

Research Forest Dr & Grogans Mill Road

Int #
22

AM Peak Hour - 2030 Conventional Improvement							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	265	48.9	D	0.63	161	43.1
	NBT	201	59.6	E	0.65	250	
	NBR	196	40.5	D	0.36	225	
Eastbound	EBL	191	80.9	F	0.90	265	Intersection LOS
	EBT	1515	35.3	D	0.74	523	
	EBR	658	37.4	D	0.72	680	
Southbound	SBL	66	65.9	E	0.50	101	D
	SBT	265	56.9	E	0.64	150	
	SBR	218	38.1	D	0.48	213	
Westbound	WBL	416	69.0	E	0.94	267	Max Movement V/C
	WBT	1588	39.9	D	0.75	550	
	WBR	282	23.1	C	0.33	314	
Operations:							Synchro

Int #
22

PM Peak Hour - 2030 Conventional Improvement							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	693	74.2	E	1.00	365	44.9
	NBT	220	40.3	D	0.55	211	
	NBR	320	29.6	C	0.57	261	
Eastbound	EBL	169	89.7	F	0.91	241	Intersection LOS
	EBT	1455	35.0	C	0.84	390	
	EBR	392	11.2	B	0.41	188	
Southbound	SBL	80	54.2	D	0.51	100	D
	SBT	215	49.5	D	0.59	113	
	SBR	296	42.4	D	0.71	276	
Westbound	WBL	204	57.1	E	0.70	115	Max Movement V/C
	WBT	1578	49.4	D	0.97	493	
	WBR	158	15.6	B	0.21	99	
Operations:							Synchro

Lake Woodlands Dr & Grogans Mill Road

Int #
53

AM Peak Hour - 2030 Conventional Improvement							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	395	78.6	E	0.94	274	46.2
	NBT	858	74.3	F	1.01	542	
	NBR	235	28.6	C	0.41	227	
Eastbound	EBL	73	72.9	E	0.61	121	Intersection LOS
	EBT	759	32.6	C	0.61	346	
	EBR	443	19.3	B	0.54	397	
Southbound	SBL	105	51.7	D	0.47	70	D
	SBT	607	65.7	E	0.94	397	
	SBR	45	26.8	C	0.10	60	
Westbound	WBL	156	69.9	E	0.58	109	Max Movement V/C
	WBT	1218	35.4	D	0.90	667	
	WBR	466	15.4	B	0.59	142	
Operations:							Synchro

Int #
53

PM Peak Hour - 2030 Conventional Improvement							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	694	94.1	F	1.05	486	69.5
	NBT	735	48.5	D	0.72	435	
	NBR	373	39.2	D	0.58	411	
Eastbound	EBL	27	66.9	E	0.26	51	Intersection LOS
	EBT	1137	73.5	F	1.01	720	
	EBR	674	31.5	C	0.77	700	
Southbound	SBL	254	73.3	E	0.71	170	E
	SBT	759	106.6	F	1.08	552	
	SBR	126	35.1	D	0.27	133	
Westbound	WBL	250	100.4	F	0.93	208	Max Movement V/C
	WBT	1250	74.6	F	1.04	791	
	WBR	140	13.6	B	0.18	81	
Operations:							Synchro

Research Forest Dr & Grogans Mill Road - AM Peak Hour

AM Peak Hour - 2030 Quadrant - Research Forest Drive and Quadrant Roadway							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	265	38.7	D	0.65	156	15.8
	NBR	66					
Eastbound	EBT	1515	20.3	C	0.65	308	Intersection LOS
	EBR	849	7.2	A	0.45	157	
Southbound							B
Westbound	WBL	416	46.7	D	0.73	180	Max Movement V/C
	WBT	1806	4.7	A	0.52	107	
							0.73
							Operations: Synchro

AM Peak Hour - 2030 Quadrant - Research Forest Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	392	55.0	D	0.86	362	15.8
	NBR	196	26.9	C	0.50	131	
Eastbound	EBT	1581	1.7	A	0.52	17	Intersection LOS
	EBR						
Southbound							B
Westbound	WBT	2004	13.2	B	0.67	330	Max Movement V/C
	WBR	282	9.9	A	0.30	125	
							0.86
							Operations: Synchro

AM Peak Hour - 2030 Quadrant - Total Movement Delays									
Control	Traffic Signal								
Approach	Movement	Volume	Mmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)	
Northbound	NBL	265	66.7	0.0	66.7	E	0.65	35.4	
	NBR	201	60.0	0.0	60.0	E	0.86		
Eastbound	NBR	196	31.9	0.0	31.9	C	0.50	Intersection LOS	
	EBL	191	106.3	19.3	125.6	F	0.86		
Southbound	EBT	1515	22.0	0.0	22.0	C	0.65	D	
	EBR	658	22.2	0.0	22.2	C	0.72		
Westbound	SBL	66	81.6	29.1	110.7	F	0.72	Max Movement V/C	
	SBT	265	43.9	0.0	43.9	D	0.72		
Westbound	SBR	218	39.1	0.0	39.1	D	0.56	0.86	
	WBL	416	74.9	22.9	97.8	F	0.73		
	WBT	1588	17.9	0.0	17.9	B	0.67		
	WBR	282	9.9	0.0	9.9	A	0.30		
									Operations: Synchro

AM Peak Hour - 2030 Quadrant - Grogans Mill Road and Quadrant Roadway							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	265	28.0	C	0.48	200	15.6
	NBT	397	5.0	A	0.17	58	
Eastbound	EBL	191	44.1	D	0.69	179	Intersection LOS
	EBR	1074	15.0	B	0.72	265	
Southbound							B
Westbound	SBT	285	4.4	A	0.47	1	Max Movement V/C
	SBR	66	1.7	A	0.08	0	
							0.72
							Operations: Synchro

Research Forest Dr & Grogans Mill Road - PM Peak Hour

PM Peak Hour - 2030 Quadrant - Research Forest Drive and Quadrant Roadway							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	693	18.8	B	0.61	213	17.2
	NBR	80					
Eastbound	EBT	1455	25.3	C	0.73	330	Intersection LOS
	EBR	561	3.4	A	0.27	61	
Southbound							B
Westbound	WBL	204	54.7	D	0.64	102	Max Movement V/C
	WBT	1874	10.2	B	0.67	228	
							0.81
							Operations: Synchro

