

























Appendix 8

2020 Build Capacity Analysis

HCM 2010 Signalized Intersection Summary
 1: Kenwood Road & Galbraith Road

2020 AM Build
 Kenwood Road Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	214	166	90	165	79	180	402	113	312	689	121
Future Volume (veh/h)	61	214	166	90	165	79	180	402	113	312	689	121
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)	0.99		0.98	0.99		0.98	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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	66	233	180	98	179	86	196	437	123	339	749	132
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	421	481	290	433	561	402	1149	321	562	1396	246
Arrive On Green	0.05	0.23	0.23	0.06	0.23	0.23	0.08	0.42	0.42	0.13	0.46	0.46
Sat Flow, veh/h	1774	1863	1548	1774	1863	1549	1774	2732	762	1774	3007	530
Grp Volume(v), veh/h	66	233	180	98	179	86	196	282	278	339	441	440
Grp Sat Flow(s),veh/h/ln	1774	1863	1548	1774	1863	1549	1774	1770	1725	1774	1770	1767
Q Serve(g_s), s	2.7	10.5	8.7	4.0	7.8	3.6	5.9	10.4	10.6	9.7	16.9	16.9
Cycle Q Clear(g_c), s	2.7	10.5	8.7	4.0	7.8	3.6	5.9	10.4	10.6	9.7	16.9	16.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		0.30
Lane Grp Cap(c), veh/h	333	421	481	290	433	561	402	744	725	562	822	821
V/C Ratio(X)	0.20	0.55	0.37	0.34	0.41	0.15	0.49	0.38	0.38	0.60	0.54	0.54
Avail Cap(c_a), veh/h	446	744	749	299	646	738	442	911	888	728	1116	1114
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	32.6	25.7	26.4	31.0	20.7	14.4	19.0	19.1	12.4	18.2	18.2
Incr Delay (d2), s/veh	0.1	1.6	0.7	0.3	0.9	0.2	0.3	0.1	0.1	0.4	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(95%),veh/ln	2.3	9.5	6.8	3.5	7.4	2.8	5.2	8.8	8.7	8.2	13.0	12.9
LnGrp Delay(d),s/veh	26.1	34.2	26.4	26.7	31.9	20.8	14.8	19.1	19.2	12.7	18.4	18.4
LnGrp LOS	C	C	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		479			363			756			1220	
Approach Delay, s/veh		30.1			27.9			18.0			16.8	
Approach LOS		C			C			B			B	
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	16.1	44.0	9.5	25.5	11.9	48.2	9.0	26.1				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	21.0	49.0	6.0	38.0	10.0	60.0	11.0	33.0				
Max Q Clear Time (g_c+I1), s	11.7	12.6	6.0	12.5	7.9	18.9	4.7	9.8				
Green Ext Time (p_c), s	0.4	0.5	0.0	2.9	0.1	0.9	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			20.8									
HCM 2010 LOS			C									
Notes												

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	3	1	7	0	7	5	50	686	5	16	971	49
Future Vol, veh/h	3	1	7	0	7	5	50	686	5	16	971	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	95	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	8	0	8	5	54	746	5	17	1055	53












Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1601	1975	554	1419	1999	376	1108	0	0	751	0	0
Stage 1	1116	1116	-	857	857	-	-	-	-	-	-	-
Stage 2	485	859	-	562	1142	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	71	61	476	97	59	622	626	-	-	854	-	-
Stage 1	221	281	-	318	372	-	-	-	-	-	-	-
Stage 2	532	371	-	479	273	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	58	55	476	87	53	622	626	-	-	854	-	-
Mov Cap-2 Maneuver	58	55	-	87	53	-	-	-	-	-	-	-
Stage 1	202	275	-	291	340	-	-	-	-	-	-	-
Stage 2	471	339	-	460	268	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.5	53.5	0.8	0.1
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	626	-	-	130	53	622	854	-	-
HCM Lane V/C Ratio	0.087	-	-	0.092	0.144	0.009	0.02	-	-
HCM Control Delay (s)	11.3	-	-	35.5	84	10.8	9.3	-	-
HCM Lane LOS	B	-	-	E	F	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.3	0.5	0	0.1	-	-

HCM 2010 Signalized Intersection Summary
3: Kenwood Road & Happiness Way

2020 AM Build
Kenwood Road Development

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	59	67	82	688	898	67		
Future Volume (veh/h)	59	67	82	688	898	67		
Number	7	14	5	2	6	16		
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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	64	73	89	748	976	73		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	85	97	426	2040	1924	144		
Arrive On Green	0.11	0.11	0.58	0.58	0.58	0.58		
Sat Flow, veh/h	774	883	536	3632	3432	250		
Grp Volume(v), veh/h	138	0	89	748	517	532		
Grp Sat Flow(s),veh/h/ln	1668	0	536	1770	1770	1819		
Q Serve(g_s), s	2.7	0.0	4.1	3.9	6.0	6.0		
Cycle Q Clear(g_c), s	2.7	0.0	10.0	3.9	6.0	6.0		
Prop In Lane	0.46	0.53	1.00			0.14		
Lane Grp Cap(c), veh/h	184	0	426	2040	1020	1048		
V/C Ratio(X)	0.75	0.00	0.21	0.37	0.51	0.51		
Avail Cap(c_a), veh/h	1662	0	1456	8846	4423	4546		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.7	0.0	7.3	3.9	4.3	4.3		
Incr Delay (d2), s/veh	6.1	0.0	0.2	0.1	0.4	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	2.8	0.0	1.1	3.4	5.4	5.5		
LnGrp Delay(d),s/veh	20.8	0.0	7.6	4.0	4.7	4.7		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	138			837	1049			
Approach Delay, s/veh	20.8			4.4	4.7			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		26.4		7.8		26.4		
Change Period (Y+Rc), s		* 6.7		4.0		* 6.7		
Max Green Setting (Gmax), s		* 85		34.0		* 85		
Max Q Clear Time (g_c+I1), s		12.0		4.7		8.0		
Green Ext Time (p_c), s		7.6		0.4		8.6		
Intersection Summary								
HCM 2010 Ctrl Delay			5.7					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2020 AM Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	17	0	24	19	0	3	69	769	24	14	926	20
Future Volume (veh/h)	17	0	24	19	0	3	69	769	24	14	926	20
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)	0.99		1.00	0.99		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	1863	1863	1900	1788	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	18	0	26	21	0	3	75	836	26	15	1007	22
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	0	144	245	0	150	367	1906	59	378	1763	39
Arrive On Green	0.03	0.00	0.09	0.03	0.00	0.09	0.07	0.54	0.54	0.02	0.50	0.50
Sat Flow, veh/h	1774	0	1576	1703	0	1576	1703	3504	109	1703	3541	77
Grp Volume(v), veh/h	18	0	26	21	0	3	75	422	440	15	503	526
Grp Sat Flow(s),veh/h/ln	1774	0	1576	1703	0	1576	1703	1770	1843	1703	1770	1849
Q Serve(g_s), s	0.7	0.0	1.2	0.9	0.0	0.1	1.6	11.5	11.5	0.3	16.0	16.0
Cycle Q Clear(g_c), s	0.7	0.0	1.2	0.9	0.0	0.1	1.6	11.5	11.5	0.3	16.0	16.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		0.04
Lane Grp Cap(c), veh/h	268	0	144	245	0	150	367	963	1003	378	881	921
V/C Ratio(X)	0.07	0.00	0.18	0.09	0.00	0.02	0.20	0.44	0.44	0.04	0.57	0.57
Avail Cap(c_a), veh/h	394	0	504	423	0	563	401	1350	1407	490	1350	1411
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	0.0	33.7	31.2	0.0	33.0	9.7	11.0	11.0	9.6	14.1	14.1
Incr Delay (d2), s/veh	0.2	0.0	1.3	0.1	0.0	0.0	0.1	0.1	0.1	0.0	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(95%),veh/ln	0.7	0.0	1.1	0.7	0.0	0.1	1.3	9.4	9.7	0.3	12.5	12.9
LnGrp Delay(d),s/veh	31.6	0.0	35.0	31.3	0.0	33.0	9.8	11.1	11.1	9.6	14.4	14.4
LnGrp LOS	C		D	C		C	A	B	B	A	B	B
Approach Vol, veh/h		44			24			937			1044	
Approach Delay, s/veh		33.6			31.5			11.0			14.3	
Approach LOS		C			C			B			B	
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	8.7	50.4	6.6	14.6	12.4	46.7	6.3	14.9				
Change Period (Y+Rc), s	6.7	* 6.7	4.0	7.3	* 6.7	* 6.7	4.0	7.3				
Max Green Setting (Gmax), s	61	* 61	11.0	25.7	* 7.3	* 61	8.0	28.7				
Max Q Clear Time (g_c+1/3), s	13.5	13.5	2.9	3.2	3.6	18.0	2.7	2.1				
Green Ext Time (p_c), s	0.0	1.9	0.0	0.1	0.0	2.4	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			13.4									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2020 AM Build
Kenwood Road Development



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	16	75	24	887	929	10		
Future Volume (veh/h)	16	75	24	887	929	10		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.94	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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	17	82	26	964	1010	11		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	33	158	454	2839	2885	31		
Arrive On Green	0.13	0.12	1.00	1.00	0.80	0.80		
Sat Flow, veh/h	261	1261	550	3632	3679	39		
Grp Volume(v), veh/h	100	0	26	964	498	523		
Grp Sat Flow(s),veh/h/ln	1537	0	550	1770	1770	1856		
Q Serve(g_s), s	7.9	0.0	0.6	0.0	10.0	10.0		
Cycle Q Clear(g_c), s	7.9	0.0	10.6	0.0	10.0	10.0		
Prop In Lane	0.17	0.82	1.00			0.02		
Lane Grp Cap(c), veh/h	193	0	454	2839	1424	1493		
V/C Ratio(X)	0.52	0.00	0.06	0.34	0.35	0.35		
Avail Cap(c_a), veh/h	388	0	454	2839	1424	1493		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.80	0.80	0.87	0.87		
Uniform Delay (d), s/veh	53.7	0.0	0.5	0.0	3.5	3.5		
Incr Delay (d2), s/veh	2.1	0.0	0.2	0.3	0.6	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	6.3	0.0	0.2	0.2	8.5	8.9		
LnGrp Delay(d),s/veh	55.8	0.0	0.7	0.3	4.1	4.0		
LnGrp LOS	E		A	A	A	A		
Approach Vol, veh/h	100			990	1021			
Approach Delay, s/veh	55.8			0.3	4.0			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		109.5		20.5		109.5		
Change Period (Y+Rc), s		6.0		5.5		6.0		
Max Green Setting (Gmax), s		87.0		31.5		87.0		
Max Q Clear Time (g_c+I1), s		12.6		9.9		12.0		
Green Ext Time (p_c), s		5.9		0.4		4.9		
Intersection Summary								
HCM 2010 Ctrl Delay			4.7					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2020 AM Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	413	64	126	312	145	125	615	200	145	660	205
Future Volume (veh/h)	172	413	64	126	312	145	125	615	200	145	660	205
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.99	1.00		0.99
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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	187	449	70	137	339	158	136	668	217	158	717	223
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	342	599	93	282	618	381	330	1310	425	377	1341	417
Arrive On Green	0.12	0.20	0.18	0.10	0.17	0.17	0.07	0.50	0.48	0.02	0.17	0.16
Sat Flow, veh/h	1774	3069	476	1774	3539	1572	1774	2624	852	1703	2655	826
Grp Volume(v), veh/h	187	258	261	137	339	158	136	450	435	158	478	462
Grp Sat Flow(s),veh/h/ln	1774	1770	1775	1774	1770	1572	1774	1770	1706	1703	1770	1711
Q Serve(g_s), s	10.8	17.8	18.1	7.9	11.4	11.0	4.7	22.2	22.5	5.6	32.1	32.2
Cycle Q Clear(g_c), s	10.8	17.8	18.1	7.9	11.4	11.0	4.7	22.2	22.5	5.6	32.1	32.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.50	1.00		0.48
Lane Grp Cap(c), veh/h	342	345	346	282	618	381	330	883	852	377	894	864
V/C Ratio(X)	0.55	0.75	0.75	0.49	0.55	0.41	0.41	0.51	0.51	0.42	0.53	0.53
Avail Cap(c_a), veh/h	468	490	492	410	912	511	356	883	852	442	894	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	36.6	49.3	49.7	38.2	49.0	41.6	18.1	21.9	22.2	16.6	40.2	40.3
Incr Delay (d2), s/veh	1.4	3.8	4.1	1.3	0.8	0.7	0.8	2.1	2.2	0.7	2.1	2.2
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(95%),veh/ln	9.2	14.0	14.3	7.2	9.5	8.5	4.1	16.8	16.6	4.9	22.7	22.1
LnGrp Delay(d),s/veh	38.0	53.1	53.8	39.5	49.7	42.3	18.9	24.0	24.4	17.3	42.3	42.5
LnGrp LOS	D	D	D	D	D	D	B	C	C	B	D	D
Approach Vol, veh/h		706			634			1021			1098	
Approach Delay, s/veh		49.3			45.7			23.5			38.8	
Approach LOS		D			D			C			D	
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	6.6	29.6	13.4	70.4	19.7	26.5	14.3	69.5				
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5				
Max Green Setting (Gmax), s	19.5	33.7	8.9	41.9	22.4	30.8	12.8	38.0				
Max Q Clear Time (g_c+19.5), s	19.5	20.1	6.7	34.2	12.8	13.4	7.6	24.5				
Green Ext Time (p_c), s	0.3	1.7	0.1	2.7	0.4	2.0	0.2	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay			37.7									
HCM 2010 LOS			D									

