

APPENDIX E – STAGE 3 ICE ANALYSIS

CHULUOTA ROAD NO-BUILD CORRIDOR ANALYSIS

Chuluota Road Existing 2-Lane Section With Alternative Intersection Concepts							
	Corridor Traffic Control Type	Existing Traffic Controls (ETC)		Roundabouts at All Intersections		ETC & Roundabouts Mixture (1)	
	Measure of Effectiveness (MOE)	Delay (s/veh)	Arterial Speed (LOS)	Delay (s/veh)	Arterial Speed (LOS)	Delay (s/veh)	Arterial Speed (LOS)
Corridor Travel Direction	Northbound	66.3	34 (C)	167.9	21 (E)	98.4	27 (D)
	Southbound	239.1	19 (E)	343.8	15 (F)	268.1	16 (F)

(1) TRAFFIC SIGNALS AT LAKE PICKETT ROAD AND CYPRESS LAKE GLEN BLVD (SOUTH), ROUNDABOUTS AT LONG BOAT LANE AND AT CORNER LAKE DRIVE

LOS Legend	
	LOS A
	LOS B
	LOS C
	LOS D
	LOS E
	LOS F

EXISTING TRAFFIC CONTROLS

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:45	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2	2
Vehs Entered	2978	3028	2967	3015	2975	2921	2957
Vehs Exited	2890	2929	2869	2887	2928	2901	2895
Starting Vehs	163	227	179	181	169	220	163
Ending Vehs	251	326	277	309	216	240	225
Travel Distance (mi)	4726	4681	4662	4651	4682	4649	4585
Travel Time (hr)	207.6	270.5	261.6	283.0	193.7	240.4	188.2
Total Delay (hr)	111.2	174.8	166.0	187.7	98.1	145.3	94.1
Total Stops	4671	4598	4931	4878	4334	5134	4282
Fuel Used (gal)	177.8	191.0	185.7	191.3	173.9	183.3	169.8

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	3	3	3	3
# of Recorded Intervals	2	2	2	2
Vehs Entered	2984	2928	3015	2980
Vehs Exited	2942	2885	2975	2910
Starting Vehs	204	166	176	183
Ending Vehs	246	209	216	248
Travel Distance (mi)	4717	4668	4672	4669
Travel Time (hr)	251.6	217.7	187.9	230.2
Total Delay (hr)	155.3	122.5	92.1	134.7
Total Stops	5038	4850	4224	4693
Fuel Used (gal)	187.9	178.2	173.3	181.2

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15
Volumes adjusted by PHF.	
No data recorded this interval.	

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	766	765	783	826	771	775	772
Vehs Exited	731	720	719	751	741	770	745
Starting Vehs	163	227	179	181	169	220	163
Ending Vehs	198	272	243	256	199	225	190
Travel Distance (mi)	1195	1202	1185	1250	1178	1238	1184
Travel Time (hr)	48.2	59.1	55.1	55.8	44.5	59.2	44.3
Total Delay (hr)	23.9	34.9	30.8	30.4	20.3	33.9	19.9
Total Stops	1091	1311	1204	1217	1004	1302	998
Fuel Used (gal)	44.2	46.9	44.6	47.1	42.4	47.7	42.7

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	8	9	10	Avg
Vehs Entered	787	774	759	777
Vehs Exited	738	692	769	739
Starting Vehs	204	166	176	183
Ending Vehs	253	248	166	224
Travel Distance (mi)	1205	1176	1179	1199
Travel Time (hr)	57.1	51.2	46.4	52.1
Total Delay (hr)	32.6	27.4	22.3	27.6
Total Stops	1353	1104	1074	1165
Fuel Used (gal)	46.4	43.8	43.6	44.9

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2212	2263	2184	2189	2204	2146	2185
Vehs Exited	2159	2209	2150	2136	2187	2131	2150
Starting Vehs	198	272	243	256	199	225	190
Ending Vehs	251	326	277	309	216	240	225
Travel Distance (mi)	3531	3479	3477	3400	3504	3411	3402
Travel Time (hr)	159.4	211.4	206.4	227.2	149.2	181.2	143.8
Total Delay (hr)	87.3	139.9	135.2	157.4	77.7	111.4	74.2
Total Stops	3580	3287	3727	3661	3330	3832	3284
Fuel Used (gal)	133.5	144.1	141.1	144.1	131.5	135.6	127.2

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	2197	2154	2256	2199
Vehs Exited	2204	2193	2206	2172
Starting Vehs	253	248	166	224
Ending Vehs	246	209	216	248
Travel Distance (mi)	3512	3492	3493	3470
Travel Time (hr)	194.6	166.5	141.5	178.1
Total Delay (hr)	122.7	95.1	69.8	107.1
Total Stops	3685	3746	3150	3531
Fuel Used (gal)	141.5	134.5	129.6	136.3

3: Chuluota Rd & Lake Pickett Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.5	2.0	0.1	6.8	2.5
Total Del/Veh (s)	260.8	42.1	24.7	197.8	149.7

7: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N) Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	55.4	192.0	8.9	5.9	22.8

10: Chuluota Rd & Corner Lake Dr Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	30.0	10.5	8.1	10.1

12: Chuluota Rd & Cypress Lake Glen Blvd (S) Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.4	0.0	0.2
Total Del/Veh (s)	26.9	15.0	18.7	17.7

Total Network Performance

Denied Del/Veh (s)	2.1
Total Del/Veh (s)	151.6

Arterial Level of Service: NB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Cypress Lake Glen Bl	12	18.4	27.3	0.1	19
Corner Lake Dr	10	10.4	28.2	0.3	34
Cypress Lake Glen Bl	7	9.2	49.4	0.6	45
	5	4.0	29.0	0.4	47
Lake Pickett Rd	3	24.4	37.2	0.2	20
Total		66.3	171.0	1.6	34

Arterial Level of Service: SB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lake Pickett Rd	3	200.0	230.9	0.4	6
	5	6.9	20.2	0.2	36
Long Boat Ln	7	5.2	29.0	0.4	47
Corner Lake Dr	10	8.4	49.1	0.6	46
Cypress Lake Glen Bl	12	18.6	35.7	0.3	27
Total		239.1	364.9	1.9	19

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	TR
Maximum Queue (ft)	225	2108	105	118	178	385	121	424	1663
Average Queue (ft)	201	1405	44	43	87	203	34	72	1252
95th Queue (ft)	285	2670	87	95	150	335	86	309	2072
Link Distance (ft)		5086		1016		1008			2076
Upstream Blk Time (%)									9
Queuing Penalty (veh)									0
Storage Bay Dist (ft)	200		200		465		425	400	
Storage Blk Time (%)	5	66				0	0	0	60
Queuing Penalty (veh)	22	136				0	0	0	12