PM Peak Hour - 2030 Quadrant - Research Forest Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	389	44.7	D	0.76	231	17.2
	NBR	320	43.7	D	0.74	194	
Eastbound	EBT	1535	2.3	A	0.54	21	Intersection LOS
	EBR						
Southbound							B
Westbound	SBT	296	31.3	C	0.58	211	Max Movement V/C
	SBR	296	36.0	D	0.69	224	
							0.76
							Operations: Synchro

PM Peak Hour - 2030 Quadrant - Total Movement Delays									
Control	Traffic Signal								
Approach	Movement	Volume	Mmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)	
Northbound	NBL	693	57.7	0.0	57.7	E	0.61	39.1	
	NBR	220	48.6	0.0	48.6	D	0.76		
Eastbound	NBR	320	47.6	0.0	47.6	D	0.74	Intersection LOS	
	EBL	169	118.6	19.3	137.9	F	0.78		
Southbound	EBT	1455	27.6	0.0	27.6	C	0.73	D	
	EBR	392	11.1	0.0	11.1	B	0.35		
Westbound	SBL	80	53.0	29.1	82.1	F	0.81	Max Movement V/C	
	SBT	215	51.1	0.0	51.1	D	0.58		
Westbound	SBR	296	46.2	0.0	46.2	D	0.69	0.90	
	WBL	204	76.9	22.9	99.8	F	0.64		
	WBT	1578	24.7	0.0	24.7	C	0.67		
	WBR	158	10.7	0.0	10.7	B	0.18		
									Operations: Synchro

PM Peak Hour - 2030 Quadrant - Grogans Mill Road and Quadrant Roadway							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	693	38.9	D	0.90	576	21.8
	NBT	540	3.9	A	0.22	61	
Eastbound	EBL	169	70.5	E	0.78	202	Intersection LOS
	EBR	596	7.7	A	0.35	108	
Southbound							C
Westbound	SBT	215	19.8	B	0.54	201	Max Movement V/C
	SBR	80	0.6	A	0.13	0	
							0.90
							Operations: Synchro

Int #

Int #

Int #

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Total

Research Forest Dr & Grogans Mill Road - AM Peak Hour

AM Peak Hour - 2030 PDLT - Grogans Mill Road North Crossover							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	265	18.6	B	0.34	112	4.6
	NBT	201	31.6	C	0.25	88	
	NBR	196	2.2	A	0.17	33	
Eastbound	EBL	191	28.2	C	0.32	50	Intersection LOS
	EBT	1515	33.0	C	0.93	453	
	EBR	658	0.9	A	0.43	0	
Southbound	SBL	66	17.7	B	0.16	72	A
	SBT	265	40.6	D	0.61	244	
	SBR	218	3.8	A	0.21	52	
Westbound	WBL	416	26.3	C	0.52	83	Max Movement V/C
	WBT	1588	22.0	C	0.83	404	
	WBR	282	0.3	A	0.18	0	
							0.31
Operations:							Synchro

AM Peak Hour - 2030 PDLT - Total Movement Delays									
Control	Traffic Signal								
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)	
Northbound	NBL	265	33.1	0.0	33.1	C	0.34	27.1	Intersection LOS
	NBT	201	41.2	0.0	41.2	D	0.30		
	NBR	196	2.2	0.0	2.2	A	0.17		
Eastbound	EBL	191	37.8	0.0	37.8	D	0.32	C	Intersection LOS
	EBT	1515	33.0	0.0	33.0	C	0.93		
	EBR	658	28.1	0.0	28.1	C	0.81		
Southbound	SBL	66	31.6	0.0	31.6	C	0.16	C	Intersection LOS
	SBT	265	47.9	0.0	47.9	D	0.61		
	SBR	218	3.8	0.0	3.8	A	0.21		
Westbound	WBL	416	33.6	0.0	33.6	C	0.52	Max Movement V/C	0.93
	WBT	1588	22.0	0.0	22.0	C	0.83		
	WBR	282	3.4	0.0	3.4	A	0.31		
Operations:							Synchro		

AM Peak Hour - 2030 PDLT - Research Forest Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	265	18.6	B	0.34	112	21.6
	NBT	201	31.6	C	0.25	88	
	NBR	196	2.2	A	0.17	33	
Eastbound	EBL	191	28.2	C	0.32	50	Intersection LOS
	EBT	1515	33.0	C	0.93	453	
	EBR	658	0.9	A	0.43	0	
Southbound	SBL	66	17.7	B	0.16	72	C
	SBT	265	40.6	D	0.61	244	
	SBR	218	3.8	A	0.21	52	
Westbound	WBL	416	26.3	C	0.52	83	Max Movement V/C
	WBT	1588	22.0	C	0.83	404	
	WBR	282	0.3	A	0.18	0	
							0.93
Operations:							Synchro

AM Peak Hour - 2030 PDLT - Grogans Mill Road South Crossover							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	265	14.5	B	0.16	72	13.4
	NBT	201	0.0	A	0.13	0	
	NBR	196	0.0	A	0.13	0	
Eastbound	EBL	191	28.2	C	0.32	50	Intersection LOS
	EBT	1515	33.0	C	0.93	453	
	EBR	658	0.9	A	0.43	0	
Southbound	SBL	66	17.7	B	0.16	72	B
	SBT	265	40.6	D	0.61	244	
	SBR	218	3.8	A	0.21	52	
Westbound	WBL	416	26.3	C	0.52	83	Max Movement V/C
	WBT	1588	22.0	C	0.83	404	
	WBR	282	0.3	A	0.18	0	
							0.81
Operations:							Synchro

Research Forest Dr & Grogans Mill Road - PM Peak Hour

PM Peak Hour - 2030 PDLT - Grogans Mill Road North Crossover								
Control	Traffic Signal							
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)	
Northbound	NBL	693	23.4	C	0.78	290	3.9	
	NBT	220	29.3	C	0.24	93		
	NBR	320	2.8	A	0.27	56		
Eastbound	EBL	169	33.2	C	0.37	53	Intersection LOS	
	EBT	1455	20.9	C	0.81	377		
	EBR	392	0.4	A	0.26	0		
Southbound	SBL	80	15.4	B	0.17	81	A	
	SBT	215	33.7	C	0.45	191		
	SBR	296	3.6	A	0.26	62		
Westbound	WBL	204	30.0	C	0.37	54	Max Movement V/C	
	WBT	1578	19.4	B	0.81	399		
	WBR	158	0.1	A	0.10	0		
Operations:							Synchro	0.29