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	41	1	115	39	2	0	0	89	3	0	2
Future Vol, veh/h	2	41	1	115	39	2	0	0	89	3	0	2
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	45	1	125	42	2	0	0	97	3	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	44	0	0	46	0	0	344	344	46	391	343	43
Stage 1	-	-	-	-	-	-	50	50	-	293	293	-
Stage 2	-	-	-	-	-	-	294	294	-	98	50	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1564	-	-	1562	-	-	610	579	1023	568	579	1027
Stage 1	-	-	-	-	-	-	963	853	-	715	670	-
Stage 2	-	-	-	-	-	-	714	670	-	908	853	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1564	-	-	1562	-	-	570	531	1023	482	531	1027
Mov Cap-2 Maneuver	-	-	-	-	-	-	570	531	-	482	531	-
Stage 1	-	-	-	-	-	-	962	852	-	714	615	-
Stage 2	-	-	-	-	-	-	654	615	-	821	852	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			5.5			8.9			10.9		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1023	1564	-	-	1562	-	-	612
HCM Lane V/C Ratio	0.095	0.001	-	-	0.08	-	-	0.009
HCM Control Delay (s)	8.9	7.3	0	-	7.5	0	-	10.9
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.3	-	-	0

Intersection						
Int Delay, s/veh	4.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	21	0	24	17	0	23
Future Vol, veh/h	21	0	24	17	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	0	26	18	0	25

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	23	0	93
Stage 1	-	-	-	-	23
Stage 2	-	-	-	-	70
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1592	-	907
Stage 1	-	-	-	-	1000
Stage 2	-	-	-	-	953
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1592	-	892
Mov Cap-2 Maneuver	-	-	-	-	892
Stage 1	-	-	-	-	983
Stage 2	-	-	-	-	953

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1054	-	-	1592	-
HCM Lane V/C Ratio	0.024	-	-	0.016	-
HCM Control Delay (s)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	21	0	784	928	26
Future Vol, veh/h	0	21	0	784	928	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	0	852	1009	28

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	519	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	502	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	502	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	502	-	-
HCM Lane V/C Ratio	-	0.045	-	-
HCM Control Delay (s)	-	12.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	70	37	0
Future Vol, veh/h	0	0	0	70	37	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	76	40	0

























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	76	0	-	0	38
Stage 1	-	-	-	-	38
Stage 2	-	-	-	-	0
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1523	-	-	-	974
Stage 1	-	-	-	-	984
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1523	-	-	-	974
Mov Cap-2 Maneuver	-	-	-	-	974
Stage 1	-	-	-	-	984
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1523	-	-	-	974
HCM Lane V/C Ratio	-	-	-	-	0.041
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 2010 Signalized Intersection Summary
 1: Kenwood Road & Galbraith Road

2020 Midday Build
 Kenwood Road Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	221	251	107	178	162	228	519	136	176	481	87
Future Volume (veh/h)	76	221	251	107	178	162	228	519	136	176	481	87
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)	0.99		0.98	0.99		0.98	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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	83	240	273	116	193	176	248	564	148	191	523	95
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	463	542	308	476	527	490	1214	318	438	1260	228
Arrive On Green	0.06	0.25	0.25	0.06	0.26	0.26	0.10	0.44	0.44	0.08	0.42	0.42
Sat Flow, veh/h	1774	1863	1551	1774	1863	1552	1774	2775	726	1774	2993	541
Grp Volume(v), veh/h	83	240	273	116	193	176	248	359	353	191	308	310
Grp Sat Flow(s),veh/h/ln	1774	1863	1551	1774	1863	1552	1774	1770	1732	1774	1770	1765
Q Serve(g_s), s	3.2	10.6	13.2	4.6	8.2	8.0	7.4	13.6	13.7	5.7	11.6	11.7
Cycle Q Clear(g_c), s	3.2	10.6	13.2	4.6	8.2	8.0	7.4	13.6	13.7	5.7	11.6	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		0.31
Lane Grp Cap(c), veh/h	344	463	542	308	476	527	490	774	758	438	745	743
V/C Ratio(X)	0.24	0.52	0.50	0.38	0.41	0.33	0.51	0.46	0.47	0.44	0.41	0.42
Avail Cap(c_a), veh/h	450	745	777	308	647	670	501	912	893	683	1117	1114
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.4	30.8	24.5	24.8	29.4	23.5	13.8	18.9	18.9	14.2	19.3	19.3
Incr Delay (d2), s/veh	0.1	1.3	1.0	0.3	0.8	0.5	0.3	0.2	0.2	0.3	0.1	0.1
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(95%),veh/ln	2.8	9.4	9.8	4.0	7.7	6.3	6.4	10.8	10.7	4.9	9.6	9.6
LnGrp Delay(d),s/veh	24.6	32.1	25.6	25.1	30.2	24.0	14.1	19.0	19.0	14.4	19.4	19.5
LnGrp LOS	C	C	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		596			485			960			809	
Approach Delay, s/veh		28.1			26.7			17.7			18.3	
Approach LOS		C			C			B			B	
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	11.8	45.6	10.0	27.6	13.4	44.0	9.3	28.3				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	21.0	49.0	6.0	38.0	10.0	60.0	11.0	33.0				
Max Q Clear Time (g_c+I1), s	7.7	15.7	6.6	15.2	9.4	13.7	5.2	10.2				
Green Ext Time (p_c), s	0.2	0.7	0.0	3.5	0.0	0.6	0.0	2.4				
Intersection Summary												
HCM 2010 Ctrl Delay			21.6									
HCM 2010 LOS			C									
Notes												

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	4	1	12	21	0	107	28	778	16	67	793	19
Future Vol, veh/h	4	1	12	21	0	107	28	778	16	67	793	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	95	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1	13	23	0	116	30	846	17	73	862	21












Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1502	1942	442	1493	1944	432	883	0	0	863	0	0
Stage 1	1019	1019	-	915	915	-	-	-	-	-	-	-
Stage 2	483	923	-	578	1029	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	84	64	563	85	64	572	762	-	-	775	-	-
Stage 1	254	313	-	294	350	-	-	-	-	-	-	-
Stage 2	534	347	-	468	309	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	60	56	563	74	56	572	762	-	-	775	-	-
Mov Cap-2 Maneuver	60	56	-	74	56	-	-	-	-	-	-	-
Stage 1	244	284	-	283	336	-	-	-	-	-	-	-
Stage 2	409	333	-	413	280	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	30.2		22.9		0.3		0.8	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	762	-	-	161	74	572	775	-	-
HCM Lane V/C Ratio	0.04	-	-	0.115	0.308	0.203	0.094	-	-
HCM Control Delay (s)	9.9	-	-	30.2	74	12.9	10.1	-	-
HCM Lane LOS	A	-	-	D	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.1	0.8	0.3	-	-

HCM 2010 Signalized Intersection Summary
3: Kenwood Road & Happiness Way

2020 Midday Build
Kenwood Road Development

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	83	67	91	645	868	73		
Future Volume (veh/h)	83	67	91	645	868	73		
Number	7	14	5	2	6	16		
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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	90	73	99	701	943	79		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	121	98	420	2005	1873	157		
Arrive On Green	0.13	0.13	0.57	0.57	0.57	0.57		
Sat Flow, veh/h	924	750	550	3632	3400	277		
Grp Volume(v), veh/h	164	0	99	701	505	517		
Grp Sat Flow(s),veh/h/ln	1684	0	550	1770	1770	1814		
Q Serve(g_s), s	3.3	0.0	4.7	3.8	6.1	6.1		
Cycle Q Clear(g_c), s	3.3	0.0	10.8	3.8	6.1	6.1		
Prop In Lane	0.55	0.45	1.00			0.15		
Lane Grp Cap(c), veh/h	221	0	420	2005	1003	1028		
V/C Ratio(X)	0.74	0.00	0.24	0.35	0.50	0.50		
Avail Cap(c_a), veh/h	1569	0	1447	8624	4312	4420		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.8	0.0	7.9	4.1	4.7	4.7		
Incr Delay (d2), s/veh	4.8	0.0	0.3	0.1	0.4	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	3.3	0.0	1.3	3.2	5.5	5.6		
LnGrp Delay(d),s/veh	19.6	0.0	8.2	4.3	5.0	5.0		
LnGrp LOS	B		A	A	A	A		
Approach Vol, veh/h	164			800	1022			
Approach Delay, s/veh	19.6			4.7	5.0			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		26.8		8.7		26.8		
Change Period (Y+Rc), s		* 6.7		4.0		* 6.7		
Max Green Setting (Gmax), s		* 86		33.0		* 86		
Max Q Clear Time (g_c+I1), s		12.8		5.3		8.1		
Green Ext Time (p_c), s		7.2		0.5		8.2		
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2020 Midday Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	41	10	42	169	4	41	69	763	159	47	728	46
Future Volume (veh/h)	41	10	42	169	4	41	69	763	159	47	728	46
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	1863	1863	1900	1788	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	45	11	46	184	4	45	75	829	173	51	791	50
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	326	36	151	376	23	257	356	1303	272	296	1479	93
Arrive On Green	0.05	0.12	0.12	0.11	0.18	0.18	0.07	0.45	0.45	0.06	0.44	0.44
Sat Flow, veh/h	1774	313	1310	1703	130	1467	1703	2916	609	1703	3381	214
Grp Volume(v), veh/h	45	0	57	184	0	49	75	503	499	51	414	427
Grp Sat Flow(s),veh/h/ln	1774	0	1623	1703	0	1598	1703	1770	1755	1703	1770	1825
Q Serve(g_s), s	2.0	0.0	2.9	8.3	0.0	2.4	2.1	20.1	20.1	1.4	15.7	15.7
Cycle Q Clear(g_c), s	2.0	0.0	2.9	8.3	0.0	2.4	2.1	20.1	20.1	1.4	15.7	15.7
Prop In Lane	1.00		0.81	1.00		0.92	1.00		0.35	1.00		0.12
Lane Grp Cap(c), veh/h	326	0	187	376	0	280	356	791	784	296	774	798
V/C Ratio(X)	0.14	0.00	0.30	0.49	0.00	0.17	0.21	0.64	0.64	0.17	0.53	0.54
Avail Cap(c_a), veh/h	389	0	456	390	0	501	381	1186	1176	337	1186	1223
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	0.0	37.1	29.0	0.0	32.1	13.4	19.5	19.5	14.4	18.9	18.9
Incr Delay (d2), s/veh	0.4	0.0	1.9	0.4	0.0	0.1	0.1	0.3	0.3	0.1	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(95%),veh/ln	1.8	0.0	2.5	7.1	0.0	1.9	1.7	15.0	14.9	1.2	12.2	12.5
LnGrp Delay(d),s/veh	32.9	0.0	39.0	29.4	0.0	32.2	13.5	19.9	19.9	14.5	19.1	19.1
LnGrp LOS	C		D	C		C	B	B	B	B	B	B
Approach Vol, veh/h		102			233			1077			892	
Approach Delay, s/veh		36.3			30.0			19.4			18.8	
Approach LOS		D			C			B			B	
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	1.8	47.6	14.2	17.9	12.7	46.7	8.8	23.3				
Change Period (Y+Rc), s	6.7	* 6.7	4.0	7.3	* 6.7	* 6.7	4.0	7.3				
Max Green Setting (Gmax), s	61	* 61	11.0	25.7	* 7.3	* 61	8.0	28.7				
Max Q Clear Time (g_c+13), s	13.4	22.1	10.3	4.9	4.1	17.7	4.0	4.4				
Green Ext Time (p_c), s	0.0	2.4	0.0	0.3	0.0	1.9	0.1	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				21.0								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2020 Midday Build
Kenwood Road Development