Intersection: 7: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N)

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	T	L	TR
Maximum Queue (ft)	46	381	112	20	127	90	153
Average Queue (ft)	10	208	37	2	28	30	25
95th Queue (ft)	35	404	84	11	87	66	96
Link Distance (ft)	427	3250	3250		3194		1913
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				350		285	
Storage Blk Time (%)							0
Queuing Penalty (veh)							0

Intersection: 10: Chuluota Rd & Corner Lake Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	72	58	50	183	152	28
Average Queue (ft)	20	21	13	46	33	2
95th Queue (ft)	57	46	39	129	101	14
Link Distance (ft)	635	635		1330	3194	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			250			225
Storage Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	

Intersection: 12: Chuluota Rd & Cypress Lake Glen Blvd (S)

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	167	58	394	116	138	345
Average Queue (ft)	85	16	181	4	26	183
95th Queue (ft)	147	45	327	57	88	300
Link Distance (ft)	1954	1954	678	678		1330
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					150	
Storage Blk Time (%)						9
Queuing Penalty (veh)						3

Network Summary

Network wide Queuing Penalty: 173

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	NBL	SBT	EBL	WBTL	SBL	NBSB	WBL	EBTL
Maximum Green (s)	7.9	53.9	15.6	25.6	5.0	56.8	5.0	36.2
Minimum Green (s)	5.0	16.0	5.0	5.0	5.0	16.0	5.0	5.0
Recall	None	Ped	None	None	None	Ped	None	None
Avg. Green (s)	7.9	6.8	-9.8	2.3	5.3	-7.8	5.1	-11.4
g/C Ratio	2.66	2.38	-3.43	0.77	0.65	-2.72	1.46	-3.98
Cycles Skipped (%)	4	0	0	4	65	0	19	0
Cycles @ Minimum (%)	0	0	0	0	35	0	81	0
Cycles Maxed Out (%)	81	100	44	74	35	93	81	96
Cycles with Peds (%)	0	100	0	85	0	100	0	89

Controller Summary

Average Cycle Length (s): 2.9

Number of Complete Cycles : 26

Intersection: 12: Chuluota Rd & Cypress Lake Glen Blvd (S)

Phase	1	2	4	6
Movement(s) Served	SBL	NBT	WBL	SBTL
Maximum Green (s)	7.0	33.4	20.0	47.5
Minimum Green (s)	7.0	16.0	10.0	16.0
Recall	None	Ped	None	Ped
Avg. Green (s)	7.5	-1.5	5.2	1.4
g/C Ratio	0.42	-0.44	1.52	0.40
Cycles Skipped (%)	81	0	0	0
Cycles @ Minimum (%)	19	0	6	0
Cycles Maxed Out (%)	19	83	83	46
Cycles with Peds (%)	0	100	83	100

Controller Summary

Average Cycle Length (s): 3.4

Number of Complete Cycles : 47

ROUNDAABOUTS

Summary of All Intervals

Run Number	2	3	4	5	6	8	11
Start Time	6:45	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2	2
Vehs Entered	2918	2986	2918	2952	3004	2906	2916
Vehs Exited	2924	2878	2864	2912	2890	2823	2878
Starting Vehs	203	197	178	167	133	210	167
Ending Vehs	197	305	232	207	247	293	205
Travel Distance (mi)	4732	4775	4597	4736	4695	4591	4689
Travel Time (hr)	225.5	285.4	205.6	210.8	185.6	272.4	212.4
Total Delay (hr)	128.5	187.2	111.2	113.7	89.4	178.4	115.9
Total Stops	4833	5392	4441	4657	4444	4512	4281
Fuel Used (gal)	187.1	200.3	180.4	185.2	179.1	193.8	184.4

Summary of All Intervals

Run Number	14	15	16	Avg
Start Time	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	3	3	3	3
# of Recorded Intervals	2	2	2	2
Vehs Entered	2910	2953	2864	2934
Vehs Exited	2935	2896	2784	2878
Starting Vehs	205	183	212	182
Ending Vehs	180	240	292	241
Travel Distance (mi)	4672	4696	4548	4673
Travel Time (hr)	228.2	196.4	253.0	227.5
Total Delay (hr)	132.1	99.9	159.5	131.6
Total Stops	4290	4092	5057	4599
Fuel Used (gal)	188.6	181.6	185.8	186.6

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15
Volumes adjusted by PHF.	
No data recorded this interval.	

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	2	3	4	5	6	8	11
Vehs Entered	753	785	745	786	771	744	773
Vehs Exited	710	731	720	732	731	725	730
Starting Vehs	203	197	178	167	133	210	167
Ending Vehs	246	251	203	221	173	229	210
Travel Distance (mi)	1162	1194	1174	1194	1176	1191	1180
Travel Time (hr)	58.3	55.7	51.8	47.5	38.4	57.1	47.8
Total Delay (hr)	34.6	31.1	27.7	23.1	14.3	32.7	23.6
Total Stops	1378	1124	1224	1003	939	1003	1110
Fuel Used (gal)	46.7	46.8	46.2	45.3	43.1	47.8	44.6

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	14	15	16	Avg
Vehs Entered	772	777	781	768
Vehs Exited	749	758	727	731
Starting Vehs	205	183	212	182
Ending Vehs	228	202	266	224
Travel Distance (mi)	1222	1196	1217	1191
Travel Time (hr)	57.3	51.0	59.3	52.4
Total Delay (hr)	32.1	26.3	34.2	28.0
Total Stops	1170	1149	1391	1149
Fuel Used (gal)	48.5	46.5	47.8	46.3

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	2	3	4	5	6	8	11
Vehs Entered	2165	2201	2173	2166	2233	2162	2143
Vehs Exited	2214	2147	2144	2180	2159	2098	2148
Starting Vehs	246	251	203	221	173	229	210
Ending Vehs	197	305	232	207	247	293	205
Travel Distance (mi)	3571	3581	3423	3543	3519	3400	3509
Travel Time (hr)	167.2	229.7	153.8	163.2	147.1	215.3	164.6
Total Delay (hr)	93.9	156.1	83.5	90.6	75.0	145.8	92.3
Total Stops	3455	4268	3217	3654	3505	3509	3171
Fuel Used (gal)	140.4	153.5	134.3	139.8	136.0	146.0	139.8

