WCE
Whipple Consulting Engineers, Inc.

WCE No. 2013-1166

January 12, 2017

Washington State Department of Transportation
714 N Mayfair
Spokane WA 99207

Attn: Greg Figg

Re: Painted Hills TIA – Addendum Letter

Dear Greg;

This letter is intended to provide additional information requested within the email dated December 9, 2016. The email discussed that the signal timings at the intersections of 16th Avenue & SR 27 and 32nd Avenue & SR 27 were changed by WSDOT since the beginning of the study and that the intersections should be rerun and the results compared to the results of the study at these intersections. These changes were not transmitted to the consultant until after the previous submittal.

There was also the need for clarification as to the operation of the intersections of 16th Avenue & Pines Road and 16th Avenue & SR 27, with the proposed expansion of the signal over both intersection. Specifically, the timing of, and the operations of such a signal. Therefore, a Simtraffic Queuing and Blocking report has been prepared to anticipate the queue lengths at each approach and a Figure 13A1 has been provided to show the anticipated Year 2025 and year 2030.

Intersection Level of Service
As this is an addendum letter to the TIA, Table numbers shown match their TIA counterpart as do the reported delay and level of service reported within the TIA.

Table 2 – Year 2015 Existing Intersections Levels of Service – Due to change in timing

INTERSECTION (S)ignalized (U)nsignalized		**AM Peak Hour**				**PM Peak Hour**			
		TIA		**Addendum**		**TIA**		**Addendum**	
		Delay (sec)	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**
16th Ave & Pines Rd	U	20.2	C	20.0	C	32.4	D	32.4	D
16th Ave & SR 27	S	27.7	C	35.7	D	25.5	C	29.7	C
32nd Ave & SR 27	S	19.6	B	26.9	C	23.0	C	32.4	C

Table 17 - Year 2025 Levels of Service, without the Project, with the Background Projects

INTERSECTION (S)ignalized (U)nsignalized		**AM Peak Hour**				**PM Peak Hour**			
		TIA		**Addendum**		**TIA**		**Addendum**	
		Delay (sec)	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**
16th Ave & Pines Rd	U	26.2	D	25.8	D	**66.4**	**F**	**68.3**	**F**
• Signalized Intx,	(S)	(30.5)	(C)	(21.9)	(C)	(33.7)	(C)	(26.1)	(C)
16th Ave & SR 27	S	33.6	C	46.7	D	30.3	C	36.1	D
• Signalized Intx.		(42.3)	(D)	(24.2)	(C)	(28.4)	(C)	(20.3)	(C)
32nd Ave & SR 27	U	22.3	C	31.4	C	28.2	C	40.8	D

Table 19 - Year 2025 Levels of Service, with the Project, with the Background Projects

INTERSECTION (S)ignalized (U)nsignalized		**AM Peak Hour**				**PM Peak Hour**			
		TIA		**Addendum**		**TIA**		**Addendum**	
		Delay (sec)	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**
16th Ave & Pines Rd	U	27.3	D	26.9	D	**99.2**	**F**	**132.0**	**F**
• Signalized Intx,	(S)	(31.1)	(C)	(22.5)	(C)	(34.8)	(C)	(27.1)	(C)
16th Ave & SR 27	S	35.9	D	50.3	D	31.3	C	37.5	D
• Signalized Intx.		(44.6)	(D)	(25.9)	(C)	(28.6)	(C)	(20.9)	(C)
32nd Ave & SR 27	U	23.2	C	32.8	C	29.8	C	43.9	D

Table 22 - Year 2030 Buildout Plus 5, Levels of Service, without the Project

INTERSECTION (S)ignalized (U)nsignalized		**AM Peak Hour**				**PM Peak Hour**			
		TIA		**Addendum**		**TIA**		**Addendum**	
		Delay (sec)	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**
16th Ave & Pines Rd	U	30.8	D	30.3	D	**99.9**	**F**	**116.7**	**F**
• Signalized Intx,	(S)	(30.8)	(C)	(22.6)	(C)	(35.2)	(D)	(27.1)	(C)
16th Ave & SR 27	S	37.4	D	52.9	D	32.8	C	39.5	D
• Signalized Intx.		(46.7)	(D)	(27.1)	(C)	(28.7)	(C)	(21.3)	(C)
32nd Ave & SR 27	U	23.4	C	33.1	C	30.0	C	43.7	D

Table 23- Year 2030 Buildout Plus 5 Levels of Service, with the Project

INTERSECTION (S)ignalized (U)nsignalized		AM Peak Hour				PM Peak Hour			
		TIA		Addendum		TIA		Addendum	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
16th Ave & Pines Rd	U	32.3	D	31.6	D	**141.2**	**F**	**141.2**	**F**
• Signalized Intx,	(S)	(31.4)	(C)	(23.3)	(C)	(36.7)	(D)	(29.1)	(C)
16th Ave & SR 27	S	40.7	D	**57.2**	**E**	34.3	C	41.4	D
• Signalized Intx.		(49.3)	(D)	(41.2)	(D)	(29.0)	(C)	(21.8)	(C)
32nd Ave & SR 27	U	24.3	C	34.6	C	31.9	C	47.1	D

As observed in the above tables, Generally the change in Signal timing has lowered the intersection Level of Service reported in the TIA, but the Levels of Service is for each of the intersections are anticipated to operate at an acceptable level, or as discussed in the TIA, be improved to raise the levels of service to acceptable levels with the proposed expansion of the signal at 16th Avenue & SR27 to include the intersection of 16th Avenue & Pines Road. Based on our analysis and reporting, it is clear that the new timing scheme may not be advantageous to the motoring public.

Intersection Improvements
The improvements that will be needed for the expansion of the signal is anticipated to include the following elements and Lane configurations:

- 3 signal poles with light poles, with mast arms, and attached vehicle and pedestrian heads at 16th Avenue & Pines Road
- Replace SE signal pole at 16th Avenue & SR 27, with longer mast arm.
- 6 to 7 Junction Boxes wired to the control cabinet on the Southwest Corner of 16th Avenue & SR 27.
- Placement of detector loops and advanced loop detection wired to the control cabinet
- Add EB Right turn lane between Pines Road and SR 27, relocate curb and sidewalk
- Add SB Right turn lane to Pines Road Slip lane, relocate Curb and sidewalk.

This list of elements and lane improvements have been identified in the concept intersection configuration as shown in the attached Concept Intersection Figure 13A0.

Simtraffic Queue Analysis
With the proposed improvements, a Simtraffic model has been created for select scenarios and queuing and blocking reports have been printed from these models. These models followed the following standards: traffic seeded for 10 min, with recording for 60 minutes (peak hour). And the anti-peak hour factor was not applied. 5 runs were completed with 5 different random number generations. From these 5 runs a Queuing and Blocking report was created by averaging the five runs and reporting the limits as experienced within the model, so the limits included in the report do not necessarily follow a linear pattern, but is more representative of actual traffic.

One of the limits that is reported is the 95th Percentile, which is summarized for each intersection and movement in the following tables, and are shown graphically on Figure 13A1 (attached).

Table A - Intersection of 16th Avenue & Pines Road – 95th Percentile (SimTraffic)

	EBT	EBTR	WBLT	NBLTR	NBR	SBT	SBR
Year 2025 W-O Proj. IMP	109	249	84	132	5	252	161
Year 2025 W- Proj. IMP	105	248	82	136	11	232	119
Year 2030 W- Proj. IMP	98	195	82	85	66	262	140

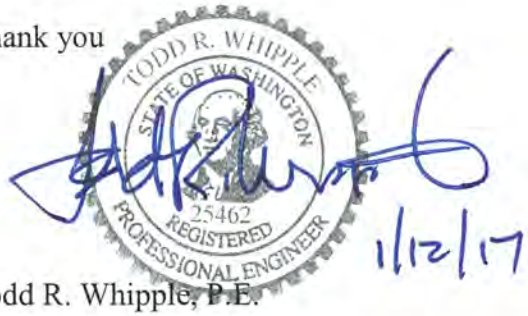
Table B - Intersection of 16th Avenue & State Route 27 – 95th Percentile (SimTraffic)

	EBL	EBLT	EBR	WBLTR	NBL	NBT	NBTR	SBL	SBT	SBTR
Year 2025 W-O Proj. IMP	84	107	3	195	50	165	126	99	180	156
Year 2025 W- Proj. IMP	80	103	3	193	51	178	131	81	179	148
Year 2030 W- Proj. IMP	108	86	6	177	45	167	123	84	174	147

One of the concerns of WSDOT was that the southbound Queue of the intersection of 16th Avenue & Pines Road would spillback into the travel lanes of State Route 27. As shown on Figure 13A1 per the 95th percentile of the model runs, the queue length is not anticipated to spillback and interfere with the southbound through movements of State Route 27 in the PM peak hour.

If you have any questions or comments in regard to this letter, please feel free to contact us at (509) 893-2617

Thank you



Todd R. Whipple, P.E.