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	36	69	76	1091	927	33		
Future Volume (veh/h)	36	69	76	1091	927	33		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.95	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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	39	75	83	1186	1008	36		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	70	135	440	2819	2785	99		
Arrive On Green	0.13	0.12	1.00	1.00	0.80	0.79		
Sat Flow, veh/h	537	1033	538	3632	3579	124		
Grp Volume(v), veh/h	115	0	83	1186	512	532		
Grp Sat Flow(s),veh/h/ln	1584	0	538	1770	1770	1841		
Q Serve(g_s), s	8.9	0.0	2.6	0.0	10.6	10.7		
Cycle Q Clear(g_c), s	8.9	0.0	13.2	0.0	10.6	10.7		
Prop In Lane	0.34	0.65	1.00			0.07		
Lane Grp Cap(c), veh/h	208	0	440	2819	1414	1470		
V/C Ratio(X)	0.55	0.00	0.19	0.42	0.36	0.36		
Avail Cap(c_a), veh/h	400	0	440	2819	1414	1470		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.49	0.49	0.82	0.82		
Uniform Delay (d), s/veh	53.3	0.0	0.7	0.0	3.7	3.7		
Incr Delay (d2), s/veh	2.3	0.0	0.5	0.2	0.6	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	7.2	0.0	0.8	0.2	8.8	9.1		
LnGrp Delay(d),s/veh	55.6	0.0	1.1	0.2	4.3	4.3		
LnGrp LOS	E		A	A	A	A		
Approach Vol, veh/h	115			1269	1044			
Approach Delay, s/veh	55.6			0.3	4.3			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		108.8		21.2		108.8		
Change Period (Y+Rc), s		6.0		5.5		6.0		
Max Green Setting (Gmax), s		87.0		31.5		87.0		
Max Q Clear Time (g_c+I1), s		15.2		10.9		12.7		
Green Ext Time (p_c), s		9.1		0.4		5.1		
Intersection Summary								
HCM 2010 Ctrl Delay			4.6					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2020 Midday Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	530	181	275	507	316	231	613	308	243	536	199
Future Volume (veh/h)	254	530	181	275	507	316	231	613	308	243	536	199
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.99
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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	276	576	197	299	551	343	251	666	335	264	583	216
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	665	227	365	942	587	305	776	390	283	936	346
Arrive On Green	0.15	0.26	0.24	0.16	0.27	0.26	0.08	0.34	0.33	0.04	0.12	0.12
Sat Flow, veh/h	1774	2588	883	1774	3539	1576	1774	2274	1144	1703	2525	933
Grp Volume(v), veh/h	276	393	380	299	551	343	251	518	483	264	408	391
Grp Sat Flow(s),veh/h/ln	1774	1770	1702	1774	1770	1576	1774	1770	1648	1703	1770	1689
Q Serve(g_s), s	14.3	27.6	27.8	15.4	17.6	22.7	10.8	35.5	35.6	13.1	28.5	28.6
Cycle Q Clear(g_c), s	14.3	27.6	27.8	15.4	17.6	22.7	10.8	35.5	35.6	13.1	28.5	28.6
Prop In Lane	1.00		0.52	1.00		1.00	1.00		0.69	1.00		0.55
Lane Grp Cap(c), veh/h	395	455	437	365	942	587	305	604	563	283	656	626
V/C Ratio(X)	0.70	0.87	0.87	0.82	0.58	0.58	0.82	0.86	0.86	0.93	0.62	0.62
Avail Cap(c_a), veh/h	472	490	471	390	942	587	305	604	563	283	656	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	29.3	46.2	46.8	30.7	41.4	32.8	31.8	39.9	40.5	34.8	48.4	48.6
Incr Delay (d2), s/veh	3.6	14.2	15.1	12.3	0.9	1.5	16.4	14.6	15.5	34.7	4.1	4.3
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(95%),veh/ln	1.7	21.8	21.3	13.6	13.5	15.3	8.8	27.0	25.6	17.7	20.8	20.1
LnGrp Delay(d),s/veh	32.9	60.4	61.9	43.0	42.4	34.3	48.1	54.5	56.1	69.5	52.5	52.9
LnGrp LOS	C	E	E	D	D	C	D	D	E	E	D	D
Approach Vol, veh/h		1049			1193			1252			1063	
Approach Delay, s/veh		53.7			40.2			53.8			56.9	
Approach LOS		D			D			D			E	
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	34.1	37.6	15.4	52.9	23.3	38.4	19.3	49.0				
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5				
Max Green Setting (Gmax), s	39.5	33.7	8.9	41.9	22.4	30.8	12.8	38.0				
Max Q Clear Time (g_c+1), s	11.4	29.8	12.8	30.6	16.3	24.7	15.1	37.6				
Green Ext Time (p_c), s	0.2	1.3	0.0	2.7	0.5	2.2	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay				51.0								
HCM 2010 LOS				D								

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	18	2	144	26	5	3	0	124	5	0	1
Future Vol, veh/h	3	18	2	144	26	5	3	0	124	5	0	1
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	20	2	157	28	5	3	0	135	5	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	22	0	0	372	374	21	440	373	31
Stage 1	-	-	-	-	-	-	27	27	-	345	345	-
Stage 2	-	-	-	-	-	-	345	347	-	95	28	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	-	1593	-	-	585	557	1056	527	557	1043
Stage 1	-	-	-	-	-	-	990	873	-	671	636	-
Stage 2	-	-	-	-	-	-	671	635	-	912	872	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1579	-	-	1593	-	-	539	500	1056	424	500	1043
Mov Cap-2 Maneuver	-	-	-	-	-	-	539	500	-	424	500	-
Stage 1	-	-	-	-	-	-	988	871	-	670	572	-
Stage 2	-	-	-	-	-	-	603	572	-	794	870	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			6.2			9			12.8		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1033	1579	-	-	1593	-	-	471
HCM Lane V/C Ratio	0.134	0.002	-	-	0.098	-	-	0.014
HCM Control Delay (s)	9	7.3	0	-	7.5	0	-	12.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.3	-	-	0

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	16	0	7	23	0	7
Future Vol, veh/h	16	0	7	23	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	0	8	25	0	8

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	17	0	58
Stage 1	-	-	-	-	17
Stage 2	-	-	-	-	41
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1600	-	949
Stage 1	-	-	-	-	1006
Stage 2	-	-	-	-	981
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1600	-	944
Mov Cap-2 Maneuver	-	-	-	-	944
Stage 1	-	-	-	-	1001
Stage 2	-	-	-	-	981

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1062	-	-	1600	-
HCM Lane V/C Ratio	0.007	-	-	0.005	-
HCM Control Delay (s)	8.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	31	0	776	892	30
Future Vol, veh/h	0	31	0	776	892	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	0	843	970	33

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	502	-	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	515	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	515	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	515	-	-
HCM Lane V/C Ratio	-	0.065	-	-
HCM Control Delay (s)	-	12.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	52	32	0
Future Vol, veh/h	0	0	0	52	32	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	57	35	0

























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	57	0	-	0	29
Stage 1	-	-	-	-	29
Stage 2	-	-	-	-	0
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1547	-	-	-	986
Stage 1	-	-	-	-	994
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1547	-	-	-	986
Mov Cap-2 Maneuver	-	-	-	-	986
Stage 1	-	-	-	-	994
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1547	-	-	-	986
HCM Lane V/C Ratio	-	-	-	-	0.035
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 2010 Signalized Intersection Summary
 1: Kenwood Road & Galbraith Road

2020 PM Build
 Kenwood Road Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	270	211	99	232	258	168	642	87	209	681	66
Future Volume (veh/h)	139	270	211	99	232	258	168	642	87	209	681	66
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)	0.99		0.98	0.99		0.98	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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	151	293	229	108	252	280	183	698	95	227	740	72
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	324	478	523	289	440	516	394	1310	178	415	1416	138
Arrive On Green	0.08	0.26	0.26	0.06	0.24	0.24	0.08	0.42	0.42	0.09	0.43	0.43
Sat Flow, veh/h	1774	1863	1552	1774	1863	1549	1774	3130	426	1774	3258	317
Grp Volume(v), veh/h	151	293	229	108	252	280	183	394	399	227	402	410
Grp Sat Flow(s),veh/h/ln	1774	1863	1552	1774	1863	1549	1774	1770	1786	1774	1770	1806
Q Serve(g_s), s	6.1	13.3	11.0	4.3	11.4	14.1	5.5	15.9	16.0	6.8	15.9	15.9
Cycle Q Clear(g_c), s	6.1	13.3	11.0	4.3	11.4	14.1	5.5	15.9	16.0	6.8	15.9	15.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		0.18
Lane Grp Cap(c), veh/h	324	478	523	289	440	516	394	741	747	415	769	784
V/C Ratio(X)	0.47	0.61	0.44	0.37	0.57	0.54	0.46	0.53	0.53	0.55	0.52	0.52
Avail Cap(c_a), veh/h	380	741	742	289	643	685	440	907	916	636	1111	1133
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	31.3	24.8	25.8	32.2	26.1	15.0	20.8	20.8	15.0	19.8	19.8
Incr Delay (d2), s/veh	0.4	1.8	0.8	0.3	1.7	1.3	0.3	0.2	0.2	0.4	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(95%),veh/ln	5.3	11.4	8.4	3.8	10.1	10.2	4.8	12.4	12.5	6.0	12.3	12.5
LnGrp Delay(d),s/veh	25.4	33.1	25.6	26.1	33.9	27.4	15.3	21.0	21.0	15.4	20.0	20.0
LnGrp LOS	C	C	C	C	C	C	B	C	C	B	B	B
Approach Vol, veh/h		673			640			976			1039	
Approach Delay, s/veh		28.8			29.7			19.9			19.0	
Approach LOS		C			C			B			B	
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	13.1	44.0	10.0	28.5	11.5	45.5	12.0	26.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	21.0	49.0	6.0	38.0	10.0	60.0	11.0	33.0				
Max Q Clear Time (g_c+I1), s	8.8	18.0	6.3	15.3	7.5	17.9	8.1	16.1				
Green Ext Time (p_c), s	0.2	0.7	0.0	3.7	0.1	0.8	0.1	3.3				
Intersection Summary												
HCM 2010 Ctrl Delay			23.3									
HCM 2010 LOS			C									
Notes												

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	5	1	21	34	0	99	11	884	22	68	973	4
Future Vol, veh/h	5	1	21	34	0	99	11	884	22	68	973	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	95	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	23	37	0	108	12	961	24	74	1058	4












Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1713	2217	531	1675	2207	493	1062	0	0	985	0	0
Stage 1	1208	1208	-	997	997	-	-	-	-	-	-	-
Stage 2	505	1009	-	678	1210	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	58	43	493	62	44	522	652	-	-	697	-	-
Stage 1	194	254	-	262	320	-	-	-	-	-	-	-
Stage 2	518	316	-	408	254	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	42	38	493	52	39	522	652	-	-	697	-	-
Mov Cap-2 Maneuver	42	38	-	52	39	-	-	-	-	-	-	-
Stage 1	191	227	-	257	314	-	-	-	-	-	-	-
Stage 2	404	310	-	346	227	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	36.3		54.1		0.1		0.7	
HCM LOS	E		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	652	-	-	144	52	522	697	-	-
HCM Lane V/C Ratio	0.018	-	-	0.204	0.711	0.206	0.106	-	-
HCM Control Delay (s)	10.6	-	-	36.3	171.6	13.7	10.8	-	-
HCM Lane LOS	B	-	-	E	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	2.9	0.8	0.4	-	-