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	14	15	16	Avg
Vehs Entered	2138	2176	2083	2164
Vehs Exited	2186	2138	2057	2147
Starting Vehs	228	202	266	224
Ending Vehs	180	240	292	241
Travel Distance (mi)	3450	3500	3331	3483
Travel Time (hr)	170.9	145.4	193.7	175.1
Total Delay (hr)	99.9	73.6	125.3	103.6
Total Stops	3120	2943	3666	3450
Fuel Used (gal)	140.2	135.1	137.9	140.3

3: Chuluota Rd & Lake Pickett Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.5	0.2	23.8	0.7	8.4
Total Del/Veh (s)	20.2	8.9	79.4	152.1	80.8

7: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N) Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	5.1	6.3	17.5	38.0	27.0

10: Chuluota Rd & Corner Lake Dr Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.1
Total Del/Veh (s)	6.8	34.7	28.3	30.3

12: Chuluota Rd & Cypress Lake Glen Blvd (S) Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.2	1.4	11.7	5.8
Total Del/Veh (s)	10.3	15.3	115.2	58.7

Total Network Performance

Denied Del/Veh (s)	10.5
Total Del/Veh (s)	141.9

Arterial Level of Service: NB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Cypress Lake Glen Bl	12	17.3	26.6	0.1	20
Corner Lake Dr	10	34.7	55.6	0.3	17
Cypress Lake Glen Bl	7	17.9	61.9	0.6	36
	5	9.4	38.7	0.4	35
Lake Pickett Rd	3	88.5	123.4	0.2	7
Total		167.9	306.2	1.6	21

Arterial Level of Service: SB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lake Pickett Rd	3	153.3	181.1	0.4	9
	5	9.1	26.6	0.2	28
Long Boat Ln	7	37.6	60.6	0.4	22
Corner Lake Dr	10	28.6	72.4	0.6	31
Cypress Lake Glen Bl	12	115.2	147.0	0.3	7
Total		343.8	487.8	1.9	15

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Movement	EB	EB	WB	NB	NB	B5	SB
Directions Served	LT	R	LTR	LT	R	T	LTR
Maximum Queue (ft)	247	97	68	810	410	132	1295
Average Queue (ft)	105	42	23	486	231	22	871
95th Queue (ft)	203	81	52	987	595	164	1635
Link Distance (ft)	5016		953	936		1854	2258
Upstream Blk Time (%)				9			1
Queuing Penalty (veh)				64			0
Storage Bay Dist (ft)		1000			400		
Storage Blk Time (%)				48	0		
Queuing Penalty (veh)				63	0		

Intersection: 7: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N)

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	R	LTR
Maximum Queue (ft)	22	9	57	49	181	38	601
Average Queue (ft)	2	0	17	5	56	4	249
95th Queue (ft)	13	5	47	26	140	23	751
Link Distance (ft)	359	359	3191	3191	3074		1854
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)						400	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 10: Chuluota Rd & Corner Lake Dr

Movement	EB	EB	NB	SB	SB
Directions Served	L	R	LT	T	R
Maximum Queue (ft)	43	65	681	448	200
Average Queue (ft)	10	10	157	124	21
95th Queue (ft)	35	43	627	433	169
Link Distance (ft)	219		1192	3074	
Upstream Blk Time (%)			2		
Queuing Penalty (veh)			15		
Storage Bay Dist (ft)		200		400	
Storage Blk Time (%)				6	
Queuing Penalty (veh)				2	

Intersection: 12: Chuluota Rd & Cypress Lake Glen Blvd (S)

Movement	WB	WB	NB	NB	SB
Directions Served	L	R	T	R	LT
Maximum Queue (ft)	114	23	313	225	1178
Average Queue (ft)	40	1	75	24	774
95th Queue (ft)	81	13	260	168	1358
Link Distance (ft)	550	550	631	631	1192
Upstream Blk Time (%)			2	2	12
Queuing Penalty (veh)			0	0	109
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 254

EXISTING TRAFFIC CONTROLS & ROUNDABOUTS MIXTURE

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:45	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2	2
Vehs Entered	2878	3016	2968	2869	2989	2972	2987
Vehs Exited	2929	2886	2941	2899	2909	2943	2928
Starting Vehs	193	188	184	182	171	232	181
Ending Vehs	142	318	211	152	251	261	240
Travel Distance (mi)	3644	3643	3684	3601	3621	3692	3669
Travel Time (hr)	188.1	272.8	222.9	170.4	244.2	225.7	237.4
Total Delay (hr)	111.5	196.4	145.5	94.7	168.0	148.1	160.5
Total Stops	5489	6100	6229	4873	5939	6468	5765
Fuel Used (gal)	155.2	172.2	164.9	149.7	168.6	165.2	166.4

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	3	3	3	3
# of Recorded Intervals	2	2	2	2
Vehs Entered	2914	2910	2971	2948
Vehs Exited	2837	2906	2893	2907
Starting Vehs	129	171	163	180
Ending Vehs	206	175	241	217
Travel Distance (mi)	3619	3611	3700	3649
Travel Time (hr)	174.3	168.6	219.2	212.4
Total Delay (hr)	97.9	92.6	141.6	135.7
Total Stops	4971	4996	6163	5699
Fuel Used (gal)	151.2	150.3	164.4	160.8

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15
Volumes adjusted by PHF.	
No data recorded this interval.	

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	762	810	798	723	797	762	790
Vehs Exited	773	739	748	738	707	768	735
Starting Vehs	193	188	184	182	171	232	181
Ending Vehs	182	259	234	167	261	226	236
Travel Distance (mi)	949	930	941	932	893	953	961
Travel Time (hr)	50.2	58.2	54.1	46.9	55.2	56.8	49.1
Total Delay (hr)	30.2	38.6	34.3	27.4	36.4	36.7	29.1
Total Stops	1508	1552	1584	1353	1621	1760	1587
Fuel Used (gal)	40.8	41.1	41.5	39.4	39.9	42.4	40.0

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	8	9	10	Avg
Vehs Entered	760	746	762	770
Vehs Exited	733	764	715	744
Starting Vehs	129	171	163	180
Ending Vehs	156	153	210	206
Travel Distance (mi)	927	942	909	934
Travel Time (hr)	36.1	40.3	45.9	49.3
Total Delay (hr)	16.6	20.3	26.9	29.7
Total Stops	1074	1155	1478	1470
Fuel Used (gal)	36.7	38.8	38.8	40.0

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2116	2206	2170	2146	2192	2210	2197
Vehs Exited	2156	2147	2193	2161	2202	2175	2193
Starting Vehs	182	259	234	167	261	226	236
Ending Vehs	142	318	211	152	251	261	240
Travel Distance (mi)	2696	2714	2743	2670	2728	2739	2709
Travel Time (hr)	138.0	214.6	168.8	123.5	189.0	168.9	188.3
Total Delay (hr)	81.3	157.8	111.2	67.3	131.6	111.3	131.4
Total Stops	3981	4548	4645	3520	4318	4708	4178
Fuel Used (gal)	114.4	131.1	123.3	110.3	128.7	122.8	126.4