PM Peak Hour - 2030 PDLT - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	693	40.9	0.0	40.9	D	0.78	22.2
	NBT	220	37.4	0.0	37.4	D	0.29	
	NBR	320	2.8	0.0	2.8	A	0.27	
Eastbound	EBL	169	41.3	0.0	41.3	D	0.37	Intersection LOS
	EBT	1455	20.9	0.0	20.9	C	0.81	
	EBR	392	8.1	0.0	8.1	A	0.45	
Southbound	SBL	80	29.5	0.0	29.5	C	0.17	C
	SBT	215	40.3	0.0	40.3	D	0.45	
	SBR	296	3.6	0.0	3.6	A	0.26	
Westbound	WBL	204	36.6	0.0	36.6	D	0.37	Max Movement V/C
	WBT	1578	19.4	0.0	19.4	B	0.81	
	WBR	158	0.5	0.0	0.5	A	0.18	
Operations:							Synchro	0.81

PM Peak Hour - 2030 PDLT - Research Forest Drive and Grogans Mill Road								
Control	Traffic Signal							
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)	
Northbound	NBL	693	23.4	C	0.78	290	18.3	
	NBT	220	29.3	C	0.24	93		
	NBR	320	2.8	A	0.27	56		
Eastbound	EBL	169	33.2	C	0.37	53	Intersection LOS	
	EBT	1455	20.9	C	0.81	377		
	EBR	392	0.4	A	0.26	0		
Southbound	SBL	80	15.4	B	0.17	81	B	
	SBT	215	33.7	C	0.45	191		
	SBR	296	3.6	A	0.26	62		
Westbound	WBL	204	30.0	C	0.37	54	Max Movement V/C	
	WBT	1578	19.4	B	0.81	399		
	WBR	158	0.1	A	0.10	0		
Operations:							Synchro	0.81

PM Peak Hour - 2030 PDLT - Grogans Mill Road South Crossover								
Control	Traffic Signal							
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)	
Northbound	NBL	693	17.5	B	0.43	194	8.8	
	NBT	220	0.0	A	0.17	0		
	NBR	320	0.0	A	0.17	0		
Eastbound	EBL	169	33.2	C	0.37	53	Intersection LOS	
	EBT	1455	20.9	C	0.81	377		
	EBR	392	0.4	A	0.26	0		
Southbound	SBL	80	15.4	B	0.17	81	A	
	SBT	215	33.7	C	0.45	191		
	SBR	296	3.6	A	0.26	62		
Westbound	WBL	204	30.0	C	0.37	54	Max Movement V/C	
	WBT	1578	19.4	B	0.81	399		
	WBR	158	0.1	A	0.10	0		
Operations:							Synchro	0.45

Research Forest Dr & Grogans Mill Road - AM Peak Hour

AM Peak Hour - 2030 MUT - Grogans Mill Road North U-Turn							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBU	681	35.3	D	0.75	236	15.9
	NBT	674	1.1	A	0.38	0	
Eastbound							Intersection LOS
Southbound							
Southbound	SBT	549	10.2	B	0.27	126	B
Westbound							Max Movement V/C
							0.75
Operations:							Synchro

AM Peak Hour - 2030 MUT - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	265	100.9	26.8	127.7	F	0.75	28.5
	NBT	201	39.9	0.0	39.9	D	0.50	
	NBR	196	46.3	0.0	46.3	D	0.64	
Eastbound	EBL	191	57.5	21.8	79.3	E	0.71	Intersection LOS
	EBT	1515	3.6	0.0	3.6	A	0.52	
Southbound	EBR	658	4.0	0.0	4.0	A	0.53	C
	SBL	66	119.1	21.8	140.9	F	0.81	
	SBT	265	40.9	0.0	40.9	D	0.81	
Westbound	SBR	218	26.8	0.0	26.8	C	0.66	Max Movement V/C
	WBL	416	84.5	26.8	111.3	F	0.81	
	WBT	1588	9.7	0.0	9.7	A	0.54	
Westbound	WBR	282	18.7	0.0	18.7	B	0.76	0.81
Operations:							Synchro	

AM Peak Hour - 2030 MUT - Research Forest Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBT	657	28.1	C	0.50	469	14.8
	NBR	262	35.6	D	0.64	191	
Eastbound							Intersection LOS
Eastbound	EBT	1515	3.6	A	0.52	44	
Eastbound	EBR	849	4.0	A	0.53	41	B
	Southbound						
Southbound	SBT	747	30.5	C	0.81	308	B
	SBR	483	26.8	C	0.66	225	
Westbound							Max Movement V/C
Westbound	WBT	1588	9.7	A	0.54	241	
Westbound	WBR	698	18.7	B	0.76	550	0.81
Operations:							Synchro

AM Peak Hour - 2030 MUT - Grogans Mill Road South U-Turn							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBT	662	10.7	B	0.30	261	8.2
	Eastbound						
Eastbound							Intersection LOS
Southbound	SBU	257	42.8	D	0.71	m190	
Southbound	SBT	1339	0.2	A	0.39	0	A
	Westbound						
Westbound							Max Movement V/C
Operations:							Synchro

Research Forest Dr & Grogans Mill Road - PM Peak Hour

PM Peak Hour - 2030 MUT - Grogans Mill Road North U-Turn							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBU	897	16.1	B	0.75	123	11.4
	NBT	547	0.7	A	0.31	16	
							Intersection LOS
Southbound	SBT	591	14.4	B	0.36	157	B
Max Movement V/C							0.75
Operations: Synchro							

