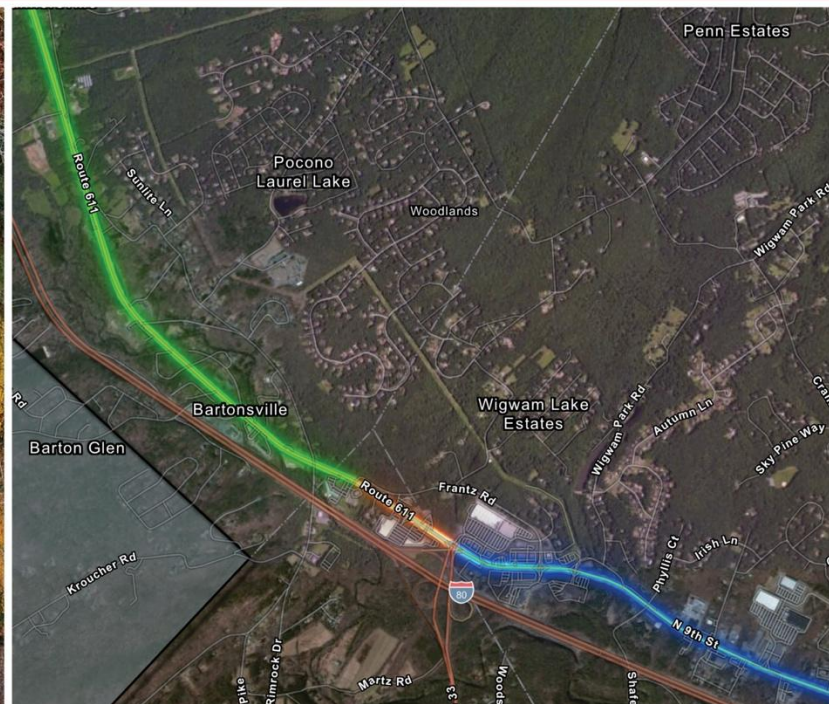




APPENDIX



- A. Monroe County Comprehensive Plan (2014) “Monroe 2030 – The Challenge Continues”**
- B. Hamilton, Stroud, Pocono, Stroudsburg Regional Comprehensive Plan 2022**
- C. PennDOT TYP (2025-2036)**
- D. NEPA MPO 2025-2028 TIP**
- E. NEPA MPO Annual List of Obligated Projects 2024**
- F. Eastern Monroe Active Transportation Plan (2020)**
- G. NEPA Active Transportation Plan 2025**
- H. Recommendation Maps**

Figure 1 Safety Improvement Recommendations

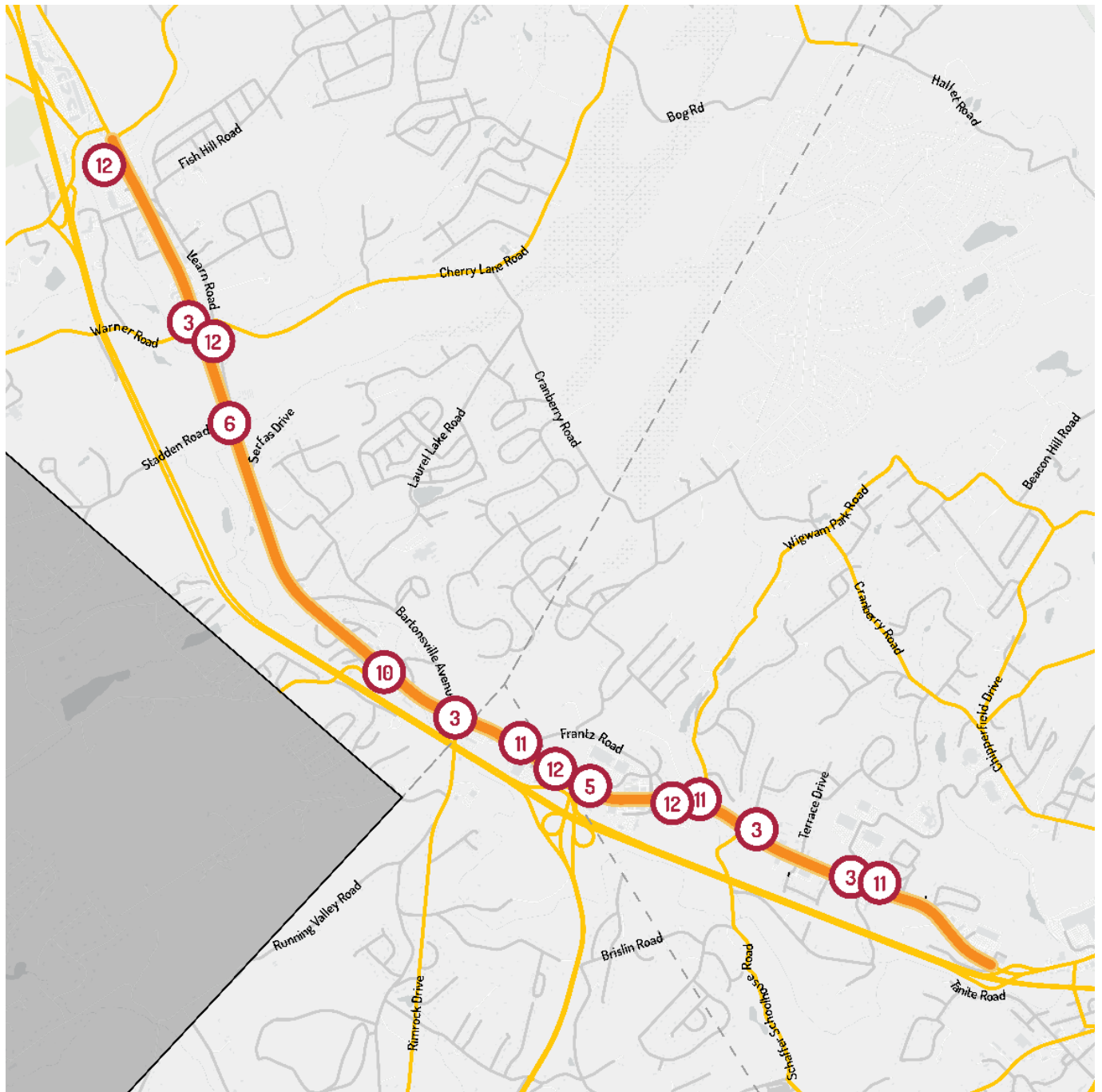
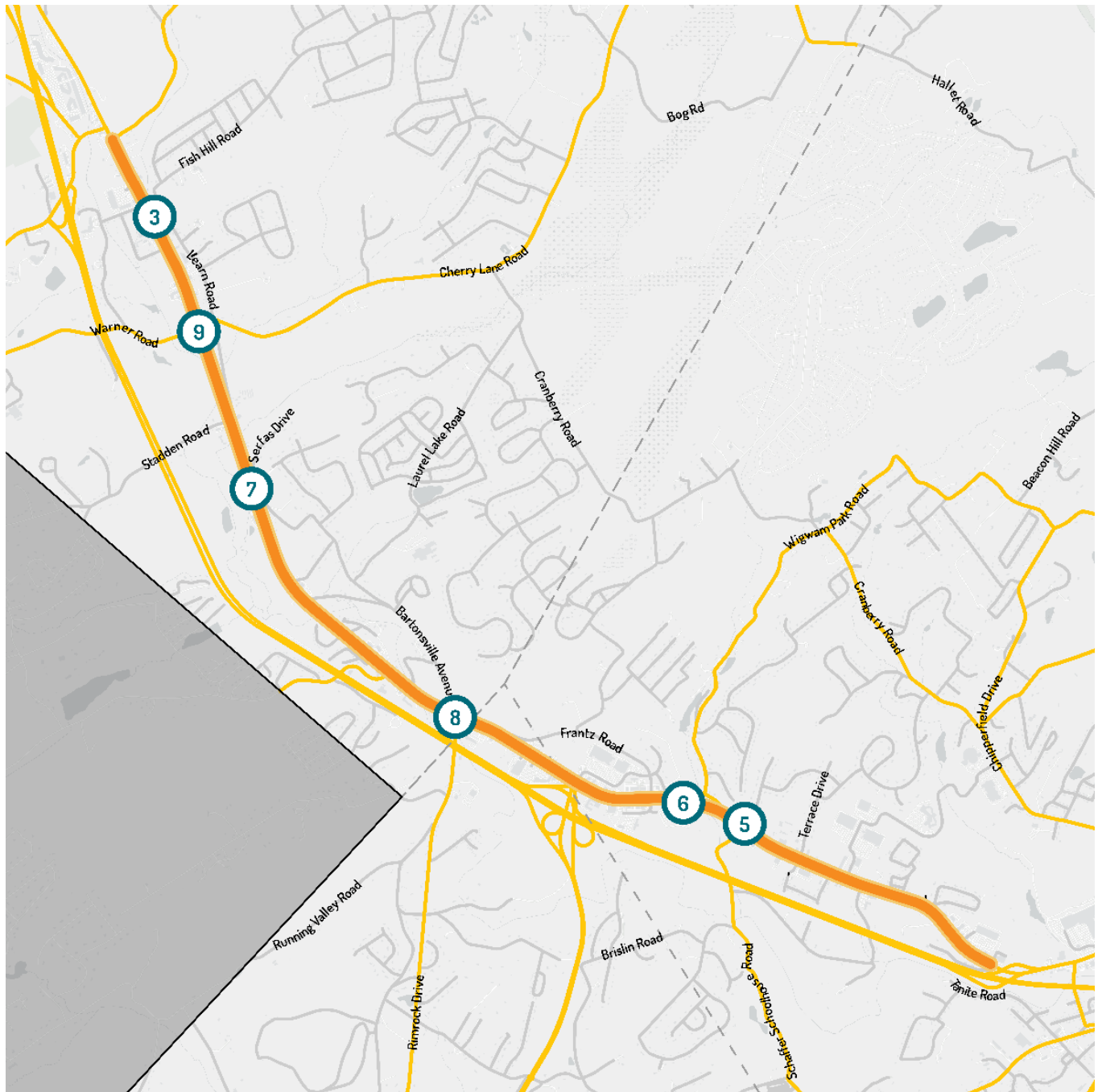


Figure 2: Operations Improvement Recommendations



I. MCTA Transit Stop Improvement Priorities

Priority	Location/Stop Node	Annual Activity	Reason	Recommended Improvement
1	Mountaineer Drive	2,740	Strong Red Route activity both directions	Sidewalk connection, curb ramp review, crossing assessment
2	Shoppes at Stroud	2,360	Major retail/employment node	Pads, shelters, sidewalk continuity, internal pedestrian connections
3	Baymont Hotel	1,406	Notable Blue Route activity; hospitality/employment node	Stop pad, lighting, sidewalk connection
4	Bartonsville Avenue / Rimrock Drive	1,421	Commercial node; access-sensitive destination; Wawa development	ADA pads, crossing improvements, sidewalk gap closure
5	CareerLink	685	Workforce/social-service destination	ADA pad, signage, sidewalk link
6	Warner Road / Cherry Lane	429	Important safety-risk location	Crossing and pedestrian-signal review, sidewalk connections, stop placement review
7	St. Luke's Emergency and Transport Services	423	Important safety-risk location	Crossing and pedestrian-signal review, sidewalk connections, stop placement review

J. Synchro Worksheets

HCM 7th Signalized Intersection Summary

2025 Existing AM Peak Hour

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	38	39	68	48	58	37	307	30	28	337	24
Future Volume (veh/h)	25	38	39	68	48	58	37	307	30	28	337	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1817	1876	1876	1894	1939	1894	1776	1790	1790	1979	1919	1979
Adj Flow Rate, veh/h	26	40	41	72	51	61	39	323	32	29	355	25
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, %	4	0	0	3	0	3	8	7	7	0	4	0
Cap, veh/h	181	128	107	243	93	91	451	634	63	483	701	49
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	275	784	658	554	569	557	952	1603	159	1086	1771	125
Grp Volume(v), veh/h	107	0	0	184	0	0	39	0	355	29	0	380
Grp Sat Flow(s),veh/h/ln	1716	0	0	1680	0	0	952	0	1762	1086	0	1896
Q Serve(g_s), s	0.0	0.0	0.0	1.5	0.0	0.0	1.1	0.0	5.0	0.7	0.0	5.0
Cycle Q Clear(g_c), s	1.8	0.0	0.0	3.2	0.0	0.0	6.0	0.0	5.0	5.7	0.0	5.0
Prop In Lane	0.24		0.38	0.39		0.33	1.00		0.09	1.00		0.07
Lane Grp Cap(c), veh/h	417	0	0	427	0	0	451	0	697	483	0	750
V/C Ratio(X)	0.26	0.00	0.00	0.43	0.00	0.00	0.09	0.00	0.51	0.06	0.00	0.51
Avail Cap(c_a), veh/h	1196	0	0	1204	0	0	1349	0	2358	1507	0	2538
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	1.00
Uniform Delay (d), s/veh	12.3	0.0	0.0	12.8	0.0	0.0	9.8	0.0	7.5	9.7	0.0	7.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.7	0.0	0.0	0.2	0.0	1.2	0.1	0.0	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	0.5	0.0	0.0	1.0	0.0	0.0	0.2	0.0	1.2	0.1	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.6	0.0	0.0	13.5	0.0	0.0	10.0	0.0	8.8	9.8	0.0	8.6
LnGrp LOS	B			B			A			A		
Approach Vol, veh/h	107			184			394			409		
Approach Delay, s/veh	12.6			13.5			8.9			8.7		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	20.0			12.9			20.0			12.9		
Change Period (Y+Rc), s	7.0			7.5			7.0			7.5		
Max Green Setting (Gmax), s	44.0			21.5			44.0			21.5		
Max Q Clear Time (g_c+I1), s	8.0			3.8			7.7			5.2		
Green Ext Time (p_c), s	3.6			0.3			3.7			0.5		
Intersection Summary												
HCM 7th Control Delay, s/veh	10.0											
HCM 7th LOS	A											

2025 Existing AM Peak Hour

Synchro 12 Report

Page 1

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	2	20	10	0	3	31	476	24	7	531	23
Future Vol, veh/h	22	2	20	10	0	3	31	476	24	7	531	23
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	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	10	0	0	0	4	0	0	4	0
Mvmt Flow	22	2	20	10	0	3	31	481	24	7	536	23

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1106	1130	548	1107	1129	493	560	0	0	505	0	0
Stage 1	562	562	-	556	556	-	-	-	-	-	-	-
Stage 2	543	568	-	552	574	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	190	205	540	181	206	580	1022	-	-	1070	-	-
Stage 1	515	513	-	502	516	-	-	-	-	-	-	-
Stage 2	527	510	-	504	507	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	179	195	540	163	195	580	1022	-	-	1070	-	-
Mov Cap-2 Maneuver	179	195	-	163	195	-	-	-	-	-	-	-
Stage 1	510	508	-	480	494	-	-	-	-	-	-	-
Stage 2	502	488	-	479	502	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB				
HCM Ctrl Dly, s/v	21.81		24.69		0.5			0.1				
HCM LOS	C		C									

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	104	-	-	258	196	22	-	-
HCM Lane V/C Ratio	0.031	-	-	0.172	0.067	0.007	-	-
HCM Ctrl Dly (s/v)	8.6	0	-	21.8	24.7	8.4	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.2	0	-	-

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2025 Existing AM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	540	62	71	424	45	92	7	117	62	14	5
Future Volume (veh/h)	7	540	62	71	424	45	92	7	117	62	14	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1939	1879	1894	1805	1835	1598	1864	1894	1850	1894	1939	1939
Adj Flow Rate, veh/h	8	600	69	79	471	50	102	8	130	69	16	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	4	3	6	4	20	2	0	3	3	0	0
Cap, veh/h	403	816	94	292	804	85	209	27	160	307	65	18
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	913	1655	190	741	1631	173	587	146	866	992	350	95
Grp Volume(v), veh/h	8	0	669	79	0	521	240	0	0	91	0	0
Grp Sat Flow(s),veh/h/ln	913	0	1845	741	0	1804	1598	0	0	1437	0	0
Q Serve(g_s), s	0.3	0.0	14.8	4.9	0.0	10.6	4.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.9	0.0	14.8	19.7	0.0	10.6	7.3	0.0	0.0	2.7	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.10	0.42		0.54	0.76		0.07
Lane Grp Cap(c), veh/h	403	0	910	292	0	890	396	0	0	389	0	0
V/C Ratio(X)	0.02	0.00	0.73	0.27	0.00	0.59	0.61	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	682	0	1474	519	0	1441	529	0	0	512	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	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.1	0.0	10.3	18.2	0.0	9.3	19.9	0.0	0.0	18.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.7	0.7	0.0	0.9	1.5	0.0	0.0	0.3	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	0.1	0.0	3.8	0.7	0.0	2.9	2.4	0.0	0.0	0.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.2	0.0	12.0	18.9	0.0	10.1	21.4	0.0	0.0	18.4	0.0	0.0
LnGrp LOS	B		B	B	B		C	B				
Approach Vol, veh/h	677		600			240			91			
Approach Delay, s/veh	12.0		11.3			21.4			18.4			
Approach LOS	B		B			C			B			
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	33.8		17.5		33.8		17.5					
Change Period (Y+Rc), s	8.5		8.0		8.5		8.0					
Max Green Setting (Gmax), s	41.0		14.0		41.0		14.0					
Max Q Clear Time (g_c+I1), s	16.8		9.3		21.7		4.7					
Green Ext Time (p_c), s	4.2		0.3		3.7		0.2					
Intersection Summary												
HCM 7th Control Delay, s/veh			13.5									
HCM 7th LOS			B									