TRW/bng

Encl: (Raw Traffic Counts, Level of Service calculations, Queuing & Blocking reports. Figure 13A0, Figure 13A1)

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th & Pines

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 1/28/2015

Counter: JDK
Analyst: BNG

AM PEAK HOURS

		15 Minute Period Beginning @																							
APPROACH	MOVEMENT	6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left																								
	Through					35		53	1	56	1	55	3	51	3	41	5	35	1	64	3				
	Right					2	1	19		15		4		3		6		4		3					
	App. Total	0	0	0	0	37	1	72	1	71	1	59	3	54	3	47	5	39	1	67	3	0	0	0	0
	Pct Trucks						0.03		0.01		0.01		0.05		0.05		0.1		0.03		0.04				
Westbound	Left					5		16		13		11		9		8		1		13					
	Through					29	1	54		50	3	51	4	34	2	31		29		38					
	Right																								
	App. Total	0	0	0	0	34	1	70	0	63	3	62	4	43	2	39	0	30	0	51	0	0	0	0	0
	Pct Trucks						0.03		0		0.05		0.06		0.04		0		0		0				
Northbound	Left					7		6		8		5		5		2		5		5					
	Through																								
	Right					55		52	3	53		47		43		37	1	37	3	51					
	App. Total	0	0	0	0	62	0	58	3	61	0	52	0	48	0	39	1	42	3	56	0	0	0	0	0
	Pct Trucks						0		0.05		0		0		0		0.03		0.07		0				
Southbound	Left					1																			
	Through					21	2	41	1	38	1	24	1	28		13		28	2	35	1				
	Right					8		9	1	4		11	1	5		9	1	9		14					
	App. Total	0	0	0	0	30	2	50	2	42	1	35	2	33	0	22	1	37	2	49	1	0	0	0	0
	Pct Trucks						0.06		0.04		0.02		0.05		0		0.04		0.05		0.02				
Total Intersection Volume		0	0	0	0	163	4	250	6	237	5	208	9	178	5	147	7	148	6	223	4	0	0	0	0
Intersection Pct Trucks						2.4%		2.3%		2.1%		4.1%		2.7%		4.5%		3.9%		1.8%					

Intersection Total One Hour Volumes		Pct Trucks
6:30 AM	423	2.4%
6:45 AM	665	2.3%
7:00 AM	882	2.7%
7:15 AM	898	2.8%
7:30 AM	796	3.3%
7:45 AM	708	3.8%

Intersection Total One Hour Volumes		Pct Trucks
8:00 AM	718	3.1%
8:15 AM	535	3.2%
8:30 AM	381	2.6%

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th & Pines

Data Transfer
Intersection No. 1

DATE OF COUNT 1/28/2015
Counter
JDK

Analyst
BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left									0		
	Through	53	1	56	1	55	3	51	3	223	0.96	4%
	Right	19		15		4		3		41	0.54	0%
	App. Total	72	1	71	1	59	3	54	3	264	0.90	
	Pct Trucks		0.013699		0.013889		0.048387		0.052632			
Westbound	Left	16		13		11		9		49	0.77	0%
	Through	54		50	3	51	4	34	2	198	0.90	5%
	Right									0		
	App. Total	70	0	63	3	62	4	43	2	247	0.88	
	Pct Trucks		0		0.045455		0.060606		0.044444			
Northbound	Left	6		8		5		5		24	0.75	0%
	Through									0		
	Right	52	3	53		47		43		198	0.90	2%
	App. Total	58	3	61	0	52	0	48	0	222	0.91	
	Pct Trucks		0.04918		0		0		0			
Southbound	Left									0		
	Through	41	1	38	1	24	1	28		134	0.80	2%
	Right	9	1	4		11	1	5		31	0.65	6%
	App. Total	50	2	42	1	35	2	33	0	165	0.79	
	Pct Trucks		0.038462		0.023256		0.054054		0			
Total Intersection Volume		250	6	237	5	208	9	178	5	**898**	**0.88**	
Intersection Pct Trucks			2.3%		2.1%		4.1%		2.7%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through					2				**2**
N orthbound	Through									**0**
Southbound	Through									**0**
	App. Total	0	0	0	0	2	0	0	0	2

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th Avenue & Pines Road

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/6/2015
Counter: Judy
Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @																					
		3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left																								
	Through			52	2	73	1	75	1	59		92	1	81											
	Right			9		12		11		6		14		17											
	App. Total	0	0	61	2	85	1	86	1	65	0	106	1	98	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.032		0.012		0.011		0		0.009		0										
Westbound	Left			13	1	13		19		12		15		16											
	Through			31	2	28		25		37		41		35											
	Right																								
	App. Total	0	0	44	3	41	0	44	0	49	0	56	0	51	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.064		0		0		0		0		0										
Northbound	Left			5		2		4		8		2		6											
	Through																								
	Right			31		34		38		44		36		44											
	App. Total	0	0	36	0	36	0	42	0	52	0	38	0	50	0	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0		0		0		0		0		0										
Southbound	Left					1																			
	Through			27	1	51		40		55		52		54											
	Right			14		16	1	29		20	1	24	1	27	1										
	App. Total	0	0	41	1	68	1	69	0	75	1	76	1	81	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.024		0.014		0		0.013		0.013		0.012										
Total Intersection Volume		0	0	182	6	230	2	241	1	241	1	276	2	280	1	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks				3.2%		0.9%		0.4%		0.4%		0.7%		0.4%											

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	662	1.4%
3:45 PM	904	1.1%
4:00 PM	994	0.6%
4:15 PM	1043	0.5%
4:30 PM	801	0.5%
4:45 PM	559	0.5%

Intersection Total One Hour Volumes		Pct Trucks
5:00 PM	281	0.4%
5:15 PM	0	
5:30 PM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th Avenue & Pines Road

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/6/2015
Counter Analyst
Judy BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left									0		
	Through	75	1	59		92	1	81		309	0.83	1%
	Right	11		6		14		17		48	0.71	0%
	App. Total	86	1	65	0	106	1	98	0	357	0.83	
	Pct Trucks		0.011494		0		0.009346		0			
Westbound	Left	19		12		15		16		62	0.82	0%
	Through	25		37		41		35		138	0.84	0%
	Right									0		
	App. Total	44	0	49	0	56	0	51	0	200	0.89	
	Pct Trucks		0		0		0		0			
Northbound	Left	4		8		2		6		20	0.63	0%
	Through									0		
	Right	38		44		36		44		162	0.92	0%
	App. Total	42	0	52	0	38	0	50	0	182	0.88	
	Pct Trucks		0		0		0		0			
Southbound	Left									0		
	Through	40		55		52		54		201	0.91	0%
	Right	29		20	1	24	1	27	1	103	0.89	3%
	App. Total	69	0	75	1	76	1	81	1	304	0.93	
	Pct Trucks		0		0.013158		0.012987		0.012195			
Total Intersection Volume		241	1	241	1	276	2	280	1	**1043**	**0.93**	
Intersection Pct Trucks			0.4%		0.4%		0.7%		0.4%			

Pedestrian Calls

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through									0
Southbound	Through									0
	App. Total	0	0	0	0	0	0	0	0	0

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th & SR27

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 1/28/2015

Counter	Analyst
BNG	BNG

AM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left					51		2		68		47		55	1	35	1	34		81	1				
	Through					28		41	1	48		52		41	1	32		24		53	1				
	Right					4		2		6		6		6		7	1	2		5					
	App. Total	0	0	0	0	83	0	45	1	122	0	105	0	102	2	74	2	60	0	139	2	0	0	0	0
	Pct Trucks						0		0.022		0		0		0.019		0.026		0		0.014				
Westbound	Left					2		3		1				1		2		2		1					
	Through					20	1	51		52	3	45	1	36		23		24		44					
	Right					10		21		17		16		14		14		27		17	1				
	App. Total	0	0	0	0	32	1	75	0	70	3	61	1	51	0	39	0	53	0	62	1	0	0	0	0
	Pct Trucks						0.03		0		0.041		0.016		0		0		0		0.016				
Northbound	Left					17		14		15		12		8		7		16		9					
	Through					80	1	100	1	125	1	92		81	1	74	1	48	1	69	4				
	Right					2		7		1		7		3		3									
	App. Total	0	0	0	0	99	1	121	1	141	1	111	0	92	1	84	1	64	1	78	4	0	0	0	0
	Pct Trucks						0.01		0.008		0.007		0		0.011		0.012		0.015		0.049				
Southbound	Left					5		8		8		16		7		8		8		10					
	Through					11	4	27	2	20		21	1	27	1	16		26		27	3				
	Right													1											
	App. Total	0	0	0	0	16	4	35	2	28	0	37	1	35	1	24	0	34	0	37	3	0	0	0	0
	Pct Trucks						0.2		0.054		0		0.026		0.028		0		0		0.075				
Total Intersection Volume		0	0	0	0	230	6	276	4	361	4	314	2	280	4	221	3	211	1	316	10	0	0	0	0
Intersection Pct Trucks						2.5%		1.4%		1.1%		0.6%		1.4%		1.3%		0.5%		3.1%					

Intersection Total		Pct
One Hour Volumes		Trucks
6:30 AM	516	1.9%
6:45 AM	881	1.6%
7:00 AM	1197	1.3%
7:15 AM	1245	1.1%
7:30 AM	1189	1.1%
7:45 AM	1036	1.0%

Intersection Total		Pct
One Hour Volumes		Trucks
8:00 AM	1046	1.7%
8:15 AM	762	1.8%
8:30 AM	538	2.0%

Notes:

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PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th & SR27

Data Transfer
Intersection No. 1

DATE OF COUNT: 1/28/2015
Counter Analyst
BNG BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	2		68		47		55	1	173	0.64	1%
	Through	41	1	48		52		41	1	184	0.88	1%
	Right	2		6		6		6		20	0.83	0%
	App. Total	45	1	122	0	105	0	102	2	377	0.77	
	Pct Trucks		0.021739		0		0		0.019231			
Westbound	Left	3		1				1		5	0.42	0%
	Through	51		52	3	45	1	36		188	0.85	2%
	Right	21		17		16		14		68	0.81	0%
	App. Total	75	0	70	3	61	1	51	0	261	0.87	
	Pct Trucks		0		0.041096		0.016129		0			
Northbound	Left	14		15		12		8		49	0.82	0%
	Through	100	1	125	1	92		81	1	401	0.80	1%
	Right	7		1		7		3		18	0.64	0%
	App. Total	121	1	141	1	111	0	92	1	468	0.82	
	Pct Trucks		0.008197		0.007042		0		0.010753			
Southbound	Left	8		8		16		7		39	0.61	0%
	Through	27	2	20		21	1	27	1	99	0.85	4%
	Right							1		1	0.25	0%
	App. Total	35	2	28	0	37	1	35	1	139	0.91	
	Pct Trucks		0.054054		0		0.026316		0.027778			
Total Intersection Volume		276	4	361	4	314	2	280	4	**1245**	**0.85**	
Intersection Pct Trucks			1.4%		1.1%		0.6%		1.4%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through					3				**3**
Westbound	Through									**0**
N orthbound	Through									**0**
Southbound	Through									**0**
	App. Total	0	0	0	0	3	0	0	0	**3**

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th Avenue & SR 27

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/7/2015
Counter: RMA/JDK
Analyst: BNG

