

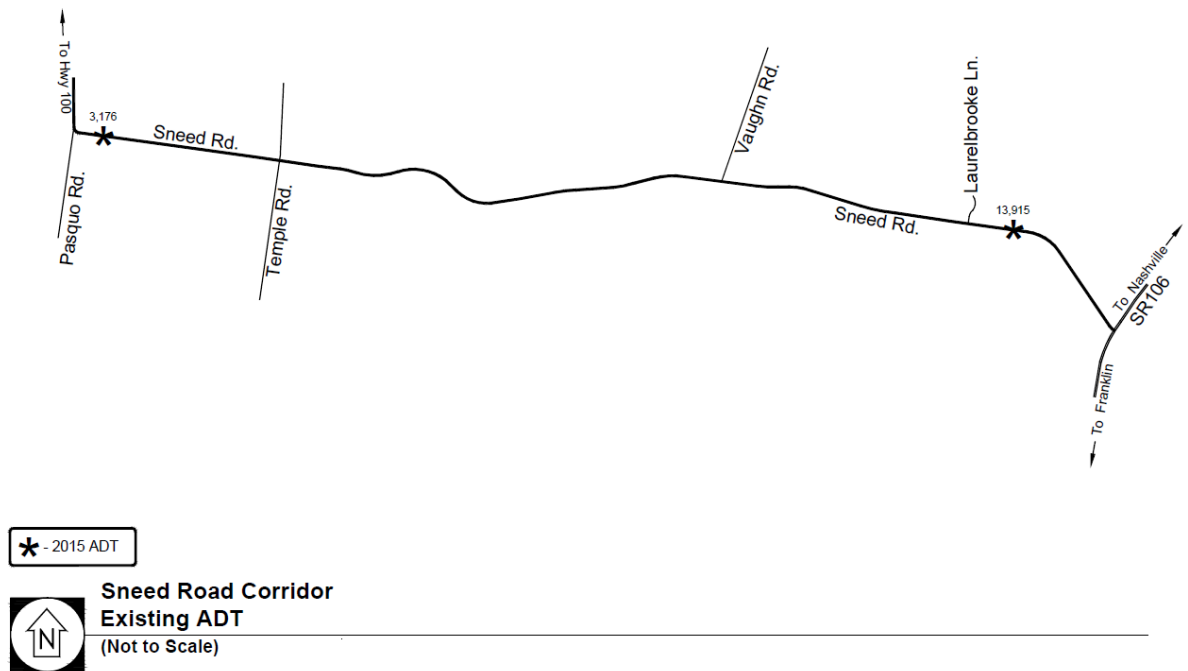
1.0 APPENDICES

Appendix A

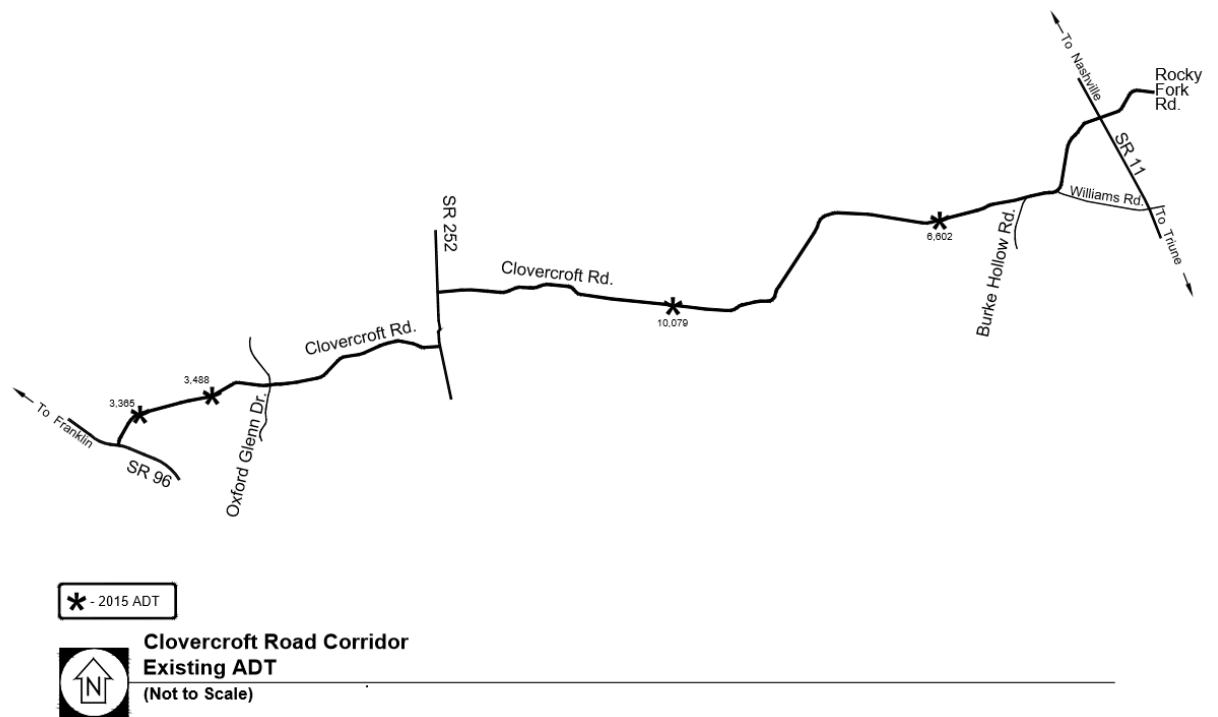
ADT Counts

EXISTING ADT

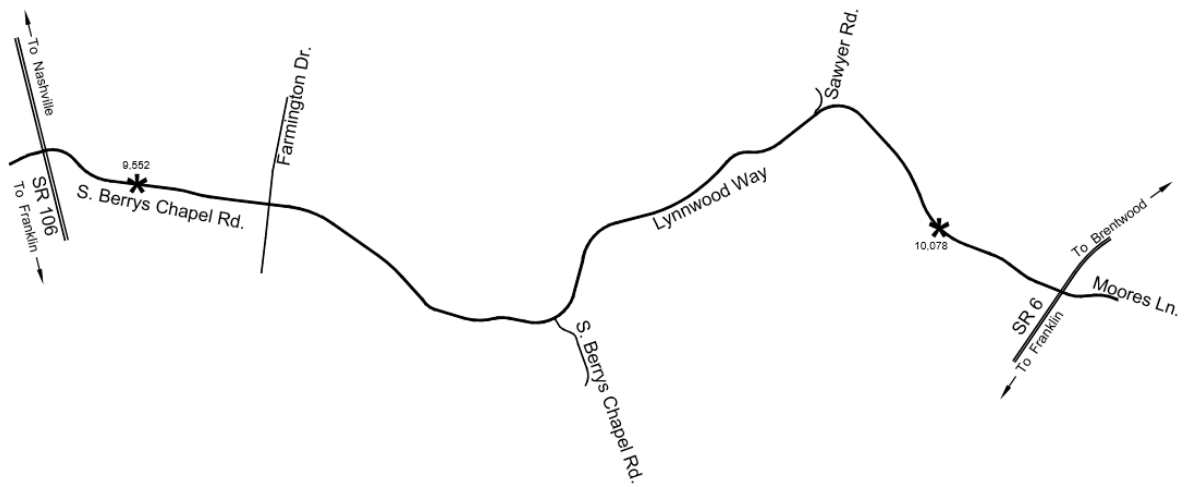
SNEED CORRIDOR



CLOVERCROFT CORRIDOR



LYNNWOOD CORRIDOR

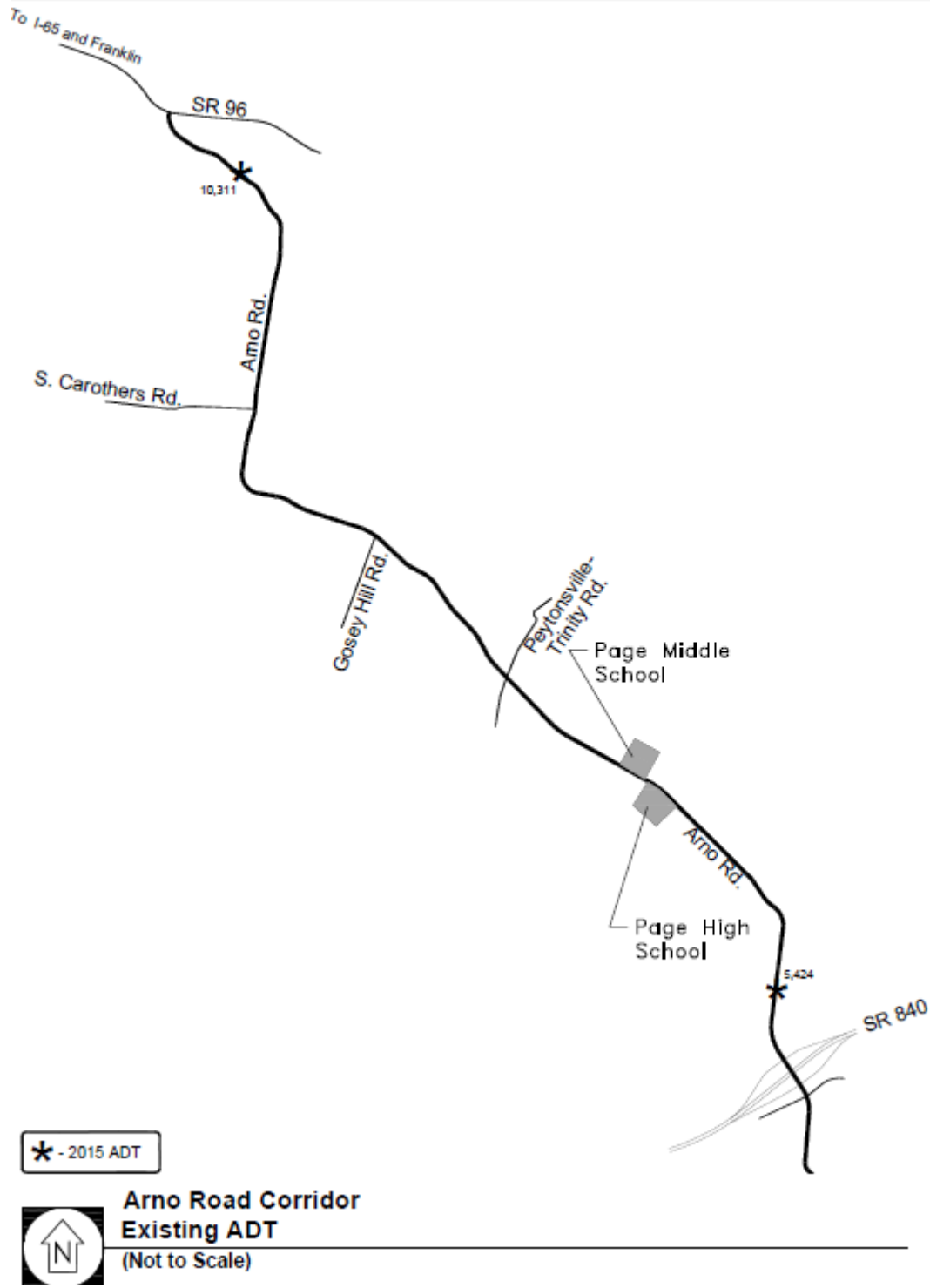


* - 2015 ADT

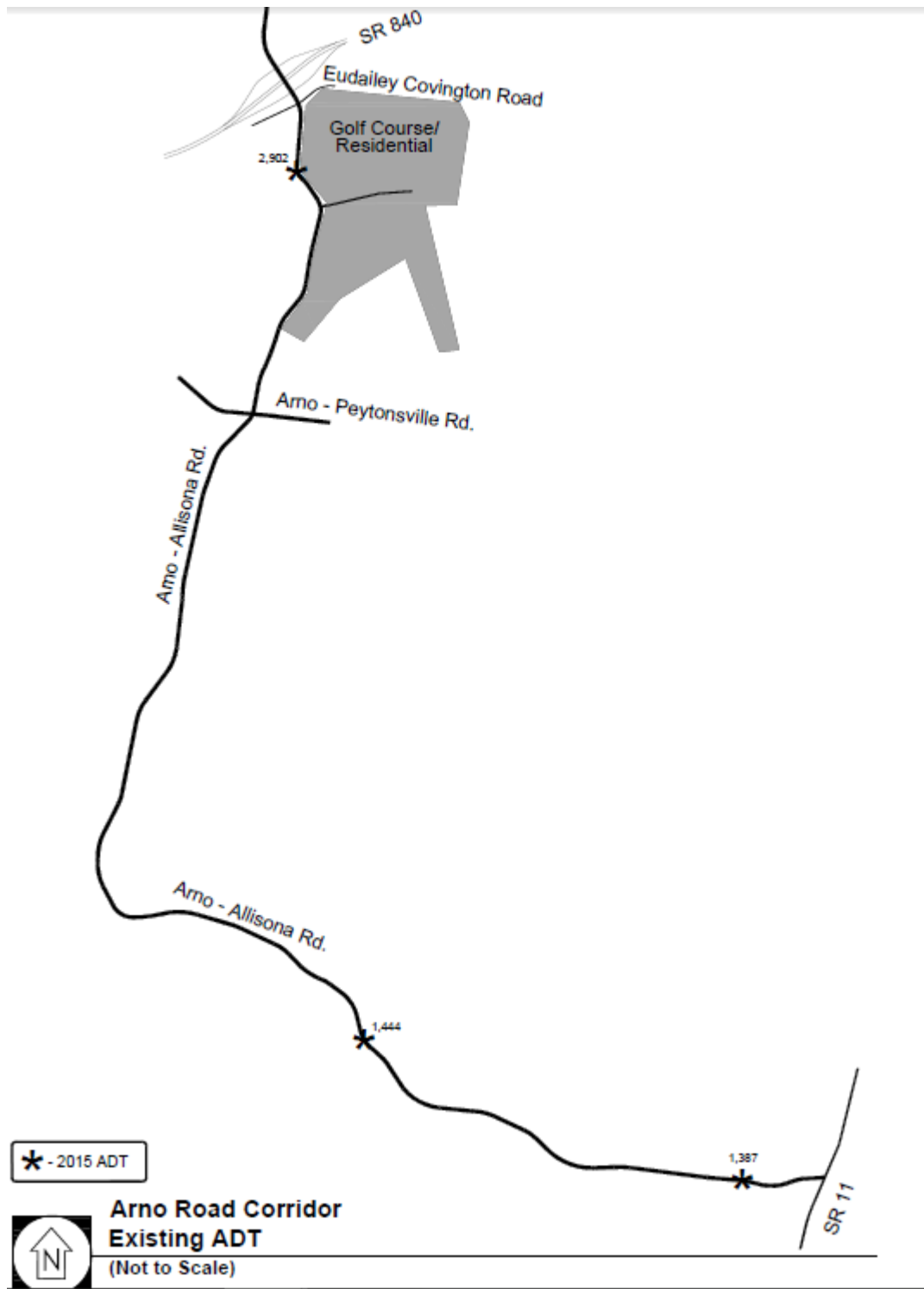


Lynnwood Way / South Berrys Chapel Road Corridor
Existing ADT
 (Not to Scale)

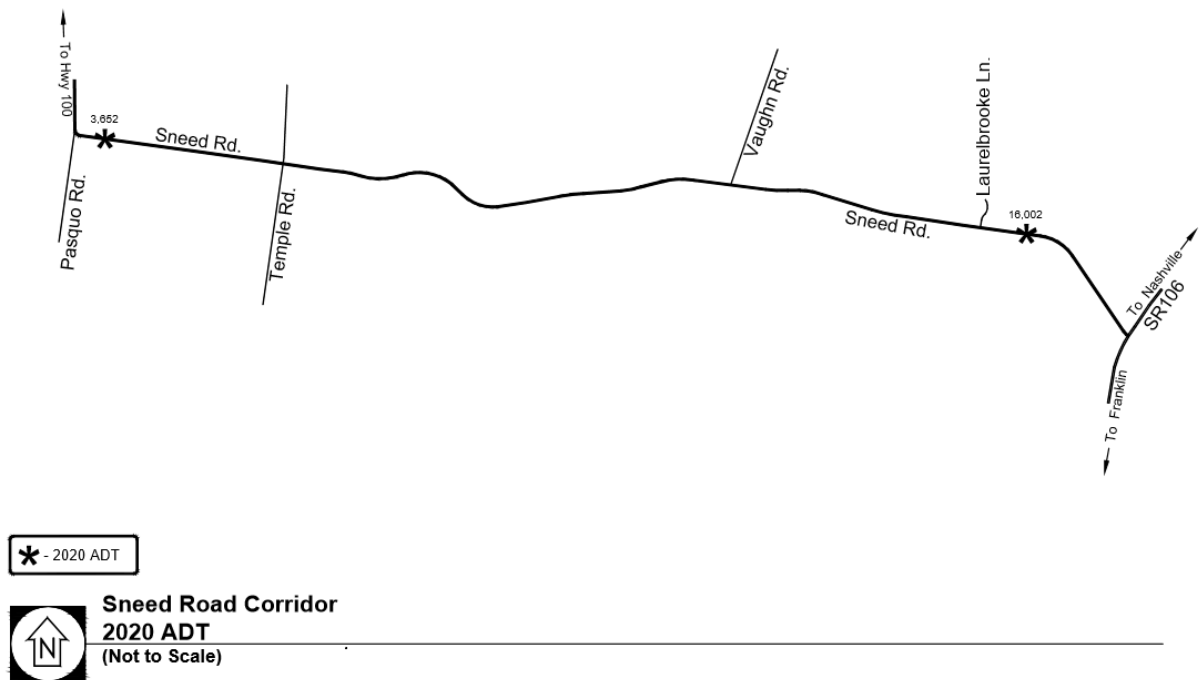
ARNO CORRIDOR (NORTH)



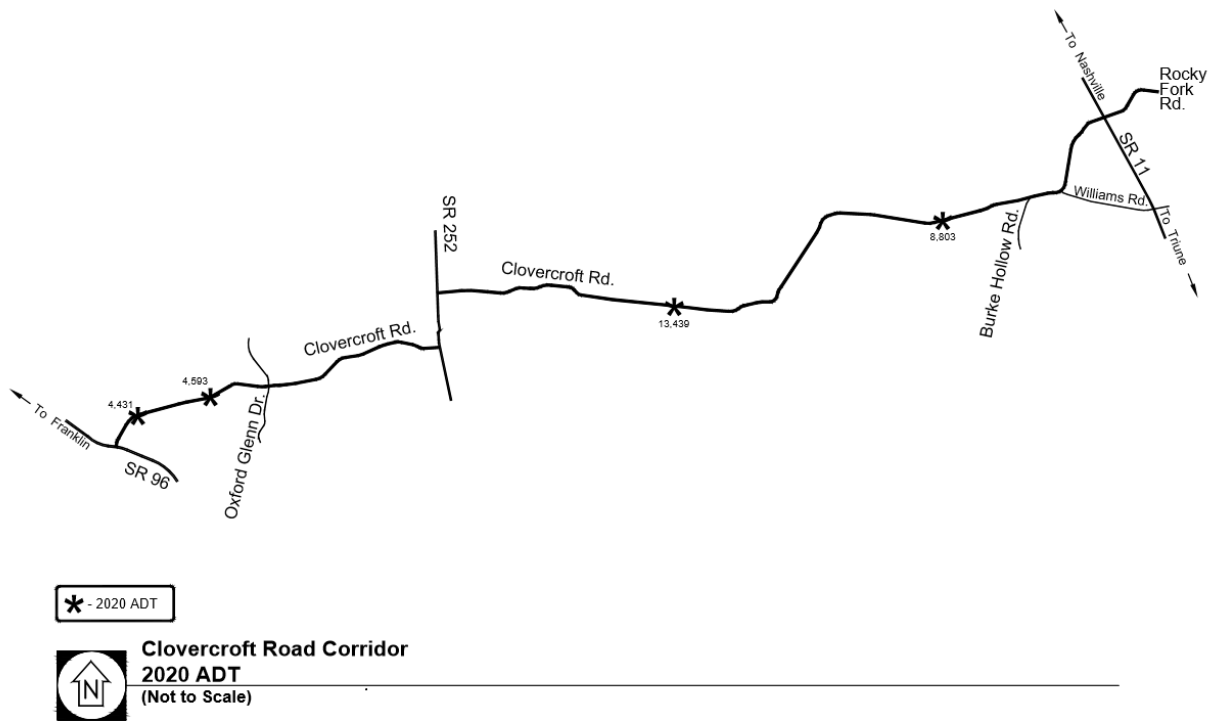
ARNO CORRIDOR (SOUTH)



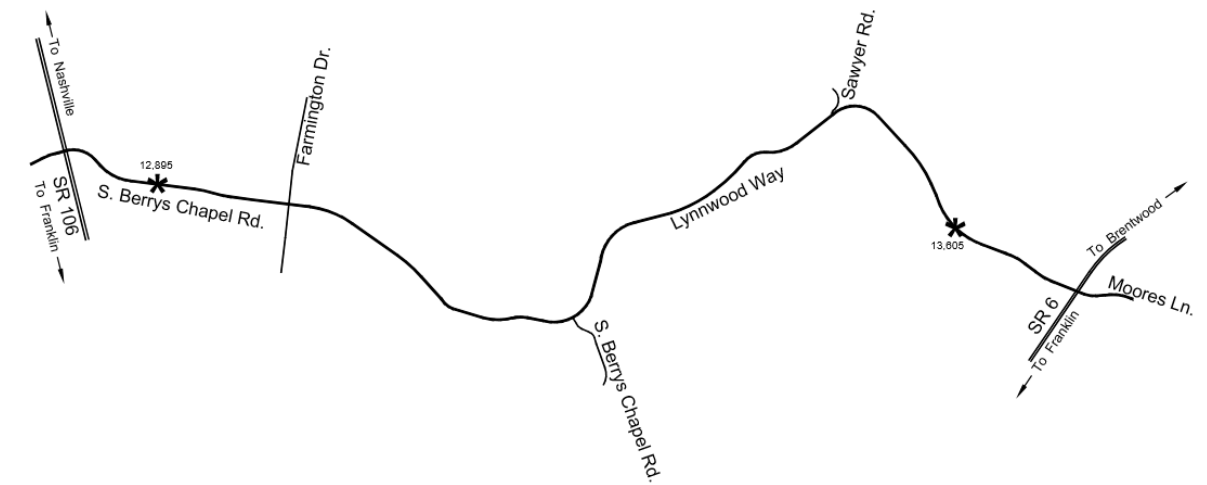
SNEED CORRIDOR



CLOVERCROFT CORRIDOR



LYNNWOOD CORRIDOR



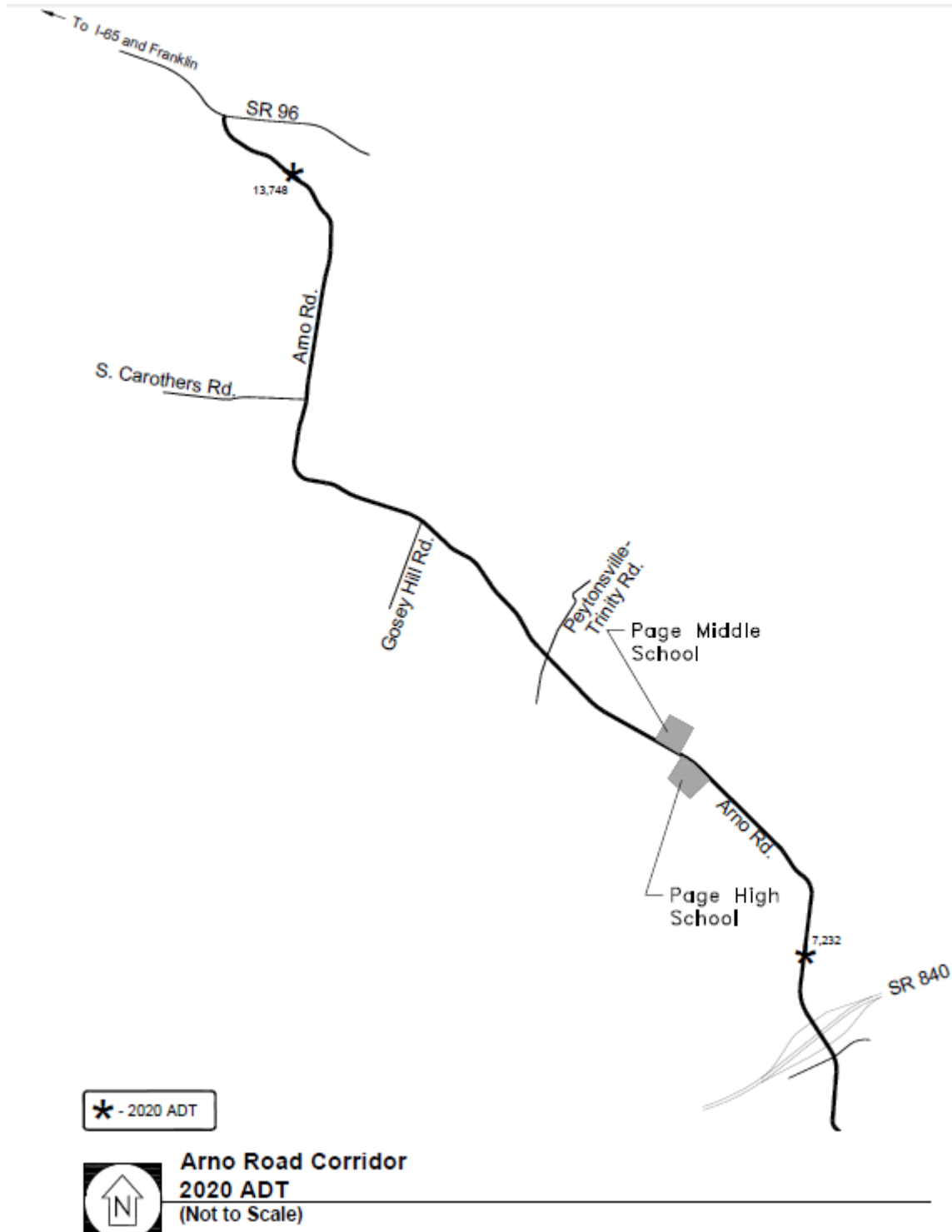
* - 2020 ADT



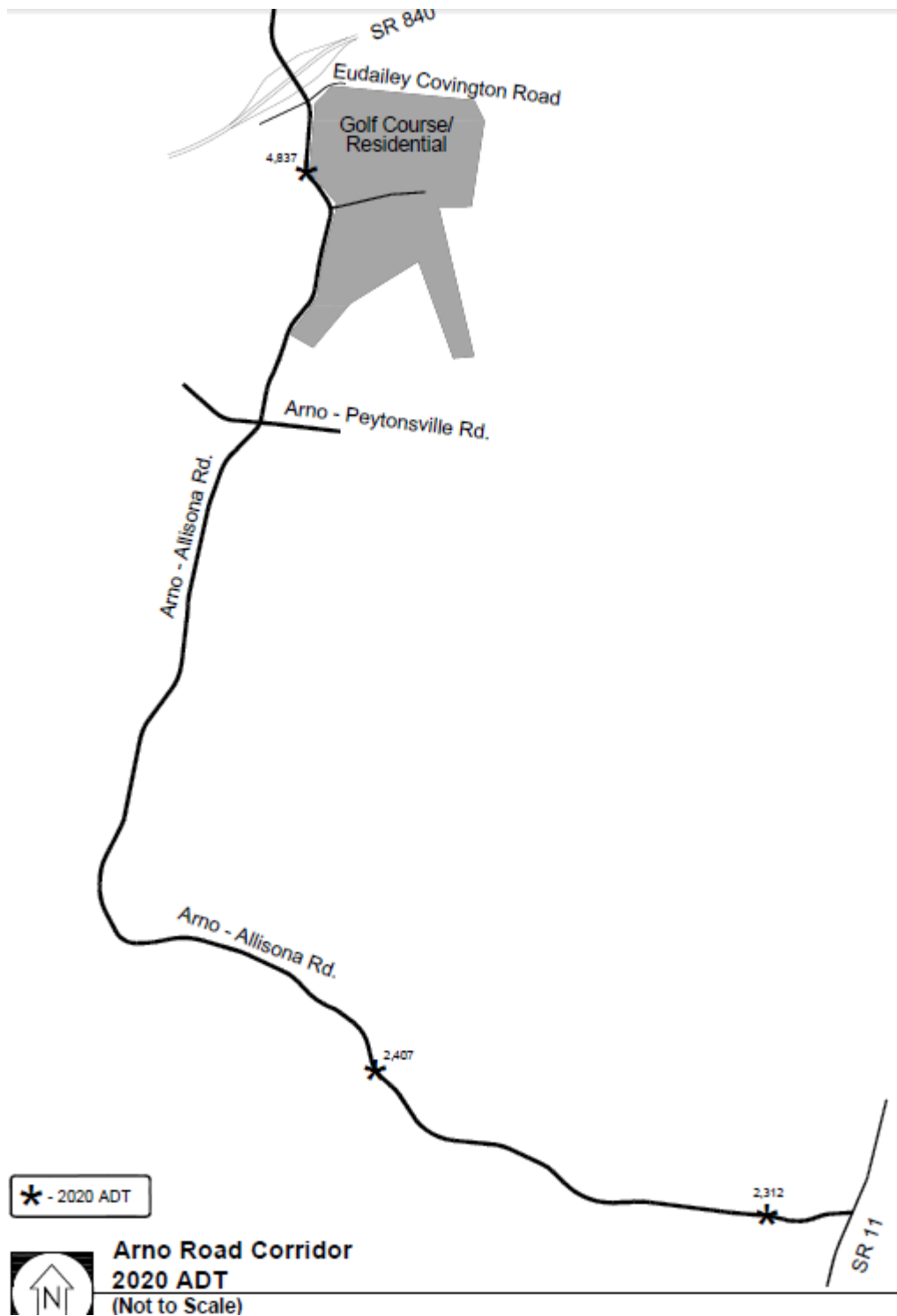
Lynnwood Way / South Berrys Chapel Road Corridor

2020 ADT
(Not to Scale)

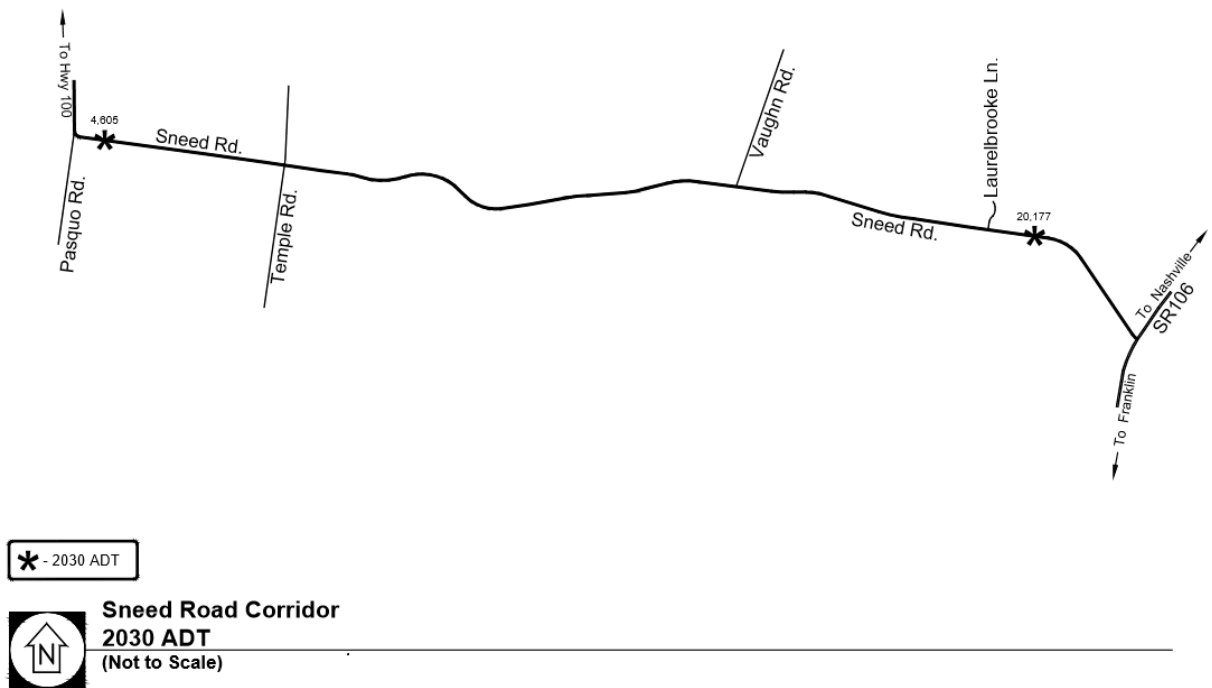
ARNO CORRIDOR (NORTH)



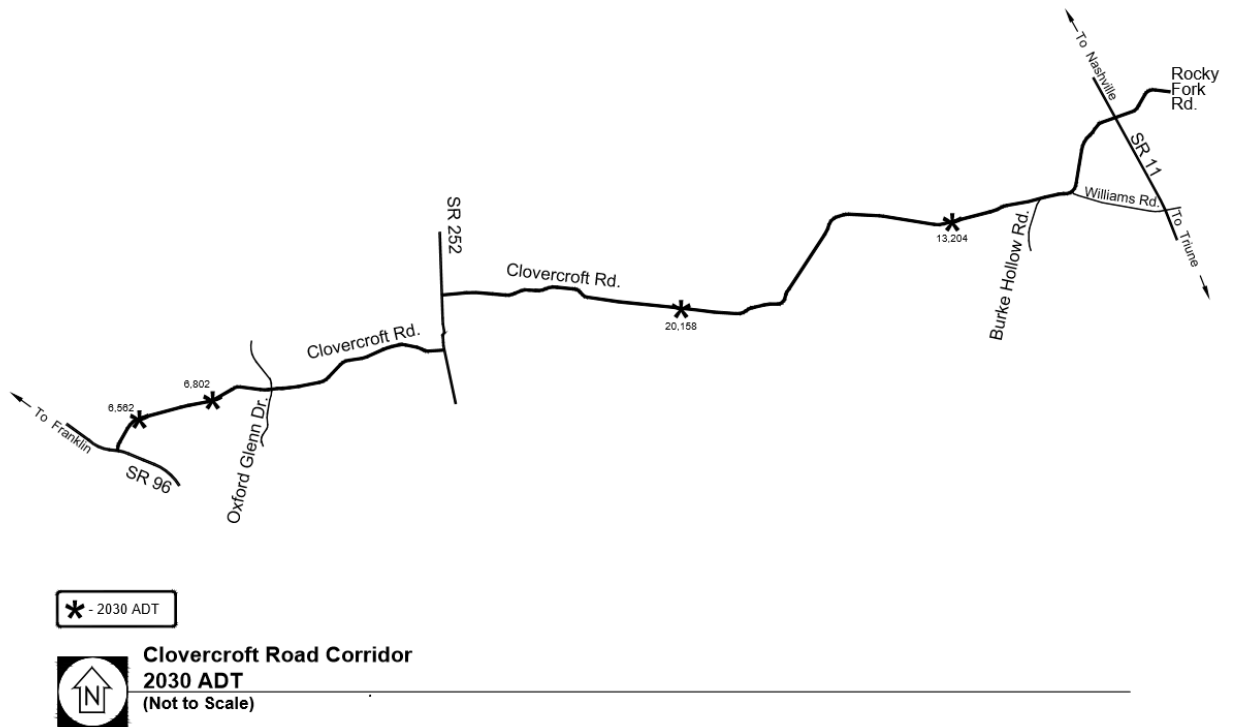
ARNO CORRIDOR (SOUTH)



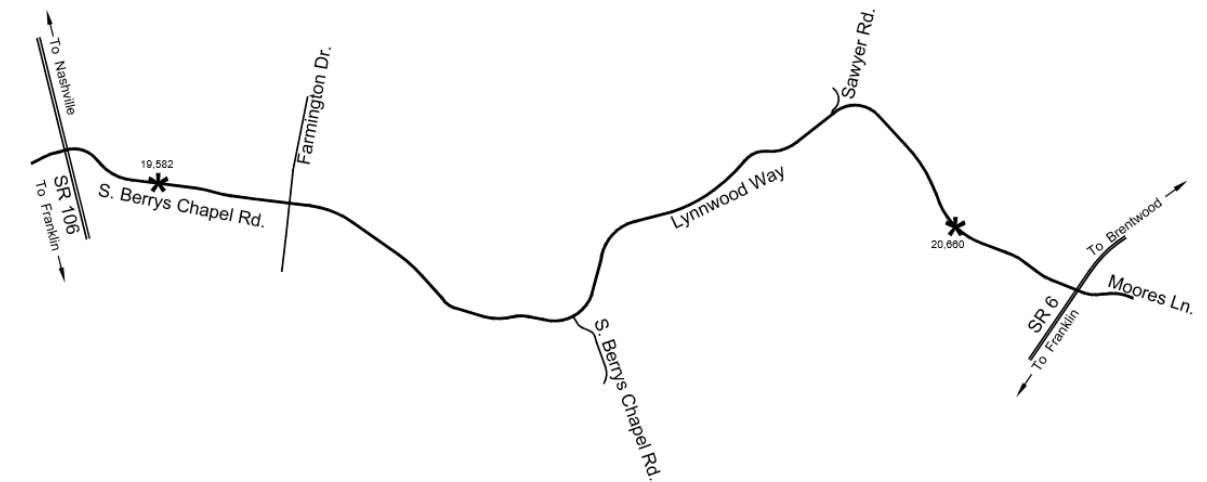
SNEED CORRIDOR



CLOVERCROFT CORRIDOR



LYNNWOOD CORRIDOR



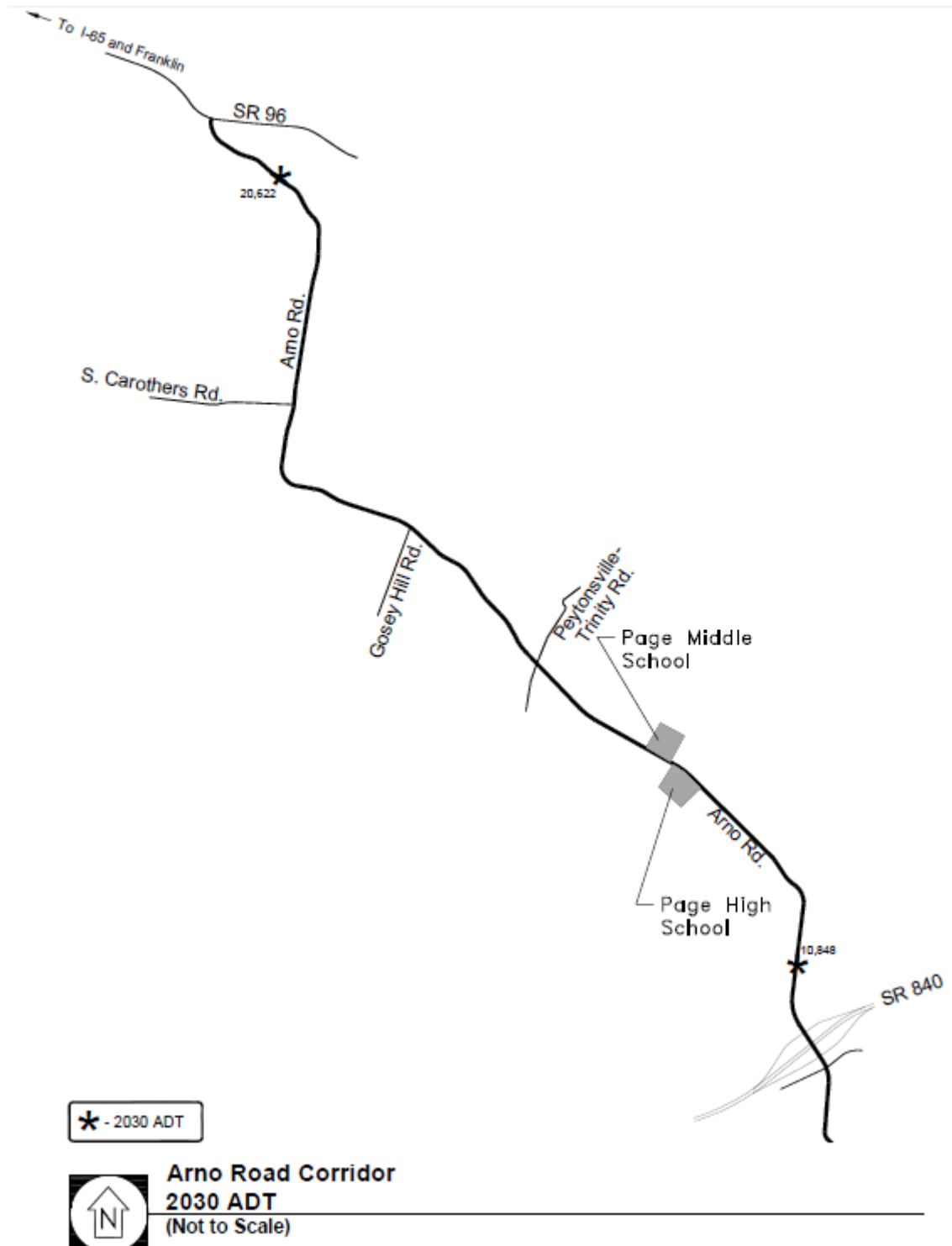
* - 2030 ADT



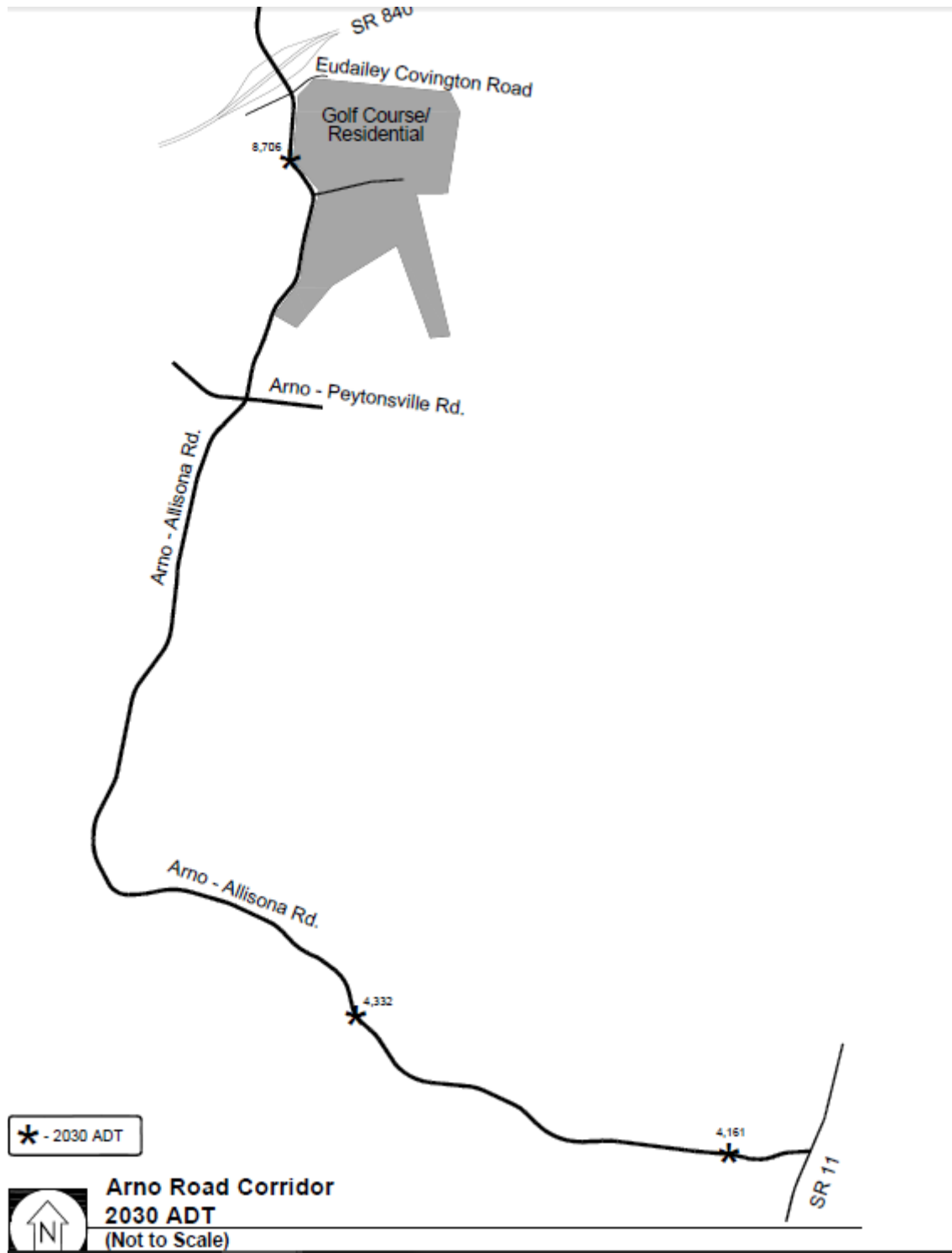
Lynnwood Way / South Berrys Chapel Road Corridor

2030 ADT
(Not to Scale)

ARNO CORRIDOR (NORTH)



ARNO CORRIDOR (SOUTH)