PM Peak Hour - 2030 MUT - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	693	75.2	26.8	102.0	F	0.84	34.3
	NBT	220	35.0	0.0	35.0	C	0.57	
	NBR	320	38.7	0.0	38.7	D	0.60	
Eastbound	EBL	169	58.1	21.8	79.9	E	0.70	Intersection LOS
	EBT	1455	9.3	0.0	9.3	A	0.72	
	EBR	392	7.8	0.0	7.8	A	0.51	
Southbound	SBL	80	89.9	21.8	111.7	F	0.70	C
	SBT	215	29.8	0.0	29.8	C	0.36	
	SBR	296	24.8	0.0	24.8	C	0.84	
Westbound	WBL	204	51.8	26.8	78.6	E	0.75	Max Movement V/C
	WBT	1578	22.4	0.0	22.4	C	0.78	
	WBR	158	20.4	0.0	20.4	C	0.58	
Operations: Synchro							0.84	

PM Peak Hour - 2030 MUT - Research Forest Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBT	1082	19.9	B	0.51	228	17.9
	NBR	400	24.3	C	0.60	272	
							Intersection LOS
Southbound	SBT	499	15.3	B	0.34	117	B
	SBR	989	24.8	C	0.84	247	
Max Movement V/C							0.84
Operations: Synchro							

PM Peak Hour - 2030 MUT - Grogans Mill Road South U-Turn							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBT	1233	14.4	B	0.57	392	11.7
							Intersection LOS
Southbound	SBU	249	35.9	D	0.70	198	B
	SBT	811	0.1	A	0.24	0	
Max Movement V/C							0.70
Operations: Synchro							

Research Forest Dr & Grogans Mill Road - AM Peak Hour

AM Peak Hour - 2030 Tight Diamond - Research Forest Drive North Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	265	2.9	A	0.24	0	24.8
	NBT	392	3.6	A	0.42	0	
Eastbound							Intersection LOS
Southbound							C
	SBT	331	24.6	C	0.26	124	
	SBR	218	27.6	C	0.38	183	
Westbound	WBL	416	53.8	D	0.76	208	Max Movement V/C
	WBR	282	30.0	C	0.49	241	0.76
Operations:							Synchro

AM Peak Hour - 2030 Tight Diamond - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	265	33.4	3.0	36.4	D	0.32	38.7
	NBT	201	34.1	0.0	34.1	C	0.42	
	NBR	196	34.4	0.0	34.4	C	0.43	
Eastbound	EBL	191	56.0	3.0	59.0	E	0.65	Intersection LOS
	EBT	1515	-	0.0	0.0	A		
	EBR	658	37.3	0.0	37.3	D	0.72	D
Southbound	SBL	66	25.9	3.0	28.9	C	0.26	
	SBT	265	26.3	0.0	26.3	C	0.62	
	SBR	218	27.6	0.0	27.6	C	0.38	
Westbound	WBL	416	55.5	3.0	58.5	E	0.76	Max Movement V/C
	WBT	1588	-	0.0	0.0	A		0.76
	WBR	282	30.0	0.0	30.0	C	0.49	
Operations:							Synchro	

AM Peak Hour - 2030 Tight Diamond - Research Forest Drive South Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBT	466	30.5	C	0.32	128	25.2
	NBR	196	34.4	C	0.43	186	
Eastbound	EBL	191	53.1	D	0.65	212	Intersection LOS
	EBR	658	37.3	D	0.72	315	
Southbound	SBL	66	1.3	A	0.10	0	C
	SBT	681	1.7	A	0.36	0	
Westbound							Max Movement V/C
Operations:							Synchro

Research Forest Dr & Grogans Mill Road - PM Peak Hour

PM Peak Hour - 2030 Tight Diamond - Research Forest Drive North Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	693	6.1	A	0.55	0	18.0
	NBT	389	1.9	A	0.39	0	
Eastbound							
							Intersection LOS
Southbound							B
	SBT	295	25.8	C	0.25	115	
	SBR	296	33.0	C	0.55	266	
Westbound	WBL	204	47.2	D	0.46	111	Max Movement V/C
	WBR	158	29.9	C	0.32	145	0.55
Operations:							Synchro

PM Peak Hour - 2030 Tight Diamond - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	693	36.6	3.0	39.6	D	0.55	36.3
	NBT	220	32.4	0.0	32.4	C	0.54	
	NBR	320	35.6	0.0	35.6	D	0.61	
Eastbound	EBL	169	56.3	3.0	59.3	E	0.58	
	EBT	1455	-	0.0	0.0	A		
EBR	392	26.0	0.0	26.0	C	0.38		
							Intersection LOS	
Southbound	SBL	80	27.8	3.0	30.8	C	0.25	D
	SBT	215	27.4	0.0	27.4	C	0.49	
	SBR	296	33.0	0.0	33.0	C	0.55	
Westbound	WBL	204	48.8	3.0	51.8	D	0.46	Max Movement V/C
	WBT	1578	-	0.0	0.0	A		
	WBR	158	29.9	0.0	29.9	C	0.32	0.61
Operations:							Synchro	

PM Peak Hour - 2030 Tight Diamond - Research Forest Drive South Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBT	913	30.5	C	0.54	242	25.6
	NBR	320	35.6	D	0.61	295	
	EBL	169	50.2	D	0.58	191	
							Intersection LOS
Eastbound	EBR	392	26.0	C	0.38	164	C
	SBL	80	2.0	A	0.14	0	
Southbound	SBT	419	1.6	A	0.24	0	
							Max Movement V/C
Westbound							0.61
Operations:							Synchro

Research Forest Dr & Grogans Mill Road - AM Peak Hour

AM Peak Hour - 2030 Diverging Diamond - Research Forest Drive North Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	265	0.0	A			10.4
	NBT	392	15.4	B	0.60	205	
Eastbound							Intersection LOS
Southbound							B
	SBT	331	14.0	B	0.26	72	
Westbound	SBR	218	0.0	A			Max Movement V/C
	WBL	416	21.8	C	0.66	215	
							0.66
	WBR	282	0.0	A			
Operations:							Synchro

AM Peak Hour - 2030 Diverging Diamond - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	265	10.8	3.0	13.8	B	0.32	19.6
	NBT	201	26.2	0.0	26.2	C	0.60	
	NBR	196	0.0	0.0	0.0	A		
Eastbound	EBL	191	34.4	3.0	37.4	D	0.60	Intersection LOS
	EBT	1515	-	0.0	0.0	A		
Southbound	EBR	658	15.0	0.0	15.0	B	0.56	B
	SBL	66	14.0	3.0	17.0	B	0.26	
Westbound	SBT	265	32.9	0.0	32.9	C	0.66	Max Movement V/C
	SBR	218	0.0	0.0	0.0	A		
	WBL	416	40.7	3.0	43.7	D	0.66	0.66
	WBT	1588	-	0.0	0.0	A		
	WBR	282	0.0	0.0	0.0	A		
Operations:							Synchro	