PM PEAK HOURS

		15 Minute Period Beginning @																							
APPROACH	MOVEMENT	3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left									42	1	40	1	42		37	1	39		40					
	Through									60		63	3	64		64	1	52		58	1				
	Right									10		13		9		15		15		9					
	App. Total	0	0	0	0	0	0	0	0	112	1	116	4	115	0	116	2	106	0	107	1	0	0	0	0
	Pct Trucks										0.009		0.033		0		0.017		0		0.009				
Westbound	Left									2		1		3		5		4		2					
	Through									59		39	1	42		48		56		41					
	Right									1		1		4		1		0		1					
	App. Total	0	0	0	0	0	0	0	0	62	0	41	1	49	0	54	0	60	0	44	0	0	0	0	0
	Pct Trucks										0		0.024		0		0		0		0				
Northbound	Left									4		2		6		5		8		7					
	Through									59	1	59		82	1	51	1	52	1	55					
	Right									1		1		1		4			3	0					
	App. Total	0	0	0	0	0	0	0	0	64	1	62	0	89	1	60	1	60	4	62	0	0	0	0	0
	Pct Trucks										0.015		0		0.011		0.016		0.063		0				
Southbound	Left									13		27		24		14		17		16					
	Through									48		55		88		79		71		67					
	Right									0		0		0				0		0					
	App. Total	0	0	0	0	0	0	0	0	61	0	82	0	112	0	93	0	88	0	83	0	0	0	0	0
	Pct Trucks										0		0		0		0		0		0				
Total Intersection Volume		0	0	0	0	0	0	0	0	299	2	301	5	365	1	323	3	314	4	296	1	0	0	0	0
Intersection Pct Trucks										0.7%		1.6%		0.3%		0.9%		1.3%		0.3%					

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	0	
3:45 PM	301	0.7%
4:00 PM	607	1.2%
4:15 PM	973	0.8%
4:30 PM	1299	0.8%
4:45 PM	1316	1.0%

Intersection Total One Hour Volumes		Pct Trucks
5:00 PM	1307	0.7%
5:15 PM	941	0.9%
5:30 PM	615	0.8%

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 16th Avenue & SR 27

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/7/2015
Counter Analyst
RMA/JDK BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:45 PM		5:00 PM		5:15 PM		5:30 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	40	1	42		37	1	39		160	0.95	1%
	Through	63	3	64		64	1	52		247	0.94	2%
	Right	13		9		15		15		52	0.87	0%
	App. Total	116	4	115	0	116	2	106	0	459	0.96	
	Pct Trucks		0.033333		0		0.016949		0			
Westbound	Left	1		3		5		4		13	0.65	0%
	Through	39	1	42		48		56		186	0.83	1%
	Right	1		4		1		0		6	0.38	0%
	App. Total	41	1	49	0	54	0	60	0	205	0.85	
	Pct Trucks		0.02381		0		0		0			
Northbound	Left	2		6		5		8		21	0.66	0%
	Through	59		82	1	51	1	52	1	247	0.74	1%
	Right	1		1		4			3	9	0.56	33%
	App. Total	62	0	89	1	60	1	60	4	277	0.77	
	Pct Trucks		0		0.011111		0.016393		0.0625			
Southbound	Left	27		24		14		17		82	0.76	0%
	Through	55		88		79		71		293	0.83	0%
	Right	0		0				0		0		
	App. Total	82	0	112	0	93	0	88	0	375	0.84	
	Pct Trucks		0		0		0		0			
Total Intersection Volume		301	5	365	1	323	3	314	4	1316	0.90	
Intersection Pct Trucks			1.6%		0.3%		0.9%		1.3%			

Pedestrian Calls

APPROACH	MOVEMENT	4:45		5:00		5:15		5:30		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									0
Westbound	Through									0
N orthbound	Through							1		1
Southbound	Through									0
	App. Total	0	0	0	0	0	0	1	0	1

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & HWY 27

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/8/2015

Counter: BNG
Analyst: BNG

AM PEAK HOURS

		15 Minute Period Beginning @																							
APPROACH	MOVEMENT	6:30		6:45		7:00		7:15		7:30		7:45		8:00		8:15		8:30		8:45		9:00		9:15	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left					9		28	1	31		36		28	1	25	1								
	Through					37	1	45		55	2	55	2	59	3	44									
	Right					13		13		12	1	6	2	21		18	1								
	App. Total	0	0	0	0	59	1	86	1	98	3	97	4	108	4	87	2	0	0	0	0	0	0	0	0
	Pct Trucks						0.017		0.011		0.03		0.04		0.036		0.022								
Westbound	Left					7		17	1	13	2	21		5		10	2								
	Through					37		48	3	36		48	2	54		30	1								
	Right					5		11		20	1	22		12		16									
	App. Total	0	0	0	0	49	0	76	4	69	3	91	2	71	0	56	3	0	0	0	0	0	0	0	0
	Pct Trucks						0		0.05		0.042		0.022		0		0.051								
Northbound	Left					16		35	1	21	2	24		31		22									
	Through					38		67		82	1	46	5	56	1	46	2								
	Right					25		23		48	1	24		30		31									
	App. Total	0	0	0	0	79	0	125	1	151	4	94	5	117	1	99	2	0	0	0	0	0	0	0	0
	Pct Trucks						0		0.008		0.026		0.051		0.008		0.02								
Southbound	Left					1		3		7		8		4		5									
	Through					20	1	22	2	18	1	15	1	19		21	2								
	Right					4		14		15	2	16	3	22		8									
	App. Total	0	0	0	0	25	1	39	2	40	3	39	4	45	0	34	2	0	0	0	0	0	0	0	0
	Pct Trucks						0.038		0.049		0.07		0.093		0		0.056								
Total Intersection Volume		0	0	0	0	212	2	326	8	358	13	321	15	341	5	276	9	0	0	0	0	0	0	0	0
Intersection Pct Trucks						0.9%		2.4%		3.5%		4.5%		1.4%		3.2%									

Intersection Total		Pct
One Hour Volumes		Trucks
6:30 AM	548	1.8%
6:45 AM	919	2.5%
7:00 AM	1255	3.0%
7:15 AM	1387	3.0%
7:30 AM	1338	3.1%
7:45 AM	967	3.0%

Intersection Total		Pct
One Hour Volumes		Trucks
8:00 AM	631	2.2%
8:15 AM	285	3.2%
8:30 AM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & HWY 27

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/8/2015
Counter BNG
Analyst BNG

Whipple Consulting Engineers, Inc
AM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	28	1	31		36		28	1	125	0.87	2%
	Through	45		55	2	55	2	59	3	221	0.89	3%
	Right	13		12	1	6	2	21		55	0.65	5%
	App. Total	86	1	98	3	97	4	108	4	401	0.90	
	Pct Trucks		0.011494		0.029703		0.039604		0.035714			
Westbound	Left	17	1	13	2	21		5		59	0.70	5%
	Through	48	3	36		48	2	54		191	0.88	3%
	Right	11		20	1	22		12		66	0.75	2%
	App. Total	76	4	69	3	91	2	71	0	316	0.85	
	Pct Trucks		0.05		0.041667		0.021505		0			
Northbound	Left	35	1	21	2	24		31		114	0.79	3%
	Through	67		82	1	46	5	56	1	258	0.78	3%
	Right	23		48	1	24		30		126	0.64	1%
	App. Total	125	1	151	4	94	5	117	1	498	0.80	
	Pct Trucks		0.007937		0.025806		0.050505		0.008475			
Southbound	Left	3		7		8		4		22	0.69	0%
	Through	22	2	18	1	15	1	19		78	0.81	5%
	Right	14		15	2	16	3	22		72	0.82	7%
	App. Total	39	2	40	3	39	4	45	0	172	0.96	
	Pct Trucks		0.04878		0.069767		0.093023		0			
Total Intersection Volume		326	8	358	13	321	15	341	5	**1387**	**0.93**	
Intersection Pct Trucks			2.4%		3.5%		4.5%		1.4%			

Pedestrian Calls

APPROACH	MOVEMENT	7:15		7:30		7:45		8:00		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through									**0**
Westbound	Through									**0**
N orthbound	Through	1		3						**4**
Southbound	Through									**0**
	App. Total	1	0	3	0	0	0	0	0	4

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & HWY 27

Whipple Consulting Engineers, Inc
TRAFFIC COUNT REDUCTION WORKSHEET

DATE OF COUNT: 10/6/2015

Counter: RMA/JDK
Analyst: BNG

PM PEAK HOURS

APPROACH	MOVEMENT	15 Minute Period Beginning @ 3:30 PM		3:45 PM		4:00 PM		4:15 PM		4:30 PM		4:45 PM		5:00 PM		5:15 PM		5:30 PM		5:45 PM		6:00 PM		6:15 PM	
		pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk	pass	trk
Eastbound	Left			11		9		20		19		21		19											
	Through			66	3	70	2	69	1	60	2	81	2	81	1										
	Right			33		20		35		33		54		46											
	App. Total	0	0	110	3	99	2	124	1	112	2	156	2	146	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.027		0.02		0.008		0.018		0.013		0.007										
Westbound	Left			30		30	1	31	1	31		43		36	1										
	Through			65	2	69	2	50	1	71	1	92		90	1										
	Right			7		8		10		6		14		10											
	App. Total	0	0	102	2	107	3	91	2	108	1	149	0	136	2	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.019		0.027		0.022		0.009		0		0.014										
Northbound	Left			21		18	1	23		28		31		31											
	Through			39	1	32		25	2	39	1	45		41	1										
	Right			26		19	1	22	2	15	2	37	2	16											
	App. Total	0	0	86	1	69	2	70	4	82	3	113	2	88	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.011		0.028		0.054		0.035		0.017		0.011										
Southbound	Left			9		9		9		10		10		11											
	Through			48	2	51		44	1	51		48		52	1										
	Right			7		20		11		20		17		15											
	App. Total	0	0	64	2	80	0	64	1	81	0	75	0	78	1	0	0	0	0	0	0	0	0	0	0
	Pct Trucks				0.03		0		0.015		0		0		0.013										
Total Intersection Volume		0	0	362	8	355	7	349	8	383	6	493	4	448	5	0	0	0	0	0	0	0	0	0	0
Intersection Pct Trucks				2.2%		1.9%		2.2%		1.5%		0.8%		1.1%											

Intersection Total One Hour Volumes		Pct Trucks
3:30 PM	1089	2.1%
3:45 PM	1478	2.0%
4:00 PM	1605	1.6%
4:15 PM	1696	1.4%
4:30 PM	1339	1.1%
4:45 PM	950	0.9%

Intersection Total One Hour Volumes		Pct Trucks
5:00 PM	453	1.1%
5:15 PM	0	
5:30 PM	0	

Notes:

PROJECT: Painted Hills GC
JOB NO. 13-1166
INTERSECTION: 32nd & HWY 27

Data Transfer
Intersection No. 1

DATE OF COUNT: 10/6/2015
Counter Analyst
RMA/JDK BNG

Whipple Consulting Engineers, Inc
PM PEAK HOUR BREAKDOWN

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM				Pct
		pass	trk	pass	trk	pass	trk	pass	trk	TOTAL	P.H.F.	Trucks
Eastbound	Left	20		19		21		19		79	0.94	0%
	Through	69	1	60	2	81	2	81	1	297	0.89	2%
	Right	35		33		54		46		168	0.78	0%
	App. Total	124	1	112	2	156	2	146	1	544	0.86	
	Pct Trucks		0.008		0.017544		0.012658		0.006803			
Westbound	Left	31	1	31		43		36	1	143	0.83	1%
	Through	50	1	71	1	92		90	1	306	0.83	1%
	Right	10		6		14		10		40	0.71	0%
	App. Total	91	2	108	1	149	0	136	2	489	0.82	
	Pct Trucks		0.021505		0.009174		0		0.014493			
Northbound	Left	23		28		31		31		113	0.91	0%
	Through	25	2	39	1	45		41	1	154	0.86	3%
	Right	22	2	15	2	37	2	16		96	0.62	6%
	App. Total	70	4	82	3	113	2	88	1	363	0.79	
	Pct Trucks		0.054054		0.035294		0.017391		0.011236			
Southbound	Left	9		10		10		11		40	0.91	0%
	Through	44	1	51		48		52	1	197	0.93	1%
	Right	11		20		17		15		63	0.79	0%
	App. Total	64	1	81	0	75	0	78	1	300	0.93	
	Pct Trucks		0.015385		0		0		0.012658			
Total Intersection Volume		349	8	383	6	493	4	448	5	**1696**	**0.85**	
Intersection Pct Trucks			2.2%		1.5%		0.8%		1.1%			

Pedestrian Calls

APPROACH	MOVEMENT	4:15 PM		4:30 PM		4:45 PM		5:00 PM		
		ped	bike	ped	bike	ped	bike	ped	bike	TOTAL
Eastbound	Through	1		1		2		2		**6**
Westbound	Through									**0**
N orthbound	Through									**0**
Southbound	Through			1		1		1		**3**
	App. Total	1	0	2	0	3	0	3	0	**9**

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	223	41	47	191	0	24	0	198	0	134	31
Future Vol, veh/h	0	223	41	47	191	0	24	0	198	0	134	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	4	0	2	1	0	0	0	1	0	2	10
Mvmt Flow	0	253	47	53	217	0	27	0	225	0	152	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	300	0	0	695	601	277	713	624	217
Stage 1	-	-	-	-	-	-	277	277	-	324	324	-
Stage 2	-	-	-	-	-	-	418	324	-	389	300	-
Critical Hdwy	-	-	-	4.12	-	-	7.1	6.5	6.21	7.1	6.52	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.5	4	3.309	3.5	4.018	3.39
Pot Cap-1 Maneuver	0	-	-	1261	-	0	359	417	764	349	402	803
Stage 1	0	-	-	-	-	0	734	685	-	692	650	-
Stage 2	0	-	-	-	-	0	616	653	-	639	666	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1261	-	-	229	397	764	237	383	803
Mov Cap-2 Maneuver	-	-	-	-	-	-	229	397	-	237	383	-
Stage 1	-	-	-	-	-	-	734	685	-	692	619	-
Stage 2	-	-	-	-	-	-	423	622	-	451	666	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	15	20
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	610	-	-	1261	-	425
HCM Lane V/C Ratio	0.414	-	-	0.042	-	0.441
HCM Control Delay (s)	15	-	-	8	0	20
HCM Lane LOS	C	-	-	A	A	C
HCM 95th %tile Q(veh)	2	-	-	0.1	-	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	206	22	5	188	68	49	401	18	39	99	1
Future Volume (veh/h)	193	206	22	5	188	68	49	401	18	39	99	1
Number	3	8	18	7	4	14	1	6	16	5	2	12
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	1881	1900	1900	1873	1900	1890	1873	1890	1910	1837	1910
Adj Flow Rate, veh/h	227	242	26	6	221	80	58	472	21	46	116	1
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	1	1	0	2	2	2	0	1	1	0	4	4
Cap, veh/h	270	288	490	7	254	92	77	841	37	69	842	7
Arrive On Green	0.30	0.30	0.30	0.20	0.20	0.20	0.04	0.24	0.24	0.04	0.24	0.24
Sat Flow, veh/h	889	948	1615	35	1288	466	1800	3470	154	1819	3546	31
Grp Volume(v), veh/h	469	0	26	307	0	0	58	242	251	46	57	60
Grp Sat Flow(s),veh/h/ln	1837	0	1615	1789	0	0	1800	1779	1845	1819	1745	1831
Q Serve(g_s), s	21.8	0.0	1.0	15.2	0.0	0.0	2.9	10.9	10.9	2.3	2.4	2.4
Cycle Q Clear(g_c), s	21.8	0.0	1.0	15.2	0.0	0.0	2.9	10.9	10.9	2.3	2.4	2.4
Prop In Lane	0.48		1.00	0.02		0.26	1.00		0.08	1.00		0.02
Lane Grp Cap(c), veh/h	558	0	490	353	0	0	77	431	447	69	414	435
V/C Ratio(X)	0.84	0.00	0.05	0.87	0.00	0.00	0.76	0.56	0.56	0.67	0.14	0.14
Avail Cap(c_a), veh/h	1006	0	884	588	0	0	592	584	606	597	573	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.7	0.0	22.5	35.5	0.0	0.0	43.2	30.3	30.3	43.4	27.4	27.5
Incr Delay (d2), s/veh	3.5	0.0	0.0	7.5	0.0	0.0	14.0	1.6	1.6	10.8	0.2	0.2
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	11.6	0.0	0.5	8.2	0.0	0.0	1.7	5.5	5.7	1.4	1.2	1.2
LnGrp Delay(d),s/veh	33.3	0.0	22.5	43.1	0.0	0.0	57.2	32.0	31.9	54.1	27.6	27.6
LnGrp LOS	C		C	D			E	C	C	D	C	C
Approach Vol, veh/h		495			307			551			163	
Approach Delay, s/veh		32.7			43.1			34.6			35.1	
Approach LOS		C			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	26.7		23.0	8.4	27.1		32.7
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	4.9	4.4		17.2	4.3	12.9		23.8
Green Ext Time (p_c), s	0.1	12.1		0.8	0.1	9.2		3.9

Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	221	55	59	191	66	114	258	126	22	78	72
Future Volume (veh/h)	125	221	55	59	191	66	114	258	126	22	78	72
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	1765	1810	1872	1714	1752	1800	1748	1759	1800	1800	1699	1800
Adj Flow Rate, veh/h	134	238	59	63	205	71	123	277	135	24	84	77
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	3	3	5	3	3	3	3	3	0	5	5
Cap, veh/h	173	719	175	79	259	90	159	874	415	45	550	455
Arrive On Green	0.10	0.26	0.26	0.05	0.21	0.21	0.10	0.40	0.40	0.03	0.33	0.33
Sat Flow, veh/h	1681	2745	667	1633	1245	431	1664	2201	1044	1714	1678	1389
Grp Volume(v), veh/h	134	147	150	63	0	276	123	208	204	24	80	81
Grp Sat Flow(s),veh/h/ln	1681	1720	1693	1633	0	1676	1664	1671	1574	1714	1614	1454
Q Serve(g_s), s	5.8	5.2	5.4	2.9	0.0	11.7	5.4	6.5	6.7	1.0	2.7	3.0
Cycle Q Clear(g_c), s	5.8	5.2	5.4	2.9	0.0	11.7	5.4	6.5	6.7	1.0	2.7	3.0
Prop In Lane	1.00		0.39	1.00		0.26	1.00		0.66	1.00		0.96
Lane Grp Cap(c), veh/h	173	450	443	79	0	348	159	664	625	45	529	476
V/C Ratio(X)	0.78	0.33	0.34	0.79	0.00	0.79	0.77	0.31	0.33	0.53	0.15	0.17
Avail Cap(c_a), veh/h	559	938	923	543	0	914	664	889	838	684	859	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	22.4	22.5	35.4	0.0	28.2	33.2	15.6	15.7	36.1	17.9	18.0
Incr Delay (d2), s/veh	7.3	0.4	0.4	16.0	0.0	4.1	7.7	0.7	0.7	9.5	0.4	0.5
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	3.1	2.5	2.5	1.6	0.0	5.8	2.8	3.1	3.0	0.6	1.2	1.2
LnGrp Delay(d),s/veh	40.1	22.8	22.9	51.4	0.0	32.3	40.9	16.3	16.4	45.6	18.2	18.4
LnGrp LOS	D	C	C	D		C	D	B	B	D	B	B
Approach Vol, veh/h		431			339			535			185	
Approach Delay, s/veh		28.2			35.9			22.0			21.9	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	35.4	8.2	24.2	12.7	30.1	12.2	20.1
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	41.0	30.0	40.0	25.0	41.0
Max Q Clear Time (g_c+I1), s	13.0	8.7	4.9	7.4	7.4	5.0	7.8	13.7
Green Ext Time (p_c), s	0.0	18.2	0.1	1.9	0.4	19.7	0.4	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	26.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	309	48	64	143	0	20	0	162	0	201	103
Future Vol, veh/h	0	309	48	64	143	0	20	0	162	0	201	103
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	332	52	69	154	0	22	0	174	0	216	111