HCM 2010 Signalized Intersection Summary
 3: Kenwood Road & Happiness Way

2020 PM Build
 Kenwood Road Development

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	85	77	91	830	948	77		
Future Volume (veh/h)	85	77	91	830	948	77		
Number	7	14	5	2	6	16		
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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	92	84	99	902	1030	84		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	123	112	386	2139	2003	163		
Arrive On Green	0.14	0.14	0.60	0.60	0.60	0.60		
Sat Flow, veh/h	872	797	504	3632	3408	270		
Grp Volume(v), veh/h	177	0	99	902	550	564		
Grp Sat Flow(s),veh/h/ln	1679	0	504	1770	1770	1815		
Q Serve(g_s), s	4.3	0.0	5.9	5.7	7.5	7.5		
Cycle Q Clear(g_c), s	4.3	0.0	13.4	5.7	7.5	7.5		
Prop In Lane	0.52	0.47	1.00			0.15		
Lane Grp Cap(c), veh/h	236	0	386	2139	1069	1097		
V/C Ratio(X)	0.75	0.00	0.26	0.42	0.51	0.51		
Avail Cap(c_a), veh/h	1200	0	1153	7530	3765	3862		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	17.3	0.0	8.6	4.4	4.8	4.8		
Incr Delay (d2), s/veh	4.7	0.0	0.3	0.1	0.4	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	4.1	0.0	1.5	5.0	6.5	6.7		
LnGrp Delay(d),s/veh	22.0	0.0	9.0	4.5	5.2	5.1		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	177			1001	1114			
Approach Delay, s/veh	22.0			5.0	5.1			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		32.1		9.9		32.1		
Change Period (Y+Rc), s		* 6.7		4.0		* 6.7		
Max Green Setting (Gmax), s		* 89		30.0		* 89		
Max Q Clear Time (g_c+I1), s		15.4		6.3		9.5		
Green Ext Time (p_c), s		10.0		0.5		9.5		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2020 PM Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	57	3	52	163	1	34	63	848	145	57	919	39
Future Volume (veh/h)	57	3	52	163	1	34	63	848	145	57	919	39
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	1863	1863	1900	1788	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	62	3	57	177	1	37	68	922	158	62	999	42
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	9	176	369	7	253	297	1337	229	282	1523	64
Arrive On Green	0.06	0.12	0.12	0.11	0.16	0.16	0.06	0.44	0.44	0.06	0.44	0.44
Sat Flow, veh/h	1774	79	1508	1703	42	1542	1703	3023	518	1703	3461	146
Grp Volume(v), veh/h	62	0	60	177	0	38	68	540	540	62	511	530
Grp Sat Flow(s),veh/h/ln	1774	0	1587	1703	0	1584	1703	1770	1771	1703	1770	1837
Q Serve(g_s), s	2.7	0.0	3.2	7.9	0.0	1.9	1.9	22.2	22.3	1.7	20.7	20.7
Cycle Q Clear(g_c), s	2.7	0.0	3.2	7.9	0.0	1.9	1.9	22.2	22.3	1.7	20.7	20.7
Prop In Lane	1.00		0.95	1.00		0.97	1.00		0.29	1.00		0.08
Lane Grp Cap(c), veh/h	345	0	185	369	0	260	297	783	783	282	779	808
V/C Ratio(X)	0.18	0.00	0.32	0.48	0.00	0.15	0.23	0.69	0.69	0.22	0.66	0.66
Avail Cap(c_a), veh/h	393	0	449	390	0	500	326	1193	1194	315	1193	1239
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	36.9	28.9	0.0	32.5	14.4	20.3	20.3	14.8	20.0	20.0
Incr Delay (d2), s/veh	0.5	0.0	2.1	0.4	0.0	0.1	0.1	0.4	0.4	0.1	0.4	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(95%),veh/ln	2.5	0.0	2.7	6.7	0.0	1.5	1.6	16.3	16.3	1.4	15.4	15.9
LnGrp Delay(d),s/veh	32.4	0.0	39.0	29.3	0.0	32.6	14.5	20.7	20.7	14.9	20.4	20.4
LnGrp LOS	C		D	C		C	B	C	C	B	C	C
Approach Vol, veh/h		122			215			1148			1103	
Approach Delay, s/veh		35.7			29.9			20.4			20.1	
Approach LOS		D			C			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	46.9	13.9	17.9	12.4	46.7	9.5	22.2					
Change Period (Y+Rc), s	* 6.7	4.0	7.3	* 6.7	* 6.7	4.0	7.3					
Max Green Setting (Gmax), s	* 61	11.0	25.7	* 7.3	* 61	8.0	28.7					
Max Q Clear Time (g_c+13), s	24.3	9.9	5.2	3.9	22.7	4.7	3.9					
Green Ext Time (p_c), s	0.0	2.7	0.0	0.3	0.0	2.5	0.1	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				21.8								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2020 PM Build
Kenwood Road Development



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	36	51	91	1056	1089	46		
Future Volume (veh/h)	36	51	91	1056	1089	46		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.94	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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	39	55	99	1148	1184	50		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	81	115	371	2845	2790	118		
Arrive On Green	0.12	0.11	1.00	1.00	0.81	0.80		
Sat Flow, veh/h	657	926	449	3632	3553	146		
Grp Volume(v), veh/h	95	0	99	1148	605	629		
Grp Sat Flow(s),veh/h/ln	1599	0	449	1770	1770	1837		
Q Serve(g_s), s	7.2	0.0	5.0	0.0	13.1	13.1		
Cycle Q Clear(g_c), s	7.2	0.0	18.1	0.0	13.1	13.1		
Prop In Lane	0.41	0.58	1.00			0.08		
Lane Grp Cap(c), veh/h	198	0	371	2845	1427	1481		
V/C Ratio(X)	0.48	0.00	0.27	0.40	0.42	0.42		
Avail Cap(c_a), veh/h	404	0	371	2845	1427	1481		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.48	0.48	0.71	0.71		
Uniform Delay (d), s/veh	53.4	0.0	1.1	0.0	3.7	3.7		
Incr Delay (d2), s/veh	1.8	0.0	0.8	0.2	0.7	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	6.9	0.0	1.2	0.1	10.0	10.3		
LnGrp Delay(d),s/veh	55.2	0.0	2.0	0.2	4.4	4.4		
LnGrp LOS	E		A	A	A	A		
Approach Vol, veh/h	95			1247	1234			
Approach Delay, s/veh	55.2			0.3	4.4			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		109.7		20.3		109.7		
Change Period (Y+Rc), s		6.0		5.5		6.0		
Max Green Setting (Gmax), s		87.0		31.5		87.0		
Max Q Clear Time (g_c+I1), s		20.1		9.2		15.1		
Green Ext Time (p_c), s		9.5		0.3		6.6		
Intersection Summary								
HCM 2010 Ctrl Delay			4.3					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2020 PM Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	321	654	184	292	497	228	156	622	257	214	751	185
Future Volume (veh/h)	321	654	184	292	497	228	156	622	257	214	751	185
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.99
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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	349	711	200	317	540	248	170	676	279	233	816	201
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	799	225	318	893	569	243	795	328	289	1012	249
Arrive On Green	0.17	0.29	0.28	0.13	0.25	0.25	0.08	0.33	0.31	0.04	0.12	0.11
Sat Flow, veh/h	1774	2726	767	1774	3539	1576	1774	2437	1006	1703	2811	692
Grp Volume(v), veh/h	349	461	450	317	540	248	170	491	464	233	514	503
Grp Sat Flow(s),veh/h/ln	1774	1770	1723	1774	1770	1576	1774	1770	1674	1703	1770	1733
Q Serve(g_s), s	17.9	32.4	32.5	17.2	17.5	15.5	8.2	33.6	33.7	11.0	36.8	36.8
Cycle Q Clear(g_c), s	17.9	32.4	32.5	17.2	17.5	15.5	8.2	33.6	33.7	11.0	36.8	36.8
Prop In Lane	1.00		0.44	1.00		1.00	1.00		0.60	1.00		0.40
Lane Grp Cap(c), veh/h	441	519	505	318	893	569	243	577	546	289	637	624
V/C Ratio(X)	0.79	0.89	0.89	1.00	0.60	0.44	0.70	0.85	0.85	0.81	0.81	0.81
Avail Cap(c_a), veh/h	464	544	530	318	898	572	243	577	546	311	637	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	28.5	43.9	44.5	34.1	42.9	31.5	30.9	40.8	41.4	31.7	52.9	53.0
Incr Delay (d2), s/veh	8.7	16.1	16.5	49.2	1.1	0.5	8.6	14.6	15.3	12.3	9.5	9.7
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(95%),veh/ln	4.9	25.1	24.7	18.7	13.5	11.1	8.0	25.8	24.9	10.0	26.7	26.2
LnGrp Delay(d),s/veh	37.2	60.0	60.9	83.3	44.0	32.0	39.5	55.4	56.7	44.0	62.3	62.6
LnGrp LOS	D	E	E	F	D	C	D	E	E	D	E	E
Approach Vol, veh/h		1260			1105			1125			1250	
Approach Delay, s/veh		54.0			52.6			53.5			59.0	
Approach LOS		D			D			D			E	
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	31.0	42.3	15.2	51.5	26.7	36.6	19.7	47.0				
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5				
Max Green Setting (Gmax), s	41.5	37.7	8.7	43.1	21.9	30.3	14.9	36.9				
Max Q Clear Time (g_c+119), s	119.2	34.5	10.2	38.8	19.9	19.5	13.0	35.7				
Green Ext Time (p_c), s	0.0	1.3	0.0	1.9	0.3	2.7	0.2	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			54.9									
HCM 2010 LOS			D									

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	24	2	116	52	0	2	0	128	11	0	0
Future Vol, veh/h	0	24	2	116	52	0	2	0	128	11	0	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	26	2	126	57	0	2	0	139	12	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	57	0	0	28	0	0	336	336	27	406	337	57
Stage 1	-	-	-	-	-	-	27	27	-	309	309	-
Stage 2	-	-	-	-	-	-	309	309	-	97	28	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1547	-	-	1585	-	-	618	585	1048	555	584	1009
Stage 1	-	-	-	-	-	-	990	873	-	701	660	-
Stage 2	-	-	-	-	-	-	701	660	-	910	872	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1547	-	-	1585	-	-	579	537	1048	451	536	1009
Mov Cap-2 Maneuver	-	-	-	-	-	-	579	537	-	451	536	-
Stage 1	-	-	-	-	-	-	990	873	-	701	606	-
Stage 2	-	-	-	-	-	-	644	606	-	789	872	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			5.2			9			13.2		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1035	1547	-	-	1585	-	-	451
HCM Lane V/C Ratio	0.137	-	-	-	0.08	-	-	0.027
HCM Control Delay (s)	9	0	-	-	7.5	0	-	13.2
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.3	-	-	0.1

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	0	15	39	0	14
Future Vol, veh/h	12	0	15	39	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	0	16	42	0	15

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	13	0	87
Stage 1	-	-	-	-	13
Stage 2	-	-	-	-	74
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1606	-	914
Stage 1	-	-	-	-	1010
Stage 2	-	-	-	-	949
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1606	-	905
Mov Cap-2 Maneuver	-	-	-	-	905
Stage 1	-	-	-	-	1000
Stage 2	-	-	-	-	949

Approach	EB	WB	NB
HCM Control Delay, s	0	2	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1067	-	-	1606	-
HCM Lane V/C Ratio	0.014	-	-	0.01	-
HCM Control Delay (s)	8.4	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	31	0	865	985	26
Future Vol, veh/h	0	31	0	865	985	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	0	940	1071	28

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	550	-	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	479	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	479	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	479	-	-
HCM Lane V/C Ratio	-	0.07	-	-
HCM Control Delay (s)	-	13.1	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	48	39	0
Future Vol, veh/h	0	0	0	48	39	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	52	42	0

























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	52	0	-	0	26
Stage 1	-	-	-	-	26
Stage 2	-	-	-	-	0
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1554	-	-	-	989
Stage 1	-	-	-	-	997
Stage 2	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1554	-	-	-	989
Mov Cap-2 Maneuver	-	-	-	-	989
Stage 1	-	-	-	-	997
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1554	-	-	-	989
HCM Lane V/C Ratio	-	-	-	-	0.043
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 2010 Signalized Intersection Summary
 1: Kenwood Road & Galbraith Road