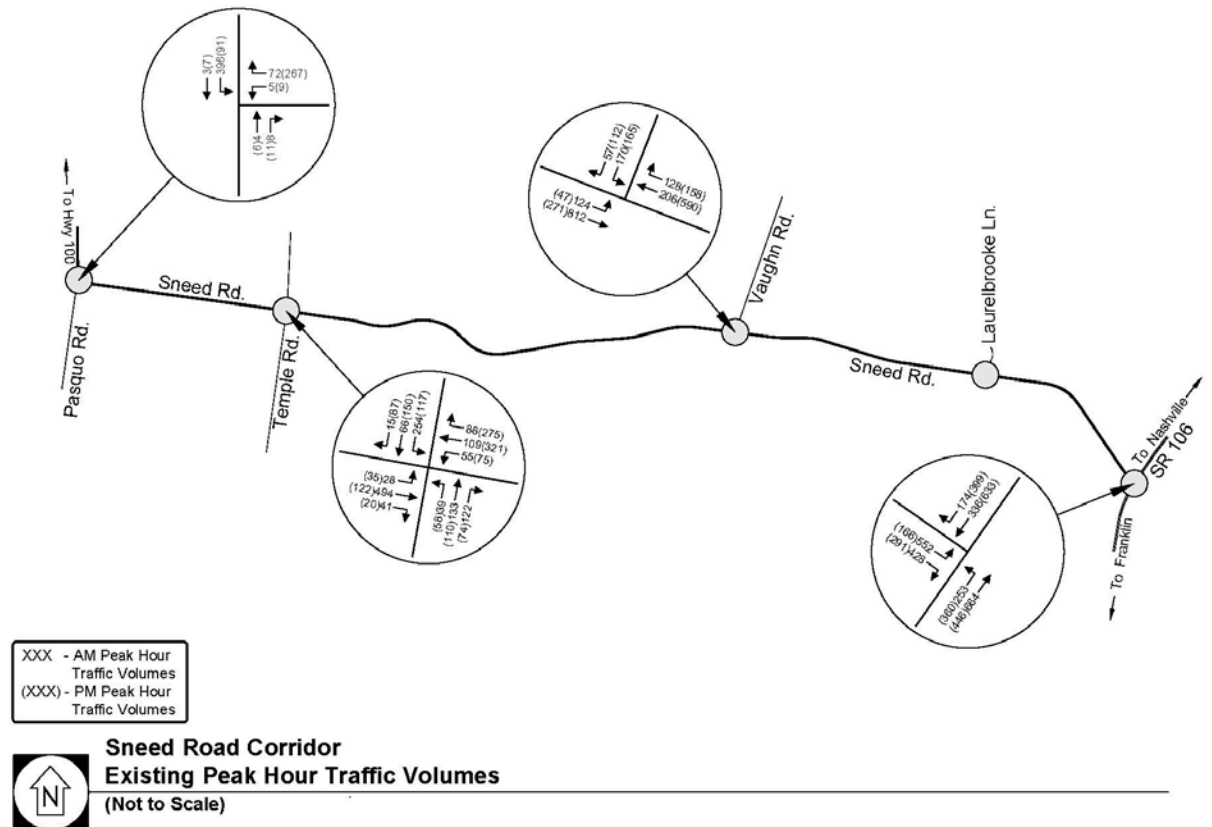


Appendix B

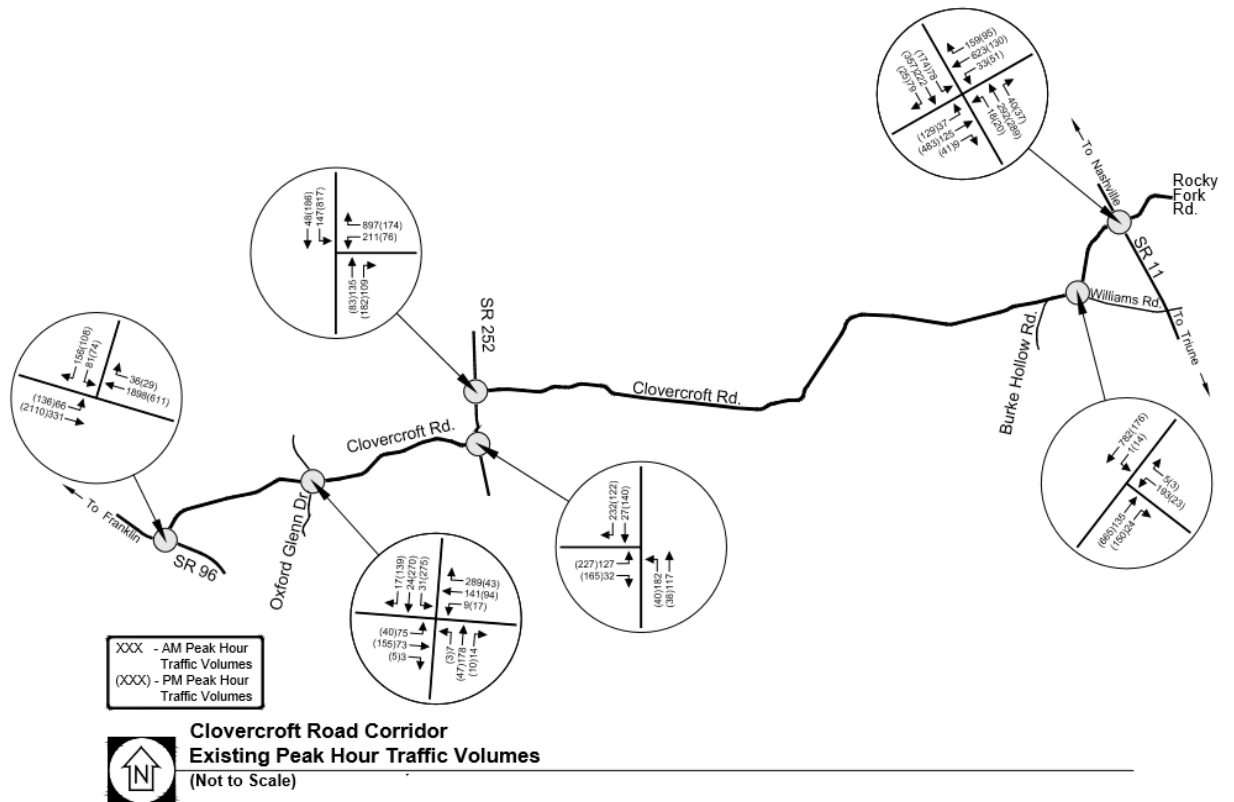
Peak Hour Traffic Volume Counts

EXISTING PHTV

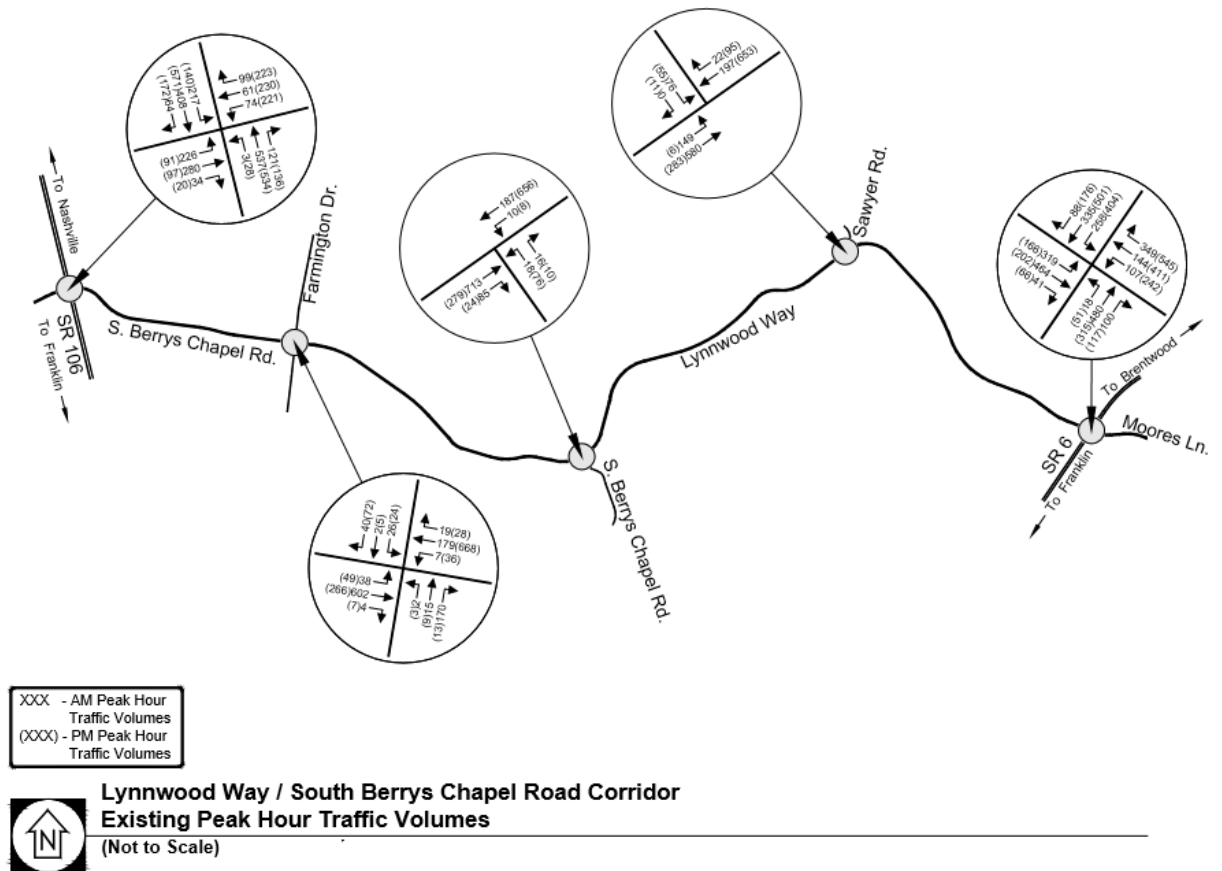
SNEED CORRIDOR

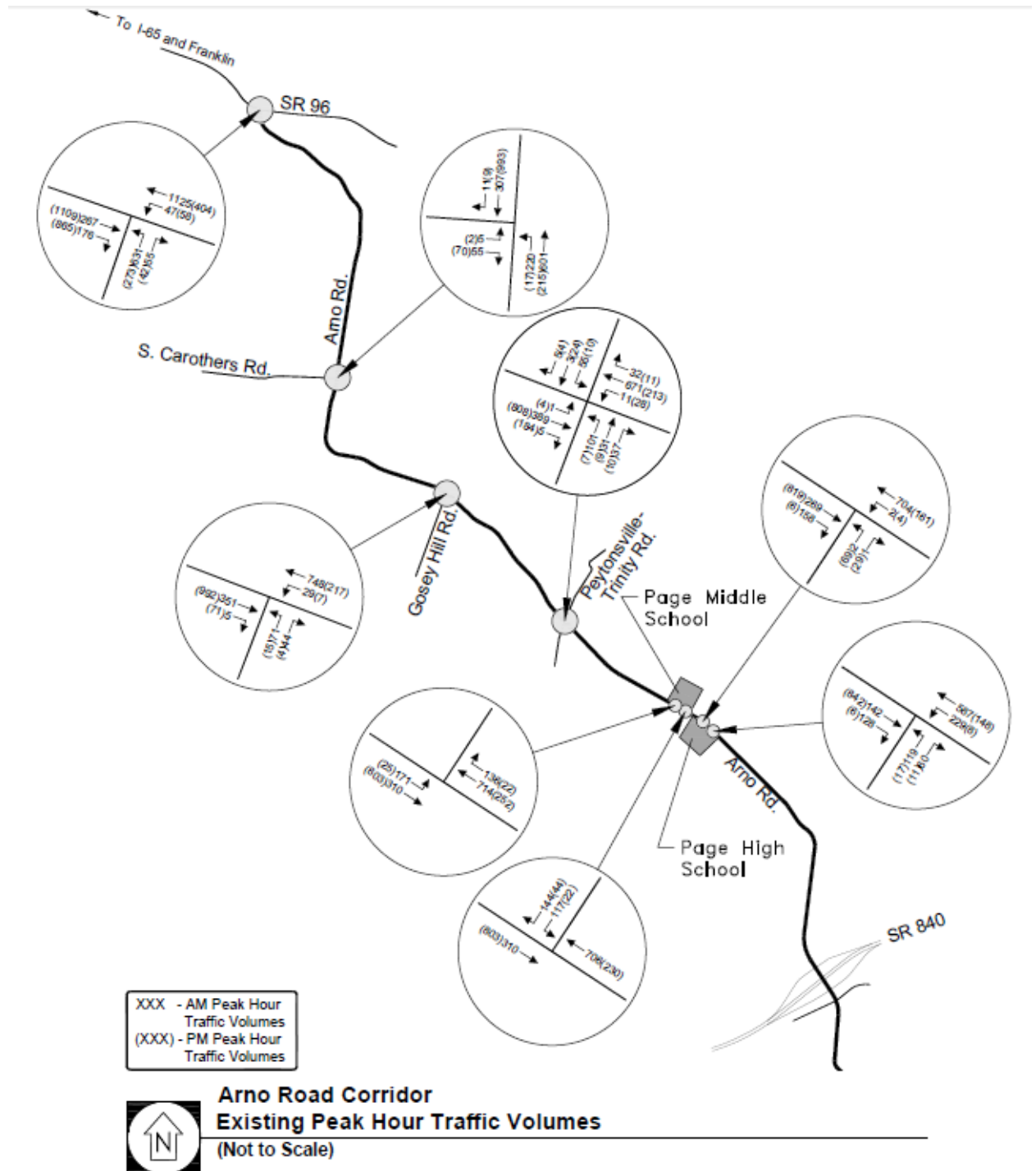


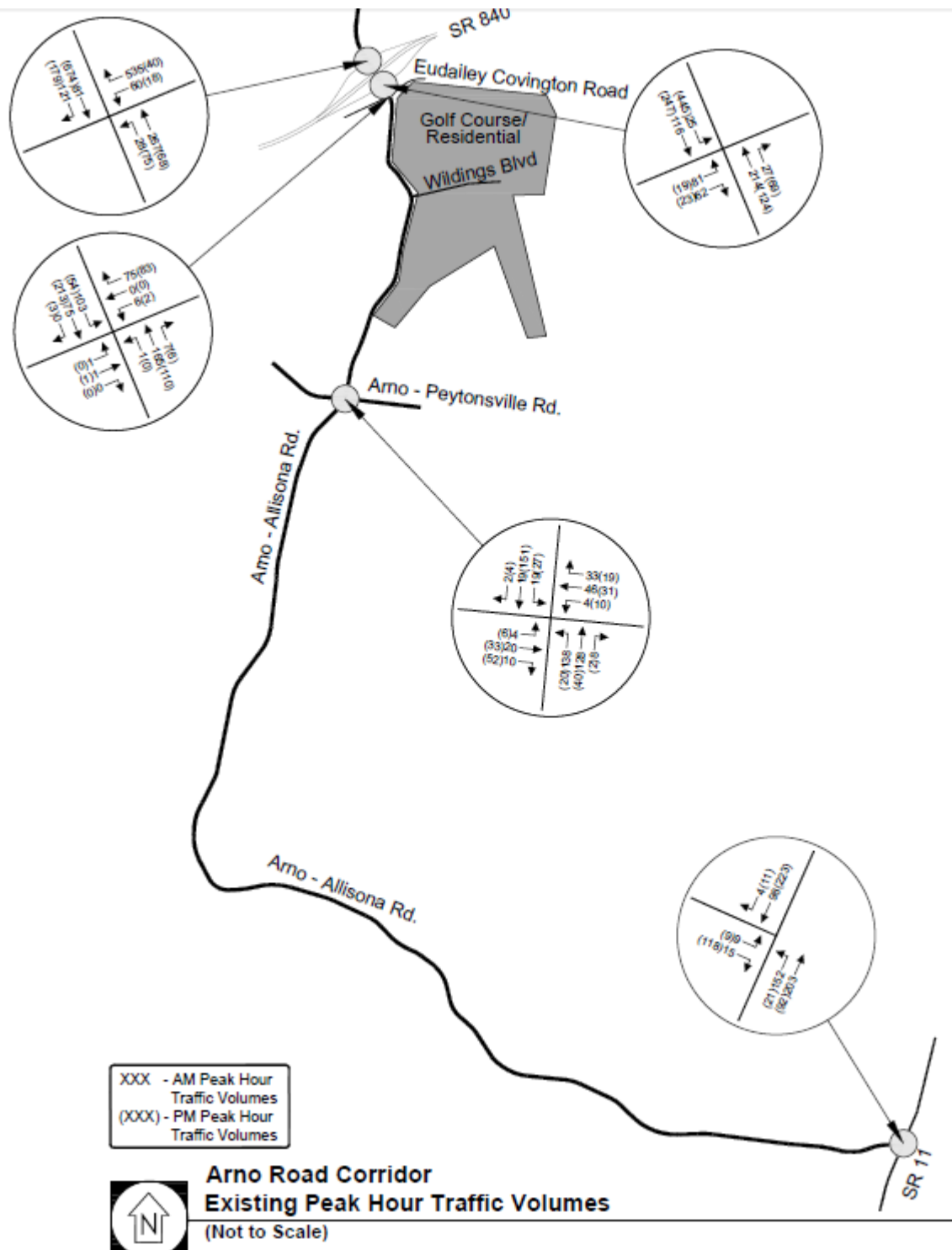
CLOVERCROFT CORRIDOR



LYNNWOOD CORRIDOR

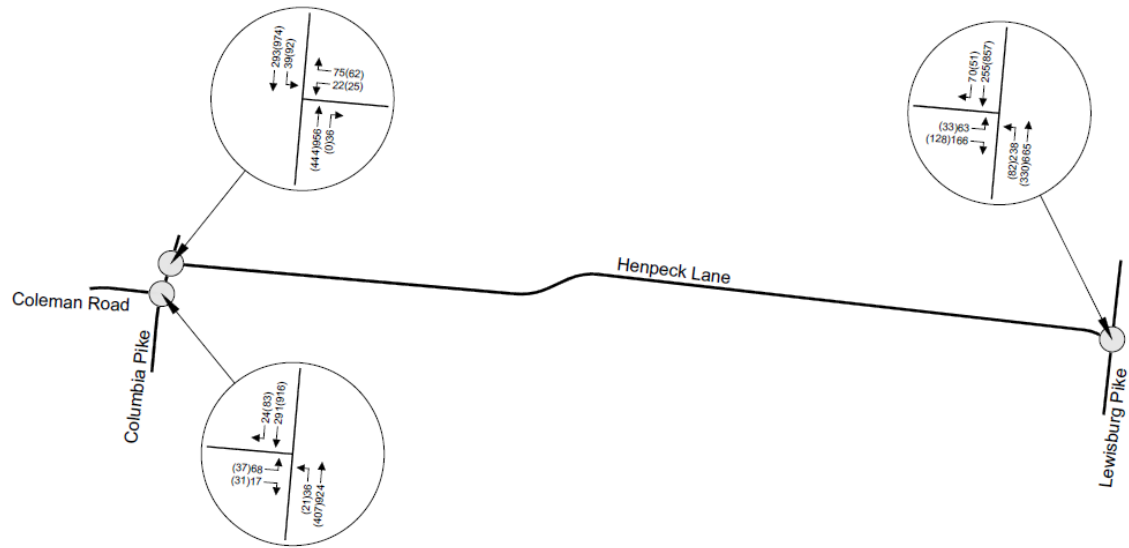






WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HENPECK CORRIDOR

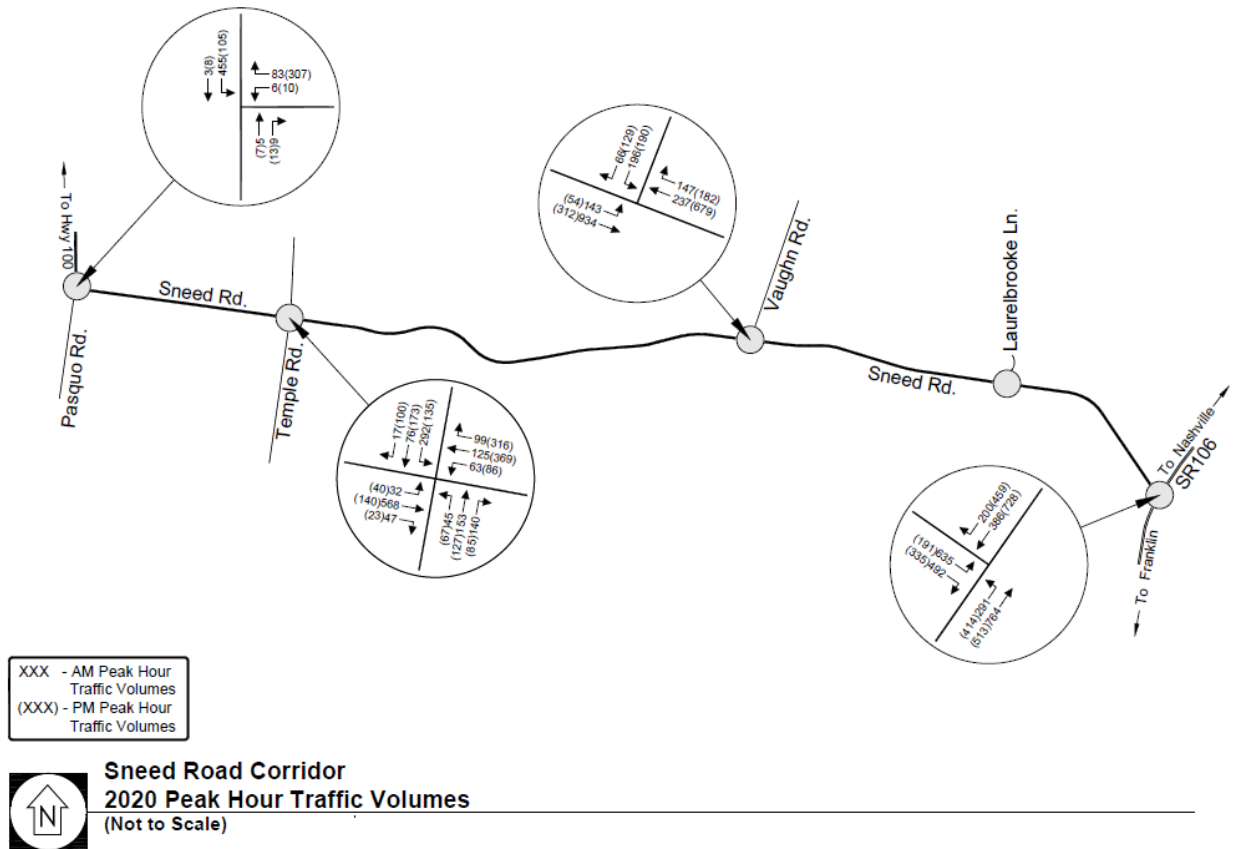


XXX - AM Peak Hour
Traffic Volumes
(XXX) - PM Peak Hour
Traffic Volumes

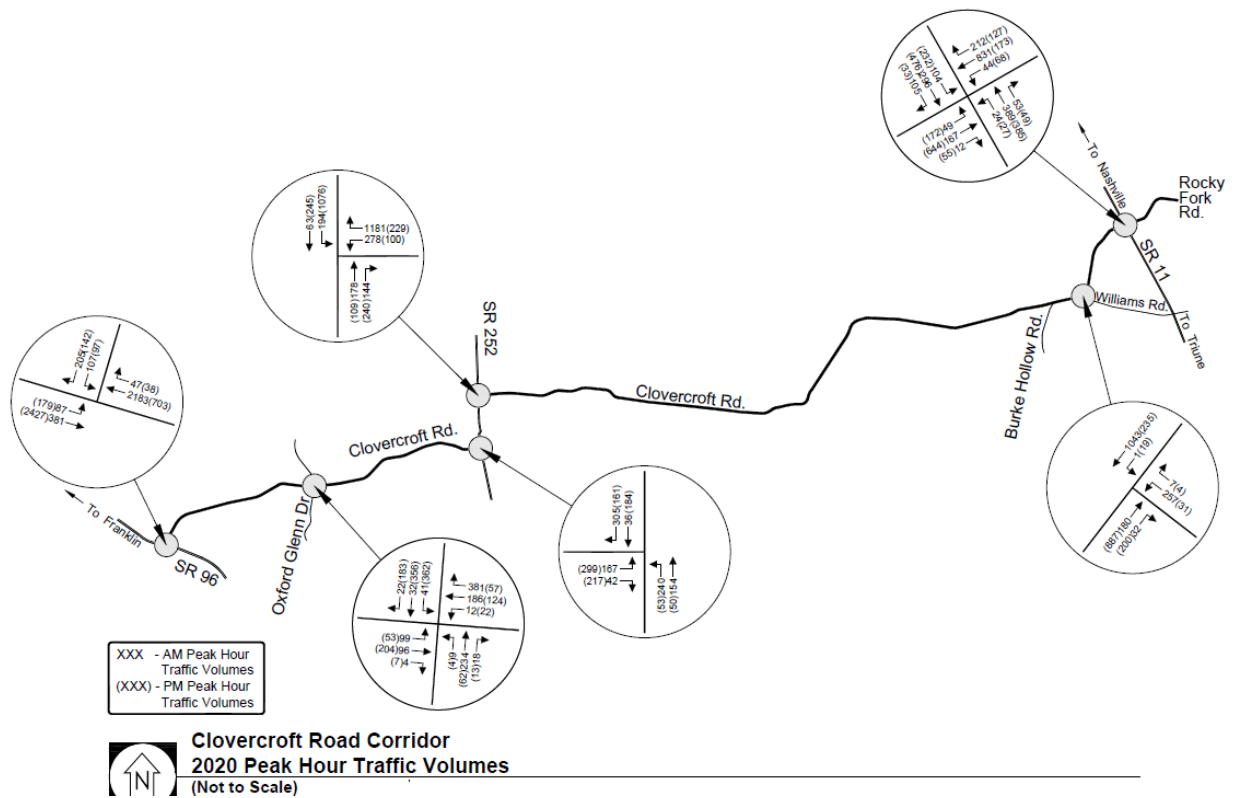


Henpeck Lane Corridor
Existing Peak Hour Traffic Volumes
(Not to Scale)

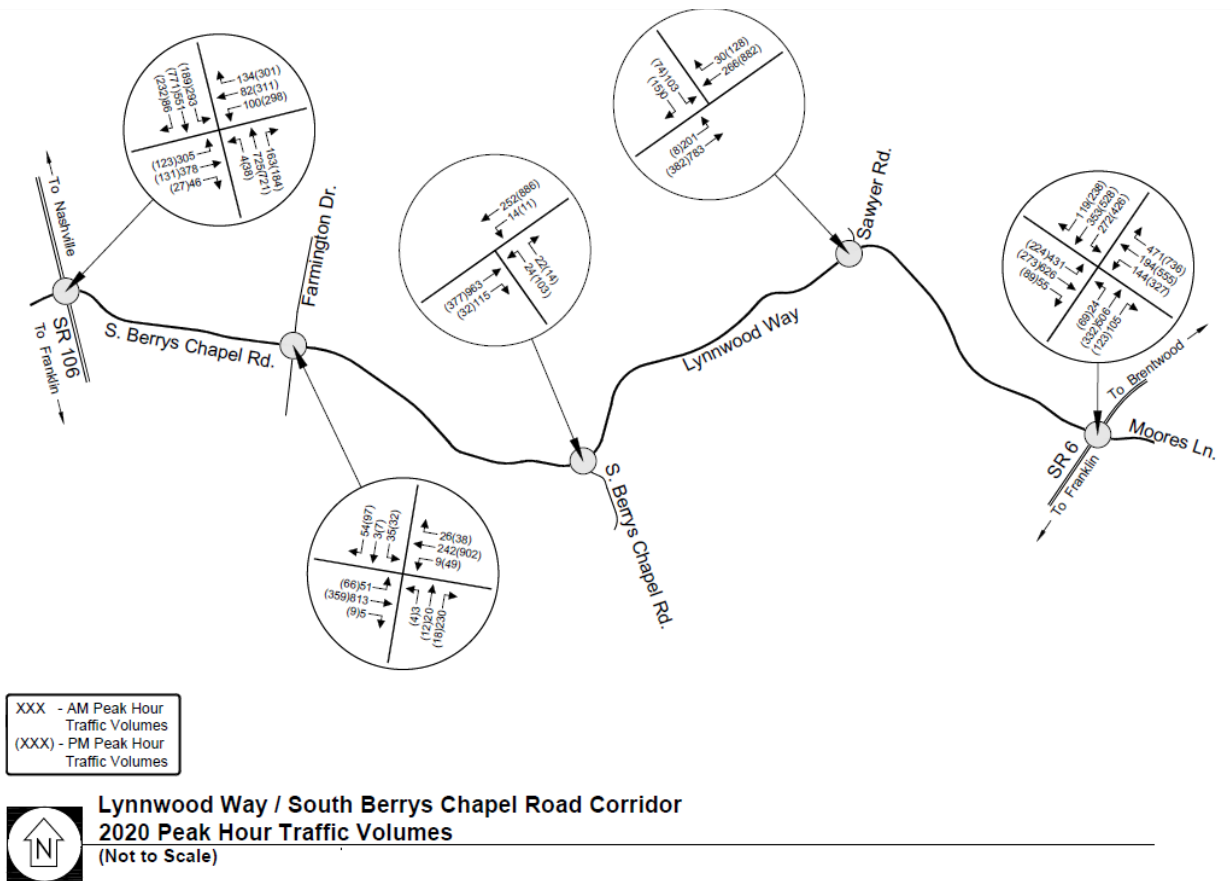
SNEED CORRIDOR



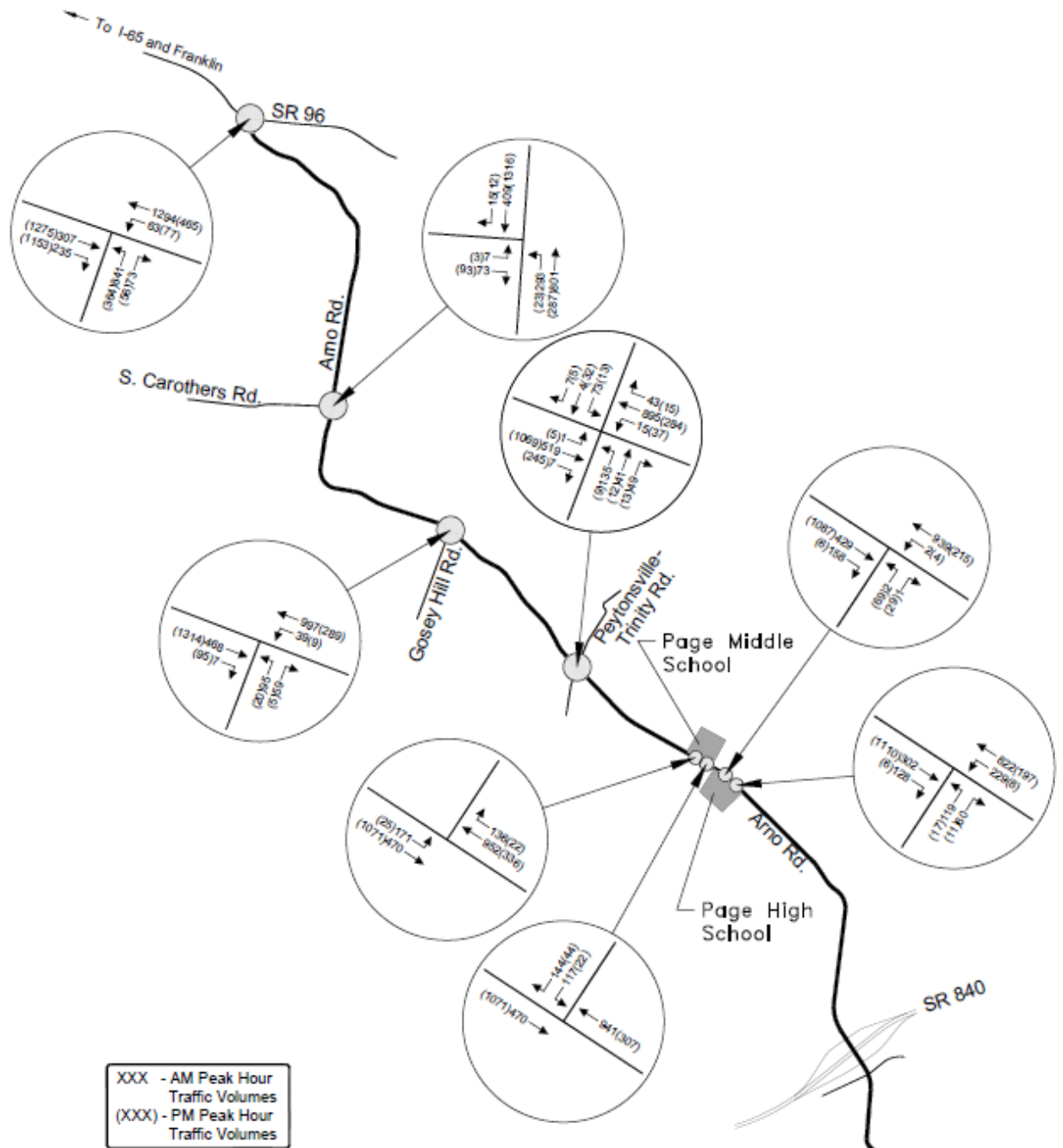
CLOVERCROFT CORRIDOR



LYNNWOOD CORRIDOR

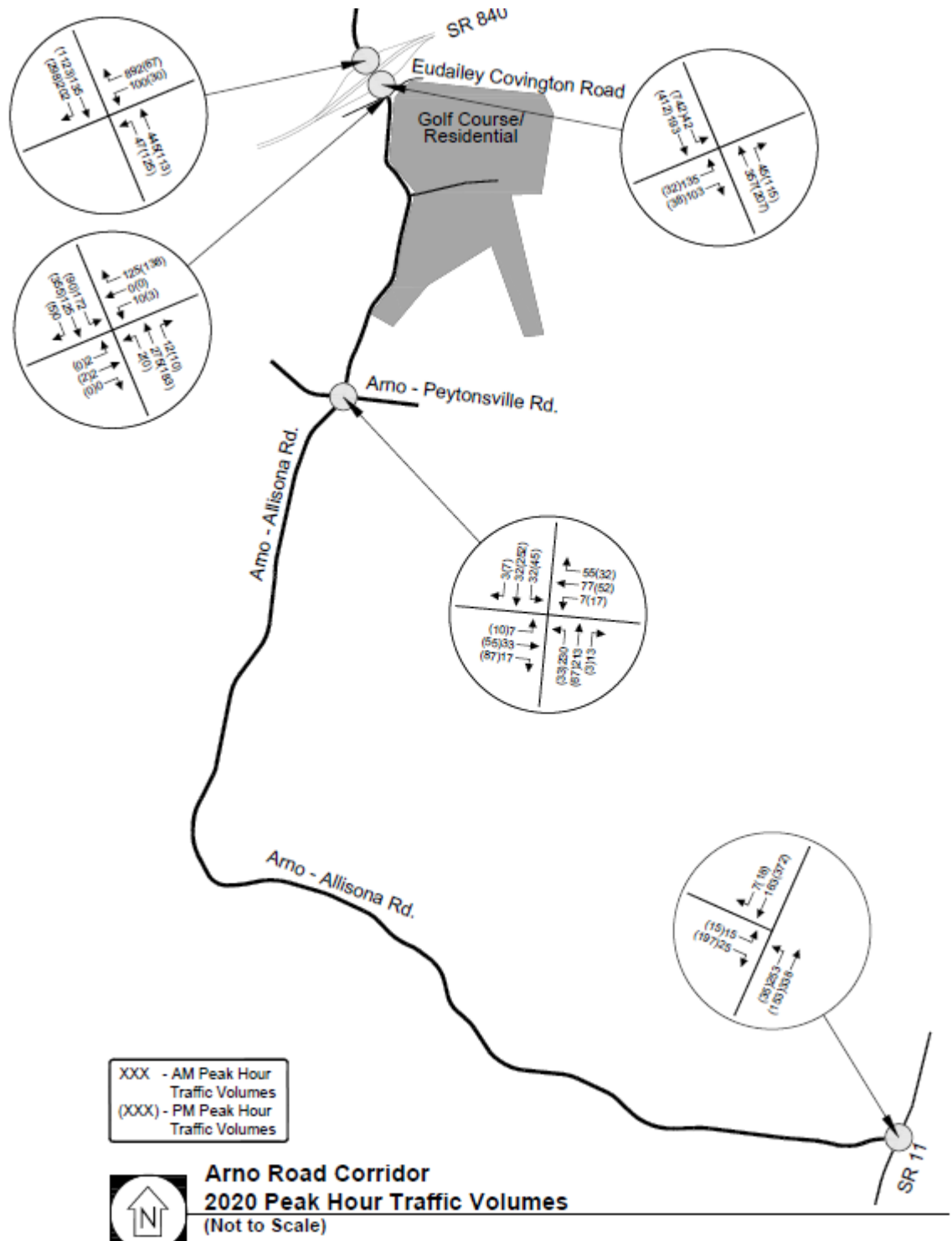


WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

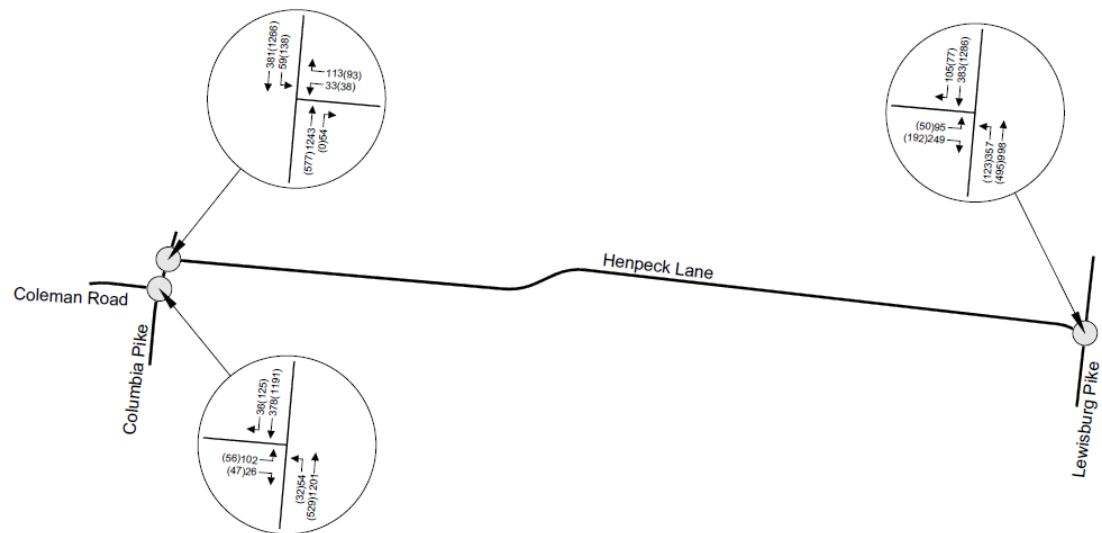


Arno Road Corridor
2020 Peak Hour Traffic Volumes
 (Not to Scale)

ARNO CORRIDOR (SOUTH)



HENPECK CORRIDOR

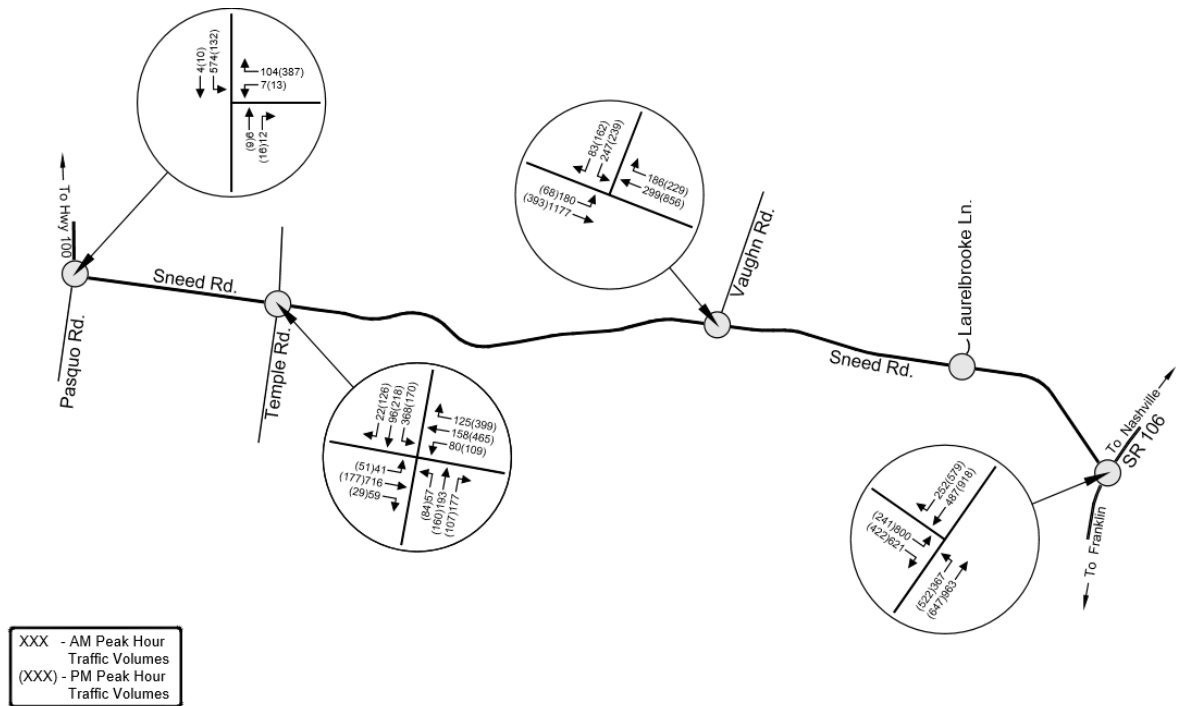


XXX - AM Peak Hour
Traffic Volumes
(XXX) - PM Peak Hour
Traffic Volumes



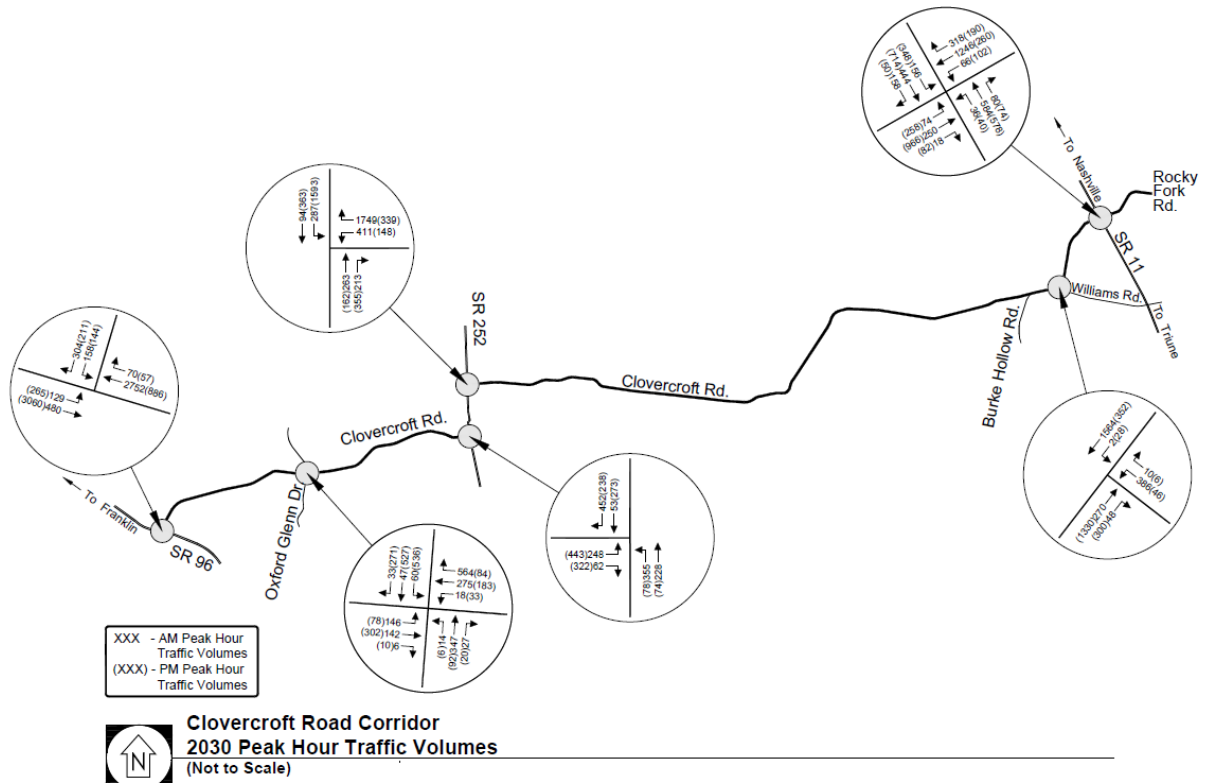
Henpeck Lane Corridor
2020 Peak Hour Traffic Volumes
(Not to Scale)

SNEED CORRIDOR

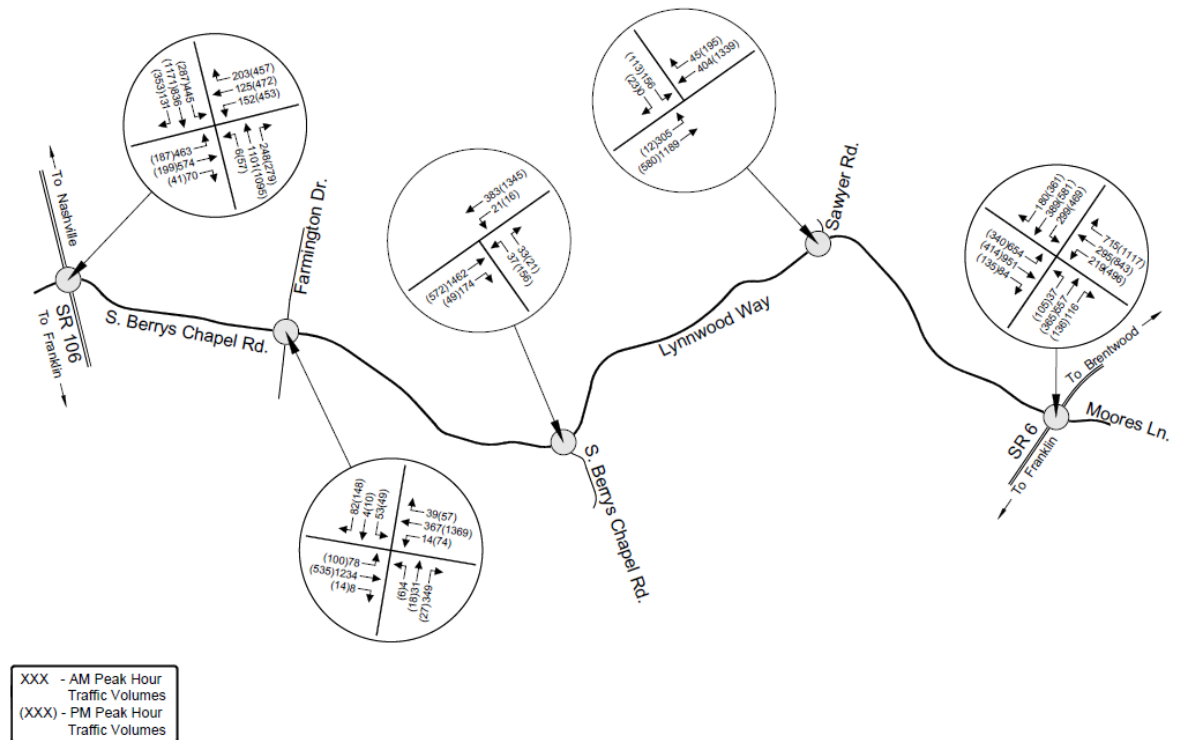


Sneed Road Corridor
2030 Peak Hour Traffic Volumes
 (Not to Scale)

CLOVERCROFT CORRIDOR



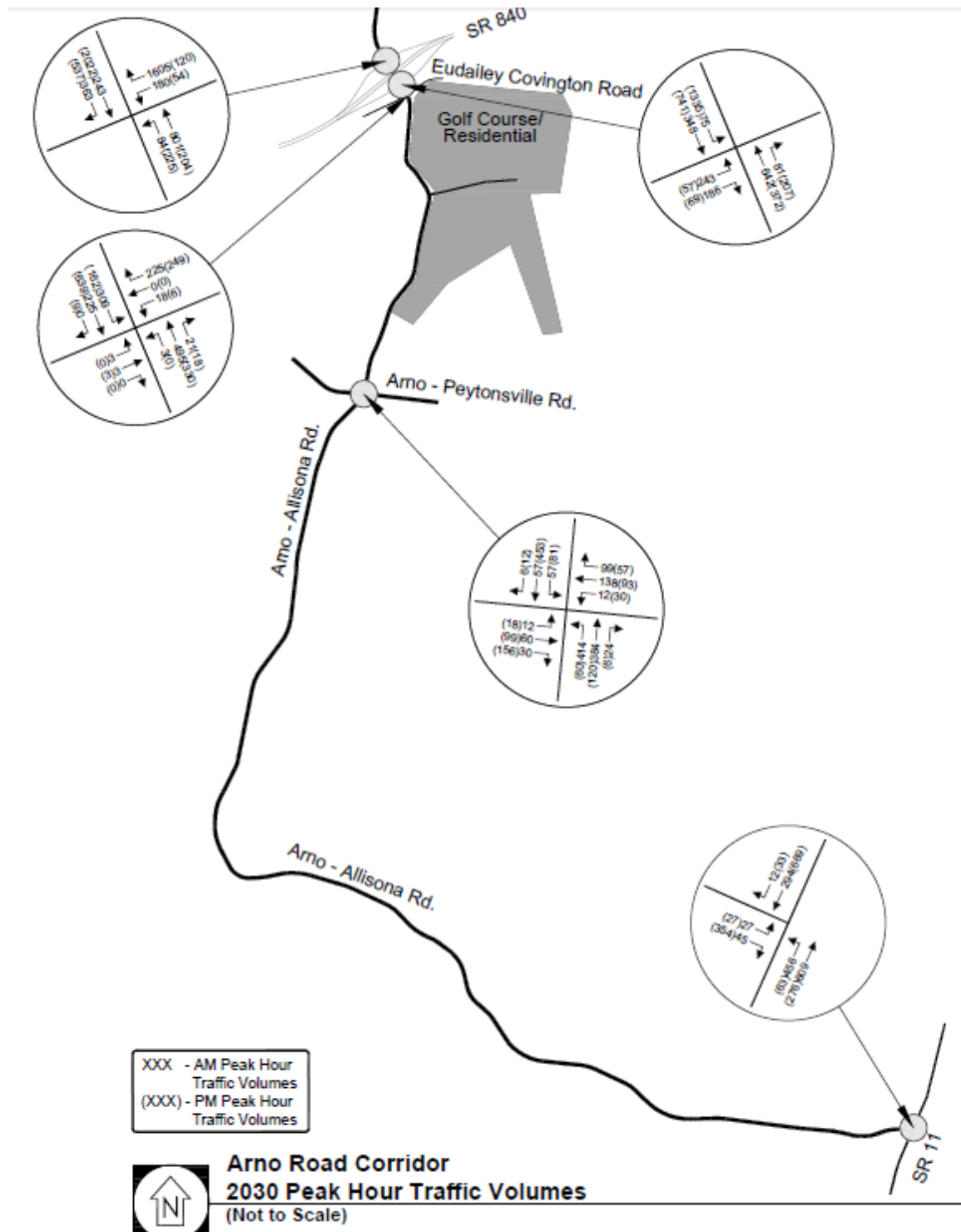
LYNNWOOD CORRIDOR



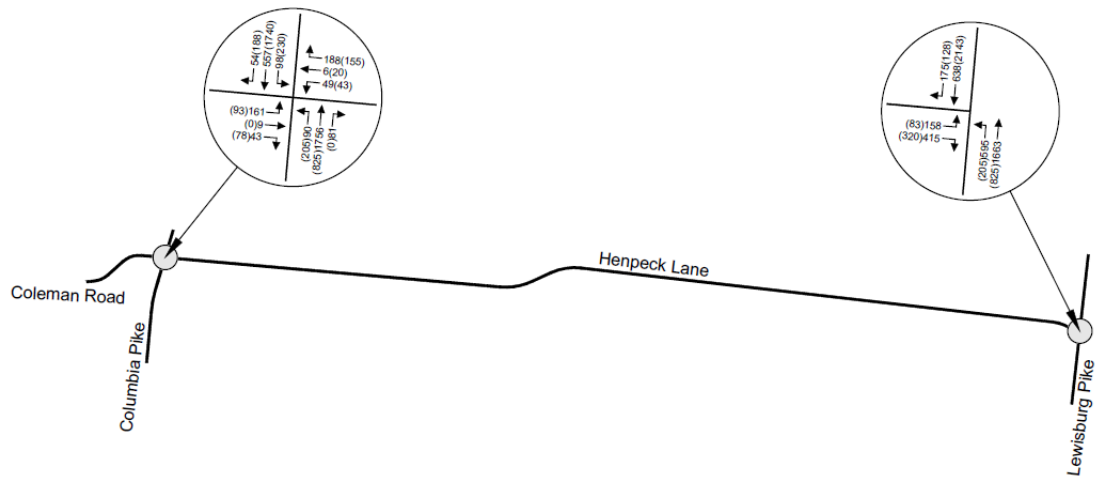
Lynnwood Way / South Berrys Chapel Road Corridor
2030 Peak Hour Traffic Volumes
 (Not to Scale)



ARNO CORRIDOR (SOUTH)