HCM 7th Signalized Intersection Summary 4: Giant Driveway/Driveway & PA 611

2025 Existing AM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	620	79	110	455	35	56	2	36	35	6	8
Future Volume (veh/h)	11	620	79	110	455	35	56	2	36	35	6	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1850	1850	1820	1805	1894	1743	1921	1875	2057	2057	2057
Adj Flow Rate, veh/h	12	653	0	116	479	37	59	2	0	37	6	8
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, %	0	3	3	5	6	0	7	0	3	0	0	0
Cap, veh/h	649	2069		581	2383	184	212	3		184	13	17
Arrive On Green	0.59	0.59	0.00	0.05	0.74	0.74	0.06	0.06	0.00	0.06	0.06	0.06
Sat Flow, veh/h	896	3514	1568	1733	3227	249	1556	53	1589	1332	216	288
Grp Volume(v), veh/h	12	653	0	116	254	262	61	0	0	51	0	0
Grp Sat Flow(s),veh/h/ln	896	1757	1568	1733	1715	1760	1609	0	1589	1836	0	0
Q Serve(g_s), s	0.3	5.6	0.0	1.4	2.7	2.7	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	5.6	0.0	1.4	2.7	2.7	2.0	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.14	0.97		1.00	0.73		0.16
Lane Grp Cap(c), veh/h	649	2069		581	1267	1300	215	0		214	0	0
V/C Ratio(X)	0.02	0.32		0.20	0.20	0.20	0.28	0.00		0.24	0.00	0.00
Avail Cap(c_a), veh/h	649	2069		599	1284	1318	909	0		995	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	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.1	6.2	0.0	4.0	2.4	2.4	27.2	0.0	0.0	27.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.2	0.2	0.2	0.7	0.0	0.0	0.6	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	0.0	1.4	0.0	0.3	0.3	0.3	0.8	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.1	6.6	0.0	4.2	2.5	2.5	27.9	0.0	0.0	27.5	0.0	0.0
LnGrp LOS	A	A		A	A	A	C			C		
Approach Vol, veh/h	665				632		61				51	
Approach Delay, s/veh	6.5				2.8		27.9				27.5	
Approach LOS	A				A		C				C	
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	8.9	41.0	9.5		49.9		9.5					
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0		6.0					
Max Green Setting (Gmax), s	3.5	35.0	32.0		44.5		32.0					
Max Q Clear Time (g_c+I1), s	3.4	7.6	4.0		4.7		3.5					
Green Ext Time (p_c), s	0.0	6.2	0.1		4.4		0.1					
Intersection Summary												
HCM 7th Control Delay, s/veh			6.6									
HCM 7th LOS			A									
Notes												
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2025 Existing AM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 				 	
Traffic Volume (veh/h)	85	630	120	35	465	84	64	9	39	79	11	54
Future Volume (veh/h)	85	630	120	35	465	84	64	9	39	79	11	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2057	2027	1997	1717	1717	1878	1856	1737	1930	2136	2081	2221
Adj Flow Rate, veh/h	91	677	0	38	500	0	69	10	0	85	12	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	4	6	6	0	3	11	3	0	9	0
Cap, veh/h	404	1027		299	742		284	166		188	219	
Arrive On Green	0.10	0.27	0.00	0.06	0.23	0.00	0.08	0.10	0.00	0.09	0.11	0.00
Sat Flow, veh/h	1959	3852	1693	1635	3262	1592	3428	1737	1635	2034	2081	1883
Grp Volume(v), veh/h	91	677	0	38	500	0	69	10	0	85	12	0
Grp Sat Flow(s),veh/h/ln	1959	1926	1693	1635	1631	1592	1714	1737	1635	2034	2081	1883
Q Serve(g_s), s	1.8	8.6	0.0	0.9	7.7	0.0	1.0	0.3	0.0	2.2	0.3	0.0
Cycle Q Clear(g_c), s	1.8	8.6	0.0	0.9	7.7	0.0	1.0	0.3	0.0	2.2	0.3	0.0
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	404	1027		299	742		284	166		188	219	
V/C Ratio(X)	0.23	0.66		0.13	0.67		0.24	0.06		0.45	0.05	
Avail Cap(c_a), veh/h	466	1396		415	1183		435	756		258	905	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.9	18.0	0.0	14.9	19.4	0.0	23.7	22.7	0.0	23.7	22.2	0.0
Incr Delay (d2), s/veh	0.3	1.5	0.0	0.2	2.3	0.0	0.4	0.2	0.0	1.7	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	0.7	3.4	0.0	0.3	2.7	0.0	0.4	0.1	0.0	1.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.1	19.5	0.0	15.1	21.7	0.0	24.1	22.9	0.0	25.4	22.3	0.0
LnGrp LOS	B	B		B	C		C	C		C	C	
Approach Vol, veh/h	768			538			79			97		
Approach Delay, s/veh	18.9			21.3			24.0			25.0		
Approach LOS	B			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	21.7	11.6	11.8	12.3	19.5	11.1	12.3				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	7.0	20.0	7.0	24.0	7.0	20.0	7.0	24.0				
Max Q Clear Time (g_c+I1), s	2.9	10.6	4.2	2.3	3.8	9.7	3.0	2.3				
Green Ext Time (p_c), s	0.0	3.7	0.0	0.0	0.1	2.8	0.1	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				20.4								
HCM 7th LOS				C								
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

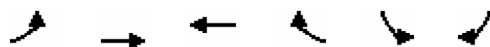
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2025 Existing AM Peak Hour
06/16/2026

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱		↱	↱	↱	↱
Traffic Volume (veh/h)	642	36	21	493	37	41
Future Volume (veh/h)	642	36	21	493	37	41
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1832	1876	1864	1864	1761	1878
Adj Flow Rate, veh/h	690	39	23	530	40	44
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	0	5	5	3	0
Cap, veh/h	0	0	800	21	559	531
Arrive On Green	0.00	0.00	0.00	0.00	0.33	0.33
Sat Flow, veh/h	-103046	-5824	724	1864	1677	1592
Grp Volume(v), veh/h	0	729	23	530	40	44
Grp Sat Flow(s),veh/h/ln	0	-108870	724	1864	1677	1592
Q Serve(g_s), s	0.0	0.1	0.0	0.1	0.1	0.2
Cycle Q Clear(g_c), s	0.0	0.1	0.1	0.1	0.1	0.2
Prop In Lane		0.05	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	-1210	800	21	559	531
V/C Ratio(X)	0.00	0.00	0.03	25.59	0.07	0.08
Avail Cap(c_a), veh/h	0	-350805	3615	6007	4100	3890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	4.6	4.5	2.0	2.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	11117.5	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	0.0	0.0	0.0	64.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	0.0	4.6	11122.0	2.1	2.1
LnGrp LOS			A	F	A	A
Approach Vol, veh/h	729			553	84	
Approach Delay, s/veh	0.0			10659.6	2.1	
Approach LOS	A			F	A	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	0.0		0.0		9.0	
Change Period (Y+Rc), s	6.0		6.0		6.0	
Max Green Setting (Gmax), s	29.0		29.0		22.0	
Max Q Clear Time (g_c+I1), s	0.0		0.0		2.2	
Green Ext Time (p_c), s	0.0		0.0		0.2	
Intersection Summary						
HCM 7th Control Delay, s/veh			4315.5			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2025 Existing AM Peak Hour
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑	↑	↑	←←	↑
Traffic Volume (veh/h)	223	418	360	178	127	208
Future Volume (veh/h)	223	418	360	178	127	208
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1909	1894	1850	1924	2042	1980
Adj Flow Rate, veh/h	230	431	371	0	131	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	3	3	1	5
Cap, veh/h	303	1032	504		366	
Arrive On Green	0.09	0.54	0.27	0.00	0.10	0.00
Sat Flow, veh/h	3528	1894	1850	1630	3773	1678
Grp Volume(v), veh/h	230	431	371	0	131	0
Grp Sat Flow(s), veh/h/ln	1764	1894	1850	1630	1887	1678
Q Serve(g_s), s	2.2	4.7	6.4	0.0	1.1	0.0
Cycle Q Clear(g_c), s	2.2	4.7	6.4	0.0	1.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	303	1032	504		366	
V/C Ratio(X)	0.76	0.42	0.74		0.36	
Avail Cap(c_a), veh/h	303	1928	1379		2488	
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	0.00
Uniform Delay (d), s/veh	15.6	4.7	11.6	0.0	14.7	0.0
Incr Delay (d2), s/veh	9.5	0.7	5.7	0.0	0.2	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	1.1	0.7	2.4	0.0	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	25.1	5.4	17.2	0.0	15.0	0.0
LnGrp LOS	C	A	B		B	
Approach Vol, veh/h		661	371		131	
Approach Delay, s/veh		12.3	17.2		15.0	
Approach LOS		B	B		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		25.5		9.4	9.5	16.0
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		35.5		23.0	3.0	26.0
Max Q Clear Time (g_c+l1), s		6.7		3.1	4.2	0.0
Green Ext Time (p_c), s		4.3		0.3	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	14.2
HCM 7th LOS	B

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary

2025 Existing PM Peak Hour

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	45	59	69	62	53	57	512	38	59	471	36
Future Volume (veh/h)	24	45	59	69	62	53	57	512	38	59	471	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1876	1847	1847	1939	1939	1879	1864	1864	1894	1949	1964	1979
Adj Flow Rate, veh/h	24	46	60	70	63	54	58	522	39	60	481	37
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	0	0	4	2	2	0	2	1	0
Cap, veh/h	139	112	123	209	108	78	433	816	61	400	857	66
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	196	714	780	532	689	496	881	1713	128	884	1800	138
Grp Volume(v), veh/h	130	0	0	187	0	0	58	0	561	60	0	518
Grp Sat Flow(s),veh/h/ln	1690	0	0	1716	0	0	881	0	1841	884	0	1939
Q Serve(g_s), s	0.0	0.0	0.0	1.2	0.0	0.0	2.0	0.0	9.1	2.2	0.0	7.6
Cycle Q Clear(g_c), s	2.7	0.0	0.0	3.9	0.0	0.0	9.5	0.0	9.1	11.2	0.0	7.6
Prop In Lane	0.18		0.46	0.37		0.29	1.00		0.07	1.00		0.07
Lane Grp Cap(c), veh/h	373	0	0	395	0	0	433	0	877	400	0	923
V/C Ratio(X)	0.35	0.00	0.00	0.47	0.00	0.00	0.13	0.00	0.64	0.15	0.00	0.56
Avail Cap(c_a), veh/h	984	0	0	1009	0	0	994	0	2049	963	0	2157
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	1.00
Uniform Delay (d), s/veh	15.2	0.0	0.0	15.6	0.0	0.0	10.8	0.0	7.8	12.0	0.0	7.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.9	0.0	0.0	0.3	0.0	1.7	0.4	0.0	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	0.9	0.0	0.0	1.3	0.0	0.0	0.3	0.0	2.4	0.4	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.8	0.0	0.0	16.5	0.0	0.0	11.1	0.0	9.5	12.4	0.0	8.5
LnGrp LOS	B			B			B			A		
Approach Vol, veh/h	130			187			619			578		
Approach Delay, s/veh	15.8			16.5			9.6			8.9		
Approach LOS	B			B			A			A		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	25.8			13.7			25.8			13.7		
Change Period (Y+Rc), s	7.0			7.5			7.0			7.5		
Max Green Setting (Gmax), s	44.0			21.5			44.0			21.5		
Max Q Clear Time (g_c+I1), s	11.5			4.7			13.2			5.9		
Green Ext Time (p_c), s	6.2			0.3			5.6			0.5		
Intersection Summary												
HCM 7th Control Delay, s/veh	10.7											
HCM 7th LOS	B											

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	23	0	15	13	4	3	36	568	28	5	570	35
Future Vol, veh/h	23	0	15	13	4	3	36	568	28	5	570	35
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	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	2	7	20	1	0
Mvmt Flow	23	0	15	13	4	3	37	580	29	5	582	36

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1265	1291	599	1259	1295	594	617	0	0	608	0	0
Stage 1	610	610	-	667	667	-	-	-	-	-	-	-
Stage 2	655	682	-	592	628	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.3	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.38	-	-
Pot Cap-1 Maneuver	148	165	505	149	164	509	972	-	-	888	-	-
Stage 1	485	488	-	451	460	-	-	-	-	-	-	-
Stage 2	458	453	-	496	479	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	134	154	505	135	153	509	972	-	-	888	-	-
Mov Cap-2 Maneuver	134	154	-	135	153	-	-	-	-	-	-	-
Stage 1	481	484	-	425	433	-	-	-	-	-	-	-
Stage 2	425	427	-	477	475	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	29.02		31.57		0.5		0.07	
HCM LOS	D		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	102	-	-	188	156	15	-
HCM Lane V/C Ratio	0.038	-	-	0.206	0.131	0.006	-
HCM Ctrl Dly (s/v)	8.8	0	-	29	31.6	9.1	0
HCM Lane LOS	A	A	-	D	D	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.4	0	-

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2025 Existing PM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	578	115	142	733	128	84	36	113	68	12	5
Future Volume (veh/h)	14	578	115	142	733	128	84	36	113	68	12	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1834	1924	1894	1894	1879	1879	1805	1894	1850	1939	1939	1939
Adj Flow Rate, veh/h	15	622	124	153	788	138	90	39	122	73	13	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	1	3	0	1	1	6	0	3	0	0	0
Cap, veh/h	189	891	178	318	891	156	165	61	143	260	42	12
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	592	1558	311	724	1557	273	509	343	806	908	238	67
Grp Volume(v), veh/h	15	0	746	153	0	926	251	0	0	91	0	0
Grp Sat Flow(s),veh/h/ln	592	0	1868	724	0	1830	1659	0	0	1213	0	0
Q Serve(g_s), s	1.5	0.0	18.7	12.6	0.0	28.9	5.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	30.4	0.0	18.7	31.3	0.0	28.9	9.5	0.0	0.0	4.3	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.15	0.36		0.49	0.80		0.05
Lane Grp Cap(c), veh/h	189	0	1069	318	0	1047	369	0	0	314	0	0
V/C Ratio(X)	0.08	0.00	0.70	0.48	0.00	0.88	0.68	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	218	0	1162	353	0	1138	423	0	0	361	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	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.4	0.0	10.0	21.2	0.0	12.2	26.1	0.0	0.0	24.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	1.9	1.6	0.0	8.4	3.7	0.0	0.0	0.5	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	0.2	0.0	5.3	2.0	0.0	10.5	3.8	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.6	0.0	12.0	22.8	0.0	20.6	29.7	0.0	0.0	24.5	0.0	0.0
LnGrp LOS	C		B		C		C		C			
Approach Vol, veh/h	761				1079		251				91	
Approach Delay, s/veh	12.2				20.9		29.7				24.5	
Approach LOS	B				C		C				C	
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	46.2		19.7		46.2		19.7					
Change Period (Y+Rc), s	8.5		8.0		8.5		8.0					
Max Green Setting (Gmax), s	41.0		14.0		41.0		14.0					
Max Q Clear Time (g_c+I1), s	32.4		11.5		33.3		6.3					
Green Ext Time (p_c), s	3.1		0.2		4.4		0.1					
Intersection Summary												
HCM 7th Control Delay, s/veh			19.1									
HCM 7th LOS			B									

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2025 Existing PM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	604	118	242	843	22	169	20	84	42	19	9
Future Volume (veh/h)	2	604	118	242	843	22	169	20	84	42	19	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1879	1879	1879	1879	1894	1832	1921	1921	2057	2057	2057
Adj Flow Rate, veh/h	2	649	0	260	906	24	182	22	0	45	20	10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	1	1	0	1	0	0	0	0	0
Cap, veh/h	422	1849		522	2340	62	325	27		247	106	41
Arrive On Green	0.52	0.52	0.00	0.05	0.66	0.66	0.16	0.16	0.00	0.16	0.16	0.16
Sat Flow, veh/h	609	3571	1593	1790	3554	94	1369	166	1628	984	646	251
Grp Volume(v), veh/h	2	649	0	260	455	475	204	0	0	75	0	0
Grp Sat Flow(s),veh/h/ln	609	1785	1593	1790	1785	1862	1535	0	1628	1881	0	0
Q Serve(g_s), s	0.1	7.2	0.0	3.5	7.9	7.9	6.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	7.2	0.0	3.5	7.9	7.9	8.5	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.05	0.89		1.00	0.60		0.13
Lane Grp Cap(c), veh/h	422	1849		522	1176	1226	352	0		394	0	0
V/C Ratio(X)	0.00	0.35		0.50	0.39	0.39	0.58	0.00		0.19	0.00	0.00
Avail Cap(c_a), veh/h	422	1849		522	1176	1226	804	0		911	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	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	9.6	0.0	8.7	5.3	5.3	27.0	0.0	0.0	24.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.7	0.4	0.4	1.5	0.0	0.0	0.2	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	0.0	2.3	0.0	1.3	1.9	2.0	3.2	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.9	10.1	0.0	9.5	5.7	5.7	28.5	0.0	0.0	24.8	0.0	0.0
LnGrp LOS	A	B		A	A	A	C			C		
Approach Vol, veh/h	651			1190			204			75		
Approach Delay, s/veh	10.1			6.5			28.5			24.8		
Approach LOS	B			A			C			C		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.5	41.0		17.1		50.5		17.1				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	3.5	35.0		32.0		44.5		32.0				
Max Q Clear Time (g_c+I1), s	5.5	9.2		10.5		9.9		4.2				
Green Ext Time (p_c), s	0.0	5.9		0.6		9.1		0.2				