AM Peak Hour - 2030 Diverging Diamond - Research Forest Drive South Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBT	466	10.8	B	0.32	94	13.9
	NBR	196	0.0	A			
Eastbound	EBL	191	19.0	B	0.37	106	Intersection LOS
	EBR	658	15.0	B	0.56	150	
Southbound	SBL	66	0.0	A			B
	SBT	681	18.9	B	0.66	126	
Westbound							Max Movement V/C
							0.66
Operations:							Synchro

Research Forest Dr & Grogans Mill Road - PM Peak Hour

PM Peak Hour - 2030 Diverging Diamond - Research Forest Drive North Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	693	0.0	A			5.4
	NBT	389	8.7	A	0.48	94	
							A
Intersection LOS							
Eastbound							0.48
	Max Movement V/C						
Southbound	SBT	295	17.9	B	0.31	75	0.48
	SBR	296	0.0	A			
Westbound	WBL	204	11.5	B	0.27	85	0.48
	WBR	158	0.0	A			
Operations:							Synchro

PM Peak Hour - 2030 Diverging Diamond - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	693	11.0	3.0	14.0	B	0.52	14.3
	NBT	220	19.7	0.0	19.7	B	0.52	
Eastbound	NBR	320	0.0	0.0	0.0	A		B
	EBL	169	33.7	3.0	36.7	D	0.48	
							0.57	
Intersection LOS								
Southbound	EBT	1455	-	0.0	0.0	A		0.57
	EBR	392	8.9	0.0	8.9	A	0.28	
Westbound	SBL	80	17.9	3.0	20.9	C	0.31	0.57
	SBT	215	34.9	0.0	34.9	C	0.57	
Westbound	SBR	296	0.0	0.0	0.0	A		0.57
	WBL	204	28.5	3.0	31.5	C	0.57	
							0.57	
Max Movement V/C								
Westbound	WBT	1578	-	0.0	0.0	A		0.57
	WBR	158	0.0	0.0	0.0	A		
Operations:							Synchro	

PM Peak Hour - 2030 Diverging Diamond - Research Forest Drive South Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBT	913	11.0	B	0.52	155	10.9
	NBR	320	0.0	A			
Eastbound	EBL	169	25.0	C	0.46	108	B
	Intersection LOS						
Southbound	EBR	392	8.9	A	0.28	69	B
	SBL	80	0.0	A			
Westbound	SBT	419	17.0	B	0.57	65	0.57
	Max Movement V/C						
							0.57
Operations:							Synchro

Research Forest Dr & Grogans Mill Road - PM Peak Hour

PM Peak Hour - 2030 PDLT - Grogans Mill Road North Crossover							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	693	27.4	C	0.82	300	8.0
	NBT	220	19.8	B	0.48	173	
	NBR	320	19.0	B	0.41	268	
Eastbound	EBL	169	44.1	D	0.51	83	Intersection LOS
	EBT	1455	22.9	C	0.69	302	
	EBR	392	0.9	A	0.31	17	
Southbound	SBL	80	20.2	C	0.17	94	A
	SBT	215	25.6	C	0.44	215	
	SBR	296	41.6	D	0.80	135	
Westbound	WBL	204	35.5	D	0.37	90	Max Movement V/C
	WBT	1578	33.6	C	0.88	384	
	WBR	158	0.0	A	0.14	15	
Operations:							Synchro

EBL

PM Peak Hour - 2030 PDLT - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	693	46.8	0.0	46.8	D	0.82	32.8
	NBT	220	43.0	0.0	43.0	D	0.48	
	NBR	320	38.4	0.0	38.4	D	0.74	
Eastbound	EBL	169	47.9	0.0	47.9	D	0.51	Intersection LOS
	EBT	1455	22.9	0.0	22.9	C	0.69	
	EBR	392	7.8	0.0	7.8	A	0.44	
Southbound	SBL	80	42.2	0.0	42.2	D	0.44	C
	SBT	215	55.7	0.0	55.7	E	0.44	
	SBR	296	45.2	0.0	45.2	D	0.80	
Westbound	WBL	204	43.6	0.0	43.6	D	0.37	Max Movement V/C
	WBT	1578	33.6	0.0	33.6	C	0.88	
	WBR	158	0.5	0.0	0.5	A	0.14	
Operations:							Synchro	

Int #
Total

PM Peak Hour - 2030 PDLT - Research Forest Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	693	27.4	C	0.82	300	26.0
	NBT	220	19.8	B	0.48	173	
	NBR	320	19.0	B	0.41	268	
Eastbound	EBL	169	44.1	D	0.51	83	Intersection LOS
	EBT	1455	22.9	C	0.69	302	
	EBR	392	0.9	A	0.31	17	
Southbound	SBL	80	20.2	C	0.17	94	C
	SBT	215	25.6	C	0.44	215	
	SBR	296	41.6	D	0.80	135	
Westbound	WBL	204	35.5	D	0.37	90	Max Movement V/C
	WBT	1578	33.6	C	0.88	384	
	WBR	158	0.0	A	0.14	15	
Operations:							Synchro

Int #
4/5

PM Peak Hour - 2030 PDLT - Grogans Mill Road South Crossover							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	913	19.4	B	0.74	349	14.7
	NBR	320	19.4	B	0.74	349	
	EBL						
Eastbound	EBR	392	6.9	A	0.44	89	Intersection LOS
	EBT						
	EBR						
Southbound	SBT	419	8.1	A	0.34	43	B
	SBR						
	SBR						
Westbound	WBL						Max Movement V/C
	WBT						
	WBT						
Operations:							Synchro