2020 SAT Build
 Kenwood Road Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	125	124	82	106	130	131	460	97	138	420	47
Future Volume (veh/h)	45	125	124	82	106	130	131	460	97	138	420	47
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)	0.98		0.98	0.99		0.98	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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	49	136	135	89	115	141	142	500	105	150	457	51
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	383	426	351	408	448	550	1381	288	503	1523	169
Arrive On Green	0.05	0.21	0.21	0.06	0.22	0.22	0.07	0.47	0.47	0.07	0.47	0.47
Sat Flow, veh/h	1774	1863	1544	1774	1863	1546	1774	2914	609	1774	3211	357
Grp Volume(v), veh/h	49	136	135	89	115	141	142	303	302	150	251	257
Grp Sat Flow(s),veh/h/ln	1774	1863	1544	1774	1863	1546	1774	1770	1753	1774	1770	1798
Q Serve(g_s), s	1.8	5.3	5.9	3.3	4.3	6.0	3.4	9.2	9.3	3.6	7.3	7.4
Cycle Q Clear(g_c), s	1.8	5.3	5.9	3.3	4.3	6.0	3.4	9.2	9.3	3.6	7.3	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		0.20
Lane Grp Cap(c), veh/h	356	383	426	351	408	448	550	838	831	503	839	853
V/C Ratio(X)	0.14	0.36	0.32	0.25	0.28	0.31	0.26	0.36	0.36	0.30	0.30	0.30
Avail Cap(c_a), veh/h	501	838	803	367	728	714	638	1027	1017	822	1258	1278
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	28.7	24.4	24.0	27.4	23.5	10.0	14.1	14.1	10.3	13.6	13.6
Incr Delay (d2), s/veh	0.1	0.8	0.6	0.1	0.5	0.6	0.1	0.1	0.1	0.1	0.1	0.1
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(95%),veh/ln	1.6	5.0	4.6	2.9	4.1	4.7	2.9	7.9	7.9	3.1	6.4	6.6
LnGrp Delay(d),s/veh	24.3	29.5	25.0	24.1	28.0	24.1	10.1	14.2	14.2	10.4	13.7	13.7
LnGrp LOS	C	C	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h		320			345			747			658	
Approach Delay, s/veh		26.8			25.4			13.4			12.9	
Approach LOS		C			C			B			B	
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	9.8	44.0	9.3	21.4	9.8	44.0	8.1	22.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	21.0	49.0	6.0	38.0	10.0	60.0	11.0	33.0				
Max Q Clear Time (g_c+I1), s	5.6	11.3	5.3	7.9	5.4	9.4	3.8	8.0				
Green Ext Time (p_c), s	0.2	0.6	0.0	1.8	0.1	0.5	0.0	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			17.3									
HCM 2010 LOS			B									
Notes												

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	5	0	14	65	1	149	11	534	39	69	556	10
Future Vol, veh/h	5	0	14	65	1	149	11	534	39	69	556	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	95	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	15	71	1	162	12	580	42	75	604	11












Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1075	1406	308	1077	1390	311	615	0	0	622	0	0
Stage 1	760	760	-	625	625	-	-	-	-	-	-	-
Stage 2	315	646	-	452	765	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	174	138	688	173	141	685	961	-	-	955	-	-
Stage 1	364	413	-	439	475	-	-	-	-	-	-	-
Stage 2	671	465	-	557	410	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	123	126	688	158	128	685	961	-	-	955	-	-
Mov Cap-2 Maneuver	123	126	-	158	128	-	-	-	-	-	-	-
Stage 1	360	380	-	434	469	-	-	-	-	-	-	-
Stage 2	505	459	-	502	378	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	17.4		22.3		0.2		1	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	961	-	-	311	157	685	955	-	-
HCM Lane V/C Ratio	0.012	-	-	0.066	0.457	0.236	0.079	-	-
HCM Control Delay (s)	8.8	-	-	17.4	45.9	11.9	9.1	-	-
HCM Lane LOS	A	-	-	C	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	2.1	0.9	0.3	-	-

HCM 2010 Signalized Intersection Summary
3: Kenwood Road & Happiness Way

2020 SAT Build
Kenwood Road Development

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	74	59	94	538	534	65		
Future Volume (veh/h)	74	59	94	538	534	65		
Number	7	14	5	2	6	16		
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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	80	64	102	585	580	71		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	107	86	556	1718	1541	188		
Arrive On Green	0.12	0.12	0.49	0.49	0.49	0.49		
Sat Flow, veh/h	930	744	778	3632	3269	388		
Grp Volume(v), veh/h	145	0	102	585	323	328		
Grp Sat Flow(s),veh/h/ln	1685	0	778	1770	1770	1794		
Q Serve(g_s), s	2.2	0.0	2.5	2.7	3.1	3.1		
Cycle Q Clear(g_c), s	2.2	0.0	5.6	2.7	3.1	3.1		
Prop In Lane	0.55	0.44	1.00			0.22		
Lane Grp Cap(c), veh/h	194	0	556	1718	859	871		
V/C Ratio(X)	0.75	0.00	0.18	0.34	0.38	0.38		
Avail Cap(c_a), veh/h	2578	0	2452	10342	5171	5243		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.5	0.0	6.1	4.3	4.3	4.3		
Incr Delay (d2), s/veh	5.6	0.0	0.2	0.1	0.3	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	2.4	0.0	1.0	2.4	2.7	2.7		
LnGrp Delay(d),s/veh	17.1	0.0	6.3	4.4	4.6	4.6		
LnGrp LOS	B		A	A	A	A		
Approach Vol, veh/h	145			687	651			
Approach Delay, s/veh	17.1			4.7	4.6			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		19.7		7.1		19.7		
Change Period (Y+Rc), s		* 6.7		4.0		* 6.7		
Max Green Setting (Gmax), s		* 78		41.0		* 78		
Max Q Clear Time (g_c+I1), s		7.6		4.2		5.1		
Green Ext Time (p_c), s		5.4		0.5		4.4		
Intersection Summary								
HCM 2010 Ctrl Delay			5.8					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2020 SAT Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	44	5	48	240	5	55	68	482	202	65	494	53
Future Volume (veh/h)	44	5	48	240	5	55	68	482	202	65	494	53
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	1863	1863	1900	1788	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	48	5	52	261	5	60	74	524	220	71	537	58
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	326	16	168	387	22	267	439	1057	442	377	1397	150
Arrive On Green	0.05	0.12	0.12	0.12	0.18	0.18	0.06	0.43	0.43	0.06	0.43	0.43
Sat Flow, veh/h	1774	140	1457	1703	123	1474	1703	2434	1018	1703	3223	347
Grp Volume(v), veh/h	48	0	57	261	0	65	74	380	364	71	294	301
Grp Sat Flow(s),veh/h/ln	1774	0	1597	1703	0	1597	1703	1770	1682	1703	1770	1801
Q Serve(g_s), s	2.1	0.0	3.0	11.0	0.0	3.2	2.1	14.3	14.4	2.0	10.4	10.5
Cycle Q Clear(g_c), s	2.1	0.0	3.0	11.0	0.0	3.2	2.1	14.3	14.4	2.0	10.4	10.5
Prop In Lane	1.00		0.91	1.00		0.92	1.00		0.61	1.00		0.19
Lane Grp Cap(c), veh/h	326	0	184	387	0	289	439	769	731	377	767	781
V/C Ratio(X)	0.15	0.00	0.31	0.67	0.00	0.23	0.17	0.49	0.50	0.19	0.38	0.39
Avail Cap(c_a), veh/h	385	0	445	387	0	497	464	1175	1117	403	1175	1196
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(l)	1.00	0.00	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	32.8	0.0	37.5	30.9	0.0	32.3	12.8	18.8	18.8	13.4	17.8	17.8
Incr Delay (d2), s/veh	0.4	0.0	2.0	3.8	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1
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(95%),veh/ln	1.9	0.0	2.6	2.8	0.0	2.6	1.8	11.4	11.0	1.7	8.8	8.9
LnGrp Delay(d),s/veh	33.2	0.0	39.5	34.7	0.0	32.4	12.9	19.0	19.0	13.5	17.9	17.9
LnGrp LOS	C		D	C		C	B	B	B	B	B	B
Approach Vol, veh/h		105			326			818			666	
Approach Delay, s/veh		36.6			34.2			18.5			17.4	
Approach LOS		D			C			B			B	
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	2.6	46.8	15.0	17.9	12.7	46.7	9.0	24.0				
Change Period (Y+Rc), s	6.7	* 6.7	4.0	7.3	* 6.7	* 6.7	4.0	7.3				
Max Green Setting (Gmax), s	61	* 61	11.0	25.7	* 7.3	* 61	8.0	28.7				
Max Q Clear Time (g_c+14), s	16.4	16.4	13.0	5.0	4.1	12.5	4.1	5.2				
Green Ext Time (p_c), s	0.0	1.7	0.0	0.3	0.0	1.3	0.1	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				21.8								
HCM 2010 LOS				C								
Notes												

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2020 SAT Build
Kenwood Road Development



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	42	56	53	980	707	24		
Future Volume (veh/h)	42	56	53	980	707	24		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.94	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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	46	61	58	1065	768	26		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	87	115	562	2833	2804	95		
Arrive On Green	0.13	0.12	1.00	1.00	0.80	0.79		
Sat Flow, veh/h	684	907	681	3632	3586	118		
Grp Volume(v), veh/h	108	0	58	1065	389	405		
Grp Sat Flow(s),veh/h/ln	1605	0	681	1770	1770	1842		
Q Serve(g_s), s	8.2	0.0	0.9	0.0	7.2	7.2		
Cycle Q Clear(g_c), s	8.2	0.0	8.1	0.0	7.2	7.2		
Prop In Lane	0.43	0.56	1.00			0.06		
Lane Grp Cap(c), veh/h	204	0	562	2833	1420	1478		
V/C Ratio(X)	0.53	0.00	0.10	0.38	0.27	0.27		
Avail Cap(c_a), veh/h	405	0	562	2833	1420	1478		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.66	0.66	0.85	0.85		
Uniform Delay (d), s/veh	53.4	0.0	0.3	0.0	3.2	3.3		
Incr Delay (d2), s/veh	2.1	0.0	0.2	0.3	0.4	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	6.8	0.0	0.3	0.2	6.5	6.7		
LnGrp Delay(d),s/veh	55.5	0.0	0.5	0.3	3.6	3.6		
LnGrp LOS	E		A	A	A	A		
Approach Vol, veh/h	108			1123	794			
Approach Delay, s/veh	55.5			0.3	3.6			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		109.2		20.8		109.2		
Change Period (Y+Rc), s		6.0		5.5		6.0		
Max Green Setting (Gmax), s		87.0		31.5		87.0		
Max Q Clear Time (g_c+I1), s		10.1		10.2		9.2		
Green Ext Time (p_c), s		7.1		0.4		3.5		
Intersection Summary								
HCM 2010 Ctrl Delay			4.5					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2020 SAT Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	417	119	209	357	265	162	555	266	222	420	140
Future Volume (veh/h)	223	417	119	209	357	265	162	555	266	222	420	140
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.99	1.00		0.99
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	1863	1863	1900	1863	1863	1863	1863	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	242	453	129	227	388	288	176	603	289	241	457	152
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	385	579	164	342	735	485	426	955	458	358	1138	375
Arrive On Green	0.14	0.21	0.20	0.14	0.21	0.20	0.08	0.41	0.40	0.04	0.14	0.14
Sat Flow, veh/h	1774	2722	769	1774	3539	1574	1774	2317	1110	1703	2612	862
Grp Volume(v), veh/h	242	293	289	227	388	288	176	460	432	241	308	301
Grp Sat Flow(s),veh/h/ln	1774	1770	1721	1774	1770	1574	1774	1770	1657	1703	1770	1703
Q Serve(g_s), s	13.5	20.3	20.7	12.5	12.7	20.2	7.2	26.9	27.1	10.0	20.6	20.9
Cycle Q Clear(g_c), s	13.5	20.3	20.7	12.5	12.7	20.2	7.2	26.9	27.1	10.0	20.6	20.9
Prop In Lane	1.00		0.45	1.00		1.00	1.00		0.67	1.00		0.51
Lane Grp Cap(c), veh/h	385	377	366	342	735	485	426	730	683	358	771	742
V/C Ratio(X)	0.63	0.78	0.79	0.66	0.53	0.59	0.41	0.63	0.63	0.67	0.40	0.40
Avail Cap(c_a), veh/h	474	490	477	405	912	563	426	730	683	367	771	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	33.2	48.3	48.9	34.2	45.8	38.2	19.9	30.3	30.9	24.3	40.2	40.4
Incr Delay (d2), s/veh	1.8	5.9	6.5	3.1	0.6	1.3	0.6	4.1	4.4	4.5	1.5	1.6
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(95%),veh/ln	1.1	15.9	15.8	10.5	10.4	13.8	6.5	20.0	19.2	8.7	15.6	15.4
LnGrp Delay(d),s/veh	35.0	54.1	55.4	37.4	46.4	39.4	20.6	34.5	35.3	28.7	41.7	42.0
LnGrp LOS	D	D	E	D	D	D	C	C	D	C	D	D
Approach Vol, veh/h		824			903			1068			850	
Approach Delay, s/veh		49.0			41.9			32.5			38.1	
Approach LOS		D			D			C			D	
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	31.4	31.9	15.4	61.4	22.4	30.8	18.5	58.2				
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5				
Max Green Setting (Gmax), s	33.7	33.7	8.9	41.9	22.4	30.8	12.8	38.0				
Max Q Clear Time (g_c+1), s	22.7	22.7	9.2	22.9	15.5	22.2	12.0	29.1				
Green Ext Time (p_c), s	0.3	1.8	0.0	2.4	0.5	2.1	0.1	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay				39.9								
HCM 2010 LOS				D								