Intersection Summary

HCM 7th Control Delay, s/veh	10.4
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2025 Existing PM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 				 	
Traffic Volume (veh/h)	115	719	69	33	895	118	142	18	83	121	13	111
Future Volume (veh/h)	115	719	69	33	895	118	142	18	83	121	13	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2057	2027	2012	1761	1776	1878	1870	1900	1961	2136	2221	2221
Adj Flow Rate, veh/h	120	749	0	34	932	0	148	19	0	126	14	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, %	0	2	3	3	2	0	2	0	1	0	0	0
Cap, veh/h	315	1329		317	1013		341	196		194	222	
Arrive On Green	0.09	0.35	0.00	0.05	0.30	0.00	0.10	0.10	0.00	0.10	0.10	0.00
Sat Flow, veh/h	1959	3852	1705	1677	3375	1592	3456	1900	1662	2034	2221	1883
Grp Volume(v), veh/h	120	749	0	34	932	0	148	19	0	126	14	0
Grp Sat Flow(s),veh/h/ln	1959	1926	1705	1677	1687	1592	1728	1900	1662	2034	2221	1883
Q Serve(g_s), s	2.6	10.5	0.0	0.9	17.7	0.0	2.7	0.6	0.0	4.0	0.4	0.0
Cycle Q Clear(g_c), s	2.6	10.5	0.0	0.9	17.7	0.0	2.7	0.6	0.0	4.0	0.4	0.0
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	315	1329		317	1013		341	196		194	222	
V/C Ratio(X)	0.38	0.56		0.11	0.92		0.43	0.10		0.65	0.06	
Avail Cap(c_a), veh/h	337	1329		411	1018		365	688		215	804	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.7	17.7	0.0	14.8	22.4	0.0	28.1	26.9	0.0	28.9	27.0	0.0
Incr Delay (d2), s/veh	0.8	0.9	0.0	0.1	13.5	0.0	0.9	0.2	0.0	5.9	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	1.0	4.1	0.0	0.3	7.9	0.0	1.1	0.3	0.0	2.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.5	18.6	0.0	14.9	35.9	0.0	29.0	27.1	0.0	34.8	27.1	0.0
LnGrp LOS	B	B		B	D		C	C		C	C	
Approach Vol, veh/h	869			966			167			140		
Approach Delay, s/veh	18.3			35.2			28.8			34.0		
Approach LOS	B			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	29.9	12.8	13.4	13.2	26.9	13.0	13.1				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	7.0	20.0	7.0	24.0	7.0	20.0	7.0	24.0				
Max Q Clear Time (g_c+l1), s	2.9	12.5	6.0	2.6	4.6	19.7	4.7	2.4				
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.1	0.2	0.1	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				27.8								
HCM 7th LOS				C								
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

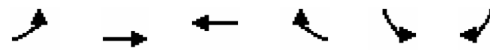
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2025 Existing PM Peak Hour
06/16/2026

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	776	56	65	921	59	37
Future Volume (veh/h)	776	56	65	921	59	37
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1847	1876	1894	1894	1776	1801
Adj Flow Rate, veh/h	792	57	66	940	60	38
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	0	3	3	2	5
Cap, veh/h	0	0	800	21	564	509
Arrive On Green	0.00	0.00	0.00	0.00	0.33	0.33
Sat Flow, veh/h	-102134	-7351	658	1894	1692	1526
Grp Volume(v), veh/h	0	849	66	940	60	38
Grp Sat Flow(s),veh/h/ln	0	-109485	658	1894	1692	1526
Q Serve(g_s), s	0.0	0.1	0.0	0.1	0.2	0.2
Cycle Q Clear(g_c), s	0.0	0.1	0.1	0.1	0.2	0.2
Prop In Lane		0.07	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	-1216	800	21	564	509
V/C Ratio(X)	0.00	0.00	0.08	44.66	0.11	0.07
Avail Cap(c_a), veh/h	0	-352785	3357	6104	4135	3731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	4.5	4.5	2.1	2.1
Incr Delay (d2), s/veh	0.0	0.0	0.1	19699.1	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	0.0	0.0	0.0	115.2	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	0.0	4.7	19703.6	2.2	2.1
LnGrp LOS			A	F	A	A
Approach Vol, veh/h	849			1006	98	
Approach Delay, s/veh	0.0			18411.2	2.1	
Approach LOS	A			F	A	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	0.0		0.0		9.0	
Change Period (Y+Rc), s	6.0		6.0		6.0	
Max Green Setting (Gmax), s	29.0		29.0		22.0	
Max Q Clear Time (g_c+l1), s	0.0		0.0		2.2	
Green Ext Time (p_c), s	0.0		0.0		0.3	
Intersection Summary						
HCM 7th Control Delay, s/veh			9483.8			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2025 Existing PM Peak Hour
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑	↑	↑	←←	↑
Traffic Volume (veh/h)	322	507	515	271	244	459
Future Volume (veh/h)	322	507	515	271	244	459
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1894	1909	1864	1924	2027	2011
Adj Flow Rate, veh/h	343	539	548	0	260	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	2	2	3	2	3
Cap, veh/h	288	996	486		505	
Arrive On Green	0.08	0.52	0.26	0.00	0.13	0.00
Sat Flow, veh/h	3500	1909	1864	1630	3744	1704
Grp Volume(v), veh/h	343	539	548	0	260	0
Grp Sat Flow(s), veh/h/ln	1750	1909	1864	1630	1872	1704
Q Serve(g_s), s	3.0	6.9	9.5	0.0	2.4	0.0
Cycle Q Clear(g_c), s	3.0	6.9	9.5	0.0	2.4	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	288	996	486		505	
V/C Ratio(X)	1.19	0.54	1.13		0.51	
Avail Cap(c_a), veh/h	288	1861	1331		2365	
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	0.00
Uniform Delay (d), s/veh	16.7	5.8	13.5	0.0	14.6	0.0
Incr Delay (d2), s/veh	114.5	1.3	72.4	0.0	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	5.5	1.3	12.4	0.0	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	131.2	7.1	85.9	0.0	14.9	0.0
LnGrp LOS	F	A	F		B	
Approach Vol, veh/h		882	548		260	
Approach Delay, s/veh		55.3	85.9		14.9	
Approach LOS		E	F		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		25.5		10.9	9.5	16.0
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		35.5		23.0	3.0	26.0
Max Q Clear Time (g_c+l1), s		8.9		4.4	5.0	0.0
Green Ext Time (p_c), s		5.6		0.6	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	59.0
HCM 7th LOS	E

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary

2025 Existing SAT Peak Hour

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	23	41	33	80	40	52	31	524	51	47	421	28	
Future Volume (veh/h)	23	41	33	80	40	52	31	524	51	47	421	28	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Width 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	
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	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1876	1876	1832	1894	1939	1939	1894	1894	1835	1979	1979	1979	
Adj Flow Rate, veh/h	24	44	35	85	43	55	33	557	54	50	448	30	
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, %	0	0	3	3	0	0	0	0	4	0	0	0	
Cap, veh/h	152	140	92	238	77	78	468	812	79	373	876	59	
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.48	0.48	0.48	0.48	0.48	0.48	
Sat Flow, veh/h	253	893	590	672	490	499	928	1700	165	857	1834	123	
Grp Volume(v), veh/h	103	0	0	183	0	0	33	0	611	50	0	478	
Grp Sat Flow(s),veh/h/ln	1736	0	0	1661	0	0	928	0	1864	857	0	1957	
Q Serve(g_s), s	0.0	0.0	0.0	1.9	0.0	0.0	1.0	0.0	10.1	1.9	0.0	6.7	
Cycle Q Clear(g_c), s	2.1	0.0	0.0	4.0	0.0	0.0	7.7	0.0	10.1	12.0	0.0	6.7	
Prop In Lane	0.23		0.34	0.46		0.30	1.00		0.09	1.00		0.06	
Lane Grp Cap(c), veh/h	384	0	0	393	0	0	468	0	891	373	0	935	
V/C Ratio(X)	0.27	0.00	0.00	0.47	0.00	0.00	0.07	0.00	0.69	0.13	0.00	0.51	
Avail Cap(c_a), veh/h	1005	0	0	992	0	0	1054	0	2068	914	0	2170	
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	1.00	
Uniform Delay (d), s/veh	15.0	0.0	0.0	15.7	0.0	0.0	9.8	0.0	8.0	12.7	0.0	7.2	
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.9	0.0	0.0	0.1	0.0	2.0	0.3	0.0	0.9	
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	0.7	0.0	0.0	1.3	0.0	0.0	0.2	0.0	2.7	0.3	0.0	1.8	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d), s/veh	15.3	0.0	0.0	16.6	0.0	0.0	10.0	0.0	10.1	13.1	0.0	8.1	
LnGrp LOS	B			B			A			B			A
Approach Vol, veh/h	103			183			644			528			
Approach Delay, s/veh	15.3			16.6			10.1			8.6			
Approach LOS	B			B			B			A			
Timer - Assigned Phs	2			4			6			8			
Phs Duration (G+Y+Rc), s	26.0			13.7			26.0			13.7			
Change Period (Y+Rc), s	7.0			7.5			7.0			7.5			
Max Green Setting (Gmax), s	44.0			21.5			44.0			21.5			
Max Q Clear Time (g_c+I1), s	12.1			4.1			14.0			6.0			
Green Ext Time (p_c), s	6.5			0.2			4.9			0.5			
Intersection Summary													
HCM 7th Control Delay, s/veh	10.7												
HCM 7th LOS	B												

2025 Existing SAT Peak Hour

Synchro 12 Report

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Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	2	38	10	4	3	49	527	36	1	532	35
Future Vol, veh/h	24	2	38	10	4	3	49	527	36	1	532	35
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, %	0	0	0	0	0	0	0	0	8	0	1	0
Mvmt Flow	25	2	40	10	4	3	51	549	38	1	554	36

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1228	1263	572	1227	1263	568	591	0	0	586	0	0
Stage 1	574	574	-	670	670	-	-	-	-	-	-	-
Stage 2	653	689	-	557	593	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	156	171	523	157	171	526	995	-	-	998	-	-
Stage 1	507	506	-	450	459	-	-	-	-	-	-	-
Stage 2	459	450	-	518	497	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	140	158	523	132	158	526	995	-	-	998	-	-
Mov Cap-2 Maneuver	140	158	-	132	158	-	-	-	-	-	-	-
Stage 1	506	505	-	415	424	-	-	-	-	-	-	-
Stage 2	418	415	-	476	496	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	24.64		30.45		0.71		0.02	
HCM LOS	C		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	142	-	-	249	159	3	-
HCM Lane V/C Ratio	0.051	-	-	0.268	0.111	0.001	-
HCM Ctrl Dly (s/v)	8.8	0	-	24.6	30.4	8.6	0
HCM Lane LOS	A	A	-	C	D	A	A
HCM 95th %tile Q(veh)	0.2	-	-	1	0.4	0	-

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2025 Existing SAT Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	621	73	143	678	87	65	19	147	76	20	5
Future Volume (veh/h)	3	621	73	143	678	87	65	19	147	76	20	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1939	1939	1939	1894	1894	1894	1894	1894	1894	1939	1939	1639
Adj Flow Rate, veh/h	3	647	76	149	706	91	68	20	153	79	21	5
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, %	0	0	0	0	0	0	0	0	0	0	0	20
Cap, veh/h	278	954	112	331	921	119	139	41	183	253	60	11
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	707	1703	200	740	1644	212	370	234	1051	869	342	61
Grp Volume(v), veh/h	3	0	723	149	0	797	241	0	0	105	0	0
Grp Sat Flow(s),veh/h/ln	707	0	1903	740	0	1856	1655	0	0	1271	0	0
Q Serve(g_s), s	0.2	0.0	16.7	11.1	0.0	20.6	4.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	20.8	0.0	16.7	27.8	0.0	20.6	8.6	0.0	0.0	4.5	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.11	0.28		0.63	0.75		0.05
Lane Grp Cap(c), veh/h	278	0	1066	331	0	1039	363	0	0	323	0	0
V/C Ratio(X)	0.01	0.00	0.68	0.45	0.00	0.77	0.66	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	349	0	1257	405	0	1225	443	0	0	393	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	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.5	0.0	9.7	19.6	0.0	10.5	24.6	0.0	0.0	22.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.5	1.4	0.0	2.9	2.8	0.0	0.0	0.6	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	0.0	0.0	4.6	1.7	0.0	6.5	3.3	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.6	0.0	11.1	20.9	0.0	13.4	27.4	0.0	0.0	23.5	0.0	0.0
LnGrp LOS	B		B	C	B		C	C				
Approach Vol, veh/h	726		946			241			105			
Approach Delay, s/veh	11.2		14.6			27.4			23.5			
Approach LOS	B		B			C			C			
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.3		18.8		43.3		18.8					
Change Period (Y+Rc), s	8.5		8.0		8.5		8.0					
Max Green Setting (Gmax), s	41.0		14.0		41.0		14.0					
Max Q Clear Time (g_c+I1), s	22.8		10.6		29.8		6.5					
Green Ext Time (p_c), s	4.2		0.3		4.9		0.2					
Intersection Summary												
HCM 7th Control Delay, s/veh			15.3									
HCM 7th LOS			B									

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2025 Existing SAT Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	723	132	229	722	12	172	17	98	12	11	2
Future Volume (veh/h)	1	723	132	229	722	12	172	17	98	12	11	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1894	1879	1894	1894	1894	1847	1921	1921	2057	2057	2057
Adj Flow Rate, veh/h	1	753	0	239	752	12	179	18	0	12	11	2
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, %	0	0	1	0	0	0	0	0	0	0	0	0
Cap, veh/h	476	1868		482	2392	38	322	22		199	169	25
Arrive On Green	0.52	0.52	0.00	0.05	0.66	0.66	0.16	0.16	0.00	0.16	0.16	0.16
Sat Flow, veh/h	712	3599	1593	1804	3625	58	1359	137	1628	742	1039	155
Grp Volume(v), veh/h	1	753	0	239	373	391	197	0	0	25	0	0
Grp Sat Flow(s),veh/h/ln	712	1799	1593	1804	1799	1884	1496	0	1628	1936	0	0
Q Serve(g_s), s	0.0	8.6	0.0	3.5	6.0	6.0	7.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	8.6	0.0	3.5	6.0	6.0	8.5	0.0	0.0	0.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.03	0.91		1.00	0.48		0.08
Lane Grp Cap(c), veh/h	476	1868		482	1187	1243	345	0		393	0	0
V/C Ratio(X)	0.00	0.40		0.50	0.31	0.31	0.57	0.00		0.06	0.00	0.00
Avail Cap(c_a), veh/h	476	1868		482	1187	1243	804	0		938	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	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.8	9.9	0.0	8.4	4.9	4.9	27.2	0.0	0.0	24.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.8	0.3	0.3	1.5	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	0.0	2.8	0.0	1.2	1.4	1.5	3.0	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.8	10.5	0.0	9.2	5.2	5.2	28.7	0.0	0.0	24.0	0.0	0.0
LnGrp LOS	A	B		A	A	A	C			C		
Approach Vol, veh/h	754		1003			197			25			
Approach Delay, s/veh	10.5		6.2			28.7			24.0			
Approach LOS	B		A			C			C			
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	9.5	41.0	16.9		50.5		16.9					
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0		6.0					
Max Green Setting (Gmax), s	3.5	35.0	32.0		44.5		32.0					
Max Q Clear Time (g_c+I1), s	5.5	10.6	10.5		8.0		2.7					
Green Ext Time (p_c), s	0.0	6.9	0.6		7.0		0.0					
Intersection Summary												
HCM 7th Control Delay, s/veh	10.3											
HCM 7th LOS	B											
Notes												
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2025 Existing SAT Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 				 	
Traffic Volume (veh/h)	151	739	67	32	799	124	75	13	56	143	15	119
Future Volume (veh/h)	151	739	67	32	799	124	75	13	56	143	15	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2042	2057	2057	1761	1806	1863	1900	1678	1976	2136	2018	2206
Adj Flow Rate, veh/h	153	746	0	32	807	0	76	13	0	144	15	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	0	0	3	0	1	0	15	0	0	13	1
Cap, veh/h	358	1326		315	976		284	154		205	226	
Arrive On Green	0.10	0.34	0.00	0.05	0.28	0.00	0.08	0.09	0.00	0.10	0.11	0.00
Sat Flow, veh/h	1945	3909	1743	1677	3431	1578	3510	1678	1675	2034	2018	1869
Grp Volume(v), veh/h	153	746	0	32	807	0	76	13	0	144	15	0
Grp Sat Flow(s),veh/h/ln	1945	1954	1743	1677	1715	1578	1755	1678	1675	2034	2018	1869
Q Serve(g_s), s	3.4	10.0	0.0	0.8	14.1	0.0	1.3	0.5	0.0	4.4	0.4	0.0
Cycle Q Clear(g_c), s	3.4	10.0	0.0	0.8	14.1	0.0	1.3	0.5	0.0	4.4	0.4	0.0
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	358	1326		315	976		284	154		205	226	
V/C Ratio(X)	0.43	0.56		0.10	0.83		0.27	0.08		0.70	0.07	
Avail Cap(c_a), veh/h	372	1326		419	1069		383	627		222	755	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.1	17.3	0.0	14.9	21.5	0.0	27.7	26.7	0.0	27.9	25.5	0.0
Incr Delay (d2), s/veh	0.8	0.9	0.0	0.1	6.0	0.0	0.5	0.2	0.0	8.8	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	1.3	4.0	0.0	0.3	5.7	0.0	0.5	0.2	0.0	2.5	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.9	18.2	0.0	15.1	27.5	0.0	28.2	26.9	0.0	36.7	25.6	0.0
LnGrp LOS	B	B		B	C		C	C		D	C	
Approach Vol, veh/h	899			839			89			159		
Approach Delay, s/veh	17.8			27.0			28.0			35.6		
Approach LOS	B			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	28.8	13.0	12.4	13.5	25.3	11.7	13.7				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	7.0	20.0	7.0	24.0	7.0	20.0	7.0	24.0				
Max Q Clear Time (g_c+I1), s	2.8	12.0	6.4	2.5	5.4	16.1	3.3	2.4				
Green Ext Time (p_c), s	0.0	3.6	0.0	0.0	0.1	2.1	0.1	0.0				