WBL

Lake Woodlands Dr & Grogans Mill Road - AM Peak Hour

AM Peak Hour - 2030 PDTLT - Grogans Mill Road North Crossover							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	395	34.4	C	0.45	189	8.6
	NBT	858	51.6	D	0.95	#402	
	NBR	235	0.4	A	0.20	2	
Eastbound	EBL	73	94.3	F	0.34	51	Intersection LOS
	EBT	759	13.4	B	0.58	251	
	EBR	443	0.1	A	0.17	0	
Southbound	SBL	105	16.2	B	0.15	72	A
	SBT	607	0.1	A	0.19	0	
	SBR	45	0.0	A	0.03	0	
Westbound							Max Movement V/C
	WBR	466	25.5	C	0.70	330	0.70
Operations:							Synchro

AM Peak Hour - 2030 PDTLT - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	395	51.6	0.0	51.6	D	0.45	36.1
	NBT	858	56.8	0.0	56.8	E	0.95	
	NBR	235	0.4	0.0	0.4	A	0.20	
Eastbound	EBL	73	99.5	0.0	99.5	F	0.66	Intersection LOS
	EBT	759	13.4	0.0	13.4	B	0.58	
	EBR	443	12.8	0.0	12.8	B	0.37	
Southbound	SBL	105	49.7	0.0	49.7	D	0.23	D
	SBT	607	44.1	0.0	44.1	D	0.68	
	SBR	45	0.1	0.0	0.1	A	0.04	
Westbound	WBL	156	63.5	0.0	63.5	E	0.55	Max Movement V/C
	WBT	1218	38.6	0.0	38.6	D	0.99	
	WBR	466	25.9	0.0	25.9	C	0.70	
Operations:							Synchro	

AM Peak Hour - 2030 PDTLT - Lake Woodlands Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	395	34.4	C	0.45	189	28.7
	NBT	858	51.6	D	0.95	#402	
	NBR	235	0.4	A	0.20	2	
Eastbound	EBL	73	94.3	F	0.34	51	Intersection LOS
	EBT	759	13.4	B	0.58	251	
	EBR	443	0.1	A	0.17	0	
Southbound	SBL	105	33.5	C	0.23	128	C
	SBT	607	33.0	C	0.68	237	
	SBR	45	0.1	A	0.04	0	
Westbound	WBL	156	52.4	D	0.44	62	Max Movement V/C
	WBT	1218	38.6	D	0.99	#551	0.99
	WBR	466	0.4	A	0.20	0	
Operations:							Synchro

AM Peak Hour - 2030 PDTLT - Grogans Mill Road South Crossover							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	395	17.2	B	0.29	113	7.8
	NBT	858	0.2	A	0.26	0	
	NBR	235	0.2	A	0.16	0	
Eastbound							Intersection LOS
	EBR	443	12.7	B	0.37	110	
Southbound							A
	SBT	763	11.1	B	0.55	68	
Westbound							Max Movement V/C
							0.55
Operations:							Synchro

Lake Woodlands Dr & Grogans Mill Road - PM Peak Hour

PM Peak Hour - 2030 PDLT - Grogans Mill Road North Crossover							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	694	35.5	D	0.79	293	3.8
	NBT	735	38.9	D	0.81	#288	
	NBR	373	2.0	A	0.31	43	
Eastbound	EBL	27	51.5	D	0.14	m23	Intersection LOS
	EBT	1137	38.1	D	0.97	#497	
	EBR	674	0.2	A	0.25	0	
Southbound	SBL	254	34.4	C	0.56	246	A
	SBT	759	40.5	D	0.84	#319	
	SBR	126	0.4	A	0.11	0	
Westbound	WBL	250	40.5	D	0.43	61	Max Movement V/C
	WBT	1250	23.8	C	0.90	#497	
	WBR	140	0.1	A	0.09	0	
Operations: Synchro							0.46

PM Peak Hour - 2030 PDLT - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	694	59.6	0.0	59.6	E	0.79	34.7
	NBT	735	40.3	0.0	40.3	D	0.81	
	NBR	373	2.0	0.0	2.0	A	0.31	
Eastbound	EBL	27	52.9	0.0	52.9	D	0.46	Intersection LOS
	EBT	1137	38.1	0.0	38.1	D	0.97	
	EBR	674	22.3	0.0	22.3	C	0.63	
Southbound	SBL	254	57.1	0.0	57.1	E	0.56	C
	SBT	759	45.8	0.0	45.8	D	0.84	
	SBR	126	0.4	0.0	0.4	A	0.11	
Westbound	WBL	250	45.8	0.0	45.8	D	0.61	Max Movement V/C
	WBT	1250	23.8	0.0	23.8	C	0.90	
	WBR	140	5.9	0.0	5.9	A	0.21	
Operations: Synchro							0.97	

PM Peak Hour - 2030 PDLT - Lake Woodlands Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	694	35.5	D	0.79	293	27.8
	NBT	735	38.9	D	0.81	#288	
	NBR	373	2.0	A	0.31	43	
Eastbound	EBL	27	51.5	D	0.14	m23	Intersection LOS
	EBT	1137	38.1	D	0.97	#497	
	EBR	674	0.2	A	0.25	0	
Southbound	SBL	254	34.4	C	0.56	246	C
	SBT	759	40.5	D	0.84	#319	
	SBR	126	0.4	A	0.11	0	
Westbound	WBL	250	40.5	D	0.43	61	Max Movement V/C
	WBT	1250	23.8	C	0.90	#497	
	WBR	140	0.1	A	0.09	0	
Operations: Synchro							0.97

PM Peak Hour - 2030 PDLT - Grogans Mill Road South Crossover							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	694	24.1	C	0.56	221	10.7
	NBT	735	0.1	A	0.22	0	
	NBR	373	0.4	A	0.25	0	
Eastbound	EBL	27	51.5	D	0.14	m23	Intersection LOS
	EBT	1137	38.1	D	0.97	#497	
	EBR	674	0.2	A	0.25	0	
Southbound	SBL	254	34.4	C	0.56	246	B
	SBT	759	40.5	D	0.84	#319	
	SBR	126	0.4	A	0.11	0	
Westbound	WBL	250	40.5	D	0.43	61	Max Movement V/C
	WBT	1250	23.8	C	0.90	#497	
	WBR	140	0.1	A	0.09	0	
Operations: Synchro							0.63