HENPECK CORRIDOR



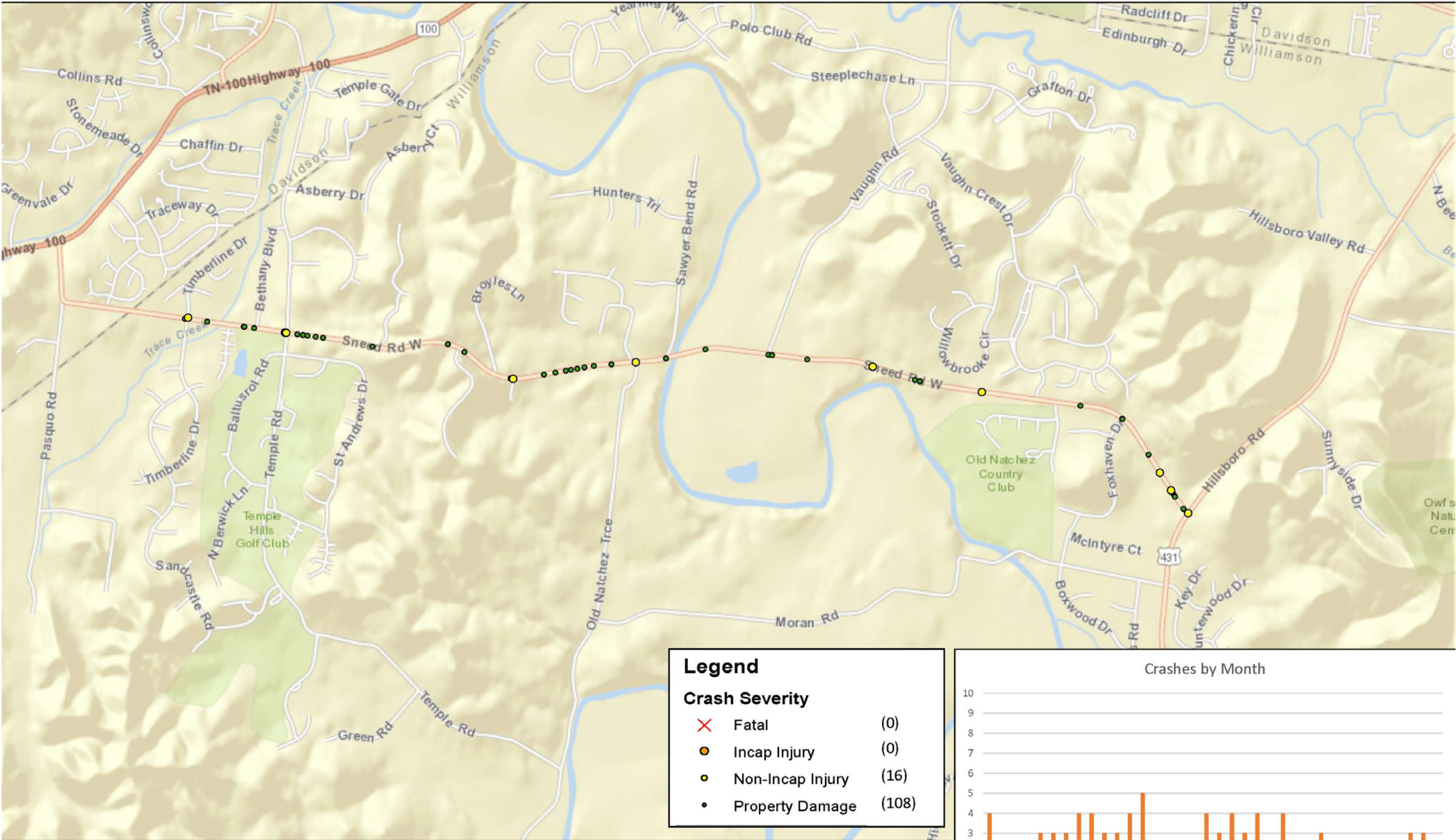
XXX - AM Peak Hour
Traffic Volumes
(XXX) - PM Peak Hour
Traffic Volumes



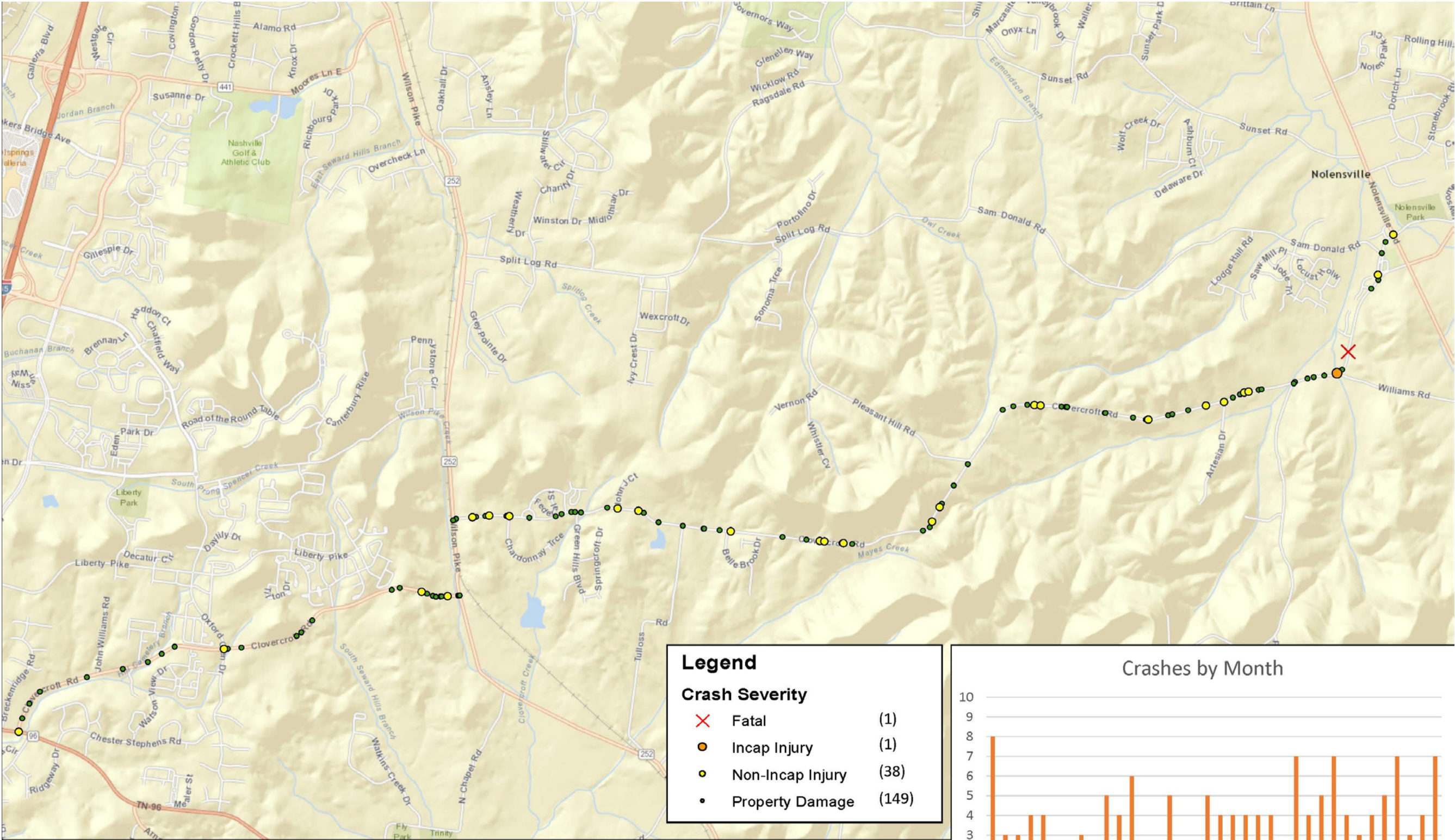
Henpeck Lane Corridor
2030 Peak Hour Traffic Volumes
(Not to Scale)

Appendix C

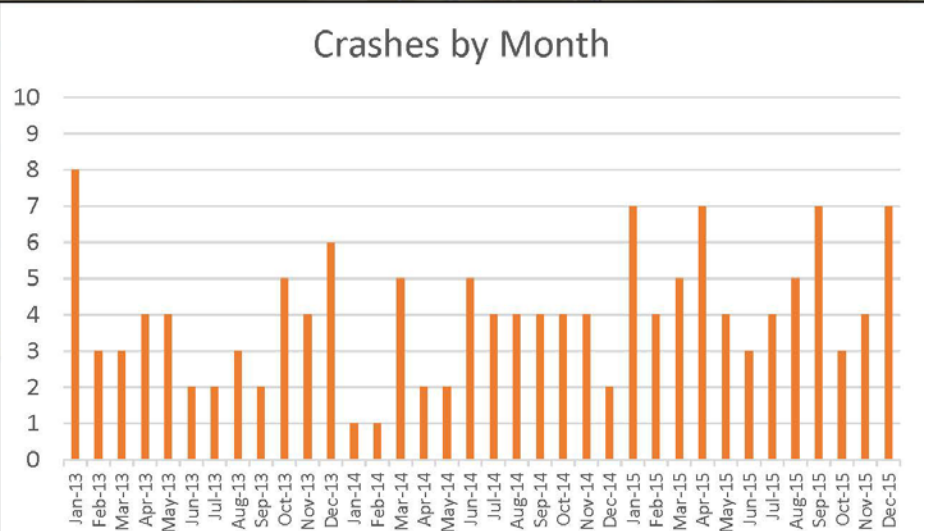
Crash Location Maps

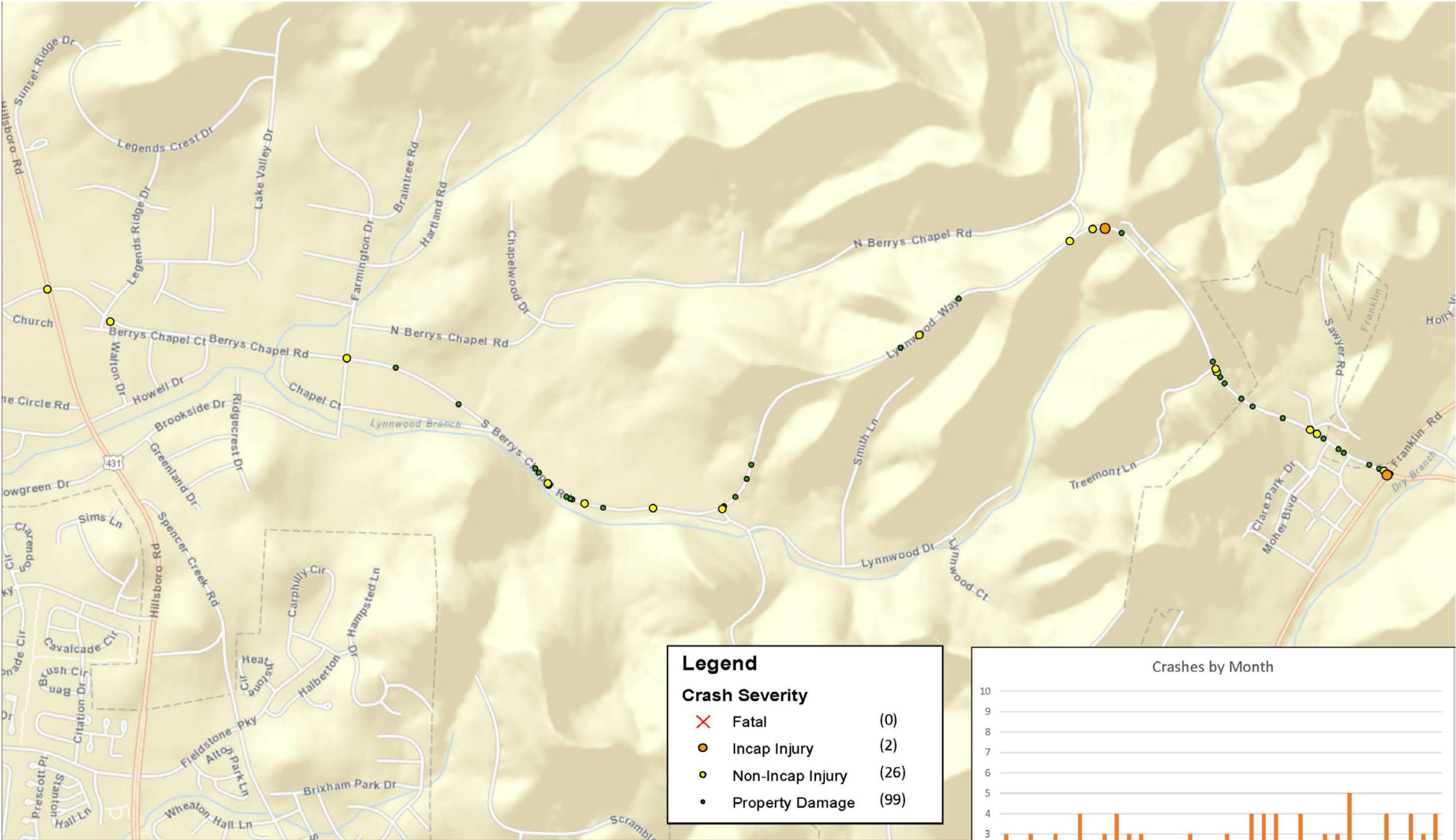


Sneed Corridor
2013-2015 Crash Data



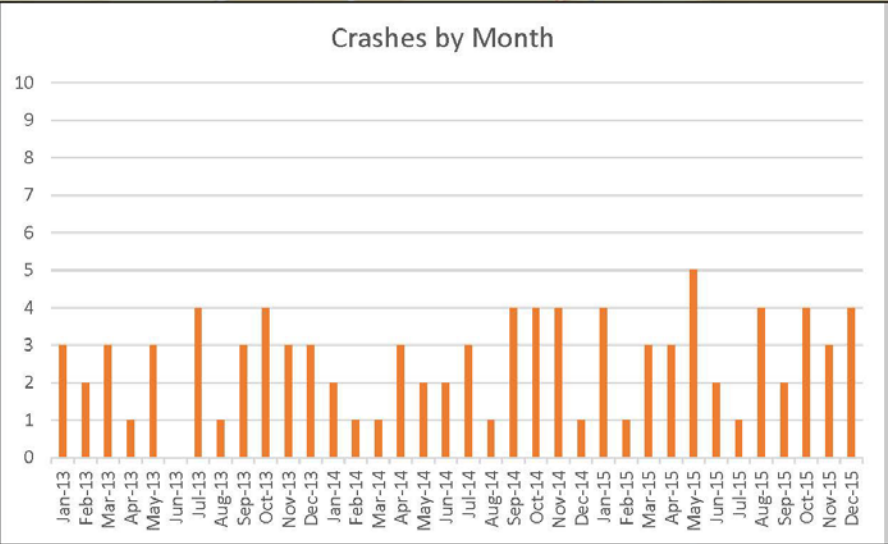
Clovercroft Corridor
2013-2015 Crash Data

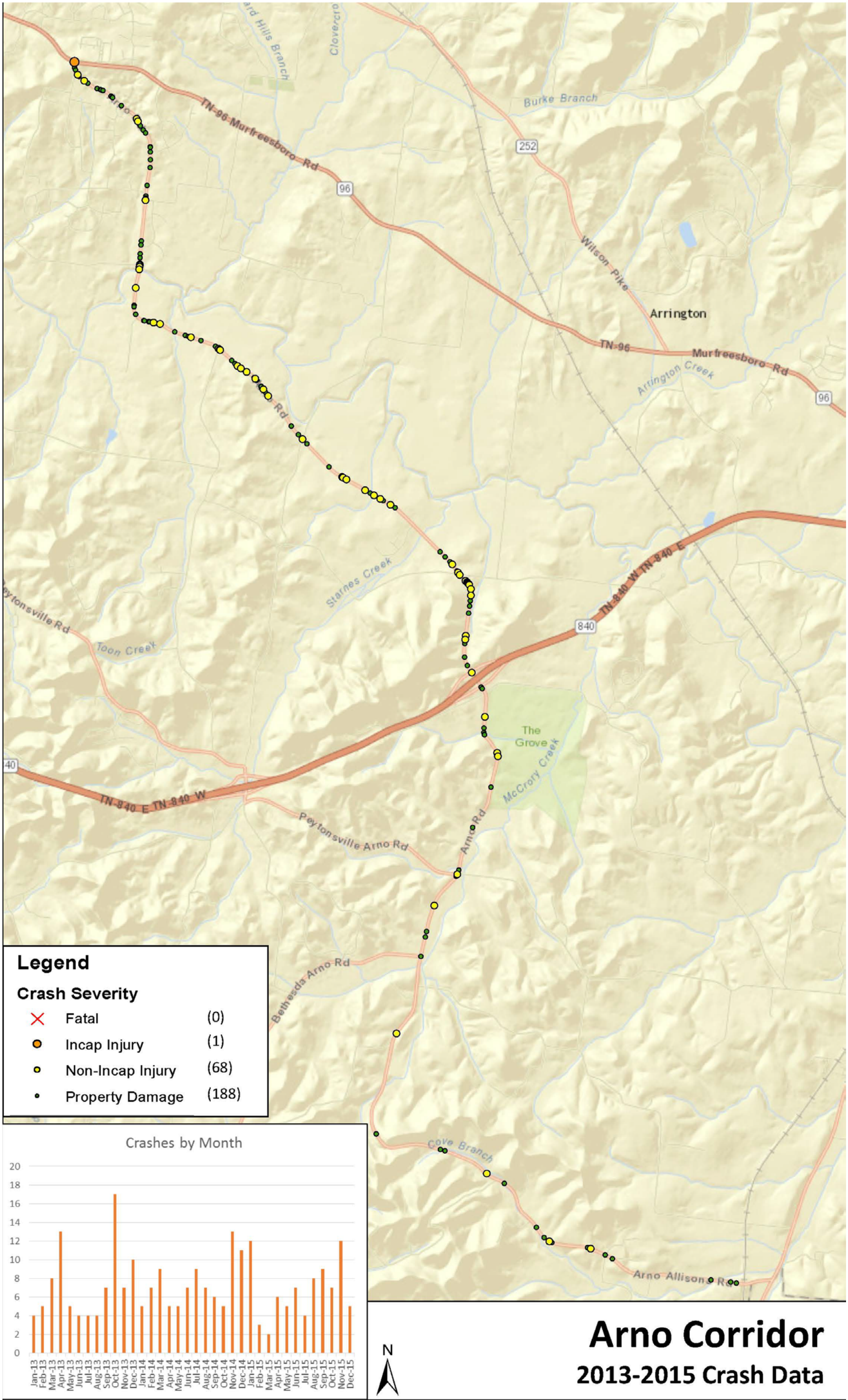




Lynnwood Way/Berrys Chapel Corridor

2013-2015 Crash Data





Appendix D

CAPACITY ANALYSIS OUTPUTS

EXISTING CAPACITY ANALYSIS OUTPUTS

SNEED CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
1: Pasquo Rd. & Sneed Rd.

Existing AM
Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	5	72	4	8	396	3
Future Vol, veh/h	5	72	4	8	396	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	77	4	9	426	3
Major/Minor	Major2	Minor1		Major1		
Conflicting Flow All	3	-	943	3	77	0
Stage 1	-	-	855	-	-	-
Stage 2	-	-	88	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	-	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	-	-
Pot Cap-1 Maneuver	1619	-	263	1081	-	-
Stage 1	-	-	375	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	0	1081	-	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0.5	8.4				
HCM LOS		A				
Minor Lane/Major Mvmt	NBLn1	WBL	WBR	SBL	SBT	
Capacity (veh/h)	1081	1619	-	-	-	
HCM Lane V/C Ratio	0.012	0.003	-	-	-	
HCM Control Delay (s)	8.4	7.2	-	-	-	
HCM Lane LOS	A	A	-	-	-	
HCM 95th %tile Q(veh)	0	0	-	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2: Temple Rd. & Sneed Rd.

Existing AM
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	494	41	55	109	86	39	133	122	254	66	15
Future Volume (veh/h)	28	494	41	55	109	86	39	133	122	254	66	15
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	31	543	45	60	120	95	43	146	134	279	73	16
Adj No. of Lanes	0	1	0	0	1	0	0	1	1	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	636	51	157	294	197	190	591	629	414	96	18
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	46	1634	132	203	756	506	281	1488	1583	760	242	46
Grp Volume(v), veh/h	619	0	0	275	0	0	189	0	134	368	0	0
Grp Sat Flow(s), veh/h/ln	1812	0	0	1465	0	0	1769	0	1583	1048	0	0
Q Serve(g_s), s	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	15.3	0.0	0.0
Cycle Q Clear(g_c), s	17.7	0.0	0.0	6.4	0.0	0.0	3.8	0.0	3.1	19.1	0.0	0.0
Prop In Lane	0.05		0.07	0.22		0.35	0.23		1.00	0.76		0.04
Lane Grp Cap(c), veh/h	773	0	0	648	0	0	781	0	629	529	0	0
V/C Ratio(X)	0.80	0.00	0.00	0.42	0.00	0.00	0.24	0.00	0.21	0.70	0.00	0.00
Avail Cap(c_a), veh/h	840	0	0	701	0	0	832	0	676	565	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.8	0.0	0.0	12.4	0.0	0.0	11.4	0.0	11.2	17.2	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.2	3.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	0.0	0.0	3.1	0.0	0.0	2.0	0.0	1.4	5.8	0.0	0.0
LnGrp Delay(d),s/veh	21.0	0.0	0.0	12.9	0.0	0.0	11.5	0.0	11.3	20.7	0.0	0.0
LnGrp LOS	C			B			B		B	C		
Approach Vol, veh/h	619			275			323			368		
Approach Delay, s/veh	21.0			12.9			11.4			20.7		
Approach LOS	C			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	27.9		28.3		27.9		28.3					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	24.0		24.0		24.0		24.0					
Max Q Clear Time (g_c+I1), s	19.7		21.1		8.4		5.8					
Green Ext Time (p_c), s	2.2		1.2		5.2		4.1					
Intersection Summary												
HCM 2010 Ctrl Delay				17.6								
HCM 2010 LOS				B								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 3: Sneed Rd. & Vaughn Rd.

Existing AM
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	124	812	206	128	170	57		
Future Volume (veh/h)	124	812	206	128	170	57		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	129	846	215	133	177	59		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	602	1027	594	368	353	315		
Arrive On Green	0.55	0.55	0.55	0.55	0.20	0.20		
Sat Flow, veh/h	1029	1863	1078	667	1774	1583		
Grp Volume(V), veh/h	129	846	0	348	177	59		
Grp Sat Flow(s),veh/h/ln	1029	1863	0	1745	1774	1583		
Q Serve(g_s), s	3.9	17.9	0.0	5.4	4.3	1.5		
Cycle Q Clear(g_c), s	9.2	17.9	0.0	5.4	4.3	1.5		
Prop In Lane	1.00			0.38	1.00	1.00		
Lane Grp Cap(c), veh/h	602	1027	0	962	353	315		
V/C Ratio(X)	0.21	0.82	0.00	0.36	0.50	0.19		
Avail Cap(c_a), veh/h	720	1240	0	1162	591	527		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.6	8.9	0.0	6.0	17.1	16.0		
Incr Delay (d2), s/veh	0.2	3.9	0.0	0.2	1.1	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	10.0	0.0	2.6	2.2	0.7		
LnGrp Delay(d),s/veh	8.8	12.8	0.0	6.3	18.2	16.3		
LnGrp LOS	A	B		A	B	B		
Approach Vol, veh/h	975		348	236				
Approach Delay, s/veh	12.3		6.3	17.7				
Approach LOS	B		A	B				
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		6			
Phs Duration (G+Y+Rc), s	32.5		15.6		32.5			
Change Period (Y+Rc), s	6.0		6.0		6.0			
Max Green Setting (Gmax), s	32.0		16.0		32.0			
Max Q Clear Time (g_c+I1), s	19.9		6.3		7.4			
Green Ext Time (p_c), s	6.5		0.5		9.7			
Intersection Summary								
HCM 2010 Ctrl Delay			11.8					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Hillsboro Rd. & Sneed Rd.

Existing AM
Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	552	428	253	664	336	174		
Future Volume (veh/h)	552	428	253	664	336	174		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	587	455	269	706	357	0		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	678	605	438	902	542	460		
Arrive On Green	0.38	0.38	0.13	0.48	0.29	0.00		
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583		
Grp Volume(v), veh/h	587	455	269	706	357	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583		
Q Serve(g_s), s	26.3	21.4	8.6	27.1	14.5	0.0		
Cycle Q Clear(g_c), s	26.3	21.4	8.6	27.1	14.5	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	678	605	438	902	542	460		
V/C Ratio(X)	0.87	0.75	0.61	0.78	0.66	0.00		
Avail Cap(c_a), veh/h	949	847	582	1354	843	716		
HCM Platoon Ratio	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	0.00		
Uniform Delay (d), s/veh	24.5	23.0	17.8	18.4	26.8	0.0		
Incr Delay (d2), s/veh	6.7	2.8	1.7	0.9	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	14.1	17.9	4.3	13.9	7.5	0.0		
LnGrp Delay(d),s/veh	31.2	25.8	19.5	19.3	27.3	0.0		
LnGrp LOS	C	C	B	B	C			
Approach Vol, veh/h	1042			975	357			
Approach Delay, s/veh	28.9			19.4	27.3			
Approach LOS	C			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.1		38.9	16.6	30.5		
Change Period (Y+Rc), s		5.5		6.0	5.5	5.5		
Max Green Setting (Gmax), s		62.5		46.0	18.1	38.9		
Max Q Clear Time (g_c+I1), s		29.1		28.3	10.6	16.5		
Green Ext Time (p_c), s		1.9		4.6	0.6	1.9		
Intersection Summary								
HCM 2010 Ctrl Delay			24.7					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

1: Pasquo Rd. & Sneed Rd.

Existing PM

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	9	267	6	11	91	7
Future Vol, veh/h	9	267	6	11	91	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	297	7	12	101	8
Major/Minor	Major2	Minor1		Major1		
Conflicting Flow All	8	-	527	8	297	0
Stage 1	-	-	210	-	-	-
Stage 2	-	-	317	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	-	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	-	-
Pot Cap-1 Maneuver	1612	-	456	1074	-	-
Stage 1	-	-	728	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1612	-	0	1074	-	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0.2	8.4				
HCM LOS		A				
Minor Lane/Major Mvmt	NBLn1	WBL	WBR	SBL	SBT	
Capacity (veh/h)	1074	1612	-	-	-	
HCM Lane V/C Ratio	0.018	0.006	-	-	-	
HCM Control Delay (s)	8.4	7.2	-	-	-	
HCM Lane LOS	A	A	-	-	-	
HCM 95th %tile Q(veh)	0.1	0	-	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2: Temple Rd. & Sneed Rd.

Existing PM
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	122	20	75	321	275	58	110	74	117	150	87
Future Volume (veh/h)	35	122	20	75	321	275	58	110	74	117	150	87
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		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	37	128	21	79	338	289	61	116	78	123	158	92
Adj No. of Lanes	0	1	0	0	1	0	0	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	509	75	134	387	308	220	374	509	216	234	117
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	179	1134	167	128	862	686	396	1161	1583	388	727	365
Grp Volume(v), veh/h	186	0	0	706	0	0	177	0	78	373	0	0
Grp Sat Flow(s), veh/h/ln	1480	0	0	1676	0	0	1557	0	1583	1480	0	0
Q Serve(g_s), s	0.0	0.0	0.0	13.7	0.0	0.0	0.0	0.0	1.8	8.4	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	0.0	20.9	0.0	0.0	3.7	0.0	1.8	12.1	0.0	0.0
Prop In Lane	0.20		0.11	0.11		0.41	0.34		1.00	0.33		0.25
Lane Grp Cap(c), veh/h	748	0	0	830	0	0	593	0	509	568	0	0
V/C Ratio(X)	0.25	0.00	0.00	0.85	0.00	0.00	0.30	0.00	0.15	0.66	0.00	0.00
Avail Cap(c_a), veh/h	760	0	0	843	0	0	800	0	725	773	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.8	0.0	0.0	13.6	0.0	0.0	13.3	0.0	12.7	16.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	8.2	0.0	0.0	0.3	0.0	0.1	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	11.5	0.0	0.0	2.0	0.0	0.8	5.1	0.0	0.0
LnGrp Delay(d),s/veh	9.0	0.0	0.0	21.8	0.0	0.0	13.6	0.0	12.8	17.5	0.0	0.0
LnGrp LOS	A			C			B		B	B		
Approach Vol, veh/h	186			706			255			373		
Approach Delay, s/veh	9.0			21.8			13.4			17.5		
Approach LOS	A			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	29.6		22.9		29.6		22.9					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	24.0		24.0		24.0		24.0					
Max Q Clear Time (g_c+I1), s	5.3		14.1		22.9		5.7					
Green Ext Time (p_c), s	6.0		2.8		0.6		3.7					
Intersection Summary												
HCM 2010 Ctrl Delay				17.8								
HCM 2010 LOS				B								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 3: Sneed Rd. & Vaughn Rd.

Existing PM
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	47	271	590	158	165	112		
Future Volume (veh/h)	47	271	590	158	165	112		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	52	301	656	176	183	124		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	271	1059	805	216	345	308		
Arrive On Green	0.57	0.57	0.57	0.57	0.19	0.19		
Sat Flow, veh/h	657	1863	1416	380	1774	1583		
Grp Volume(V), veh/h	52	301	0	832	183	124		
Grp Sat Flow(s),veh/h/ln	657	1863	0	1796	1774	1583		
Q Serve(g_s), s	3.5	4.2	0.0	18.9	4.7	3.5		
Cycle Q Clear(g_c), s	22.4	4.2	0.0	18.9	4.7	3.5		
Prop In Lane	1.00			0.21	1.00	1.00		
Lane Grp Cap(c), veh/h	271	1059	0	1021	345	308		
V/C Ratio(X)	0.19	0.28	0.00	0.81	0.53	0.40		
Avail Cap(c_a), veh/h	312	1176	0	1134	560	500		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	17.8	5.6	0.0	8.8	18.3	17.8		
Incr Delay (d2), s/veh	0.3	0.1	0.0	4.3	1.3	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	2.1	0.0	10.2	2.4	1.6		
LnGrp Delay(d),s/veh	18.1	5.8	0.0	13.1	19.6	18.7		
LnGrp LOS	B	A		B	B	B		
Approach Vol, veh/h	353		832		307			
Approach Delay, s/veh	7.6		13.1		19.2			
Approach LOS	A		B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		6			
Phs Duration (G+Y+Rc), s	34.8		15.9		34.8			
Change Period (Y+Rc), s	6.0		6.0		6.0			
Max Green Setting (Gmax), s	32.0		16.0		32.0			
Max Q Clear Time (g_c+I1), s	24.4		6.7		20.9			
Green Ext Time (p_c), s	4.4		0.6		5.8			
Intersection Summary								
HCM 2010 Ctrl Delay	13.1							
HCM 2010 LOS	B							

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Hillsboro Rd. & Sneed Rd.

Existing PM
Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	166	291	360	446	633	399		
Future Volume (veh/h)	166	291	360	446	633	399		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	171	300	371	460	653	0		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	389	347	432	1165	719	611		
Arrive On Green	0.22	0.22	0.16	0.63	0.39	0.00		
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583		
Grp Volume(v), veh/h	171	300	371	460	653	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583		
Q Serve(g_s), s	6.2	13.5	9.0	9.1	24.5	0.0		
Cycle Q Clear(g_c), s	6.2	13.5	9.0	9.1	24.5	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	389	347	432	1165	719	611		
V/C Ratio(X)	0.44	0.86	0.86	0.39	0.91	0.00		
Avail Cap(c_a), veh/h	456	407	752	2256	1474	1253		
HCM Platoon Ratio	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	0.00		
Uniform Delay (d), s/veh	24.9	27.8	15.9	6.9	21.5	0.0		
Incr Delay (d2), s/veh	0.9	16.0	6.0	0.1	1.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.1	12.4	7.9	4.6	12.9	0.0		
LnGrp Delay(d),s/veh	25.9	43.8	21.9	7.0	23.4	0.0		
LnGrp LOS	C	D	C	A	C			
Approach Vol, veh/h	471			831	653			
Approach Delay, s/veh	37.3			13.6	23.4			
Approach LOS	D			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		51.7		22.2	17.7	34.0		
Change Period (Y+Rc), s		5.5		6.0	5.5	5.5		
Max Green Setting (Gmax), s		89.5		19.0	25.5	58.5		
Max Q Clear Time (g_c+I1), s		11.1		15.5	11.0	26.5		
Green Ext Time (p_c), s		2.0		0.7	1.2	2.0		
Intersection Summary								
HCM 2010 Ctrl Delay			22.6					
HCM 2010 LOS			C					

CLOVERCROFT CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Murfreesboro Rd. & Clovercroft Rd.

Existing AM
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	66	331	1898	36	81	156		
Future Volume (veh/h)	66	331	1898	36	81	156		
Number	1	6	2	12	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	72	360	2063	39	88	170		
Adj No. of Lanes	1	2	2	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	176	2556	2243	42	235	210		
Arrive On Green	0.04	0.72	0.63	0.63	0.13	0.13		
Sat Flow, veh/h	1774	3632	3647	67	1774	1583		
Grp Volume(v), veh/h	72	360	1024	1078	88	170		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1851	1774	1583		
Q Serve(g_s), s	1.2	3.0	48.8	49.6	4.4	10.1		
Cycle Q Clear(g_c), s	1.2	3.0	48.8	49.6	4.4	10.1		
Prop In Lane	1.00			0.04	1.00	1.00		
Lane Grp Cap(c), veh/h	176	2556	1117	1168	235	210		
V/C Ratio(X)	0.41	0.14	0.92	0.92	0.37	0.81		
Avail Cap(c_a), veh/h	466	3103	1117	1168	368	329		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(f)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	23.3	4.1	15.6	15.7	38.2	40.6		
Incr Delay (d2), s/veh	1.1	0.1	12.2	12.4	1.4	10.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	1.5	27.4	28.9	2.2	5.0		
LnGrp Delay(d),s/veh	24.5	4.2	27.8	28.1	39.6	51.4		
LnGrp LOS	C	A	C	C	D	D		
Approach Vol, veh/h		432	2102		258			
Approach Delay, s/veh		7.6	27.9		47.4			
Approach LOS		A	C		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	8.8	68.3		19.3		77.1		
Change Period (Y+Rc), s	4.5	7.5		6.5		7.5		
Max Green Setting (Gmax), s	20.0	60.0		20.0		84.5		
Max Q Clear Time (g_c+I1), s	3.2	51.6		12.1		5.0		
Green Ext Time (p_c), s	0.1	8.3		0.7		64.6		
Intersection Summary								
HCM 2010 Ctrl Delay			26.6					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2: Oxford Glen Rd. & Clovercroft Rd.

Existing AM
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	73	3	9	141	289	7	178	14	31	24	17
Future Volume (veh/h)	75	73	3	9	141	289	7	178	14	31	24	17
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		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	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	91	89	4	11	172	352	9	217	17	38	29	21
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	760	34	661	235	481	81	560	43	365	250	527
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	875	1769	80	1298	547	1119	22	1682	128	761	749	1583
Grp Volume(v), veh/h	91	0	93	11	0	524	243	0	0	67	0	21
Grp Sat Flow(s),veh/h/ln	875	0	1849	1298	0	1665	1832	0	0	1510	0	1583
Q Serve(g_s), s	4.9	0.0	1.5	0.3	0.0	13.2	0.0	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s	18.1	0.0	1.5	1.8	0.0	13.2	5.1	0.0	0.0	1.3	0.0	0.5
Prop In Lane	1.00		0.04	1.00		0.67	0.04		0.07	0.57		1.00
Lane Grp Cap(c), veh/h	289	0	794	661	0	715	684	0	0	615	0	527
V/C Ratio(X)	0.31	0.00	0.12	0.02	0.00	0.73	0.36	0.00	0.00	0.11	0.00	0.04
Avail Cap(c_a), veh/h	329	0	878	719	0	791	1300	0	0	1080	0	1065
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(f)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	8.7	9.2	0.0	12.0	13.0	0.0	0.0	11.7	0.0	11.4
Incr Delay (d2), s/veh	0.6	0.0	0.1	0.0	0.0	3.2	0.3	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.8	0.1	0.0	6.6	2.6	0.0	0.0	0.7	0.0	0.2
LnGrp Delay(d),s/veh	20.2	0.0	8.7	9.2	0.0	15.2	13.3	0.0	0.0	11.7	0.0	11.4
LnGrp LOS	C		A	A		B	B			B		B
Approach Vol, veh/h	184			535				243			88	
Approach Delay, s/veh	14.4			15.0				13.3			11.7	
Approach LOS	B			B				B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	27.7		22.8		27.7		22.8					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	24.0		34.0		24.0		34.0					
Max Q Clear Time (g_c+11), s	20.1		3.3		15.2		7.1					
Green Ext Time (p_c), s	1.6		2.1		2.9		2.1					
Intersection Summary												
HCM 2010 Ctrl Delay				14.2								
HCM 2010 LOS				B								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
3: Wilson Pk. & Clovercroft Rd.

Existing AM
Williamson County Corridor Study

Intersection						
Int Delay, s/veh	7.1					
Movement	EBL	EBR	NBL	NBT	SBT	SEB
Traffic Vol, veh/h	127	32	182	117	27	232
Future Vol, veh/h	127	32	182	117	27	232
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	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	143	36	204	131	30	261
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	701	161	291	0	-	0
Stage 1	161	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	405	884	1271	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	335	884	1271	-	-	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	22.4	5.1		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SEB	
Capacity (veh/h)	1271	-	383	-	-	
HCM Lane V/C Ratio	0.161	-	0.466	-	-	
HCM Control Delay (s)	8.4	0	22.4	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.6	-	2.4	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Wilson Pk. & Clovercroft Rd.

Existing AM
Williamson County Corridor Study

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	211	897	135	109	147	48		
Future Volume (veh/h)	211	897	135	109	147	48		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	234	997	150	121	163	53		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	552	800	194	157	545	921		
Arrive On Green	0.31	0.31	0.20	0.20	0.19	0.49		
Sat Flow, veh/h	1774	1583	956	771	1774	1863		
Grp Volume(V), veh/h	234	997	0	271	163	53		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1727	1774	1863		
Q Serve(g_s), s	5.4	16.0	0.0	7.6	2.9	0.8		
Cycle Q Clear(g_c), s	5.4	16.0	0.0	7.6	2.9	0.8		
Prop In Lane	1.00	1.00		0.45	1.00			
Lane Grp Cap(c), veh/h	552	800	0	351	545	921		
V/C Ratio(X)	0.42	1.25	0.00	0.77	0.30	0.06		
Avail Cap(c_a), veh/h	552	800	0	537	649	1231		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.1	12.7	0.0	19.4	10.1	6.8		
Incr Delay (d2), s/veh	0.5	121.1	0.0	3.8	0.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.7	37.9	0.0	4.0	1.4	0.4		
LnGrp Delay(d),s/veh	14.6	133.9	0.0	23.1	10.4	6.8		
LnGrp LOS	B	F		C	B	A		
Approach Vol, veh/h	1231		271		216			
Approach Delay, s/veh	111.2		23.1		9.5			
Approach LOS	F		C		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	15.5				30.5		21.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	13.0	16.0				34.0		16.0
Max Q Clear Time (g_c+I1), s	4.9	9.6				2.8		18.0
Green Ext Time (p_c), s	0.2	0.9				1.9		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			84.5					
HCM 2010 LOS			F					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

5: Williams Rd. & Clovercroft Rd.

Existing AM

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	9.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	135	24	1	782	193	5
Future Vol, veh/h	135	24	1	782	193	5
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	147	26	1	850	210	5
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	1012	160
Stage 1	-	-	-	-	160	-
Stage 2	-	-	-	-	852	-
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	-	-	1404	-	265	885
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	418	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1404	-	265	885
Mov Cap-2 Maneuver	-	-	-	-	265	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	418	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		55.5	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	270	-	-	1404	-	
HCM Lane V/C Ratio	0.797	-	-	0.001	-	
HCM Control Delay (s)	55.5	-	-	7.6	0	
HCM Lane LOS	F	-	-	A	A	
HCM 95th %tile Q(veh)	6.2	-	-	0	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Murfreesboro Rd. & Clovercroft Rd.

Existing PM
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	136	2110	611	29	74	108		
Future Volume (veh/h)	136	2110	611	29	74	108		
Number	1	6	2	12	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	145	2245	650	31	79	115		
Adj No. of Lanes	1	2	2	0	1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	611	2727	2339	111	169	151		
Arrive On Green	0.05	0.77	0.68	0.68	0.10	0.10		
Sat Flow, veh/h	1774	3632	3533	164	1774	1583		
Grp Volume(V), veh/h	145	2245	334	347	79	115		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1834	1774	1583		
Q Serve(g_s), s	2.4	41.6	7.8	7.8	4.4	7.4		
Cycle Q Clear(g_c), s	2.4	41.6	7.8	7.8	4.4	7.4		
Prop In Lane	1.00			0.09	1.00	1.00		
Lane Grp Cap(c), veh/h	611	2727	1204	1247	169	151		
V/C Ratio(X)	0.24	0.82	0.28	0.28	0.47	0.76		
Avail Cap(c_a), veh/h	867	2866	1204	1247	340	303		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	4.2	7.5	6.6	6.6	44.7	46.0		
Incr Delay (d2), s/veh	0.1	2.3	0.3	0.3	2.8	10.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	20.5	3.8	3.9	2.3	3.7		
LnGrp Delay(d),s/veh	4.4	9.8	6.8	6.8	47.5	56.7		
LnGrp LOS	A	A	A	A	D	E		
Approach Vol, veh/h	2390		681		194			
Approach Delay, s/veh	9.5		6.8		52.9			
Approach LOS	A		A		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	9.4	78.5		16.5		87.9		
Change Period (Y+Rc), s	4.5	7.5		6.5		7.5		
Max Green Setting (Gmax), s	20.0	60.0		20.0		84.5		
Max Q Clear Time (g_c+I1), s	4.4	9.8		9.4		43.6		
Green Ext Time (p_c), s	0.2	48.4		0.6		36.8		
Intersection Summary								
HCM 2010 Ctrl Delay	11.5							
HCM 2010 LOS	B							

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2: Oxford Glen Rd. & Clovercroft Rd.

Existing PM
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	155	5	17	94	43	3	47	10	275	270	139
Future Volume (veh/h)	40	155	5	17	94	43	3	47	10	275	270	139
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		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	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	43	165	5	18	100	46	3	50	11	293	287	148
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	586	734	22	569	493	227	83	508	107	621	402	207
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1237	1799	55	1210	1209	556	18	1465	308	1336	1159	598
Grp Volume(v), veh/h	43	0	170	18	0	146	64	0	0	293	0	435
Grp Sat Flow(s),veh/h/ln	1237	0	1863	1210	0	1765	1791	0	0	1336	0	1757
Q Serve(g_s), s	1.1	0.0	2.9	0.5	0.0	2.6	0.0	0.0	0.0	7.3	0.0	10.5
Cycle Q Clear(g_c), s	3.8	0.0	2.9	3.4	0.0	2.6	1.2	0.0	0.0	8.5	0.0	10.5
Prop In Lane	1.00		0.03	1.00		0.32	0.05		0.17	1.00		0.34
Lane Grp Cap(c), veh/h	586	0	756	569	0	720	698	0	0	621	0	610
V/C Ratio(X)	0.07	0.00	0.22	0.03	0.00	0.20	0.09	0.00	0.00	0.47	0.00	0.71
Avail Cap(c_a), veh/h	687	0	908	667	0	864	1299	0	0	1084	0	1219
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.6	0.0	9.4	10.6	0.0	9.4	10.8	0.0	0.0	13.1	0.0	13.9
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.6	0.0	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(50%),veh/ln	0.4	0.0	1.5	0.2	0.0	1.3	0.6	0.0	0.0	3.4	0.0	5.3
LnGrp Delay(d),s/veh	10.6	0.0	9.6	10.6	0.0	9.5	10.9	0.0	0.0	13.7	0.0	15.5
LnGrp LOS	B		A	B		A	B			B		B
Approach Vol, veh/h	213			164			64			728		
Approach Delay, s/veh	9.8			9.6			10.9			14.7		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	26.0		23.0		26.0		23.0					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	24.0		34.0		24.0		34.0					
Max Q Clear Time (g_c+I1), s	5.8		12.5		5.4		3.2					
Green Ext Time (p_c), s	1.7		4.5		1.8		4.8					
Intersection Summary												
HCM 2010 Ctrl Delay				12.9								
HCM 2010 LOS				B								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

3: Wilson Pk. & Clovercroft Rd.

Existing PM

Williamson County Corridor Study

Intersection							
Int Delay, s/veh	10.5						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	227	165	40	38	140	122	
Future Vol, veh/h	227	165	40	38	140	122	
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	90	90	90	90	90	90	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	252	183	44	42	156	136	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	354	223	291	0	-	0	
Stage 1	223	-	-	-	-	-	
Stage 2	131	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	644	817	1271	-	-	-	
Stage 1	814	-	-	-	-	-	
Stage 2	895	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	621	817	1271	-	-	-	
Mov Cap-2 Maneuver	621	-	-	-	-	-	
Stage 1	814	-	-	-	-	-	
Stage 2	864	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	18.7	4.1		0			
HCM LOS	C						
Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR			
Capacity (veh/h)	1271	- 691	-	-			
HCM Lane V/C Ratio	0.035	- 0.63	-	-			
HCM Control Delay (s)	7.9	0 18.7	-	-			
HCM Lane LOS	A	A C	-	-			
HCM 95th %tile Q(veh)	0.1	- 4.5	-	-			

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Wilson Pk. & Clovercroft Rd.

Existing PM
Williamson County Corridor Study

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	76	174	83	182	817	186		
Future Volume (veh/h)	76	174	83	182	817	186		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	80	183	87	192	860	196		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	189	867	94	207	930	1327		
Arrive On Green	0.11	0.11	0.18	0.18	0.44	0.71		
Sat Flow, veh/h	1774	1583	518	1143	1774	1863		
Grp Volume(v), veh/h	80	183	0	279	860	196		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1661	1774	1863		
Q Serve(g_s), s	2.3	3.3	0.0	9.1	20.2	1.9		
Cycle Q Clear(g_c), s	2.3	3.3	0.0	9.1	20.2	1.9		
Prop In Lane	1.00	1.00		0.69	1.00			
Lane Grp Cap(c), veh/h	189	867	0	301	930	1327		
V/C Ratio(X)	0.42	0.21	0.00	0.93	0.93	0.15		
Avail Cap(c_a), veh/h	321	985	0	301	1111	1517		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	23.1	6.4	0.0	22.3	9.3	2.6		
Incr Delay (d2), s/veh	1.5	0.1	0.0	33.6	11.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	1.5	0.0	7.0	14.9	0.9		
LnGrp Delay(d),s/veh	24.6	6.5	0.0	55.9	20.8	2.6		
LnGrp LOS	C	A		E	C	A		
Approach Vol, veh/h	263		279		1056			
Approach Delay, s/veh	12.0		55.9		17.4			
Approach LOS	B		E		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	29.4	15.0				44.4		10.9
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	30.0	10.0				45.0		10.0
Max Q Clear Time (g_c+I1), s	22.2	11.1				3.9		5.3
Green Ext Time (p_c), s	2.2	0.0				3.0		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			23.3					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

5: Williams Rd. & Clovercroft Rd.

Existing PM

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	665	150	14	176	23	3
Future Vol, veh/h	665	150	14	176	23	3
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	700	158	15	185	24	3
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	858	0	994	779
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	215	-
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	-	-	783	-	272	396
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	783	-	266	396
Mov Cap-2 Maneuver	-	-	-	-	266	-
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	804	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.7		19.5	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	276	-	-	783	-	
HCM Lane V/C Ratio	0.099	-	-	0.019	-	
HCM Control Delay (s)	19.5	-	-	9.7	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	

LYNNWOOD CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Hillsboro Rd. & S. Berrys Chapel Rd.

Existing AM
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	280	34	74	61	99	3	537	121	217	408	64
Future Volume (veh/h)	226	280	34	74	61	99	3	537	121	217	408	64
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	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	238	295	36	78	64	104	3	565	127	228	429	67
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	497	402	342	303	269	412	390	1074	480	443	1466	878
Arrive On Green	0.14	0.22	0.22	0.07	0.14	0.14	0.00	0.30	0.30	0.12	0.41	0.41
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	238	295	36	78	64	104	3	565	127	228	429	67
Grp Sat Flow(s), veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.0	9.7	1.2	2.4	2.0	3.4	0.1	8.7	4.0	5.4	5.3	1.3
Cycle Q Clear(g_c), s	7.0	9.7	1.2	2.4	2.0	3.4	0.1	8.7	4.0	5.4	5.3	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	497	402	342	303	269	412	390	1074	480	443	1466	878
V/C Ratio(X)	0.48	0.73	0.11	0.26	0.24	0.25	0.01	0.53	0.26	0.52	0.29	0.08
Avail Cap(c_a), veh/h	678	402	342	611	396	519	543	1315	589	668	1852	1051
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	18.0	24.1	20.7	21.5	25.0	19.3	15.8	19.0	17.4	12.7	12.9	6.8
Incr Delay (d2), s/veh	0.7	6.8	0.1	0.4	0.4	0.3	0.0	0.4	0.3	0.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	5.8	0.5	1.2	1.1	1.5	0.0	4.3	1.8	2.6	2.6	0.6
LnGrp Delay(d),s/veh	18.7	30.9	20.9	22.0	25.4	19.6	15.8	19.4	17.7	13.6	13.0	6.9
LnGrp LOS	B	C	C	C	C	B	B	B	B	B	B	A
Approach Vol, veh/h	569				246			695			724	
Approach Delay, s/veh	25.2				21.9			19.1			12.6	
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	11.6	25.5	8.6	20.2	4.3	32.8	13.3	15.5				
Change Period (Y+Rc), s	4.0	5.5	4.0	6.0	4.0	5.5	4.0	6.0				
Max Green Setting (Gmax), s	16.0	24.5	16.0	14.0	6.0	34.5	16.0	14.0				
Max Q Clear Time (g_c+I1), s	7.4	10.7	4.4	11.7	2.1	7.3	9.0	5.4				
Green Ext Time (p_c), s	0.4	5.7	0.1	0.6	0.0	7.5	0.4	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay					18.8							
HCM 2010 LOS					B							

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 AWSC

2: Farmington Dr. & S. Berry Chapel Rd.

Existing AM

Williamson County Corridor Study

Intersection																
Intersection Delay, s/veh37.8																
Intersection LOS E																
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	38	602	4	0	7	179	19	0	2	15	170	0	26	2	40
Future Vol, veh/h	0	38	602	4	0	7	179	19	0	2	15	170	0	26	2	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	40	634	4	0	7	188	20	0	2	16	179	0	27	2	42
Number of Lanes	0	1	1	0	0	1	1	0	0	0	1	0	0	0	1	0
Approach																
Approach	EB				WB				NB				SB			
Opposing Approach	WB				EB				SB				NB			
Opposing Lanes	2				2				1				1			
Conflicting Approach Left	SB				NB				EB				WB			
Conflicting Lanes Left	1				1				2				2			
Conflicting Approach Right	NB				SB				WB				EB			
Conflicting Lanes Right	1				1				2				2			
HCM Control Delay	56.3				12.2				11.8				10.5			
HCM LOS	F				B				B				B			
Lane																
Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1										
Vol Left, %	1%	100%	0%	100%	0%	38%										
Vol Thru, %	8%	0%	99%	0%	90%	3%										
Vol Right, %	91%	0%	1%	0%	10%	59%										
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop										
Traffic Vol by Lane	187	38	606	7	198	68										
LT Vol	2	38	0	7	0	26										
Through Vol	15	0	602	0	179	2										
RT Vol	170	0	4	0	19	40										
Lane Flow Rate	197	40	638	7	208	72										
Geometry Grp	2	7	7	7	7	2										
Degree of Util (X)	0.325	0.069	1	0.014	0.359	0.13										
Departure Headway (Hd)	5.937	6.194	5.683	6.783	6.205	6.544										
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes										
Cap	610	578	638	534	586	552										
Service Time	3.937	3.94	3.429	4.449	3.882	4.54										
HCM Lane V/C Ratio	0.323	0.069	1	0.013	0.355	0.13										
HCM Control Delay	11.8	9.4	59.2	9.5	12.3	10.5										
HCM Lane LOS	B	A	F	A	B	B										
HCM 95th-ile Q	1.4	0.2	15.4	0	1.6	0.4										

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
3: S. Berry Chapel Rd.