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	384	0	0	813	649	358	736	675	154
Stage 1	-	-	-	-	-	-	358	358	-	291	291	-
Stage 2	-	-	-	-	-	-	455	291	-	445	384	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	0	-	-	1186	-	0	299	391	691	337	378	889
Stage 1	0	-	-	-	-	0	664	631	-	721	675	-
Stage 2	0	-	-	-	-	0	589	675	-	596	615	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1186	-	-	128	366	691	240	354	889
Mov Cap-2 Maneuver	-	-	-	-	-	-	128	366	-	240	354	-
Stage 1	-	-	-	-	-	-	664	631	-	721	632	-
Stage 2	-	-	-	-	-	-	318	632	-	446	615	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.5	18.2	32.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	466	-	-	1186	-	445
HCM Lane V/C Ratio	0.42	-	-	0.058	-	0.735
HCM Control Delay (s)	18.2	-	-	8.2	0	32.4
HCM Lane LOS	C	-	-	A	A	D
HCM 95th %tile Q(veh)	2	-	-	0.2	-	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	254	53	13	186	6	21	247	9	82	293	0
Future Volume (veh/h)	164	254	53	13	186	6	21	247	9	82	293	0
Number	3	8	18	7	4	14	1	6	16	5	2	12
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	1870	1900	1900	1883	1900	1890	1851	1890	1910	1910	0
Adj Flow Rate, veh/h	182	282	59	14	207	7	23	274	10	91	326	0
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	0	1	1	1	0	1	1	0	0	0
Cap, veh/h	224	346	502	17	255	9	45	767	28	122	956	0
Arrive On Green	0.31	0.31	0.31	0.15	0.15	0.15	0.03	0.22	0.22	0.07	0.26	0.00
Sat Flow, veh/h	719	1115	1615	115	1695	57	1800	3462	126	1819	3724	0
Grp Volume(v), veh/h	464	0	59	228	0	0	23	139	145	91	326	0
Grp Sat Flow(s),veh/h/ln	1834	0	1615	1867	0	0	1800	1759	1829	1819	1814	0
Q Serve(g_s), s	18.7	0.0	2.1	9.4	0.0	0.0	1.0	5.3	5.4	3.9	5.8	0.0
Cycle Q Clear(g_c), s	18.7	0.0	2.1	9.4	0.0	0.0	1.0	5.3	5.4	3.9	5.8	0.0
Prop In Lane	0.39		1.00	0.06		0.03	1.00		0.07	1.00		0.00
Lane Grp Cap(c), veh/h	570	0	502	281	0	0	45	390	405	122	956	0
V/C Ratio(X)	0.81	0.00	0.12	0.81	0.00	0.00	0.51	0.36	0.36	0.75	0.34	0.00
Avail Cap(c_a), veh/h	1147	0	1010	701	0	0	676	660	686	683	1362	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.4	0.0	19.7	32.9	0.0	0.0	38.5	26.3	26.3	36.6	23.8	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.1	5.6	0.0	0.0	8.7	0.8	0.8	8.7	0.2	0.0
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	9.9	0.0	0.9	5.3	0.0	0.0	0.6	2.7	2.8	2.3	2.9	0.0
LnGrp Delay(d),s/veh	28.3	0.0	19.8	38.5	0.0	0.0	47.2	27.1	27.1	45.3	24.1	0.0
LnGrp LOS	C		B	D			D	C	C	D	C	
Approach Vol, veh/h		523			228			307			417	
Approach Delay, s/veh		27.3			38.5			28.6			28.7	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	26.1		17.0	10.4	22.7		29.8
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	3.0	7.8		11.4	5.9	7.4		20.7
Green Ext Time (p_c), s	0.0	10.2		0.6	0.2	10.3		4.2

Intersection Summary	
HCM 2010 Ctrl Delay	29.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	297	168	143	306	40	113	154	96	40	197	63
Future Volume (veh/h)	79	297	168	143	306	40	113	154	96	40	197	63
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		0.99	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	1800	1848	1872	1782	1784	1800	1800	1728	1800	1800	1786	1800
Adj Flow Rate, veh/h	93	349	198	168	360	47	133	181	113	47	232	74
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	2	2	1	1	1	0	3	3	0	1	1
Cap, veh/h	121	500	278	207	435	57	170	750	445	67	811	252
Arrive On Green	0.07	0.23	0.23	0.12	0.28	0.28	0.10	0.38	0.38	0.04	0.32	0.32
Sat Flow, veh/h	1714	2173	1210	1697	1546	202	1714	1983	1178	1714	2550	793
Grp Volume(v), veh/h	93	281	266	168	0	407	133	148	146	47	152	154
Grp Sat Flow(s),veh/h/ln	1714	1756	1627	1697	0	1748	1714	1642	1519	1714	1697	1646
Q Serve(g_s), s	4.6	12.7	13.1	8.4	0.0	18.9	6.6	5.4	5.7	2.3	5.8	6.1
Cycle Q Clear(g_c), s	4.6	12.7	13.1	8.4	0.0	18.9	6.6	5.4	5.7	2.3	5.8	6.1
Prop In Lane	1.00		0.74	1.00		0.12	1.00		0.78	1.00		0.48
Lane Grp Cap(c), veh/h	121	404	374	207	0	492	170	621	574	67	540	524
V/C Ratio(X)	0.77	0.69	0.71	0.81	0.00	0.83	0.78	0.24	0.25	0.70	0.28	0.29
Avail Cap(c_a), veh/h	494	831	770	490	0	827	593	758	701	593	783	760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	30.6	30.7	37.1	0.0	29.2	38.1	18.4	18.5	41.1	22.1	22.2
Incr Delay (d2), s/veh	9.6	2.2	2.5	7.4	0.0	3.6	7.6	0.5	0.6	12.5	0.8	0.8
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	2.5	6.4	6.1	4.3	0.0	9.5	3.5	2.5	2.5	1.3	2.8	2.9
LnGrp Delay(d),s/veh	49.2	32.7	33.2	44.5	0.0	32.8	45.7	18.9	19.1	53.6	22.9	23.1
LnGrp LOS	D	C	C	D		C	D	B	B	D	C	C
Approach Vol, veh/h		640			575			427			353	
Approach Delay, s/veh		35.3			36.2			27.3			27.1	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	38.3	15.1	24.4	14.1	33.1	10.6	28.9
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	41.0	30.0	40.0	25.0	41.0
Max Q Clear Time (g_c+I1), s	4.3	7.7	10.4	15.1	8.6	8.1	6.6	20.9
Green Ext Time (p_c), s	0.1	19.6	0.4	3.5	0.4	19.5	0.2	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	32.4
HCM 2010 LOS	C

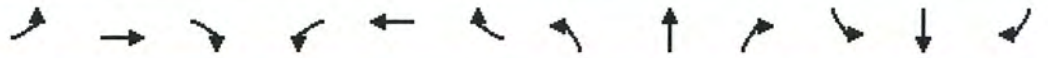
Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	251	46	53	218	0	29	0	229	0	152	35
Future Vol, veh/h	0	251	46	53	218	0	29	0	229	0	152	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	4	0	2	1	0	0	0	1	0	2	10
Mvmt Flow	0	285	52	60	248	0	33	0	260	0	173	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	338	0	0	785	679	311	809	706	248
Stage 1	-	-	-	-	-	-	311	311	-	368	368	-
Stage 2	-	-	-	-	-	-	474	368	-	441	338	-
Critical Hdwy	-	-	-	4.12	-	-	7.1	6.5	6.21	7.1	6.52	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.5	4	3.309	3.5	4.018	3.39
Pot Cap-1 Maneuver	0	-	-	1221	-	0	313	376	731	301	361	772
Stage 1	0	-	-	-	-	0	704	662	-	656	621	-
Stage 2	0	-	-	-	-	0	575	625	-	599	641	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1221	-	-	171	355	731	185	340	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	171	355	-	185	340	-
Stage 1	-	-	-	-	-	-	704	662	-	656	586	-
Stage 2	-	-	-	-	-	-	363	589	-	386	641	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	19.6	25.8
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	534	-	-	1221	-	380
HCM Lane V/C Ratio	0.549	-	-	0.049	-	0.559
HCM Control Delay (s)	19.6	-	-	8.1	0	25.8
HCM Lane LOS	C	-	-	A	A	D
HCM 95th %tile Q(veh)	3.3	-	-	0.2	-	3.3



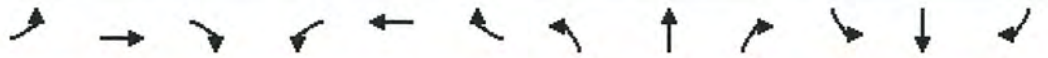
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	251	46	53	218	0	29	0	229	0	152	35
Future Volume (vph)	0	251	46	53	218	0	29	0	229	0	152	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95			1.00			0.95	0.95		1.00	1.00
Frt		0.98			1.00			0.88	0.85		1.00	0.85
Flt Protected		1.00			0.99			0.99	1.00		1.00	1.00
Satd. Flow (prot)		3411			1859			1566	1519		1863	1468
Flt Permitted		1.00			0.62			0.87	1.00		1.00	1.00
Satd. Flow (perm)		3411			1173			1379	1519		1863	1468
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	285	52	60	248	0	33	0	260	0	173	40
RTOR Reduction (vph)	0	14	0	0	0	0	0	130	133	0	0	34
Lane Group Flow (vph)	0	323	0	0	308	0	0	15	15	0	173	6
Heavy Vehicles (%)	0%	4%	0%	2%	1%	0%	0%	0%	1%	0%	2%	10%
Turn Type		NA		Perm	NA		Perm	NA	Perm		NA	Perm
Protected Phases		18			14 24			12			16	
Permitted Phases				14 24			12		12			16
Actuated Green, G (s)		19.5			43.7			7.7	7.7		11.7	11.7
Effective Green, g (s)		19.5			43.7			7.7	7.7		11.7	11.7
Actuated g/C Ratio		0.26			0.57			0.10	0.10		0.15	0.15
Clearance Time (s)		5.0						4.5	4.5		4.5	4.5
Vehicle Extension (s)		3.0						3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		874			673			139	153		286	225
v/s Ratio Prot		0.09									c0.09	
v/s Ratio Perm					c0.26			c0.01	0.01			0.00
v/c Ratio		0.37			0.46			0.11	0.10		0.60	0.03
Uniform Delay, d1		23.2			9.4			31.1	31.0		30.0	27.4
Progression Factor		1.00			0.40			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.3			0.2			0.3	0.3		3.6	0.0
Delay (s)		23.5			3.9			31.4	31.3		33.6	27.4
Level of Service		C			A			C	C		C	C
Approach Delay (s)		23.5			3.9			31.4			32.5	
Approach LOS		C			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	76.1	Sum of lost time (s)	19.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	232	27	6	211	76	60	488	20	44	122	1
Future Volume (veh/h)	221	232	27	6	211	76	60	488	20	44	122	1
Number	3	8	18	7	4	14	1	6	16	5	2	12
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	1881	1900	1900	1873	1900	1890	1873	1890	1910	1837	1910
Adj Flow Rate, veh/h	260	273	32	7	248	89	71	574	24	52	144	1
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	1	1	0	2	2	2	0	1	1	0	4	4
Cap, veh/h	295	310	532	8	274	98	94	834	35	69	801	6
Arrive On Green	0.33	0.33	0.33	0.21	0.21	0.21	0.05	0.24	0.24	0.04	0.23	0.23
Sat Flow, veh/h	896	941	1615	36	1290	463	1800	3480	145	1819	3552	25
Grp Volume(v), veh/h	533	0	32	344	0	0	71	293	305	52	71	74
Grp Sat Flow(s),veh/h/ln	1836	0	1615	1789	0	0	1800	1779	1847	1819	1745	1832
Q Serve(g_s), s	30.3	0.0	1.5	20.7	0.0	0.0	4.3	16.5	16.6	3.1	3.6	3.6
Cycle Q Clear(g_c), s	30.3	0.0	1.5	20.7	0.0	0.0	4.3	16.5	16.6	3.1	3.6	3.6
Prop In Lane	0.49		1.00	0.02		0.26	1.00		0.08	1.00		0.01
Lane Grp Cap(c), veh/h	604	0	532	380	0	0	94	426	442	69	393	413
V/C Ratio(X)	0.88	0.00	0.06	0.91	0.00	0.00	0.76	0.69	0.69	0.75	0.18	0.18
Avail Cap(c_a), veh/h	832	0	732	487	0	0	490	484	502	495	475	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	25.3	42.4	0.0	0.0	51.6	38.2	38.2	52.6	34.5	34.5
Incr Delay (d2), s/veh	8.4	0.0	0.0	17.5	0.0	0.0	11.8	4.1	4.0	15.3	0.3	0.2
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	16.7	0.0	0.7	12.1	0.0	0.0	2.4	8.6	9.0	1.9	1.8	1.9
LnGrp Delay(d),s/veh	43.4	0.0	25.4	59.8	0.0	0.0	63.4	42.3	42.2	67.8	34.7	34.7
LnGrp LOS	D		C	E			E	D	D	E	C	C
Approach Vol, veh/h		565			344			669			197	
Approach Delay, s/veh		42.3			59.8			44.5			43.5	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.7	29.9		28.4	9.2	31.4		41.3
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	6.3	5.6		22.7	5.1	18.6		32.3
Green Ext Time (p_c), s	0.2	14.1		0.7	0.1	7.8		4.0