Lake Woodlands Dr & Grogans Mill Road - AM Peak Hour

AM Peak Hour - 2030 MUT - Lake Woodlands Drive West U-Turn							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound							5.2
Eastbound							Intersection LOS
	EBT	1275	4.8	A	0.54	71	
Southbound							A
Westbound	WBU	261	38.0	D	0.59	m115	Max Movement V/C
	WBT	1658	0.2	A	0.51	0	0.59
Operations:							Synchro

AM Peak Hour - 2030 MUT - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	395	101.3	40.8	142.1	F	0.79	40.8
	NBT	858	30.2	0.0	30.2	C	0.79	
	NBR	235	29.3	0.0	29.3	C	0.74	
Eastbound	EBL	73	90.7	40.8	131.5	F	0.79	Intersection LOS
	EBT	759	21.1	0.0	21.1	C	0.54	
	EBR	443	20.8	0.0	20.8	C	0.54	D
Southbound	SBL	105	68.6	30.6	99.2	F	0.31	
	SBT	607	17.5	0.0	17.5	B	0.57	
	SBR	45	14.5	0.0	14.5	B	0.31	Max Movement V/C
Westbound	WBL	156	86.7	30.6	117.3	F	0.83	
	WBT	1218	32.8	0.0	32.8	C	0.83	0.83
	WBR	466	32.0	0.0	32.0	C	0.83	
Operations:								Synchro

AM Peak Hour - 2030 MUT - Lake Woodlands Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound							15.5
	NBT	858	30.2	C	0.79	311	
	NBR	630	29.3	C	0.74	245	
Eastbound							Intersection LOS
	EBT	937	16.1	B	0.54	133	
	EBR	599	16.0	B	0.44	150	B
Southbound							
	SBT	607	17.5	B	0.57	164	
	SBR	150	14.5	B	0.31	52	Max Movement V/C
Westbound	WBT	1769	14.5	B	0.71	305	
	WBR	539	13.9	B	0.69	m257	0.79
Operations:							Synchro

AM Peak Hour - 2030 MUT - Lake Woodlands Drive East U-Turn							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound							7.8
Eastbound	EBU	468	55.9	E	0.79	215	Intersection LOS
	EBT	1099	0.2	A	0.34	0	
Southbound							A
Westbound	WBT	1840	18.1	B	0.83	682	Max Movement V/C
							0.83
Operations:							Synchro

Lake Woodlands Dr & Grogans Mill Road - PM Peak Hour

PM Peak Hour - 2030 MUT - Lake Woodlands Drive West U-Turn							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound							13.0
Eastbound							Intersection LOS
	EBT	1838	11.9	B	0.78	391	
Southbound							B
Westbound	WBU	504	41.6	D	0.79	m201	Max Movement V/C
	WBT	2070	0.2	A	0.61	0	
							0.79
Operations:							Synchro

PM Peak Hour - 2030 MUT - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	694	136.6	40.8	177.4	F	1.00	57.9
	NBT	735	22.2	0.0	22.2	C	0.54	
Eastbound	NBR	373	55.3	0.0	55.3	E	1.00	Intersection LOS
	EBL	27	104.2	40.8	145.0	F	0.85	
Southbound	EBT	1137	36.7	0.0	36.7	D	0.85	E
	EBR	674	33.7	0.0	33.7	C	0.78	
Westbound	SBL	254	97.3	30.6	127.9	F	0.63	Max Movement V/C
	SBT	759	26.7	0.0	26.7	C	0.56	
Westbound	SBR	126	31.2	0.0	31.2	C	0.63	1.00
	WBL	250	105.7	30.6	136.3	F	0.92	
							0.92	Operations:
							0.77	

PM Peak Hour - 2030 MUT - Lake Woodlands Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBT	735	22.2	C	0.54	207	29.9
	NBR	1067	55.3	E	1.00	#629	
Eastbound							Intersection LOS
	EBT	1418	24.5	C	0.85	498	
Southbound	EBR	924	21.8	C	0.70	346	C
Westbound	SBT	759	26.7	C	0.56	312	Max Movement V/C
	SBR	380	31.2	C	0.63	353	
Westbound	WBT	2194	29.3	C	0.92	576	1.00
	WBR	167	11.0	B	0.22	m58	
Operations:							Synchro

PM Peak Hour - 2030 MUT - Lake Woodlands Drive East U-Turn							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound							14.1
Eastbound	EBU	721	56.8	E	0.83	m214	Intersection LOS
	EBT	1764	0.3	A	0.52	0	
Southbound							B
Westbound							Max Movement V/C
	WBT	1640	10.3	B	0.77	226	
							0.83
Operations:							Synchro

Lake Woodlands Dr & Grogans Mill Road - AM Peak Hour

AM Peak Hour - 2030 Tight Diamond - Lake Woodlands Drive North Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	395	1.2	A	0.33	0	17.4
	NBT	931	1.8	A	0.58	0	
Eastbound							Intersection LOS
Southbound							B
	SBT	712	24.3	C	0.46	181	
	SBR	45	16.3	B	0.09	32	
Westbound							Max Movement V/C
	WBL	156	43.2	D	0.32	89	0.58
	WBR	466	31.2	C	0.53	221	
Operations:							Synchro

AM Peak Hour - 2030 Tight Diamond - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	395	35.8	3.0	38.8	D	0.71	33.8
	NBT	858	36.4	0.0	36.4	D	0.71	
	NBR	235	34.4	0.0	34.4	C	0.54	
Eastbound							Intersection LOS	
	EBL	73	47.6	3.0	50.6	D		0.58
	EBT	759	-	0.0	0.0	A		
Southbound							C	
	EBR	443	32.6	0.0	32.6	C		0.53
	SBL	105	24.9	3.0	27.9	C		0.46
Westbound							Max Movement V/C	
	SBT	607	26.1	0.0	26.1	C		0.47
	SBR	45	16.3	0.0	16.3	B		0.09
	WBL	156	45.0	3.0	48.0	D		0.47
Westbound							0.71	
	WBT	1218	-	0.0	0.0	A		
	WBR	466	31.2	0.0	31.2	C	0.53	
Operations:							Synchro	