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	2154	2164	2209	2178
Vehs Exited	2104	2142	2178	2165
Starting Vehs	156	153	210	206
Ending Vehs	206	175	241	217
Travel Distance (mi)	2692	2669	2792	2715
Travel Time (hr)	138.2	128.3	173.3	163.1
Total Delay (hr)	81.3	72.3	114.7	106.0
Total Stops	3897	3841	4685	4232
Fuel Used (gal)	114.5	111.4	125.6	120.9

3: Chuluota Rd & Lake Pickett Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	15.5	1.9	0.1	4.4	6.0
Total Del/Veh (s)	212.8	47.7	26.9	108.0	107.8

7: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N) Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	4.7	6.7	22.4	97.1	59.2

10: Chuluota Rd & Corner Lake Dr Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.5	23.4	30.9	26.5

12: Chuluota Rd & Cypress Lake Glen Blvd (S) Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.8	0.0	0.4
Total Del/Veh (s)	27.5	16.7	20.0	19.1

Total Network Performance

Denied Del/Veh (s)	5.1
Total Del/Veh (s)	151.6

Arterial Level of Service: NB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Cypress Lake Glen Bl	12	20.4	27.1	0.1	14
Corner Lake Dr	10	23.6	40.5	0.3	24
Cypress Lake Glen Bl	7	23.2	66.9	0.6	34
	5	5.7	34.9	0.4	39
Lake Pickett Rd	3	25.3	38.2	0.2	19
Total		98.4	207.6	1.6	27

Arterial Level of Service: SB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Lake Pickett Rd	3	111.0	129.4	0.2	7
	5	9.1	22.4	0.2	33
Long Boat Ln	7	97.0	119.5	0.4	11
Corner Lake Dr	10	31.2	75.0	0.6	30
Cypress Lake Glen Bl	12	19.9	41.1	0.3	23
Total		268.1	387.4	1.7	16

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	TR
Maximum Queue (ft)	250	1656	112	129	232	408	125	449	1052
Average Queue (ft)	220	1149	48	50	99	215	35	66	768
95th Queue (ft)	318	2083	98	106	185	351	88	302	1261
Link Distance (ft)		1942		1016		1008			1169
Upstream Blk Time (%)		16							7
Queuing Penalty (veh)		0							0
Storage Bay Dist (ft)	200		200		465		425	400	
Storage Blk Time (%)	7	65				0			44
Queuing Penalty (veh)	31	133				1			9

Intersection: 7: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N)

Movement	EB	EB	WB	WB	NB	NB	SB	B5
Directions Served	LT	R	LT	R	LT	R	LTR	T
Maximum Queue (ft)	20	8	62	53	312	119	1248	86
Average Queue (ft)	1	0	20	11	94	13	718	14
95th Queue (ft)	9	6	50	39	228	69	1475	155
Link Distance (ft)	359	359	3191	3191	3076		1854	1008
Upstream Blk Time (%)							3	
Queuing Penalty (veh)							31	
Storage Bay Dist (ft)						325		
Storage Blk Time (%)					1			
Queuing Penalty (veh)					1			

Intersection: 10: Chuluota Rd & Corner Lake Dr

Movement	EB	EB	NB	SB	SB
Directions Served	L	R	LT	T	R
Maximum Queue (ft)	46	56	343	376	123
Average Queue (ft)	12	10	104	142	15
95th Queue (ft)	38	39	263	337	121
Link Distance (ft)	212		1256	3076	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		200			400
Storage Blk Time (%)				2	
Queuing Penalty (veh)				1	

Intersection: 12: Chuluota Rd & Cypress Lake Glen Blvd (S)

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	164	63	408	172	99	337
Average Queue (ft)	82	14	205	17	25	169
95th Queue (ft)	138	43	371	157	65	275
Link Distance (ft)	618	618	473	473		1256
Upstream Blk Time (%)			1	1		
Queuing Penalty (veh)			0	0		
Storage Bay Dist (ft)					150	
Storage Blk Time (%)						7
Queuing Penalty (veh)						2

Network Summary

Network wide Queuing Penalty: 209

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	NBL	SBT	EBL	WBTL	SBL	NBSB	WBL	EBTL
Maximum Green (s)	9.9	64.9	16.0	32.2	5.1	69.7	5.0	43.2
Minimum Green (s)	5.0	16.0	5.0	5.0	5.0	16.0	5.0	5.0
Recall	None	Ped	None	None	None	Ped	None	None
Avg. Green (s)	9.5	9.7	-11.9	4.0	5.7	-6.0	5.1	-12.9
g/C Ratio	4.64	4.73	-5.80	1.97	0.89	-2.92	2.16	-6.27
Cycles Skipped (%)	0	0	0	0	68	0	13	0
Cycles @ Minimum (%)	0	0	0	0	0	0	87	0
Cycles Maxed Out (%)	74	88	50	78	32	83	87	96
Cycles with Peds (%)	0	100	0	87	0	100	0	87

Controller Summary

Average Cycle Length (s): 2.1

Number of Complete Cycles : 22

Intersection: 12: Chuluota Rd & Cypress Lake Glen Blvd (S)

Phase	1	2	4	6
Movement(s) Served	SBL	NBT	WBL	SBTL
Maximum Green (s)	7.0	33.4	20.0	47.5
Minimum Green (s)	7.0	16.0	10.0	16.0
Recall	None	Ped	None	Ped
Avg. Green (s)	7.5	-2.1	5.1	1.8
g/C Ratio	0.52	-0.56	1.32	0.46
Cycles Skipped (%)	73	0	0	0
Cycles @ Minimum (%)	27	0	6	0
Cycles Maxed Out (%)	27	87	87	54
Cycles with Peds (%)	0	100	85	100

Controller Summary

Average Cycle Length (s): 3.9

Number of Complete Cycles : 46

CHULUOTA ROAD BUILD CORRIDOR ANALYSIS

Chuluota Road 4-Lane Widening Section With Alternative Intersection Concepts							
	Corridor Traffic Control Type	Existing Traffic Controls (ETC)		Roundabouts at All Intersections		ETC & Roundabouts Mixture (1)	
	Measure of Effectiveness (MOE)	Delay (s/veh)	Arterial Speed (LOS)	Delay (s/veh)	Arterial Speed (LOS)	Delay (s/veh)	Arterial Speed (LOS)
Corridor Travel Direction	Northbound	52.5	35 (B)	86.4	28 (C)	71.9	31 (C)
	Southbound	57.0	35 (B)	50.3	35 (B)	77.3	31 (C)