Intersection												
Int Delay, s/veh	7.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	8	1	142	17	0	1	0	124	0	0	0
Future Vol, veh/h	1	8	1	142	17	0	1	0	124	0	0	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	9	1	154	18	0	1	0	135	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	18	0	0	10	0	0	338	338	10	405	338	18
Stage 1	-	-	-	-	-	-	12	12	-	326	326	-
Stage 2	-	-	-	-	-	-	326	326	-	79	12	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1599	-	-	1610	-	-	616	583	1071	556	583	1061
Stage 1	-	-	-	-	-	-	1009	886	-	687	648	-
Stage 2	-	-	-	-	-	-	687	648	-	930	886	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1599	-	-	1610	-	-	570	526	1071	450	526	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-	570	526	-	450	526	-
Stage 1	-	-	-	-	-	-	1008	885	-	686	585	-
Stage 2	-	-	-	-	-	-	620	585	-	812	885	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			6.7			8.9			0		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1064	1599	-	-	1610	-	-	-
HCM Lane V/C Ratio	0.128	0.001	-	-	0.096	-	-	-
HCM Control Delay (s)	8.9	7.3	0	-	7.5	0	-	0
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.3	-	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	0	0	18	0	0
Future Vol, veh/h	11	0	0	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	0	20	0	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	12	0	32
Stage 1	-	-	-	-	12
Stage 2	-	-	-	-	20
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1607	-	982
Stage 1	-	-	-	-	1011
Stage 2	-	-	-	-	1003
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1607	-	982
Mov Cap-2 Maneuver	-	-	-	-	982
Stage 1	-	-	-	-	1011
Stage 2	-	-	-	-	1003

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1607	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	29	0	496	553	30
Future Vol, veh/h	0	29	0	496	553	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	32	0	539	601	33

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	317	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	679	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	679	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	679	-	-
HCM Lane V/C Ratio	-	0.046	-	-
HCM Control Delay (s)	-	10.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	60	33	0
Future Vol, veh/h	0	0	0	60	33	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	65	36	0

























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	65	0	-	0	33
Stage 1	-	-	-	-	33
Stage 2	-	-	-	-	0
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1537	-	-	-	980
Stage 1	-	-	-	-	989
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1537	-	-	-	980
Mov Cap-2 Maneuver	-	-	-	-	980
Stage 1	-	-	-	-	989
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1537	-	-	-	980
HCM Lane V/C Ratio	-	-	-	-	0.037
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 2010 Signalized Intersection Summary
1: Kenwood Road & Galbraith Road

2020 Black Friday Mid Build
Kenwood Road Development

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	348	254	133	268	128	273	635	173	506	1084	195
Future Volume (veh/h)	100	348	254	133	268	128	273	635	173	506	1084	195
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)	0.99		0.98	0.99		0.98	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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	109	378	276	145	291	139	297	690	188	550	1178	212
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	281	485	545	215	471	688	260	980	267	485	1363	244
Arrive On Green	0.06	0.26	0.26	0.05	0.25	0.25	0.09	0.36	0.36	0.19	0.45	0.45
Sat Flow, veh/h	1774	1863	1552	1774	1863	1551	1774	2748	748	1774	2999	537
Grp Volume(v), veh/h	109	378	276	145	291	139	297	444	434	550	692	698
Grp Sat Flow(s),veh/h/ln	1774	1863	1552	1774	1863	1551	1774	1770	1727	1774	1770	1766
Q Serve(g_s), s	5.0	21.1	15.8	6.0	15.5	6.2	10.0	24.2	24.2	21.0	39.3	40.0
Cycle Q Clear(g_c), s	5.0	21.1	15.8	6.0	15.5	6.2	10.0	24.2	24.2	21.0	39.3	40.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		0.30
Lane Grp Cap(c), veh/h	281	485	545	215	471	688	260	631	616	485	804	803
V/C Ratio(X)	0.39	0.78	0.51	0.68	0.62	0.20	1.14	0.70	0.70	1.13	0.86	0.87
Avail Cap(c_a), veh/h	346	631	667	215	548	753	260	773	754	485	946	944
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	38.5	28.9	34.1	37.1	19.3	28.0	31.0	31.0	25.4	27.4	27.6
Incr Delay (d2), s/veh	0.3	5.5	1.0	6.7	2.1	0.2	99.2	1.5	1.5	83.4	6.4	6.9
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(95%),veh/ln	4.5	17.1	11.2	6.7	13.0	4.9	12.9	17.8	17.5	47.1	28.1	28.4
LnGrp Delay(d),s/veh	29.7	44.0	29.9	40.8	39.3	19.5	127.1	32.5	32.5	108.8	33.8	34.5
LnGrp LOS	C	D	C	D	D	B	F	C	C	F	C	C
Approach Vol, veh/h		763			575			1175			1940	
Approach Delay, s/veh		36.9			34.9			56.4			55.3	
Approach LOS		D			C			E			E	
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	25.0	44.0	10.0	33.2	14.0	55.0	10.8	32.4				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	21.0	49.0	6.0	38.0	10.0	60.0	11.0	33.0				
Max Q Clear Time (g_c+I1), s	23.0	26.2	8.0	23.1	12.0	42.0	7.0	17.5				
Green Ext Time (p_c), s	0.0	0.9	0.0	4.1	0.0	1.5	0.0	2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			49.8									
HCM 2010 LOS			D									
Notes												

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	5	1	12	0	12	10	81	1063	17	27	1513	78
Future Vol, veh/h	5	1	12	0	12	10	81	1063	17	27	1513	78
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	95	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	13	0	13	11	88	1155	18	29	1645	85

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2506	3095	865	2221	3128	587	1730	0	0	1173	0	0
Stage 1	1746	1746	-	1340	1340	-	-	-	-	-	-	-
Stage 2	760	1349	-	881	1788	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	14	12	297	24	~11	453	361	-	-	591	-	-
Stage 1	89	139	-	161	220	-	-	-	-	-	-	-
Stage 2	364	217	-	308	132	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	9	297	16	~8	453	361	-	-	591	-	-
Mov Cap-2 Maneuver	-	9	-	16	~8	-	-	-	-	-	-	-
Stage 1	67	132	-	122	166	-	-	-	-	-	-	-
Stage 2	248	164	-	278	126	-	-	-	-	-	-	-















Approach	EB	WB	NB	SB
HCM Control Delay, s		\$ 654.3	1.3	0.2
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	361	-	-	-	8	453	591	-	-
HCM Lane V/C Ratio	0.244	-	-	-	1.63	0.024	0.05	-	-
HCM Control Delay (s)	18.2	-	-	-	\$ 1188.7	13.1	11.4	-	-
HCM Lane LOS	C	-	-	-	F	B	B	-	-
HCM 95th %tile Q(veh)	0.9	-	-	-	2.5	0.1	0.2	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 2010 Signalized Intersection Summary
 3: Kenwood Road & Happiness Way

2020 Black Friday Mid Build
 Kenwood Road Development

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations				 	 	 		
Traffic Volume (veh/h)	61	73	87	1111	1436	69		
Future Volume (veh/h)	61	73	87	1111	1436	69		
Number	7	14	5	2	6	16		
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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	66	79	95	1208	1561	75		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	85	101	260	2582	2509	120		
Arrive On Green	0.11	0.11	0.73	0.73	0.73	0.73		
Sat Flow, veh/h	753	901	306	3632	3532	165		
Grp Volume(v), veh/h	146	0	95	1208	800	836		
Grp Sat Flow(s),veh/h/ln	1666	0	306	1770	1770	1834		
Q Serve(g_s), s	5.8	0.0	15.2	9.5	15.1	15.3		
Cycle Q Clear(g_c), s	5.8	0.0	30.5	9.5	15.1	15.3		
Prop In Lane	0.45	0.54	1.00			0.09		
Lane Grp Cap(c), veh/h	187	0	260	2582	1291	1338		
V/C Ratio(X)	0.78	0.00	0.37	0.47	0.62	0.62		
Avail Cap(c_a), veh/h	615	0	463	4927	2463	2553		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	29.2	0.0	12.1	3.8	4.5	4.6		
Incr Delay (d2), s/veh	6.8	0.0	0.9	0.1	0.5	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	5.4	0.0	2.4	8.1	11.7	12.1		
LnGrp Delay(d),s/veh	36.1	0.0	13.0	3.9	5.0	5.0		
LnGrp LOS	D		B	A	A	A		
Approach Vol, veh/h	146			1303	1636			
Approach Delay, s/veh	36.1			4.6	5.0			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		56.1		11.6		56.1		
Change Period (Y+Rc), s		* 6.7		4.0		* 6.7		
Max Green Setting (Gmax), s		* 94		25.0		* 94		
Max Q Clear Time (g_c+I1), s		32.5		7.8		17.3		
Green Ext Time (p_c), s		16.9		0.4		20.4		
Intersection Summary								
HCM 2010 Ctrl Delay			6.3					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2020 Black Friday Mid Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↕		↔	↕	
Traffic Volume (veh/h)	61	10	65	336	45	117	96	809	442	153	954	117
Future Volume (veh/h)	61	10	65	336	45	117	96	809	442	153	954	117
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	1863	1863	1900	1788	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	66	11	71	365	49	127	104	879	480	166	1037	127
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	26	170	307	63	163	289	994	535	241	1434	175
Arrive On Green	0.06	0.12	0.12	0.08	0.14	0.14	0.07	0.45	0.45	0.08	0.45	0.45
Sat Flow, veh/h	1774	216	1393	1703	459	1188	1703	2223	1197	1703	3175	389
Grp Volume(v), veh/h	66	0	82	365	0	176	104	697	662	166	578	586
Grp Sat Flow(s),veh/h/ln	1774	0	1609	1703	0	1647	1703	1770	1651	1703	1770	1794
Q Serve(g_s), s	2.8	0.0	4.2	7.0	0.0	9.2	2.8	32.2	33.1	4.6	23.8	23.8
Cycle Q Clear(g_c), s	2.8	0.0	4.2	7.0	0.0	9.2	2.8	32.2	33.1	4.6	23.8	23.8
Prop In Lane	1.00		0.87	1.00		0.72	1.00		0.73	1.00		0.22
Lane Grp Cap(c), veh/h	233	0	196	307	0	226	289	791	738	241	799	810
V/C Ratio(X)	0.28	0.00	0.42	1.19	0.00	0.78	0.36	0.88	0.90	0.69	0.72	0.72
Avail Cap(c_a), veh/h	418	0	606	307	0	473	324	1232	1149	344	1311	1329
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	0.0	36.4	37.5	0.0	37.3	15.0	22.6	22.8	19.6	20.0	20.0
Incr Delay (d2), s/veh	1.4	0.0	3.0	112.4	0.0	2.2	0.3	3.2	4.3	1.3	0.5	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(95%),veh/ln	2.6	0.0	3.7	24.9	0.0	7.8	2.3	23.0	22.3	4.0	17.3	17.5
LnGrp Delay(d),s/veh	32.7	0.0	39.4	149.9	0.0	39.5	15.2	25.8	27.1	20.9	20.4	20.5
LnGrp LOS	C		D	F		D	B	C	C	C	C	C
Approach Vol, veh/h		148			541			1463			1330	
Approach Delay, s/veh		36.4			114.0			25.6			20.5	
Approach LOS		D			F			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	3.6	46.7	11.0	18.2	13.2	47.1	9.6	19.6				
Change Period (Y+Rc), s	6.7	* 6.7	4.0	7.3	* 6.7	* 6.7	4.0	7.3				
Max Green Setting (Gmax), s	18	* 62	7.0	33.7	* 8.3	* 66	15.0	25.7				
Max Q Clear Time (g_c+10), s	10.6	35.1	9.0	6.2	4.8	25.8	4.8	11.2				
Green Ext Time (p_c), s	0.2	3.9	0.0	0.6	0.0	2.9	0.2	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			37.9									
HCM 2010 LOS			D									
Notes												