AM Peak Hour - 2030 Tight Diamond - Lake Woodlands Drive South Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBT	1253	34.6	C	0.71	259	25.1
	NBR	235	34.4	C	0.54	204	
Eastbound							Intersection LOS
	EBL	73	45.8	D	0.31	99	
Southbound							C
	EBR	443	32.6	C	0.53	215	
	SBL	105	0.6	A	0.16	0	
Westbound							Max Movement V/C
	SBT	763	1.8	A	0.47	0	0.71
Operations:							Synchro

Lake Woodlands Dr & Grogans Mill Road - PM Peak Hour

Int # 11

PM Peak Hour - 2030 Tight Diamond - Lake Woodlands Drive North Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	694	3.1	A	0.55	0	17.2
	NBT	762	3.0	A	0.46	0	
Eastbound							
							Intersection LOS
Southbound							B
	SBT	1013	28.8	C	0.63	242	
	SBR	126	23.7	C	0.25	87	
Westbound	WBL	250	44.7	D	0.46	129	Max Movement V/C
	WBR	140	25.4	C	0.15	67	0.63
Operations:							Synchro

Int # Total

PM Peak Hour - 2030 Tight Diamond - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	694	35.4	3.0	38.4	D	0.77	37.1
	NBT	735	35.3	0.0	35.3	D	0.77	
	NBR	373	43.6	0.0	43.6	D	0.82	
Eastbound	EBL	27	45.1	3.0	48.1	D	0.46	
	EBT	1137	0.0	0.0	0.0	A		
EBR	674	40.0	0.0	40.0	D	0.77		
Southbound	SBL	254	31.1	3.0	34.1	C	0.63	D
	SBT	759	32.2	0.0	32.2	C	0.63	
	SBR	126	23.7	0.0	23.7	C	0.25	
Westbound	WBL	250	48.1	3.0	51.1	D	0.58	Max Movement V/C
	WBT	1250	0.0	0.0	0.0	A		
WBR	140	25.4	0.0	25.4	C	0.15	0.82	
Operations:							Synchro	

Int # 5

PM Peak Hour - 2030 Tight Diamond - Lake Woodlands Drive South Ramp Terminal							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound				A			25.1
	NBT	1429	32.3	C	0.77	271	
	NBR	373	43.6	D	0.82	#408	
Eastbound	EBL	27	42.1	D	0.11	45	Intersection LOS
	EBR	674	40.0	D	0.77	334	
Southbound	SBL	254	2.3	A	0.37	0	C
	SBT	1009	3.4	A	0.58	0	
					A		
Westbound				A			Max Movement V/C
				A			
				A			
Operations:							Synchro

Lake Woodlands Dr & Grogans Mill Road - AM Peak Hour

AM Peak Hour - 2030 SPUI - Lake Woodlands Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	395	45.0	D	0.71	177	30.8
	NBT	858	20.7	C	0.55	305	
	NBR	235	0.3	A	0.16	0	
Eastbound	EBL	73	49.5	D	0.43	95	Intersection LOS
	EBT			A			
	EBR	443	45.6	D	0.78	223	
Southbound	SBL	105	38.7	D	0.37	112	C
	SBT	607	18.3	B	0.39	203	
	SBR	45	0.0	A	0.03	0	
Westbound	WBL	156	46.8	D	0.47	87	Max Movement V/C
	WBT			A			
	WBR	466	48.1	D	0.82	235	
Operations:							Synchro

AM Peak Hour - 2030 SPUI - Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	395	45.0	0.0	45.0	D	0.71	30.8
	NBT	858	20.7	0.0	20.7	C	0.55	
	NBR	235	0.3	0.0	0.3	A	0.16	
Eastbound	EBL	73	49.5	0.0	49.5	D	0.43	Intersection LOS
	EBT	759	-	0.0	0.0	A		
	EBR	443	45.6	0.0	45.6	D	0.78	
Southbound	SBL	105	38.7	0.0	38.7	D	0.37	C
	SBT	607	18.3	0.0	18.3	B	0.39	
	SBR	45	0.0	0.0	0.0	A	0.03	
Westbound	WBL	156	46.8	0.0	46.8	D	0.47	Max Movement V/C
	WBT	1218	-	0.0	0.0	A		
	WBR	466	48.1	0.0	48.1	D	0.82	
Operations:								Synchro

Lake Woodlands Dr & Grogans Mill Road - PM Peak Hour

PM Peak Hour - 2030 SPUI - Lake Woodlands Drive and Grogans Mill Road							
Control	Traffic Signal						
Approach	Movement	Volume	Delay (s)	LOS	V/C	95th Queue (ft)	Intersection Delay (s)
Northbound	NBL	694	40.8	D	0.79	266	30.8
	NBT	735	26.9	C	0.56	288	
	NBR	373	0.7	A	0.25	0	
Eastbound	EBL	27	42.4	D	0.15	43	Intersection LOS
	EBT			A			
	EBR	674	41.1	D	0.83	305	
Southbound	SBL	254	35.9	D	0.56	210	C
	SBT	759	27.3	C	0.58	299	
	SBR	126	0.1	A	0.08	0	
Westbound	WBL	250	53.9	D	0.70	127	Max Movement V/C
	WBT			A			
	WBR	140	25.3	C	0.17	63	
Operations:							Synchro

PM Peak Hour - 2030 SPUI- Total Movement Delays								
Control	Traffic Signal							
Approach	Movement	Volume	Mvmt Delay (s)	TT Delay (s)	Total Delay (s)	LOS	Max V/C	Intersection Delay (s)
Northbound	NBL	694	40.8	0.0	40.8	D	0.79	30.8
	NBT	735	26.9	0.0	26.9	C	0.56	
	NBR	373	0.7	0.0	0.7	A	0.25	
Eastbound	EBL	27	42.4	0.0	42.4	D	0.15	Intersection LOS
	EBT	1137	-	0.0	0.0	A		
	EBR	674	41.1	0.0	41.1	D	0.83	
Southbound	SBL	254	35.9	0.0	35.9	D	0.56	C
	SBT	759	27.3	0.0	27.3	C	0.58	
	SBR	126	0.1	0.0	0.1	A	0.08	
Westbound	WBL	250	53.9	0.0	53.9	D	0.70	Max Movement V/C
	WBT	1250	-	0.0	0.0	A		
	WBR	140	25.3	0.0	25.3	C	0.17	
Operations:								Synchro