Existing AM
Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	713	85	10	187	18	16
Future Vol, veh/h	713	85	10	187	18	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	751	89	11	197	19	17
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	840	0	1013	-
Stage 1	-	-	-	-	795	-
Stage 2	-	-	-	-	218	-
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	-	-	795	-	265	0
Stage 1	-	-	-	-	445	0
Stage 2	-	-	-	-	818	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	795	-	261	-
Mov Cap-2 Maneuver	-	-	-	-	261	-
Stage 1	-	-	-	-	445	-
Stage 2	-	-	-	-	805	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		19.9	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	261	-	-	-	795	-
HCM Lane V/C Ratio	0.073	-	-	-	0.013	-
HCM Control Delay (s)	19.9	0	-	-	9.6	0
HCM Lane LOS	C	A	-	-	A	A
HCM 95th %ile Q(veh)	0.2	-	-	-	0	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

4: Lynnwood Way & N Berrys Chpl Connection

Existing AM

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	149	580	197	22	76	0
Future Vol, veh/h	149	580	197	22	76	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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	157	611	207	23	80	0
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	231	0	-	0	1143	219
Stage 1	-	-	-	-	219	-
Stage 2	-	-	-	-	924	-
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	1337	-	-	-	221	821
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	387	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1337	-	-	-	182	821
Mov Cap-2 Maneuver	-	-	-	-	182	-
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	318	-
Approach	EB		WB		SB	
HCM Control Delay, s	1.6		0		39.4	
HCM LOS					E	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1337	-	-	-	182	
HCM Lane V/C Ratio	0.117	-	-	-	0.44	
HCM Control Delay (s)	8.1	0	-	-	39.4	
HCM Lane LOS	A	A	-	-	E	
HCM 95th %tile Q(veh)	0.4	-	-	-	2	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 5: Franklin Rd. & Lynnwood Way/Moores Ln.

Existing AM
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	464	41	107	144	349	18	480	100	258	335	88
Future Volume (veh/h)	319	464	41	107	144	349	18	480	100	258	335	88
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	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	336	488	43	113	152	367	19	505	105	272	353	93
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	435	935	82	335	429	538	371	577	490	377	703	597
Arrive On Green	0.12	0.28	0.28	0.07	0.23	0.23	0.04	0.31	0.31	0.11	0.38	0.38
Sat Flow, veh/h	1774	3292	289	1774	1863	1583	1774	1863	1583	3442	1863	1583
Grp Volume(V), veh/h	336	262	269	113	152	367	19	505	105	272	353	93
Grp Sat Flow(s),veh/h/ln	1774	1770	1812	1774	1863	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	11.0	11.3	11.4	4.4	6.2	18.2	0.6	23.4	4.5	7.0	13.3	3.5
Cycle Q Clear(g_c), s	11.0	11.3	11.4	4.4	6.2	18.2	0.6	23.4	4.5	7.0	13.3	3.5
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	503	515	335	429	538	371	577	490	377	703	597
V/C Ratio(X)	0.77	0.52	0.52	0.34	0.35	0.68	0.05	0.88	0.21	0.72	0.50	0.16
Avail Cap(c_a), veh/h	435	503	515	431	480	581	510	684	581	415	703	597
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	24.5	27.4	27.5	24.4	29.4	25.9	19.7	29.8	23.3	39.3	21.8	18.8
Incr Delay (d2), s/veh	8.4	1.0	1.0	0.6	0.5	3.0	0.1	10.9	0.2	5.5	0.6	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(50%),veh/ln	3.7	5.7	5.8	2.2	3.3	8.3	0.3	13.8	2.0	3.6	6.9	1.6
LnGrp Delay(d),s/veh	32.8	28.4	28.4	24.9	29.9	28.9	19.7	40.7	23.5	44.8	22.4	18.9
LnGrp LOS	C	C	C	C	C	C	B	D	C	D	C	B
Approach Vol, veh/h	867			632			629			718		
Approach Delay, s/veh	30.1			28.4			37.2			30.4		
Approach LOS	C			C			D			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	14.0	34.8	10.1	32.4	7.8	40.9	15.0	27.5				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	11.0	33.5	11.0	23.5	11.0	33.5	11.0	23.5				
Max Q Clear Time (g_c+I1), s	9.0	25.4	6.4	13.4	2.6	15.3	13.0	20.2				
Green Ext Time (p_c), s	0.2	2.8	0.1	3.8	0.0	5.4	0.0	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				31.4								
HCM 2010 LOS				C								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Hillsboro Rd. & S. Berrys Chapel Rd.

Existing PM
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	97	20	221	230	223	28	534	136	140	571	172
Future Volume (veh/h)	91	97	20	221	230	223	28	534	136	140	571	172
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	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	95	101	21	230	240	232	29	556	142	146	595	179
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	292	248	492	403	481	343	1111	497	406	1285	696
Arrive On Green	0.08	0.16	0.16	0.14	0.22	0.22	0.04	0.31	0.31	0.09	0.36	0.36
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	95	101	21	230	240	232	29	556	142	146	595	179
Grp Sat Flow(s), veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	2.8	3.1	0.7	6.4	7.4	7.6	0.7	8.1	4.3	3.3	8.2	4.6
Cycle Q Clear(g_c), s	2.8	3.1	0.7	6.4	7.4	7.6	0.7	8.1	4.3	3.3	8.2	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	341	292	248	492	403	481	343	1111	497	406	1285	696
V/C Ratio(X)	0.28	0.35	0.08	0.47	0.60	0.48	0.08	0.50	0.29	0.36	0.46	0.26
Avail Cap(c_a), veh/h	651	409	348	696	409	486	443	1361	609	697	1916	979
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(f)	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	19.9	23.9	23.0	17.1	22.5	18.1	13.8	17.8	16.5	12.6	15.5	11.3
Incr Delay (d2), s/veh	0.4	0.7	0.1	0.7	2.3	0.8	0.1	0.4	0.3	0.5	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.6	0.3	3.2	4.1	3.4	0.3	4.0	1.9	1.6	4.0	2.0
LnGrp Delay(d),s/veh	20.3	24.6	23.1	17.8	24.7	18.9	13.9	18.1	16.8	13.1	15.8	11.5
LnGrp LOS	C	C	C	B	C	B	B	B	B	B	B	B
Approach Vol, veh/h	217			702			727			920		
Approach Delay, s/veh	22.6			20.5			17.7			14.5		
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	9.5	25.5	12.7	16.0	6.4	28.6	8.9	19.8				
Change Period (Y+Rc), s	4.0	5.5	4.0	6.0	4.0	5.5	4.0	6.0				
Max Green Setting (Gmax), s	16.0	24.5	16.0	14.0	6.0	34.5	16.0	14.0				
Max Q Clear Time (g_c+I1), s	5.3	10.1	8.4	5.1	2.7	10.2	4.8	9.6				
Green Ext Time (p_c), s	0.2	7.0	0.4	2.0	0.0	9.1	0.1	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				17.8								
HCM 2010 LOS				B								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 AWSC

2: Farmington Dr. & S. Berry Chapel Rd.

Existing PM

Williamson County Corridor Study

Intersection																
Intersection Delay, s/veh38.3																
Intersection LOS E																
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	49	266	7	0	36	668	28	0	3	9	13	0	24	5	72
Future Vol, veh/h	0	49	266	7	0	36	668	28	0	3	9	13	0	24	5	72
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	51	277	7	0	38	696	29	0	3	9	14	0	25	5	75
Number of Lanes	0	1	1	0	0	1	1	0	0	0	1	0	0	0	1	0
Approach																
Approach	EB				WB				NB				SB			
Opposing Approach	WB				EB				SB				NB			
Opposing Lanes	2				2				1				1			
Conflicting Approach Left	SB				NB				EB				WB			
Conflicting Lanes Left	1				1				2				2			
Conflicting Approach Right	NB				SB				WB				EB			
Conflicting Lanes Right	1				1				2				2			
HCM Control Delay	12.3				54.6				9.8				10.4			
HCM LOS	B				F				A				B			
Lane																
Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1										
Vol Left, %	12%	100%	0%	100%	0%	24%										
Vol Thru, %	36%	0%	97%	0%	96%	5%										
Vol Right, %	52%	0%	3%	0%	4%	71%										
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop										
Traffic Vol by Lane	25	49	273	36	696	101										
LT Vol	3	49	0	36	0	24										
Through Vol	9	0	266	0	668	5										
RT Vol	13	0	7	0	28	72										
Lane Flow Rate	26	51	284	38	725	105										
Geometry Grp	2	7	7	7	7	2										
Degree of Util (X)	0.047	0.087	0.444	0.061	1	0.179										
Departure Headway (Hd)	6.429	6.144	5.62	5.862	5.329	6.116										
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes										
Cap	558	584	643	615	689	590										
Service Time	4.458	3.868	3.351	3.562	3.029	4.115										
HCM Lane V/C Ratio	0.047	0.087	0.442	0.062	1.052	0.178										
HCM Control Delay	9.8	9.5	12.8	8.9	57	10.4										
HCM Lane LOS	A	A	B	A	F	B										
HCM 95th-ile Q	0.1	0.3	2.3	0.2	15.9	0.6										

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

3: S. Berry Chapel Rd. & Lynwood Way

Existing PM

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	279	24	8	656	76	10
Future Vol, veh/h	279	24	8	656	76	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	291	25	8	683	79	10
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	316	0	1003	-
Stage 1	-	-	-	-	303	-
Stage 2	-	-	-	-	700	-
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	-	-	1244	-	268	0
Stage 1	-	-	-	-	749	0
Stage 2	-	-	-	-	493	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1244	-	265	-
Mov Cap-2 Maneuver	-	-	-	-	265	-
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	488	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.1		24.3	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	265	-	-	-	1244	-
HCM Lane V/C Ratio	0.299	-	-	-	0.007	-
HCM Control Delay (s)	24.3	0	-	-	7.9	0
HCM Lane LOS	C	A	-	-	A	A
HCM 95th %ile Q(veh)	1.2	-	-	-	0	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

4: Lynnwood Way & N. Berrys Chpl Conn/Sawyer Rd

Existing PM

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	6	283	653	95	55	11
Future Vol, veh/h	6	283	653	95	55	11
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	295	680	99	57	11
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	779	0	-	0	1037	730
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	307	-
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	838	-	-	-	256	422
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	746	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	838	-	-	-	254	422
Mov Cap-2 Maneuver	-	-	-	-	254	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	739	-
Approach	EB		WB		SB	
HCM Control Delay, s	0.2		0		22.7	
HCM LOS					C	
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	838	-	-	-	272	
HCM Lane V/C Ratio	0.007	-	-	-	0.253	
HCM Control Delay (s)	9.3	0	-	-	22.7	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	1	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 5: Franklin Rd. & Lynnwood Way/Moores Ln.

Existing PM
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	202	66	242	411	545	51	315	117	404	501	176
Future Volume (veh/h)	166	202	66	242	411	545	51	315	117	404	501	176
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	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	173	210	69	252	428	568	53	328	122	421	522	183
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	2	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	619	198	481	489	656	273	477	406	522	607	516
Arrive On Green	0.09	0.23	0.23	0.12	0.26	0.26	0.08	0.26	0.26	0.15	0.33	0.33
Sat Flow, veh/h	1774	2640	844	1774	1863	1583	1774	1863	1583	3442	1863	1583
Grp Volume(v), veh/h	173	139	140	252	428	568	53	328	122	421	522	183
Grp Sat Flow(s), veh/h/ln	1774	1770	1714	1774	1863	1583	1774	1863	1583	1721	1863	1583
Q Serve(g_s), s	6.5	5.8	6.1	9.4	19.7	23.5	1.8	14.2	5.6	10.6	23.5	7.9
Cycle Q Clear(g_c), s	6.5	5.8	6.1	9.4	19.7	23.5	1.8	14.2	5.6	10.6	23.5	7.9
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	415	402	481	489	656	273	477	406	522	607	516
V/C Ratio(X)	0.63	0.33	0.35	0.52	0.87	0.87	0.19	0.69	0.30	0.81	0.86	0.35
Avail Cap(c_a), veh/h	323	465	450	481	489	656	346	489	416	808	698	593
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(f)	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	24.5	28.4	28.5	21.4	31.6	23.9	22.0	30.0	26.8	36.7	28.2	23.0
Incr Delay (d2), s/veh	3.1	0.5	0.5	1.0	16.0	11.7	0.3	3.9	0.4	3.5	9.6	0.4
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(50%),veh/ln	3.4	2.9	2.9	4.7	12.3	14.8	0.9	7.8	2.5	5.3	13.6	3.5
LnGrp Delay(d),s/veh	27.6	28.9	29.1	22.5	47.6	35.6	22.3	33.9	27.2	40.1	37.8	23.4
LnGrp LOS	C	C	C	C	D	D	C	C	C	D	D	C
Approach Vol, veh/h	452			1248			503			1126		
Approach Delay, s/veh	28.4			37.1			31.1			36.3		
Approach LOS	C			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	17.6	29.4	15.0	27.5	11.3	35.6	12.5	30.0				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	21.0	23.5	11.0	23.5	11.0	33.5	11.0	23.5				
Max Q Clear Time (g_c+I1), s	12.6	16.2	11.4	8.1	3.8	25.5	8.5	25.5				
Green Ext Time (p_c), s	1.0	3.4	0.0	5.7	0.0	3.7	0.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				34.7								
HCM 2010 LOS				C								

ARNO CORRIDOR (NORTH)

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Arno Rd. & Mufreesboro Rd.

Existing AM
Williamson County Corridor Study

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	267	176	47	1125	631	55		
Future Volume (veh/h)	267	176	47	1125	631	55		
Number	4	14	3	8	5	12		
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	1863		
Adj Flow Rate, veh/h	284	187	50	1197	671	59		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	542	347	334	1438	733	654		
Arrive On Green	0.26	0.26	0.05	0.41	0.41	0.41		
Sat Flow, veh/h	2166	1326	1774	3632	1774	1583		
Grp Volume(V), veh/h	241	230	50	1197	671	59		
Grp Sat Flow(s),veh/h/ln	1770	1629	1774	1770	1774	1583		
Q Serve(g_s), s	7.7	8.1	1.3	20.1	23.7	1.5		
Cycle Q Clear(g_c), s	7.7	8.1	1.3	20.1	23.7	1.5		
Prop In Lane		0.81	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	463	426	334	1438	733	654		
V/C Ratio(X)	0.52	0.54	0.15	0.83	0.92	0.09		
Avail Cap(c_a), veh/h	463	426	398	1546	908	811		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	21.0	21.1	15.4	17.7	18.4	11.9		
Incr Delay (d2), s/veh	1.1	1.4	0.2	3.8	12.0	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.9	3.7	0.6	10.6	14.0	0.7		
LnGrp Delay(d),s/veh	22.0	22.4	15.6	21.5	30.4	11.9		
LnGrp LOS	C	C	B	C	C	B		
Approach Vol, veh/h	471			1247	730			
Approach Delay, s/veh	22.2			21.3	28.9			
Approach LOS	C			C	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		33.4	9.6	23.4				33.0
Change Period (Y+Rc), s		6.0	6.0	6.0				6.0
Max Green Setting (Gmax), s		34.0	6.0	17.0				29.0
Max Q Clear Time (g_c+I1), s		25.7	3.3	10.1				22.1
Green Ext Time (p_c), s		1.7	0.0	5.0				4.8
Intersection Summary	HCM 2010 Ctrl Delay	HCM 2010 LOS						

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
2: Arno Rd. & S. Carothers Rd.

Existing AM
Williamson County Corridor Study

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	5	55	220	601	307	11
Future Vol, veh/h	5	55	220	601	307	11
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	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	59	234	639	327	12
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1439	332	338	0	-	0
Stage 1	332	-	-	-	-	-
Stage 2	1107	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	146	710	1221	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	103	710	1221	-	-	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	222	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	13.7		2.3		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1221	-	476	-	-	
HCM Lane V/C Ratio	0.192	-	0.134	-	-	
HCM Control Delay (s)	8.6	0	13.7	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.7	-	0.5	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
3: Arno Rd. & Goosey Hill Rd.

Existing AM
Williamson County Corridor Study

Intersection							
Int Delay, s/veh	3.1						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	71	44	29	748	351	5	
Future Vol, veh/h	71	44	29	748	351	5	
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	94	94	94	94	94	94	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	76	47	31	796	373	5	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1233	376	379	0	-	0	
Stage 1	376	-	-	-	-	-	
Stage 2	857	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	195	670	1179	-	-	-	
Stage 1	694	-	-	-	-	-	
Stage 2	416	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	186	670	1179	-	-	-	
Mov Cap-2 Maneuver	186	-	-	-	-	-	
Stage 1	694	-	-	-	-	-	
Stage 2	396	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	31.1	0.3		0			
HCM LOS	D						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	1179	-	257	-	-		
HCM Lane V/C Ratio	0.026	-	0.476	-	-		
HCM Control Delay (s)	8.1	0	31.1	-	-		
HCM Lane LOS	A	A	D	-	-		
HCM 95th %tile Q(veh)	0.1	-	2.4	-	-		

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

4: Arno Rd. & Peystonsville - Trinity Rd./Trinity Rd.

Existing AM

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	14											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	101	31	37	55	3	5	11	671	32	1	389	5
Future Vol, veh/h	101	31	37	55	3	5	11	671	32	1	389	5
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	107	33	39	59	3	5	12	714	34	1	414	5
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1178	1190	416	1209	1175	731	419	0	0	748	0	0
Stage 1	419	419	-	754	754	-	-	-	-	-	-	-
Stage 2	759	771	-	455	421	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	168	188	637	160	192	422	1140	-	-	861	-	-
Stage 1	612	590	-	401	417	-	-	-	-	-	-	-
Stage 2	399	410	-	585	589	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	161	184	637	128	188	422	1140	-	-	861	-	-
Mov Cap-2 Maneuver	161	184	-	128	188	-	-	-	-	-	-	-
Stage 1	601	589	-	394	409	-	-	-	-	-	-	-
Stage 2	384	403	-	517	588	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	91.1			53.5			0.1			0		
HCM LOS	F			F								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1140	-	-	198	138	861	-	-				
HCM Lane V/C Ratio	0.01	-	-	0.908	0.486	0.001	-	-				
HCM Control Delay (s)	8.2	0	-	91.1	53.5	9.2	0	-				
HCM Lane LOS	A	A	-	F	F	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	7.2	2.3	0	-	-				

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
6: Arno Rd. & Page Middle Exit

Existing AM
Williamson County Corridor Study

Intersection						
Int Delay, s/veh	5.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	117	144	706	0	0	310
Future Vol, veh/h	117	144	706	0	0	310
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	124	153	751	0	0	330
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1081	751	0	0	751	0
Stage 1	751	-	-	-	-	-
Stage 2	330	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	241	411	-	-	858	-
Stage 1	466	-	-	-	-	-
Stage 2	728	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	241	411	-	-	858	-
Mov Cap-2 Maneuver	241	-	-	-	-	-
Stage 1	466	-	-	-	-	-
Stage 2	728	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	26.1		0		0	
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 241 411	858	-		
HCM Lane V/C Ratio	-	- 0.516 0.373	-	-		
HCM Control Delay (s)	-	- 34.9 18.9	0	-		
HCM Lane LOS	-	- D C	A	-		
HCM 95th %tile Q(veh)	-	- 2.7 1.7	0	-		

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

7: Arno Rd. & Page High N. Drwy

Existing AM

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	2	1	2	704	269	158
Future Vol, veh/h	2	1	2	704	269	158
Conflicting Peds, #/hr	0	0	130	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	2	749	285	168
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1123	500	454	0	-	0
Stage 1	370	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	227	571	1107	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	227	509	987	-	-	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	464	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	18	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	987	-	227	509	-	-
HCM Lane V/C Ratio	0.002	-	0.009	0.002	-	-
HCM Control Delay (s)	8.7	-	21	12.1	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

8: Arno Rd. & Page High S Drwy

Existing AM

Williamson County Corridor Study

Intersection							
Int Delay, s/veh	13.3						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	119	60	229	587	142	128	
Future Vol, veh/h	119	60	229	587	142	128	
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	0	125	-	-	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	127	64	244	624	151	136	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1331	219	267	0	-	0	
Stage 1	219	-	-	-	-	-	
Stage 2	1112	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	170	821	1275	-	-	-	
Stage 1	817	-	-	-	-	-	
Stage 2	315	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	137	821	1275	-	-	-	
Mov Cap-2 Maneuver	137	-	-	-	-	-	
Stage 1	817	-	-	-	-	-	
Stage 2	255	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	83.1	2.4		0			
HCM LOS	F						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	1275	-	137	821	-	-	
HCM Lane V/C Ratio	0.191	-	0.924	0.078	-	-	
HCM Control Delay (s)	8.5	-	120.1	9.8	-	-	
HCM Lane LOS	A	-	F	A	-	-	
HCM 95th %tile Q(veh)	0.7	-	6.3	0.3	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Arno Rd. & Mufreesboro Rd.

Existing PM
Williamson County Corridor Study

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↑	↑↑	↑	↑		
Traffic Volume (veh/h)	1109	865	58	404	273	42		
Future Volume (veh/h)	1109	865	58	404	273	42		
Number	4	14	3	8	5	12		
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	1863		
Adj Flow Rate, veh/h	1143	892	60	416	281	43		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1165	804	165	2459	316	282		
Arrive On Green	0.58	0.58	0.05	0.69	0.18	0.18		
Sat Flow, veh/h	2098	1383	1774	3632	1774	1583		
Grp Volume(v), veh/h	991	1044	60	416	281	43		
Grp Sat Flow(s),veh/h/ln	1770	1619	1774	1770	1774	1583		
Q Serve(g_s), s	50.5	55.0	1.2	3.8	14.6	2.2		
Cycle Q Clear(g_c), s	50.5	55.0	1.2	3.8	14.6	2.2		
Prop In Lane		0.85	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1029	941	165	2459	316	282		
V/C Ratio(X)	0.96	1.11	0.36	0.17	0.89	0.15		
Avail Cap(c_a), veh/h	1029	941	226	2581	356	318		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	18.9	19.8	23.1	5.0	38.0	32.8		
Incr Delay (d2), s/veh	19.8	64.1	1.3	0.0	21.3	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	30.2	41.1	1.0	1.9	9.1	1.0		
LnGrp Delay(d),s/veh	38.7	83.9	24.4	5.0	59.3	33.1		
LnGrp LOS	D	F	C	A	E	C		
Approach Vol, veh/h	2035			476	324			
Approach Delay, s/veh	61.9			7.5	55.8			
Approach LOS	E			A	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		22.9	10.8	61.0				71.8
Change Period (Y+Rc), s		6.0	6.0	6.0				6.0
Max Green Setting (Gmax), s		19.0	8.0	55.0				69.0
Max Q Clear Time (g_c+I1), s		16.6	3.2	57.0				5.8
Green Ext Time (p_c), s		0.2	0.0	0.0				38.4
Intersection Summary								
HCM 2010 Ctrl Delay			52.1					
HCM 2010 LOS			D					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2: Arno Rd. & S. Carothers Rd.

Existing PM

Williamson County Corridor Study

Intersection							
Int Delay, s/veh	1.4						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	2	70	17	215	993	9	
Future Vol, veh/h	2	70	17	215	993	9	
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	96	96	96	96	96	96	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	2	73	18	224	1034	9	
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1298	1039	1044	0	-	0	
Stage 1	1039	-	-	-	-	-	
Stage 2	259	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	178	280	666	-	-	-	
Stage 1	341	-	-	-	-	-	
Stage 2	784	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	172	280	666	-	-	-	
Mov Cap-2 Maneuver	172	-	-	-	-	-	
Stage 1	341	-	-	-	-	-	
Stage 2	760	-	-	-	-	-	
Approach	EB		NB		SB		
HCM Control Delay, s	22.9		0.8		0		
HCM LOS	C						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	666	-	275	-	-		
HCM Lane V/C Ratio	0.027	-	0.273	-	-		
HCM Control Delay (s)	10.6	0	22.9	-	-		
HCM Lane LOS	B	A	C	-	-		
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-		

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
3: Arno Rd. & Goosey Hill Rd.

Existing PM
Williamson County Corridor Study

Intersection							
Int Delay, s/veh	0.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	15	4	7	217	992	71	
Future Vol, veh/h	15	4	7	217	992	71	
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	84	84	84	84	84	84	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	18	5	8	258	1181	85	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1498	1223	1265	0	-	0	
Stage 1	1223	-	-	-	-	-	
Stage 2	275	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	135	219	549	-	-	-	
Stage 1	278	-	-	-	-	-	
Stage 2	771	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	133	219	549	-	-	-	
Mov Cap-2 Maneuver	133	-	-	-	-	-	
Stage 1	278	-	-	-	-	-	
Stage 2	758	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	34.4	0.4		0			
HCM LOS	D						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	549	-	145	-	-		
HCM Lane V/C Ratio	0.015	-	0.156	-	-		
HCM Control Delay (s)	11.7	0	34.4	-	-		
HCM Lane LOS	B	A	D	-	-		
HCM 95th %ile Q(veh)	0	-	0.5	-	-		

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

4: Arno Rd. & Peystonsville - Trinity Rd./Trinity Rd.

Existing PM

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	7	9	10	10	24	4	28	213	11	4	808	184
Future Vol, veh/h	7	9	10	10	24	4	28	213	11	4	808	184
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	9	10	10	25	4	29	222	11	4	842	192

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1247	1238	938	1242	1328	228	1033	0	0	233	0	0
Stage 1	946	946	-	286	286	-	-	-	-	-	-	-
Stage 2	301	292	-	956	1042	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	150	176	321	152	155	811	673	-	-	1335	-	-
Stage 1	314	340	-	721	675	-	-	-	-	-	-	-
Stage 2	708	671	-	310	307	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	124	166	321	135	146	811	673	-	-	1335	-	-
Mov Cap-2 Maneuver	124	166	-	135	146	-	-	-	-	-	-	-
Stage 1	298	338	-	685	641	-	-	-	-	-	-	-
Stage 2	643	637	-	290	305	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.1	35.7	1.2	0
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	673	-	-	183	156	1335	-	-
HCM Lane V/C Ratio	0.043	-	-	0.148	0.254	0.003	-	-
HCM Control Delay (s)	10.6	0	-	28.1	35.7	7.7	0	-
HCM Lane LOS	B	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	1	0	-	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

6: Arno Rd. & Page Middle Exit

Existing PM

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	22	44	230	0	0	803
Future Vol, veh/h	22	44	230	0	0	803
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	47	247	0	0	863
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1110	247	0	0	247	0
Stage 1	247	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	232	792	-	-	1319	-
Stage 1	794	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	232	792	-	-	1319	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	794	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	232	792	1319	-
HCM Lane V/C Ratio	-	-	0.102	0.06	-	-
HCM Control Delay (s)	-	-	22.3	9.8	0	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	0	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

7: Arno Rd. & Page High N. Drwy

Existing PM

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	69	29	4	161	819	6
Future Vol, veh/h	69	29	4	161	819	6
Conflicting Peds, #/hr	0	0	130	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	31	4	173	881	6
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1066	1014	887	0	-	0
Stage 1	884	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	246	290	763	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	245	259	680	-	-	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	844	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	24.5	0.3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	680	-	245	259	-	-
HCM Lane V/C Ratio	0.006	-	0.303	0.12	-	-
HCM Control Delay (s)	10.3	-	26	20.8	-	-
HCM Lane LOS	B	-	D	C	-	-
HCM 95th %tile Q(veh)	0	-	1.2	0.4	-	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
8: Arno Rd. & Page High S. Drw

Existing PM
Williamson County Corridor Study

Intersection							
Int Delay, s/veh	0.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	17	11	8	148	842	6	
Future Vol, veh/h	17	11	8	148	842	6	
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	0	125	-	-	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	95	95	95	95	95	95	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	18	12	8	156	886	6	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1062	889	893	0	-	0	
Stage 1	889	-	-	-	-	-	
Stage 2	173	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	247	342	759	-	-	-	
Stage 1	402	-	-	-	-	-	
Stage 2	857	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	244	342	759	-	-	-	
Mov Cap-2 Maneuver	244	-	-	-	-	-	
Stage 1	402	-	-	-	-	-	
Stage 2	848	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	18.9	0.5		0			
HCM LOS	C						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	759	-	244	342	-	-	
HCM Lane V/C Ratio	0.011	-	0.073	0.034	-	-	
HCM Control Delay (s)	9.8	-	20.9	15.9	-	-	
HCM Lane LOS	A	-	C	C	-	-	
HCM 95th %ile Q(veh)	0	-	0.2	0.1	-	-	

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Synchro 9 Report
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ARNO CORRIDOR (SOUTH)

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
9: Arno Rd & SR 840 WB Ramp

Existing AM
Williamson County Corridor Study

Intersection												
Int Delay, s/veh	21.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	60	0	535	28	267	0	0	81	121
Future Vol, veh/h	0	0	0	60	0	535	28	267	0	0	81	121
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	-	-	-	-	-	-	100	-	-	-	-	-
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	0	0	65	0	582	30	290	0	0	88	132
Major/Minor	Minor1			Major1			Major2					
Conflicting Flow All	505			571	290	220	0	0	290	0	0	
Stage 1	351			351	-	-	-	-	-	-	-	-
Stage 2	154			220	-	-	-	-	-	-	-	-
Critical Hdwy	6.42			6.52	6.22	4.12	-	-	4.12	-	-	-
Critical Hdwy Stg 1	5.42			5.52	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42			5.52	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518			4.018	3.318	2.218	-	-	2.218	-	-	-
Pot Cap-1 Maneuver	527			431	749	1349	-	-	1272	-	-	-
Stage 1	713			632	-	-	-	-	-	-	-	-
Stage 2	874			721	-	-	-	-	-	-	-	-
Platoon blocked, %							-	-		-	-	-
Mov Cap-1 Maneuver	515			0	749	1349	-	-	1272	-	-	-
Mov Cap-2 Maneuver	515			0	-	-	-	-	-	-	-	-
Stage 1	697			0	-	-	-	-	-	-	-	-
Stage 2	874			0	-	-	-	-	-	-	-	-
Approach	WB			NB			SB					
HCM Control Delay, s	38.4			0.7			0					
HCM LOS	E											
Minor Lane/Major Mvmt	NBL	NBT	NBR/WBLn1	SBL	SBT	SBR						
Capacity (veh/h)	1349	-	- 716	1272	-	-						
HCM Lane V/C Ratio	0.023	-	- 0.903	-	-	-						
HCM Control Delay (s)	7.7	-	- 38.4	0	-	-						
HCM Lane LOS	A	-	- E	A	-	-						
HCM 95th %tile Q(veh)	0.1	-	- 11.8	0	-	-						

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
10: Amo Rd & SR 840 EB Ramp

Existing AM
Williamson County Corridor Study

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	81	0	62	0	0	0	0	214	27	25	116	0
Future Vol, veh/h	81	0	62	0	0	0	0	214	27	25	116	0
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	-	-	-	-	-	-	-	-	-	150	-	-
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	88	0	67	0	0	0	0	233	29	27	126	0
Major/Minor	Minor2			Major1			Major2					
Conflicting Flow All	427	442	126				126	0	0	262	0	0
Stage 1	180	180	-				-	-	-	-	-	-
Stage 2	247	262	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	584	510	924				1460	-	-	1302	-	-
Stage 1	851	750	-				-	-	-	-	-	-
Stage 2	794	691	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	572	0	924				1460	-	-	1302	-	-
Mov Cap-2 Maneuver	572	0	-				-	-	-	-	-	-
Stage 1	833	0	-				-	-	-	-	-	-
Stage 2	794	0	-				-	-	-	-	-	-
Approach	EB						NB			SB		
HCM Control Delay, s	11.8						0			1.4		
HCM LOS	B											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1460	-	-	685	1302	-	-					
HCM Lane V/C Ratio	-	-	-	0.227	0.021	-	-					
HCM Control Delay (s)	0	-	-	11.8	7.8	-	-					
HCM Lane LOS	A	-	-	B	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	0.9	0.1	-	-					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

11: Eudailey-Covington Rd & Arno Rd

Existing AM

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	1	0	6	0	75	1	165	7	103	75	0
Future Vol, veh/h	1	1	0	6	0	75	1	165	7	103	75	0
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	-	-	-	-	-	-	100	-	-	100	-	-
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	1	0	7	0	82	1	179	8	112	82	0
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	531	494	82	491	490	183	82	0	0	187	0	0
Stage 1	305	305	-	185	185	-	-	-	-	-	-	-
Stage 2	226	189	-	306	305	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	459	476	978	488	479	859	1515	-	-	1387	-	-
Stage 1	705	662	-	817	747	-	-	-	-	-	-	-
Stage 2	777	744	-	704	662	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	390	437	978	457	440	859	1515	-	-	1387	-	-
Mov Cap-2 Maneuver	390	437	-	457	440	-	-	-	-	-	-	-
Stage 1	705	609	-	816	747	-	-	-	-	-	-	-
Stage 2	703	744	-	646	609	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	13.8			10			0			4.5		
HCM LOS	B			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1515	-	-	412	806	1387	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.005	0.109	0.081	-	-				
HCM Control Delay (s)	7.4	-	-	13.8	10	7.8	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0.3	-	-				

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

Existing AM

12: Amo-Allisona Rd./Amo Rd. & Peytonsville-Amo Rd./Amo-College Cr./Amo Rd. Williamson County Corridor Study

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	4	20	10	4	46	33	138	128	8	19	19	2
Future Vol, veh/h	4	20	10	4	46	33	138	128	8	19	19	2
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	-	-	-	-	-	-	-	-	-	-	-	-
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	22	11	4	50	36	150	139	9	21	21	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	549	511	22	522	507	143	23	0	0	148	0	0
Stage 1	63	63	-	443	443	-	-	-	-	-	-	-
Stage 2	486	448	-	79	64	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	446	466	1055	465	468	905	1592	-	-	1434	-	-
Stage 1	948	842	-	594	576	-	-	-	-	-	-	-
Stage 2	563	573	-	930	842	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	355	412	1055	403	413	905	1592	-	-	1434	-	-
Mov Cap-2 Maneuver	355	412	-	403	413	-	-	-	-	-	-	-
Stage 1	850	829	-	533	517	-	-	-	-	-	-	-
Stage 2	438	514	-	883	829	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	12.9			13.3			3.8			3.6		
HCM LOS	B			B								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1592	-	-	491	526	1434	-	-
HCM Lane V/C Ratio	0.094	-	-	0.075	0.172	0.014	-	-
HCM Control Delay (s)	7.5	0	-	12.9	13.3	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	0.6	0	-	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

13: Horton Hwy. & Amo-Allison Rd

Existing AM

Williamson County Corridor Study

Intersection							
Int Delay, s/veh	3						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	9	15	152	203	98	4	
Future Vol, veh/h	9	15	152	203	98	4	
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	10	16	165	221	107	4	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	660	109	111	0	-	0	
Stage 1	109	-	-	-	-	-	
Stage 2	551	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	428	945	1479	-	-	-	
Stage 1	916	-	-	-	-	-	
Stage 2	577	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	374	945	1479	-	-	-	
Mov Cap-2 Maneuver	374	-	-	-	-	-	
Stage 1	916	-	-	-	-	-	
Stage 2	504	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	11.3	3.3		0			
HCM LOS	B						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	1479	-	601	-	-		
HCM Lane V/C Ratio	0.112	-	0.043	-	-		
HCM Control Delay (s)	7.7	0	11.3	-	-		
HCM Lane LOS	A	A	B	-	-		
HCM 95th %tile Q(veh)	0.4	-	0.1	-	-		

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

9: Arno Rd & SR 840 WB Ramp

Existing PM

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	18	0	40	75	68	0	0	674	179
Future Vol, veh/h	0	0	0	18	0	40	75	68	0	0	674	179
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	-	-	-	-	-	-	100	-	-	-	-	-
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	0	0	20	0	43	82	74	0	0	733	195
Major/Minor				Minor1			Major1			Major2		
Conflicting Flow All				1067	1164	74	927	0	0	74	0	0
Stage 1				237	237	-	-	-	-	-	-	-
Stage 2				830	927	-	-	-	-	-	-	-
Critical Hdwy				6.42	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1				5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy				3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver				246	194	988	737	-	-	1526	-	-
Stage 1				802	709	-	-	-	-	-	-	-
Stage 2				428	347	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver				219	0	988	737	-	-	1526	-	-
Mov Cap-2 Maneuver				219	0	-	-	-	-	-	-	-
Stage 1				713	0	-	-	-	-	-	-	-
Stage 2				428	0	-	-	-	-	-	-	-
Approach				WB			NB			SB		
HCM Control Delay, s				13.8			5.5			0		
HCM LOS				B								
Minor Lane/Major Mvmt	NBL	NBT	NBR/WBLn1	SBL	SBT	SBR						
Capacity (veh/h)	737	-	-	473	1526	-						
HCM Lane V/C Ratio	0.111	-	-	0.133	-	-						
HCM Control Delay (s)	10.5	-	-	13.8	0	-						
HCM Lane LOS	B	-	-	B	A	-						
HCM 95th %tile Q(veh)	0.4	-	-	0.5	0	-						

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

10: Arno Rd & SR 840 EB Ramp

Existing PM

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	19	0	23	0	0	0	0	124	69	445	247	0
Future Vol, veh/h	19	0	23	0	0	0	0	124	69	445	247	0
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	-	-	-	-	-	-	-	-	-	150	-	-
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	21	0	25	0	0	0	0	135	75	484	268	0
Major/Minor	Minor2			Major1			Major2					
Conflicting Flow All	1408	1446	268				268	0	0	210	0	0
Stage 1	1236	1236	-				-	-	-	-	-	-
Stage 2	172	210	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	153	132	771				1296	-	-	1361	-	-
Stage 1	274	248	-				-	-	-	-	-	-
Stage 2	858	728	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	99	0	771				1296	-	-	1361	-	-
Mov Cap-2 Maneuver	99	0	-				-	-	-	-	-	-
Stage 1	177	0	-				-	-	-	-	-	-
Stage 2	858	0	-				-	-	-	-	-	-
Approach	EB			NB			SB					
HCM Control Delay, s	30			0			5.8					
HCM LOS	D											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1296	-	-	189	1361	-	-					
HCM Lane V/C Ratio	-	-	-	0.242	0.355	-	-					
HCM Control Delay (s)	0	-	-	30	9.1	-	-					
HCM Lane LOS	A	-	-	D	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	0.9	1.6	-	-					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

11: Eudailey-Covington Rd & Arno Rd

Existing PM

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	1	0	2	0	83	0	110	6	54	213	3
Future Vol, veh/h	0	1	0	2	0	83	0	110	6	54	213	3
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	-	-	-	-	-	-	100	-	-	100	-	-
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	1	0	2	0	90	0	120	7	59	232	3
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	519	477	233	474	475	123	235	0	0	126	0	0
Stage 1	351	351	-	123	123	-	-	-	-	-	-	-
Stage 2	168	126	-	351	352	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	467	487	806	501	488	928	1332	-	-	1460	-	-
Stage 1	666	632	-	881	794	-	-	-	-	-	-	-
Stage 2	834	792	-	666	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	409	467	806	485	468	928	1332	-	-	1460	-	-
Mov Cap-2 Maneuver	409	467	-	485	468	-	-	-	-	-	-	-
Stage 1	666	606	-	881	794	-	-	-	-	-	-	-
Stage 2	753	792	-	638	606	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	12.7			9.4			0			1.5		
HCM LOS	B			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1332	-	-	467	908	1460	-	-				
HCM Lane V/C Ratio	-	-	-	0.002	0.102	0.04	-	-				
HCM Control Delay (s)	0	-	-	12.7	9.4	7.6	-	-				
HCM Lane LOS	A	-	-	B	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.1	-	-				

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

Existing PM

12: Arno-Allison Rd./Arno Rd. & Peytonsville-Arno Rd./Arno-College Ckve Rd. Williamson County Corridor Study

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	6	33	52	10	31	19	20	40	2	27	151	4
Future Vol, veh/h	6	33	52	10	31	19	20	40	2	27	151	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	-	-	-	-	-	-	-	-	-	-	-	-
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	7	36	57	11	34	21	22	43	2	29	164	4
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	340	314	166	359	315	45	168	0	0	46	0	0
Stage 1	225	225	-	88	88	-	-	-	-	-	-	-
Stage 2	115	89	-	271	227	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	614	601	878	596	601	1025	1410	-	-	1562	-	-
Stage 1	778	718	-	920	822	-	-	-	-	-	-	-
Stage 2	890	821	-	735	716	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	559	580	878	517	580	1025	1410	-	-	1562	-	-
Mov Cap-2 Maneuver	559	580	-	517	580	-	-	-	-	-	-	-
Stage 1	766	704	-	905	809	-	-	-	-	-	-	-
Stage 2	822	808	-	640	702	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	10.8			11.1			2.4			1.1		
HCM LOS	B			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1410	-	-	717	657	1562	-	-				
HCM Lane V/C Ratio	0.015	-	-	0.138	0.099	0.019	-	-				
HCM Control Delay (s)	7.6	0	-	10.8	11.1	7.3	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.5	0.3	0.1	-	-				

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

13: Horton Hwy. & Arno-Allisona Rd

Existing PM

Williamson County Corridor Study

Intersection							
Int Delay, s/veh	3.2						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	9	118	21	92	223	11	
Future Vol, veh/h	9	118	21	92	223	11	
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	10	128	23	100	242	12	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	394	248	254	0	-	0	
Stage 1	248	-	-	-	-	-	
Stage 2	146	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	611	791	1311	-	-	-	
Stage 1	793	-	-	-	-	-	
Stage 2	881	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	599	791	1311	-	-	-	
Mov Cap-2 Maneuver	599	-	-	-	-	-	
Stage 1	793	-	-	-	-	-	
Stage 2	864	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	10.7	1.4		0			
HCM LOS	B						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	1311	-	773	-	-		
HCM Lane V/C Ratio	0.017	-	0.179	-	-		
HCM Control Delay (s)	7.8	0	10.7	-	-		
HCM Lane LOS	A	A	B	-	-		
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-		

HENPECK CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

Williamson County Corridor Plan

1: Columbia Pike & Coleman Road

Existing AM

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	68	17	36	924	291	24
Future Vol, veh/h	68	17	36	924	291	24
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	18	39	994	313	26
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1397	326	339	0	-	0
Stage 1	326	-	-	-	-	-
Stage 2	1071	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	155	715	1220	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	329	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	144	715	1220	-	-	-
Mov Cap-2 Maneuver	144	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	306	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	47.9	0.3		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1220	-	171	-	-	
HCM Lane V/C Ratio	0.032	-	0.534	-	-	
HCM Control Delay (s)	8	0	47.9	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	0.1	-	2.7	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

Williamson County Corridor Plan

2: Columbia Pike & Henpeck Lane

Existing AM

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	22	75	956	36	39	293
Future Vol, veh/h	22	75	956	36	39	293
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	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	78	996	38	41	305
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1401	1015	0	0	1033	0
Stage 1	1015	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	154	289	-	-	673	-
Stage 1	350	-	-	-	-	-
Stage 2	687	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	143	289	-	-	673	-
Mov Cap-2 Maneuver	143	-	-	-	-	-
Stage 1	350	-	-	-	-	-
Stage 2	637	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	31.4	0	1.3			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	235	673		
HCM Lane V/C Ratio	-	-	0.43	0.06		
HCM Control Delay (s)	-	-	31.4	10.7		
HCM Lane LOS	-	-	D	B		
HCM 95th %tile Q(veh)	-	-	2	0.2		

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC 3: Lewisburg Pike & Henpeck Lane

Williamson County Corridor Plan Existing AM

Intersection						
Int Delay, s/veh	12.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	63	166	238	665	255	70
Future Vol, veh/h	63	166	238	665	255	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	140	0	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	202	290	811	311	85
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1745	354	396	0	-	0
Stage 1	354	-	-	-	-	-
Stage 2	1391	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	96	690	1163	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	~ 71	690	1163	-	-	-
Mov Cap-2 Maneuver	~ 71	-	-	-	-	-
Stage 1	710	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	72.9	2.4		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1163	-	71	690	-	-
HCM Lane V/C Ratio	0.25	-	1.082	0.293	-	-
HCM Control Delay (s)	9.1	-	232.4	12.4	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	1	-	5.7	1.2	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

1: Columbia Pike & Coleman Road

Williamson County Corridor Plan

Existing PM

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	37	31	21	407	916	83
Future Vol, veh/h	37	31	21	407	916	83
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	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	33	22	433	974	88
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1497	1019	1063	0	-	0
Stage 1	1019	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	135	288	655	-	-	-
Stage 1	348	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	129	288	655	-	-	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	348	-	-	-	-	-
Stage 2	597	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	40.3	0.5		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	655	-	172	-	-	
HCM Lane V/C Ratio	0.034	-	0.421	-	-	
HCM Control Delay (s)	10.7	0	40.3	-	-	
HCM Lane LOS	B	A	E	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.9	-	-	

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WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC 2: Columbia Pike & Henpeck Lane

Williamson County Corridor Plan Existing PM

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	25	62	444	0	92	974
Future Vol, veh/h	25	62	444	0	92	974
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	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	64	458	0	95	1004
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1652	458	0	0	458	0
Stage 1	458	-	-	-	-	-
Stage 2	1194	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	108	603	-	-	1103	-
Stage 1	637	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	87	603	-	-	1103	-
Mov Cap-2 Maneuver	87	-	-	-	-	-
Stage 1	637	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	31.6		0		0.7	
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	- 223	1103	-		
HCM Lane V/C Ratio	-	- 0.402	0.086	-		
HCM Control Delay (s)	-	- 31.6	8.6	0		
HCM Lane LOS	-	- D	A	A		
HCM 95th %ile Q(veh)	-	- 1.8	0.3	-		

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
3: Lewisburg Pike & Henpeck Lane

Williamson County Corridor Plan
Existing PM

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	33	128	82	330	857	51
Future Vol, veh/h	33	128	82	330	857	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	140	0	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	138	88	355	922	55
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1480	949	976	0	-	0
Stage 1	949	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	138	316	707	-	-	-
Stage 1	376	-	-	-	-	-
Stage 2	590	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	121	316	707	-	-	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	376	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	29.4		2.2		0	
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	707	-	121	316	-	-
HCM Lane V/C Ratio	0.125	-	0.293	0.436	-	-
HCM Control Delay (s)	10.8	-	46.7	24.9	-	-
HCM Lane LOS	B	-	E	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.1	2.1	-	-

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2020 CAPACITY ANALYSIS OUTPUTS

SNEED CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM (Short-Term Improvements)

1: Pasquo Rd. & Sneed Rd.

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	6	83	5	9	455	3
Future Vol, veh/h	6	83	5	9	455	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	89	5	10	489	3
Major/Minor	Major2	Minor1		Major1		
Conflicting Flow All	3	-	1084	3	89	0
Stage 1	-	-	982	-	-	-
Stage 2	-	-	102	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	-	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	-	-
Pot Cap-1 Maneuver	1619	-	217	1081	-	-
Stage 1	-	-	327	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1619	-	0	1081	-	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0.5	8.4				
HCM LOS		A				
Minor Lane/Major Mvmt	NBLn1	WBL	WBR	SBL	SBT	
Capacity (veh/h)	1081	1619	-	-	-	
HCM Lane V/C Ratio	0.014	0.004	-	-	-	
HCM Control Delay (s)	8.4	7.2	-	-	-	
HCM Lane LOS	A	A	-	-	-	
HCM 95th %tile Q(veh)	0	0	-	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2: Temple Rd. & Sneed Rd.

2020 AM (Short-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	568	47	63	125	99	45	153	140	292	76	17
Future Volume (veh/h)	32	568	47	63	125	99	45	153	140	292	76	17
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		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	1863	1863	1863	1863
Adj Flow Rate, veh/h	35	624	52	69	137	109	49	168	154	321	84	19
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	564	811	689	238	811	689	547	670	569	435	670	569
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1129	1863	1583	760	1863	1583	1286	1863	1583	1053	1863	1583
Grp Volume(V), veh/h	35	624	52	69	137	109	49	168	154	321	84	19
Grp Sat Flow(s), veh/h/ln	1129	1863	1583	760	1863	1583	1286	1863	1583	1053	1863	1583
Q Serve(g_s), s	1.1	16.6	1.1	5.0	2.6	2.4	1.6	3.7	4.0	17.3	1.8	0.5
Cycle Q Clear(g_c), s	3.8	16.6	1.1	21.6	2.6	2.4	3.3	3.7	4.0	21.0	1.8	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	564	811	689	238	811	689	547	670	569	435	670	569
V/C Ratio(X)	0.06	0.77	0.08	0.29	0.17	0.16	0.09	0.25	0.27	0.74	0.13	0.03
Avail Cap(c_a), veh/h	594	861	732	258	861	732	547	670	569	435	670	569
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	11.2	14.0	9.6	23.2	10.1	10.0	13.7	13.2	13.3	20.8	12.6	12.1
Incr Delay (d2), s/veh	0.0	4.1	0.0	0.7	0.1	0.1	0.1	0.2	0.3	6.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	9.4	0.5	1.1	1.4	1.1	0.6	1.9	1.8	5.9	0.9	0.2
LnGrp Delay(d),s/veh	11.3	18.1	9.7	23.8	10.2	10.1	13.7	13.4	13.5	27.3	12.6	12.2
LnGrp LOS	B	B	A	C	B	B	B	B	B	C	B	B
Approach Vol, veh/h	711			315			371			424		
Approach Delay, s/veh	17.1			13.1			13.5			23.7		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	31.4		27.0		31.4		27.0					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	27.0		21.0		27.0		21.0					
Max Q Clear Time (g_c+I1), s	18.6		23.0		23.6		6.0					
Green Ext Time (p_c), s	3.7		0.0		1.8		3.4					
Intersection Summary												
HCM 2010 Ctrl Delay	17.2											
HCM 2010 LOS	B											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 3: Sneed Rd. & Vaughn Rd.