Intersection Summary	
HCM 2010 Ctrl Delay	46.7
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	232	27	6	211	8	60	488	20	44	122	1
Future Volume (vph)	221	232	27	6	211	8	60	488	20	44	122	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	4.5		4.0	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00		1.00	0.99		1.00	1.00	
Flt Protected	0.95	0.99	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1698	1777	1615		1854		1805	3554		1805	3468	
Flt Permitted	0.51	0.94	1.00		0.99		0.00	1.00		0.28	1.00	
Satd. Flow (perm)	907	1684	1615		1835		0	3554		539	3468	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	260	273	32	7	248	9	71	574	24	52	144	1
RTOR Reduction (vph)	0	0	18	0	1	0	0	2	0	0	1	0
Lane Group Flow (vph)	224	309	14	0	263	0	71	596	0	52	144	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	0%	0%	1%	0%	0%	4%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8 28			4		5!	2!		1!	6!	
Permitted Phases	8 28		8 28	4			2			6		
Actuated Green, G (s)	32.7	32.7	32.7		19.5		30.3	15.2		15.2	15.2	
Effective Green, g (s)	32.7	32.7	32.7		19.5		30.3	15.2		15.2	15.2	
Actuated g/C Ratio	0.43	0.43	0.43		0.26		0.40	0.20		0.20	0.20	
Clearance Time (s)					5.0		4.0	4.5		4.0	4.5	
Vehicle Extension (s)					1.9		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	389	723	693		470		718	709		125	692	
v/s Ratio Prot							c0.04	c0.17		c0.01	0.04	
v/s Ratio Perm	c0.25	0.18	0.01		0.14					c0.08		
v/c Ratio	0.58	0.43	0.02		0.56		0.10	0.84		0.42	0.21	
Uniform Delay, d1	16.4	15.2	12.5		24.6		14.3	29.3		29.0	25.4	
Progression Factor	0.52	0.48	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.3	0.0		0.8		0.1	8.8		2.2	0.7	
Delay (s)	10.2	7.6	12.5		25.4		14.4	38.1		31.3	26.1	
Level of Service	B	A	B		C		B	D		C	C	
Approach Delay (s)		8.9			25.4			35.6			27.5	
Approach LOS		A			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	76.1	Sum of lost time (s)	19.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Description: 1/28/15 count

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	255	66	72	219	85	142	323	158	28	98	80
Future Volume (veh/h)	139	255	66	72	219	85	142	323	158	28	98	80
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	1765	1810	1872	1714	1752	1800	1748	1759	1800	1800	1700	1800
Adj Flow Rate, veh/h	149	274	71	77	235	91	153	347	170	30	105	86
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	3	3	5	3	3	3	3	3	0	5	5
Cap, veh/h	186	769	196	98	280	109	190	891	429	50	566	426
Arrive On Green	0.11	0.28	0.28	0.06	0.23	0.23	0.11	0.41	0.41	0.03	0.32	0.32
Sat Flow, veh/h	1681	2717	691	1633	1204	466	1664	2190	1054	1714	1758	1323
Grp Volume(v), veh/h	149	172	173	77	0	326	153	263	254	30	96	95
Grp Sat Flow(s),veh/h/ln	1681	1720	1688	1633	0	1670	1664	1671	1573	1714	1615	1466
Q Serve(g_s), s	7.8	7.2	7.4	4.2	0.0	16.9	8.1	10.1	10.3	1.6	3.9	4.3
Cycle Q Clear(g_c), s	7.8	7.2	7.4	4.2	0.0	16.9	8.1	10.1	10.3	1.6	3.9	4.3
Prop In Lane	1.00		0.41	1.00		0.28	1.00		0.67	1.00		0.90
Lane Grp Cap(c), veh/h	186	487	478	98	0	389	190	680	640	50	519	472
V/C Ratio(X)	0.80	0.35	0.36	0.78	0.00	0.84	0.80	0.39	0.40	0.60	0.18	0.20
Avail Cap(c_a), veh/h	463	778	763	450	0	755	551	737	694	567	712	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	25.9	26.0	42.0	0.0	33.1	39.2	18.9	19.0	43.5	22.2	22.3
Incr Delay (d2), s/veh	7.8	0.4	0.5	12.6	0.0	4.9	7.7	0.9	1.0	10.9	0.5	0.6
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	4.0	3.5	3.5	2.2	0.0	8.3	4.1	4.8	4.6	0.9	1.8	1.8
LnGrp Delay(d),s/veh	47.2	26.3	26.4	54.6	0.0	38.0	46.9	19.8	20.0	54.4	22.6	22.9
LnGrp LOS	D	C	C	D		D	D	B	C	D	C	C
Approach Vol, veh/h		494			403			670			221	
Approach Delay, s/veh		32.6			41.2			26.1			27.1	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	42.4	10.0	30.2	15.9	34.7	14.5	25.6
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	41.0	30.0	40.0	25.0	41.0
Max Q Clear Time (g_c+I1), s	13.6	12.3	6.2	9.4	10.1	6.3	9.8	18.9
Green Ext Time (p_c), s	0.1	19.6	0.2	2.3	0.5	22.9	0.4	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	31.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	26.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	350	55	76	163	0	23	0	187	0	231	115
Future Vol, veh/h	0	350	55	76	163	0	23	0	187	0	231	115
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	376	59	82	175	0	25	0	201	0	248	124

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	435	0	0	931	745	406	845	774	175
Stage 1	-	-	-	-	-	-	406	406	-	339	339	-
Stage 2	-	-	-	-	-	-	525	339	-	506	435	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	0	-	-	1135	-	0	249	345	649	285	332	866
Stage 1	0	-	-	-	-	0	626	601	-	680	643	-
Stage 2	0	-	-	-	-	0	540	643	-	552	584	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1135	-	-	65	317	649	185	305	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	317	-	185	305	-
Stage 1	-	-	-	-	-	-	626	601	-	680	592	-
Stage 2	-	-	-	-	-	-	247	592	-	381	584	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.7	37.3	68.3
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	327	-	-	1135	-	389
HCM Lane V/C Ratio	0.691	-	-	0.072	-	0.956
HCM Control Delay (s)	37.3	-	-	8.4	0	68.3
HCM Lane LOS	E	-	-	A	A	F
HCM 95th %tile Q(veh)	4.8	-	-	0.2	-	10.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	350	55	76	163	0	23	0	187	0	231	115
Future Volume (vph)	0	350	55	76	163	0	23	0	187	0	231	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95			1.00			0.95	0.95		1.00	1.00
Frt		0.98			1.00			0.88	0.85		1.00	0.85
Flt Protected		1.00			0.98			0.99	1.00		1.00	1.00
Satd. Flow (prot)		3506			1870			1578	1534		1900	1568
Flt Permitted		1.00			0.44			0.85	1.00		1.00	1.00
Satd. Flow (perm)		3506			831			1353	1534		1900	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	376	59	82	175	0	25	0	201	0	248	124
RTOR Reduction (vph)	0	12	0	0	0	0	0	98	105	0	0	100
Lane Group Flow (vph)	0	423	0	0	257	0	0	11	12	0	248	24
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA		Perm	NA		Perm	NA	Perm		NA	Perm
Protected Phases		18			14 24			12			16	
Permitted Phases				14 24			12		12			16
Actuated Green, G (s)		17.4			40.7			7.8	7.8		14.6	14.6
Effective Green, g (s)		17.4			40.7			7.8	7.8		14.6	14.6
Actuated g/C Ratio		0.23			0.53			0.10	0.10		0.19	0.19
Clearance Time (s)		5.0						4.5	4.5		4.5	4.5
Vehicle Extension (s)		3.0						3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		801			444			138	157		364	300
v/s Ratio Prot		0.12									c0.13	
v/s Ratio Perm					c0.31			c0.01	0.01			0.02
v/c Ratio		0.53			0.58			0.08	0.08		0.68	0.08
Uniform Delay, d1		25.7			11.9			30.9	30.9		28.6	25.2
Progression Factor		1.00			1.08			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.6			1.1			0.3	0.2		5.2	0.1
Delay (s)		26.4			14.0			31.2	31.1		33.8	25.3
Level of Service		C			B			C	C		C	C
Approach Delay (s)		26.4			14.0			31.1			31.0	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	76.1	Sum of lost time (s)	19.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	285	64	15	213	7	26	301	10	91	373	0
Future Volume (veh/h)	187	285	64	15	213	7	26	301	10	91	373	0
Number	3	8	18	7	4	14	1	6	16	5	2	12
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	1870	1900	1900	1883	1900	1890	1853	1890	1910	1910	0
Adj Flow Rate, veh/h	208	317	71	17	237	8	29	334	11	101	414	0
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	0	1	1	1	0	1	1	0	0	0
Cap, veh/h	243	370	540	20	277	9	50	774	25	132	970	0
Arrive On Green	0.33	0.33	0.33	0.16	0.16	0.16	0.03	0.22	0.22	0.07	0.27	0.00
Sat Flow, veh/h	726	1107	1615	121	1689	57	1800	3479	114	1819	3724	0
Grp Volume(v), veh/h	525	0	71	262	0	0	29	169	176	101	414	0
Grp Sat Flow(s),veh/h/ln	1834	0	1615	1867	0	0	1800	1760	1833	1819	1814	0
Q Serve(g_s), s	25.9	0.0	3.0	13.3	0.0	0.0	1.5	8.0	8.0	5.3	9.2	0.0
Cycle Q Clear(g_c), s	25.9	0.0	3.0	13.3	0.0	0.0	1.5	8.0	8.0	5.3	9.2	0.0
Prop In Lane	0.40		1.00	0.06		0.03	1.00		0.06	1.00		0.00
Lane Grp Cap(c), veh/h	613	0	540	307	0	0	50	392	408	132	970	0
V/C Ratio(X)	0.86	0.00	0.13	0.85	0.00	0.00	0.58	0.43	0.43	0.76	0.43	0.00
Avail Cap(c_a), veh/h	944	0	831	577	0	0	556	544	566	562	1120	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.1	0.0	22.5	39.5	0.0	0.0	46.6	32.5	32.5	44.2	29.4	0.0
Incr Delay (d2), s/veh	4.9	0.0	0.1	6.8	0.0	0.0	10.0	1.1	1.0	8.7	0.3	0.0
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	14.0	0.0	1.3	7.4	0.0	0.0	0.9	4.0	4.2	3.0	4.6	0.0
LnGrp Delay(d),s/veh	35.1	0.0	22.6	46.2	0.0	0.0	56.7	33.5	33.5	52.9	29.8	0.0
LnGrp LOS	D		C	D			E	C	C	D	C	
Approach Vol, veh/h		596			262			374			515	
Approach Delay, s/veh		33.6			46.2			35.3			34.3	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.7	31.0		21.0	12.1	26.6		37.5
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	3.5	11.2		15.3	7.3	10.0		27.9
Green Ext Time (p_c), s	0.1	11.1		0.7	0.3	11.6		4.6