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	81	89	122	1599	1149	84		
Future Volume (veh/h)	81	89	122	1599	1149	84		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.95	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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	88	97	133	1738	1249	91		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	119	131	314	2753	2610	190		
Arrive On Green	0.15	0.15	1.00	1.00	0.78	0.77		
Sat Flow, veh/h	770	849	406	3632	3439	243		
Grp Volume(v), veh/h	186	0	133	1738	660	680		
Grp Sat Flow(s),veh/h/ln	1863	0	406	1770	1770	1819		
Q Serve(g_s), s	15.3	0.0	13.4	0.0	18.3	18.5		
Cycle Q Clear(g_c), s	15.3	0.0	31.9	0.0	18.3	18.5		
Prop In Lane	0.47	0.52	1.00			0.13		
Lane Grp Cap(c), veh/h	252	0	314	2753	1380	1419		
V/C Ratio(X)	0.74	0.00	0.42	0.63	0.48	0.48		
Avail Cap(c_a), veh/h	358	0	314	2753	1380	1419		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.38	0.38	0.43	0.43		
Uniform Delay (d), s/veh	56.8	0.0	2.7	0.0	5.4	5.4		
Incr Delay (d2), s/veh	4.8	0.0	1.6	0.4	0.5	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	1.6	0.0	2.9	0.3	12.2	12.6		
LnGrp Delay(d),s/veh	61.6	0.0	4.3	0.4	5.9	5.9		
LnGrp LOS	E		A	A	A	A		
Approach Vol, veh/h	186			1871	1340			
Approach Delay, s/veh	61.6			0.7	5.9			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		114.1		25.9		114.1		
Change Period (Y+Rc), s		6.0		5.5		6.0		
Max Green Setting (Gmax), s		99.0		29.5		99.0		
Max Q Clear Time (g_c+I1), s		33.9		17.3		20.5		
Green Ext Time (p_c), s		20.4		0.6		7.6		
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2020 Black Friday Mid Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Volume (veh/h)	354	552	220	268	410	523	220	822	296	288	658	267
Future Volume (veh/h)	354	552	220	268	410	523	220	822	296	288	658	267
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.99
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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1788	1863	1863
Adj Flow Rate, veh/h	385	600	239	291	446	568	239	893	322	313	715	290
Adj No. of Lanes	1	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	402	738	293	306	940	675	352	1040	592	362	1201	721
Arrive On Green	0.15	0.30	0.28	0.12	0.27	0.26	0.12	0.29	0.28	0.06	0.11	0.11
Sat Flow, veh/h	1774	2471	983	1774	3539	1576	1774	3539	1566	1703	3539	1569
Grp Volume(v), veh/h	385	429	410	291	446	568	239	893	322	313	715	290
Grp Sat Flow(s),veh/h/ln	1774	1770	1684	1774	1770	1576	1774	1770	1566	1703	1770	1569
Q Serve(g_s), s	20.8	31.5	31.7	16.2	14.8	36.3	12.7	33.4	22.6	19.3	26.9	19.8
Cycle Q Clear(g_c), s	20.8	31.5	31.7	16.2	14.8	36.3	12.7	33.4	22.6	19.3	26.9	19.8
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	402	528	503	306	940	675	352	1040	592	362	1201	721
V/C Ratio(X)	0.96	0.81	0.81	0.95	0.47	0.84	0.68	0.86	0.54	0.86	0.60	0.40
Avail Cap(c_a), veh/h	402	528	503	306	940	675	456	1040	592	408	1201	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	33.8	45.5	46.2	37.2	43.2	35.9	30.1	46.7	34.2	43.8	53.0	34.3
Incr Delay (d2), s/veh	34.1	9.4	9.9	38.5	0.4	9.4	2.7	9.2	3.6	13.9	1.8	1.4
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(95%),veh/ln	3.2	23.5	22.7	10.8	11.7	28.9	10.6	24.4	15.6	19.0	19.1	13.4
LnGrp Delay(d),s/veh	67.9	54.9	56.1	75.7	43.6	45.3	32.8	55.8	37.8	57.6	54.9	35.7
LnGrp LOS	E	D	E	E	D	D	C	E	D	E	D	D
Approach Vol, veh/h		1224			1305			1454			1318	
Approach Delay, s/veh		59.4			51.5			48.1			51.3	
Approach LOS		E			D			D			D	
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	30.0	46.0	21.8	52.2	25.0	41.0	28.2	45.8				
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5				
Max Green Setting (Gmax), s	39.5	39.5	23.5	37.5	18.5	34.5	25.5	35.5				
Max Q Clear Time (g_c+1), s	33.7	33.7	14.7	28.9	22.8	38.3	21.3	35.4				
Green Ext Time (p_c), s	0.0	1.9	0.6	3.0	0.0	0.0	0.5	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			52.3									
HCM 2010 LOS			D									

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	52	1	115	47	4	0	0	89	5	0	4
Future Vol, veh/h	4	52	1	115	47	4	0	0	89	5	0	4
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	57	1	125	51	4	0	0	97	5	0	4

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	55	0	0	58	0	0	371	371	58	417	369	53
Stage 1	-	-	-	-	-	-	66	66	-	303	303	-
Stage 2	-	-	-	-	-	-	305	305	-	114	66	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1550	-	-	1546	-	-	586	559	1008	546	560	1014
Stage 1	-	-	-	-	-	-	945	840	-	706	664	-
Stage 2	-	-	-	-	-	-	705	662	-	891	840	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1550	-	-	1546	-	-	545	511	1008	461	512	1014
Mov Cap-2 Maneuver	-	-	-	-	-	-	545	511	-	461	512	-
Stage 1	-	-	-	-	-	-	942	837	-	704	609	-
Stage 2	-	-	-	-	-	-	644	607	-	803	837	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.5		5.2		9		11	
HCM LOS					A		B	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1008	1550	-	-	1546	-	-	608
HCM Lane V/C Ratio	0.096	0.003	-	-	0.081	-	-	0.016
HCM Control Delay (s)	9	7.3	0	-	7.5	0	-	11
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.3	-	-	0

Intersection						
Int Delay, s/veh	3.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	0	24	28	0	23
Future Vol, veh/h	34	0	24	28	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	0	26	30	0	25

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	37	0	119 37
Stage 1	-	-	-	-	37 -
Stage 2	-	-	-	-	82 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1574	-	877 1035
Stage 1	-	-	-	-	985 -
Stage 2	-	-	-	-	941 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1574	-	862 1035
Mov Cap-2 Maneuver	-	-	-	-	862 -
Stage 1	-	-	-	-	968 -
Stage 2	-	-	-	-	941 -

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1035	-	-	1574	-
HCM Lane V/C Ratio	0.024	-	-	0.017	-
HCM Control Delay (s)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	21	0	824	1466	26
Future Vol, veh/h	0	21	0	824	1466	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	0	896	1593	28

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	811	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	322	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	322	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	322	-	-
HCM Lane V/C Ratio	-	0.071	-	-
HCM Control Delay (s)	-	17	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	70	37	0
Future Vol, veh/h	0	0	0	70	37	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	76	40	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	76	0	-	0	38
Stage 1	-	-	-	-	38
Stage 2	-	-	-	-	0
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1523	-	-	-	974
Stage 1	-	-	-	-	984
Stage 2	-	-	-	-	-
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1523	-	-	-	974
Mov Cap-2 Maneuver	-	-	-	-	974
Stage 1	-	-	-	-	984
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1523	-	-	-	974
HCM Lane V/C Ratio	-	-	-	-	0.041
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 2010 Signalized Intersection Summary
 1: Kenwood Road & Galbraith Road

2020 Black Friday PM Build
 Kenwood Road Development

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	437	332	151	375	417	254	1021	130	338	1079	106
Future Volume (veh/h)	153	437	332	151	375	417	254	1021	130	338	1079	106
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		0.98	1.00		0.98	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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	166	475	361	164	408	453	276	1110	141	367	1173	115
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	545	581	175	481	664	260	1157	147	362	1477	145
Arrive On Green	0.08	0.29	0.29	0.05	0.26	0.26	0.08	0.37	0.37	0.17	0.45	0.45
Sat Flow, veh/h	1774	1863	1556	1774	1863	1552	1774	3159	401	1774	3256	319
Grp Volume(v), veh/h	166	475	361	164	408	453	276	621	630	367	637	651
Grp Sat Flow(s),veh/h/ln	1774	1863	1556	1774	1863	1552	1774	1770	1790	1774	1770	1805
Q Serve(g_s), s	8.4	30.5	23.9	6.0	26.2	29.9	10.0	43.2	43.4	21.0	38.7	38.9
Cycle Q Clear(g_c), s	8.4	30.5	23.9	6.0	26.2	29.9	10.0	43.2	43.4	21.0	38.7	38.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		0.18
Lane Grp Cap(c), veh/h	235	545	581	175	481	664	260	648	656	362	802	819
V/C Ratio(X)	0.71	0.87	0.62	0.94	0.85	0.68	1.06	0.96	0.96	1.01	0.79	0.80
Avail Cap(c_a), veh/h	244	561	594	175	488	670	260	688	696	362	842	859
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	42.3	32.4	44.1	44.4	29.5	33.1	39.0	39.1	40.1	29.4	29.5
Incr Delay (d2), s/veh	7.2	14.1	2.3	50.1	13.6	3.1	73.4	23.3	23.8	50.6	4.5	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	24.8	16.0	8.9	21.7	19.3	17.0	33.5	34.0	31.8	27.2	27.8
LnGrp Delay(d),s/veh	40.2	56.5	34.7	94.2	58.0	32.6	106.6	62.3	62.9	90.7	33.9	34.0
LnGrp LOS	D	E	C	F	E	C	F	E	E	F	C	C
Approach Vol, veh/h		1002			1025			1527			1655	
Approach Delay, s/veh		45.9			52.6			70.5			46.5	
Approach LOS		D			D			E			D	
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	25.0	50.2	10.0	40.9	14.0	61.2	14.4	36.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	21.0	49.0	6.0	38.0	10.0	60.0	11.0	33.0				
Max Q Clear Time (g_c+I1), s	23.0	45.4	8.0	32.5	12.0	40.9	10.4	31.9				
Green Ext Time (p_c), s	0.0	0.8	0.0	2.7	0.0	1.3	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			54.6									
HCM 2010 LOS			D									
Notes												

Intersection												
Int Delay, s/veh	112.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕		↕	↕	
Traffic Vol, veh/h	10	1	34	57	0	159	17	1384	41	109	1533	6
Future Vol, veh/h	10	1	34	57	0	159	17	1384	41	109	1533	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	95	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	1	37	62	0	173	18	1504	45	118	1666	7

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	2694	3491	837	2633	3472	775	1673	0	0	1549	0	0
Stage 1	1906	1906	-	1563	1563	-	-	-	-	-	-	-
Stage 2	788	1585	-	1070	1909	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 10	6	310	~ 11	6	341	380	-	-	424	-	-
Stage 1	71	115	-	117	171	-	-	-	-	-	-	-
Stage 2	350	167	-	236	115	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 4	4	310	~ 6	4	341	380	-	-	424	-	-
Mov Cap-2 Maneuver	~ 4	4	-	~ 6	4	-	-	-	-	-	-	-
Stage 1	68	83	-	112	163	-	-	-	-	-	-	-
Stage 2	164	159	-	148	83	-	-	-	-	-	-	-












Approach	EB	WB	NB	SB
HCM Control Delay, \$	1416.5	1440.1	0.2	1.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	380	-	-	16	6	341	424	-	-
HCM Lane V/C Ratio	0.049	-	-	3.057	10.326	0.507	0.279	-	-
HCM Control Delay (s)	15	-	-	\$ 1416.5	\$ 5385	25.9	16.8	-	-
HCM Lane LOS	B	-	-	F	F	D	C	-	-
HCM 95th %tile Q(veh)	0.2	-	-	6.8	9.5	2.7	1.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 2010 Signalized Intersection Summary
3: Kenwood Road & Happiness Way