2020 AM (Short-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	143	934	237	147	196	66		
Future Volume (veh/h)	143	934	237	147	196	66		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	149	973	247	153	204	69		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	607	1125	651	403	317	283		
Arrive On Green	0.60	0.60	0.60	0.60	0.18	0.18		
Sat Flow, veh/h	981	1863	1078	667	1774	1583		
Grp Volume(V), veh/h	149	973	0	400	204	69		
Grp Sat Flow(s),veh/h/ln	981	1863	0	1745	1774	1583		
Q Serve(g_s), s	5.1	23.9	0.0	6.5	5.9	2.1		
Cycle Q Clear(g_c), s	11.6	23.9	0.0	6.5	5.9	2.1		
Prop In Lane	1.00			0.38	1.00	1.00		
Lane Grp Cap(c), veh/h	607	1125	0	1054	317	283		
V/C Ratio(X)	0.25	0.86	0.00	0.38	0.64	0.24		
Avail Cap(c_a), veh/h	682	1266	0	1186	499	445		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.6	9.1	0.0	5.6	21.0	19.5		
Incr Delay (d2), s/veh	0.2	5.9	0.0	0.2	2.2	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	13.7	0.0	3.2	3.1	0.9		
LnGrp Delay(d),s/veh	8.8	15.0	0.0	5.8	23.2	19.9		
LnGrp LOS	A	B		A	C	B		
Approach Vol, veh/h		1122	400		273			
Approach Delay, s/veh		14.2	5.8		22.4			
Approach LOS		B	A		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		39.3		15.8		39.3		
Change Period (Y+Rc), s		6.0		6.0		6.0		
Max Green Setting (Gmax), s		37.5		15.5		37.5		
Max Q Clear Time (g_c+I1), s		25.9		7.9		8.5		
Green Ext Time (p_c), s		7.4		0.5		13.0		
Intersection Summary								
HCM 2010 Ctrl Delay			13.6					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Hillsboro Rd. & Sneed Rd.

2020 AM (Short-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	 				 	 		
Traffic Volume (veh/h)	635	492	291	764	386	200		
Future Volume (veh/h)	635	492	291	764	386	200		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	676	523	310	813	411	213		
Adj No. of Lanes	2	1	1	1	1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	759	536	500	1115	733	972		
Arrive On Green	0.22	0.22	0.12	0.60	0.39	0.39		
Sat Flow, veh/h	3442	1583	1774	1863	1863	1583		
Grp Volume(v), veh/h	676	523	310	813	411	213		
Grp Sat Flow(s),veh/h/ln	1721	1583	1774	1863	1863	1583		
Q Serve(g_s), s	12.1	14.0	6.1	19.7	10.9	3.8		
Cycle Q Clear(g_c), s	12.1	14.0	6.1	19.7	10.9	3.8		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	759	536	500	1115	733	972		
V/C Ratio(X)	0.89	0.98	0.62	0.73	0.56	0.22		
Avail Cap(c_a), veh/h	759	536	500	1159	777	1010		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(f)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.0	20.7	10.2	9.1	15.0	5.5		
Incr Delay (d2), s/veh	12.9	32.6	2.5	1.9	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.1	20.1	3.2	10.5	5.7	2.6		
LnGrp Delay(d),s/veh	36.9	53.3	12.7	11.0	15.4	5.5		
LnGrp LOS	D	D	B	B	B	A		
Approach Vol, veh/h	1199			1123	624			
Approach Delay, s/veh	44.1			11.5	12.0			
Approach LOS	D			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		43.5		20.0	13.0	30.5		
Change Period (Y+Rc), s		5.5		6.0	5.5	5.5		
Max Green Setting (Gmax), s		39.5		14.0	7.5	26.5		
Max Q Clear Time (g_c+I1), s		21.7		16.0	8.1	12.9		
Green Ext Time (p_c), s		2.4		0.0	0.0	2.3		
Intersection Summary								
HCM 2010 Ctrl Delay			24.9					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
1: Pasquo Rd. & Sneed Rd.

2020 PM (Short-Term Improvements)
Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	10	307	7	13	105	8
Future Vol, veh/h	10	307	7	13	105	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	341	8	14	117	9
Major/Minor	Major2	Minor1		Major1		
Conflicting Flow All	9	-	605	9	341	0
Stage 1	-	-	242	-	-	-
Stage 2	-	-	363	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	-	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	-	-
Pot Cap-1 Maneuver	1611	-	412	1073	-	-
Stage 1	-	-	705	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1611	-	0	1073	-	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0.2	8.4				
HCM LOS		A				
Minor Lane/Major Mvmt	NBLn1	WBL	WBR	SBL	SBT	
Capacity (veh/h)	1073	1611	-	-	-	
HCM Lane V/C Ratio	0.021	0.007	-	-	-	
HCM Control Delay (s)	8.4	7.2	-	-	-	
HCM Lane LOS	A	A	-	-	-	
HCM 95th %ile Q(veh)	0.1	0	-	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2: Temple Rd. & Sneed Rd.

2020 PM (Short-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	140	23	86	369	316	67	127	85	135	173	100
Future Volume (veh/h)	40	140	23	86	369	316	67	127	85	135	173	100
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		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/in	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	42	147	24	91	388	333	71	134	89	142	182	105
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	418	887	754	693	887	754	341	443	377	378	443	377
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	729	1863	1583	1209	1863	1583	1088	1863	1583	1153	1863	1583
Grp Volume(v), veh/h	42	147	24	91	388	333	71	134	89	142	182	105
Grp Sat Flow(s), veh/h/in	729	1863	1583	1209	1863	1583	1088	1863	1583	1153	1863	1583
Q Serve(g_s), s	1.7	1.9	0.3	1.9	5.8	5.9	2.5	2.5	1.9	4.8	3.5	2.3
Cycle Q Clear(g_c), s	7.5	1.9	0.3	3.8	5.8	5.9	5.9	2.5	1.9	7.3	3.5	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	418	887	754	693	887	754	341	443	377	378	443	377
V/C Ratio(X)	0.10	0.17	0.03	0.13	0.44	0.44	0.21	0.30	0.24	0.38	0.41	0.28
Avail Cap(c_a), veh/h	453	976	829	751	976	829	367	488	415	405	488	415
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	9.8	6.3	5.8	7.3	7.3	7.3	16.0	13.1	12.9	16.1	13.5	13.1
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.1	0.3	0.4	0.3	0.4	0.3	0.6	0.6	0.4
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(50%),veh/ln	0.4	1.0	0.2	0.6	3.0	2.6	0.8	1.3	0.8	1.6	1.8	1.0
LnGrp Delay(d),s/veh	9.9	6.3	5.9	7.4	7.6	7.7	16.3	13.5	13.2	16.8	14.1	13.5
LnGrp LOS	A	A	A	A	A	A	B	B	B	B	B	B
Approach Vol, veh/h	213			812			294			429		
Approach Delay, s/veh	7.0			7.6			14.1			14.8		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	26.0		16.0		26.0		16.0					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	22.0		11.0		22.0		11.0					
Max Q Clear Time (g_c+I1), s	9.5		9.3		7.9		7.9					
Green Ext Time (p_c), s	4.1		0.6		4.3		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay				10.4								
HCM 2010 LOS				B								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 3: Sneed Rd. & Vaughn Rd.

2020 PM (Short-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	47	271	590	158	165	112		
Future Volume (veh/h)	47	271	590	158	165	112		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	52	301	656	176	183	124		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	271	1059	805	216	345	308		
Arrive On Green	0.57	0.57	0.57	0.57	0.19	0.19		
Sat Flow, veh/h	657	1863	1416	380	1774	1583		
Grp Volume(v), veh/h	52	301	0	832	183	124		
Grp Sat Flow(s),veh/h/ln	657	1863	0	1796	1774	1583		
Q Serve(g_s), s	3.5	4.2	0.0	18.9	4.7	3.5		
Cycle Q Clear(g_c), s	22.4	4.2	0.0	18.9	4.7	3.5		
Prop In Lane	1.00			0.21	1.00	1.00		
Lane Grp Cap(c), veh/h	271	1059	0	1021	345	308		
V/C Ratio(X)	0.19	0.28	0.00	0.81	0.53	0.40		
Avail Cap(c_a), veh/h	312	1176	0	1134	560	500		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	17.8	5.6	0.0	8.8	18.3	17.8		
Incr Delay (d2), s/veh	0.3	0.1	0.0	4.3	1.3	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	2.1	0.0	10.2	2.4	1.6		
LnGrp Delay(d),s/veh	18.1	5.8	0.0	13.1	19.6	18.7		
LnGrp LOS	B	A		B	B	B		
Approach Vol, veh/h		353	832		307			
Approach Delay, s/veh		7.6	13.1		19.2			
Approach LOS		A	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		34.8		15.9		34.8		
Change Period (Y+Rc), s		6.0		6.0		6.0		
Max Green Setting (Gmax), s		32.0		16.0		32.0		
Max Q Clear Time (g_c+I1), s		24.4		6.7		20.9		
Green Ext Time (p_c), s		4.4		0.6		5.8		
Intersection Summary								
HCM 2010 Ctrl Delay			13.1					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Hillsboro Rd. & Sneed Rd.

2020 PM (Short-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	191	335	414	513	728	459		
Future Volume (veh/h)	191	335	414	513	728	459		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	197	345	427	529	751	473		
Adj No. of Lanes	2	1	1	1	1	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	331	453	482	1341	822	851		
Arrive On Green	0.10	0.10	0.19	0.72	0.44	0.44		
Sat Flow, veh/h	3442	1583	1774	1863	1863	1583		
Grp Volume(v), veh/h	197	345	427	529	751	473		
Grp Sat Flow(s), veh/h/ln	1721	1583	1774	1863	1863	1583		
Q Serve(g_s), s	3.4	6.0	9.3	6.9	23.6	12.3		
Cycle Q Clear(g_c), s	3.4	6.0	9.3	6.9	23.6	12.3		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	331	453	482	1341	822	851		
V/C Ratio(X)	0.60	0.76	0.89	0.39	0.91	0.56		
Avail Cap(c_a), veh/h	331	453	556	1565	969	976		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	27.1	20.3	15.4	3.4	16.3	9.5		
Incr Delay (d2), s/veh	3.2	7.6	14.8	0.1	10.6	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	11.2	9.0	3.6	14.3	6.5		
LnGrp Delay(d),s/veh	30.3	28.0	30.2	3.5	26.9	9.7		
LnGrp LOS	C	C	C	A	C	A		
Approach Vol, veh/h	542			956	1224			
Approach Delay, s/veh	28.8			15.4	20.3			
Approach LOS	C			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		50.5		12.0	17.4	33.1		
Change Period (Y+Rc), s		5.5		6.0	5.5	5.5		
Max Green Setting (Gmax), s		52.5		6.0	14.5	32.5		
Max Q Clear Time (g_c+I1), s		8.9		8.0	11.3	25.6		
Green Ext Time (p_c), s		2.7		0.0	0.6	2.0		
Intersection Summary								
HCM 2010 Ctrl Delay			20.3					
HCM 2010 LOS			C					

CLOVERCROFT CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 AM Peak Hour (Short-Term Improvements) 1: Murfreesboro Rd. & Clovercroft Rd. Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations		 	 			 		
Traffic Volume (veh/h)	87	381	2183	47	107	205		
Future Volume (veh/h)	87	381	2183	47	107	205		
Number	1	6	2	12	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A _{pbt})	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	95	414	2373	51	116	223		
Adj No. of Lanes	1	2	2	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	154	2827	2549	55	144	1268		
Arrive On Green	0.04	0.80	0.72	0.72	0.08	0.08		
Sat Flow, veh/h	1774	3632	3636	76	1774	1583		
Grp Volume(v), veh/h	95	414	1181	1243	116	223		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1849	1774	1583		
Q Serve(g _s), s	1.5	3.1	65.7	67.2	7.5	3.8		
Cycle Q Clear(g _c), s	1.5	3.1	65.7	67.2	7.5	3.8		
Prop In Lane	1.00			0.04	1.00	1.00		
Lane Grp Cap(c), veh/h	154	2827	1273	1330	144	1268		
V/C Ratio(X)	0.62	0.15	0.93	0.93	0.80	0.18		
Avail Cap(c _a), veh/h	202	2925	1275	1332	144	1268		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	32.9	2.7	13.8	14.0	52.7	2.7		
Incr Delay (d2), s/veh	2.9	0.1	12.2	12.6	28.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	1.5	35.8	38.5	4.8	7.2		
LnGrp Delay(d),s/veh	35.9	2.7	26.0	26.6	80.9	2.8		
LnGrp LOS	D	A	C	C	F	A		
Approach Vol, veh/h		509	2424		339			
Approach Delay, s/veh		8.9	26.3		29.5			
Approach LOS		A	C		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	9.3	91.5		16.0		100.8		
Change Period (Y+Rc), s	4.5	7.5		6.5		7.5		
Max Green Setting (Gmax), s	7.9	84.1		9.5		96.5		
Max Q Clear Time (g _c +I1), s	3.5	69.2		9.5		5.1		
Green Ext Time (p _c), s	0.0	14.8		0.0		87.8		
Intersection Summary								
HCM 2010 Ctrl Delay			23.9					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 AM Peak Hour (Short-Term Improvements) 2: Oxford Glen Rd. & Clovercroft Rd.

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	96	4	12	186	381	9	234	18	41	32	22
Future Volume (veh/h)	99	96	4	12	186	381	9	234	18	41	32	22
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		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	1863	1863	1863	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	121	117	5	15	227	465	11	285	22	50	39	27
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	391	725	31	611	761	647	84	583	44	510	356	246
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	749	1774	76	1264	1863	1583	22	1683	127	1068	1027	711
Grp Volume(v), veh/h	121	0	122	15	227	465	318	0	0	50	0	66
Grp Sat Flow(s), veh/h/ln	749	0	1849	1264	1863	1583	1832	0	0	1068	0	1737
Q Serve(g_s), s	6.4	0.0	2.0	0.4	4.0	12.0	0.0	0.0	0.0	0.0	0.0	1.3
Cycle Q Clear(g_c), s	10.4	0.0	2.0	2.4	4.0	12.0	6.7	0.0	0.0	1.7	0.0	1.3
Prop In Lane	1.00		0.04	1.00		1.00	0.03		0.07	1.00		0.41
Lane Grp Cap(c), veh/h	391	0	756	611	761	647	710	0	0	510	0	602
V/C Ratio(X)	0.31	0.00	0.16	0.02	0.30	0.72	0.45	0.00	0.00	0.10	0.00	0.11
Avail Cap(c_a), veh/h	774	0	1700	1256	1712	1455	1305	0	0	860	0	1171
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	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.2	0.0	9.2	9.9	9.8	12.1	12.6	0.0	0.0	11.0	0.0	10.9
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.2	1.5	0.4	0.0	0.0	0.1	0.0	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(50%),veh/ln	1.4	0.0	1.0	0.1	2.1	5.4	3.4	0.0	0.0	0.5	0.0	0.6
LnGrp Delay(d),s/veh	13.7	0.0	9.3	9.9	10.0	13.6	13.1	0.0	0.0	11.1	0.0	11.0
LnGrp LOS	B		A	A	A	B	B			B		B
Approach Vol, veh/h	243			707			318			116		
Approach Delay, s/veh	11.5			12.4			13.1			11.0		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	26.0		23.0		26.0		23.0					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	45.0		33.0		45.0		33.0					
Max Q Clear Time (g_c+1), s	12.4		3.7		14.0		8.7					
Green Ext Time (p_c), s	5.0		2.8		4.9		2.7					
Intersection Summary												
HCM 2010 Ctrl Delay	12.3											
HCM 2010 LOS	B											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

3: Wilson Pk. & Clovercroft Rd.

2020 AM Peak Hour (Short-Term Improvements)

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	14.3					
Movement	EBL	EBR	NBL	NBT	SBT	SEB
Traffic Vol, veh/h	167	42	240	154	36	305
Future Vol, veh/h	167	42	240	154	36	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	300	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	188	47	270	173	40	343
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	924	212	383	0	-	0
Stage 1	212	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	299	828	1175	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	230	828	1175	-	-	-
Mov Cap-2 Maneuver	230	-	-	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	54.3	5.5		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SEB
Capacity (veh/h)	1175	-	230	828	-	-
HCM Lane V/C Ratio	0.23	-	0.816	0.057	-	-
HCM Control Delay (s)	9	-	65.6	9.6	-	-
HCM Lane LOS	A	-	F	A	-	-
HCM 95th %tile Q(veh)	0.9	-	6.1	0.2	-	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 AM Peak Hour (Short-Term Improvements) 4: Wilson Pk. & Clovercroft Rd.

Williamson County Corridor Study

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	278	1181	178	144	194	63		
Future Volume (veh/h)	278	1181	178	144	194	63		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	309	1312	198	160	216	70		
Adj No. of Lanes	1	2	1	0	2	1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	618	1413	244	197	545	918		
Arrive On Green	0.35	0.35	0.26	0.26	0.16	0.49		
Sat Flow, veh/h	1774	2787	955	772	3442	1863		
Grp Volume(V), veh/h	309	1312	0	358	216	70		
Grp Sat Flow(s),veh/h/ln	1774	1393	0	1727	1721	1863		
Q Serve(g_s), s	8.7	22.0	0.0	12.3	3.6	1.2		
Cycle Q Clear(g_c), s	8.7	22.0	0.0	12.3	3.6	1.2		
Prop In Lane	1.00	1.00		0.45	1.00			
Lane Grp Cap(c), veh/h	618	1413	0	441	545	918		
V/C Ratio(X)	0.50	0.93	0.00	0.81	0.40	0.08		
Avail Cap(c_a), veh/h	618	1413	0	684	1254	1565		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.2	14.5	0.0	22.1	23.8	8.4		
Incr Delay (d2), s/veh	0.6	10.9	0.0	4.3	0.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.3	12.6	0.0	6.4	1.7	0.7		
LnGrp Delay(d),s/veh	16.8	25.4	0.0	26.3	24.3	8.5		
LnGrp LOS	B	C		C	C	A		
Approach Vol, veh/h	1621		358		286			
Approach Delay, s/veh	23.8		26.3		20.4			
Approach LOS	C		C		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	21.1				36.1		27.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	23.0	25.0				53.0		22.0
Max Q Clear Time (g_c+I1), s	5.6	14.3				3.2		24.0
Green Ext Time (p_c), s	0.6	1.8				2.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			23.8					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM Peak Hour (Short-Term Improvements)

5: Williams Rd. & Clovercroft Rd.

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	66.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	180	32	1	1043	257	7
Future Vol, veh/h	180	32	1	1043	257	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	196	35	1	1134	279	8
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	230	0	1349	213
Stage 1	-	-	-	-	213	-
Stage 2	-	-	-	-	1136	-
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	-	-	1338	-	~ 166	827
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	306	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1338	-	~ 166	827
Mov Cap-2 Maneuver	-	-	-	-	~ 166	-
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	305	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		\$ 381.1	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	170	-	-	1338	-	
HCM Lane V/C Ratio	1.688	-	-	0.001	-	
HCM Control Delay (s)	\$ 381.1	-	-	7.7	0	
HCM Lane LOS	F	-	-	A	A	
HCM 95th %tile Q(veh)	20	-	-	0	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s -: Computation Not Defined *: All major volume in platoon						

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 PM Peak Hour (Short-Term Improvements) 1: Murfreesboro Rd. & Clovercroft Rd.

Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	179	2427	703	38	97	142		
Future Volume (veh/h)	179	2427	703	38	97	142		
Number	1	6	2	12	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	190	2582	748	40	103	151		
Adj No. of Lanes	1	2	2	0	1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	556	2669	2215	118	158	1167		
Arrive On Green	0.06	0.75	0.65	0.65	0.09	0.09		
Sat Flow, veh/h	1774	3632	3511	183	1774	1583		
Grp Volume(V), veh/h	190	2582	387	401	103	151		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1831	1774	1583		
Q Serve(g_s), s	2.9	59.3	8.8	8.8	5.0	2.5		
Cycle Q Clear(g_c), s	2.9	59.3	8.8	8.8	5.0	2.5		
Prop In Lane	1.00			0.10	1.00	1.00		
Lane Grp Cap(c), veh/h	556	2669	1147	1186	158	1167		
V/C Ratio(X)	0.34	0.97	0.34	0.34	0.65	0.13		
Avail Cap(c_a), veh/h	609	2691	1147	1186	159	1168		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	4.7	10.0	7.1	7.1	39.4	3.4		
Incr Delay (d2), s/veh	0.3	11.0	0.4	0.4	10.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	32.0	4.4	4.6	2.9	3.7		
LnGrp Delay(d),s/veh	4.9	20.9	7.5	7.4	49.6	3.5		
LnGrp LOS	A	C	A	A	D	A		
Approach Vol, veh/h		2772	788		254			
Approach Delay, s/veh		19.8	7.5		22.2			
Approach LOS		B	A		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	9.5	65.5		14.5		74.9		
Change Period (Y+Rc), s	4.5	7.5		6.5		7.5		
Max Green Setting (Gmax), s	7.7	55.8		8.0		68.0		
Max Q Clear Time (g_c+I1), s	4.9	10.8		7.0		61.3		
Green Ext Time (p_c), s	0.1	44.5		0.1		6.1		
Intersection Summary								
HCM 2010 Ctrl Delay			17.4					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 PM Peak Hour (Short-Term Improvements) 2: Oxford Glen Rd. & Clovercroft Rd.

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	204	7	22	124	57	4	62	13	362	356	183
Future Volume (veh/h)	53	204	7	22	124	57	4	62	13	362	356	183
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		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	1863	1863	1863	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	56	217	7	23	132	61	4	66	14	385	379	195
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	535	686	22	480	712	605	79	571	116	662	451	232
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1185	1795	58	1152	1863	1583	19	1470	298	1313	1160	597
Grp Volume(v), veh/h	56	0	224	23	132	61	84	0	0	385	0	574
Grp Sat Flow(s), veh/h/ln	1185	0	1853	1152	1863	1583	1787	0	0	1313	0	1757
Q Serve(g_s), s	1.7	0.0	4.4	0.7	2.5	1.3	0.0	0.0	0.0	10.9	0.0	15.5
Cycle Q Clear(g_c), s	4.2	0.0	4.4	5.2	2.5	1.3	1.6	0.0	0.0	12.5	0.0	15.5
Prop In Lane	1.00		0.03	1.00		1.00	0.05		0.17	1.00		0.34
Lane Grp Cap(c), veh/h	535	0	708	480	712	605	766	0	0	662	0	683
V/C Ratio(X)	0.10	0.00	0.32	0.05	0.19	0.10	0.11	0.00	0.00	0.58	0.00	0.84
Avail Cap(c_a), veh/h	535	0	708	480	712	605	854	0	0	728	0	772
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	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	0.0	11.4	13.2	10.8	10.4	10.3	0.0	0.0	13.4	0.0	14.5
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.1	0.1	0.1	0.0	0.0	1.0	0.0	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	2.3	0.2	1.3	0.6	0.8	0.0	0.0	4.9	0.0	8.9
LnGrp Delay(d),s/veh	12.2	0.0	11.6	13.2	10.9	10.5	10.3	0.0	0.0	14.4	0.0	22.0
LnGrp LOS	B		B	B	B	B	B			B		C
Approach Vol, veh/h	280			216			84			959		
Approach Delay, s/veh	11.7			11.0			10.3			19.0		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	26.0		26.3		26.0		26.3					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	20.0		23.0		20.0		23.0					
Max Q Clear Time (g_c+I1), s	6.4		17.5		7.2		3.6					
Green Ext Time (p_c), s	2.0		2.8		2.0		6.1					
Intersection Summary												
HCM 2010 Ctrl Delay	16.1											
HCM 2010 LOS	B											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
3: Wilson Pk. & Clovercroft Rd.

2020 PM Peak Hour (Short-Term Improvements)
Williamson County Corridor Study

Intersection						
Int Delay, s/veh	10.2					
Movement	EBL	EBR	NBL	NBT	SBT	SEB
Traffic Vol, veh/h	299	217	53	50	184	161
Future Vol, veh/h	299	217	53	50	184	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	300	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	332	241	59	56	204	179
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	467	294	383	0	-	0
Stage 1	294	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	554	745	1175	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	857	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	526	745	1175	-	-	-
Mov Cap-2 Maneuver	526	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	18.3	4.2		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SEB
Capacity (veh/h)	1175	-	526	745	-	-
HCM Lane V/C Ratio	0.05	-	0.632	0.324	-	-
HCM Control Delay (s)	8.2	-	22.8	12.1	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %ile Q(veh)	0.2	-	4.4	1.4	-	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 PM Peak Hour (Short-Term Improvements) 4: Wilson Pk. & Clovercroft Rd.

Williamson County Corridor Study

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	100	229	109	240	1076	245		
Future Volume (veh/h)	100	229	109	240	1076	245		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A _{LpbT})	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	105	241	115	253	1133	258		
Adj No. of Lanes	1	2	1	0	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	186	1344	132	290	1299	1340		
Arrive On Green	0.11	0.11	0.25	0.25	0.38	0.72		
Sat Flow, veh/h	1774	2787	519	1142	3442	1863		
Grp Volume(V), veh/h	105	241	0	368	1133	258		
Grp Sat Flow(s),veh/h/ln	1774	1393	0	1661	1721	1863		
Q Serve(g _s), s	3.2	2.8	0.0	12.1	17.4	2.6		
Cycle Q Clear(g _c), s	3.2	2.8	0.0	12.1	17.4	2.6		
Prop In Lane	1.00	1.00		0.69	1.00			
Lane Grp Cap(c), veh/h	186	1344	0	422	1299	1340		
V/C Ratio(X)	0.56	0.18	0.00	0.87	0.87	0.19		
Avail Cap(c _a), veh/h	187	1345	0	438	1452	1441		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.2	8.3	0.0	20.3	16.4	2.6		
Incr Delay (d2), s/veh	3.8	0.1	0.0	16.9	5.7	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	1.1	0.0	7.5	9.2	1.3		
LnGrp Delay(d),s/veh	28.0	8.4	0.0	37.2	22.1	2.7		
LnGrp LOS	C	A		D	C	A		
Approach Vol, veh/h	346		368		1391			
Approach Delay, s/veh	14.4		37.2		18.5			
Approach LOS	B		D		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	26.5	19.4				45.9		11.0
Change Period (Y+Rc), s	5.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	24.0	15.0				44.0		6.0
Max Q Clear Time (g _c +I1), s	19.4	14.1				4.6		5.2
Green Ext Time (p _c), s	2.1	0.4				4.1		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			21.1					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 PM Peak Hour (Short-Term Improvements)

5: Williams Rd. & Clovercroft Rd.

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	887	200	19	235	31	4
Future Vol, veh/h	887	200	19	235	31	4
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	934	211	20	247	33	4
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1144	0	1326	1039
Stage 1	-	-	-	-	1039	-
Stage 2	-	-	-	-	287	-
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	-	-	611	-	172	280
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	762	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	611	-	165	280
Mov Cap-2 Maneuver	-	-	-	-	165	-
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	733	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.8		31.4	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	173	-	-	611	-	
HCM Lane V/C Ratio	0.213	-	-	0.033	-	
HCM Control Delay (s)	31.4	-	-	11.1	0	
HCM Lane LOS	D	-	-	B	A	
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-	

LYNNWOOD CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Hillsboro Rd. & S. Berrys Chapel Rd.

2020 AM (Short-Term Improvements)
Williamson County Corridor Study

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑	↱	↰	↑	↱
Traffic Volume (veh/h)	305	378	46	100	82	134	4	725	163	293	551	86
Future Volume (veh/h)	305	378	46	100	82	134	4	725	163	293	551	86
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	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	321	398	48	105	86	141	4	763	172	308	580	91
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	517	442	376	258	253	369	281	919	411	334	1240	831
Arrive On Green	0.17	0.24	0.24	0.07	0.14	0.14	0.01	0.26	0.26	0.10	0.35	0.35
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	321	398	48	105	86	141	4	763	172	308	580	91
Grp Sat Flow(s), veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	10.5	14.9	1.7	3.6	3.0	5.4	0.1	14.7	6.5	6.4	9.2	2.1
Cycle Q Clear(g_c), s	10.5	14.9	1.7	3.6	3.0	5.4	0.1	14.7	6.5	6.4	9.2	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	517	442	376	258	253	369	281	919	411	334	1240	831
V/C Ratio(X)	0.62	0.90	0.13	0.41	0.34	0.38	0.01	0.83	0.42	0.92	0.47	0.11
Avail Cap(c_a), veh/h	528	442	376	276	258	373	418	1031	461	334	1240	831
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	19.5	26.7	21.6	24.4	28.2	23.3	19.5	25.2	22.2	32.3	18.2	8.6
Incr Delay (d2), s/veh	2.2	21.1	0.2	1.0	0.8	0.7	0.0	5.3	0.7	30.0	0.3	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(50%), veh/ln	5.4	10.2	0.8	1.8	1.6	2.4	0.1	7.8	2.9	4.4	4.5	0.9
LnGrp Delay(d), s/veh	21.7	47.8	21.8	25.5	29.0	23.9	19.5	30.5	22.8	62.2	18.5	8.7
LnGrp LOS	C	D	C	C	C	C	B	C	C	E	B	A
Approach Vol, veh/h	767			332			939			979		
Approach Delay, s/veh	35.2			25.7			29.1			31.3		
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	13.0	24.7	11.3	23.1	6.5	31.2	18.6	15.8				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	21.0	6.0	17.0	6.0	22.0	13.0	10.0				
Max Q Clear Time (g_c+I1), s	8.4	16.7	5.6	16.9	2.1	11.2	12.5	7.4				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.0	6.5	0.1	0.8				
Intersection Summary												
HCM 2010 Ctrl Delay	31.0											
HCM 2010 LOS	C											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

MOVEMENT SUMMARY

 Site: Berry Chapel Rd. and Farmington Dr. - 2020 AM

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Farmington Drive											
3	L2	3	3.0	0.518	16.2	LOS C	1.9	48.9	0.67	0.73	29.0
8	T1	22	3.0	0.518	16.2	LOS C	1.9	48.9	0.67	0.73	29.1
18	R2	256	3.0	0.518	16.2	LOS C	1.9	48.9	0.67	0.73	28.6
Approach		281	3.0	0.518	16.2	LOS C	1.9	48.9	0.67	0.73	28.6
East: Berry Chapel Road											
1	L2	10	3.0	0.149	4.9	LOS A	0.6	14.3	0.21	0.10	33.8
6	T1	263	3.0	0.149	4.9	LOS A	0.6	14.3	0.21	0.10	34.1
16	R2	28	3.0	0.149	4.9	LOS A	0.6	14.3	0.21	0.10	33.2
Approach		301	3.0	0.149	4.9	LOS A	0.6	14.3	0.21	0.10	34.0
North: Farmington Drive											
7	L2	38	3.0	0.111	5.1	LOS A	0.3	7.3	0.28	0.21	33.1
4	T1	3	3.0	0.111	5.1	LOS A	0.3	7.3	0.28	0.21	33.3
14	R2	59	3.0	0.111	5.1	LOS A	0.3	7.3	0.28	0.21	32.5
Approach		100	3.0	0.111	5.1	LOS A	0.3	7.3	0.28	0.21	32.8
West: Berry Chapel Road											
5	L2	55	3.0	0.454	8.6	LOS A	2.5	65.1	0.24	0.11	32.0
2	T1	884	3.0	0.454	8.6	LOS A	2.5	65.1	0.24	0.11	32.2
12	R2	5	3.0	0.454	8.6	LOS A	2.5	65.1	0.24	0.11	31.6
Approach		945	3.0	0.454	8.6	LOS A	2.5	65.1	0.24	0.11	32.2
All Vehicles		1627	3.0	0.518	9.0	LOS A	2.5	65.1	0.31	0.22	31.9

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1. Irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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 SIDRA INTERSECTION 6.0.24.4877
 Project: I:\FILESERVER\file_server\PROJECTS\2015\15-1001 (Williamson County Major Corridor Study)\Sidra
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**SIDRA
INTERSECTION 6**

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
3: S. Berry Chapel Rd.

2020 AM (Short-Term Improvements)
Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	963	115	14	252	24	22
Future Vol, veh/h	963	115	14	252	24	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1014	121	15	265	25	23
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1135	0	1369	-
Stage 1	-	-	-	-	1074	-
Stage 2	-	-	-	-	295	-
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	-	-	616	-	162	0
Stage 1	-	-	-	-	328	0
Stage 2	-	-	-	-	755	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	616	-	157	-
Mov Cap-2 Maneuver	-	-	-	-	157	-
Stage 1	-	-	-	-	328	-
Stage 2	-	-	-	-	733	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		32.3	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	157	-	-	-	616	-
HCM Lane V/C Ratio	0.161	-	-	-	0.024	-
HCM Control Delay (s)	32.3	0	-	-	11	0
HCM Lane LOS	D	A	-	-	B	A
HCM 95th %tile Q(veh)	0.6	-	-	-	0.1	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Lynnwood Way & N Berrys Chpl Connection

2020 AM (Short-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	201	783	266	30	103	1		
Future Volume (veh/h)	201	783	266	30	103	1		
Number	7	4	8	18	1	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	1900	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	212	824	280	32	108	1		
Adj No. of Lanes	0	1	1	0	0	0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	285	967	1183	135	142	1		
Arrive On Green	0.72	0.72	0.72	0.72	0.08	0.08		
Sat Flow, veh/h	297	1343	1642	188	1741	16		
Grp Volume(v), veh/h	1036	0	0	312	110	0		
Grp Sat Flow(s),veh/h/ln	1640	0	0	1830	1773	0		
Q Serve(g_s), s	24.0	0.0	0.0	3.5	3.7	0.0		
Cycle Q Clear(g_c), s	28.4	0.0	0.0	3.5	3.7	0.0		
Prop In Lane	0.20			0.10	0.98	0.01		
Lane Grp Cap(c), veh/h	1253	0	0	1318	144	0		
V/C Ratio(X)	0.83	0.00	0.00	0.24	0.76	0.00		
Avail Cap(c_a), veh/h	1743	0	0	1874	469	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.1	0.0	0.0	2.9	27.2	0.0		
Incr Delay (d2), s/veh	2.4	0.0	0.0	0.1	8.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	13.2	0.0	0.0	1.8	2.1	0.0		
LnGrp Delay(d),s/veh	8.6	0.0	0.0	2.9	35.3	0.0		
LnGrp LOS	A			A	D			
Approach Vol, veh/h	1036		312		110			
Approach Delay, s/veh	8.6		2.9		35.3			
Approach LOS	A		A		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				49.6		10.9		49.6
Change Period (Y+Rc), s				6.0		6.0		6.0
Max Green Setting (Gmax), s				62.0		16.0		62.0
Max Q Clear Time (g_c+I1), s				30.4		5.7		5.5
Green Ext Time (p_c), s				13.2		0.2		15.7
Intersection Summary								
HCM 2010 Ctrl Delay				9.4				
HCM 2010 LOS				A				
Notes								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 5: Franklin Rd. & Lynnwood Way/Moores Ln.

2020 AM (Short-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	431	626	55	144	194	471	24	506	105	272	353	119
Future Volume (veh/h)	431	626	55	144	194	471	24	506	105	272	353	119
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	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	454	659	58	152	204	496	25	533	111	286	372	125
Adj No. of Lanes	2	2	0	2	2	2	2	2	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	600	760	67	250	457	718	443	913	524	443	913	685
Arrive On Green	0.17	0.23	0.23	0.07	0.13	0.13	0.13	0.26	0.26	0.13	0.26	0.26
Sat Flow, veh/h	3442	3292	289	3442	3539	2787	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	454	354	363	152	204	496	25	533	111	286	372	125
Grp Sat Flow(s), veh/h/ln	1721	1770	1812	1721	1770	1393	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	9.7	14.9	14.9	3.3	4.1	5.6	0.5	10.2	1.2	6.1	6.8	0.0
Cycle Q Clear(g_c), s	9.7	14.9	14.9	3.3	4.1	5.6	0.5	10.2	1.2	6.1	6.8	0.0
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	600	408	418	250	457	718	443	913	524	443	913	685
V/C Ratio(X)	0.76	0.87	0.87	0.61	0.45	0.69	0.06	0.58	0.21	0.65	0.41	0.18
Avail Cap(c_a), veh/h	600	438	449	266	557	798	444	950	540	444	950	701
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(f)	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	30.4	28.7	28.7	34.9	31.2	8.3	29.6	25.1	5.7	32.1	23.8	13.5
Incr Delay (d2), s/veh	5.5	15.8	15.7	3.6	0.7	2.2	0.1	0.9	0.2	3.2	0.3	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(50%), veh/ln	5.1	9.1	9.3	1.7	2.1	2.8	0.2	5.1	0.9	3.1	3.3	1.7
LnGrp Delay(d), s/veh	35.9	44.5	44.4	38.4	31.9	10.5	29.7	26.0	5.9	35.3	24.1	13.7
LnGrp LOS	D	D	D	D	C	B	C	C	A	D	C	B
Approach Vol, veh/h	1171			852			669			783		
Approach Delay, s/veh	41.1			20.6			22.8			26.5		
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	16.0	26.0	11.6	23.9	16.0	26.0	19.5	16.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	10.0	20.8	6.0	19.2	10.0	20.8	13.0	12.2				
Max Q Clear Time (g_c+1), s	8.1	12.2	5.3	16.9	2.5	8.8	11.7	7.6				
Green Ext Time (p_c), s	0.2	2.4	0.0	0.9	2.2	2.0	0.3	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay	29.3											
HCM 2010 LOS	C											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Hillsboro Rd. & S. Berrys Chapel Rd.

2020 PM (Short-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	131	27	298	311	301	38	721	184	189	771	232
Future Volume (veh/h)	123	131	27	298	311	301	38	721	184	189	771	232
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/in	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	128	136	28	310	324	314	40	751	192	197	803	242
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	287	244	447	383	462	249	969	434	297	1109	624
Arrive On Green	0.08	0.15	0.15	0.13	0.21	0.21	0.05	0.27	0.27	0.09	0.31	0.31
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	128	136	28	310	324	314	40	751	192	197	803	242
Grp Sat Flow(s), veh/h/in	1774	1863	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	4.0	4.5	1.0	9.0	11.4	11.9	1.1	13.3	6.8	3.8	13.7	7.4
Cycle Q Clear(g_c), s	4.0	4.5	1.0	9.0	11.4	11.9	1.1	13.3	6.8	3.8	13.7	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	287	244	447	383	462	249	969	434	297	1109	624
V/C Ratio(X)	0.46	0.47	0.11	0.69	0.85	0.68	0.16	0.77	0.44	0.66	0.72	0.39
Avail Cap(c_a), veh/h	293	302	257	447	384	463	323	1043	466	304	1109	624
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	22.0	26.2	24.7	21.7	25.9	21.2	17.0	22.7	20.4	30.1	20.7	14.7
Incr Delay (d2), s/veh	1.2	1.2	0.2	4.6	15.9	4.0	0.3	3.5	0.7	5.2	2.4	0.4
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(50%),veh/in	2.0	2.4	0.5	1.7	7.5	5.7	0.5	6.9	3.0	2.0	7.1	3.3
LnGrp Delay(d),s/veh	23.1	27.4	24.9	26.3	41.9	25.2	17.3	26.2	21.1	35.2	23.1	15.1
LnGrp LOS	C	C	C	C	D	C	B	C	C	D	C	B
Approach Vol, veh/h	292			948			983			1242		
Approach Delay, s/veh	25.3			31.3			24.8			23.5		
Approach LOS	C			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	11.9	24.6	15.0	16.4	9.2	27.3	11.5	19.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	6.0	20.0	9.0	11.0	6.0	20.0	6.0	14.0				
Max Q Clear Time (g_c+I1), s	5.8	15.3	11.0	6.5	3.1	15.7	6.0	13.9				
Green Ext Time (p_c), s	0.0	2.3	0.0	1.7	0.0	3.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	26.1											
HCM 2010 LOS	C											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

MOVEMENT SUMMARY

 Site: Berry Chapel Rd. and Farmington Dr. - 2020 PM

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Farmington Drive											
3	L2	4	3.0	0.048	5.2	LOS A	0.1	3.0	0.36	0.31	33.6
8	T1	13	3.0	0.048	5.2	LOS A	0.1	3.0	0.36	0.31	33.8
18	R2	20	3.0	0.048	5.2	LOS A	0.1	3.0	0.36	0.31	33.0
Approach		37	3.0	0.048	5.2	LOS A	0.1	3.0	0.36	0.31	33.4
East: Berry Chapel Road											
1	L2	53	3.0	0.537	10.4	LOS B	3.3	85.3	0.36	0.21	31.2
6	T1	980	3.0	0.537	10.4	LOS B	3.3	85.3	0.36	0.21	31.4
16	R2	41	3.0	0.537	10.4	LOS B	3.3	85.3	0.36	0.21	30.8
Approach		1075	3.0	0.537	10.4	LOS B	3.3	85.3	0.36	0.21	31.4
North: Farmington Drive											
7	L2	35	3.0	0.285	11.1	LOS B	0.8	20.6	0.61	0.62	30.7
4	T1	8	3.0	0.285	11.1	LOS B	0.8	20.6	0.61	0.62	30.8
14	R2	105	3.0	0.285	11.1	LOS B	0.8	20.6	0.61	0.62	30.2
Approach		148	3.0	0.285	11.1	LOS B	0.8	20.6	0.61	0.62	30.3
West: Berry Chapel Road											
5	L2	72	3.0	0.237	5.9	LOS A	1.0	25.0	0.25	0.14	32.9
2	T1	390	3.0	0.237	5.9	LOS A	1.0	25.0	0.25	0.14	33.4
12	R2	10	3.0	0.237	5.9	LOS A	1.0	25.0	0.25	0.14	32.8
Approach		472	3.0	0.237	5.9	LOS A	1.0	25.0	0.25	0.14	33.3
All Vehicles		1732	3.0	0.537	9.1	LOS A	3.3	85.3	0.35	0.23	31.8

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 Irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Friday, April 01, 2016 11:01:41 AM

SIDRA INTERSECTION 6.0.24.4877

Project: \\FILESERVER\\file_server\\PROJECTS\\2015\\15-1001 (Williamson County Major Corridor Study)\\Sidra

\\Farmington and Berry Chapel.sip6

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SIDRA
INTERSECTION 6

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 PM (Short-Term Improvements)

3: S. Berry Chapel Rd. & Lynwood Way

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	4.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	377	32	11	886	103	14
Future Vol, veh/h	377	32	11	886	103	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Free
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	393	33	11	923	107	15
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	426	0	1355	-
Stage 1	-	-	-	-	409	-
Stage 2	-	-	-	-	946	-
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	-	-	1133	-	165	0
Stage 1	-	-	-	-	671	0
Stage 2	-	-	-	-	377	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1133	-	162	-
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	369	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.1		62.6	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	162	-	-	-	1133	-
HCM Lane V/C Ratio	0.662	-	-	-	0.01	-
HCM Control Delay (s)	62.6	0	-	-	8.2	0
HCM Lane LOS	F	A	-	-	A	A
HCM 95th %tile Q(veh)	3.8	-	-	-	0	-

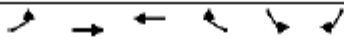
WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary

2020 PM (Short-Term Improvements)

4: Lynnwood Way & N. Berrys Chpl Conn/Sawyer Rd

Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	8	382	882	128	74	15		
Future Volume (veh/h)	8	382	882	128	74	15		
Number	7	4	8	18	1	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	1900	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	8	398	919	133	77	16		
Adj No. of Lanes	0	1	1	0	0	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	78	1272	1105	160	100	21		
Arrive On Green	0.69	0.69	0.69	0.69	0.07	0.07		
Sat Flow, veh/h	9	1832	1592	230	1425	296		
Grp Volume(V), veh/h	406	0	0	1052	94	0		
Grp Sat Flow(s),veh/h/ln	1841	0	0	1822	1739	0		
Q Serve(g_s), s	0.0	0.0	0.0	21.3	2.7	0.0		
Cycle Q Clear(g_c), s	4.3	0.0	0.0	21.3	2.7	0.0		
Prop In Lane	0.02			0.13	0.82	0.17		
Lane Grp Cap(c), veh/h	1350	0	0	1265	122	0		
V/C Ratio(X)	0.30	0.00	0.00	0.83	0.77	0.00		
Avail Cap(c_a), veh/h	1756	0	0	1681	546	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	3.0	0.0	0.0	5.6	23.3	0.0		
Incr Delay (d2), s/veh	0.1	0.0	0.0	2.8	9.8	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	11.2	1.6	0.0		
LnGrp Delay(d),s/veh	3.2	0.0	0.0	8.4	33.1	0.0		
LnGrp LOS	A			A	C			
Approach Vol, veh/h		406	1052		94			
Approach Delay, s/veh		3.2	8.4		33.1			
Approach LOS		A	A		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				41.4		9.6		41.4
Change Period (Y+Rc), s				6.0		6.0		6.0
Max Green Setting (Gmax), s				47.0		16.0		47.0
Max Q Clear Time (g_c+I1), s				6.3		4.7		23.3
Green Ext Time (p_c), s				15.4		0.1		12.1
Intersection Summary								
HCM 2010 Ctrl Delay				8.5				
HCM 2010 LOS				A				
Notes								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 5: Franklin Rd. & Lynnwood Way/Moores Ln.

2020 PM (Short-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	273	89	327	555	736	69	332	123	426	528	238
Future Volume (veh/h)	224	273	89	327	555	736	69	332	123	426	528	238
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	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	233	284	93	341	578	767	72	346	128	444	550	248
Adj No. of Lanes	2	2	0	2	2	2	2	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	368	118	518	707	980	350	880	632	523	1059	616
Arrive On Green	0.09	0.14	0.14	0.15	0.20	0.20	0.10	0.25	0.25	0.15	0.30	0.30
Sat Flow, veh/h	3442	2637	846	3442	3539	2787	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	233	189	188	341	578	767	72	346	128	444	550	248
Grp Sat Flow(s), veh/h/ln	1721	1770	1713	1721	1770	1393	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	5.1	8.0	8.2	7.2	12.1	9.6	1.5	6.3	1.6	9.7	10.0	2.6
Cycle Q Clear(g_c), s	5.1	8.0	8.2	7.2	12.1	9.6	1.5	6.3	1.6	9.7	10.0	2.6
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	310	247	239	518	707	980	350	880	632	523	1059	616
V/C Ratio(X)	0.75	0.76	0.79	0.66	0.82	0.78	0.21	0.39	0.20	0.85	0.52	0.40
Avail Cap(c_a), veh/h	310	301	291	518	739	1005	444	949	663	532	1059	616
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(f)	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	34.4	32.2	32.3	31.1	29.7	7.2	32.0	24.3	4.2	32.0	22.6	5.0
Incr Delay (d2), s/veh	9.8	9.0	11.1	3.1	6.9	4.0	0.3	0.3	0.2	12.1	0.5	0.4
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(50%), veh/ln	2.8	4.5	4.6	3.7	6.6	4.4	0.7	3.1	1.1	5.5	5.0	1.8
LnGrp Delay(d), s/veh	44.2	41.2	43.4	34.1	36.6	11.2	32.3	24.6	4.4	44.1	23.0	5.4
LnGrp LOS	D	D	D	C	D	B	C	C	A	D	C	A
Approach Vol, veh/h	610			1686			546			1242		
Approach Delay, s/veh	43.0			24.5			20.8			27.1		
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	17.8	25.3	17.7	16.8	13.9	29.2	13.0	21.5				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	12.0	20.8	10.0	13.2	10.0	22.8	7.0	16.2				
Max Q Clear Time (g_c+I1), s	11.7	8.3	9.2	10.2	3.5	12.0	7.1	14.1				
Green Ext Time (p_c), s	0.1	4.7	0.2	0.6	0.1	5.0	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				27.6								
HCM 2010 LOS				C								

ARNO CORRIDOR (NORTH)

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Arno Rd. & Mufreesboro Rd.

2020 AM (Short-Term Improvements)
Williamson County Corridor Study

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑		
Traffic Volume (veh/h)	307	235	63	1294	841	73		
Future Volume (veh/h)	307	235	63	1294	841	73		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	327	250	67	1377	895	78		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1046	958	440	1676	1065	600		
Arrive On Green	0.30	0.30	0.07	0.47	0.31	0.31		
Sat Flow, veh/h	3632	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	327	250	67	1377	895	78		
Grp Sat Flow(s),veh/h/ln	1770	1583	1774	1770	1721	1583		
Q Serve(g_s), s	4.0	4.1	1.3	18.5	13.4	1.8		
Cycle Q Clear(g_c), s	4.0	4.1	1.3	18.5	13.4	1.8		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1046	958	440	1676	1065	600		
V/C Ratio(X)	0.31	0.26	0.15	0.82	0.84	0.13		
Avail Cap(c_a), veh/h	1046	958	509	1791	1244	683		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	15.1	5.1	10.7	12.5	17.8	11.2		
Incr Delay (d2), s/veh	0.2	0.1	0.2	3.0	4.7	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	3.2	0.6	9.7	7.0	0.8		
LnGrp Delay(d),s/veh	15.3	5.3	10.8	15.6	22.5	11.3		
LnGrp LOS	B	A	B	B	C	B		
Approach Vol, veh/h	577			1444	973			
Approach Delay, s/veh	11.0			15.4	21.6			
Approach LOS	B			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		23.1	9.9	22.3				32.2
Change Period (Y+Rc), s		6.0	6.0	6.0				6.0
Max Green Setting (Gmax), s		20.0	6.0	16.0				28.0
Max Q Clear Time (g_c+I1), s		15.4	3.3	6.1				20.5
Green Ext Time (p_c), s		1.7	0.0	7.4				5.7
Intersection Summary								
HCM 2010 Ctrl Delay			16.5					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM (Short-Term Improvements)

2: Arno Rd. & S. Carothers Rd.

Williamson County Corridor Study

Intersection							
Int Delay, s/veh	2.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	7	73	293	801	409	15	
Future Vol, veh/h	7	73	293	801	409	15	
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	100	150	-	-	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	7	78	312	852	435	16	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1919	443	451	0	-	0	
Stage 1	443	-	-	-	-	-	
Stage 2	1476	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	74	615	1109	-	-	-	
Stage 1	647	-	-	-	-	-	
Stage 2	209	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	53	615	1109	-	-	-	
Mov Cap-2 Maneuver	53	-	-	-	-	-	
Stage 1	647	-	-	-	-	-	
Stage 2	150	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	18	2.5		0			
HCM LOS	C						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	1109	-	53	615	-	-	
HCM Lane V/C Ratio	0.281	-	0.141	0.126	-	-	
HCM Control Delay (s)	9.5	-	83.7	11.7	-	-	
HCM Lane LOS	A	-	F	B	-	-	
HCM 95th %tile Q(veh)	1.2	-	0.5	0.4	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 3: Arno Rd. & Goosey Hill Rd.