Intersection Summary	
HCM 2010 Ctrl Delay	36.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	285	64	15	213	7	26	301	10	91	373	0
Future Volume (vph)	187	285	64	15	213	7	26	301	10	91	373	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	4.5		4.0	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1698	1765	1615		1869		1805	3522		1805	3610	
Flt Permitted	0.50	0.97	1.00		0.95		0.51	1.00		0.00	1.00	
Satd. Flow (perm)	891	1723	1615		1790		968	3522		0	3610	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	208	317	71	17	237	8	29	334	11	101	414	0
RTOR Reduction (vph)	0	0	42	0	1	0	0	2	0	0	0	0
Lane Group Flow (vph)	187	338	29	0	261	0	29	343	0	101	414	0
Heavy Vehicles (%)	1%	2%	0%	0%	1%	0%	0%	1%	33%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8 28			4		5!	2!		1!	6!	
Permitted Phases	8 28		8 28	4			2			6		
Actuated Green, G (s)	30.7	30.7	30.7		17.4		17.6	17.1		28.6	15.3	
Effective Green, g (s)	30.7	30.7	30.7		17.4		17.6	17.1		28.6	15.3	
Actuated g/C Ratio	0.40	0.40	0.40		0.23		0.23	0.22		0.38	0.20	
Clearance Time (s)					5.0		4.0	4.5		4.0	4.5	
Vehicle Extension (s)					1.9		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	359	695	651		409		276	791		678	725	
v/s Ratio Prot							0.01	c0.10		c0.06	c0.11	
v/s Ratio Perm	c0.21	0.20	0.02		c0.15		0.02					
v/c Ratio	0.52	0.49	0.04		0.64		0.11	0.43		0.15	0.57	
Uniform Delay, d1	17.1	16.8	13.8		26.5		23.2	25.3		15.7	27.4	
Progression Factor	0.43	0.41	0.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.4	0.0		2.4		0.2	0.4		0.1	3.3	
Delay (s)	8.5	7.3	0.0		28.9		23.3	25.7		15.8	30.7	
Level of Service	A	A	A		C		C	C		B	C	
Approach Delay (s)		6.8			28.9			25.5			27.8	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	76.1	Sum of lost time (s)	19.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

Description: 10/7/16 counts

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	339	205	182	351	51	136	194	120	56	260	70
Future Volume (veh/h)	88	339	205	182	351	51	136	194	120	56	260	70
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	1800	1849	1872	1782	1784	1800	1800	1728	1800	1800	1786	1800
Adj Flow Rate, veh/h	104	399	241	214	413	60	160	228	141	66	306	82
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	2	2	1	1	1	0	3	3	0	1	1
Cap, veh/h	132	512	305	248	474	69	195	740	440	86	823	217
Arrive On Green	0.08	0.24	0.24	0.15	0.31	0.31	0.11	0.37	0.37	0.05	0.31	0.31
Sat Flow, veh/h	1714	2114	1261	1697	1524	221	1714	1982	1179	1714	2658	701
Grp Volume(v), veh/h	104	331	309	214	0	473	160	187	182	66	194	194
Grp Sat Flow(s),veh/h/ln	1714	1756	1619	1697	0	1745	1714	1642	1519	1714	1697	1662
Q Serve(g_s), s	6.3	18.6	19.0	13.1	0.0	27.2	9.7	8.6	9.0	4.0	9.4	9.7
Cycle Q Clear(g_c), s	6.3	18.6	19.0	13.1	0.0	27.2	9.7	8.6	9.0	4.0	9.4	9.7
Prop In Lane	1.00		0.78	1.00		0.13	1.00		0.78	1.00		0.42
Lane Grp Cap(c), veh/h	132	425	392	248	0	542	195	613	567	86	526	515
V/C Ratio(X)	0.79	0.78	0.79	0.86	0.00	0.87	0.82	0.31	0.32	0.77	0.37	0.38
Avail Cap(c_a), veh/h	404	679	626	400	0	675	485	620	573	485	640	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	37.5	37.6	44.2	0.0	34.5	45.9	23.5	23.7	49.7	28.5	28.6
Incr Delay (d2), s/veh	9.8	3.1	3.6	10.6	0.0	10.2	8.4	0.7	0.8	13.3	1.2	1.3
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	3.4	9.4	8.9	6.9	0.0	14.5	5.0	4.0	3.9	2.2	4.6	4.6
LnGrp Delay(d),s/veh	57.8	40.6	41.2	54.8	0.0	44.7	54.3	24.2	24.5	63.1	29.7	29.9
LnGrp LOS	E	D	D	D		D	D	C	C	E	C	C
Approach Vol, veh/h		744			687			529			454	
Approach Delay, s/veh		43.3			47.9			33.4			34.6	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	45.1	20.0	30.2	17.5	38.3	12.7	37.4
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	41.0	30.0	40.0	25.0	41.0
Max Q Clear Time (g_c+I1), s	13.0	11.0	15.1	21.0	11.7	11.7	8.3	29.2
Green Ext Time (p_c), s	0.2	21.5	0.4	4.0	0.5	21.1	0.3	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	40.8
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	11.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	251	47	54	218	0	32	0	256	0	157	35
Future Vol, veh/h	0	251	47	54	218	0	32	0	256	0	157	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	4	0	2	1	0	0	0	1	0	2	10
Mvmt Flow	0	285	53	61	248	0	36	0	291	0	178	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	339	0	0	792	682	312	827	709	248
Stage 1	-	-	-	-	-	-	312	312	-	370	370	-
Stage 2	-	-	-	-	-	-	480	370	-	457	339	-
Critical Hdwy	-	-	-	4.12	-	-	7.1	6.5	6.21	7.1	6.52	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.5	4	3.309	3.5	4.018	3.39
Pot Cap-1 Maneuver	0	-	-	1220	-	0	309	375	731	293	359	772
Stage 1	0	-	-	-	-	0	703	661	-	654	620	-
Stage 2	0	-	-	-	-	0	571	624	-	587	640	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1220	-	-	164	353	731	169	338	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	164	353	-	169	338	-
Stage 1	-	-	-	-	-	-	703	661	-	654	584	-
Stage 2	-	-	-	-	-	-	354	588	-	353	640	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	22.3	26.9
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	528	-	-	1220	-	377
HCM Lane V/C Ratio	0.62	-	-	0.05	-	0.579
HCM Control Delay (s)	22.3	-	-	8.1	0	26.9
HCM Lane LOS	C	-	-	A	A	D
HCM 95th %tile Q(veh)	4.2	-	-	0.2	-	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	251	47	54	218	0	32	0	256	0	157	35
Future Volume (vph)	0	251	47	54	218	0	32	0	256	0	157	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			4.5	4.5		4.5	4.5
Lane Util. Factor		0.95			1.00			0.95	0.95		1.00	1.00
Frt		0.98			1.00			0.88	0.85		1.00	0.85
Flt Protected		1.00			0.99			0.99	1.00		1.00	1.00
Satd. Flow (prot)		3410			1859			1565	1519		1863	1468
Flt Permitted		1.00			0.63			0.87	1.00		1.00	1.00
Satd. Flow (perm)		3410			1175			1379	1519		1863	1468
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	285	53	61	248	0	36	0	291	0	178	40
RTOR Reduction (vph)	0	15	0	0	0	0	0	144	148	0	0	34
Lane Group Flow (vph)	0	323	0	0	309	0	0	17	18	0	178	6
Heavy Vehicles (%)	0%	4%	0%	2%	1%	0%	0%	0%	1%	0%	2%	10%
Turn Type		NA		Perm	NA		Perm	NA	Perm		NA	Perm
Protected Phases		18			14 24			12			16	
Permitted Phases				14 24			12		12			16
Actuated Green, G (s)		20.3			44.2			8.4	8.4		12.0	12.0
Effective Green, g (s)		20.3			44.2			8.4	8.4		12.0	12.0
Actuated g/C Ratio		0.26			0.57			0.11	0.11		0.15	0.15
Clearance Time (s)		5.0						4.5	4.5		4.5	4.5
Vehicle Extension (s)		3.0						3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		892			669			149	164		288	227
v/s Ratio Prot		0.09									c0.10	
v/s Ratio Perm					c0.26			c0.01	0.01			0.00
v/c Ratio		0.36			0.46			0.12	0.11		0.62	0.03
Uniform Delay, d1		23.4			9.8			31.3	31.2		30.7	27.8
Progression Factor		1.00			0.41			1.00	1.00		1.00	1.00
Incremental Delay, d2		0.3			0.2			0.4	0.3		3.9	0.0
Delay (s)		23.6			4.2			31.6	31.5		34.6	27.9
Level of Service		C			A			C	C		C	C
Approach Delay (s)		23.6			4.2			31.6			33.3	
Approach LOS		C			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	77.6	Sum of lost time (s)	19.0
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	243	27	6	212	76	60	503	20	44	124	1
Future Volume (veh/h)	237	243	27	6	212	76	60	503	20	44	124	1
Number	3	8	18	7	4	14	1	6	16	5	2	12
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	1881	1900	1900	1873	1900	1890	1873	1890	1910	1837	1910
Adj Flow Rate, veh/h	279	286	32	7	249	89	71	592	24	52	146	1
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	1	1	0	2	2	2	0	1	1	0	4	4
Cap, veh/h	311	319	554	8	273	98	93	819	33	69	785	5
Arrive On Green	0.34	0.34	0.34	0.21	0.21	0.21	0.05	0.23	0.23	0.04	0.22	0.22
Sat Flow, veh/h	907	929	1615	36	1292	462	1800	3485	141	1819	3553	24
Grp Volume(v), veh/h	565	0	32	345	0	0	71	302	314	52	72	75
Grp Sat Flow(s),veh/h/ln	1836	0	1615	1790	0	0	1800	1779	1848	1819	1745	1832
Q Serve(g_s), s	33.8	0.0	1.5	21.8	0.0	0.0	4.5	18.1	18.1	3.3	3.9	3.9
Cycle Q Clear(g_c), s	33.8	0.0	1.5	21.8	0.0	0.0	4.5	18.1	18.1	3.3	3.9	3.9
Prop In Lane	0.49		1.00	0.02		0.26	1.00		0.08	1.00		0.01
Lane Grp Cap(c), veh/h	630	0	554	378	0	0	93	418	434	69	385	405
V/C Ratio(X)	0.90	0.00	0.06	0.91	0.00	0.00	0.76	0.72	0.72	0.76	0.19	0.19
Avail Cap(c_a), veh/h	793	0	698	464	0	0	467	461	479	472	452	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	0.0	25.5	44.6	0.0	0.0	54.1	40.8	40.8	55.1	36.6	36.6
Incr Delay (d2), s/veh	11.0	0.0	0.0	19.7	0.0	0.0	11.9	5.6	5.4	15.3	0.3	0.3
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	19.0	0.0	0.7	12.8	0.0	0.0	2.6	9.5	9.9	1.9	1.9	2.0
LnGrp Delay(d),s/veh	47.1	0.0	25.5	64.3	0.0	0.0	66.0	46.4	46.2	70.4	36.9	36.9
LnGrp LOS	D		C	E			E	D	D	E	D	D
Approach Vol, veh/h		597			345			687			199	
Approach Delay, s/veh		45.9			64.3			48.4			45.6	
Approach LOS		D			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	30.6		29.4	9.4	32.2		44.7
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	30.0	30.0		30.0	30.0	30.0		50.0
Max Q Clear Time (g_c+I1), s	6.5	5.9		23.8	5.3	20.1		35.8
Green Ext Time (p_c), s	0.2	14.3		0.7	0.1	7.0		3.9