Intersection Summary

HCM 7th Control Delay, s/veh 23.6
HCM 7th LOS C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

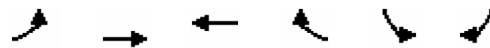
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2025 Existing SAT Peak Hour
06/16/2026

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱		↱	↱	↱	↱
Traffic Volume (veh/h)	766	46	46	823	40	47
Future Volume (veh/h)	766	46	46	823	40	47
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1876	1847	1939	1939	1761	1878
Adj Flow Rate, veh/h	782	47	47	840	41	48
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	2	0	0	3	0
Cap, veh/h	0	0	1118	30	115	109
Arrive On Green	0.00	0.00	0.00	0.00	0.07	0.07
Sat Flow, veh/h	-105130	-6319	686	1939	1677	1592
Grp Volume(v), veh/h	0	829	47	840	41	48
Grp Sat Flow(s),veh/h/ln	0	-111449	686	1939	1677	1592
Q Serve(g_s), s	0.0	0.1	0.0	0.1	0.2	0.2
Cycle Q Clear(g_c), s	0.0	0.1	0.1	0.1	0.2	0.2
Prop In Lane		0.06	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	-1730	1118	30	115	109
V/C Ratio(X)	0.00	0.00	0.04	27.90	0.36	0.44
Avail Cap(c_a), veh/h	0	-501738	4844	8731	5729	5435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	3.3	3.2	2.9	2.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	12142.4	1.9	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	101.5	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	0.0	3.3	12145.7	4.7	5.6
LnGrp LOS			A	F	A	A
Approach Vol, veh/h	829			887	89	
Approach Delay, s/veh	0.0			11502.3	5.2	
Approach LOS	A			F	A	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	0.0		0.0		6.4	
Change Period (Y+Rc), s	6.0		6.0		6.0	
Max Green Setting (Gmax), s	29.0		29.0		22.0	
Max Q Clear Time (g_c+l1), s	0.0		0.0		2.2	
Green Ext Time (p_c), s	0.0		0.0		0.2	
Intersection Summary						
HCM 7th Control Delay, s/veh			5652.6			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2025 Existing SAT Peak Hour
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰↱	↑	↑	↰	↰↱	↰
Traffic Volume (veh/h)	273	463	438	225	186	334
Future Volume (veh/h)	273	463	438	225	186	334
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1909	1894	1850	1924	2042	1980
Adj Flow Rate, veh/h	281	477	452	0	192	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	3	3	1	5
Cap, veh/h	297	1011	494		433	
Arrive On Green	0.08	0.53	0.27	0.00	0.11	0.00
Sat Flow, veh/h	3528	1894	1850	1630	3773	1678
Grp Volume(v), veh/h	281	477	452	0	192	0
Grp Sat Flow(s), veh/h/ln	1764	1894	1850	1630	1887	1678
Q Serve(g_s), s	2.8	5.6	8.4	0.0	1.7	0.0
Cycle Q Clear(g_c), s	2.8	5.6	8.4	0.0	1.7	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	297	1011	494		433	
V/C Ratio(X)	0.94	0.47	0.92		0.44	
Avail Cap(c_a), veh/h	297	1890	1351		2439	
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	0.00
Uniform Delay (d), s/veh	16.2	5.2	12.7	0.0	14.7	0.0
Incr Delay (d2), s/veh	37.3	0.9	16.4	0.0	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	2.4	0.9	4.5	0.0	0.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.5	6.1	29.1	0.0	15.0	0.0
LnGrp LOS	D	A	C		B	
Approach Vol, veh/h		758	452		192	
Approach Delay, s/veh		23.7	29.1		15.0	
Approach LOS		C	C		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		25.5		10.1	9.5	16.0
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		35.5		23.0	3.0	26.0
Max Q Clear Time (g_c+l1), s		7.6		3.7	4.8	0.0
Green Ext Time (p_c), s		4.9		0.4	0.0	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			24.2			
HCM 7th LOS			C			
Notes						
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 7th Signalized Intersection Summary

2050 No Build AM Peak Hour

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	56	320	239	67	105	318	1093	186	61	938	86
Future Volume (veh/h)	89	56	320	239	67	105	318	1093	186	61	938	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1817	1876	1876	1894	1939	1894	1776	1790	1790	1979	1919	1979
Adj Flow Rate, veh/h	94	59	337	252	71	111	335	1151	196	64	987	91
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, %	4	0	0	3	0	3	8	7	7	0	4	0
Cap, veh/h	125	68	306	188	33	51	90	820	140	90	952	88
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	266	251	1139	433	122	191	497	1491	254	429	1730	160
Grp Volume(v), veh/h	490	0	0	434	0	0	335	0	1347	64	0	1078
Grp Sat Flow(s),veh/h/ln	1657	0	0	747	0	0	497	0	1745	429	0	1890
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	0.0	0.0	44.0
Cycle Q Clear(g_c), s	21.5	0.0	0.0	21.5	0.0	0.0	44.0	0.0	44.0	44.0	0.0	44.0
Prop In Lane	0.19		0.69	0.58		0.26	1.00		0.15	1.00		0.08
Lane Grp Cap(c), veh/h	499	0	0	272	0	0	90	0	960	90	0	1039
V/C Ratio(X)	0.98	0.00	0.00	1.60	0.00	0.00	3.72	0.00	1.40	0.71	0.00	1.04
Avail Cap(c_a), veh/h	499	0	0	272	0	0	90	0	960	90	0	1039
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	0.0	0.0	32.1	0.0	0.0	40.0	0.0	18.0	40.0	0.0	18.0
Incr Delay (d2), s/veh	35.6	0.0	0.0	285.3	0.0	0.0	1251.8	0.0	188.0	27.9	0.0	38.0
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	13.7	0.0	0.0	26.7	0.0	0.0	33.0	0.0	64.3	1.9	0.0	26.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	65.8	0.0	0.0	317.4	0.0	0.0	1291.8	0.0	206.0	67.9	0.0	56.0
LnGrp LOS	E			F			F			F		
Approach Vol, veh/h	490			434			1682			1142		
Approach Delay, s/veh	65.8			317.4			422.2			56.6		
Approach LOS	E			F			F			E		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	51.0			29.0			51.0			29.0		
Change Period (Y+Rc), s	7.0			7.5			7.0			7.5		
Max Green Setting (Gmax), s	44.0			21.5			44.0			21.5		
Max Q Clear Time (g_c+l1), s	46.0			23.5			46.0			23.5		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 7th Control Delay, s/veh	252.1											
HCM 7th LOS	F											

2050 No Build AM Peak Hour

Synchro 12 Report

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Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	77	2	194	12	0	4	227	1486	28	8	1322	118
Future Vol, veh/h	77	2	194	12	0	4	227	1486	28	8	1322	118
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	99	99	99	99	99	99	99	99	99	99	99	99
Heavy Vehicles, %	0	0	0	10	0	0	0	4	0	0	4	0
Mvmt Flow	78	2	196	12	0	4	229	1501	28	8	1335	119

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	3371	3399	1395	3326	3444	1515	1455	0	0	1529	0	0
Stage 1	1411	1411	-	1974	1974	-	-	-	-	-	-	-
Stage 2	1960	1988	-	1353	1471	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 5	8	~ 175	~ 4	7	149	471	-	-	441	-	-
Stage 1	173	206	-	77	109	-	-	-	-	-	-	-
Stage 2	83	107	-	178	193	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	0	~ 175	-	0	149	471	-	-	441	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	155	185	-	77	0	-	-	-	-	-	-	-
Stage 2	81	0	-	-	173	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v			2.56	0.07
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	~ 69	-	-	-	10	-	-
HCM Lane V/C Ratio	0.487	-	-	-	0.018	-	-
HCM Ctrl Dly (s/v)	19.7	0	-	-	13.3	0	-
HCM Lane LOS	C	A	-	-	B	A	-
HCM 95th %tile Q(veh)	2.6	-	-	-	0.1	-	-

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

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2050 No Build AM Peak Hour

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	1369	187	243	1562	178	223	8	298	198	17	108
Future Volume (veh/h)	110	1369	187	243	1562	178	223	8	298	198	17	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1939	1879	1894	1805	1835	1598	1864	1894	1850	1894	1939	1939
Adj Flow Rate, veh/h	122	1521	208	270	1736	198	248	9	331	220	19	120
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	4	3	6	4	20	2	0	3	3	0	0
Cap, veh/h	101	928	127	101	927	106	197	5	167	221	12	76
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	238	1618	221	271	1617	184	639	23	853	713	62	389
Grp Volume(v), veh/h	122	0	1729	270	0	1934	588	0	0	359	0	0
Grp Sat Flow(s),veh/h/ln	238	0	1839	271	0	1802	1516	0	0	1163	0	0
Q Serve(g_s), s	0.0	0.0	41.0	0.0	0.0	41.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	41.0	0.0	41.0	41.0	0.0	41.0	14.0	0.0	0.0	14.0	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.10	0.42		0.56	0.61		0.33
Lane Grp Cap(c), veh/h	101	0	1055	101	0	1033	368	0	0	309	0	0
V/C Ratio(X)	1.21	0.00	1.64	2.68	0.00	1.87	1.60	0.00	0.00	1.16	0.00	0.00
Avail Cap(c_a), veh/h	101	0	1055	101	0	1033	368	0	0	309	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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.7	0.0	15.3	35.7	0.0	15.3	30.1	0.0	0.0	30.6	0.0	0.0
Incr Delay (d2), s/veh	157.2	0.0	291.9	784.1	0.0	396.1	280.6	0.0	0.0	102.6	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	6.0	0.0	96.6	23.6	0.0	125.6	34.7	0.0	0.0	14.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	192.9	0.0	307.2	819.8	0.0	411.4	310.7	0.0	0.0	133.2	0.0	0.0
LnGrp LOS	F		F	F		F	F			F		
Approach Vol, veh/h	1851			2204			588			359		
Approach Delay, s/veh	299.7			461.4			310.7			133.2		
Approach LOS	F			F			F			F		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	49.5			22.0			49.5			22.0		
Change Period (Y+Rc), s	8.5			8.0			8.5			8.0		
Max Green Setting (Gmax), s	41.0			14.0			41.0			14.0		
Max Q Clear Time (g_c+l1), s	43.0			16.0			43.0			16.0		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 7th Control Delay, s/veh	360.3											
HCM 7th LOS	F											

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2050 No Build AM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1561	206	211	1688	118	198	2	130	118	7	113
Future Volume (veh/h)	117	1561	206	211	1688	118	198	2	130	118	7	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1850	1850	1820	1805	1894	1743	1921	1875	2057	2057	2057
Adj Flow Rate, veh/h	123	1643	0	222	1777	124	208	2	0	124	7	119
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, %	0	3	3	5	6	0	7	0	3	0	0	0
Cap, veh/h	143	1740		203	2049	141	351	2		253	26	185
Arrive On Green	0.50	0.50	0.00	0.05	0.63	0.63	0.20	0.20	0.00	0.20	0.20	0.20
Sat Flow, veh/h	240	3514	1568	1733	3255	225	1241	12	1589	881	130	919
Grp Volume(v), veh/h	123	1643	0	222	927	974	210	0	0	250	0	0
Grp Sat Flow(s),veh/h/ln	240	1757	1568	1733	1715	1765	1253	0	1589	1931	0	0
Q Serve(g_s), s	12.2	31.3	0.0	3.5	30.8	32.3	3.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	35.0	31.3	0.0	3.5	30.8	32.3	11.5	0.0	0.0	8.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.13	0.99		1.00	0.50		0.48
Lane Grp Cap(c), veh/h	143	1740		203	1079	1111	353	0		464	0	0
V/C Ratio(X)	0.86	0.94		1.09	0.86	0.88	0.59	0.00		0.54	0.00	0.00
Avail Cap(c_a), veh/h	143	1740		203	1079	1111	681	0		880	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	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.3	16.9	0.0	18.8	10.6	10.8	27.3	0.0	0.0	25.8	0.0	0.0
Incr Delay (d2), s/veh	44.6	11.9	0.0	90.4	7.7	8.7	1.6	0.0	0.0	1.0	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	3.8	12.7	0.0	6.7	9.8	10.8	3.4	0.0	0.0	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	77.9	28.8	0.0	109.2	18.2	19.5	28.9	0.0	0.0	26.8	0.0	0.0
LnGrp LOS	E	C		F	B	B	C			C		
Approach Vol, veh/h	1766				2123				210		250	
Approach Delay, s/veh	32.2				28.3				28.9		26.8	
Approach LOS	C				C				C		C	
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	9.5	41.0	20.2		50.5		20.2					
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0		6.0					
Max Green Setting (Gmax), s	3.5	35.0	32.0		44.5		32.0					
Max Q Clear Time (g_c+I1), s	5.5	37.0	13.5		34.3		10.1					
Green Ext Time (p_c), s	0.0	0.0	0.7		9.0		0.9					
Intersection Summary												
HCM 7th Control Delay, s/veh			29.9									
HCM 7th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2050 No Build AM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	1413	280	133	1352	192	228	11	138	186	13	54
Future Volume (veh/h)	239	1413	280	133	1352	192	228	11	138	186	13	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2057	2027	1997	1717	1717	1878	1856	1737	1930	2136	2081	2221
Adj Flow Rate, veh/h	257	1519	0	143	1454	0	245	12	0	200	14	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	4	6	6	0	3	11	3	0	9	0
Cap, veh/h	308	1160		263	960		350	178		210	215	
Arrive On Green	0.10	0.30	0.00	0.10	0.29	0.00	0.10	0.10	0.00	0.10	0.10	0.00
Sat Flow, veh/h	1959	3852	1693	1635	3262	1592	3428	1737	1635	2034	2081	1883
Grp Volume(v), veh/h	257	1519	0	143	1454	0	245	12	0	200	14	0
Grp Sat Flow(s),veh/h/ln	1959	1926	1693	1635	1631	1592	1714	1737	1635	2034	2081	1883
Q Serve(g_s), s	6.2	20.5	0.0	4.0	20.0	0.0	4.7	0.4	0.0	6.6	0.4	0.0
Cycle Q Clear(g_c), s	6.2	20.5	0.0	4.0	20.0	0.0	4.7	0.4	0.0	6.6	0.4	0.0
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	308	1160		263	960		350	178		210	215	
V/C Ratio(X)	0.84	1.31		0.54	1.51		0.70	0.07		0.95	0.07	
Avail Cap(c_a), veh/h	308	1160		274	960		353	613		210	735	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.1	23.7	0.0	16.8	24.0	0.0	29.5	27.6	0.0	30.3	27.5	0.0
Incr Delay (d2), s/veh	17.7	145.4	0.0	2.0	237.0	0.0	6.0	0.2	0.0	49.2	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	3.8	31.4	0.0	1.4	38.2	0.0	2.1	0.2	0.0	6.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.9	169.2	0.0	18.8	260.9	0.0	35.5	27.7	0.0	79.5	27.6	0.0
LnGrp LOS	C	F		B	F		D	C		E	C	
Approach Vol, veh/h	1776			1597			257			214		
Approach Delay, s/veh	149.7			239.3			35.1			76.1		
Approach LOS	F			F			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	27.5	13.5	13.5	14.0	27.0	13.4	13.5				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	7.0	20.0	7.0	24.0	7.0	20.0	7.0	24.0				
Max Q Clear Time (g_c+I1), s	6.0	22.5	8.6	2.4	8.2	22.0	6.7	2.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 7th Control Delay, s/veh 175.2
HCM 7th LOS F

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

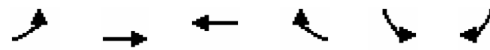
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2050 No Build AM Peak Hour
06/16/2026