(1) TRAFFIC SIGNALS AT LAKE PICKETT ROAD AND CYPRESS LAKE GLEN BLVD (SOUTH), ROUNDABOUTS AT LONG BOAT LANE AND AT CORNER LAKE DRIVE

LOS Legend	
	LOS A
	LOS B
	LOS C
	LOS D
	LOS E
	LOS F

EXISTING TRAFFIC CONTROLS

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:45	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2	2
Vehs Entered	4326	4195	4177	4137	4209	4189	4170
Vehs Exited	4367	4190	4197	4183	4256	4213	4200
Starting Vehs	200	181	197	191	219	175	192
Ending Vehs	159	186	177	145	172	151	162
Travel Distance (mi)	5693	5646	5627	5575	5650	5631	5601
Travel Time (hr)	183.2	182.0	180.1	172.9	176.9	180.6	178.6
Total Delay (hr)	57.5	57.8	56.1	50.5	52.6	56.3	54.6
Total Stops	4029	3880	3864	3813	3829	4197	3831
Fuel Used (gal)	198.5	197.7	194.6	194.5	195.4	195.0	193.8

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	3	3	3	3
# of Recorded Intervals	2	2	2	2
Vehs Entered	4157	4253	4086	4190
Vehs Exited	4192	4245	4145	4221
Starting Vehs	204	175	209	192
Ending Vehs	169	183	150	163
Travel Distance (mi)	5547	5630	5509	5611
Travel Time (hr)	179.1	176.7	171.0	178.1
Total Delay (hr)	56.7	52.5	49.8	54.4
Total Stops	3914	3846	3711	3891
Fuel Used (gal)	193.7	194.7	190.8	194.9

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15
Volumes adjusted by PHF.	
No data recorded this interval.	

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	1140	1087	1081	1111	1105	1120	1086
Vehs Exited	1137	1093	1127	1128	1118	1065	1080
Starting Vehs	200	181	197	191	219	175	192
Ending Vehs	203	175	151	174	206	230	198
Travel Distance (mi)	1535	1505	1487	1519	1494	1458	1445
Travel Time (hr)	50.1	50.6	47.5	47.3	48.1	46.0	46.8
Total Delay (hr)	16.1	17.6	14.7	14.0	15.2	13.8	14.9
Total Stops	1040	1062	1056	1007	1037	1070	970
Fuel Used (gal)	53.7	53.0	51.8	53.3	52.5	50.5	50.1

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	8	9	10	Avg
Vehs Entered	1139	1095	1011	1098
Vehs Exited	1122	1085	1063	1103
Starting Vehs	204	175	209	192
Ending Vehs	221	185	157	189
Travel Distance (mi)	1506	1457	1384	1479
Travel Time (hr)	49.4	45.6	42.9	47.4
Total Delay (hr)	16.3	13.6	12.5	14.9
Total Stops	1082	948	937	1022
Fuel Used (gal)	53.5	50.0	48.3	51.7

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	3186	3108	3096	3026	3104	3069	3084
Vehs Exited	3230	3097	3070	3055	3138	3148	3120
Starting Vehs	203	175	151	174	206	230	198
Ending Vehs	159	186	177	145	172	151	162
Travel Distance (mi)	4158	4141	4139	4056	4156	4173	4156
Travel Time (hr)	133.1	131.4	132.6	125.6	128.9	134.7	131.8
Total Delay (hr)	41.3	40.1	41.3	36.5	37.4	42.5	39.7
Total Stops	2989	2818	2808	2806	2792	3127	2861
Fuel Used (gal)	144.8	144.7	142.8	141.2	142.9	144.5	143.7

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	3018	3158	3075	3092
Vehs Exited	3070	3160	3082	3117
Starting Vehs	221	185	157	189
Ending Vehs	169	183	150	163
Travel Distance (mi)	4041	4173	4125	4132
Travel Time (hr)	129.7	131.1	128.1	130.7
Total Delay (hr)	40.4	38.9	37.4	39.6
Total Stops	2832	2898	2774	2871
Fuel Used (gal)	140.2	144.7	142.5	143.2

3: Chuluota Rd & Lake Pickett Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.3	2.0	0.2	0.0	0.5
Total Del/Veh (s)	31.1	38.5	20.4	27.2	26.7

8: Chuluota Rd & Schoolview Wy/Cypress Lake Glen Blvd (S) Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.2	0.8	0.0	0.4
Total Del/Veh (s)	28.6	49.6	10.4	11.8	15.0

11: Chuluota Rd & Corner Lake Dr Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Del/Veh (s)	34.6	4.2	3.6	4.8

13: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N) Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	35.1	80.1	3.5	2.6	7.8

Total Network Performance

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)			1.0		
Total Del/Veh (s)			43.8		

Arterial Level of Service: NB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Cypress Lake Glen Bl	8	11.7	25.0	0.2	25
Corner Lake Dr	11	4.4	23.3	0.3	42
Cypress Lake Glen Bl	13	3.4	47.8	0.6	47
	5	2.1	29.6	0.4	46
Lake Pickett Rd	3	21.4	35.3	0.2	21
	4	9.4	23.2	0.2	26
Total		52.5	184.3	1.8	35

Arterial Level of Service: SB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	4	0.8	9.3	0.1	47
Lake Pickett Rd	3	31.8	43.7	0.2	14
	5	6.9	21.6	0.2	34
Long Boat Ln	13	2.2	28.0	0.4	48
Corner Lake Dr	11	3.7	48.1	0.6	47
Schoolview Wy	8	11.7	30.3	0.3	32
Total		57.0	181.0	1.7	35

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	R	L	TR	L	T	T	R	L	T	T
Maximum Queue (ft)	246	313	266	129	164	195	296	236	81	66	310	291
Average Queue (ft)	143	160	109	51	64	83	158	104	30	21	188	175
95th Queue (ft)	238	267	210	100	128	151	254	202	65	50	271	262
Link Distance (ft)	2771				693		992	992			823	823
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		300	200		465			425	400		
Storage Blk Time (%)	5	2	0	0	0						0	
Queuing Penalty (veh)	31	10	0	0	0						0	

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Movement	SB
Directions Served	R
Maximum Queue (ft)	108
Average Queue (ft)	45
95th Queue (ft)	82
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	400
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Bend