Intersection Summary	
HCM 2010 Ctrl Delay	50.3
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	237	243	27	6	212	8	60	503	20	44	124	1
Future Volume (vph)	237	243	27	6	212	8	60	503	20	44	124	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		5.0		4.0	4.5		4.0	4.5	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00		1.00	0.99		1.00	1.00	
Flt Protected	0.95	0.99	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1698	1776	1615		1854		1805	3555		1805	3469	
Flt Permitted	0.51	0.93	1.00		0.99		0.00	1.00		0.28	1.00	
Satd. Flow (perm)	909	1669	1615		1834		0	3555		539	3469	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	279	286	32	7	249	9	71	592	24	52	146	1
RTOR Reduction (vph)	0	0	18	0	1	0	0	2	0	0	1	0
Lane Group Flow (vph)	237	328	14	0	264	0	71	614	0	52	146	0
Heavy Vehicles (%)	1%	1%	0%	0%	2%	0%	0%	1%	0%	0%	4%	0%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8 28			4		5!	2!		1!	6!	
Permitted Phases	8 28		8 28	4			2			6		
Actuated Green, G (s)	34.2	34.2	34.2		20.3		30.3	15.2		15.2	15.2	
Effective Green, g (s)	34.2	34.2	34.2		20.3		30.3	15.2		15.2	15.2	
Actuated g/C Ratio	0.44	0.44	0.44		0.26		0.39	0.20		0.20	0.20	
Clearance Time (s)					5.0		4.0	4.5		4.0	4.5	
Vehicle Extension (s)					1.9		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	400	735	711		479		704	696		123	679	
v/s Ratio Prot							c0.04	c0.17		c0.01	0.04	
v/s Ratio Perm	c0.26	0.20	0.01		0.14					c0.08		
v/c Ratio	0.59	0.45	0.02		0.55		0.10	0.88		0.42	0.22	
Uniform Delay, d1	16.4	15.1	12.2		24.7		15.0	30.3		29.9	26.2	
Progression Factor	0.53	0.49	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	0.3	0.0		0.8		0.1	12.6		2.3	0.7	
Delay (s)	10.6	7.8	12.3		25.5		15.1	42.9		32.2	26.9	
Level of Service	B	A	B		C		B	D		C	C	
Approach Delay (s)		9.1			25.5			40.0			28.3	
Approach LOS		A			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	77.6	Sum of lost time (s)	19.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

Description: 1/28/15 count

! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	289	71	72	234	85	145	323	158	28	98	82
Future Volume (veh/h)	154	289	71	72	234	85	145	323	158	28	98	82
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	1765	1811	1872	1714	1752	1800	1748	1759	1800	1800	1700	1800
Adj Flow Rate, veh/h	166	311	76	77	252	91	156	347	170	30	105	88
Adj No. of Lanes	1	2	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	3	3	5	3	3	3	3	3	0	5	5
Cap, veh/h	203	833	201	98	298	108	192	869	418	49	540	415
Arrive On Green	0.12	0.30	0.30	0.06	0.24	0.24	0.12	0.40	0.40	0.03	0.31	0.31
Sat Flow, veh/h	1681	2751	662	1633	1230	444	1664	2190	1054	1714	1740	1338
Grp Volume(v), veh/h	166	193	194	77	0	343	156	263	254	30	97	96
Grp Sat Flow(s),veh/h/ln	1681	1720	1694	1633	0	1674	1664	1671	1573	1714	1615	1463
Q Serve(g_s), s	9.1	8.3	8.6	4.4	0.0	18.5	8.7	10.7	11.0	1.6	4.2	4.6
Cycle Q Clear(g_c), s	9.1	8.3	8.6	4.4	0.0	18.5	8.7	10.7	11.0	1.6	4.2	4.6
Prop In Lane	1.00		0.39	1.00		0.27	1.00		0.67	1.00		0.91
Lane Grp Cap(c), veh/h	203	521	513	98	0	405	192	663	624	49	501	454
V/C Ratio(X)	0.82	0.37	0.38	0.78	0.00	0.85	0.81	0.40	0.41	0.61	0.19	0.21
Avail Cap(c_a), veh/h	444	745	733	431	0	725	527	706	664	543	682	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	25.9	26.0	43.9	0.0	34.2	40.9	20.4	20.5	45.4	24.0	24.1
Incr Delay (d2), s/veh	7.8	0.4	0.5	12.7	0.0	4.9	7.9	1.0	1.1	11.4	0.5	0.6
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	4.7	4.0	4.1	2.3	0.0	9.1	4.4	5.1	4.9	0.9	1.9	1.9
LnGrp Delay(d),s/veh	48.5	26.4	26.5	56.6	0.0	39.1	48.8	21.4	21.6	56.9	24.5	24.7
LnGrp LOS	D	C	C	E		D	D	C	C	E	C	C
Approach Vol, veh/h		553			420			673			223	
Approach Delay, s/veh		33.0			42.3			27.8			28.9	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	43.1	10.2	33.2	16.4	34.9	15.9	27.4
Change Period (Y+Rc), s	5.5	5.5	4.5	4.5	5.5	5.5	4.5	4.5
Max Green Setting (Gmax), s	30.0	40.0	25.0	41.0	30.0	40.0	25.0	41.0
Max Q Clear Time (g_c+I1), s	13.6	13.0	6.4	10.6	10.7	6.6	11.1	20.5
Green Ext Time (p_c), s	0.1	19.3	0.2	2.6	0.5	22.8	0.5	2.4

Intersection Summary	
HCM 2010 Ctrl Delay	32.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	54

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	350	58	81	163	0	26	0	202	0	256	115
Future Vol, veh/h	0	350	58	81	163	0	26	0	202	0	256	115
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	1	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	376	62	87	175	0	28	0	217	0	275	124

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	439	0	0	957	757	408	865	788	175
Stage 1	-	-	-	-	-	-	408	408	-	349	349	-
Stage 2	-	-	-	-	-	-	549	349	-	516	439	-
Critical Hdwy	-	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	0	-	-	1132	-	0	239	339	648	276	326	866
Stage 1	0	-	-	-	-	0	624	600	-	671	637	-
Stage 2	0	-	-	-	-	0	524	637	-	546	582	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1132	-	-	37	310	648	172	298	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	37	310	-	172	298	-
Stage 1	-	-	-	-	-	-	624	600	-	671	583	-
Stage 2	-	-	-	-	-	-	217	583	-	363	582	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.8	132	99.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	225	-	-	1132	-	374
HCM Lane V/C Ratio	1.09	-	-	0.077	-	1.067
HCM Control Delay (s)	132	-	-	8.4	0	99.2
HCM Lane LOS	F	-	-	A	A	F
HCM 95th %tile Q(veh)	10.9	-	-	0.2	-	13.9