2020 AM (Short-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	95	59	39	997	468	7		
Future Volume (veh/h)	95	59	39	997	468	7		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A _{pbt})	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	101	63	41	1061	498	7		
Adj No. of Lanes	1	1	1	1	2	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	474	423	597	1136	2178	31		
Arrive On Green	0.27	0.27	0.61	0.61	0.61	0.61		
Sat Flow, veh/h	1774	1583	890	1863	3666	50		
Grp Volume(v), veh/h	101	63	41	1061	246	259		
Grp Sat Flow(s),veh/h/ln	1774	1583	890	1863	1770	1854		
Q Serve(g _s), s	2.9	2.0	1.4	33.6	4.1	4.1		
Cycle Q Clear(g _c), s	2.9	2.0	5.5	33.6	4.1	4.1		
Prop In Lane	1.00	1.00	1.00			0.03		
Lane Grp Cap(c), veh/h	474	423	597	1136	1079	1130		
V/C Ratio(X)	0.21	0.15	0.07	0.93	0.23	0.23		
Avail Cap(c _a), veh/h	474	423	616	1175	1116	1169		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	18.5	18.2	7.0	11.5	5.8	5.8		
Incr Delay (d2), s/veh	1.0	0.7	0.0	13.2	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.9	0.3	21.0	2.0	2.1		
LnGrp Delay(d),s/veh	19.5	18.9	7.1	24.7	5.9	5.9		
LnGrp LOS	B	B	A	C	A	A		
Approach Vol, veh/h	164			1102	505			
Approach Delay, s/veh	19.3			24.1	5.9			
Approach LOS	B			C	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		21.4		43.6				43.6
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		41.0				41.0
Max Q Clear Time (g _c +I1), s		4.9		6.1				35.6
Green Ext Time (p _c), s		0.3		14.3				4.0
Intersection Summary								
HCM 2010 Ctrl Delay			18.4					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary

2020 AM (Short-Term Improvements)

4: Arno Rd. & Peystonsville - Trinity Rd./Trinity Rd.

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	41	49	73	4	7	15	895	43	1	519	7
Future Volume (veh/h)	135	41	49	73	4	7	15	895	43	1	519	7
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		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	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	144	44	52	78	4	7	16	952	46	1	552	7
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	117	138	239	91	159	555	1173	57	264	1240	1054
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.67	0.67	0.67	0.67	0.67	0.67
Sat Flow, veh/h	1398	779	921	1294	609	1066	847	1763	85	562	1863	1583
Grp Volume(v), veh/h	144	0	96	78	0	11	16	0	998	1	552	7
Grp Sat Flow(s),veh/h/ln	1398	0	1700	1294	0	1675	847	0	1848	562	1863	1583
Q Serve(g_s), s	6.4	0.0	3.3	3.8	0.0	0.4	0.6	0.0	25.5	0.1	9.2	0.1
Cycle Q Clear(g_c), s	6.8	0.0	3.3	7.1	0.0	0.4	9.7	0.0	25.5	25.6	9.2	0.1
Prop In Lane	1.00		0.54	1.00		0.64	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	312	0	254	239	0	251	555	0	1230	264	1240	1054
V/C Ratio(X)	0.46	0.00	0.38	0.33	0.00	0.04	0.03	0.00	0.81	0.00	0.45	0.01
Avail Cap(c_a), veh/h	447	0	419	364	0	412	555	0	1230	264	1240	1054
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(f)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	24.9	28.1	0.0	23.7	7.5	0.0	7.9	17.2	5.2	3.6
Incr Delay (d2), s/veh	1.1	0.0	0.9	0.8	0.0	0.1	0.1	0.0	5.9	0.0	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.6	1.4	0.0	0.2	0.2	0.0	14.8	0.0	5.0	0.0
LnGrp Delay(d),s/veh	27.6	0.0	25.8	28.9	0.0	23.7	7.6	0.0	13.8	17.2	6.3	3.7
LnGrp LOS	C		C	C		C	A		B	B	A	A
Approach Vol, veh/h	240			89			1014			560		
Approach Delay, s/veh	26.9			28.2			13.7			6.3		
Approach LOS	C			C			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	15.7		49.3		15.7		49.3					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	16.0		37.0		16.0		37.0					
Max Q Clear Time (g_c+I1), s	8.8		27.6		9.1		27.5					
Green Ext Time (p_c), s	0.7		6.6		0.7		6.6					
Intersection Summary												
HCM 2010 Ctrl Delay	13.9											
HCM 2010 LOS	B											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM (Short-Term Improvements)

6: Arno Rd. & Page Middle Exit

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	4.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	117	144	941	0	0	470
Future Vol, veh/h	117	144	941	0	0	470
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	124	153	1001	0	0	500
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1501	1001	0	0	1001	0
Stage 1	1001	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	134	295	-	-	692	-
Stage 1	355	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	134	295	-	-	692	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	355	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	30.2		0		0	
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	260	295	692	-
HCM Lane V/C Ratio	-	-	0.479	0.519	-	-
HCM Control Delay (s)	-	-	30.9	29.7	0	-
HCM Lane LOS	-	-	D	D	A	-
HCM 95th %tile Q(veh)	-	-	2.4	2.8	0	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM (Short-Term Improvements)

7: Arno Rd. & Page High N. Drwy

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	2	1	2	939	429	158
Future Vol, veh/h	2	1	2	939	429	158
Conflicting Peds, #/hr	0	0	130	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	2	999	456	168
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1543	670	624	0	-	0
Stage 1	540	-	-	-	-	-
Stage 2	1003	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	126	457	957	-	-	-
Stage 1	584	-	-	-	-	-
Stage 2	355	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	126	407	853	-	-	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	584	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.5	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	853	-	254	407	-	-
HCM Lane V/C Ratio	0.002	-	0.008	0.003	-	-
HCM Control Delay (s)	9.2	-	19.3	13.9	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM (Short-Term Improvements)

8: Arno Rd. & Page High S Drwy

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	8.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	119	60	229	822	302	128
Future Vol, veh/h	119	60	229	822	302	128
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	0	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	127	64	244	874	321	136
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1751	389	457	0	-	0
Stage 1	389	-	-	-	-	-
Stage 2	1362	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	~ 94	659	1104	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	~ 73	659	1104	-	-	-
Mov Cap-2 Maneuver	153	-	-	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	185	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	64.2	2		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1104	-	153	659	-	-
HCM Lane V/C Ratio	0.221	-	0.827	0.097	-	-
HCM Control Delay (s)	9.2	-	91	11	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	0.8	-	5.4	0.3	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s -: Computation Not Defined *: All major volume in platoon						

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Arno Rd. & Mufreesboro Rd.

2020 PM (Short-Term Improvements)
Williamson County Corridor Study

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	1275	1153	77	465	364	56		
Future Volume (veh/h)	1275	1153	77	465	364	56		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1314	1189	79	479	375	58		
Adj No. of Lanes	2	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	2028	1139	238	2502	505	232		
Arrive On Green	0.57	0.57	0.06	0.71	0.15	0.15		
Sat Flow, veh/h	3632	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	1314	1189	79	479	375	58		
Grp Sat Flow(s),veh/h/ln	1770	1583	1774	1770	1721	1583		
Q Serve(g_s), s	20.7	47.0	1.3	3.8	8.6	2.7		
Cycle Q Clear(g_c), s	20.7	47.0	1.3	3.8	8.6	2.7		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2028	1139	238	2502	505	232		
V/C Ratio(X)	0.65	1.04	0.33	0.19	0.74	0.25		
Avail Cap(c_a), veh/h	2028	1139	292	2610	1993	917		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	11.9	9.8	12.7	4.1	33.5	31.0		
Incr Delay (d2), s/veh	0.7	38.8	0.8	0.0	2.2	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.2	37.9	1.1	1.8	4.2	1.2		
LnGrp Delay(d),s/veh	12.6	48.6	13.5	4.1	35.7	31.6		
LnGrp LOS	B	F	B	A	D	C		
Approach Vol, veh/h	2503			558	433			
Approach Delay, s/veh	29.7			5.4	35.2			
Approach LOS	C			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		18.0	11.0	53.0				64.0
Change Period (Y+Rc), s		6.0	6.0	6.0				6.0
Max Green Setting (Gmax), s		47.5	7.5	47.0				60.5
Max Q Clear Time (g_c+I1), s		10.6	3.3	49.0				5.8
Green Ext Time (p_c), s		1.5	0.0	0.0				36.2
Intersection Summary								
HCM 2010 Ctrl Delay			26.5					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
2: Arno Rd. & S. Carothers Rd.

2020 PM (Short-Term Improvements)
Williamson County Corridor Study

Intersection							
Int Delay, s/veh	2.8						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	3	93	23	287	1316	12	
Future Vol, veh/h	3	93	23	287	1316	12	
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	100	150	-	-	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	96	96	96	96	96	96	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	3	97	24	299	1371	13	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1724	1377	1383	0	-	0	
Stage 1	1377	-	-	-	-	-	
Stage 2	347	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	98	177	495	-	-	-	
Stage 1	234	-	-	-	-	-	
Stage 2	716	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	93	177	495	-	-	-	
Mov Cap-2 Maneuver	93	-	-	-	-	-	
Stage 1	234	-	-	-	-	-	
Stage 2	681	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	47.4	0.9		0			
HCM LOS	E						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	495	-	93	177	-	-	
HCM Lane V/C Ratio	0.048	-	0.034	0.547	-	-	
HCM Control Delay (s)	12.6	-	45.1	47.5	-	-	
HCM Lane LOS	B	-	E	E	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.1	2.8	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 3: Arno Rd. & Goosey Hill Rd.

2020 PM (Short-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	20	5	9	289	1314	95		
Future Volume (veh/h)	20	5	9	289	1314	95		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	24	6	11	344	1564	113		
Adj No. of Lanes	1	1	1	1	2	0		
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	531	474	174	1056	1899	136		
Arrive On Green	0.30	0.30	0.57	0.57	0.57	0.57		
Sat Flow, veh/h	1774	1583	294	1863	3443	240		
Grp Volume(V), veh/h	24	6	11	344	822	855		
Grp Sat Flow(s),veh/h/ln	1774	1583	294	1863	1770	1820		
Q Serve(g_s), s	0.6	0.2	1.9	5.9	22.5	23.0		
Cycle Q Clear(g_c), s	0.6	0.2	24.9	5.9	22.5	23.0		
Prop In Lane	1.00	1.00	1.00			0.13		
Lane Grp Cap(c), veh/h	531	474	174	1056	1004	1032		
V/C Ratio(X)	0.05	0.01	0.06	0.33	0.82	0.83		
Avail Cap(c_a), veh/h	531	474	184	1118	1062	1092		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	14.9	14.8	20.8	6.9	10.5	10.6		
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.2	4.9	5.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.2	3.0	12.1	12.9		
LnGrp Delay(d),s/veh	15.1	14.8	20.9	7.1	15.4	15.8		
LnGrp LOS	B	B	C	A	B	B		
Approach Vol, veh/h	30			355	1677			
Approach Delay, s/veh	15.0			7.5	15.6			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		22.0		38.0				38.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		36.0				36.0
Max Q Clear Time (g_c+I1), s		2.6		25.0				26.9
Green Ext Time (p_c), s		0.0		8.3				7.1
Intersection Summary								
HCM 2010 Ctrl Delay				14.2				
HCM 2010 LOS				B				

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary

2020 PM (Short-Term Improvements)

4: Arno Rd. & Peystonsville - Trinity Rd./Trinity Rd.

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	12	13	13	32	5	37	284	15	5	1069	245
Future Volume (veh/h)	9	12	13	13	32	5	37	284	15	5	1069	245
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		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	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	9	12	14	14	33	5	39	296	16	5	1114	255
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	37	43	134	74	11	292	1407	76	902	1497	1272
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.80	0.80	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1364	785	916	1379	1581	240	395	1751	95	1063	1863	1583
Grp Volume(V), veh/h	9	0	26	14	0	38	39	0	312	5	1114	255
Grp Sat Flow(s),veh/h/ln	1364	0	1701	1379	0	1820	395	0	1846	1063	1863	1583
Q Serve(g_s), s	0.5	0.0	1.2	0.8	0.0	1.6	4.3	0.0	3.2	0.1	23.4	3.0
Cycle Q Clear(g_c), s	2.1	0.0	1.2	2.0	0.0	1.6	27.7	0.0	3.2	3.3	23.4	3.0
Prop In Lane	1.00		0.54	1.00		0.13	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	126	0	79	134	0	85	292	0	1483	902	1497	1272
V/C Ratio(X)	0.07	0.00	0.33	0.10	0.00	0.45	0.13	0.00	0.21	0.01	0.74	0.20
Avail Cap(c_a), veh/h	335	0	340	345	0	364	292	0	1483	902	1497	1272
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	0.0	36.9	37.9	0.0	37.1	10.6	0.0	1.9	2.2	3.8	1.8
Incr Delay (d2), s/veh	0.2	0.0	2.4	0.3	0.0	3.7	0.9	0.0	0.3	0.0	3.4	0.4
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(50%),veh/ln	0.2	0.0	0.6	0.3	0.0	0.9	0.5	0.0	1.7	0.0	12.9	1.4
LnGrp Delay(d),s/veh	38.4	0.0	39.3	38.2	0.0	40.8	11.6	0.0	2.2	2.3	7.2	2.2
LnGrp LOS	D		D	D		D	B		A	A	A	A
Approach Vol, veh/h	35			52			351			1374		
Approach Delay, s/veh	39.1			40.1			3.2			6.3		
Approach LOS	D			D			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	9.7		70.3		9.7		70.3					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	16.0		52.0		16.0		52.0					
Max Q Clear Time (g_c+I1), s	4.1		25.4		4.0		29.7					
Green Ext Time (p_c), s	0.2		14.8		0.2		13.3					
Intersection Summary												
HCM 2010 Ctrl Delay	7.3											
HCM 2010 LOS	A											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 PM (Short-Term Improvements)

6: Arno Rd. & Page Middle Exit

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	22	44	307	0	0	1071
Future Vol, veh/h	22	44	307	0	0	1071
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	47	330	0	0	1152
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1482	330	0	0	330	0
Stage 1	330	-	-	-	-	-
Stage 2	1152	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	138	712	-	-	1229	-
Stage 1	728	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	138	712	-	-	1229	-
Mov Cap-2 Maneuver	243	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14.1	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	243	712	1229	-
HCM Lane V/C Ratio	-	-	0.097	0.066	-	-
HCM Control Delay (s)	-	-	21.4	10.4	0	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %ile Q(veh)	-	-	0.3	0.2	0	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 PM (Short-Term Improvements)

7: Arno Rd. & Page High N. Drwy

Williamson County Corridor Study

Intersection							
Int Delay, s/veh	1.9						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	69	29	4	215	1087	6	
Future Vol, veh/h	69	29	4	215	1087	6	
Conflicting Peds, #/hr	0	0	130	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	0	0	-	-	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	93	93	93	93	93	93	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	74	31	4	231	1169	6	
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	1412	1302	1175	0	-	0	
Stage 1	1172	-	-	-	-	-	
Stage 2	240	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	152	196	594	-	-	-	
Stage 1	294	-	-	-	-	-	
Stage 2	800	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	151	175	530	-	-	-	
Mov Cap-2 Maneuver	245	-	-	-	-	-	
Stage 1	294	-	-	-	-	-	
Stage 2	794	-	-	-	-	-	
Approach	EB		NB		SB		
HCM Control Delay, s	27.2		0.2		0		
HCM LOS	D						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	530	-	245	175	-	-	
HCM Lane V/C Ratio	0.008	-	0.303	0.178	-	-	
HCM Control Delay (s)	11.8	-	26	30	-	-	
HCM Lane LOS	B	-	D	D	-	-	
HCM 95th %tile Q(veh)	0	-	1.2	0.6	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 PM (Short-Term Improvements)

8: Arno Rd. & Page High S. Drw

Williamson County Corridor Study

Intersection							
Int Delay, s/veh	0.5						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	17	11	8	197	1110	6	
Future Vol, veh/h	17	11	8	197	1110	6	
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	0	125	-	-	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	95	95	95	95	95	95	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	18	12	8	207	1168	6	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1396	1172	1175	0	-	0	
Stage 1	1172	-	-	-	-	-	
Stage 2	224	-	-	-	-	-	
Critical Hdwy	6.42	6.22	4.12	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	2.218	-	-	-	
Pot Cap-1 Maneuver	156	234	594	-	-	-	
Stage 1	294	-	-	-	-	-	
Stage 2	813	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	154	234	594	-	-	-	
Mov Cap-2 Maneuver	246	-	-	-	-	-	
Stage 1	294	-	-	-	-	-	
Stage 2	802	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	21	0.4		0			
HCM LOS	C						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	594	-	246	234	-	-	
HCM Lane V/C Ratio	0.014	-	0.073	0.049	-	-	
HCM Control Delay (s)	11.1	-	20.8	21.2	-	-	
HCM Lane LOS	B	-	C	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	0.2	-	-	

ARNO CORRIDOR (SOUTH)

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM Peak Hour (Short-Term Improvements)

9: Arno Rd & SR 840 WB Ramp

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	100	0	892	47	445	0	0	135	202
Future Vol, veh/h	0	0	0	100	0	892	47	445	0	0	135	202
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	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	300	-	-	-	-	-
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	0	0	109	0	970	51	484	0	0	147	220
Major/Minor	Minor1			Major1			Major2					
Conflicting Flow All	659	952	-	366	0	0	484	0	0	-	-	-
Stage 1	586	586	-	-	-	-	-	-	-	-	-	-
Stage 2	73	366	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.63	6.53	-	4.14	-	-	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.83	5.53	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	-	2.22	-	-	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	412	259	0	1189	-	-	1079	-	-	-	-	-
Stage 1	555	496	0	-	-	-	-	-	-	-	-	-
Stage 2	942	622	0	-	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	394	0	-	1189	-	-	1079	-	-	-	-	-
Mov Cap-2 Maneuver	394	0	-	-	-	-	-	-	-	-	-	-
Stage 1	531	0	-	-	-	-	-	-	-	-	-	-
Stage 2	942	0	-	-	-	-	-	-	-	-	-	-
Approach	WB			NB			SB					
HCM Control Delay, s	17.6	-	-	0.8	-	-	0	-	-	-	-	-
HCM LOS	C	-	-	-	-	-	-	-	-	-	-	-
Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	WBLn2	SBL	SBT	SBR				
Capacity (veh/h)	1189	-	-	394	-	1079	-	-				
HCM Lane V/C Ratio	0.043	-	-	0.276	-	-	-	-				
HCM Control Delay (s)	8.2	-	-	17.6	0	0	-	-				
HCM Lane LOS	A	-	-	C	A	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	1.1	-	0	-	-				

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 AM Peak Hour (Short-Term Improvements) 10: Arno Rd & SR 840 EB Ramp

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	0	103	0	0	0	0	357	45	42	193	0
Future Volume (veh/h)	135	0	103	0	0	0	0	357	45	42	193	0
Number	7	4	14					5	2	12	1	6
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	147	0	112				0	388	49	46	210	0
Adj No. of Lanes	0	1	1				0	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	208	0	186				0	1014	128	110	1365	0
Arrive On Green	0.12	0.00	0.12				0.00	0.63	0.63	0.03	0.73	0.00
Sat Flow, veh/h	1774	0	1583				0	1622	205	3442	1863	0
Grp Volume(v), veh/h	147	0	112				0	0	437	46	210	0
Grp Sat Flow(s), veh/h/ln	1774	0	1583				0	0	1827	1721	1863	0
Q Serve(g_s), s	6.4	0.0	5.4				0.0	0.0	9.4	1.0	2.7	0.0
Cycle Q Clear(g_c), s	6.4	0.0	5.4				0.0	0.0	9.4	1.0	2.7	0.0
Prop In Lane	1.00		1.00				0.00		0.11	1.00		0.00
Lane Grp Cap(c), veh/h	208	0	186				0	0	1143	110	1365	0
V/C Ratio(X)	0.71	0.00	0.60				0.00	0.00	0.38	0.42	0.15	0.00
Avail Cap(c_a), veh/h	554	0	495				0	0	1143	344	1365	0
HCM Platoon Ratio	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				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.0	0.0	33.5				0.0	0.0	7.4	38.0	3.2	0.0
Incr Delay (d2), s/veh	4.3	0.0	3.1				0.0	0.0	1.0	2.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	2.5				0.0	0.0	5.0	0.5	1.4	0.0
LnGrp Delay(d),s/veh	38.3	0.0	36.6				0.0	0.0	8.3	40.5	3.5	0.0
LnGrp LOS	D		D						A	D	A	
Approach Vol, veh/h	259						437			256		
Approach Delay, s/veh	37.6						8.3			10.1		
Approach LOS	D						A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	8.6	56.0		15.4		64.6						
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0						
Max Green Setting (Gmax), s	8.0	29.0		25.0		43.0						
Max Q Clear Time (g_c+I1), s	3.0	11.4		8.4		4.7						
Green Ext Time (p_c), s	0.0	3.8		1.0		4.6						
Intersection Summary												
HCM 2010 Ctrl Delay				16.8								
HCM 2010 LOS				B								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM Peak Hour (Short-Term Improvements)

11: Eudailey-Covington Rd & Arno Rd

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	2	0	10	0	125	2	275	12	172	125	0
Future Vol, veh/h	2	2	0	10	0	125	2	275	12	172	125	0
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	-	-	-	-	-	-	100	-	-	100	-	-
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	2	0	11	0	136	2	299	13	187	136	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	888	826	136	821	820	305	136	0	0	312	0	0
Stage 1	510	510	-	310	310	-	-	-	-	-	-	-
Stage 2	378	316	-	511	510	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	264	307	913	293	310	735	1448	-	-	1248	-	-
Stage 1	546	538	-	700	659	-	-	-	-	-	-	-
Stage 2	644	655	-	545	538	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	190	261	913	257	263	735	1448	-	-	1248	-	-
Mov Cap-2 Maneuver	190	261	-	257	263	-	-	-	-	-	-	-
Stage 1	545	457	-	699	658	-	-	-	-	-	-	-
Stage 2	524	654	-	461	457	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.7	12.2	0.1	4.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	220	646	1248	-	-
HCM Lane V/C Ratio	0.002	-	-	0.02	0.227	0.15	-	-
HCM Control Delay (s)	7.5	-	-	21.7	12.2	8.4	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.9	0.5	-	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM Peak Hour (Short-Term Improvements)

12: Arno-Allison Rd./Arno Rd. & Peytonsville-Arno Rd./Arno-College Cove Rd. Williamson County Corridor Study

Intersection												
Int Delay, s/veh	9.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	7	33	17	7	77	55	230	213	13	32	32	3
Future Vol, veh/h	7	33	17	7	77	55	230	213	13	32	32	3
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	-	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	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	7	36	18	8	84	60	250	232	14	35	35	3
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	916	852	36	872	847	239	38	0	0	246	0	0
Stage 1	106	106	-	739	739	-	-	-	-	-	-	-
Stage 2	810	746	-	133	108	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	253	297	1037	271	299	800	1572	-	-	1320	-	-
Stage 1	900	807	-	409	424	-	-	-	-	-	-	-
Stage 2	374	421	-	870	808	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	144	236	1037	199	237	800	1572	-	-	1320	-	-
Mov Cap-2 Maneuver	144	236	-	199	237	-	-	-	-	-	-	-
Stage 1	734	785	-	333	346	-	-	-	-	-	-	-
Stage 2	214	343	-	793	784	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	21.4			23.6			3.9			3.7		
HCM LOS	C			C								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR			
Capacity (veh/h)	1572	-	-	280	199	335	1320	-	-			
HCM Lane V/C Ratio	0.159	-	-	0.22	0.038	0.428	0.026	-	-			
HCM Control Delay (s)	7.7	0	-	21.4	23.6	23.6	7.8	0	-			
HCM Lane LOS	A	A	-	C	C	C	A	A	-			
HCM 95th %tile Q(veh)	0.6	-	-	0.8	0.1	2.1	0.1	-	-			

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM Peak Hour (Short-Term Improvements)

13: Horton Hwy. & Arno-Allison Rd

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	15	25	253	338	163	7
Future Vol, veh/h	15	25	253	338	163	7
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	16	27	275	367	177	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1098	181	185	0	-	0
Stage 1	181	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	235	862	1390	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	176	862	1390	-	-	-
Mov Cap-2 Maneuver	176	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	16.7	3.5		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1390	-	350	-	-	
HCM Lane V/C Ratio	0.198	-	0.124	-	-	
HCM Control Delay (s)	8.2	0	16.7	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.7	-	0.4	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 PM Peak Hour (Short-Term Improvements)

9: Arno Rd & SR 840 WB Ramp

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	0	30	0	67	125	113	0	0	1123	298
Future Vol, veh/h	0	0	0	30	0	67	125	113	0	0	1123	298
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	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	300	-	-	-	-	-
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	0	0	33	0	73	136	123	0	0	1221	324
Major/Minor	Minor1			Major1			Major2					
Conflicting Flow All	1005	1940	-	1545	0	0	123	0	0	-	-	-
Stage 1	395	395	-	-	-	-	-	-	-	-	-	-
Stage 2	610	1545	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.63	6.53	-	4.14	-	-	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.43	5.53	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.83	5.53	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	-	2.22	-	-	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	252	65	0	426	-	-	1464	-	-	-	-	-
Stage 1	680	604	0	-	-	-	-	-	-	-	-	-
Stage 2	506	175	0	-	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	172	0	-	426	-	-	1464	-	-	-	-	-
Mov Cap-2 Maneuver	172	0	-	-	-	-	-	-	-	-	-	-
Stage 1	463	0	-	-	-	-	-	-	-	-	-	-
Stage 2	506	0	-	-	-	-	-	-	-	-	-	-
Approach	WB			NB			SB					
HCM Control Delay, s	30.8	-	-	9.1	-	-	0	-	-	-	-	-
HCM LOS	D	-	-	-	-	-	-	-	-	-	-	-
Minor Lane/Major Mvmt	NBL	NBT	NBR	WBLn1	WBLn2	SBL	SBT	SBR				
Capacity (veh/h)	426	-	-	172	-	1464	-	-				
HCM Lane V/C Ratio	0.319	-	-	0.19	-	-	-	-				
HCM Control Delay (s)	17.4	-	-	30.8	0	0	-	-				
HCM Lane LOS	C	-	-	D	A	A	-	-				
HCM 95th %ile Q(veh)	1.4	-	-	0.7	-	0	-	-				

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 PM Peak Hour (Short-Term Improvements) 10: Arno Rd & SR 840 EB Ramp

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	38	0	0	0	0	207	115	742	412	0
Future Volume (veh/h)	32	0	38	0	0	0	0	207	115	742	412	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863				0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	35	0	41				0	225	125	807	448	0
Adj No. of Lanes	0	1	1				0	1	0	2	1	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	75	0	67				0	544	302	945	1536	0
Arrive On Green	0.04	0.00	0.04				0.00	0.48	0.48	0.27	0.82	0.00
Sat Flow, veh/h	1774	0	1583				0	1126	626	3442	1863	0
Grp Volume(v), veh/h	35	0	41				0	0	350	807	448	0
Grp Sat Flow(s), veh/h/ln	1774	0	1583				0	0	1752	1721	1863	0
Q Serve(g_s), s	1.7	0.0	2.3				0.0	0.0	11.6	20.0	5.0	0.0
Cycle Q Clear(g_c), s	1.7	0.0	2.3				0.0	0.0	11.6	20.0	5.0	0.0
Prop In Lane	1.00		1.00				0.00		0.36	1.00		0.00
Lane Grp Cap(c), veh/h	75	0	67				0	0	847	945	1536	0
V/C Ratio(X)	0.47	0.00	0.62				0.00	0.00	0.41	0.85	0.29	0.00
Avail Cap(c_a), veh/h	315	0	281				0	0	847	1338	1536	0
HCM Platoon Ratio	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				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.1	0.0	42.4				0.0	0.0	15.0	30.9	1.8	0.0
Incr Delay (d2), s/veh	4.5	0.0	8.9				0.0	0.0	1.5	4.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.2				0.0	0.0	5.9	9.9	2.7	0.0
LnGrp Delay(d),s/veh	46.6	0.0	51.3				0.0	0.0	16.5	34.9	2.3	0.0
LnGrp LOS	D		D						B	C	A	
Approach Vol, veh/h	76						350			1255		
Approach Delay, s/veh	49.1						16.5			23.3		
Approach LOS	D						B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	30.7	49.5		9.8		80.2						
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0						
Max Green Setting (Gmax), s	35.0	21.0		16.0		62.0						
Max Q Clear Time (g_c+I1), s	22.0	13.6		4.3		7.0						
Green Ext Time (p_c), s	2.7	3.0		0.2		6.1						
Intersection Summary												
HCM 2010 Ctrl Delay				23.0								
HCM 2010 LOS				C								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 PM Peak Hour (Short-Term Improvements)

11: Eudailey-Covington Rd & Arno Rd

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	2	0	3	0	138	0	183	10	90	355	5
Future Vol, veh/h	0	2	0	3	0	138	0	183	10	90	355	5
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	-	-	-	-	-	-	100	-	-	100	-	-
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	2	0	3	0	150	0	199	11	98	386	5
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	863	794	389	789	791	204	391	0	0	210	0	0
Stage 1	584	584	-	204	204	-	-	-	-	-	-	-
Stage 2	279	210	-	585	587	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	275	321	659	308	322	837	1168	-	-	1361	-	-
Stage 1	498	498	-	798	733	-	-	-	-	-	-	-
Stage 2	728	728	-	497	497	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	213	298	659	289	299	837	1168	-	-	1361	-	-
Mov Cap-2 Maneuver	213	298	-	289	299	-	-	-	-	-	-	-
Stage 1	498	462	-	798	733	-	-	-	-	-	-	-
Stage 2	598	728	-	459	461	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	17.2			10.5			0			1.6		
HCM LOS	C			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1168	-	-	298	805	1361	-	-				
HCM Lane V/C Ratio	-	-	-	0.007	0.19	0.072	-	-				
HCM Control Delay (s)	0	-	-	17.2	10.5	7.8	-	-				
HCM Lane LOS	A	-	-	C	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.7	0.2	-	-				

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 PM Peak Hour (Short-Term Improvements)

12: Arno-Allisona Rd./Arno Rd. & Peytonsville-Arno Rd./Arno-College Crove Rd. Williamson County Corridor Study

Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	10	55	87	17	52	32	33	67	3	45	252	7
Future Vol, veh/h	10	55	87	17	52	32	33	67	3	45	252	7
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	-	-	-	150	-	-	-	-	-	-	-	-
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	60	95	18	57	35	36	73	3	49	274	8
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	568	524	278	599	525	74	282	0	0	76	0	0
Stage 1	376	376	-	146	146	-	-	-	-	-	-	-
Stage 2	192	148	-	453	379	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	434	458	761	413	458	988	1280	-	-	1523	-	-
Stage 1	645	616	-	857	776	-	-	-	-	-	-	-
Stage 2	810	775	-	586	615	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	358	428	761	307	428	988	1280	-	-	1523	-	-
Mov Cap-2 Maneuver	358	428	-	307	428	-	-	-	-	-	-	-
Stage 1	626	593	-	832	753	-	-	-	-	-	-	-
Stage 2	702	753	-	444	592	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	14.1			13.7			2.5			1.1		
HCM LOS	B			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR			
Capacity (veh/h)	1280	-	-	561	307	546	1523	-	-			
HCM Lane V/C Ratio	0.028	-	-	0.295	0.06	0.167	0.032	-	-			
HCM Control Delay (s)	7.9	0	-	14.1	17.5	12.9	7.4	0	-			
HCM Lane LOS	A	A	-	B	C	B	A	A	-			
HCM 95th %tile Q(veh)	0.1	-	-	1.2	0.2	0.6	0.1	-	-			

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 PM Peak Hour (Short-Term Improvements)

13: Horton Hwy. & Arno-Allisona Rd

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	15	197	35	153	372	18
Future Vol, veh/h	15	197	35	153	372	18
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	16	214	38	166	404	20
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	656	414	424	0	-	0
Stage 1	414	-	-	-	-	-
Stage 2	242	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	430	638	1135	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	414	638	1135	-	-	-
Mov Cap-2 Maneuver	414	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.3	1.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1135	-	614	-		
HCM Lane V/C Ratio	0.034	-	0.375	-		
HCM Control Delay (s)	8.3	0	14.3	-		
HCM Lane LOS	A	A	B	-		
HCM 95th %tile Q(veh)	0.1	-	1.7	-		

HENPECK CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 AM Peak Hour (Short-Term Improvements)

1: Columbia Pike & Coleman Road

Williamson County Corridor Plan

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	102	28	54	1201	378	36
Future Vol, veh/h	102	28	54	1201	378	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	200	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	105	28	58	1291	406	39
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1188	223	445	0	-	0
Stage 1	426	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	228	*961	1300	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	191	*961	1300	-	-	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	37.3	0.9		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1300	-	191	961	-	-
HCM Lane V/C Ratio	0.045	-	0.551	0.029	-	-
HCM Control Delay (s)	7.9	0.6	44.8	8.9	-	-
HCM Lane LOS	A	A	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	2.9	0.1	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 AM Peak Hour (Short-Term Improvements) 2: Columbia Pike & Henpeck Lane

Williamson County Corridor Plan

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	33	113	1243	54	59	381		
Future Volume (veh/h)	33	113	1243	54	59	381		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	34	118	1295	56	61	397		
Adj No. of Lanes	1	1	2	0	1	2		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	308	274	2304	100	284	2359		
Arrive On Green	0.17	0.17	0.67	0.67	0.67	0.67		
Sat Flow, veh/h	1774	1583	3550	149	402	3632		
Grp Volume(v), veh/h	34	118	662	689	61	397		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1836	402	1770		
Q Serve(g_s), s	1.2	5.0	15.0	15.0	7.2	3.2		
Cycle Q Clear(g_c), s	1.2	5.0	15.0	15.0	22.2	3.2		
Prop In Lane	1.00	1.00		0.08	1.00			
Lane Grp Cap(c), veh/h	308	274	1180	1224	284	2359		
V/C Ratio(X)	0.11	0.43	0.56	0.56	0.22	0.17		
Avail Cap(c_a), veh/h	308	274	1180	1224	284	2359		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	26.1	27.7	6.7	6.7	12.6	4.7		
Incr Delay (d2), s/veh	0.7	4.9	1.9	1.9	1.7	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	2.5	7.8	8.1	0.9	1.6		
LnGrp Delay(d),s/veh	26.9	32.5	8.6	8.5	14.3	4.8		
LnGrp LOS	C	C	A	A	B	A		
Approach Vol, veh/h	152		1351			458		
Approach Delay, s/veh	31.3		8.6			6.1		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		56.0				56.0		19.0
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		50.0				50.0		13.0
Max Q Clear Time (g_c+I1), s		17.0				24.2		7.0
Green Ext Time (p_c), s		14.8				13.2		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			9.8					
HCM 2010 LOS			A					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 AM Peak Hour (Short-Term Improvements) 3: Lewisburg Pike & Henpeck Lane

Williamson County Corridor Plan

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	95	249	357	998	383	105		
Future Volume (veh/h)	95	249	357	998	383	105		
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	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	116	304	435	1217	467	128		
Adj No. of Lanes	1	1	1	2	2	0		
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	349	618	587	2082	790	215		
Arrive On Green	0.20	0.20	0.19	0.59	0.29	0.29		
Sat Flow, veh/h	1774	1583	1774	3632	2844	749		
Grp Volume(v), veh/h	116	304	435	1217	299	296		
Grp Sat Flow(s), veh/h/ln	1774	1583	1774	1770	1770	1731		
Q Serve(g_s), s	3.1	8.1	8.8	12.0	8.1	8.2		
Cycle Q Clear(g_c), s	3.1	8.1	8.8	12.0	8.1	8.2		
Prop In Lane	1.00	1.00	1.00			0.43		
Lane Grp Cap(c), veh/h	349	618	587	2082	508	497		
V/C Ratio(X)	0.33	0.49	0.74	0.58	0.59	0.60		
Avail Cap(c_a), veh/h	573	818	594	2222	571	559		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	19.3	12.8	10.5	7.2	17.0	17.1		
Incr Delay (d2), s/veh	0.6	0.6	4.9	0.4	1.3	1.4		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%), veh/ln	1.6	7.6	4.9	5.8	4.1	4.1		
LnGrp Delay(d), s/veh	19.8	13.4	15.4	7.6	18.3	18.5		
LnGrp LOS	B	B	B	A	B	B		
Approach Vol, veh/h	420			1652	595			
Approach Delay, s/veh	15.2			9.6	18.4			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		38.8		17.0	16.8	22.0		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		35.0		18.0	11.0	18.0		
Max Q Clear Time (g_c+I1), s		14.0		10.1	10.8	10.2		
Green Ext Time (p_c), s		12.1		0.9	0.0	5.8		
Intersection Summary								
HCM 2010 Ctrl Delay			12.5					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2020 PM Peak Hour (Short-Term Improvements)

1: Columbia Pike & Coleman Road

Williamson County Corridor Plan

Intersection							
Int Delay, s/veh	1.3						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	58	47	32	529	1191	125	
Future Vol, veh/h	58	47	32	529	1191	125	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	200	0	-	-	-	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	97	97	97	97	97	97	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	58	48	33	545	1228	129	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1631	678	1357	0	-	0	
Stage 1	1292	-	-	-	-	-	
Stage 2	339	-	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	-	
Pot Cap-1 Maneuver	215	*653	774	-	-	-	
Stage 1	509	-	-	-	-	-	
Stage 2	693	-	-	-	-	-	
Platoon blocked, %	1	1	1	-	-	-	
Mov Cap-1 Maneuver	202	*653	774	-	-	-	
Mov Cap-2 Maneuver	202	-	-	-	-	-	
Stage 1	509	-	-	-	-	-	
Stage 2	651	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	21.2	0.8		0			
HCM LOS	C						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	774	-	202	653	-	-	
HCM Lane V/C Ratio	0.043	-	0.286	0.074	-	-	
HCM Control Delay (s)	9.9	0.3	29.8	11	-	-	
HCM Lane LOS	A	A	D	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.1	0.2	-	-	
Notes							
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon							

Williamson County Corridor Plan 4:00 pm 12/8/2015 2020 PM Peak Hour (Short-Term Improvements)
RPM Transportation Consultants, LLC

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DRAFT REPORT

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 PM Peak Hour (Short-Term Improvements) 2: Columbia Pike & Henpeck Lane

Williamson County Corridor Plan

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	38	93	577	0	138	1266		
Future Volume (veh/h)	38	93	577	0	138	1266		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	39	96	595	0	142	1305		
Adj No. of Lanes	1	1	2	0	1	2		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	260	232	2454	0	613	2454		
Arrive On Green	0.15	0.15	0.69	0.00	0.69	0.69		
Sat Flow, veh/h	1774	1583	3725	0	819	3632		
Grp Volume(v), veh/h	39	96	595	0	142	1305		
Grp Sat Flow(s), veh/h/ln	1774	1583	1770	0	819	1770		
Q Serve(g_s), s	1.4	4.1	4.6	0.0	5.8	13.4		
Cycle Q Clear(g_c), s	1.4	4.1	4.6	0.0	10.4	13.4		
Prop In Lane	1.00	1.00		0.00	1.00			
Lane Grp Cap(c), veh/h	260	232	2454	0	613	2454		
V/C Ratio(X)	0.15	0.41	0.24	0.00	0.23	0.53		
Avail Cap(c_a), veh/h	260	232	2454	0	613	2454		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	27.9	29.1	4.2	0.0	6.2	5.6		
Incr Delay (d2), s/veh	1.2	5.4	0.2	0.0	0.9	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	2.2	2.3	0.0	1.5	6.6		
LnGrp Delay(d),s/veh	29.1	34.4	4.5	0.0	7.0	6.4		
LnGrp LOS	C	C	A		A	A		
Approach Vol, veh/h	135		595			1447		
Approach Delay, s/veh	32.9		4.5			6.5		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		58.0				58.0		17.0
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		52.0				52.0		11.0
Max Q Clear Time (g_c+I1), s		6.6				15.4		6.1
Green Ext Time (p_c), s		38.4				31.9		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			7.6					
HCM 2010 LOS			A					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2020 PM Peak Hour (Short-Term Improvements) 3: Lewisburg Pike & Henpeck Lane

Williamson County Corridor Plan

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	50	192	123	495	1286	77		
Future Volume (veh/h)	50	192	123	495	1286	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/in	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	54	206	132	532	1383	83		
Adj No. of Lanes	1	1	1	2	2	0		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	291	260	284	2258	1580	95		
Arrive On Green	0.16	0.16	0.07	0.64	0.47	0.47		
Sat Flow, veh/h	1774	1583	1774	3632	3487	203		
Grp Volume(V), veh/h	54	206	132	532	720	746		
Grp Sat Flow(s),veh/h/in	1774	1583	1774	1770	1770	1827		
Q Serve(g_s), s	1.6	7.6	2.1	3.9	22.2	22.4		
Cycle Q Clear(g_c), s	1.6	7.6	2.1	3.9	22.2	22.4		
Prop In Lane	1.00	1.00	1.00			0.11		
Lane Grp Cap(c), veh/h	291	260	284	2258	824	850		
V/C Ratio(X)	0.19	0.79	0.47	0.24	0.87	0.88		
Avail Cap(c_a), veh/h	526	470	300	2334	846	873		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	21.8	24.4	12.8	4.7	14.6	14.7		
Incr Delay (d2), s/veh	0.3	5.4	1.2	0.1	9.8	9.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	6.7	1.2	1.9	13.0	13.5		
LnGrp Delay(d),s/veh	22.2	29.7	14.0	4.7	24.5	24.6		
LnGrp LOS	C	C	B	A	C	C		
Approach Vol, veh/h	260			664	1466			
Approach Delay, s/veh	28.2			6.6	24.5			
Approach LOS	C			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		44.7		16.0	10.5	34.2		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		40.0		18.0	5.0	29.0		
Max Q Clear Time (g_c+I1), s		5.9		9.6	4.1	24.4		
Green Ext Time (p_c), s		17.6		0.5	0.0	3.8		
Intersection Summary								
HCM 2010 Ctrl Delay			19.9					
HCM 2010 LOS			B					

Williamson County Corridor Plan 4:00 pm 12/8/2015 2020 PM Peak Hour (Short-Term Improvements)
RPM Transportation Consultants, LLC

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2030 CAPACITY ANALYSIS OUTPUTS

SNEED CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2030 AM (Long-Term Improvements)

1: Pasquo Rd. & Sneed Rd.

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	7	104	6	12	574	4
Future Vol, veh/h	7	104	6	12	574	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	112	6	13	617	4
Major/Minor	Major2	Minor1		Major1		
Conflicting Flow All	4	-	1366	4	112	0
Stage 1	-	-	1239	-	-	-
Stage 2	-	-	127	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	-	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	-	-
Pot Cap-1 Maneuver	1618	-	147	1080	-	-
Stage 1	-	-	247	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1618	-	0	1080	-	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0.5	8.4				
HCM LOS		A				
Minor Lane/Major Mvmt	NBLn1	WBL	WBR	SBL	SBT	
Capacity (veh/h)	1080	1618	-	-	-	
HCM Lane V/C Ratio	0.018	0.005	-	-	-	
HCM Control Delay (s)	8.4	7.2	-	-	-	
HCM Lane LOS	A	A	-	-	-	
HCM 95th %tile Q(veh)	0.1	0	-	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2: Temple Rd. & Sneed Rd.

2030 AM (Long-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 		 	 	
Traffic Volume (veh/h)	41	716	59	80	158	125	57	193	177	368	96	22
Future Volume (veh/h)	41	716	59	80	158	125	57	193	177	368	96	22
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		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	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	45	787	65	88	174	137	63	212	195	404	105	24
Adj No. of Lanes	1	2	1	1	2	0	1	1	1	2	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	482	1448	648	268	794	589	80	304	259	528	399	91
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.04	0.16	0.16	0.15	0.27	0.27
Sat Flow, veh/h	1064	3539	1583	645	1939	1439	1774	1863	1583	3442	1468	336
Grp Volume(v), veh/h	45	787	65	88	158	153	63	212	195	404	0	129
Grp Sat Flow(s), veh/h/ln	1064	1770	1583	645	1770	1609	1774	1863	1583	1721	0	1804
Q Serve(g_s), s	1.8	10.8	1.6	7.7	3.7	4.0	2.2	6.9	7.5	7.2	0.0	3.6
Cycle Q Clear(g_c), s	5.8	10.8	1.6	18.5	3.7	4.0	2.2	6.9	7.5	7.2	0.0	3.6
Prop In Lane	1.00		1.00	1.00		0.89	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	482	1448	648	268	724	658	80	304	259	528	0	490
V/C Ratio(X)	0.09	0.54	0.10	0.33	0.22	0.23	0.79	0.70	0.75	0.76	0.00	0.26
Avail Cap(c_a), veh/h	563	1717	768	317	859	781	192	379	322	727	0	553
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(f)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	14.3	11.6	21.4	12.2	12.3	30.2	25.2	25.5	25.9	0.0	18.2
Incr Delay (d2), s/veh	0.1	0.3	0.1	0.7	0.1	0.2	15.7	4.1	7.6	3.3	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.5	5.3	0.7	1.4	1.8	1.8	1.4	3.9	3.8	3.7	0.0	1.8
LnGrp Delay(d), s/veh	14.3	14.7	11.7	22.1	12.4	12.5	45.9	29.3	33.1	29.2	0.0	18.5
LnGrp LOS	B	B	B	C	B	B	D	C	C	C		B
Approach Vol, veh/h	897			399				470			533	
Approach Delay, s/veh	14.4			14.6				33.1			26.6	
Approach LOS	B			B				C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	32.1		8.4	23.4	32.1		15.3	16.4				
Change Period (Y+Rc), s	6.0		5.5	6.0	6.0		5.5	6.0				
Max Green Setting (Gmax), s	31.0		6.9	19.6	31.0		13.5	13.0				
Max Q Clear Time (g_c+l1), s	12.8		4.2	5.6	20.5		9.2	9.5				
Green Ext Time (p_c), s	7.9		0.0	2.3	5.7		0.6	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				21.1								
HCM 2010 LOS				C								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 3: Sneed Rd. & Vaughn Rd.

2030 AM (Long-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	180	1177	299	186	247	83		
Future Volume (veh/h)	180	1177	299	186	247	83		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	188	1226	311	194	257	86		
Adj No. of Lanes	1	2	2	1	1	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	587	1881	1881	1177	375	335		
Arrive On Green	0.53	0.53	0.53	0.53	0.21	0.21		
Sat Flow, veh/h	890	3632	3632	1583	1774	1583		
Grp Volume(v), veh/h	188	1226	311	194	257	86		
Grp Sat Flow(s),veh/h/ln	890	1770	1770	1583	1774	1583		
Q Serve(g_s), s	6.4	11.6	2.1	1.7	6.2	2.1		
Cycle Q Clear(g_c), s	8.5	11.6	2.1	1.7	6.2	2.1		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	587	1881	1881	1177	375	335		
V/C Ratio(X)	0.32	0.65	0.17	0.16	0.68	0.26		
Avail Cap(c_a), veh/h	705	2348	2348	1386	646	576		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	7.8	7.8	5.6	1.8	17.0	15.4		
Incr Delay (d2), s/veh	0.3	0.4	0.0	0.1	2.2	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.6	5.6	1.0	1.3	3.2	0.9		
LnGrp Delay(d),s/veh	8.1	8.3	5.7	1.8	19.2	15.8		
LnGrp LOS	A	A	A	A	B	B		
Approach Vol, veh/h	1414		505		343			
Approach Delay, s/veh	8.3		4.2		18.3			
Approach LOS	A		A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		6			
Phs Duration (G+Y+Rc), s	30.8		15.9		30.8			
Change Period (Y+Rc), s	6.0		6.0		6.0			
Max Green Setting (Gmax), s	31.0		17.0		31.0			
Max Q Clear Time (g_c+I1), s	13.6		8.2		4.1			
Green Ext Time (p_c), s	11.2		0.7		14.8			
Intersection Summary								
HCM 2010 Ctrl Delay			8.9					
HCM 2010 LOS			A					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Hillsboro Rd. & Sneed Rd.

2030 AM (Long-Term Improvements)
Williamson County Corridor Study

Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	↰↱	↰↱	↰↱	↰↱	↰↱	↰↱		
Traffic Volume (veh/h)	800	621	367	963	487	252		
Future Volume (veh/h)	800	621	367	963	487	252		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	851	661	390	1024	518	268		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	991	683	494	1909	1095	946		
Arrive On Green	0.29	0.29	0.14	0.54	0.31	0.31		
Sat Flow, veh/h	3442	1583	3442	3632	3632	1583		
Grp Volume(v), veh/h	851	661	390	1024	518	268		
Grp Sat Flow(s), veh/h/ln	1721	1583	1721	1770	1770	1583		
Q Serve(g_s), s	16.2	20.0	7.6	13.0	8.2	5.7		
Cycle Q Clear(g_c), s	16.2	20.0	7.6	13.0	8.2	5.7		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	991	683	494	1909	1095	946		
V/C Ratio(X)	0.86	0.97	0.79	0.54	0.47	0.28		
Avail Cap(c_a), veh/h	991	683	545	2191	1325	1049		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	23.4	19.3	28.7	10.4	19.4	6.8		
Incr Delay (d2), s/veh	7.8	26.5	7.3	0.1	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.8	24.9	4.1	6.3	4.0	4.3		
LnGrp Delay(d),s/veh	31.2	45.8	36.1	10.5	19.5	6.8		
LnGrp LOS	C	D	D	B	B	A		
Approach Vol, veh/h	1512			1414	786			
Approach Delay, s/veh	37.6			17.5	15.2			
Approach LOS	D			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		43.5		26.0	16.0	27.5		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		43.0		20.0	11.0	26.0		
Max Q Clear Time (g_c+I1), s		15.0		22.0	9.6	10.2		
Green Ext Time (p_c), s		16.8		0.0	0.4	11.3		
Intersection Summary								
HCM 2010 Ctr Delay			25.2					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
1: Pasquo Rd. & Sneed Rd.