Movement	NB
Directions Served	T
Maximum Queue (ft)	121
Average Queue (ft)	4
95th Queue (ft)	94
Link Distance (ft)	823
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Chuluota Rd & Schoolview Wy/Cypress Lake Glen Blvd (S)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T	R
Maximum Queue (ft)	151	55	270	75	44	235	209	67	252	248	51
Average Queue (ft)	62	17	131	24	12	125	88	23	110	119	15
95th Queue (ft)	120	45	246	58	37	207	176	54	208	212	41
Link Distance (ft)	356	356	1937	1937		848	848		1334	1334	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					300				300		300
Storage Blk Time (%)							0			0	0
Queuing Penalty (veh)							0			0	0

Intersection: 11: Chuluota Rd & Corner Lake Dr

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	86	54	56	3	7	9	18	5
Average Queue (ft)	26	20	15	0	0	0	1	0
95th Queue (ft)	76	44	42	3	7	6	10	3
Link Distance (ft)	835	835		1334	1334	3186	3186	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			325				250	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 13: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	TR
Maximum Queue (ft)	38	30	247	78	24	14	20	74	5	14
Average Queue (ft)	5	3	110	33	3	1	1	24	0	1
95th Queue (ft)	24	17	251	63	14	8	12	53	3	7
Link Distance (ft)	532	532	2226	2226		3186	3186		1910	1910
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)					425				350	
Storage Blk Time (%)										
Queuing Penalty (veh)										

Network Summary

Network wide Queuing Penalty: 41

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	NBL	SBT	EBL	WBTL	SBL	NBSB	WBL	EBTL
Maximum Green (s)	7.9	27.9	9.2	18.0	5.0	30.8	5.0	22.2
Minimum Green (s)	5.0	16.0	5.0	5.0	5.0	16.0	5.0	5.0
Recall	None	Min	None	None	None	Min	None	None
Avg. Green (s)	7.6	-3.9	-3.4	-2.5	5.2	5.5	5.3	6.7
g/C Ratio	1.92	-1.08	-0.95	-0.59	0.45	1.52	1.16	1.85
Cycles Skipped (%)	10	0	0	15	69	0	22	0
Cycles @ Minimum (%)	0	0	0	0	31	0	78	0
Cycles Maxed Out (%)	71	88	95	53	31	90	78	78
Cycles with Peds (%)	0	0	0	0	0	2	0	0

Controller Summary

Average Cycle Length (s): 3.6

Number of Complete Cycles : 39

Intersection: 8: Chuluota Rd & Schoolview Wy/Cypress Lake Glen Blvd (S)

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	SBL	NBT	WBL	EBTL	NBL	SBT	EBL	WBTL
Maximum Green (s)	7.0	32.7	5.1	20.0	5.0	34.7	6.1	19.0
Minimum Green (s)	7.0	16.0	5.0	10.0	5.0	16.0	5.0	5.0
Recall	None	Min	None	None	None	Min	None	None
Avg. Green (s)	7.1	-2.3	-4.2	12.5	5.4	1.0	-4.2	9.4
g/C Ratio	0.79	-0.65	-1.10	0.86	0.27	0.28	-1.01	0.82
Cycles Skipped (%)	60	0	4	75	82	0	14	68
Cycles @ Minimum (%)	40	0	0	18	18	0	0	2
Cycles Maxed Out (%)	40	57	96	2	18	63	62	2
Cycles with Peds (%)	0	2	0	2	0	2	0	4

Controller Summary

Average Cycle Length (s): 3.6

Number of Complete Cycles : 56

ROUNDAABOUTS

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:45	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2	2
Vehs Entered	4199	4200	4284	4048	4245	4383	4207
Vehs Exited	4060	4097	4114	3991	4016	4204	4069
Starting Vehs	224	287	211	226	225	236	238
Ending Vehs	363	390	381	283	454	415	376
Travel Distance (mi)	6525	6480	6552	6245	6472	6692	6440
Travel Time (hr)	280.6	337.3	277.2	260.3	317.2	322.4	301.8
Total Delay (hr)	140.1	197.3	135.9	125.8	177.7	178.3	163.3
Total Stops	3032	3417	2817	2478	2884	3134	3098
Fuel Used (gal)	254.4	263.5	252.3	241.1	259.0	268.0	257.0

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	3	3	3	3
# of Recorded Intervals	2	2	2	2
Vehs Entered	4208	4209	4355	4232
Vehs Exited	4024	4023	4104	4071
Starting Vehs	226	250	207	229
Ending Vehs	410	436	458	396
Travel Distance (mi)	6458	6454	6551	6487
Travel Time (hr)	318.8	336.5	368.8	312.1
Total Delay (hr)	179.8	197.8	227.5	172.4
Total Stops	2977	3094	3707	3060
Fuel Used (gal)	259.1	262.5	273.9	259.1

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15
Volumes adjusted by PHF.	
No data recorded this interval.	

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	1077	1102	1164	1065	1129	1122	1099
Vehs Exited	1063	1073	1121	1028	1079	1079	1063
Starting Vehs	224	287	211	226	225	236	238
Ending Vehs	238	316	254	263	275	279	274
Travel Distance (mi)	1696	1751	1800	1657	1743	1752	1693
Travel Time (hr)	61.2	71.4	58.8	56.9	61.9	66.1	62.7
Total Delay (hr)	24.6	33.5	20.0	21.2	24.3	28.3	26.3
Total Stops	743	932	760	588	845	762	907
Fuel Used (gal)	63.9	67.0	65.6	61.7	65.2	66.1	64.4

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	8	9	10	Avg
Vehs Entered	1126	1106	1174	1114
Vehs Exited	1049	1057	1062	1068
Starting Vehs	226	250	207	229
Ending Vehs	303	299	319	281
Travel Distance (mi)	1776	1690	1760	1732
Travel Time (hr)	68.4	69.2	68.5	64.5
Total Delay (hr)	30.1	32.9	30.6	27.2
Total Stops	852	892	928	821
Fuel Used (gal)	66.6	64.0	67.3	65.2

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	3122	3098	3120	2983	3116	3261	3108
Vehs Exited	2997	3024	2993	2963	2937	3125	3006
Starting Vehs	238	316	254	263	275	279	274
Ending Vehs	363	390	381	283	454	415	376
Travel Distance (mi)	4829	4729	4752	4588	4729	4940	4747
Travel Time (hr)	219.4	265.9	218.4	203.5	255.3	256.4	239.1
Total Delay (hr)	115.5	163.8	115.9	104.6	153.4	150.0	137.0
Total Stops	2289	2485	2057	1890	2039	2372	2191
Fuel Used (gal)	190.5	196.4	186.8	179.4	193.8	201.9	192.6