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↖
Traffic Volume (veh/h)	1424	190	95	1352	196	121
Future Volume (veh/h)	1424	190	95	1352	196	121
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1832	1876	1864	1864	1761	1878
Adj Flow Rate, veh/h	1531	204	102	1454	211	130
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	0	5	5	3	0
Cap, veh/h	0	0	719	19	673	638
Arrive On Green	0.00	0.00	0.00	0.00	0.40	0.40
Sat Flow, veh/h	-94984	-12656	278	1864	1677	1592
Grp Volume(v), veh/h	0	1735	102	1454	211	130
Grp Sat Flow(s),veh/h/ln	0	-107641	278	1864	1677	1592
Q Serve(g_s), s	0.0	0.1	0.0	0.1	0.9	0.5
Cycle Q Clear(g_c), s	0.0	0.1	0.1	0.1	0.9	0.5
Prop In Lane		0.12	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	-1075	719	19	673	638
V/C Ratio(X)	0.00	0.00	0.14	78.12	0.31	0.20
Avail Cap(c_a), veh/h	0	-311638	1690	5397	3684	3496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	5.1	5.0	2.1	2.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	34763.4	0.3	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	0.0	0.0	0.0	179.7	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	0.0	5.3	34768.4	2.3	2.1
LnGrp LOS			A	F	A	A
Approach Vol, veh/h	1735			1556	341	
Approach Delay, s/veh	0.0			32489.6	2.2	
Approach LOS	A			F	A	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	0.0		0.0		10.0	
Change Period (Y+Rc), s	6.0		6.0		6.0	
Max Green Setting (Gmax), s	29.0		29.0		22.0	
Max Q Clear Time (g_c+l1), s	0.0		0.0		2.9	
Green Ext Time (p_c), s	0.0		0.0		1.2	
Intersection Summary						
HCM 7th Control Delay, s/veh	13919.2					
HCM 7th LOS	F					

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2050 No Build AM Peak Hour
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑	↑	↔	↔↔	↔
Traffic Volume (veh/h)	475	1069	1049	251	207	516
Future Volume (veh/h)	475	1069	1049	251	207	516
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1909	1894	1850	1924	2042	1980
Adj Flow Rate, veh/h	490	1102	1081	0	213	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	3	3	1	5
Cap, veh/h	207	1237	864		384	
Arrive On Green	0.06	0.65	0.47	0.00	0.10	0.00
Sat Flow, veh/h	3528	1894	1850	1630	3773	1678
Grp Volume(v), veh/h	490	1102	1081	0	213	0
Grp Sat Flow(s), veh/h/ln	1764	1894	1850	1630	1887	1678
Q Serve(g_s), s	3.0	24.6	23.8	0.0	2.7	0.0
Cycle Q Clear(g_c), s	3.0	24.6	23.8	0.0	2.7	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	207	1237	864		384	
V/C Ratio(X)	2.36	0.89	1.25		0.56	
Avail Cap(c_a), veh/h	207	1319	943		1702	
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	0.00
Uniform Delay (d), s/veh	24.0	7.3	13.6	0.0	21.8	0.0
Incr Delay (d2), s/veh	627.3	8.7	122.7	0.0	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	19.2	6.5	35.9	0.0	1.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	651.3	16.1	136.3	0.0	22.3	0.0
LnGrp LOS	F	B	F		C	
Approach Vol, veh/h		1592	1081		213	
Approach Delay, s/veh		211.6	136.3		22.3	
Approach LOS		F	F		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.8		11.2	9.5	30.3
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		35.5		23.0	3.0	26.0
Max Q Clear Time (g_c+l1), s		26.6		4.7	5.0	0.0
Green Ext Time (p_c), s		6.7		0.4	0.0	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			169.4			
HCM 7th LOS			F			
Notes						
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 7th Signalized Intersection Summary

2050 No Build PM Peak Hour

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	68	465	252	87	104	463	1639	221	118	1733	132
Future Volume (veh/h)	118	68	465	252	87	104	463	1639	221	118	1733	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1876	1847	1847	1939	1939	1879	1864	1864	1894	1949	1964	1979
Adj Flow Rate, veh/h	120	69	474	257	89	106	472	1672	226	120	1768	135
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	0	0	4	2	2	0	2	1	0
Cap, veh/h	124	54	313	184	39	47	90	884	120	90	991	76
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	262	202	1165	421	146	174	236	1608	217	248	1801	138
Grp Volume(v), veh/h	663	0	0	452	0	0	472	0	1898	120	0	1903
Grp Sat Flow(s),veh/h/ln	1630	0	0	740	0	0	236	0	1825	248	0	1939
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	0.0	0.0	44.0
Cycle Q Clear(g_c), s	21.5	0.0	0.0	21.5	0.0	0.0	44.0	0.0	44.0	44.0	0.0	44.0
Prop In Lane	0.18		0.71	0.57		0.23	1.00		0.12	1.00		0.07
Lane Grp Cap(c), veh/h	491	0	0	270	0	0	90	0	1004	90	0	1066
V/C Ratio(X)	1.35	0.00	0.00	1.68	0.00	0.00	5.24	0.00	1.89	1.33	0.00	1.78
Avail Cap(c_a), veh/h	491	0	0	270	0	0	90	0	1004	90	0	1066
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	1.00
Uniform Delay (d), s/veh	30.4	0.0	0.0	32.1	0.0	0.0	40.0	0.0	18.0	40.0	0.0	18.0
Incr Delay (d2), s/veh	170.5	0.0	0.0	320.3	0.0	0.0	1934.4	0.0	404.5	207.8	0.0	356.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.2	0.0	0.0	29.1	0.0	0.0	50.1	0.0	127.7	6.9	0.0	121.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	200.9	0.0	0.0	352.4	0.0	0.0	1974.4	0.0	422.5	247.8	0.0	374.8
LnGrp LOS	F			F			F			F		
Approach Vol, veh/h	663			452			2370			2023		
Approach Delay, s/veh	200.9			352.4			731.6			367.3		
Approach LOS	F			F			F			F		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	51.0			29.0			51.0			29.0		
Change Period (Y+Rc), s	7.0			7.5			7.0			7.5		
Max Green Setting (Gmax), s	44.0			21.5			44.0			21.5		
Max Q Clear Time (g_c+I1), s	46.0			23.5			46.0			23.5		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 7th Control Delay, s/veh	502.8											
HCM 7th LOS	F											

2050 No Build PM Peak Hour

Synchro 12 Report

Page 1

Intersection												
Int Delay, s/veh	17.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	103	0	284	15	5	4	298	2007	33	6	2207	150
Future Vol, veh/h	103	0	284	15	5	4	298	2007	33	6	2207	150
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	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	2	7	20	1	0
Mvmt Flow	105	0	290	15	5	4	304	2048	34	6	2252	153

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	4999	5031	2329	4937	5090	2065	2405	0	0	2082	0	0
Stage 1	2341	2341	-	2673	2673	-	-	-	-	-	-	-
Stage 2	2659	2690	-	2264	2417	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.3	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.38	-	-
Pot Cap-1 Maneuver	~ 0	1	~ 48	~ 0	~ 1	69	~ 202	-	-	232	-	-
Stage 1	~ 49	71	-	31	47	-	-	-	-	-	-	-
Stage 2	~ 32	47	-	55	65	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	0	~ 48	-	0	69	~ 202	-	-	232	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	~ 49	71	-	31	0	-	-	-	-	-	-	-
Stage 2	~ 30	0	-	-	65	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v			37.62	0.05
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	~ 202	-	-	-	~ 5	-	-
HCM Lane V/C Ratio	1.506	-	-	-	0.026	-	-
HCM Ctrl Dly (s/v)	295.1	0	-	-	21	0	-
HCM Lane LOS	F	A	-	-	C	A	-
HCM 95th %tile Q(veh)	18.8	-	-	-	0.1	-	-

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

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2050 No Build PM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	2444	292	373	2340	291	256	43	339	220	14	113
Future Volume (veh/h)	124	2444	292	373	2340	291	256	43	339	220	14	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1834	1924	1894	1894	1879	1879	1805	1894	1850	1939	1939	1939
Adj Flow Rate, veh/h	133	2628	314	401	2516	313	275	46	365	237	15	122
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	1	3	0	1	1	6	0	3	0	0	0
Cap, veh/h	101	967	116	101	940	117	192	20	162	221	9	72
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	93	1687	202	85	1639	204	623	104	827	710	45	365
Grp Volume(v), veh/h	133	0	2942	401	0	2829	686	0	0	374	0	0
Grp Sat Flow(s),veh/h/ln	93	0	1888	85	0	1843	1554	0	0	1120	0	0
Q Serve(g_s), s	0.0	0.0	41.0	0.0	0.0	41.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	41.0	0.0	41.0	41.0	0.0	41.0	14.0	0.0	0.0	14.0	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.11	0.40		0.53	0.63		0.33
Lane Grp Cap(c), veh/h	101	0	1083	101	0	1057	375	0	0	302	0	0
V/C Ratio(X)	1.32	0.00	2.72	3.98	0.00	2.68	1.83	0.00	0.00	1.24	0.00	0.00
Avail Cap(c_a), veh/h	101	0	1083	101	0	1057	375	0	0	302	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	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.8	0.0	15.3	35.7	0.0	15.3	30.1	0.0	0.0	30.7	0.0	0.0
Incr Delay (d2), s/veh	198.0	0.0	775.4	1365.4	0.0	757.6	384.0	0.0	0.0	133.1	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	7.1	0.0	244.5	39.8	0.0	234.5	46.1	0.0	0.0	16.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	233.7	0.0	790.7	1401.2	0.0	772.8	414.1	0.0	0.0	163.8	0.0	0.0
LnGrp LOS	F		F	F		F	F			F		
Approach Vol, veh/h	3075			3230			686			374		
Approach Delay, s/veh	766.6			850.8			414.1			163.8		
Approach LOS	F			F			F			F		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	49.5			22.0			49.5			22.0		
Change Period (Y+Rc), s	8.5			8.0			8.5			8.0		
Max Green Setting (Gmax), s	41.0			14.0			41.0			14.0		
Max Q Clear Time (g_c+l1), s	43.0			16.0			43.0			16.0		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.0		
Intersection Summary												
HCM 7th Control Delay, s/veh	740.1											
HCM 7th LOS	F											

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2050 No Build PM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	2601	306	386	2631	107	354	24	193	129	23	116
Future Volume (veh/h)	107	2601	306	386	2631	107	354	24	193	129	23	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1879	1879	1879	1879	1894	1832	1921	1921	2057	2057	2057
Adj Flow Rate, veh/h	115	2797	0	415	2829	115	381	26	0	139	25	125
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	1	1	0	1	0	0	0	0	0
Cap, veh/h	83	1446		156	1801	73	485	28		365	82	293
Arrive On Green	0.41	0.41	0.00	0.04	0.51	0.51	0.35	0.35	0.00	0.35	0.35	0.35
Sat Flow, veh/h	85	3571	1593	1790	3498	141	1169	80	1628	875	236	847
Grp Volume(v), veh/h	115	2797	0	415	1434	1510	407	0	0	289	0	0
Grp Sat Flow(s),veh/h/ln	85	1785	1593	1790	1785	1854	1249	0	1628	1958	0	0
Q Serve(g_s), s	0.0	35.0	0.0	3.5	44.5	44.5	17.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	35.0	35.0	0.0	3.5	44.5	44.5	27.5	0.0	0.0	9.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.08	0.94		1.00	0.48		0.43
Lane Grp Cap(c), veh/h	83	1446		156	919	955	513	0		739	0	0
V/C Ratio(X)	1.38	1.93		2.66	1.56	1.58	0.79	0.00		0.39	0.00	0.00
Avail Cap(c_a), veh/h	83	1446		156	919	955	544	0		779	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	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.2	25.7	0.0	25.2	21.0	21.0	27.8	0.0	0.0	21.7	0.0	0.0
Incr Delay (d2), s/veh	229.6	422.9	0.0	766.6	257.4	266.7	7.5	0.0	0.0	0.3	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	7.0	98.0	0.0	34.7	81.1	86.7	8.9	0.0	0.0	4.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	272.8	448.6	0.0	791.8	278.3	287.6	35.3	0.0	0.0	22.0	0.0	0.0
LnGrp LOS	F	F		F	F	F	D			C		
Approach Vol, veh/h	2912			3359			407			289		
Approach Delay, s/veh	441.6			345.9			35.3			22.0		
Approach LOS	F			F			D			C		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.5	41.0		35.9		50.5		35.9				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	3.5	35.0		32.0		44.5		32.0				
Max Q Clear Time (g_c+I1), s	5.5	37.0		29.5		46.5		11.7				
Green Ext Time (p_c), s	0.0	0.0		0.5		0.0		1.0				

Intersection Summary

HCM 7th Control Delay, s/veh 354.4
HCM 7th LOS F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2050 No Build PM Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 					
Traffic Volume (veh/h)	363	2108	309	169	2235	270	385	21	223	268	15	348
Future Volume (veh/h)	363	2108	309	169	2235	270	385	21	223	268	15	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2057	2027	2012	1761	1776	1878	1870	1900	1961	2136	2221	2221
Adj Flow Rate, veh/h	378	2196	0	176	2328	0	401	22	0	279	16	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, %	0	2	3	3	2	0	2	0	1	0	0	0
Cap, veh/h	308	1147		272	993		356	196		209	229	
Arrive On Green	0.10	0.30	0.00	0.10	0.29	0.00	0.10	0.10	0.00	0.10	0.10	0.00
Sat Flow, veh/h	1959	3852	1705	1677	3375	1592	3456	1900	1662	2034	2221	1883
Grp Volume(v), veh/h	378	2196	0	176	2328	0	401	22	0	279	16	0
Grp Sat Flow(s),veh/h/ln	1959	1926	1705	1677	1687	1592	1728	1900	1662	2034	2221	1883
Q Serve(g_s), s	7.0	20.3	0.0	4.8	20.0	0.0	7.0	0.7	0.0	7.0	0.4	0.0
Cycle Q Clear(g_c), s	7.0	20.3	0.0	4.8	20.0	0.0	7.0	0.7	0.0	7.0	0.4	0.0
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	308	1147		272	993		356	196		209	229	
V/C Ratio(X)	1.23	1.91		0.65	2.35		1.13	0.11		1.33	0.07	
Avail Cap(c_a), veh/h	308	1147		279	993		356	671		209	784	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.6	23.9	0.0	16.9	24.0	0.0	30.5	27.7	0.0	30.5	27.6	0.0
Incr Delay (d2), s/veh	128.2	414.7	0.0	4.9	608.6	0.0	86.8	0.3	0.0	178.4	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	13.8	74.0	0.0	1.9	90.8	0.0	7.1	0.3	0.0	13.7	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	146.8	438.5	0.0	21.9	632.6	0.0	117.3	27.9	0.0	208.9	27.7	0.0
LnGrp LOS	F	F		C	F		F	C		F	C	
Approach Vol, veh/h	2574			2504			423			295		
Approach Delay, s/veh	395.7			589.7			112.7			199.1		
Approach LOS	F			F			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	27.3	13.5	13.5	14.0	27.0	13.5	13.5				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	7.0	20.0	7.0	24.0	7.0	20.0	7.0	24.0				
Max Q Clear Time (g_c+I1), s	6.8	22.3	9.0	2.7	9.0	22.0	9.0	2.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	448.8											
HCM 7th LOS	F											
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

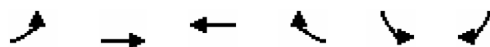
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2050 No Build PM Peak Hour
06/16/2026

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2174	231	158	2286	230	118
Future Volume (veh/h)	2174	231	158	2286	230	118
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1847	1876	1894	1894	1776	1801
Adj Flow Rate, veh/h	2218	236	161	2333	235	120
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	0	3	3	2	5
Cap, veh/h	0	0	708	19	694	626
Arrive On Green	0.00	0.00	0.00	0.00	0.41	0.41
Sat Flow, veh/h	-98447	-10475	139	1894	1692	1526
Grp Volume(v), veh/h	0	2454	161	2333	235	120
Grp Sat Flow(s),veh/h/ln	0	-108923	139	1894	1692	1526
Q Serve(g_s), s	0.0	0.1	0.0	0.1	1.0	0.5
Cycle Q Clear(g_c), s	0.0	0.1	0.1	0.1	1.0	0.5
Prop In Lane		0.10	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	-1071	708	19	694	626
V/C Ratio(X)	0.00	0.00	0.23	125.30	0.34	0.19
Avail Cap(c_a), veh/h	0	-310485	1187	5400	3658	3300
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	5.1	5.1	2.1	1.9
Incr Delay (d2), s/veh	0.0	0.0	0.4	55991.4	0.3	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	0.0	0.0	0.1	289.6	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	0.0	5.6	55996.5	2.3	2.1
LnGrp LOS			A	F	A	A
Approach Vol, veh/h	2454			2494	355	
Approach Delay, s/veh	0.0			52382.0	2.2	
Approach LOS	A			F	A	
Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	0.0				0.0	10.2
Change Period (Y+Rc), s	6.0				6.0	6.0
Max Green Setting (Gmax), s	29.0				29.0	22.0
Max Q Clear Time (g_c+I1), s	0.0				0.0	3.0
Green Ext Time (p_c), s	0.0				0.0	1.2
Intersection Summary						
HCM 7th Control Delay, s/veh			24635.4			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2050 No Build PM Peak Hour
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑	↑	↑	←←	↑
Traffic Volume (veh/h)	762	1592	1595	386	338	882
Future Volume (veh/h)	762	1592	1595	386	338	882
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1894	1909	1864	1924	2027	2011
Adj Flow Rate, veh/h	811	1694	1697	0	360	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	2	2	3	2	3
Cap, veh/h	188	1213	867		529	
Arrive On Green	0.05	0.64	0.47	0.00	0.14	0.00
Sat Flow, veh/h	3500	1909	1864	1630	3744	1704
Grp Volume(v), veh/h	811	1694	1697	0	360	0
Grp Sat Flow(s), veh/h/ln	1750	1909	1864	1630	1872	1704
Q Serve(g_s), s	3.0	35.5	26.0	0.0	5.1	0.0
Cycle Q Clear(g_c), s	3.0	35.5	26.0	0.0	5.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	188	1213	867		529	
V/C Ratio(X)	4.32	1.40	1.96		0.68	
Avail Cap(c_a), veh/h	188	1213	867		1541	
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	0.00
Uniform Delay (d), s/veh	26.4	10.2	14.9	0.0	22.8	0.0
Incr Delay (d2), s/veh	1505.2	183.7	434.7	0.0	0.6	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	40.4	68.9	112.4	0.0	2.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	1531.6	193.9	449.7	0.0	23.4	0.0
LnGrp LOS	F	F	F		C	
Approach Vol, veh/h		2505	1697		360	
Approach Delay, s/veh		627.0	449.7		23.4	
Approach LOS		F	F		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		42.0		13.9	9.5	32.5
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		35.5		23.0	3.0	26.0
Max Q Clear Time (g_c+I1), s		37.5		7.1	5.0	0.0
Green Ext Time (p_c), s		0.0		0.8	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	513.4
HCM 7th LOS	F