2030 PM (Long-Term Improvements)
Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	13	387	9	16	132	10
Future Vol, veh/h	13	387	9	16	132	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	430	10	18	147	11
Major/Minor	Major2	Minor1		Major1		
Conflicting Flow All	11	-	763	11	430	0
Stage 1	-	-	304	-	-	-
Stage 2	-	-	459	-	-	-
Critical Hdwy	4.12	-	6.52	6.22	-	-
Critical Hdwy Stg 1	-	-	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	4.018	3.318	-	-
Pot Cap-1 Maneuver	1608	-	334	1070	-	-
Stage 1	-	-	663	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1608	-	0	1070	-	-
Mov Cap-2 Maneuver	-	-	0	-	-	-
Stage 1	-	-	0	-	-	-
Stage 2	-	-	0	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0.2	8.5				
HCM LOS		A				
Minor Lane/Major Mvmt	NBLn1	WBL	WBR	SBL	SBT	
Capacity (veh/h)	1070	1608	-	-	-	
HCM Lane V/C Ratio	0.026	0.009	-	-	-	
HCM Control Delay (s)	8.5	7.3	-	-	-	
HCM Lane LOS	A	A	-	-	-	
HCM 95th %tile Q(veh)	0.1	0	-	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2: Temple Rd. & Sneed Rd.

2030 PM (Long-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	177	29	109	465	399	84	160	107	170	218	126
Future Volume (veh/h)	51	177	29	109	465	399	84	160	107	170	218	126
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		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	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	54	186	31	115	489	420	88	168	113	179	229	133
Adj No. of Lanes	1	2	1	1	2	0	1	1	1	2	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	1415	633	539	722	620	113	449	382	279	286	166
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.06	0.24	0.24	0.08	0.26	0.26
Sat Flow, veh/h	611	3539	1583	1160	1807	1551	1774	1863	1583	3442	1107	643
Grp Volume(v), veh/h	54	186	31	115	479	430	88	168	113	179	0	362
Grp Sat Flow(s), veh/h/ln	611	1770	1583	1160	1770	1589	1774	1863	1583	1721	0	1749
Q Serve(g_s), s	5.0	2.1	0.8	4.4	14.0	14.0	3.1	4.7	3.7	3.2	0.0	12.2
Cycle Q Clear(g_c), s	19.1	2.1	0.8	6.5	14.0	14.0	3.1	4.7	3.7	3.2	0.0	12.2
Prop In Lane	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	222	1415	633	539	707	635	113	449	382	279	0	452
V/C Ratio(X)	0.24	0.13	0.05	0.21	0.68	0.68	0.78	0.37	0.30	0.64	0.00	0.80
Avail Cap(c_a), veh/h	250	1574	704	591	787	707	240	621	528	465	0	583
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	0.00	1.00
Uniform Delay (d), s/veh	23.4	12.0	11.6	14.0	15.6	15.6	29.0	19.9	19.5	28.0	0.0	21.8
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.2	2.0	2.3	10.7	0.5	0.4	2.5	0.0	6.1
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(50%), veh/ln	0.9	1.0	0.3	1.4	7.2	6.5	1.9	2.5	1.6	1.6	0.0	6.6
LnGrp Delay(d), s/veh	24.0	12.0	11.6	14.2	17.6	17.8	39.7	20.4	19.9	30.5	0.0	27.9
LnGrp LOS	C	B	B	B	B	B	D	C	B	C		C
Approach Vol, veh/h	271				1024				369		541	
Approach Delay, s/veh	14.3				17.3				24.9		28.8	
Approach LOS	B				B				C		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	31.2		9.5	22.3	31.2		10.6	21.2				
Change Period (Y+Rc), s	6.0		5.5	6.0	6.0		5.5	6.0				
Max Green Setting (Gmax), s	28.0		8.5	21.0	28.0		8.5	21.0				
Max Q Clear Time (g_c+I1), s	21.1		5.1	14.2	16.0		5.2	6.7				
Green Ext Time (p_c), s	4.1		0.0	2.1	6.1		0.2	3.2				
Intersection Summary												
HCM 2010 Ctrl Delay	21.0											
HCM 2010 LOS	C											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 3: Sneed Rd. & Vaughn Rd.

2030 PM (Long-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	68	393	856	229	239	162		
Future Volume (veh/h)	68	393	856	229	239	162		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	76	437	951	254	266	180		
Adj No. of Lanes	1	2	2	1	1	1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	306	1723	1723	1139	413	368		
Arrive On Green	0.49	0.49	0.49	0.49	0.23	0.23		
Sat Flow, veh/h	462	3632	3632	1583	1774	1583		
Grp Volume(V), veh/h	76	437	951	254	266	180		
Grp Sat Flow(s),veh/h/ln	462	1770	1770	1583	1774	1583		
Q Serve(g_s), s	5.9	3.1	8.1	2.3	5.8	4.2		
Cycle Q Clear(g_c), s	14.0	3.1	8.1	2.3	5.8	4.2		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	306	1723	1723	1139	413	368		
V/C Ratio(X)	0.25	0.25	0.55	0.22	0.64	0.49		
Avail Cap(c_a), veh/h	324	1862	1862	1201	643	574		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	12.6	6.4	7.7	2.0	14.8	14.2		
Incr Delay (d2), s/veh	0.4	0.1	0.3	0.1	1.7	1.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	1.5	3.9	1.9	3.0	1.9		
LnGrp Delay(d),s/veh	13.0	6.5	8.0	2.1	16.5	15.2		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h	513		1205		446			
Approach Delay, s/veh	7.5		6.8		16.0			
Approach LOS	A		A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		6			
Phs Duration (G+Y+Rc), s	26.8		16.0		26.8			
Change Period (Y+Rc), s	6.0		6.0		6.0			
Max Green Setting (Gmax), s	22.5		15.5		22.5			
Max Q Clear Time (g_c+I1), s	16.0		7.8		10.1			
Green Ext Time (p_c), s	4.8		0.9		8.1			
Intersection Summary								
HCM 2010 Ctrl Delay			8.8					
HCM 2010 LOS			A					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Hillsboro Rd. & Sneed Rd.

2030 PM (Long-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	241	422	522	647	918	579		
Future Volume (veh/h)	241	422	522	647	918	579		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	248	435	538	667	946	597		
Adj No. of Lanes	2	1	2	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	348	453	637	2465	1451	810		
Arrive On Green	0.10	0.10	0.19	0.70	0.41	0.41		
Sat Flow, veh/h	3442	1583	3442	3632	3632	1583		
Grp Volume(v), veh/h	248	435	538	667	946	597		
Grp Sat Flow(s),veh/h/ln	1721	1583	1721	1770	1770	1583		
Q Serve(g_s), s	4.1	6.0	9.0	4.2	12.8	17.5		
Cycle Q Clear(g_c), s	4.1	6.0	9.0	4.2	12.8	17.5		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	348	453	637	2465	1451	810		
V/C Ratio(X)	0.71	0.96	0.84	0.27	0.65	0.74		
Avail Cap(c_a), veh/h	348	453	639	2508	1493	828		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	25.8	20.8	23.3	3.4	14.1	11.4		
Incr Delay (d2), s/veh	7.0	32.1	10.3	0.0	0.8	3.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.3	16.3	5.2	2.0	6.3	9.8		
LnGrp Delay(d),s/veh	32.8	52.9	33.6	3.4	14.8	14.3		
LnGrp LOS	C	D	C	A	B	B		
Approach Vol, veh/h	683			1205	1543			
Approach Delay, s/veh	45.6			16.9	14.6			
Approach LOS	D			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.3		12.0	17.0	30.3		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		42.0		6.0	11.0	25.0		
Max Q Clear Time (g_c+l1), s		6.2		8.0	11.0	19.5		
Green Ext Time (p_c), s		21.8		0.0	0.0	4.8		
Intersection Summary								
HCM 2010 Ctrl Delay			21.6					
HCM 2010 LOS			C					

CLOVERCROFT CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 AM Peak Hour (Long-Term Improvements) 1: Murfreesboro Rd. & Clovercroft Rd.

Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	129	480	2752	70	158	304		
Future Volume (veh/h)	129	480	2752	70	158	304		
Number	1	6	2	12	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	140	522	2991	76	172	330		
Adj No. of Lanes	1	3	3	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	172	3860	3341	84	206	1220		
Arrive On Green	0.05	0.76	0.65	0.65	0.12	0.12		
Sat Flow, veh/h	1774	5253	5269	129	1774	1583		
Grp Volume(v), veh/h	140	522	1979	1088	172	330		
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1840	1774	1583		
Q Serve(g_s), s	3.3	2.9	50.4	51.9	9.9	6.3		
Cycle Q Clear(g_c), s	3.3	2.9	50.4	51.9	9.9	6.3		
Prop In Lane	1.00			0.07	1.00	1.00		
Lane Grp Cap(c), veh/h	172	3860	2220	1205	206	1220		
V/C Ratio(X)	0.82	0.14	0.89	0.90	0.84	0.27		
Avail Cap(c_a), veh/h	277	4132	2220	1205	213	1227		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(f)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	30.3	3.4	14.9	15.1	45.0	3.5		
Incr Delay (d2), s/veh	7.2	0.0	5.3	10.1	24.5	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.3	1.3	24.7	29.4	6.2	9.5		
LnGrp Delay(d),s/veh	37.5	3.4	20.2	25.2	69.5	3.6		
LnGrp LOS	D	A	C	C	E	A		
Approach Vol, veh/h	662		3067		502			
Approach Delay, s/veh	10.6		22.0		26.2			
Approach LOS	B		C		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	10.8	75.6		17.6		86.4		
Change Period (Y+Rc), s	5.5	7.5		5.5		7.5		
Max Green Setting (Gmax), s	11.5	67.5		12.5		84.5		
Max Q Clear Time (g_c+I1), s	5.3	53.9		11.9		4.9		
Green Ext Time (p_c), s	0.1	13.6		0.2		74.1		
Intersection Summary								
HCM 2010 Ctrl Delay	20.7							
HCM 2010 LOS	C							

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 AM Peak Hour (Long-Term Improvements) 2: Oxford Glen Rd. & Clovercroft Rd.

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	142	6	18	275	564	14	347	27	60	47	33
Future Volume (veh/h)	146	142	6	18	275	564	14	347	27	60	47	33
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		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	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	178	173	7	22	335	688	17	423	33	73	57	40
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	882	36	601	924	785	441	488	38	189	393	276
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.29	0.29	0.29	0.04	0.39	0.39
Sat Flow, veh/h	549	1778	72	1199	1863	1583	1293	1706	133	1774	1020	716
Grp Volume(V), veh/h	178	0	180	22	335	688	17	0	456	73	0	97
Grp Sat Flow(s), veh/h/ln	549	0	1850	1199	1863	1583	1293	0	1839	1774	0	1736
Q Serve(g_s), s	29.7	0.0	5.5	1.1	11.2	39.1	1.0	0.0	23.8	2.8	0.0	3.7
Cycle Q Clear(g_c), s	40.9	0.0	5.5	6.5	11.2	39.1	1.0	0.0	23.8	2.8	0.0	3.7
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.07	1.00		0.41
Lane Grp Cap(c), veh/h	283	0	918	601	924	785	441	0	526	189	0	669
V/C Ratio(X)	0.63	0.00	0.20	0.04	0.36	0.88	0.04	0.00	0.87	0.39	0.00	0.15
Avail Cap(c_a), veh/h	332	0	1082	707	1089	926	571	0	711	189	0	843
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	14.2	16.0	15.6	22.7	26.1	0.0	34.2	26.1	0.0	20.2
Incr Delay (d2), s/veh	2.9	0.0	0.1	0.0	0.2	8.4	0.0	0.0	8.6	1.3	0.0	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(50%), veh/ln	4.7	0.0	2.8	0.4	5.7	18.8	0.3	0.0	13.3	1.4	0.0	1.8
LnGrp Delay(d),s/veh	31.1	0.0	14.3	16.0	15.9	31.1	26.1	0.0	42.8	27.4	0.0	20.3
LnGrp LOS	C		B	B	B	C	C		D	C		C
Approach Vol, veh/h	358			1045				473			170	
Approach Delay, s/veh	22.6			25.9				42.2			23.4	
Approach LOS	C			C				D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		7		8			
Phs Duration (G+Y+Rc), s	56.1		44.9		56.1		10.0		34.9			
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0		6.0			
Max Green Setting (Gmax), s	59.0		49.0		59.0		4.0		39.0			
Max Q Clear Time (g_c+I1), s	42.9		5.7		41.1		4.8		25.8			
Green Ext Time (p_c), s	7.2		4.3		7.6		0.0		3.1			
Intersection Summary												
HCM 2010 Ctrl Delay	28.9											
HCM 2010 LOS	C											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 AM Peak Hour (Long-Term Improvements) 3: Wilson Pk. & Clovercroft Rd. Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	248	62	355	228	53	452		
Future Volume (veh/h)	248	62	355	228	53	452		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	279	70	399	256	60	508		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	354	316	599	1021	1021	868		
Arrive On Green	0.20	0.20	0.55	0.55	0.55	0.55		
Sat Flow, veh/h	1774	1583	840	1863	1863	1583		
Grp Volume(v), veh/h	279	70	399	256	60	508		
Grp Sat Flow(s),veh/h/ln	1774	1583	840	1863	1863	1583		
Q Serve(g_s), s	7.1	1.8	20.1	3.4	0.7	10.2		
Cycle Q Clear(g_c), s	7.1	1.8	20.8	3.4	0.7	10.2		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	354	316	599	1021	1021	868		
V/C Ratio(X)	0.79	0.22	0.67	0.25	0.06	0.59		
Avail Cap(c_a), veh/h	522	466	651	1136	1136	966		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.1	15.9	9.9	5.6	5.0	7.2		
Incr Delay (d2), s/veh	4.8	0.3	2.3	0.1	0.0	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.0	0.8	4.9	1.7	0.4	4.6		
LnGrp Delay(d),s/veh	22.9	16.3	12.2	5.8	5.0	7.9		
LnGrp LOS	C	B	B	A	A	A		
Approach Vol, veh/h	349			655	568			
Approach Delay, s/veh	21.6			9.7	7.6			
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		15.5		32.1		
Change Period (Y+Rc), s		6.0		6.0		6.0		
Max Green Setting (Gmax), s		29.0		14.0		29.0		
Max Q Clear Time (g_c+I1), s		22.8		9.1		12.2		
Green Ext Time (p_c), s		3.3		0.5		6.0		
Intersection Summary								
HCM 2010 Ctrl Delay			11.6					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 AM Peak Hour (Long-Term Improvements) 4: Wilson Pk. & Clovercroft Rd.

Williamson County Corridor Study

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	411	1749	263	213	287	94		
Future Volume (veh/h)	411	1749	263	213	287	94		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	447	1901	292	237	319	104		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.92	0.92	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1063	1973	340	1238	373	595		
Arrive On Green	0.60	0.60	0.18	0.18	0.11	0.32		
Sat Flow, veh/h	1774	2787	1863	1583	3442	1863		
Grp Volume(v), veh/h	447	1901	292	237	319	104		
Grp Sat Flow(s),veh/h/ln	1774	1393	1863	1583	1721	1863		
Q Serve(g_s), s	16.7	74.0	18.8	4.7	11.2	5.0		
Cycle Q Clear(g_c), s	16.7	74.0	18.8	4.7	11.2	5.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	1063	1973	340	1238	373	595		
V/C Ratio(X)	0.42	0.96	0.86	0.19	0.85	0.17		
Avail Cap(c_a), veh/h	1063	1973	422	1308	404	694		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	13.2	16.6	48.9	3.4	54.1	30.3		
Incr Delay (d2), s/veh	0.3	12.8	13.6	0.1	15.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.1	32.8	10.9	7.8	6.2	2.6		
LnGrp Delay(d),s/veh	13.5	29.4	62.5	3.5	69.4	30.4		
LnGrp LOS	B	C	E	A	E	C		
Approach Vol, veh/h	2348		529		423			
Approach Delay, s/veh	26.4		36.1		59.8			
Approach LOS	C		D		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.9	27.6				44.5		79.0
Change Period (Y+Rc), s	3.5	5.0				5.0		5.0
Max Green Setting (Gmax), s	14.5	28.0				46.0		74.0
Max Q Clear Time (g_c+I1), s	13.2	20.8				7.0		76.0
Green Ext Time (p_c), s	0.2	1.8				3.2		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			32.2					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2030 AM Peak Hour (Long-Term Improvements)

5: Williams Rd. & Clovercroft Rd.

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	109.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	270	48	2	1564	386	10
Future Vol, veh/h	270	48	2	1564	386	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	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	293	52	2	1700	420	11
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	345	0	1174	173
Stage 1	-	-	-	-	320	-
Stage 2	-	-	-	-	854	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1210	-	~ 185	840
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	~ 377	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1210	-	~ 185	840
Mov Cap-2 Maneuver	-	-	-	-	~ 185	-
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	~ 376	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		\$ 631.1	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	189	-	-	1210	-	
HCM Lane V/C Ratio	2.277	-	-	0.002	-	
HCM Control Delay (s)	\$ 631.1	-	-	8	-	
HCM Lane LOS	F	-	-	A	-	
HCM 95th %ile Q(veh)	34.8	-	-	0	-	
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 PM Peak Hour (Long-Term Improvements) 1: Murfreesboro Rd. & Clovercroft Rd.

Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	265	3060	886	57	144	211		
Future Volume (veh/h)	265	3060	886	57	144	211		
Number	1	6	2	12	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	282	3255	943	61	153	224		
Adj No. of Lanes	1	3	3	0	1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	509	3984	3280	212	194	1237		
Arrive On Green	0.07	0.78	0.67	0.67	0.11	0.11		
Sat Flow, veh/h	1774	5253	5050	315	1774	1583		
Grp Volume(v), veh/h	282	3255	654	350	153	224		
Grp Sat Flow(s),veh/h/ln	1774	1695	1695	1807	1774	1583		
Q Serve(g_s), s	5.6	46.8	9.5	9.6	10.2	4.4		
Cycle Q Clear(g_c), s	5.6	46.8	9.5	9.6	10.2	4.4		
Prop In Lane	1.00			0.17	1.00	1.00		
Lane Grp Cap(c), veh/h	509	3984	2278	1214	194	1237		
V/C Ratio(X)	0.55	0.82	0.29	0.29	0.79	0.18		
Avail Cap(c_a), veh/h	661	4079	2278	1214	285	1318		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	5.5	7.9	8.1	8.1	52.7	3.4		
Incr Delay (d2), s/veh	0.7	1.5	0.1	0.3	11.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.8	22.0	4.5	4.9	5.6	7.5		
LnGrp Delay(d),s/veh	6.2	9.5	8.3	8.4	63.8	3.5		
LnGrp LOS	A	A	A	A	E	A		
Approach Vol, veh/h	3537		1004		377			
Approach Delay, s/veh	9.2		8.3		28.0			
Approach LOS	A		A		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	13.6	89.2		18.8		102.8		
Change Period (Y+Rc), s	5.5	7.5		5.5		7.5		
Max Green Setting (Gmax), s	18.5	73.5		19.5		97.5		
Max Q Clear Time (g_c+I1), s	7.6	11.6		12.2		48.8		
Green Ext Time (p_c), s	0.4	61.7		1.1		46.5		
Intersection Summary								
HCM 2010 Ctrl Delay			10.5					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 PM Peak Hour (Long-Term Improvements) 2: Oxford Glen Rd. & Clovercroft Rd. Williamson County Corridor Study

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Traffic Volume (veh/h)	78	302	10	33	183	84	6	92	20	536	527	271			
Future Volume (veh/h)	78	302	10	33	183	84	6	92	20	536	527	271			
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		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	1863	1863	1863	1863	1863	1900	1863	1863	1900			
Adj Flow Rate, veh/h	83	321	11	35	195	89	6	98	21	570	561	288			
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2			
Cap, veh/h	289	473	16	202	492	418	214	332	71	798	672	345			
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.22	0.22	0.22	0.28	0.58	0.58			
Sat Flow, veh/h	1091	1791	61	1044	1863	1583	647	1488	319	1774	1161	596			
Grp Volume(v), veh/h	83	0	332	35	195	89	6	0	119	570	0	849			
Grp Sat Flow(s), veh/h/ln	1091	0	1852	1044	1863	1583	647	0	1806	1774	0	1758			
Q Serve(g_s), s	5.2	0.0	12.2	2.4	6.6	3.3	0.6	0.0	4.2	17.1	0.0	30.0			
Cycle Q Clear(g_c), s	11.7	0.0	12.2	14.6	6.6	3.3	3.6	0.0	4.2	17.1	0.0	30.0			
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.18	1.00		0.34			
Lane Grp Cap(c), veh/h	289	0	489	202	492	418	214	0	403	798	0	1016			
V/C Ratio(X)	0.29	0.00	0.68	0.17	0.40	0.21	0.03	0.00	0.29	0.71	0.00	0.84			
Avail Cap(c_a), veh/h	488	0	827	393	832	707	316	0	688	1217	0	1709			
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.8	0.0	25.1	31.7	23.0	21.8	25.6	0.0	24.6	13.1	0.0	13.1			
Incr Delay (d2), s/veh	0.5	0.0	1.7	0.4	0.5	0.3	0.1	0.0	0.4	1.2	0.0	1.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	0.0	6.5	0.7	3.4	1.5	0.1	0.0	2.1	8.3	0.0	14.9			
LnGrp Delay(d),s/veh	28.4	0.0	26.8	32.1	23.5	22.1	25.6	0.0	25.0	14.3	0.0	15.0			
LnGrp LOS	C		C	C	C	C	C		C	B		B			
Approach Vol, veh/h	415			319			125			1419					
Approach Delay, s/veh	27.1			24.1			25.0			14.7					
Approach LOS	C			C			C			B					
Timer	1	2	3	4	5	6	7	8							
Assigned Phs	2		4		6		7		8						
Phs Duration (G+Y+Rc), s	26.1		50.0		26.1		27.0		23.0						
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0		6.0						
Max Green Setting (Gmax), s	34.0		74.0		34.0		39.0		29.0						
Max Q Clear Time (g_c+I1), s	14.2		32.0		16.6		19.1		6.2						
Green Ext Time (p_c), s	3.6		10.3		3.5		1.9		8.5						
Intersection Summary															
HCM 2010 Ctrl Delay	18.8														
HCM 2010 LOS	B														

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 PM Peak Hour (Long-Term Improvements) 3: Wilson Pk. & Clovercroft Rd.

Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	443	322	78	74	273	238		
Future Volume (veh/h)	443	322	78	74	273	238		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	492	358	87	82	303	264		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	618	551	360	610	610	518		
Arrive On Green	0.35	0.35	0.33	0.33	0.33	0.33		
Sat Flow, veh/h	1774	1583	841	1863	1863	1583		
Grp Volume(V), veh/h	492	358	87	82	303	264		
Grp Sat Flow(s),veh/h/ln	1774	1583	841	1863	1863	1583		
Q Serve(g_s), s	9.3	7.0	3.4	1.1	4.8	5.0		
Cycle Q Clear(g_c), s	9.3	7.0	8.3	1.1	4.8	5.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	618	551	360	610	610	518		
V/C Ratio(X)	0.80	0.65	0.24	0.13	0.50	0.51		
Avail Cap(c_a), veh/h	815	728	449	806	806	685		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	10.9	10.2	13.3	8.8	10.0	10.0		
Incr Delay (d2), s/veh	4.1	1.3	0.3	0.1	0.6	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.2	3.2	0.8	0.6	2.5	2.2		
LnGrp Delay(d),s/veh	15.0	11.4	13.7	8.9	10.6	10.8		
LnGrp LOS	B	B	B	A	B	B		
Approach Vol, veh/h	850			169	567			
Approach Delay, s/veh	13.5			11.3	10.7			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		18.1		18.9		18.1		
Change Period (Y+Rc), s		6.0		6.0		6.0		
Max Green Setting (Gmax), s		16.0		17.0		16.0		
Max Q Clear Time (g_c+I1), s		10.3		11.3		7.0		
Green Ext Time (p_c), s		1.8		1.6		2.5		
Intersection Summary								
HCM 2010 Ctrl Delay			12.3					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 PM Peak Hour (Long-Term Improvements) 4: Wilson Pk. & Clovercroft Rd.

Williamson County Corridor Study

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	148	339	162	355	1593	363		
Future Volume (veh/h)	148	339	162	355	1593	363		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	156	357	171	374	1677	382		
Adj No. of Lanes	1	2	1	1	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	202	1796	353	480	1826	1430		
Arrive On Green	0.11	0.11	0.19	0.19	0.53	0.77		
Sat Flow, veh/h	1774	2787	1863	1583	3442	1863		
Grp Volume(v), veh/h	156	357	171	374	1677	382		
Grp Sat Flow(s), veh/h/ln	1774	1393	1863	1583	1721	1863		
Q Serve(g_s), s	7.2	4.4	6.9	16.0	37.6	5.1		
Cycle Q Clear(g_c), s	7.2	4.4	6.9	16.0	37.6	5.1		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	202	1796	353	480	1826	1430		
V/C Ratio(X)	0.77	0.20	0.48	0.78	0.92	0.27		
Avail Cap(c_a), veh/h	231	1842	353	480	1998	1523		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	36.3	6.1	30.5	26.0	18.1	2.9		
Incr Delay (d2), s/veh	13.1	0.1	1.0	8.0	7.0	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.2	1.7	3.7	9.7	19.5	2.6		
LnGrp Delay(d),s/veh	49.5	6.2	31.5	34.0	25.1	3.0		
LnGrp LOS	D	A	C	C	C	A		
Approach Vol, veh/h	513		545		2059			
Approach Delay, s/veh	19.3		33.2		21.0			
Approach LOS	B		C		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	48.8	21.0				69.8		14.6
Change Period (Y+Rc), s	4.0	5.0				5.0		5.0
Max Green Setting (Gmax), s	49.0	16.0				69.0		11.0
Max Q Clear Time (g_c+I1), s	39.6	18.0				7.1		9.2
Green Ext Time (p_c), s	5.1	0.0				5.0		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			22.9					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2030 PM Peak Hour (Long-Term Improvements)

5: Williams Rd. & Clovercroft Rd.

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	3.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	1330	300	28	352	46	6
Future Vol, veh/h	1330	300	28	352	46	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1400	316	29	371	48	6
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1716	0	1802	858
Stage 1	-	-	-	-	1558	-
Stage 2	-	-	-	-	244	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	365	-	71	300
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	365	-	65	300
Mov Cap-2 Maneuver	-	-	-	-	65	-
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	713	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		146.5	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	71	-	-	365	-	
HCM Lane V/C Ratio	0.771	-	-	0.081	-	
HCM Control Delay (s)	146.5	-	-	15.7	-	
HCM Lane LOS	F	-	-	C	-	
HCM 95th %tile Q(veh)	3.6	-	-	0.3	-	

LYNNWOOD CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Hillsboro Rd. & S. Berrys Chapel Rd.

2030 AM (Long-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	463	574	70	152	125	203	6	1101	248	445	836	131
Future Volume (veh/h)	463	574	70	152	125	203	6	1101	248	445	836	131
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	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	487	604	74	160	132	214	6	1159	261	468	880	138
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	720	322	233	211	412	278	1259	563	506	1746	1032
Arrive On Green	0.16	0.20	0.20	0.07	0.11	0.11	0.01	0.36	0.36	0.15	0.49	0.49
Sat Flow, veh/h	3442	3539	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(V), veh/h	487	604	74	160	132	214	6	1159	261	468	880	138
Grp Sat Flow(s), veh/h/ln	1721	1770	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	12.3	14.5	3.5	4.0	6.0	10.0	0.2	27.8	11.3	11.9	14.8	2.9
Cycle Q Clear(g_c), s	12.3	14.5	3.5	4.0	6.0	10.0	0.2	27.8	11.3	11.9	14.8	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	545	720	322	233	211	412	278	1259	563	506	1746	1032
V/C Ratio(X)	0.89	0.84	0.23	0.69	0.63	0.52	0.02	0.92	0.46	0.93	0.50	0.13
Avail Cap(c_a), veh/h	545	720	322	311	211	412	421	1320	591	506	1746	1032
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	36.5	33.8	29.4	40.3	37.5	28.0	17.9	27.3	22.0	37.3	15.1	5.9
Incr Delay (d2), s/veh	17.1	8.7	0.4	3.9	5.8	1.2	0.0	10.4	0.6	23.1	0.2	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(50%),veh/ln	7.1	7.9	1.5	2.0	3.4	4.6	0.1	15.3	5.0	7.3	7.3	1.3
LnGrp Delay(d),s/veh	53.7	42.5	29.8	44.2	43.2	29.2	18.0	37.7	22.6	60.4	15.3	5.9
LnGrp LOS	D	D	C	D	D	C	B	D	C	E	B	A
Approach Vol, veh/h	1165				506				1426			
Approach Delay, s/veh	46.3				37.6				34.8			
Approach LOS	D				D				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	17.0	37.5	10.0	24.0	4.8	49.7	18.0	16.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	13.0	33.0	8.0	16.0	8.0	38.0	14.0	10.0				
Max Q Clear Time (g_c+I1), s	13.9	29.8	6.0	16.5	2.2	16.8	14.3	12.0				
Green Ext Time (p_c), s	0.0	1.7	0.1	0.0	0.0	15.2	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	36.1											
HCM 2010 LOS	D											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

MOVEMENT SUMMARY

 Site: Berry Chapel Rd. and Farmington Dr. - 2030 AM

New Site
Roundabout

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph	
South: Farmington Drive												
3	L2	4	3.0	0.588	27.0	LOS D	2.1	54.0	0.83	0.93	25.3	
8	T1	34	3.0	0.588	27.0	LOS D	2.1	54.0	0.83	0.93	25.4	
18	R2	388	3.0	0.588	26.0	LOS D	2.1	54.0	0.82	0.91	25.2	
Approach		427	3.0	0.588	26.1	LOS D	2.1	54.0	0.82	0.91	25.2	
East: Berry Chapel Road												
1	L2	15	3.0	0.236	6.1	LOS A	1.0	24.6	0.29	0.17	33.3	
6	T1	399	3.0	0.236	6.1	LOS A	1.0	24.6	0.29	0.17	33.5	
16	R2	42	3.0	0.236	6.1	LOS A	1.0	24.6	0.29	0.17	32.7	
Approach		457	3.0	0.236	6.1	LOS A	1.0	24.6	0.29	0.17	33.4	
North: Farmington Drive												
7	L2	58	3.0	0.078	5.3	LOS A	0.2	5.3	0.36	0.30	31.9	
4	T1	4	3.0	0.078	5.3	LOS A	0.2	5.3	0.36	0.30	32.1	
14	R2	89	3.0	0.110	5.5	LOS A	0.3	7.2	0.35	0.30	32.9	
Approach		151	3.0	0.110	5.4	LOS A	0.3	7.2	0.35	0.30	32.5	
West: Berry Chapel Road												
5	L2	85	3.0	0.708	15.2	LOS C	6.3	161.6	0.48	0.27	29.2	
2	T1	1341	3.0	0.708	15.2	LOS C	6.3	161.6	0.48	0.27	29.4	
12	R2	9	3.0	0.708	15.2	LOS C	6.3	161.6	0.48	0.27	28.9	
Approach		1435	3.0	0.708	15.2	LOS C	6.3	161.6	0.48	0.27	29.4	
All Vehicles		2469	3.0	0.708	14.8	LOS B	6.3	161.6	0.50	0.37	29.4	

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 Irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Processed: Friday, April 01, 2016 11:12:49 AM

SIDRA INTERSECTION 6.0.24.4877

Project: \\FILESERVER\\file_server\\PROJECTS\\2015\\15-1001 (Williamson County Major Corridor Study)\\Sidra

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SIDRA
INTERSECTION 6

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 3: S. Berry Chapel Rd.

2030 AM (Long-Term Improvements)
Williamson County Corridor Study

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	1462	174	21	383	37	33		
Future Volume (veh/h)	1462	174	21	383	37	33		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1539	183	22	403	39	0		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	2579	1154	279	2579	87	78		
Arrive On Green	0.73	0.73	0.73	0.73	0.05	0.00		
Sat Flow, veh/h	3632	1583	281	3632	1774	1583		
Grp Volume(v), veh/h	1539	183	22	403	39	0		
Grp Sat Flow(s),veh/h/ln	1770	1583	281	1770	1774	1583		
Q Serve(g_s), s	11.3	1.9	2.2	1.9	1.2	0.0		
Cycle Q Clear(g_c), s	11.3	1.9	13.5	1.9	1.2	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2579	1154	279	2579	87	78		
V/C Ratio(X)	0.60	0.16	0.08	0.16	0.45	0.00		
Avail Cap(c_a), veh/h	3798	1699	376	3798	328	293		
HCM Platoon Ratio	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	0.00		
Uniform Delay (d), s/veh	3.5	2.2	6.8	2.2	25.0	0.0		
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.0	3.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.4	0.8	0.2	0.9	0.6	0.0		
LnGrp Delay(d),s/veh	3.7	2.3	6.9	2.3	28.5	0.0		
LnGrp LOS	A	A	A	A	C			
Approach Vol, veh/h	1722			425	39			
Approach Delay, s/veh	3.6			2.5	28.5			
Approach LOS	A			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		8.7		45.4				45.4
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		10.0		58.0				58.0
Max Q Clear Time (g_c+I1), s		3.2		13.3				15.5
Green Ext Time (p_c), s		0.0		24.6				23.9
Intersection Summary								
HCM 2010 Ctrl Delay			3.8					
HCM 2010 LOS			A					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Lynnwood Way & N Berrys Chpl Connection

2030 AM (Long-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	305	1189	404	45	156	1		
Future Volume (veh/h)	305	1189	404	45	156	1		
Number	7	4	8	18	1	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	1900	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	321	1252	425	47	164	1		
Adj No. of Lanes	0	2	2	0	0	0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	440	1628	2271	250	208	1		
Arrive On Green	0.71	0.71	0.71	0.71	0.12	0.12		
Sat Flow, veh/h	517	2389	3309	354	1752	11		
Grp Volume(v), veh/h	752	821	233	239	166	0		
Grp Sat Flow(s),veh/h/ln	1211	1610	1770	1800	1773	0		
Q Serve(g_s), s	32.2	21.0	3.1	3.1	6.2	0.0		
Cycle Q Clear(g_c), s	35.3	21.0	3.1	3.1	6.2	0.0		
Prop In Lane	0.43			0.20	0.99	0.01		
Lane Grp Cap(c), veh/h	931	1137	1250	1272	210	0		
V/C Ratio(X)	0.81	0.72	0.19	0.19	0.79	0.00		
Avail Cap(c_a), veh/h	998	1222	1343	1366	414	0		
HCM Platoon Ratio	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	0.00		
Uniform Delay (d), s/veh	9.4	6.0	3.4	3.4	29.4	0.0		
Incr Delay (d2), s/veh	4.7	2.0	0.1	0.1	6.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.5	9.7	1.5	1.6	3.4	0.0		
LnGrp Delay(d),s/veh	14.1	8.0	3.5	3.5	35.9	0.0		
LnGrp LOS	B	A	A	A	D			
Approach Vol, veh/h	1573		472	166				
Approach Delay, s/veh	10.9		3.5	35.9				
Approach LOS	B		A	D				
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4	6		8	
Phs Duration (G+Y+Rc), s				54.4	14.1		54.4	
Change Period (Y+Rc), s				6.0	6.0		6.0	
Max Green Setting (Gmax), s				52.0	16.0		52.0	
Max Q Clear Time (g_c+I1), s				37.3	8.2		5.1	
Green Ext Time (p_c), s				11.1	0.3		23.9	
Intersection Summary								
HCM 2010 Ctrl Delay				11.2				
HCM 2010 LOS				B				
Notes								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 5: Franklin Rd. & Lynnwood Way/Moores Ln.

2030 AM (Long-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	654	951	84	219	295	715	37	557	116	299	389	180
Future Volume (veh/h)	654	951	84	219	295	715	37	557	116	299	389	180
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	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	688	1001	88	231	311	753	39	586	122	315	409	189
Adj No. of Lanes	2	2	1	2	2	2	2	2	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	940	1200	638	332	575	773	219	808	514	396	990	875
Arrive On Green	0.27	0.34	0.34	0.10	0.16	0.16	0.06	0.23	0.23	0.11	0.28	0.28
Sat Flow, veh/h	3442	3539	1583	3442	3539	2787	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	688	1001	88	231	311	753	39	586	122	315	409	189
Grp Sat Flow(s), veh/h/ln	1721	1770	1583	1721	1770	1393	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	19.7	28.3	2.1	7.1	8.8	12.1	1.2	16.6	1.5	9.7	10.2	1.8
Cycle Q Clear(g_c), s	19.7	28.3	2.1	7.1	8.8	12.1	1.2	16.6	1.5	9.7	10.2	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	940	1200	638	332	575	773	219	808	514	396	990	875
V/C Ratio(X)	0.73	0.83	0.14	0.70	0.54	0.97	0.18	0.72	0.24	0.80	0.41	0.22
Avail Cap(c_a), veh/h	1173	1532	786	412	750	911	317	1076	634	729	1500	1104
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(f)	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	35.8	33.1	7.8	47.5	41.8	14.8	48.1	38.7	10.8	46.8	31.8	3.8
Incr Delay (d2), s/veh	1.8	3.3	0.1	3.7	0.8	22.1	0.4	1.7	0.2	3.7	0.3	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(50%), veh/ln	9.6	14.3	1.2	3.5	4.3	11.8	0.6	8.3	1.6	4.8	5.0	1.4
LnGrp Delay(d), s/veh	37.6	36.4	7.9	51.2	42.5	36.9	48.5	40.4	11.1	50.5	32.1	3.9
LnGrp LOS	D	D	A	D	D	D	D	D	B	D	C	A
Approach Vol, veh/h	1777				1295				747			
Approach Delay, s/veh	35.4				40.8				36.0			
Approach LOS	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	18.5	30.8	16.5	42.8	12.9	36.4	35.7	23.6				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	23.0	33.0	13.0	47.0	10.0	46.0	37.0	23.0				
Max Q Clear Time (g_c+I1), s	11.7	18.6	9.1	30.3	3.2	12.2	21.7	14.1				
Green Ext Time (p_c), s	0.8	6.2	1.4	6.5	0.0	8.5	3.1	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay	36.5											
HCM 2010 LOS	D											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 1: Hillsboro Rd. & S. Berrys Chapel Rd.

2030 PM (Long-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 	 	 	 	 	 	 	 	 	 	 
Traffic Volume (veh/h)	187	199	41	453	472	457	57	1095	279	287	1171	353
Future Volume (veh/h)	187	199	41	453	472	457	57	1095	279	287	1171	353
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	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	195	207	43	472	492	476	59	1141	291	299	1220	368
Adj No. of Lanes	2	2	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	609	273	572	504	571	193	1224	548	310	1360	716
Arrive On Green	0.07	0.17	0.17	0.17	0.27	0.27	0.05	0.35	0.35	0.09	0.38	0.38
Sat Flow, veh/h	3442	3539	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	195	207	43	472	492	476	59	1141	291	299	1220	368
Grp Sat Flow(s), veh/h/ln	1721	1770	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	5.0	4.6	2.0	11.8	23.2	24.0	1.8	27.6	13.1	7.7	28.7	14.7
Cycle Q Clear(g_c), s	5.0	4.6	2.0	11.8	23.2	24.0	1.8	27.6	13.1	7.7	28.7	14.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	609	273	572	504	571	193	1224	548	310	1360	716
V/C Ratio(X)	0.84	0.34	0.16	0.83	0.98	0.83	0.31	0.93	0.53	0.96	0.90	0.51
Avail Cap(c_a), veh/h	233	609	273	776	504	571	261	1277	571	310	1360	716
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	40.9	32.3	31.2	35.7	32.1	25.9	21.1	28.0	23.2	40.2	25.6	17.3
Incr Delay (d2), s/veh	22.6	0.3	0.3	5.4	33.8	10.2	0.9	12.0	0.9	41.0	8.2	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.1	2.3	0.9	6.0	16.6	12.2	0.9	15.5	5.8	5.4	15.4	6.5
LnGrp Delay(d), s/veh	63.5	32.6	31.5	41.1	65.9	36.1	22.0	40.0	24.1	81.2	33.9	18.0
LnGrp LOS	E	C	C	D	E	D	C	D	C	F	C	B
Approach Vol, veh/h	445			1440			1491			1887		
Approach Delay, s/veh	46.0			47.9			36.2			38.3		
Approach LOS	D			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	12.0	36.7	18.7	21.3	8.6	40.1	10.0	30.0				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	8.0	32.0	20.0	10.0	8.0	32.0	6.0	24.0				
Max Q Clear Time (g_c+I1), s	9.7	29.6	13.8	6.6	3.8	30.7	7.0	26.0				
Green Ext Time (p_c), s	0.0	1.1	1.0	2.1	0.0	1.2	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	41.0											
HCM 2010 LOS	D											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

MOVEMENT SUMMARY

 Site: Berry Chapel Rd. and Farmington Dr. - 2030 PM

New Site
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Farmington Drive											
3	L2	7	3.0	0.044	6.4	LOS A	0.1	2.9	0.46	0.44	32.8
8	T1	20	3.0	0.044	6.4	LOS A	0.1	2.9	0.46	0.44	32.9
18	R2	29	3.0	0.044	6.1	LOS A	0.1	2.9	0.44	0.42	32.6
Approach		55	3.0	0.044	6.3	LOS A	0.1	2.9	0.45	0.43	32.7
East: Berry Chapel Road											
1	L2	80	3.0	0.854	25.4	LOS D	12.9	330.8	0.86	0.68	25.8
6	T1	1488	3.0	0.854	25.4	LOS D	12.9	330.8	0.86	0.68	26.0
16	R2	62	3.0	0.854	25.4	LOS D	12.9	330.8	0.86	0.68	25.5
Approach		1630	3.0	0.854	25.4	LOS D	12.9	330.8	0.86	0.68	26.0
North: Farmington Drive											
7	L2	53	3.0	0.197	14.8	LOS B	0.5	13.1	0.75	0.75	28.3
4	T1	11	3.0	0.197	14.8	LOS B	0.5	13.1	0.75	0.75	28.4
14	R2	161	3.0	0.456	20.8	LOS C	1.4	35.9	0.79	0.85	26.8
Approach		225	3.0	0.456	19.1	LOS C	1.4	35.9	0.78	0.82	27.2
West: Berry Chapel Road											
5	L2	109	3.0	0.379	8.0	LOS A	1.8	46.0	0.36	0.25	31.9
2	T1	592	3.0	0.379	8.0	LOS A	1.8	46.0	0.36	0.25	32.4
12	R2	15	3.0	0.379	8.0	LOS A	1.8	46.0	0.36	0.25	31.8
Approach		716	3.0	0.379	8.0	LOS A	1.8	46.0	0.36	0.25	32.3
All Vehicles		2627	3.0	0.854	19.7	LOS C	12.9	330.8	0.71	0.57	27.7

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 Irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SIDRA INTERSECTION 6.0.24.4877

Project: \\FILESERVER\\file_server\\PROJECTS\\2015\\15-1001 (Williamson County Major Corridor Study)\\Sidra

\\Farmington and Berry Chapel.slp6

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**SIDRA
INTERSECTION 6**

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 3: S. Berry Chapel Rd.

2030 PM (Long-Term Improvements)
Williamson County Corridor Study

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑		
Traffic Volume (veh/h)	572	49	16	1345	156	21		
Future Volume (veh/h)	572	49	16	1345	156	21		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	596	51	17	1401	162	0		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	2153	963	575	2153	214	191		
Arrive On Green	0.61	0.61	0.61	0.61	0.12	0.00		
Sat Flow, veh/h	3632	1583	781	3632	1774	1583		
Grp Volume(V), veh/h	596	51	17	1401	162	0		
Grp Sat Flow(s),veh/h/ln	1770	1583	781	1770	1774	1583		
Q Serve(g_s), s	3.5	0.6	0.5	11.4	3.9	0.0		
Cycle Q Clear(g_c), s	3.5	0.6	4.0	11.4	3.9	0.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2153	963	575	2153	214	191		
V/C Ratio(X)	0.28	0.05	0.03	0.65	0.76	0.00		
Avail Cap(c_a), veh/h	2555	1143	664	2555	640	571		
HCM Platoon Ratio	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	0.00		
Uniform Delay (d), s/veh	4.1	3.5	5.0	5.6	18.9	0.0		
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.5	5.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	0.2	0.1	5.6	2.2	0.0		
LnGrp Delay(d),s/veh	4.2	3.5	5.0	6.1	24.2	0.0		
LnGrp LOS	A	A	A	A	C			
Approach Vol, veh/h	647			1418	162			
Approach Delay, s/veh	4.1			6.1	24.2			
Approach LOS	A			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		11.4		33.0				33.0
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		16.0		32.0				32.0
Max Q Clear Time (g_c+I1), s		5.9		5.5				13.4
Green Ext Time (p_c), s		0.3		17.6				13.6
Intersection Summary								
HCM 2010 Ctrl Delay				6.8				
HCM 2010 LOS				A				

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 4: Lynnwood Way & N Berrys Chpl Connection

2030 PM (Long-Term Improvements)
Williamson County Corridor Study

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	12	580	1339	195	113	23		
Future Volume (veh/h)	12	580	1339	195	113	23		
Number	7	4	8	18	1	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	1900	1863	1863	1900	1863	1900		
Adj Flow Rate, veh/h	12	604	1395	203	118	24		
Adj No. of Lanes	0	2	2	0	0	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	79	2285	2105	303	154	31		
Arrive On Green	0.68	0.68	0.68	0.68	0.11	0.11		
Sat Flow, veh/h	17	3455	3199	447	1435	292		
Grp Volume(v), veh/h	324	292	789	809	143	0		
Grp Sat Flow(s),veh/h/ln	1778	1610	1770	1784	1739	0		
Q Serve(g _s), s	0.0	4.0	14.5	14.9	4.5	0.0		
Cycle Q Clear(g _c), s	3.8	4.0	14.5	14.9	4.5	0.0		
Prop In Lane	0.04			0.25	0.83	0.17		
Lane Grp Cap(c), veh/h	1272	1092	1199	1209	187	0		
V/C Ratio(X)	0.26	0.27	0.66	0.67	0.77	0.00		
Avail Cap(c _a), veh/h	1644	1471	1616	1629	530	0		
HCM Platoon Ratio	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	0.00		
Uniform Delay (d), s/veh	3.5	3.5	5.2	5.3	24.2	0.0		
Incr Delay (d2), s/veh	0.1	0.1	0.6	0.6	6.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	1.7	7.0	7.4	2.5	0.0		
LnGrp Delay(d),s/veh	3.6	3.7	5.8	6.0	30.7	0.0		
LnGrp LOS	A	A	A	A	C			
Approach Vol, veh/h		616	1598		143			
Approach Delay, s/veh		3.6	5.9		30.7			
Approach LOS		A	A		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				43.8		12.0		43.8
Change Period (Y+Rc), s				6.0		6.0		6.0
Max Green Setting (Gmax), s				51.0		17.0		51.0
Max Q Clear Time (g _c +I1), s				6.0		6.5		16.9
Green Ext Time (p _c), s				24.5		0.3		20.9
Intersection Summary								
HCM 2010 Ctrl Delay			6.8					
HCM 2010 LOS			A					
Notes								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 5: Franklin Rd. & Lynnwood Way/Moores Ln.