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	3082	3103	3181	3118
Vehs Exited	2975	2966	3042	3003
Starting Vehs	303	299	319	281
Ending Vehs	410	436	458	396
Travel Distance (mi)	4683	4764	4791	4755
Travel Time (hr)	250.4	267.3	300.2	247.6
Total Delay (hr)	149.7	165.0	196.9	145.2
Total Stops	2125	2202	2779	2241
Fuel Used (gal)	192.5	198.4	206.6	193.9

3: Chuluota Rd & Lake Pickett Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.8	0.2	2.2	0.0	1.0
Total Del/Veh (s)	437.5	11.9	45.2	10.2	148.1

8: Chuluota Rd & Schoolview Wy/Cypress Lake Glen Blvd (S) Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.2	0.3	0.0	0.1
Total Del/Veh (s)	10.7	10.3	9.3	11.6	10.5

11: Chuluota Rd & Corner Lake Dr Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.3	11.6	12.1	11.6

13: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N) Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	5.0	6.7	11.0	9.1	9.7

Total Network Performance

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)			1.1		
Total Del/Veh (s)			137.8		

Arterial Level of Service: NB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Cypress Lake Glen Bl	8	9.7	18.7	0.1	25
Corner Lake Dr	11	11.2	32.6	0.3	30
Cypress Lake Glen Bl	13	11.0	58.3	0.6	38
	5	3.5	34.6	0.4	39
Lake Pickett Rd	3	45.2	60.3	0.2	13
	4	5.8	22.5	0.2	27
Total		86.4	227.0	1.8	28

Arterial Level of Service: SB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	4	0.8	9.3	0.1	47
Lake Pickett Rd	3	10.6	21.7	0.2	28
	5	6.2	24.6	0.2	30
Long Boat Ln	13	9.1	33.9	0.4	40
Corner Lake Dr	11	11.9	59.1	0.6	38
Schoolview Wy	8	11.6	32.9	0.3	30
Total		50.3	181.6	1.7	35

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	LT	TR	LT	TR
Maximum Queue (ft)	5528	1050	111	573	498	133	106
Average Queue (ft)	3102	935	48	309	255	65	24
95th Queue (ft)	5671	1464	92	625	572	113	80
Link Distance (ft)	7540		640	920	920	754	754
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		1000					
Storage Blk Time (%)	85	0					
Queuing Penalty (veh)	353	1					

Intersection: 4: Bend

Movement	NB
Directions Served	T
Maximum Queue (ft)	30
Average Queue (ft)	1
95th Queue (ft)	16
Link Distance (ft)	754
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Chuluota Rd & Schoolview Wy/Cypress Lake Glen Blvd (S)

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	LT	TR	LT	TR
Maximum Queue (ft)	99	107	3	161	86	87	88
Average Queue (ft)	45	44	0	54	8	26	5
95th Queue (ft)	81	82	3	124	57	66	38
Link Distance (ft)	305	613	613	572	572	1177	1177
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 11: Chuluota Rd & Corner Lake Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	LT	T	T	TR
Maximum Queue (ft)	37	50	44	25	59	41
Average Queue (ft)	11	4	4	1	10	2
95th Queue (ft)	33	25	22	12	42	20
Link Distance (ft)	221		1177	1177	3048	3048
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N)

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	LT	R	LT	TR	LT	TR
Maximum Queue (ft)	25	10	60	11	55	27	67	44
Average Queue (ft)	2	0	27	0	12	1	15	2
95th Queue (ft)	13	6	54	6	39	12	48	18
Link Distance (ft)	463	463	794	794	3048	3048	1838	1838
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 354

EXISTING TRAFFIC CONTROLS & ROUNDABOUTS MIXTURE

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:45	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2	2
Vehs Entered	4170	4281	4258	4229	4223	4225	4191
Vehs Exited	4175	4279	4240	4264	4271	4251	4228
Starting Vehs	173	190	163	200	215	193	212
Ending Vehs	168	192	181	165	167	167	175
Travel Distance (mi)	5190	5411	5385	5398	5358	5355	5288
Travel Time (hr)	174.7	189.4	182.4	184.7	182.7	180.8	176.1
Total Delay (hr)	59.1	68.7	62.4	64.6	63.2	61.6	58.2
Total Stops	3653	3944	3758	3968	3895	3757	3694
Fuel Used (gal)	199.3	210.8	208.4	209.0	208.0	208.0	202.7

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75
Time Recorded (min)	60	60	60	60
# of Intervals	3	3	3	3
# of Recorded Intervals	2	2	2	2
Vehs Entered	4292	4135	4276	4228
Vehs Exited	4281	4132	4264	4238
Starting Vehs	173	180	172	186
Ending Vehs	184	183	184	172
Travel Distance (mi)	5478	5188	5410	5346
Travel Time (hr)	189.1	176.6	186.1	182.3
Total Delay (hr)	67.4	60.9	65.3	63.1
Total Stops	4048	3695	3955	3837
Fuel Used (gal)	211.7	201.3	209.1	206.8

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15
Volumes adjusted by PHF.	
No data recorded this interval.	

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	1145	1128	1120	1090	1106	1093	1112
Vehs Exited	1155	1125	1107	1085	1112	1080	1125
Starting Vehs	173	190	163	200	215	193	212
Ending Vehs	163	193	176	205	209	206	199
Travel Distance (mi)	1416	1418	1403	1366	1428	1373	1374
Travel Time (hr)	49.2	50.4	48.1	47.7	50.5	47.6	45.8
Total Delay (hr)	17.5	18.7	16.8	17.1	18.6	17.0	15.2
Total Stops	1062	1079	986	1028	1122	1021	970
Fuel Used (gal)	55.1	55.0	54.2	52.9	55.6	53.7	52.5

Interval #1 Information Period 1

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	8	9	10	Avg
Vehs Entered	1090	1124	1205	1121
Vehs Exited	1080	1102	1148	1111
Starting Vehs	173	180	172	186
Ending Vehs	183	202	229	193
Travel Distance (mi)	1417	1387	1484	1407
Travel Time (hr)	49.6	48.2	52.5	49.0
Total Delay (hr)	18.1	17.2	19.4	17.6
Total Stops	1040	1015	1152	1044
Fuel Used (gal)	54.5	54.1	57.8	54.5

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	1	2	3	4	5	6	7
Vehs Entered	3025	3153	3138	3139	3117	3132	3079
Vehs Exited	3020	3154	3133	3179	3159	3171	3103
Starting Vehs	163	193	176	205	209	206	199
Ending Vehs	168	192	181	165	167	167	175
Travel Distance (mi)	3774	3993	3982	4033	3931	3982	3914
Travel Time (hr)	125.5	139.0	134.3	137.0	132.2	133.2	130.3
Total Delay (hr)	41.6	50.1	45.6	47.4	44.6	44.5	43.0
Total Stops	2591	2865	2772	2940	2773	2736	2724
Fuel Used (gal)	144.2	155.8	154.2	156.2	152.4	154.2	150.3

Interval #2 Information Period 2

Start Time	7:15
End Time	8:00
Total Time (min)	45

Volumes adjusted by Anti PHF.

