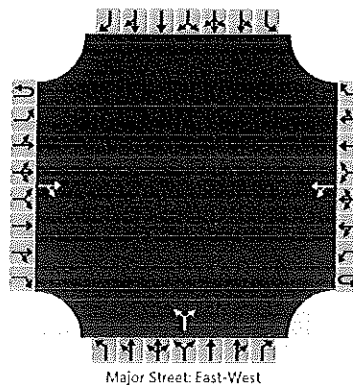
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/10/2016
Analysis Year	2016
Time Analyzed	Build PM Peak Hour
Intersection Orientation	East-West
Project Description	Pike Run Plaza

Site Information

Intersection	Covert Drive
Jurisdiction	
East/West Street	Belle Mead Griggstown Rd.
North/South Street	Covert Drive
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			311	67		13	210			74		9				
Percent Heavy Vehicles						3				3		3				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						242					90					
Capacity						1141					456					
v/c Ratio						0.21					0.20					
95% Queue Length						0.0					0.7					
Control Delay (s/veh)						8.2					14.8					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					0.6				14.8							
Approach LOS									B							

HCS 2010 Two-Way Stop Control Summary Report

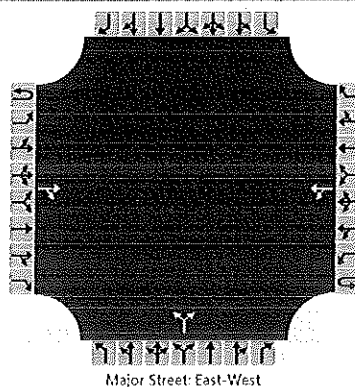
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/10/2016
Analysis Year	2016
Time Analyzed	Build SAT Peak Hour
Intersection Orientation	East-West
Project Description	Pike Run Plaza

Site Information

Intersection	Covert Drive
Jurisdiction	
East/West Street	Belle Mead Griggstown Rd.
North/South Street	Covert Drive
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			238	99		19	324			101		13				
Percent Heavy Vehicles						3				3		3				
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)						373					124					
Capacity						1185					414					
v/c Ratio						0.31					0.30					
95% Queue Length						0.1					1.2					
Control Delay (s/veh)						8.1					17.4					
Level of Service (LOS)						A					C					
Approach Delay (s/veh)					0.6				17.4							
Approach LOS									C							

HCS 2010 Two-Way Stop Control Summary Report

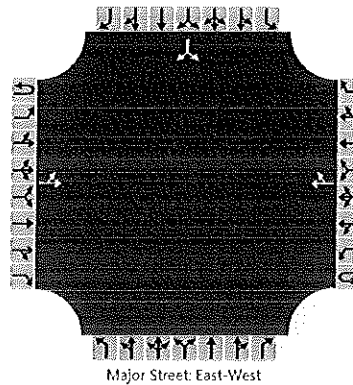
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/10/2016
Analysis Year	2016
Time Analyzed	Build AM Peak Hour
Intersection Orientation	East-West
Project Description	Pike Run Plaza

Site Information

Intersection	Site Driveway
Jurisdiction	
East/West Street	Belle Mead Griggstown Rd.
North/South Street	Site Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		16	148				316	49						30		13
Percent Heavy Vehicles		3												3		3
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		178													47	
Capacity		1156													481	
v/c Ratio		0.15													0.10	
95% Queue Length		0.0													0.3	
Control Delay (s/veh)		8.2													13.3	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.9												13.3			
Approach LOS													B			

HCS 2010 Two-Way Stop Control Summary Report

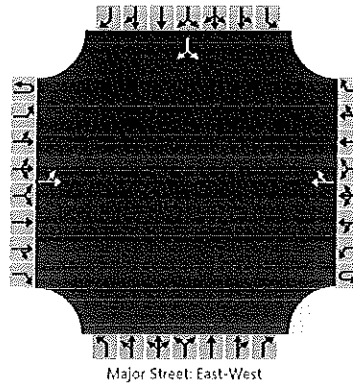
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/10/2016
Analysis Year	2016
Time Analyzed	Build PM Peak Hour
Intersection Orientation	East-West
Project Description	Pike Run Plaza

Site Information

Intersection	Site Driveway
Jurisdiction	
East/West Street	Belle Mead Griggstown Rd.
North/South Street	Site Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		71	267				184	101						111		101
Percent Heavy Vehicles		3												3		3
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		367													231	
Capacity		1243													458	
v/c Ratio		0.30													0.50	
95% Queue Length		0.2													2.8	
Control Delay (s/veh)		8.1													20.6	
Level of Service (LOS)		A													C	
Approach Delay (s/veh)	2.2												20.6			
Approach LOS													C			

HCS 2010 Two-Way Stop Control Summary Report

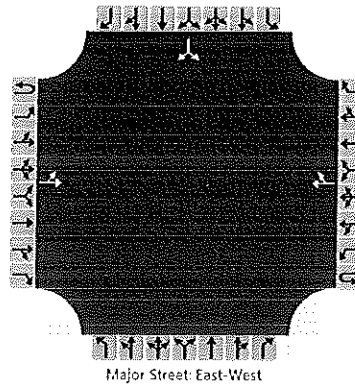
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/10/2016
Analysis Year	2016
Time Analyzed	Build SAT Peak Hour
Intersection Orientation	East-West
Project Description	Pike Run Plaza