2020 Black Friday PM Build
Kenwood Road Development

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	90	85	102	1359	1528	92		
Future Volume (veh/h)	90	85	102	1359	1528	92		
Number	7	14	5	2	6	16		
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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	98	92	111	1477	1661	100		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	115	108	214	2697	2586	155		
Arrive On Green	0.13	0.13	0.76	0.76	0.76	0.76		
Sat Flow, veh/h	861	808	271	3632	3487	203		
Grp Volume(v), veh/h	191	0	111	1477	861	900		
Grp Sat Flow(s),veh/h/ln	1677	0	271	1770	1770	1827		
Q Serve(g_s), s	11.5	0.0	33.6	17.6	23.2	23.8		
Cycle Q Clear(g_c), s	11.5	0.0	57.4	17.6	23.2	23.8		
Prop In Lane	0.51	0.48	1.00			0.11		
Lane Grp Cap(c), veh/h	225	0	214	2697	1349	1392		
V/C Ratio(X)	0.85	0.00	0.52	0.55	0.64	0.65		
Avail Cap(c_a), veh/h	407	0	255	3236	1618	1670		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	43.6	0.0	19.2	5.0	5.7	5.8		
Incr Delay (d2), s/veh	8.6	0.0	2.0	0.2	0.6	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	9.8	0.0	4.7	13.3	16.7	17.7		
LnGrp Delay(d),s/veh	52.2	0.0	21.2	5.2	6.3	6.4		
LnGrp LOS	D		C	A	A	A		
Approach Vol, veh/h	191			1588	1761			
Approach Delay, s/veh	52.2			6.3	6.4			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		85.3		17.8		85.3		
Change Period (Y+Rc), s		* 6.7		4.0		* 6.7		
Max Green Setting (Gmax), s		* 94		25.0		* 94		
Max Q Clear Time (g_c+I1), s		59.4		13.5		25.8		
Green Ext Time (p_c), s		19.2		0.4		23.8		
Intersection Summary								
HCM 2010 Ctrl Delay			8.8					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 4: Kenwood Road & Kenwood Place/Towne Center

2020 Black Friday PM Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	15	73	410	7	96	74	847	275	142	976	90
Future Volume (veh/h)	87	15	73	410	7	96	74	847	275	142	976	90
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	1863	1863	1900	1788	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	95	16	79	446	8	104	80	921	299	154	1061	98
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	31	155	352	19	244	266	1127	365	255	1430	132
Arrive On Green	0.07	0.12	0.12	0.12	0.16	0.16	0.07	0.43	0.43	0.07	0.44	0.44
Sat Flow, veh/h	1774	272	1345	1703	114	1481	1703	2630	851	1703	3276	302
Grp Volume(v), veh/h	95	0	95	446	0	112	80	619	601	154	573	586
Grp Sat Flow(s),veh/h/ln	1774	0	1617	1703	0	1595	1703	1770	1712	1703	1770	1809
Q Serve(g_s), s	4.3	0.0	5.2	11.0	0.0	5.9	2.3	28.7	28.9	4.6	25.2	25.2
Cycle Q Clear(g_c), s	4.3	0.0	5.2	11.0	0.0	5.9	2.3	28.7	28.9	4.6	25.2	25.2
Prop In Lane	1.00		0.83	1.00		0.93	1.00		0.50	1.00		0.17
Lane Grp Cap(c), veh/h	328	0	187	352	0	263	266	758	734	255	773	790
V/C Ratio(X)	0.29	0.00	0.51	1.27	0.00	0.43	0.30	0.82	0.82	0.61	0.74	0.74
Avail Cap(c_a), veh/h	605	0	619	352	0	439	306	1067	1033	354	1143	1169
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.8	0.0	38.8	35.7	0.0	35.0	16.4	23.4	23.5	19.4	21.9	21.9
Incr Delay (d2), s/veh	1.0	0.0	4.5	140.2	0.0	0.4	0.2	2.3	2.5	0.9	0.5	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(95%),veh/ln	4.0	0.0	4.6	38.6	0.0	4.7	2.0	20.6	20.2	4.0	18.1	18.5
LnGrp Delay(d),s/veh	33.9	0.0	43.3	175.8	0.0	35.4	16.6	25.7	26.0	20.3	22.5	22.5
LnGrp LOS	C		D	F		D	B	C	C	C	C	C
Approach Vol, veh/h		190			558			1300			1313	
Approach Delay, s/veh		38.6			147.7			25.3			22.2	
Approach LOS		D			F			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	3.6	46.7	15.0	18.1	12.8	47.5	10.4	22.7				
Change Period (Y+Rc), s	6.7	* 6.7	4.0	7.3	* 6.7	* 6.7	4.0	7.3				
Max Green Setting (Gmax), s	18	* 56	11.0	35.7	* 8.3	* 60	21.0	25.7				
Max Q Clear Time (g_c+10), s	10.6	30.9	13.0	7.2	4.3	27.2	6.3	7.9				
Green Ext Time (p_c), s	0.1	3.2	0.0	0.8	0.0	2.9	0.5	0.2				

Intersection Summary

HCM 2010 Ctrl Delay	45.2
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Kenwood Road & Orchard Lane

2020 Black Friday PM Build
Kenwood Road Development



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	75	70	100	1279	1320	61		
Future Volume (veh/h)	75	70	100	1279	1320	61		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.95	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	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	82	76	109	1390	1435	66		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	121	112	274	2793	2727	125		
Arrive On Green	0.14	0.13	1.00	1.00	0.79	0.78		
Sat Flow, veh/h	843	782	348	3632	3539	158		
Grp Volume(v), veh/h	159	0	109	1390	735	766		
Grp Sat Flow(s),veh/h/ln	1635	0	348	1770	1770	1835		
Q Serve(g_s), s	12.9	0.0	13.8	0.0	20.8	21.0		
Cycle Q Clear(g_c), s	12.9	0.0	34.8	0.0	20.8	21.0		
Prop In Lane	0.52	0.48	1.00			0.09		
Lane Grp Cap(c), veh/h	235	0	274	2793	1400	1452		
V/C Ratio(X)	0.68	0.00	0.40	0.50	0.53	0.53		
Avail Cap(c_a), veh/h	360	0	274	2793	1400	1452		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.58	0.58	0.35	0.35		
Uniform Delay (d), s/veh	57.2	0.0	3.3	0.0	5.2	5.3		
Incr Delay (d2), s/veh	3.4	0.0	2.5	0.4	0.5	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.1	0.0	2.6	0.3	13.3	13.8		
LnGrp Delay(d),s/veh	60.6	0.0	5.8	0.4	5.7	5.7		
LnGrp LOS	E		A	A	A	A		
Approach Vol, veh/h	159			1499	1501			
Approach Delay, s/veh	60.6			0.8	5.7			
Approach LOS	E			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		115.7		24.3		115.7		
Change Period (Y+Rc), s		6.0		5.5		6.0		
Max Green Setting (Gmax), s		99.0		29.5		99.0		
Max Q Clear Time (g_c+I1), s		36.8		14.9		23.0		
Green Ext Time (p_c), s		14.0		0.5		9.4		
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					
Notes								

HCM 2010 Signalized Intersection Summary
 6: Kenwood Road & Montgomery Road (US 22/SR 3)

2020 Black Friday PM Build
 Kenwood Road Development



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	293	563	195	302	443	372	215	728	279	352	827	210
Future Volume (veh/h)	293	563	195	302	443	372	215	728	279	352	827	210
Number	5	2	12	1	6	16	3	8	18	7	4	14
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		0.99	1.00		0.99
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	1863	1863	1900	1863	1863	1863	1863	1863	1863	1788	1863	1863
Adj Flow Rate, veh/h	318	612	212	328	482	404	234	791	303	383	899	228
Adj No. of Lanes	1	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	398	738	255	300	897	653	298	1090	614	388	1315	772
Arrive On Green	0.15	0.29	0.27	0.12	0.25	0.25	0.10	0.31	0.29	0.05	0.12	0.12
Sat Flow, veh/h	1774	2578	892	1774	3539	1576	1774	3539	1567	1703	3539	1570
Grp Volume(v), veh/h	318	420	404	328	482	404	234	791	303	383	899	228
Grp Sat Flow(s),veh/h/ln	1774	1770	1701	1774	1770	1576	1774	1770	1567	1703	1770	1570
Q Serve(g_s), s	17.9	31.1	31.2	16.2	16.5	28.3	12.5	27.9	20.4	22.9	34.1	14.9
Cycle Q Clear(g_c), s	17.9	31.1	31.2	16.2	16.5	28.3	12.5	27.9	20.4	22.9	34.1	14.9
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	398	507	487	300	897	653	298	1090	614	388	1315	772
V/C Ratio(X)	0.80	0.83	0.83	1.09	0.54	0.62	0.79	0.73	0.49	0.99	0.68	0.30
Avail Cap(c_a), veh/h	398	566	544	300	1016	706	298	1090	614	388	1315	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	31.8	46.7	47.4	39.5	45.2	32.4	32.2	43.2	32.2	42.2	53.5	30.2
Incr Delay (d2), s/veh	11.0	9.1	9.6	78.7	0.5	1.5	12.9	4.2	2.8	37.4	2.3	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(95%),veh/ln	5.0	23.1	22.5	18.4	12.8	18.3	11.5	20.5	14.4	25.3	23.2	10.5
LnGrp Delay(d),s/veh	42.8	55.9	56.9	118.3	45.7	33.8	45.1	47.4	35.0	79.6	55.9	31.0
LnGrp LOS	D	E	E	F	D	C	D	D	D	E	E	C
Approach Vol, veh/h		1142			1214			1328			1510	
Approach Delay, s/veh		52.6			61.3			44.2			58.1	
Approach LOS		D			E			D			E	
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	30.0	44.3	19.0	56.7	25.0	39.3	28.0	47.7				
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5				
Max Green Setting (Gmax), s	33.5	42.5	12.5	45.5	18.5	37.5	21.5	36.5				
Max Q Clear Time (g_c+11), s	33.2	33.2	14.5	36.1	19.9	30.3	24.9	29.9				
Green Ext Time (p_c), s	0.0	2.5	0.0	3.7	0.0	2.5	0.0	2.8				
Intersection Summary												
HCM 2010 Ctrl Delay				54.1								
HCM 2010 LOS				D								

Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	30	4	118	75	0	4	0	128	17	0	0
Future Vol, veh/h	0	30	4	118	75	0	4	0	128	17	0	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	33	4	128	82	0	4	0	139	18	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	37	0	0	373	373	35	443	375	82
Stage 1	-	-	-	-	-	-	35	35	-	338	338	-
Stage 2	-	-	-	-	-	-	338	338	-	105	37	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1515	-	-	1574	-	-	584	557	1038	525	556	978
Stage 1	-	-	-	-	-	-	981	866	-	676	641	-
Stage 2	-	-	-	-	-	-	676	641	-	901	864	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1515	-	-	1574	-	-	546	510	1038	425	509	978
Mov Cap-2 Maneuver	-	-	-	-	-	-	546	510	-	425	509	-
Stage 1	-	-	-	-	-	-	981	866	-	676	587	-
Stage 2	-	-	-	-	-	-	619	587	-	780	864	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			4.6			9.2			13.9		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1010	1515	-	-	1574	-	-	425
HCM Lane V/C Ratio	0.142	-	-	-	0.081	-	-	0.043
HCM Control Delay (s)	9.2	0	-	-	7.5	0	-	13.9
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.3	-	-	0.1

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	18	0	15	64	0	14
Future Vol, veh/h	18	0	15	64	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	0	16	70	0	15

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	20	0	122 20
Stage 1	-	-	-	-	20 -
Stage 2	-	-	-	-	102 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1596	-	873 1058
Stage 1	-	-	-	-	1003 -
Stage 2	-	-	-	-	922 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1596	-	864 1058
Mov Cap-2 Maneuver	-	-	-	-	864 -
Stage 1	-	-	-	-	993 -
Stage 2	-	-	-	-	922 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1058	-	-	1596	-
HCM Lane V/C Ratio	0.014	-	-	0.01	-
HCM Control Delay (s)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	31	0	864	1565	26
Future Vol, veh/h	0	31	0	864	1565	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	0	939	1701	28

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	865	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	297	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	297	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	297	-	-
HCM Lane V/C Ratio	-	0.113	-	-
HCM Control Delay (s)	-	18.7	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	0	0	0	48	39	0
Future Vol, veh/h	0	0	0	48	39	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	52	42	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	52	0	-	0	26
Stage 1	-	-	-	-	26
Stage 2	-	-	-	-	0
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1554	-	-	-	989
Stage 1	-	-	-	-	997
Stage 2	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1554	-	-	-	989
Mov Cap-2 Maneuver	-	-	-	-	989
Stage 1	-	-	-	-	997
Stage 2	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1554	-	-	-	989
HCM Lane V/C Ratio	-	-	-	-	0.043
HCM Control Delay (s)	0	-	-	-	8.8
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1