Run Number	8	9	10	Avg
Vehs Entered	3202	3011	3071	3108
Vehs Exited	3201	3030	3116	3126
Starting Vehs	183	202	229	193
Ending Vehs	184	183	184	172
Travel Distance (mi)	4061	3801	3926	3940
Travel Time (hr)	139.5	128.4	133.6	133.3
Total Delay (hr)	49.3	43.8	46.0	45.6
Total Stops	3008	2680	2803	2790
Fuel Used (gal)	157.2	147.2	151.3	152.3

3: Chuluota Rd & Lake Pickett Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.4	2.0	0.2	0.0	0.6
Total Del/Veh (s)	31.2	39.7	21.4	28.8	27.7

8: Chuluota Rd & Schoolview Wy/Cypress Lake Glen Blvd (S) Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.2	0.8	0.0	0.4
Total Del/Veh (s)	27.7	42.2	10.5	12.2	14.5

11: Chuluota Rd & Corner Lake Dr Performance by approach

Approach	EB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.8	11.7	13.2	12.3

13: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N) Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	6.2	7.9	12.0	10.7	11.0

Total Network Performance

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)			1.0		
Total Del/Veh (s)			50.6		

Arterial Level of Service: NB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Cypress Lake Glen Bl	8	12.0	20.9	0.1	20
Corner Lake Dr	11	12.3	30.3	0.3	32
Cypress Lake Glen Bl	13	12.0	59.4	0.6	38
	5	3.4	34.5	0.4	39
Lake Pickett Rd	3	22.6	36.4	0.2	20
	4	9.7	23.4	0.2	26
Total		71.9	205.0	1.8	31

Arterial Level of Service: SB Chuluota Rd

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	4	0.9	9.4	0.1	47
Lake Pickett Rd	3	33.8	45.7	0.2	13
	5	6.9	21.6	0.2	34
Long Boat Ln	13	10.7	35.6	0.4	38
Corner Lake Dr	11	13.1	60.3	0.6	37
Schoolview Wy	8	11.9	34.0	0.3	29
Total		77.3	206.8	1.7	31

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	B5	B5	SB
Directions Served	L	TR	R	L	TR	L	T	T	R	T	T	L
Maximum Queue (ft)	246	362	265	127	146	200	326	285	94	16	20	62
Average Queue (ft)	134	158	111	58	65	89	170	114	29	1	1	20
95th Queue (ft)	226	269	214	109	124	160	279	225	69	16	20	49
Link Distance (ft)	2771				693		992		992		1838	1838
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200	300		200	465				425		400	
Storage Blk Time (%)	3	3	0	0								
Queuing Penalty (veh)	21	13	0	0								

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	316	309	139
Average Queue (ft)	196	186	46
95th Queue (ft)	291	285	101
Link Distance (ft)	823	823	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			400
Storage Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	

Intersection: 4: Bend

Movement	NB	NB
Directions Served	T	
Maximum Queue (ft)	81	78
Average Queue (ft)	4	3
95th Queue (ft)	41	73
Link Distance (ft)	823	823
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Chuluota Rd & Schoolview Wy/Cypress Lake Glen Blvd (S)

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T	R
Maximum Queue (ft)	149	60	256	63	73	254	228	76	225	234	47
Average Queue (ft)	59	17	114	22	13	140	87	28	97	113	14
95th Queue (ft)	114	45	213	53	54	235	188	61	192	201	39
Link Distance (ft)	356	356	682	682		558	558		1254	1254	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					300			300			300
Storage Blk Time (%)						0	0		0	0	
Queuing Penalty (veh)						0	0		0	0	

Intersection: 11: Chuluota Rd & Corner Lake Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	LT	T	T	TR
Maximum Queue (ft)	49	44	62	46	75	56
Average Queue (ft)	13	5	6	2	20	3
95th Queue (ft)	38	27	33	24	56	28
Link Distance (ft)	234		1254	1254	3050	3050
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		200				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: Chuluota Rd & Long Boat Ln/Cypress Lake Glen Blvd (N)

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	LT	R	LT	TR	LT	TR
Maximum Queue (ft)	28	76	8	60	27	77	45
Average Queue (ft)	3	30	0	16	2	22	3
95th Queue (ft)	17	61	5	46	19	61	25
Link Distance (ft)	463	794	794	3050	3050	1838	1838
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 34

Intersection: 3: Chuluota Rd & Lake Pickett Rd

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	NBL	SBT	EBL	WBTL	SBL	NBSB	WBL	EBTL
Maximum Green (s)	7.9	27.9	9.2	18.0	5.0	30.8	5.0	22.2
Minimum Green (s)	5.0	16.0	5.0	5.0	5.0	16.0	5.0	5.0
Recall	None	Min	None	None	None	Min	None	None
Avg. Green (s)	7.8	-4.2	-3.0	-3.1	5.2	5.6	5.2	6.2
g/C Ratio	2.07	-1.19	-0.83	-0.70	0.45	1.58	1.25	1.73
Cycles Skipped (%)	5	0	0	20	69	0	15	0
Cycles @ Minimum (%)	0	0	0	0	31	0	85	0
Cycles Maxed Out (%)	80	93	93	55	31	95	85	78
Cycles with Peds (%)	0	3	0	3	0	3	0	0

Controller Summary

Average Cycle Length (s): 3.6

Number of Complete Cycles : 39

Intersection: 8: Chuluota Rd & Schoolview Wy/Cypress Lake Glen Blvd (S)

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	SBL	NBT	WBL	EBTL	NBL	SBT	EBL	WBTL
Maximum Green (s)	7.0	32.7	5.1	20.0	5.0	34.7	6.1	19.0
Minimum Green (s)	7.0	16.0	5.0	10.0	5.0	16.0	5.0	5.0
Recall	None	Min	None	None	None	Min	None	None
Avg. Green (s)	7.1	-2.4	-4.9	11.6	5.5	1.3	-5.4	10.2
g/C Ratio	0.89	-0.69	-1.36	0.97	0.29	0.39	-1.26	1.01
Cycles Skipped (%)	57	0	5	71	82	0	21	66
Cycles @ Minimum (%)	43	0	0	20	18	0	0	0
Cycles Maxed Out (%)	43	70	95	2	18	70	63	5
Cycles with Peds (%)	0	0	0	2	0	2	0	2

Controller Summary

Average Cycle Length (s): 3.4

Number of Complete Cycles : 56