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary

2050 No Build SAT Peak Hour

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	55	54	129	112	51	75	127	865	76	68	729	60	
Future Volume (veh/h)	55	54	129	112	51	75	127	865	76	68	729	60	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Width 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	
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	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1876	1876	1832	1894	1939	1939	1894	1894	1835	1979	1979	1979	
Adj Flow Rate, veh/h	59	57	137	119	54	80	135	920	81	72	776	64	
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, %	0	0	3	3	0	0	0	0	4	0	0	0	
Cap, veh/h	119	99	186	192	80	93	286	1018	90	170	1069	88	
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.59	0.59	0.59	0.59	0.59	0.59	
Sat Flow, veh/h	279	466	880	572	377	439	663	1716	151	595	1803	149	
Grp Volume(v), veh/h	253	0	0	253	0	0	135	0	1001	72	0	840	
Grp Sat Flow(s),veh/h/ln	1625	0	0	1388	0	0	663	0	1867	595	0	1952	
Q Serve(g_s), s	0.0	0.0	0.0	2.6	0.0	0.0	13.6	0.0	34.9	9.0	0.0	22.8	
Cycle Q Clear(g_c), s	10.6	0.0	0.0	13.2	0.0	0.0	36.4	0.0	34.9	43.9	0.0	22.8	
Prop In Lane	0.23		0.54	0.47		0.32	1.00		0.08	1.00		0.08	
Lane Grp Cap(c), veh/h	404	0	0	365	0	0	286	0	1107	170	0	1158	
V/C Ratio(X)	0.63	0.00	0.00	0.69	0.00	0.00	0.47	0.00	0.90	0.42	0.00	0.73	
Avail Cap(c_a), veh/h	525	0	0	479	0	0	286	0	1107	170	0	1158	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	
Uniform Delay (d), s/veh	27.2	0.0	0.0	28.1	0.0	0.0	23.8	0.0	13.2	32.5	0.0	10.8	
Incr Delay (d2), s/veh	1.6	0.0	0.0	2.8	0.0	0.0	2.6	0.0	11.0	3.5	0.0	2.8	
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	4.3	0.0	0.0	2.1	0.0	14.3	1.4	0.0	8.4	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d), s/veh	28.8	0.0	0.0	31.0	0.0	0.0	26.3	0.0	24.2	36.0	0.0	13.6	
LnGrp LOS	C			C			C			C			B
Approach Vol, veh/h	253			253			1136			912			
Approach Delay, s/veh	28.8			31.0			24.5			15.4			
Approach LOS	C			C			C			B			
Timer - Assigned Phs	2			4			6			8			
Phs Duration (G+Y+Rc), s	51.0			23.2			51.0			23.2			
Change Period (Y+Rc), s	7.0			7.5			7.0			7.5			
Max Green Setting (Gmax), s	44.0			21.5			44.0			21.5			
Max Q Clear Time (g_c+l1), s	38.4			12.6			45.9			15.2			
Green Ext Time (p_c), s	4.3			0.6			0.0			0.5			
Intersection Summary													
HCM 7th Control Delay, s/veh	22.3												
HCM 7th LOS	C												

2050 No Build SAT Peak Hour

Synchro 12 Report

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Intersection												
Int Delay, s/veh	35.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	2	55	12	5	4	68	958	43	1	962	55
Future Vol, veh/h	40	2	55	12	5	4	68	958	43	1	962	55
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, %	0	0	0	0	0	0	0	0	8	0	1	0
Mvmt Flow	42	2	57	13	5	4	71	998	45	1	1002	57

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2175	2217	1031	2167	2223	1020	1059	0	0	1043	0	0
Stage 1	1033	1033	-	1162	1162	-	-	-	-	-	-	-
Stage 2	1142	1184	-	1005	1061	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 34	44	286	34	44	290	665	-	-	675	-	-
Stage 1	283	312	-	240	272	-	-	-	-	-	-	-
Stage 2	246	265	-	293	303	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 22	33	286	19	32	290	665	-	-	675	-	-
Mov Cap-2 Maneuver	~ 22	33	-	19	32	-	-	-	-	-	-	-
Stage 1	282	311	-	178	202	-	-	-	-	-	-	-
Stage 2	176	197	-	232	302	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	\$ 733.32	\$ 326.11	0.7	0.01
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	114	-	-	46 27	2	-	-
HCM Lane V/C Ratio	0.106	-	-	2.184 0.82	0.002	-	-
HCM Ctrl Dly (s/v)	11.1	0	-	\$ 733.3 \$ 326.1	10.3	0	-
HCM Lane LOS	B	A	-	F F	B	A	-
HCM 95th %tile Q(veh)	0.4	-	-	10.5 2.6	0	-	-

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

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2050 No Build SAT Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1095	113	200	1165	117	104	23	205	104	24	23
Future Volume (veh/h)	21	1095	113	200	1165	117	104	23	205	104	24	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1939	1939	1939	1894	1894	1894	1894	1894	1894	1939	1939	1639
Adj Flow Rate, veh/h	22	1141	118	208	1214	122	108	24	214	108	25	24
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, %	0	0	0	0	0	0	0	0	0	0	0	20
Cap, veh/h	101	991	102	101	971	98	156	34	201	210	49	31
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	425	1728	179	446	1693	170	460	171	1024	640	252	161
Grp Volume(v), veh/h	22	0	1259	208	0	1336	346	0	0	157	0	0
Grp Sat Flow(s),veh/h/ln	425	0	1907	446	0	1863	1656	0	0	1052	0	0
Q Serve(g_s), s	0.0	0.0	41.0	0.0	0.0	41.0	4.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	41.0	0.0	41.0	41.0	0.0	41.0	14.0	0.0	0.0	9.8	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.09	0.31		0.62	0.69		0.15
Lane Grp Cap(c), veh/h	101	0	1094	101	0	1069	390	0	0	291	0	0
V/C Ratio(X)	0.22	0.00	1.15	2.07	0.00	1.25	0.89	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	101	0	1094	101	0	1069	390	0	0	291	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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.7	0.0	15.3	35.8	0.0	15.3	29.1	0.0	0.0	26.7	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	78.9	512.0	0.0	120.5	21.0	0.0	0.0	2.0	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	0.4	0.0	35.4	16.0	0.0	48.0	7.7	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.3	0.0	94.1	547.7	0.0	135.7	50.1	0.0	0.0	28.7	0.0	0.0
LnGrp LOS	D		F		F	F		D	C			
Approach Vol, veh/h	1281			1544			346			157		
Approach Delay, s/veh	93.1			191.2			50.1			28.7		
Approach LOS	F			F			D			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	49.5			22.0			49.5			22.0		
Change Period (Y+Rc), s	8.5			8.0			8.5			8.0		
Max Green Setting (Gmax), s	41.0			14.0			41.0			14.0		
Max Q Clear Time (g_c+l1), s	43.0			16.0			43.0			11.8		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.1		
Intersection Summary												
HCM 7th Control Delay, s/veh	131.1											
HCM 7th LOS	F											

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2050 No Build SAT Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1260	186	279	1275	18	236	20	124	18	13	20
Future Volume (veh/h)	19	1260	186	279	1275	18	236	20	124	18	13	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1894	1879	1894	1894	1894	1847	1921	1921	2057	2057	2057
Adj Flow Rate, veh/h	20	1312	0	291	1328	19	246	21	0	19	14	21
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, %	0	0	1	0	0	0	0	0	0	0	0	0
Cap, veh/h	266	1759		272	2257	32	385	25		178	139	158
Arrive On Green	0.49	0.49	0.00	0.05	0.62	0.62	0.21	0.21	0.00	0.21	0.21	0.21
Sat Flow, veh/h	410	3599	1593	1804	3632	52	1367	117	1628	520	659	751
Grp Volume(v), veh/h	20	1312	0	291	658	689	267	0	0	54	0	0
Grp Sat Flow(s),veh/h/ln	410	1799	1593	1804	1799	1885	1483	0	1628	1931	0	0
Q Serve(g_s), s	2.2	21.0	0.0	3.5	15.6	15.6	10.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.3	21.0	0.0	3.5	15.6	15.6	12.3	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.03	0.92		1.00	0.35		0.39
Lane Grp Cap(c), veh/h	266	1759		272	1118	1171	409	0		475	0	0
V/C Ratio(X)	0.08	0.75		1.07	0.59	0.59	0.65	0.00		0.11	0.00	0.00
Avail Cap(c_a), veh/h	266	1759		272	1118	1171	749	0		883	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	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.4	14.7	0.0	21.1	8.1	8.1	27.0	0.0	0.0	22.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	2.9	0.0	74.7	1.3	1.2	1.8	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	0.2	7.5	0.0	8.3	4.5	4.7	4.4	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.0	17.6	0.0	95.8	9.4	9.3	28.7	0.0	0.0	23.0	0.0	0.0
LnGrp LOS	B	B		F	A	A	C			C		
Approach Vol, veh/h	1332			1638			267			54		
Approach Delay, s/veh	17.6			24.7			28.7			23.0		
Approach LOS	B			C			C			C		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.5	41.0		21.1		50.5		21.1				
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	3.5	35.0		32.0		44.5		32.0				
Max Q Clear Time (g_c+I1), s	5.5	23.0		14.3		17.6		3.6				
Green Ext Time (p_c), s	0.0	8.3		0.8		13.7		0.1				

Intersection Summary

HCM 7th Control Delay, s/veh	22.1
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2050 No Build SAT Peak Hour
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 				 	
Traffic Volume (veh/h)	245	1093	145	68	1175	177	154	15	94	197	18	206
Future Volume (veh/h)	245	1093	145	68	1175	177	154	15	94	197	18	206
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2042	2057	2057	1761	1806	1863	1900	1678	1976	2136	2018	2206
Adj Flow Rate, veh/h	247	1104	0	69	1187	0	156	15	0	199	18	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	0	0	3	0	1	0	15	0	0	13	1
Cap, veh/h	307	1263		259	1012		343	168		210	214	
Arrive On Green	0.10	0.32	0.00	0.08	0.29	0.00	0.10	0.10	0.00	0.10	0.11	0.00
Sat Flow, veh/h	1945	3909	1743	1677	3431	1578	3510	1678	1675	2034	2018	1869
Grp Volume(v), veh/h	247	1104	0	69	1187	0	156	15	0	199	18	0
Grp Sat Flow(s),veh/h/ln	1945	1954	1743	1677	1715	1578	1755	1678	1675	2034	2018	1869
Q Serve(g_s), s	5.9	18.1	0.0	1.8	20.0	0.0	2.8	0.6	0.0	6.6	0.5	0.0
Cycle Q Clear(g_c), s	5.9	18.1	0.0	1.8	20.0	0.0	2.8	0.6	0.0	6.6	0.5	0.0
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	307	1263		259	1012		343	168		210	214	
V/C Ratio(X)	0.80	0.87		0.27	1.17		0.45	0.09		0.95	0.08	
Avail Cap(c_a), veh/h	307	1263		307	1012		362	594		210	714	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.0	21.6	0.0	16.3	23.9	0.0	28.9	27.7	0.0	30.2	27.4	0.0
Incr Delay (d2), s/veh	14.4	7.5	0.0	0.5	88.4	0.0	0.9	0.2	0.0	47.3	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	8.4	0.0	0.6	19.4	0.0	1.2	0.2	0.0	5.8	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.4	29.2	0.0	16.8	112.3	0.0	29.8	27.9	0.0	77.5	27.5	0.0
LnGrp LOS	C	C		B	F		C	C		E	C	
Approach Vol, veh/h	1351			1256			171			217		
Approach Delay, s/veh	29.6			107.1			29.7			73.4		
Approach LOS	C			F			C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	28.9	13.5	13.3	14.0	27.0	13.1	13.7				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	7.0	20.0	7.0	24.0	7.0	20.0	7.0	24.0				
Max Q Clear Time (g_c+I1), s	3.8	20.1	8.6	2.6	7.9	22.0	4.8	2.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0				

Intersection Summary

HCM 7th Control Delay, s/veh 65.3
HCM 7th LOS E

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

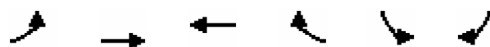
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2050 No Build SAT Peak Hour
06/16/2026

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1156	74	56	1237	67	58
Future Volume (veh/h)	1156	74	56	1237	67	58
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1876	1847	1939	1939	1761	1878
Adj Flow Rate, veh/h	1180	76	57	1262	68	59
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	2	0	0	3	0
Cap, veh/h	0	0	1087	29	158	150
Arrive On Green	0.00	0.00	0.00	0.00	0.09	0.09
Sat Flow, veh/h	-104634	-6739	458	1939	1677	1592
Grp Volume(v), veh/h	0	1256	57	1262	68	59
Grp Sat Flow(s),veh/h/ln	0	-111373	458	1939	1677	1592
Q Serve(g_s), s	0.0	0.1	0.0	0.1	0.3	0.2
Cycle Q Clear(g_c), s	0.0	0.1	0.1	0.1	0.3	0.2
Prop In Lane		0.06	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	-1681	1087	29	158	150
V/C Ratio(X)	0.00	0.00	0.05	43.11	0.43	0.39
Avail Cap(c_a), veh/h	0	-487502	3508	8489	5570	5285
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	3.4	3.3	2.8	2.8
Incr Delay (d2), s/veh	0.0	0.0	0.1	18988.4	1.8	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	154.4	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	0.0	3.4	18991.7	4.7	4.5
LnGrp LOS			A	F	A	A
Approach Vol, veh/h	1256			1319	127	
Approach Delay, s/veh	0.0			18171.1	4.6	
Approach LOS	A			F	A	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	0.0		0.0		6.6	
Change Period (Y+Rc), s	6.0		6.0		6.0	
Max Green Setting (Gmax), s	29.0		29.0		22.0	
Max Q Clear Time (g_c+l1), s	0.0		0.0		2.3	
Green Ext Time (p_c), s	0.0		0.0		0.4	
Intersection Summary						
HCM 7th Control Delay, s/veh			8870.6			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2050 No Build SAT Peak Hour
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑	↑	↑	←←	↑
Traffic Volume (veh/h)	398	735	714	266	220	474
Future Volume (veh/h)	398	735	714	266	220	474
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1909	1894	1850	1924	2042	1980
Adj Flow Rate, veh/h	410	758	736	0	227	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	3	3	1	5
Cap, veh/h	272	1057	580		454	
Arrive On Green	0.08	0.56	0.31	0.00	0.12	0.00
Sat Flow, veh/h	3528	1894	1850	1630	3773	1678
Grp Volume(v), veh/h	410	758	736	0	227	0
Grp Sat Flow(s), veh/h/ln	1764	1894	1850	1630	1887	1678
Q Serve(g_s), s	3.0	11.5	12.2	0.0	2.2	0.0
Cycle Q Clear(g_c), s	3.0	11.5	12.2	0.0	2.2	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	272	1057	580		454	
V/C Ratio(X)	1.50	0.72	1.27		0.50	
Avail Cap(c_a), veh/h	272	1732	1238		2235	
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	0.00
Uniform Delay (d), s/veh	17.9	6.3	13.3	0.0	16.0	0.0
Incr Delay (d2), s/veh	245.3	2.5	130.7	0.0	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	10.2	2.3	24.3	0.0	0.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	263.2	8.9	144.0	0.0	16.3	0.0
LnGrp LOS	F	A	F		B	
Approach Vol, veh/h		1168	736		227	
Approach Delay, s/veh		98.1	144.0		16.3	
Approach LOS		F	F		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		28.2		10.7	9.5	18.7
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		35.5		23.0	3.0	26.0
Max Q Clear Time (g_c+I1), s		13.5		4.2	5.0	0.0
Green Ext Time (p_c), s		8.2		0.5	0.0	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			105.3			
HCM 7th LOS			F			
Notes						
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 7th Signalized Intersection Summary