Site Information

Intersection	Site Driveway
Jurisdiction	
East/West Street	Belle Mead Griggstown Rd.
North/South Street	Site Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		LT						TR							LR	
Volume (veh/h)		108	187				255	170						149		136
Percent Heavy Vehicles		3												3		3
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)		320													310	
Capacity		1093													380	
v/c Ratio		0.29													0.82	
95% Queue Length		0.4													7.3	
Control Delay (s/veh)		8.7													45.3	
Level of Service (LOS)		A													E	
Approach Delay (s/veh)	3.8												45.3			
Approach LOS													E			

HCS 2010 Two-Way Stop Control Summary Report

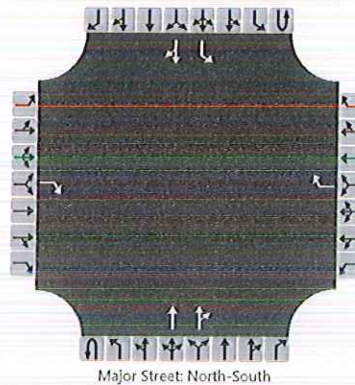
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/5/2016
Analysis Year	2016
Time Analyzed	Build AM Peak Hour
Intersection Orientation	North-South
Project Description	Pike Run Plaza

Site Information

Intersection	Route 206 & Site Driveway
Jurisdiction	NJDOT
East/West Street	Site Driveway
North/South Street	Route 206
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	0	2	0	0	1	1	0
Configuration				R				R			T	TR		L		TR
Volume (veh/h)				41				14			856	5		24	957	3
Percent Heavy Vehicles				3				3						3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				44				15							26		
Capacity				280				544							728		
v/c Ratio				0.16				0.03							0.04		
95% Queue Length				0.5				0.1							0.1		
Control Delay (s/veh)				20.3				11.8							10.1		
Level of Service (LOS)				C				B							B		
Approach Delay (s/veh)	20.3				11.8								0.2				
Approach LOS	C				B												

HCS 2010 Two-Way Stop Control Summary Report

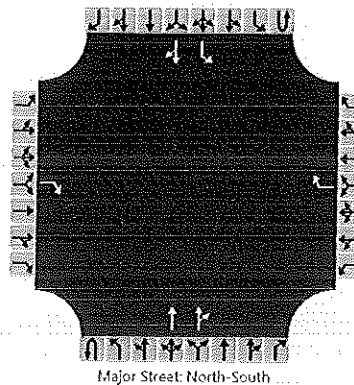
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/5/2016
Analysis Year	2016
Time Analyzed	Build PM Peak Hour
Intersection Orientation	North-South
Project Description	Pike Run Plaza

Site Information

Intersection	Route 206 & Site Driveway
Jurisdiction	NJDOT
East/West Street	Site Driveway
North/South Street	Route 206
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	0	2	0	0	1	1	0
Configuration				R				R			T	TR		L		TR
Volume (veh/h)				29				95			973	37		74	805	30
Percent Heavy Vehicles				3				3						3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				32				103							80		
Capacity				337				477							626		
v/c Ratio				0.10				0.22							0.13		
95% Queue Length				0.3				0.8							0.4		
Control Delay (s/veh)				16.8				14.6							11.6		
Level of Service (LOS)				C				B							B		
Approach Delay (s/veh)	16.8				14.6								0.9				
Approach LOS	C				B												

HCS 2010 Two-Way Stop Control Summary Report

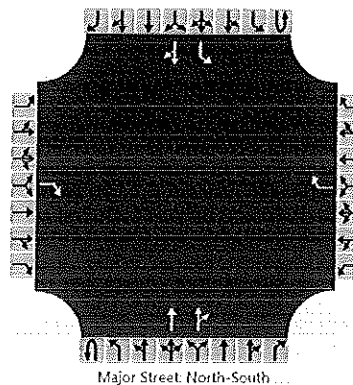
General Information

Analyst	CWP
Agency/Co.	Dynamic Traffic, LLC
Date Performed	5/5/2016
Analysis Year	2016
Time Analyzed	Build SAT Peak Hour
Intersection Orientation	North-South
Project Description	Pike Run Plaza

Site Information

Intersection	Route 206 & Site Driveway
Jurisdiction	NJDOT
East/West Street	Site Driveway
North/South Street	Route 206
Peak Hour Factor	0.94
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	1		0	0	1	0	0	2	0	0	1	1	0
Configuration				R				R			T	TR		L		TR
Volume (veh/h)				87				128			750	53		115	672	19
Percent Heavy Vehicles				3				3						3		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)				93				136						122		
Capacity				421				573						775		
v/c Ratio				0.22				0.24						0.16		
95% Queue Length				0.8				0.9						0.6		
Control Delay (s/veh)				16.0				13.2						10.5		
Level of Service (LOS)				C				B						B		
Approach Delay (s/veh)	16.0				13.2								1.5			
Approach LOS	C				B											