2030 PM (Long-Term Improvements)
Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	414	135	496	843	1117	105	365	136	469	581	361
Future Volume (veh/h)	340	414	135	496	843	1117	105	365	136	469	581	361
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	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	354	431	141	517	878	1164	109	380	142	489	605	376
Adj No. of Lanes	2	2	1	2	2	2	2	2	1	2	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	414	546	383	856	1001	1343	300	640	680	685	1036	654
Arrive On Green	0.12	0.15	0.15	0.25	0.28	0.28	0.09	0.18	0.18	0.20	0.29	0.29
Sat Flow, veh/h	3442	3539	1583	3442	3539	2787	3442	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	354	431	141	517	878	1164	109	380	142	489	605	376
Grp Sat Flow(s), veh/h/ln	1721	1770	1583	1721	1770	1393	1721	1770	1583	1721	1770	1583
Q Serve(g_s), s	11.2	13.0	3.7	14.7	26.2	18.7	3.3	10.9	2.8	14.7	16.1	4.9
Cycle Q Clear(g_c), s	11.2	13.0	3.7	14.7	26.2	18.7	3.3	10.9	2.8	14.7	16.1	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	414	546	383	856	1001	1343	300	640	680	685	1036	654
V/C Ratio(X)	0.86	0.79	0.37	0.60	0.88	0.87	0.36	0.59	0.21	0.71	0.58	0.58
Avail Cap(c_a), veh/h	436	768	482	856	1024	1361	311	736	723	685	1120	692
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(f)	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	47.7	45.0	12.9	36.7	37.8	8.1	47.6	41.6	6.5	41.3	33.4	9.7
Incr Delay (d2), s/veh	14.8	3.7	0.6	1.2	8.6	6.1	0.7	1.0	0.2	6.3	0.7	1.1
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(50%),veh/ln	6.2	6.6	2.0	7.1	14.0	8.1	1.6	5.4	1.6	7.6	8.0	5.2
LnGrp Delay(d),s/veh	62.5	48.7	13.5	37.9	46.4	14.3	48.3	42.5	6.7	47.6	34.1	10.7
LnGrp LOS	E	D	B	D	D	B	D	D	A	D	C	B
Approach Vol, veh/h	926			2559				631			1470	
Approach Delay, s/veh	48.6			30.1				35.5			32.6	
Approach LOS	D			C				D			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	28.0	26.0	33.5	23.1	15.6	38.4	19.3	37.3				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	22.0	23.0	22.0	24.0	10.0	35.0	14.0	32.0				
Max Q Clear Time (g_c+I1), s	16.7	12.9	16.7	15.0	5.3	18.1	13.2	28.2				
Green Ext Time (p_c), s	0.9	5.5	1.7	2.1	0.1	7.4	0.1	3.1				
Intersection Summary												
HCM 2010 Ctrl Delay				34.4								
HCM 2010 LOS				C								

ARNO CORRIDOR (NORTH)

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 Projected AM (Long-Term Improvements) 1: Arno Rd. & Mufreesboro Rd. Williamson County Corridor Study

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	387	352	94	1631	1262	110		
Future Volume (veh/h)	387	352	94	1631	1262	110		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	412	374	100	1735	1343	117		
Adj No. of Lanes	2	2	1	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1392	2211	366	1754	1377	633		
Arrive On Green	0.39	0.39	0.05	0.50	0.40	0.40		
Sat Flow, veh/h	3632	2787	1774	3632	3442	1583		
Grp Volume(v), veh/h	412	374	100	1735	1343	117		
Grp Sat Flow(s),veh/h/ln	1770	1393	1774	1770	1721	1583		
Q Serve(g_s), s	9.2	3.7	3.7	55.8	44.2	5.5		
Cycle Q Clear(g_c), s	9.2	3.7	3.7	55.8	44.2	5.5		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1392	2211	366	1754	1377	633		
V/C Ratio(X)	0.30	0.17	0.27	0.99	0.98	0.18		
Avail Cap(c_a), veh/h	1392	2211	370	1754	1377	633		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	23.9	2.8	18.3	28.7	33.9	22.4		
Incr Delay (d2), s/veh	0.1	0.0	0.4	18.9	18.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.5	4.2	1.8	31.6	24.5	2.4		
LnGrp Delay(d),s/veh	24.1	2.9	18.7	47.6	52.6	22.5		
LnGrp LOS	C	A	B	D	D	C		
Approach Vol, veh/h	786			1835	1460			
Approach Delay, s/veh	14.0			46.0	50.2			
Approach LOS	B			D	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		52.0	11.8	51.2				63.0
Change Period (Y+Rc), s		6.0	6.0	6.0				6.0
Max Green Setting (Gmax), s		46.0	6.0	45.0				57.0
Max Q Clear Time (g_c+I1), s		46.2	5.7	11.2				57.8
Green Ext Time (p_c), s		0.0	0.0	32.6				0.0
Intersection Summary								
HCM 2010 Ctrl Delay			41.3					
HCM 2010 LOS			D					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 Projected AM (Long-Term Improvements) 2: Arno Rd. & S. Carothers Rd. Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	10	110	440	1202	614	22		
Future Volume (veh/h)	10	110	440	1202	614	22		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	11	117	468	1279	653	23		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	172	153	654	2414	1347	603		
Arrive On Green	0.10	0.10	0.19	0.68	0.38	0.38		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	11	117	468	1279	653	23		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	0.3	3.9	7.6	9.8	7.6	0.5		
Cycle Q Clear(g_c), s	0.3	3.9	7.6	9.8	7.6	0.5		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	172	153	654	2414	1347	603		
V/C Ratio(X)	0.06	0.76	0.72	0.53	0.48	0.04		
Avail Cap(c_a), veh/h	523	467	806	2414	1347	603		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	22.3	23.9	7.8	4.3	12.8	10.6		
Incr Delay (d2), s/veh	0.2	7.7	2.3	0.8	1.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.2	3.7	4.1	4.9	4.0	0.2		
LnGrp Delay(d),s/veh	22.4	31.6	10.2	5.1	14.0	10.7		
LnGrp LOS	C	C	B	A	B	B		
Approach Vol, veh/h	128			1747	676			
Approach Delay, s/veh	30.8			6.5	13.9			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		43.0		11.2	16.4	26.6		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		37.0		16.0	15.0	16.0		
Max Q Clear Time (g_c+I1), s		11.8		5.9	9.6	9.6		
Green Ext Time (p_c), s		14.5		0.2	0.7	5.1		
Intersection Summary								
HCM 2010 Ctrl Delay			9.7					
HCM 2010 LOS			A					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 Projected AM (Long-Term Improvements) 3: Arno Rd. & Goosey Hill Rd. Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	142	88	58	1496	702	10		
Future Volume (veh/h)	142	88	58	1496	702	10		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	151	94	62	1591	747	11		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	495	442	456	2057	2057	920		
Arrive On Green	0.28	0.28	0.58	0.58	0.58	0.58		
Sat Flow, veh/h	1774	1583	704	3632	3632	1583		
Grp Volume(v), veh/h	151	94	62	1591	747	11		
Grp Sat Flow(s),veh/h/ln	1774	1583	704	1770	1770	1583		
Q Serve(g_s), s	3.8	2.6	2.9	19.6	6.4	0.2		
Cycle Q Clear(g_c), s	3.8	2.6	9.4	19.6	6.4	0.2		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	495	442	456	2057	2057	920		
V/C Ratio(X)	0.30	0.21	0.14	0.77	0.36	0.01		
Avail Cap(c_a), veh/h	495	442	489	2224	2224	995		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	16.3	15.8	8.9	9.1	6.4	5.1		
Incr Delay (d2), s/veh	1.6	1.1	0.1	1.6	0.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.1	1.3	0.6	9.7	3.1	0.1		
LnGrp Delay(d),s/veh	17.8	16.9	9.0	10.8	6.5	5.1		
LnGrp LOS	B	B	A	B	A	A		
Approach Vol, veh/h	245			1653	758			
Approach Delay, s/veh	17.5			10.7	6.5			
Approach LOS	B			B	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		20.0		37.3				37.3
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		36.0				36.0
Max Q Clear Time (g_c+I1), s		5.8		8.4				21.6
Green Ext Time (p_c), s		0.5		19.5				11.7
Intersection Summary								
HCM 2010 Ctrl Delay			10.1					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 Projected AM (Long-Term Improvements) 4: Arno Rd. & Peystonsville - Trinity Rd./Trinity Rd. Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	62	74	110	6	10	22	1342	64	2	778	10
Future Volume (veh/h)	202	62	74	110	6	10	22	1342	64	2	778	10
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		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	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	215	66	79	117	6	11	23	1428	68	2	828	11
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	169	202	297	129	236	418	2016	96	219	2074	928
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	1390	774	926	1238	590	1082	653	3440	163	350	3539	1583
Grp Volume(v), veh/h	215	0	145	117	0	17	23	733	763	2	828	11
Grp Sat Flow(s),veh/h/ln	1390	0	1699	1238	0	1672	653	1770	1834	350	1770	1583
Q Serve(g_s), s	8.8	0.0	4.5	5.5	0.0	0.5	1.2	17.9	18.1	0.2	7.7	0.2
Cycle Q Clear(g_c), s	9.3	0.0	4.5	9.9	0.0	0.5	8.9	17.9	18.1	18.3	7.7	0.2
Prop In Lane	1.00		0.54	1.00		0.65	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	410	0	370	297	0	364	418	1037	1075	219	2074	928
V/C Ratio(X)	0.52	0.00	0.39	0.39	0.00	0.05	0.06	0.71	0.71	0.01	0.40	0.01
Avail Cap(c_a), veh/h	606	0	611	472	0	601	472	1185	1228	249	2371	1061
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(f)	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	22.6	0.0	20.5	24.7	0.0	18.9	9.3	9.0	9.0	15.5	6.8	5.3
Incr Delay (d2), s/veh	1.0	0.0	0.7	0.8	0.0	0.1	0.1	1.7	1.6	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	2.2	1.9	0.0	0.2	0.2	9.0	9.4	0.0	3.7	0.1
LnGrp Delay(d),s/veh	23.6	0.0	21.1	25.6	0.0	19.0	9.3	10.6	10.6	15.5	7.0	5.3
LnGrp LOS	C		C	C		B	A	B	B	B	A	A
Approach Vol, veh/h	360			134			1519			841		
Approach Delay, s/veh	22.6			24.7			10.6			7.0		
Approach LOS	C			C			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	19.3		41.9		19.3		41.9					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	22.0		41.0		22.0		41.0					
Max Q Clear Time (g_c+I1), s	11.3		20.3		11.9		20.1					
Green Ext Time (p_c), s	1.5		15.6		1.4		15.7					
Intersection Summary												
HCM 2010 Ctrl Delay	11.7											
HCM 2010 LOS	B											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2030 Projected AM (Long-Term Improvements)

6: Arno Rd. & Page Middle Exit

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	6.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	117	144	1412	0	0	791
Future Vol, veh/h	117	144	1412	0	0	791
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	124	153	1502	0	0	841
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1923	751	0	0	1502	0
Stage 1	1502	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 59	353	-	-	442	-
Stage 1	171	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 59	353	-	-	442	-
Mov Cap-2 Maneuver	139	-	-	-	-	-
Stage 1	171	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	62.9		0		0	
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 139 353	442	-		
HCM Lane V/C Ratio	-	- 0.895 0.434	-	-		
HCM Control Delay (s)	-	- 112.2 22.8	0	-		
HCM Lane LOS	-	- F C	A	-		
HCM 95th %ile Q(veh)	-	- 6 2.1	0	-		
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s -: Computation Not Defined *: All major volume in platoon						

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

7: Arno Rd. & Page High N. Drwy

2030 Projected AM (Long-Term Improvements)

Williamson County Corridor Study

Intersection							
Int Delay, s/veh	0						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	2	1	2	1408	750	158	
Future Vol, veh/h	2	1	2	1408	750	158	
Conflicting Peds, #/hr	0	0	130	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	0	0	-	-	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	2	1	2	1498	798	168	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1635	613	966	0	-	0	
Stage 1	882	-	-	-	-	-	
Stage 2	753	-	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	-	
Pot Cap-1 Maneuver	92	435	709	-	-	-	
Stage 1	365	-	-	-	-	-	
Stage 2	426	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	92	388	632	-	-	-	
Mov Cap-2 Maneuver	221	-	-	-	-	-	
Stage 1	365	-	-	-	-	-	
Stage 2	425	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	19	0		0			
HCM LOS	C						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	632	-	221	388	-	-	
HCM Lane V/C Ratio	0.003	-	0.01	0.003	-	-	
HCM Control Delay (s)	10.7	-	21.4	14.3	-	-	
HCM Lane LOS	B	-	C	B	-	-	
HCM 95th %ile Q(veh)	0	-	0	0	-	-	

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2030 Projected AM (Long-Term Improvements)

8: Arno Rd. & Page High S Drwy

Williamson County Corridor Study

Intersection							
Int Delay, s/veh	7.7						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Vol, veh/h	119	60	229	1291	623	128	
Future Vol, veh/h	119	60	229	1291	623	128	
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	0	125	-	-	-	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	94	94	94	94	94	94	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	127	64	244	1373	663	136	
Major/Minor	Minor2	Major1		Major2			
Conflicting Flow All	1905	399	799	0	-	0	
Stage 1	731	-	-	-	-	-	
Stage 2	1174	-	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	-	
Pot Cap-1 Maneuver	~ 60	601	819	-	-	-	
Stage 1	437	-	-	-	-	-	
Stage 2	256	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	~ 42	601	819	-	-	-	
Mov Cap-2 Maneuver	132	-	-	-	-	-	
Stage 1	437	-	-	-	-	-	
Stage 2	180	-	-	-	-	-	
Approach	EB	NB		SB			
HCM Control Delay, s	91.6	1.7		0			
HCM LOS	F						
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR	
Capacity (veh/h)	819	-	132	601	-	-	
HCM Lane V/C Ratio	0.297	-	0.959	0.106	-	-	
HCM Control Delay (s)	11.2	-	131.9	11.7	-	-	
HCM Lane LOS	B	-	F	B	-	-	
HCM 95th %ile Q(veh)	1.2	-	6.6	0.4	-	-	
Notes							
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon							

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 Projected PM (Long-Term Improvements) 1: Arno Rd. & Mufreesboro Rd. Williamson County Corridor Study

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑		
Traffic Volume (veh/h)	1608	1730	116	586	546	84		
Future Volume (veh/h)	1608	1730	116	586	546	84		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	1693	1821	122	617	575	88		
Adj No. of Lanes	2	2	1	2	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1860	2017	206	2342	682	314		
Arrive On Green	0.53	0.53	0.07	0.66	0.20	0.20		
Sat Flow, veh/h	3632	2787	1774	3632	3442	1583		
Grp Volume(v), veh/h	1693	1821	122	617	575	88		
Grp Sat Flow(s),veh/h/ln	1770	1393	1774	1770	1721	1583		
Q Serve(g_s), s	37.3	44.6	2.4	6.1	13.8	4.0		
Cycle Q Clear(g_c), s	37.3	44.6	2.4	6.1	13.8	4.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1860	2017	206	2342	682	314		
V/C Ratio(X)	0.91	0.90	0.59	0.26	0.84	0.28		
Avail Cap(c_a), veh/h	1860	2017	213	2355	844	388		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	18.5	9.4	19.6	5.9	33.1	29.2		
Incr Delay (d2), s/veh	7.2	6.2	4.1	0.1	6.5	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	20.0	23.0	1.8	2.9	7.2	1.8		
LnGrp Delay(d),s/veh	25.7	15.6	23.7	6.0	39.5	29.6		
LnGrp LOS	C	B	C	A	D	C		
Approach Vol, veh/h	3514			739	663			
Approach Delay, s/veh	20.5			8.9	38.2			
Approach LOS	C			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		23.0	11.7	51.0				62.7
Change Period (Y+Rc), s		6.0	6.0	6.0				6.0
Max Green Setting (Gmax), s		21.0	6.0	45.0				57.0
Max Q Clear Time (g_c+I1), s		15.8	4.4	46.6				8.1
Green Ext Time (p_c), s		1.2	0.1	0.0				48.6
Intersection Summary								
HCM 2010 Ctrl Delay			21.1					
HCM 2010 LOS			C					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 Projected PM (Long-Term Improvements) 2: Arno Rd. & S. Carothers Rd. Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	4	140	34	430	1961	18		
Future Volume (veh/h)	4	140	34	430	1961	18		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	4	147	36	453	2064	19		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	202	180	163	2628	2278	1019		
Arrive On Green	0.11	0.11	0.03	0.74	0.64	0.64		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(V), veh/h	4	147	36	453	2064	19		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	0.2	7.6	0.5	3.2	41.6	0.4		
Cycle Q Clear(g_c), s	0.2	7.6	0.5	3.2	41.6	0.4		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	202	180	163	2628	2278	1019		
V/C Ratio(X)	0.02	0.82	0.22	0.17	0.91	0.02		
Avail Cap(c_a), veh/h	340	303	200	2628	2278	1019		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	32.9	36.1	17.9	3.2	12.7	5.4		
Incr Delay (d2), s/veh	0.0	8.7	0.7	0.1	6.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.1	6.8	0.6	1.6	22.2	0.2		
LnGrp Delay(d),s/veh	32.9	44.8	18.6	3.3	19.3	5.4		
LnGrp LOS	C	D	B	A	B	A		
Approach Vol, veh/h	151			489	2083			
Approach Delay, s/veh	44.5			4.4	19.2			
Approach LOS	D			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		68.0		15.5	8.3	59.7		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		62.0		16.0	4.0	52.0		
Max Q Clear Time (g_c+I1), s		5.2		9.6	2.5	43.6		
Green Ext Time (p_c), s		35.5		0.2	0.0	7.5		
Intersection Summary								
HCM 2010 Ctrl Delay			17.9					
HCM 2010 LOS			B					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 Projected PM (Long-Term Improvements) 3: Arno Rd. & Goosey Hill Rd. Williamson County Corridor Study

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	30	8	14	434	1959	142		
Future Volume (veh/h)	30	8	14	434	1959	142		
Number	5	12	3	8	4	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	32	8	15	457	2062	149		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	59	52	200	2662	2662	1191		
Arrive On Green	0.03	0.03	0.75	0.75	0.75	0.75		
Sat Flow, veh/h	1774	1583	174	3632	3632	1583		
Grp Volume(v), veh/h	32	8	15	457	2062	149		
Grp Sat Flow(s),veh/h/ln	1774	1583	174	1770	1770	1583		
Q Serve(g_s), s	1.0	0.3	3.1	2.1	19.3	1.4		
Cycle Q Clear(g_c), s	1.0	0.3	22.5	2.1	19.3	1.4		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	59	52	200	2662	2662	1191		
V/C Ratio(X)	0.54	0.15	0.08	0.17	0.77	0.13		
Avail Cap(c_a), veh/h	508	454	200	2662	2662	1191		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	26.6	26.2	10.8	2.0	4.1	1.9		
Incr Delay (d2), s/veh	7.6	1.3	0.7	0.1	2.3	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	0.1	0.2	1.0	9.7	0.7		
LnGrp Delay(d),s/veh	34.2	27.6	11.5	2.1	6.4	2.1		
LnGrp LOS	C	C	B	A	A	A		
Approach Vol, veh/h	40			472	2211			
Approach Delay, s/veh	32.9			2.4	6.1			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		7.8		48.0				48.0
Change Period (Y+Rc), s		6.0		6.0				6.0
Max Green Setting (Gmax), s		16.0		42.0				42.0
Max Q Clear Time (g_c+I1), s		3.0		21.3				24.5
Green Ext Time (p_c), s		0.0		17.4				15.1
Intersection Summary								
HCM 2010 Ctrl Delay			5.9					
HCM 2010 LOS			A					

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 Projected PM (Long-Term Improvements) 4: Arno Rd. & Peystonsville - Trinity Rd./Trinity Rd. Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	18	20	20	48	8	56	426	22	8	1591	368
Future Volume (veh/h)	14	18	20	20	48	8	56	426	22	8	1591	368
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		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	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	15	19	21	21	51	8	59	448	23	8	1675	387
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	57	63	168	111	17	212	2600	133	766	2686	1201
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.76	0.76	0.76	0.76	0.76	0.76
Sat Flow, veh/h	1338	810	895	1362	1573	247	202	3426	175	919	3539	1583
Grp Volume(v), veh/h	15	0	40	21	0	59	59	231	240	8	1675	387
Grp Sat Flow(s), veh/h/ln	1338	0	1705	1362	0	1819	202	1770	1832	919	1770	1583
Q Serve(g_s), s	0.8	0.0	1.6	1.0	0.0	2.2	13.3	2.5	2.6	0.2	15.3	5.5
Cycle Q Clear(g_c), s	3.0	0.0	1.6	2.6	0.0	2.2	28.6	2.5	2.6	2.7	15.3	5.5
Prop In Lane	1.00		0.52	1.00		0.14	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	155	0	121	168	0	129	212	1343	1390	766	2686	1201
V/C Ratio(X)	0.10	0.00	0.33	0.12	0.00	0.46	0.28	0.17	0.17	0.01	0.62	0.32
Avail Cap(c_a), veh/h	403	0	436	420	0	465	231	1508	1561	852	3017	1350
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	31.1	32.4	0.0	31.4	10.4	2.4	2.4	2.7	3.9	2.7
Incr Delay (d2), s/veh	0.3	0.0	1.6	0.3	0.0	2.5	0.7	0.1	0.1	0.0	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.8	0.4	0.0	1.2	0.8	1.2	1.3	0.0	7.3	2.4
LnGrp Delay(d),s/veh	33.1	0.0	32.7	32.7	0.0	33.9	11.1	2.4	2.4	2.7	4.2	2.9
LnGrp LOS	C		C	C		C	B	A	A	A	A	A
Approach Vol, veh/h	55			80			530			2070		
Approach Delay, s/veh	32.8			33.6			3.4			4.0		
Approach LOS	C			C			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	11.0		59.4		11.0		59.4					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	18.0		60.0		18.0		60.0					
Max Q Clear Time (g_c+I1), s	5.0		17.3		4.6		30.6					
Green Ext Time (p_c), s	0.4		30.2		0.4		22.8					
Intersection Summary												
HCM 2010 Ctrl Delay	5.3											
HCM 2010 LOS	A											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC
6: Arno Rd. & Page Middle Exit

2030 Projected PM (Long-Term Improvements)
Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	22	44	460	0	0	1606
Future Vol, veh/h	22	44	460	0	0	1606
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	46	484	0	0	1691
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1329	242	0	0	484	0
Stage 1	484	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	146	759	-	-	1075	-
Stage 1	585	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	146	759	-	-	1075	-
Mov Cap-2 Maneuver	273	-	-	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	13.2		0		0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	273	759	1075	-
HCM Lane V/C Ratio	-	-	0.085	0.061	-	-
HCM Control Delay (s)	-	-	19.4	10.1	0	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	0	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

7: Arno Rd. & Page High N. Drwy

2030 Projected PM (Long-Term Improvements)

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	69	29	4	322	1622	6
Future Vol, veh/h	69	29	4	322	1622	6
Conflicting Peds, #/hr	0	0	130	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	31	4	339	1707	6
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1889	987	1714	0	-	0
Stage 1	1711	-	-	-	-	-
Stage 2	178	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 62	246	366	-	-	-
Stage 1	131	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	~ 61	219	326	-	-	-
Mov Cap-2 Maneuver	114	-	-	-	-	-
Stage 1	131	-	-	-	-	-
Stage 2	825	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	63.7	0.2		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	326	-	114	219	-	-
HCM Lane V/C Ratio	0.013	-	0.637	0.139	-	-
HCM Control Delay (s)	16.2	-	80.3	24.1	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %ile Q(veh)	0	-	3.2	0.5	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2030 Projected PM (Long-Term Improvements)

8: Arno Rd. & Page High S Drwy

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	17	11	8	296	1645	6
Future Vol, veh/h	17	11	8	296	1645	6
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	0	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	12	8	312	1732	6
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1908	869	1738	0	-	0
Stage 1	1735	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	60	295	358	-	-	-
Stage 1	127	-	-	-	-	-
Stage 2	840	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	59	295	358	-	-	-
Mov Cap-2 Maneuver	111	-	-	-	-	-
Stage 1	127	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	33.4	0.4		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	358	-	111	295	-	-
HCM Lane V/C Ratio	0.024	-	0.161	0.039	-	-
HCM Control Delay (s)	15.3	-	43.6	17.7	-	-
HCM Lane LOS	C	-	E	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0.1	-	-

ARNO CORRIDOR (SOUTH)

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 AM Peak Hour (Long-Term Improvements) 9: Arno Rd & SR 840 WB Ramp

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	180	0	1605	84	801	0	0	243	363
Future Volume (veh/h)	0	0	0	180	0	1605	84	801	0	0	243	363
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	0	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				196	0	1419	91	871	0	0	264	178
Adj No. of Lanes				1	0	2	2	2	0	0	2	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				980	0	1539	639	1230	0	0	923	413
Arrive On Green				0.55	0.00	0.55	0.07	0.70	0.00	0.00	0.26	0.26
Sat Flow, veh/h				1774	0	2787	3442	3632	0	0	3632	1583
Grp Volume(v), veh/h				196	0	1419	91	871	0	0	264	178
Grp Sat Flow(s), veh/h/ln				1774	0	1393	1721	1770	0	0	1770	1583
Q Serve(g_s), s				5.6	0.0	46.4	1.8	14.8	0.0	0.0	6.0	9.4
Cycle Q Clear(g_c), s				5.6	0.0	46.4	1.8	14.8	0.0	0.0	6.0	9.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				980	0	1539	639	1230	0	0	923	413
V/C Ratio(X)				0.20	0.00	0.92	0.14	0.71	0.00	0.00	0.29	0.43
Avail Cap(c_a), veh/h				1118	0	1756	650	1230	0	0	923	413
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(f)				1.00	0.00	1.00	0.83	0.83	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				11.3	0.0	20.4	23.3	12.2	0.0	0.0	29.5	30.8
Incr Delay (d2), s/veh				0.1	0.0	7.9	0.1	2.9	0.0	0.0	0.8	3.3
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln				2.7	0.0	19.4	0.9	7.5	0.0	0.0	3.0	4.5
LnGrp Delay(d), s/veh				11.4	0.0	28.3	23.4	15.1	0.0	0.0	30.3	34.0
LnGrp LOS				B		C	C	B			C	C
Approach Vol, veh/h					1615			962			442	
Approach Delay, s/veh					26.2			15.9			31.8	
Approach LOS					C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		39.8			8.7	31.1		60.2				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		27.0			4.0	18.0		63.0				
Max Q Clear Time (g_c+I1), s		16.8			3.8	11.4		48.4				
Green Ext Time (p_c), s		5.5			0.0	4.0		6.8				
Intersection Summary												
HCM 2010 Ctrl Delay					23.7							
HCM 2010 LOS					C							

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 AM Peak Hour (Long-Term Improvements) 10: Amo Rd & SR 840 EB Ramp

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	0	186	0	0	0	0	642	81	75	348	0
Future Volume (veh/h)	243	0	186	0	0	0	0	642	81	75	348	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	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	0	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	264	0	202				0	698	88	82	378	0
Adj No. of Lanes	1	0	1				0	2	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	346	0	309				0	1381	618	187	1999	0
Arrive On Green	0.20	0.00	0.20				0.00	0.39	0.39	0.05	0.56	0.00
Sat Flow, veh/h	1774	0	1583				0	3632	1583	3442	3632	0
Grp Volume(v), veh/h	264	0	202				0	698	88	82	378	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1770	1583	1721	1770	0
Q Serve(g_s), s	7.0	0.0	5.9				0.0	7.5	1.8	1.2	2.6	0.0
Cycle Q Clear(g_c), s	7.0	0.0	5.9				0.0	7.5	1.8	1.2	2.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	346	0	309				0	1381	618	187	1999	0
V/C Ratio(X)	0.76	0.00	0.65				0.00	0.51	0.14	0.44	0.19	0.00
Avail Cap(c_a), veh/h	497	0	443				0	1381	618	275	1999	0
HCM Platoon Ratio	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				0.00	1.00	1.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	19.0	0.0	18.6				0.0	11.6	9.8	22.9	5.3	0.0
Incr Delay (d2), s/veh	4.2	0.0	2.3				0.0	1.3	0.5	1.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	2.8				0.0	3.8	0.9	0.6	1.3	0.0
LnGrp Delay(d),s/veh	23.3	0.0	20.9				0.0	12.9	10.3	24.5	5.5	0.0
LnGrp LOS	C		C				B	B	C	A		
Approach Vol, veh/h	466						786			460		
Approach Delay, s/veh	22.2						12.6			8.9		
Approach LOS	C						B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	8.7	25.5		15.8		34.2						
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0						
Max Green Setting (Gmax), s	4.0	14.0		14.0		24.0						
Max Q Clear Time (g_c+I1), s	3.2	9.5		9.0		4.6						
Green Ext Time (p_c), s	0.0	2.8		0.7		7.7						
Intersection Summary												
HCM 2010 Ctrl Delay	14.2											
HCM 2010 LOS	B											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2030 AM Peak Hour (Long-Term Improvements)

11: Eudailey-Covington Rd & Arno Rd

Williamson County Corridor Study

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	3	0	18	0	225	3	495	21	309	225	0
Future Vol, veh/h	3	3	0	18	0	225	3	495	21	309	225	0
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	-	-	-	-	-	-	150	-	-	250	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	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	3	0	20	0	245	3	538	23	336	245	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1192	1483	122	1352	1472	280	245	0	0	561	0	0
Stage 1	916	916	-	556	556	-	-	-	-	-	-	-
Stage 2	276	567	-	796	916	-	-	-	-	-	-	-
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	143	124	906	109	126	717	1318	-	-	1006	-	-
Stage 1	293	349	-	483	511	-	-	-	-	-	-	-
Stage 2	707	505	-	347	349	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	70	82	906	79	84	717	1318	-	-	1006	-	-
Mov Cap-2 Maneuver	106	125	-	170	175	-	-	-	-	-	-	-
Stage 1	292	232	-	482	510	-	-	-	-	-	-	-
Stage 2	465	504	-	228	232	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	38.2	13.8	0	6
HCM LOS	E	B	-	-

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1318	-	-	115	170	717	1006	-	-
HCM Lane V/C Ratio	0.002	-	-	0.057	0.115	0.341	0.334	-	-
HCM Control Delay (s)	7.7	-	-	38.2	28.9	12.6	10.4	-	-
HCM Lane LOS	A	-	-	E	D	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	1.5	1.5	-	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 AM Peak Hour (Long-Term Improvements) 12: Arno-Allison Rd./Arno Rd. & Peytonsville-Arno Rd./Arno-College College Rd.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	60	30	12	138	99	414	384	24	57	57	6
Future Volume (veh/h)	12	60	30	12	138	99	414	384	24	57	57	6
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	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	13	65	33	13	150	108	450	417	26	62	62	7
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	1	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	321	287	146	454	248	179	813	1642	102	582	904	768
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1117	1166	592	1292	1008	726	1326	3385	210	943	1863	1583
Grp Volume(v), veh/h	13	0	98	13	0	258	450	217	226	62	62	7
Grp Sat Flow(s), veh/h/ln	1117	0	1758	1292	0	1735	1326	1770	1826	943	1863	1583
Q Serve(g_s), s	0.4	0.0	1.7	0.3	0.0	4.9	10.2	2.7	2.7	1.5	0.7	0.1
Cycle Q Clear(g_c), s	5.3	0.0	1.7	2.0	0.0	4.9	10.8	2.7	2.7	4.2	0.7	0.1
Prop In Lane	1.00		0.34	1.00		0.42	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	321	0	432	454	0	427	813	858	886	582	904	768
V/C Ratio(X)	0.04	0.00	0.23	0.03	0.00	0.60	0.55	0.25	0.25	0.11	0.07	0.01
Avail Cap(c_a), veh/h	767	0	1135	970	0	1120	2168	2665	2750	1545	2806	2385
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(f)	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	14.8	0.0	11.2	12.0	0.0	12.4	8.0	5.6	5.6	6.9	5.1	5.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.0	0.0	1.4	0.6	0.2	0.2	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.8	0.1	0.0	2.5	3.8	1.3	1.4	0.4	0.3	0.0
LnGrp Delay(d),s/veh	14.8	0.0	11.5	12.0	0.0	13.8	8.6	5.8	5.8	6.9	5.1	5.0
LnGrp LOS	B		B	B		B	A	A	A	A	A	A
Approach Vol, veh/h	111			271			893			131		
Approach Delay, s/veh	11.8			13.7			7.2			6.0		
Approach LOS	B			B			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	23.0		14.1		23.0		14.1					
Change Period (Y+Rc), s	5.0		5.0		5.0		5.0					
Max Green Setting (Gmax), s	56.0		24.0		56.0		24.0					
Max Q Clear Time (g_c+I1), s	12.8		7.3		6.2		6.9					
Green Ext Time (p_c), s	5.2		2.0		5.2		2.1					
Intersection Summary												
HCM 2010 Ctrl Delay				8.7								
HCM 2010 LOS				A								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2030 AM Peak Hour (Long-Term Improvements)

13: Horton Hwy. & Arno-Allison Rd

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	7.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	27	45	456	609	294	12
Future Vol, veh/h	27	45	456	609	294	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
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	29	49	496	662	320	13
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1979	326	333	0	-	0
Stage 1	326	-	-	-	-	-
Stage 2	1653	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	68	715	1226	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	171	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	40	715	1226	-	-	-
Mov Cap-2 Maneuver	40	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	102	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	88.1	4.2		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1226	-	40	715	-	-
HCM Lane V/C Ratio	0.404	-	0.734	0.068	-	-
HCM Control Delay (s)	9.9	-	217.6	10.4	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	2	-	2.7	0.2	-	-

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 PM Peak Hour (Long-Term Improvements) 9: Arno Rd & SR 840 WB Ramp

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	54	0	120	225	204	0	0	2022	537
Future Volume (veh/h)	0	0	0	54	0	120	225	204	0	0	2022	537
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				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
Parking Bus, Adj				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	0	1863	1863	1863	0	0	1863	1863
Adj Flow Rate, veh/h				59	0	130	245	222	0	0	2198	584
Adj No. of Lanes				1	0	2	2	2	0	0	2	1
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	2	2	0	0	2	2
Cap, veh/h				99	0	155	381	2871	0	0	2438	1091
Arrive On Green				0.06	0.00	0.06	0.06	0.81	0.00	0.00	0.69	0.69
Sat Flow, veh/h				1774	0	2787	3442	3632	0	0	3632	1583
Grp Volume(v), veh/h				59	0	130	245	222	0	0	2198	584
Grp Sat Flow(s), veh/h/ln				1774	0	1393	1721	1770	0	0	1770	1583
Q Serve(g_s), s				2.9	0.0	4.2	1.2	1.1	0.0	0.0	45.9	16.4
Cycle Q Clear(g_c), s				2.9	0.0	4.2	1.2	1.1	0.0	0.0	45.9	16.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				99	0	155	381	2871	0	0	2438	1091
V/C Ratio(X)				0.60	0.00	0.84	0.64	0.08	0.00	0.00	0.90	0.54
Avail Cap(c_a), veh/h				99	0	155	381	2871	0	0	2438	1091
HCM Platoon Ratio				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	0.76	0.76	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.5	0.0	42.1	39.4	1.7	0.0	0.0	11.5	6.9
Incr Delay (d2), s/veh				9.6	0.0	31.7	2.8	0.0	0.0	0.0	6.0	1.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.7	0.0	2.3	3.1	0.6	0.0	0.0	24.0	7.5
LnGrp Delay(d),s/veh				51.1	0.0	73.8	42.2	1.8	0.0	0.0	17.5	8.8
LnGrp LOS				D		E	D	A			B	A
Approach Vol, veh/h					189			467			2782	
Approach Delay, s/veh					66.7			23.0			15.6	
Approach LOS					E			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.0			11.0	68.0		11.0				
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0				
Max Green Setting (Gmax), s		73.0			5.0	62.0		5.0				
Max Q Clear Time (g_c+I1), s		3.1			3.2	47.9		6.2				
Green Ext Time (p_c), s		2.3			0.4	12.7		0.0				
Intersection Summary												
HCM 2010 Ctn Delay				19.4								
HCM 2010 LOS				B								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 PM Peak Hour (Long-Term Improvements) 10: Amo Rd & SR 840 EB Ramp

Williamson County Corridor Study

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	0	69	0	0	0	0	372	207	1335	741	0
Future Volume (veh/h)	57	0	69	0	0	0	0	372	207	1335	741	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	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	0	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	62	0	75				0	404	225	1451	805	0
Adj No. of Lanes	1	0	1				0	2	1	2	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2				0	2	2	2	2	0
Cap, veh/h	122	0	109				0	897	401	1644	2824	0
Arrive On Green	0.07	0.00	0.07				0.00	0.25	0.25	0.48	0.80	0.00
Sat Flow, veh/h	1774	0	1583				0	3632	1583	3442	3632	0
Grp Volume(V), veh/h	62	0	75				0	404	225	1451	805	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583				0	1770	1583	1721	1770	0
Q Serve(g_s), s	3.0	0.0	4.2				0.0	8.7	11.1	34.3	5.4	0.0
Cycle Q Clear(g_c), s	3.0	0.0	4.2				0.0	8.7	11.1	34.3	5.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	122	0	109				0	897	401	1644	2824	0
V/C Ratio(X)	0.51	0.00	0.69				0.00	0.45	0.56	0.88	0.29	0.00
Avail Cap(c_a), veh/h	315	0	281				0	897	401	1644	2824	0
HCM Platoon Ratio	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				0.00	1.00	1.00	0.33	0.33	0.00
Uniform Delay (d), s/veh	40.4	0.0	41.0				0.0	28.3	29.2	21.2	2.4	0.0
Incr Delay (d2), s/veh	3.2	0.0	7.5				0.0	0.4	1.8	2.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	2.1				0.0	4.3	5.1	16.6	2.6	0.0
LnGrp Delay(d),s/veh	43.7	0.0	48.4				0.0	28.7	31.0	23.3	2.5	0.0
LnGrp LOS	D		D					C	C	C	A	
Approach Vol, veh/h	137						629			2256		
Approach Delay, s/veh	46.3						29.5			15.9		
Approach LOS	D						C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	49.0	28.8		12.2		77.8						
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0						
Max Green Setting (Gmax), s	43.0	13.0		16.0		62.0						
Max Q Clear Time (g_c+I1), s	36.3	13.1		6.2		7.4						
Green Ext Time (p_c), s	5.4	0.0		0.2		20.4						
Intersection Summary												
HCM 2010 Ctrl Delay				20.1								
HCM 2010 LOS				C								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2030 PM Peak Hour (Long-Term Improvements)

11: Eudailey-Covington Rd & Arno Rd

Williamson County Corridor Study

Intersection													
Int Delay, s/veh	3.1												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Traffic Vol, veh/h	0	3	0	6	0	249	0	330	18	162	639	9	
Future Vol, veh/h	0	3	0	6	0	249	0	330	18	162	639	9	
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	-	-	-	-	-	-	150	-	-	250	-	-	
Veh in Median Storage, #	-	1	-	-	1	-	-	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	3	0	7	0	271	0	359	20	176	695	10	
Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1231	1430	352	1069	1425	189	704	0	0	378	0	0	
Stage 1	1052	1052	-	368	368	-	-	-	-	-	-	-	
Stage 2	179	378	-	701	1057	-	-	-	-	-	-	-	
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	134	133	644	176	134	821	890	-	-	1177	-	-	
Stage 1	242	302	-	624	620	-	-	-	-	-	-	-	
Stage 2	805	614	-	395	300	-	-	-	-	-	-	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	80	113	644	154	114	821	890	-	-	1177	-	-	
Mov Cap-2 Maneuver	167	194	-	258	205	-	-	-	-	-	-	-	
Stage 1	242	257	-	624	620	-	-	-	-	-	-	-	
Stage 2	540	614	-	332	255	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	23.9			11.7			0			1.7			
HCM LOS	C			B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR				
Capacity (veh/h)	890	-	-	194	258	821	1177	-	-				
HCM Lane V/C Ratio	-	-	-	0.017	0.025	0.33	0.15	-	-				
HCM Control Delay (s)	0	-	-	23.9	19.3	11.5	8.6	-	-				
HCM Lane LOS	A	-	-	C	C	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	1.4	0.5	-	-				

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 PM Peak Hour (Long-Term Improvements) 12: Arno-Allison Rd./Arno Rd. & Peytonville-Arno Rd./Arno-College Cove Rd.

																	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR					
Lane Configurations																	
Traffic Volume (veh/h)	18	99	156	30	93	57	60	120	6	81	453	12					
Future Volume (veh/h)	18	99	156	30	93	57	60	120	6	81	453	12					
Number	7	4	14	3	8	18	5	2	12	1	6	16					
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0					
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00					
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863					
Adj Flow Rate, veh/h	20	108	170	33	101	62	65	130	7	88	492	13					
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	1	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	460	192	303	360	319	196	405	1509	81	713	823	699					
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.44	0.44	0.44	0.44	0.44	0.44					
Sat Flow, veh/h	1218	653	1028	1097	1082	664	890	3417	183	1247	1863	1583					
Grp Volume(v), veh/h	20	0	278	33	0	163	65	67	70	88	492	13					
Grp Sat Flow(s), veh/h/ln	1218	0	1681	1097	0	1746	890	1770	1830	1247	1863	1583					
Q Serve(g_s), s	0.5	0.0	5.3	1.0	0.0	2.8	2.3	0.8	0.8	1.7	7.6	0.2					
Cycle Q Clear(g_c), s	3.2	0.0	5.3	6.3	0.0	2.8	9.9	0.8	0.8	2.5	7.6	0.2					
Prop In Lane	1.00		0.61	1.00		0.38	1.00		0.10	1.00		1.00					
Lane Grp Cap(c), veh/h	460	0	495	360	0	514	405	782	808	713	823	699					
V/C Ratio(X)	0.04	0.00	0.56	0.09	0.00	0.32	0.16	0.09	0.09	0.12	0.60	0.02					
Avail Cap(c_a), veh/h	1033	0	1286	876	0	1335	1209	2381	2463	1840	2506	2130					
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	11.7	0.0	11.3	14.0	0.0	10.4	11.8	6.1	6.1	6.9	8.0	6.0					
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.1	0.0	0.4	0.2	0.0	0.0	0.1	0.7	0.0					
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.5	0.3	0.0	1.4	0.6	0.4	0.4	0.6	4.0	0.1					
LnGrp Delay(d),s/veh	11.7	0.0	12.3	14.1	0.0	10.8	12.0	6.2	6.2	7.0	8.7	6.0					
LnGrp LOS	B		B	B		B	B	A	A	A	A	A					
Approach Vol, veh/h	298			196			202			593							
Approach Delay, s/veh	12.3			11.3			8.0			8.4							
Approach LOS	B			B			A			A							
Timer	1	2	3	4	5	6	7	8									
Assigned Phs	2		4		6		8										
Phs Duration (G+Y+Rc), s	21.7		16.2		21.7		16.2										
Change Period (Y+Rc), s	5.0		5.0		5.0		5.0										
Max Green Setting (Gmax), s	51.0		29.0		51.0		29.0										
Max Q Clear Time (g_c+I1), s	11.9		7.3		9.6		8.3										
Green Ext Time (p_c), s	4.9		3.0		4.9		2.9										
Intersection Summary																	
HCM 2010 Ctrl Delay				9.7													
HCM 2010 LOS				A													

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 TWSC

2030 PM Peak Hour (Long-Term Improvements)

13: Horton Hwy. & Arno-Allison Rd

Williamson County Corridor Study

Intersection						
Int Delay, s/veh	15.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	27	354	63	276	669	33
Future Vol, veh/h	27	354	63	276	669	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
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	29	385	68	300	727	36
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1182	745	763	0	-	0
Stage 1	745	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	210	414	850	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	193	414	850	-	-	-
Mov Cap-2 Maneuver	193	-	-	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	57.8	1.8		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	850	-	193	414	-	-
HCM Lane V/C Ratio	0.081	-	0.152	0.929	-	-
HCM Control Delay (s)	9.6	-	27	60.2	-	-
HCM Lane LOS	A	-	D	F	-	-
HCM 95th %ile Q(veh)	0.3	-	0.5	10.3	-	-

HENPECK CORRIDOR

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 AM Peak Hour (Long-Term Improvements) 2: Columbia Pike & Henpeck Lane

Williamson County Corridor Plan

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	9	43	49	6	188	90	1756	90	98	557	60
Future Volume (veh/h)	161	9	43	49	6	188	90	1756	90	98	557	60
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	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	168	9	45	51	6	196	94	1829	94	102	580	62
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	324	276	315	324	276	593	2089	106	219	1971	210
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.05	0.61	0.61	0.05	0.61	0.61
Sat Flow, veh/h	1175	1863	1583	1345	1863	1583	1774	3427	175	1774	3227	344
Grp Volume(v), veh/h	168	9	45	51	6	196	94	937	986	102	317	325
Grp Sat Flow(s), veh/h/ln	1175	1863	1583	1345	1863	1583	1774	1770	1832	1774	1770	1802
Q Serve(g_s), s	11.5	0.3	2.0	2.7	0.2	9.7	1.6	36.6	37.9	1.7	7.1	7.1
Cycle Q Clear(g_c), s	11.7	0.3	2.0	3.1	0.2	9.7	1.6	36.6	37.9	1.7	7.1	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.19
Lane Grp Cap(c), veh/h	288	324	276	315	324	276	593	1079	1117	219	1081	1100
V/C Ratio(X)	0.58	0.03	0.16	0.16	0.02	0.71	0.16	0.87	0.88	0.47	0.29	0.29
Avail Cap(c_a), veh/h	342	409	348	376	409	348	618	1124	1163	235	1117	1138
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	33.4	28.6	29.2	29.8	28.5	32.4	5.3	13.5	13.7	18.2	7.7	7.7
Incr Delay (d2), s/veh	1.9	0.0	0.3	0.2	0.0	4.9	0.1	7.3	8.0	1.5	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(50%),veh/ln	3.9	0.2	0.9	1.0	0.1	4.6	0.8	19.9	21.4	1.5	3.5	3.6
LnGrp Delay(d),s/veh	35.2	28.6	29.5	30.1	28.5	37.3	5.5	20.8	21.8	19.8	7.8	7.8
LnGrp LOS	D	C	C	C	C	D	A	C	C	B	A	A
Approach Vol, veh/h	222				253				2017			
Approach Delay, s/veh	33.8				35.7				20.6			
Approach LOS	C				D				C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	9.0	55.3			19.0	8.9	55.4	19.0				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.3	52.9			18.3	5.6	52.6	18.3				
Max Q Clear Time (g_c+1), s	3.7	39.9			13.7	3.6	9.1	11.7				
Green Ext Time (p_c), s	0.0	10.9			0.8	0.0	27.2	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	20.1											
HCM 2010 LOS	C											

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 AM Peak Hour (Long-Term Improvements) 3: Lewisburg Pike & Henpeck Lane

Williamson County Corridor Plan

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	158	415	595	1663	638	175		
Future Volume (veh/h)	158	415	595	1663	638	175		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	165	432	620	1732	665	182		
Adj No. of Lanes	1	2	2	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	205	1075	771	2314	1113	681		
Arrive On Green	0.12	0.12	0.22	0.65	0.31	0.31		
Sat Flow, veh/h	1774	3167	3442	3632	3632	1583		
Grp Volume(v), veh/h	165	432	620	1732	665	182		
Grp Sat Flow(s),veh/h/ln	1774	1583	1721	1770	1770	1583		
Q Serve(g_s), s	4.7	5.4	8.9	17.3	8.2	3.9		
Cycle Q Clear(g_c), s	4.7	5.4	8.9	17.3	8.2	3.9		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	205	1075	771	2314	1113	681		
V/C Ratio(X)	0.81	0.40	0.80	0.75	0.60	0.27		
Avail Cap(c_a), veh/h	205	1075	927	2518	1157	700		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	22.4	13.1	19.1	6.1	15.0	9.6		
Incr Delay (d2), s/veh	20.6	0.2	4.4	1.2	0.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.5	0.0	4.7	8.6	4.1	2.1		
LnGrp Delay(d),s/veh	43.0	13.4	23.5	7.3	15.8	9.8		
LnGrp LOS	D	B	C	A	B	A		
Approach Vol, veh/h	597			2352	847			
Approach Delay, s/veh	21.6			11.5	14.5			
Approach LOS	C			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		40.0		12.0	17.7	22.4		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		37.0		6.0	14.0	17.0		
Max Q Clear Time (g_c+I1), s		19.3		7.4	10.9	10.2		
Green Ext Time (p_c), s		14.6		0.0	0.8	6.1		
Intersection Summary								
HCM 2010 Ctrl Delay			13.8					
HCM 2010 LOS			B					
Notes								

Williamson County Corridor Plan 7:00 am 12/8/2015 2030 AM Peak Hour (Long-Term Improvements)
RPM Transportation Consultants, LLC

Synchro 9 Report
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WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 PM Peak Hour (Long-Term Improvements) 2: Columbia Pike & Henpeck Lane

Williamson County Corridor Plan

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	0	78	43	20	155	205	825	0	230	1740	188
Future Volume (veh/h)	93	0	78	43	20	155	205	825	0	230	1740	188
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	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	101	0	85	44	22	160	223	851	0	237	1794	204
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	0.97	0.92	0.97	0.92	0.97	0.97	0.97	0.97	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	225	243	207	252	243	207	261	2282	0	553	2036	227
Arrive On Green	0.13	0.00	0.13	0.13	0.13	0.13	0.08	0.64	0.00	0.07	0.63	0.63
Sat Flow, veh/h	1197	1863	1583	1307	1863	1583	1774	3632	0	1774	3211	358
Grp Volume(v), veh/h	101	0	85	44	22	160	223	851	0	237	973	1025
Grp Sat Flow(s), veh/h	1197	1863	1583	1307	1863	1583	1774	1770	0	1774	1770	1800
Q Serve(g _s), s	7.2	0.0	4.4	2.7	0.9	8.6	5.2	9.9	0.0	4.0	39.5	42.8
Cycle Q Clear(g _c), s	8.1	0.0	4.4	2.7	0.9	8.6	5.2	9.9	0.0	4.0	39.5	42.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.20
Lane Grp Cap(c), veh/h	225	243	207	252	243	207	261	2282	0	553	1122	1141
V/C Ratio(X)	0.45	0.00	0.41	0.17	0.09	0.77	0.86	0.37	0.00	0.43	0.87	0.90
Avail Cap(c _a), veh/h	314	382	324	349	382	324	319	2282	0	694	1166	1185
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	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	0.0	35.3	34.6	33.8	37.2	24.5	7.3	0.0	5.1	13.2	13.7
Incr Delay (d2), s/veh	1.4	0.0	1.3	0.3	0.2	6.1	17.2	0.1	0.0	0.5	7.0	9.1
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(50%), veh/ln	2.4	0.0	2.0	1.0	0.5	4.1	6.6	4.9	0.0	1.9	21.1	23.7
LnGrp Delay(d), s/veh	38.8	0.0	36.6	34.9	34.0	43.3	41.7	7.4	0.0	5.7	20.1	22.9
LnGrp LOS	D		D	C	C	D	D	A		A	C	C
Approach Vol, veh/h	186			226			1074			2235		
Approach Delay, s/veh	37.8			40.7			14.5			19.8		
Approach LOS	D			D			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	61.5		16.0	11.8	60.5		16.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	13.4	55.0		18.1	10.2	58.2		18.1				
Max Q Clear Time (g _c +I1), s	6.0	11.9		10.1	7.2	44.8		10.6				
Green Ext Time (p _c), s	0.4	31.5		0.9	0.2	11.3		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				20.5								
HCM 2010 LOS				C								

WILLIAMSON COUNTY MAJOR CORRIDORS STUDY

HCM 2010 Signalized Intersection Summary 2030 PM Peak Hour (Long-Term Improvements) 3: Lewisburg Pike & Henpeck Lane

Williamson County Corridor Plan

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	83	320	205	825	2143	128		
Future Volume (veh/h)	83	320	205	825	2143	128		
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	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	89	344	220	887	2304	138		
Adj No. of Lanes	1	2	2	2	2	1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	105	441	275	2971	2508	1216		
Arrive On Green	0.06	0.06	0.08	0.84	0.71	0.71		
Sat Flow, veh/h	1774	3167	3442	3632	3632	1583		
Grp Volume(v), veh/h	89	344	220	887	2304	138		
Grp Sat Flow(s),veh/h/ln	1774	1583	1721	1770	1770	1583		
Q Serve(g_s), s	5.9	7.0	7.4	6.4	64.3	2.6		
Cycle Q Clear(g_c), s	5.9	7.0	7.4	6.4	64.3	2.6		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	105	441	275	2971	2508	1216		
V/C Ratio(X)	0.85	0.78	0.80	0.30	0.92	0.11		
Avail Cap(c_a), veh/h	105	441	291	3022	2543	1231		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(f)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	55.1	49.2	53.5	2.0	14.4	3.5		
Incr Delay (d2), s/veh	44.2	8.7	13.9	0.1	5.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.2	11.0	4.1	3.1	32.8	1.4		
LnGrp Delay(d),s/veh	99.3	57.9	67.4	2.1	20.3	3.5		
LnGrp LOS	F	E	E	A	C	A		
Approach Vol, veh/h	433			1107	2442			
Approach Delay, s/veh	66.4			15.1	19.4			
Approach LOS	E			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		105.3		13.0	15.5	89.8		
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		
Max Green Setting (Gmax), s		101.0		7.0	10.0	85.0		
Max Q Clear Time (g_c+I1), s		8.4		9.0	9.4	66.3		
Green Ext Time (p_c), s		70.5		0.0	0.0	17.5		
Intersection Summary								
HCM 2010 Ctrl Delay			23.3					
HCM 2010 LOS			C					
Notes								

Williamson County Corridor Plan 4:00 pm 12/8/2015 2030 PM Peak Hour (Long-Term Improvements)
RPM Transportation Consultants, LLC

Synchro 9 Report
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