2050 Build AM Peak Hour (5 Lane)

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	56	320	239	67	105	318	1093	186	61	938	86
Future Volume (veh/h)	89	56	320	239	67	105	318	1093	186	61	938	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1817	1876	1876	1894	1939	1894	1776	1790	1790	1979	1919	1979
Adj Flow Rate, veh/h	94	59	337	252	71	111	335	1151	196	64	987	91
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, %	4	0	0	3	0	3	8	7	7	0	4	0
Cap, veh/h	391	381	571	372	397	403	370	1399	716	220	1099	604
Arrive On Green	0.06	0.20	0.20	0.06	0.20	0.20	0.16	0.41	0.41	0.05	0.30	0.30
Sat Flow, veh/h	1731	1876	1590	1804	1939	1605	1691	3402	1517	1884	3645	1677
Grp Volume(v), veh/h	94	59	337	252	71	111	335	1151	196	64	987	91
Grp Sat Flow(s),veh/h/ln	1731	1876	1590	1804	1939	1605	1691	1701	1517	1884	1823	1677
Q Serve(g_s), s	3.6	2.2	14.5	5.1	2.5	4.7	11.0	25.4	6.6	1.9	21.8	3.1
Cycle Q Clear(g_c), s	3.6	2.2	14.5	5.1	2.5	4.7	11.0	25.4	6.6	1.9	21.8	3.1
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	391	381	571	372	397	403	370	1399	716	220	1099	604
V/C Ratio(X)	0.24	0.15	0.59	0.68	0.18	0.28	0.91	0.82	0.27	0.29	0.90	0.15
Avail Cap(c_a), veh/h	394	470	646	372	486	476	393	1425	728	245	1125	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(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	24.3	27.6	22.0	28.6	27.6	25.4	18.9	22.1	13.5	20.4	28.2	18.2
Incr Delay (d2), s/veh	0.3	0.2	1.1	4.8	0.2	0.4	23.2	4.5	0.4	0.7	10.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.9	5.2	2.4	1.1	1.7	6.1	9.9	2.1	0.8	10.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.6	27.8	23.1	33.5	27.9	25.8	42.1	26.5	13.9	21.1	38.4	18.5
LnGrp LOS	C	C	C	C	C	C	D	C	B	C	D	B
Approach Vol, veh/h	490			434			1682			1142		
Approach Delay, s/veh	23.9			30.6			28.2			35.9		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	41.6	9.6	24.6	17.6	32.4	9.5	24.8				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.5	4.5	7.0	4.5	7.5				
Max Green Setting (Gmax), s	5.0	35.3	5.1	21.1	14.3	26.0	5.1	21.1				
Max Q Clear Time (g_c+I1), s	3.9	27.4	7.1	16.5	13.0	23.8	5.6	6.7				
Green Ext Time (p_c), s	0.0	5.8	0.0	0.6	0.2	1.6	0.0	0.4				
Intersection Summary												
HCM 7th Control Delay, s/veh	30.2											
HCM 7th LOS	C											

2050 Build AM Peak Hour (5 Lane)

Synchro 12 Report

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HCM 7th Signalized Intersection Summary
2: PA 611 & Stadden Rd./Learn Rd.

2050 Build AM Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	2	194	12	0	4	227	1486	28	8	1322	118
Future Volume (veh/h)	77	2	194	12	0	4	227	1486	28	8	1322	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1752	1900	1900	1900	1841	1900	1900	1841	1900
Adj Flow Rate, veh/h	78	2	196	12	0	4	229	1501	28	8	1335	119
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	10	0	0	0	4	0	0	4	0
Cap, veh/h	369	3	250	172	0	185	324	1952	36	201	1666	858
Arrive On Green	0.06	0.16	0.16	0.01	0.00	0.11	0.09	0.56	0.56	0.01	0.48	0.48
Sat Flow, veh/h	1810	16	1596	1668	0	1610	1810	3512	65	1810	3497	1610
Grp Volume(v), veh/h	78	0	198	12	0	4	229	747	782	8	1335	119
Grp Sat Flow(s),veh/h/ln	1810	0	1613	1668	0	1610	1810	1749	1829	1810	1749	1610
Q Serve(g_s), s	2.5	0.0	8.1	0.4	0.0	0.2	4.0	22.7	22.8	0.2	22.1	2.6
Cycle Q Clear(g_c), s	2.5	0.0	8.1	0.4	0.0	0.2	4.0	22.7	22.8	0.2	22.1	2.6
Prop In Lane	1.00		0.99	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	369	0	252	172	0	185	324	972	1016	201	1666	858
V/C Ratio(X)	0.21	0.00	0.79	0.07	0.00	0.02	0.71	0.77	0.77	0.04	0.80	0.14
Avail Cap(c_a), veh/h	401	0	426	269	0	423	413	1120	1172	314	2011	1017
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	24.3	0.0	27.8	26.3	0.0	26.9	13.9	11.8	11.8	11.3	15.2	8.1
Incr Delay (d2), s/veh	0.3	0.0	5.4	0.2	0.0	0.0	3.9	2.8	2.8	0.1	2.0	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	1.1	0.0	3.4	0.2	0.0	0.1	1.8	7.4	7.8	0.1	7.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.6	0.0	33.2	26.5	0.0	27.0	17.8	14.6	14.6	11.4	17.2	8.1
LnGrp LOS	C		C	C		C	B	B	B	B	B	A
Approach Vol, veh/h	276		16			1758			1462			
Approach Delay, s/veh	30.7		26.6			15.0			16.4			
Approach LOS	C		C			B			B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.2	42.6	5.5	15.2	10.6	37.1	8.4	12.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	43.9	5.0	18.1	9.5	39.4	5.1	18.0				
Max Q Clear Time (g_c+l1), s	2.2	24.8	2.4	10.1	6.0	24.1	4.5	2.2				
Green Ext Time (p_c), s	0.0	10.3	0.0	0.7	0.2	8.5	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			16.9									
HCM 7th LOS			B									

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2050 Build AM Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	1369	187	243	1562	178	223	8	298	198	17	108
Future Volume (veh/h)	110	1369	187	243	1562	178	223	8	298	198	17	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1939	1879	1894	1805	1835	1598	1864	1894	1850	1894	1939	1939
Adj Flow Rate, veh/h	122	1521	208	270	1736	198	248	9	331	220	19	120
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	4	3	6	4	20	2	0	3	3	0	0
Cap, veh/h	184	1655	882	300	1864	834	225	144	310	293	16	103
Arrive On Green	0.05	0.46	0.46	0.12	0.53	0.53	0.09	0.08	0.08	0.08	0.07	0.07
Sat Flow, veh/h	1847	3571	1605	1719	3486	1354	1776	1894	1568	1804	229	1449
Grp Volume(v), veh/h	122	1521	208	270	1736	198	248	9	331	220	0	139
Grp Sat Flow(s),veh/h/ln	1847	1785	1605	1719	1743	1354	1776	1894	1568	1804	0	1678
Q Serve(g_s), s	3.4	39.4	6.6	10.0	45.6	6.5	8.5	0.4	7.5	8.0	0.0	7.0
Cycle Q Clear(g_c), s	3.4	39.4	6.6	10.0	45.6	6.5	8.5	0.4	7.5	8.0	0.0	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	184	1655	882	300	1864	834	225	144	310	293	0	119
V/C Ratio(X)	0.66	0.92	0.24	0.90	0.93	0.24	1.10	0.06	1.07	0.75	0.00	1.17
Avail Cap(c_a), veh/h	184	1679	893	308	1904	849	225	144	310	293	0	119
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	22.6	24.8	11.5	27.6	21.3	8.6	41.8	42.4	39.7	40.9	0.0	45.9
Incr Delay (d2), s/veh	8.7	8.7	0.2	27.2	8.9	0.2	89.2	0.2	70.4	10.2	0.0	135.3
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	1.7	16.2	2.3	8.4	18.2	1.8	6.8	0.2	13.4	6.1	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.3	33.5	11.7	54.8	30.2	8.8	131.0	42.6	110.1	51.2	0.0	181.2
LnGrp LOS	C	C	B	D	C	A	F	D	F	D		F
Approach Vol, veh/h	1851		2204			588			359			
Approach Delay, s/veh	30.9		31.3			117.9			101.5			
Approach LOS	C		C			F			F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.5	54.3	12.5	15.5	9.5	61.4	13.0	15.0				
Change Period (Y+Rc), s	4.5	8.5	4.5	8.0	4.5	8.5	4.5	8.0				
Max Green Setting (Gmax), s	12.5	46.5	8.0	7.5	5.0	54.0	8.5	7.0				
Max Q Clear Time (g_c+l1), s	12.0	41.4	10.0	9.5	5.4	47.6	10.5	9.0				
Green Ext Time (p_c), s	0.0	4.0	0.0	0.0	0.0	5.2	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	46.4											
HCM 7th LOS	D											

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2050 Build AM Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1561	206	211	1688	118	198	2	130	118	7	113
Future Volume (veh/h)	117	1561	206	211	1688	118	198	2	130	118	7	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1850	1850	1820	1805	1894	1743	1921	1875	2057	2057	2057
Adj Flow Rate, veh/h	123	1643	0	222	1777	124	208	2	0	124	7	119
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, %	0	3	3	5	6	0	7	0	3	0	0	0
Cap, veh/h	198	1989		254	2089	1056	180	182		309	9	155
Arrive On Green	0.05	0.57	0.00	0.08	0.61	0.61	0.05	0.09	0.00	0.05	0.09	0.09
Sat Flow, veh/h	1804	3514	1568	1733	3430	1605	1660	1921	1589	1959	98	1661
Grp Volume(v), veh/h	123	1643	0	222	1777	124	208	2	0	124	0	126
Grp Sat Flow(s),veh/h/ln	1804	1757	1568	1733	1715	1605	1660	1921	1589	1959	0	1758
Q Serve(g_s), s	3.0	39.8	0.0	5.6	44.0	3.0	5.3	0.1	0.0	5.1	0.0	7.3
Cycle Q Clear(g_c), s	3.0	39.8	0.0	5.6	44.0	3.0	5.3	0.1	0.0	5.1	0.0	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Lane Grp Cap(c), veh/h	198	1989		254	2089	1056	180	182		309	0	164
V/C Ratio(X)	0.62	0.83		0.87	0.85	0.12	1.15	0.01		0.40	0.00	0.77
Avail Cap(c_a), veh/h	209	1989		306	2171	1094	180	591		309	0	538
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	18.5	0.0	22.7	16.6	6.6	46.3	42.9	0.0	41.1	0.0	46.3
Incr Delay (d2), s/veh	5.1	4.1	0.0	20.6	3.7	0.1	114.8	0.0	0.0	0.8	0.0	7.4
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	1.9	15.1	0.0	4.3	15.5	1.0	8.0	0.0	0.0	3.0	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.7	22.6	0.0	43.4	20.3	6.7	161.1	42.9	0.0	42.0	0.0	53.8
LnGrp LOS	C	C		D	C	A	F	D		D		D
Approach Vol, veh/h	1766					2123		210		250		
Approach Delay, s/veh	22.9					21.9		160.0		47.9		
Approach LOS	C					C		F		D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	65.2	9.6	15.9	9.4	69.7	9.8	15.7				
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	4.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	11.0	59.2	5.1	32.2	5.5	66.2	5.3	32.0				
Max Q Clear Time (g_c+I1), s	7.6	41.8	7.1	2.1	5.0	46.0	7.3	9.3				
Green Ext Time (p_c), s	0.2	13.0	0.0	0.0	0.0	16.2	0.0	0.4				
Intersection Summary												
HCM 7th Control Delay, s/veh			30.5									
HCM 7th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2050 Build AM Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 				 	
Traffic Volume (veh/h)	239	1413	280	133	1352	192	228	11	138	186	13	54
Future Volume (veh/h)	239	1413	280	133	1352	192	228	11	138	186	13	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2057	2027	1997	1717	1717	1878	1856	1737	1930	2136	2081	2221
Adj Flow Rate, veh/h	257	1519	0	143	1454	0	245	12	0	200	14	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	4	6	6	0	3	11	3	0	9	0
Cap, veh/h	289	2079		233	1643		306	103		233	175	
Arrive On Green	0.10	0.54	0.00	0.06	0.50	0.00	0.09	0.06	0.00	0.11	0.08	0.00
Sat Flow, veh/h	1959	3852	1693	1635	3262	1592	3428	1737	1635	2034	2081	1883
Grp Volume(v), veh/h	257	1519	0	143	1454	0	245	12	0	200	14	0
Grp Sat Flow(s),veh/h/ln	1959	1926	1693	1635	1631	1592	1714	1737	1635	2034	2081	1883
Q Serve(g_s), s	9.0	35.5	0.0	5.0	47.3	0.0	8.3	0.8	0.0	11.4	0.7	0.0
Cycle Q Clear(g_c), s	9.0	35.5	0.0	5.0	47.3	0.0	8.3	0.8	0.0	11.4	0.7	0.0
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	289	2079		233	1643		306	103		233	175	
V/C Ratio(X)	0.89	0.73		0.61	0.89		0.80	0.12		0.86	0.08	
Avail Cap(c_a), veh/h	334	2245		261	1764		390	352		273	463	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.8	20.7	0.0	20.0	26.4	0.0	52.9	52.8	0.0	51.5	50.0	0.0
Incr Delay (d2), s/veh	22.1	1.5	0.0	3.5	6.1	0.0	8.9	0.5	0.0	20.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	15.0	0.0	1.9	18.2	0.0	4.0	0.4	0.0	7.2	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.9	22.2	0.0	23.5	32.5	0.0	61.8	53.4	0.0	72.1	50.2	0.0
LnGrp LOS	D	C		C	C		E	D		E	D	
Approach Vol, veh/h	1776				1597		257				214	
Approach Delay, s/veh	26.7				31.7		61.5				70.7	
Approach LOS	C				C		E				E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	71.0	20.1	13.5	18.3	66.7	17.1	16.5				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	9.0	69.1	15.9	24.0	14.0	64.1	13.5	26.4				
Max Q Clear Time (g_c+I1), s	7.0	37.5	13.4	2.8	11.0	49.3	10.3	2.7				
Green Ext Time (p_c), s	0.1	18.3	0.1	0.0	0.2	10.4	0.3	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			33.5									
HCM 7th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

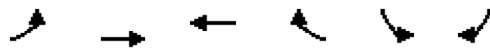
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2050 Build AM Peak Hour (5 Lane)
06/16/2026

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	1424	190	95	1352	196	121
Future Volume (veh/h)	1424	190	95	1352	196	121
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1832	1876	1864	1864	1761	1878
Adj Flow Rate, veh/h	1531	204	102	1454	211	130
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	0	5	5	3	0
Cap, veh/h	836	1132	177	851	429	235
Arrive On Green	0.46	0.46	0.00	0.46	0.26	0.26
Sat Flow, veh/h	1832	1590	1776	1864	1677	1592
Grp Volume(v), veh/h	1531	204	102	1454	211	130
Grp Sat Flow(s),veh/h/ln	1832	1590	1776	1864	1677	1592
Q Serve(g_s), s	19.0	1.8	0.1	19.0	4.5	7.7
Cycle Q Clear(g_c), s	19.0	1.8	0.1	19.0	4.5	7.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	836	1132	177	851	429	235
V/C Ratio(X)	1.83	0.18	0.58	1.71	0.49	0.55
Avail Cap(c_a), veh/h	4685	4473	386	5193	886	669
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	11.3	2.0	19.9	11.3	13.2	66.2
Incr Delay (d2), s/veh	377.0	0.2	2.9	322.2	0.9	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	91.7	0.7	0.9	80.4	1.5	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	388.4	2.2	22.9	333.5	14.1	68.2
LnGrp LOS	F	A	C	F	B	E
Approach Vol, veh/h	1735			1556	341	
Approach Delay, s/veh	343.0			313.2	34.7	
Approach LOS	F			F	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	0.0	25.0			25.0	16.6
Change Period (Y+Rc), s	4.5	6.0			6.0	6.0
Max Green Setting (Gmax), s	5.0	106.5			116.0	22.0
Max Q Clear Time (g_c+I1), s	0.0	3.8			0.0	9.7
Green Ext Time (p_c), s	0.0	0.4			0.0	1.0
Intersection Summary						
HCM 7th Control Delay, s/veh			301.3			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2050 Build AM Peak Hour (5 Lane)
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	→	→	→	←←	→
Traffic Volume (veh/h)	475	1069	1049	251	207	516
Future Volume (veh/h)	475	1069	1049	251	207	516
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1909	1894	1850	1924	2042	1980
Adj Flow Rate, veh/h	490	1102	1081	0	213	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	3	3	1	5
Cap, veh/h	605	1402	887		332	
Arrive On Green	0.17	0.74	0.48	0.00	0.09	0.00
Sat Flow, veh/h	3528	1894	1850	1630	3773	1678
Grp Volume(v), veh/h	490	1102	1081	0	213	0
Grp Sat Flow(s), veh/h/ln	1764	1894	1850	1630	1887	1678
Q Serve(g_s), s	9.7	26.3	34.9	0.0	4.0	0.0
Cycle Q Clear(g_c), s	9.7	26.3	34.9	0.0	4.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	605	1402	887		332	
V/C Ratio(X)	0.81	0.79	1.22		0.64	
Avail Cap(c_a), veh/h	945	2720	1995		1192	
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	0.00
Uniform Delay (d), s/veh	29.0	5.9	18.9	0.0	32.1	0.0
Incr Delay (d2), s/veh	1.4	2.7	105.2	0.0	0.8	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	3.9	5.6	37.8	0.0	1.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.4	8.6	124.1	0.0	32.9	0.0
LnGrp LOS	C	A	F		C	
Approach Vol, veh/h		1592	1081		213	
Approach Delay, s/veh		15.3	124.1		32.9	
Approach LOS		B	F		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.4		12.4	19.0	41.4
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		104.5		23.0	19.5	78.5
Max Q Clear Time (g_c+l1), s		28.3		6.0	11.7	0.0
Green Ext Time (p_c), s		25.6		0.4	0.8	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	57.4
HCM 7th LOS	E

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary

2050 Build PM Peak Hour (5 Lane)

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	68	465	252	87	104	463	1639	221	118	1733	132
Future Volume (veh/h)	118	68	465	252	87	104	463	1639	221	118	1733	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1876	1847	1847	1939	1939	1879	1864	1864	1894	1949	1964	1979
Adj Flow Rate, veh/h	120	69	474	257	89	106	472	1672	226	120	1768	135
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	0	0	4	2	2	0	2	1	0
Cap, veh/h	235	265	543	214	278	304	409	2182	1047	204	1716	833
Arrive On Green	0.04	0.14	0.14	0.04	0.14	0.14	0.20	0.62	0.62	0.05	0.46	0.46
Sat Flow, veh/h	1787	1847	1565	1847	1939	1593	1776	3542	1605	1856	3731	1677
Grp Volume(v), veh/h	120	69	474	257	89	106	472	1672	226	120	1768	135
Grp Sat Flow(s),veh/h/ln	1787	1847	1565	1847	1939	1593	1776	1771	1605	1856	1865	1677
Q Serve(g_s), s	5.5	5.0	21.5	5.5	6.2	8.7	30.5	51.5	8.5	5.1	69.0	6.6
Cycle Q Clear(g_c), s	5.5	5.0	21.5	5.5	6.2	8.7	30.5	51.5	8.5	5.1	69.0	6.6
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	235	265	543	214	278	304	409	2182	1047	204	1716	833
V/C Ratio(X)	0.51	0.26	0.87	1.20	0.32	0.35	1.15	0.77	0.22	0.59	1.03	0.16
Avail Cap(c_a), veh/h	235	265	543	214	278	304	409	2182	1047	236	1716	833
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	56.6	57.2	45.9	63.5	57.7	52.6	52.3	21.0	10.5	24.6	40.5	20.7
Incr Delay (d2), s/veh	1.8	0.5	14.6	125.8	0.7	0.7	93.6	2.0	0.2	2.9	29.9	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	1.6	2.3	18.4	12.9	3.1	3.5	25.3	20.7	3.0	2.4	37.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.5	57.7	60.5	189.4	58.3	53.3	145.9	23.0	10.8	27.4	70.4	20.9
LnGrp LOS	E	E	E	F	E	D	F	C	B	C	F	C
Approach Vol, veh/h	663			452			2370			2023		
Approach Delay, s/veh	59.9			131.7			46.3			64.5		
Approach LOS	E			F			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	99.4	10.0	29.0	35.0	76.0	10.0	29.0				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.5	4.5	7.0	4.5	7.5				
Max Green Setting (Gmax), s	9.7	89.8	5.5	21.5	30.5	69.0	5.5	21.5				
Max Q Clear Time (g_c+l1), s	7.1	53.5	7.5	23.5	32.5	71.0	7.5	10.7				
Green Ext Time (p_c), s	0.1	25.1	0.0	0.0	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 7th Control Delay, s/veh	61.6											
HCM 7th LOS	E											

2050 Build PM Peak Hour (5 Lane)

Synchro 12 Report

Page 1

HCM 7th Signalized Intersection Summary
2: PA 611 & Stadden Rd./Learn Rd.

2050 Build PM Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	0	284	15	5	4	298	2007	33	6	2207	150
Future Volume (veh/h)	103	0	284	15	5	4	298	2007	33	6	2207	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1870	1796	1604	1885	1900
Adj Flow Rate, veh/h	105	0	290	15	5	4	304	2048	34	6	2252	153
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	2	7	20	1	0
Cap, veh/h	253	0	198	77	101	81	282	2618	43	123	2186	1039
Arrive On Green	0.03	0.00	0.12	0.02	0.10	0.10	0.13	0.73	0.73	0.01	0.61	0.61
Sat Flow, veh/h	1810	0	1610	1810	977	782	1810	3577	59	1527	3582	1610
Grp Volume(v), veh/h	105	0	290	15	0	9	304	1014	1068	6	2252	153
Grp Sat Flow(s),veh/h/ln	1810	0	1610	1810	0	1759	1810	1777	1860	1527	1791	1610
Q Serve(g_s), s	5.1	0.0	18.1	1.1	0.0	0.7	19.0	52.5	53.2	0.2	89.9	5.5
Cycle Q Clear(g_c), s	5.1	0.0	18.1	1.1	0.0	0.7	19.0	52.5	53.2	0.2	89.9	5.5
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	253	0	198	77	0	183	282	1301	1361	123	2186	1039
V/C Ratio(X)	0.41	0.00	1.47	0.19	0.00	0.05	1.08	0.78	0.78	0.05	1.03	0.15
Avail Cap(c_a), veh/h	253	0	198	110	0	215	282	1301	1361	164	2186	1039
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	58.2	0.0	64.6	58.4	0.0	59.5	56.2	12.3	12.4	15.2	28.7	10.3
Incr Delay (d2), s/veh	1.1	0.0	235.1	1.2	0.0	0.1	75.5	3.1	3.1	0.2	27.5	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	0.0	20.4	0.5	0.0	0.3	16.0	19.2	20.3	0.1	43.7	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.3	0.0	299.7	59.6	0.0	59.6	131.7	15.4	15.5	15.4	56.2	10.3
LnGrp LOS	E		F	E		E	F	B	B	B	F	B
Approach Vol, veh/h	395			24			2386			2411		
Approach Delay, s/veh	235.8			59.6			30.3			53.1		
Approach LOS	F			E			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	112.3	6.8	22.6	23.5	94.4	9.6	19.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	103.9	5.0	18.1	19.0	89.9	5.1	18.0				
Max Q Clear Time (g_c+l1), s	2.2	55.2	3.1	20.1	21.0	91.9	7.1	2.7				
Green Ext Time (p_c), s	0.0	28.2	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	56.5											
HCM 7th LOS	E											

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2050 Build PM Peak Hour (5 Lane)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	2444	292	373	2340	291	256	43	339	220	14	113
Future Volume (veh/h)	124	2444	292	373	2340	291	256	43	339	220	14	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1834	1924	1894	1894	1879	1879	1805	1894	1850	1939	1939	1939
Adj Flow Rate, veh/h	133	2628	314	401	2516	313	275	46	365	237	15	122
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	1	3	0	1	1	6	0	3	0	0	0
Cap, veh/h	112	2060	1038	295	2369	1189	191	88	287	225	9	69
Arrive On Green	0.04	0.56	0.56	0.14	0.66	0.66	0.08	0.05	0.05	0.08	0.05	0.05
Sat Flow, veh/h	1747	3656	1605	1804	3571	1593	1719	1894	1568	1847	183	1488
Grp Volume(v), veh/h	133	2628	314	401	2516	313	275	46	365	237	0	137
Grp Sat Flow(s),veh/h/ln	1747	1828	1605	1804	1785	1593	1719	1894	1568	1847	0	1671
Q Serve(g_s), s	5.5	84.5	12.9	20.5	99.5	9.3	12.5	3.6	7.0	12.5	0.0	7.0
Cycle Q Clear(g_c), s	5.5	84.5	12.9	20.5	99.5	9.3	12.5	3.6	7.0	12.5	0.0	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.89
Lane Grp Cap(c), veh/h	112	2060	1038	295	2369	1189	191	88	287	225	0	78
V/C Ratio(X)	1.19	1.28	0.30	1.36	1.06	0.26	1.44	0.52	1.27	1.05	0.00	1.76
Avail Cap(c_a), veh/h	112	2060	1038	295	2369	1189	191	88	287	225	0	78
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	45.4	32.7	11.6	56.1	25.2	6.0	65.1	69.9	61.3	65.8	0.0	71.5
Incr Delay (d2), s/veh	143.8	128.1	0.2	183.1	37.7	0.2	224.2	5.3	146.1	74.6	0.0	387.5
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	6.7	70.1	4.7	25.6	49.2	3.0	13.2	1.8	22.6	7.0	0.0	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	189.2	160.8	11.9	239.2	62.9	6.2	289.2	75.2	207.3	140.3	0.0	459.0
LnGrp LOS	F	F	B	F	F	A	F	E	F	F		F
Approach Vol, veh/h	3075			3230			686			374		
Approach Delay, s/veh	146.9			79.3			231.3			257.1		
Approach LOS	F			E			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	93.0	17.0	15.0	10.0	108.0	17.0	15.0				
Change Period (Y+Rc), s	4.5	8.5	4.5	8.0	4.5	8.5	4.5	8.0				
Max Green Setting (Gmax), s	20.5	84.5	12.5	7.0	5.5	99.5	12.5	7.0				
Max Q Clear Time (g_c+I1), s	22.5	86.5	14.5	9.0	7.5	101.5	14.5	9.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	130.7											
HCM 7th LOS	F											

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2050 Build PM Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	2601	306	386	2631	107	354	24	193	129	23	116
Future Volume (veh/h)	107	2601	306	386	2631	107	354	24	193	129	23	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1879	1879	1879	1879	1894	1832	1921	1921	2057	2057	2057
Adj Flow Rate, veh/h	115	2797	0	415	2829	115	381	26	0	139	25	125
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	1	1	0	1	0	0	0	0	0
Cap, veh/h	124	2013		259	2326	1124	164	196		287	30	151
Arrive On Green	0.04	0.56	0.00	0.11	0.65	0.65	0.05	0.10	0.00	0.05	0.10	0.10
Sat Flow, veh/h	1804	3571	1593	1790	3571	1605	1745	1921	1628	1959	298	1491
Grp Volume(v), veh/h	115	2797	0	415	2829	115	381	26	0	139	0	150
Grp Sat Flow(s),veh/h/ln	1804	1785	1593	1790	1785	1605	1745	1921	1628	1959	0	1789
Q Serve(g_s), s	4.3	74.0	0.0	15.0	85.5	3.0	6.5	1.6	0.0	6.4	0.0	10.8
Cycle Q Clear(g_c), s	4.3	74.0	0.0	15.0	85.5	3.0	6.5	1.6	0.0	6.4	0.0	10.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.83
Lane Grp Cap(c), veh/h	124	2013		259	2326	1124	164	196		287	0	181
V/C Ratio(X)	0.93	1.39		1.60	1.22	0.10	2.32	0.13		0.48	0.00	0.83
Avail Cap(c_a), veh/h	124	2013		259	2326	1124	164	470		287	0	436
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.9	28.6	0.0	48.0	22.9	6.4	56.8	53.7	0.0	51.5	0.0	57.9
Incr Delay (d2), s/veh	59.8	178.5	0.0	287.4	101.6	0.1	613.4	0.3	0.0	1.3	0.0	9.3
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	4.0	78.4	0.0	28.7	63.4	1.0	30.3	0.8	0.0	4.4	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	96.7	207.1	0.0	335.5	124.5	6.4	670.1	54.0	0.0	52.8	0.0	67.2
LnGrp LOS	F	F		F	F	A	F	D		D		E
Approach Vol, veh/h	2912			3359			407			289		
Approach Delay, s/veh	202.7			146.5			630.8			60.2		
Approach LOS	F			F			F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	80.0	10.9	19.4	9.5	91.5	11.0	19.3				
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	4.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	15.0	74.0	6.4	32.1	5.0	85.5	6.5	32.0				
Max Q Clear Time (g_c+I1), s	17.0	76.0	8.4	3.6	6.3	87.5	8.5	12.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5				

Intersection Summary

HCM 7th Control Delay, s/veh 194.7
HCM 7th LOS F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2050 Build PM Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	2108	309	169	2235	270	385	21	223	268	15	348
Future Volume (veh/h)	363	2108	309	169	2235	270	385	21	223	268	15	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2057	2027	2012	1761	1776	1878	1870	1900	1961	2136	2221	2221
Adj Flow Rate, veh/h	378	2196	0	176	2328	0	401	22	0	279	16	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, %	0	2	3	3	2	0	2	0	1	0	0	0
Cap, veh/h	271	2152		148	1700		337	104		246	174	
Arrive On Green	0.11	0.56	0.00	0.05	0.50	0.00	0.10	0.05	0.00	0.12	0.08	0.00
Sat Flow, veh/h	1959	3852	1705	1677	3375	1592	3456	1900	1662	2034	2221	1883
Grp Volume(v), veh/h	378	2196	0	176	2328	0	401	22	0	279	16	0
Grp Sat Flow(s),veh/h/ln	1959	1926	1705	1677	1687	1592	1728	1900	1662	2034	2221	1883
Q Serve(g_s), s	14.0	71.5	0.0	7.0	64.5	0.0	12.5	1.4	0.0	15.5	0.9	0.0
Cycle Q Clear(g_c), s	14.0	71.5	0.0	7.0	64.5	0.0	12.5	1.4	0.0	15.5	0.9	0.0
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	271	2152		148	1700		337	104		246	174	
V/C Ratio(X)	1.40	1.02		1.19	1.37		1.19	0.21		1.13	0.09	
Avail Cap(c_a), veh/h	271	2152		148	1700		337	356		246	469	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.7	28.3	0.0	37.7	31.8	0.0	57.8	57.9	0.0	56.3	54.8	0.0
Incr Delay (d2), s/veh	199.7	24.8	0.0	133.8	169.9	0.0	110.5	1.0	0.0	97.8	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.2	37.0	0.0	7.6	64.2	0.0	10.6	0.7	0.0	14.6	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	245.3	53.0	0.0	171.5	201.6	0.0	168.3	58.9	0.0	154.0	55.0	0.0
LnGrp LOS	F	F		F	F		F	E		F	E	
Approach Vol, veh/h	2574			2504			423			295		
Approach Delay, s/veh	81.3			199.5			162.6			148.6		
Approach LOS	F			F			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	78.5	22.0	13.5	21.0	71.5	19.0	16.5				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	7.0	71.5	15.5	24.0	14.0	64.5	12.5	27.0				
Max Q Clear Time (g_c+l1), s	9.0	73.5	17.5	3.4	16.0	66.5	14.5	2.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 7th Control Delay, s/veh 141.7
HCM 7th LOS F

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

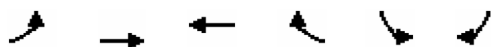
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2050 Build PM Peak Hour (5 Lane)
06/16/2026

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↘	↑	↘	↗
Traffic Volume (veh/h)	2174	231	158	2286	230	118
Future Volume (veh/h)	2174	231	158	2286	230	118
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1847	1876	1894	1894	1776	1801
Adj Flow Rate, veh/h	2218	236	161	2333	235	120
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	0	3	3	2	5
Cap, veh/h	897	1102	189	920	351	317
Arrive On Green	0.49	0.49	0.00	0.49	0.21	0.21
Sat Flow, veh/h	1847	1590	1804	1894	1692	1526
Grp Volume(v), veh/h	2218	236	161	2333	235	120
Grp Sat Flow(s), veh/h/ln	1847	1590	1804	1894	1692	1526
Q Serve(g_s), s	19.0	2.1	0.1	19.0	5.0	2.6
Cycle Q Clear(g_c), s	19.0	2.1	0.1	19.0	5.0	2.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	897	1102	189	920	351	317
V/C Ratio(X)	2.47	0.21	0.85	2.54	0.67	0.38
Avail Cap(c_a), veh/h	4957	4598	484	5617	951	858
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	10.1	2.2	19.0	10.1	14.3	13.3
Incr Delay (d2), s/veh	664.7	0.3	10.4	693.0	2.2	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	169.2	0.6	1.7	180.7	1.8	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	674.8	2.4	29.3	703.1	16.5	14.1
LnGrp LOS	F	A	C	F	B	B
Approach Vol, veh/h	2454			2494	355	
Approach Delay, s/veh	610.1			659.6	15.7	
Approach LOS	F			F	B	
Timer - Assigned Phs	1	2		6	8	
Phs Duration (G+Y+Rc), s	0.0	25.0		25.0	14.1	
Change Period (Y+Rc), s	4.5	6.0		6.0	6.0	
Max Green Setting (Gmax), s	6.5	105.0		116.0	22.0	
Max Q Clear Time (g_c+l1), s	0.0	4.1		0.0	7.0	
Green Ext Time (p_c), s	0.0	0.6		0.0	1.1	
Intersection Summary						
HCM 7th Control Delay, s/veh			593.6			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2050 Build PM Peak Hour (5 Lane)
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰↱	↑	↑	↰	↰↱	↰
Traffic Volume (veh/h)	762	1592	1595	386	338	882
Future Volume (veh/h)	762	1592	1595	386	338	882
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1894	1909	1864	1924	2027	2011
Adj Flow Rate, veh/h	811	1694	1697	0	360	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	2	2	3	2	3
Cap, veh/h	479	1501	1115		436	
Arrive On Green	0.14	0.79	0.60	0.00	0.12	0.00
Sat Flow, veh/h	3500	1909	1864	1630	3744	1704
Grp Volume(v), veh/h	811	1694	1697	0	360	0
Grp Sat Flow(s), veh/h/ln	1750	1909	1864	1630	1872	1704
Q Serve(g_s), s	17.5	100.5	76.5	0.0	12.0	0.0
Cycle Q Clear(g_c), s	17.5	100.5	76.5	0.0	12.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	479	1501	1115		436	
V/C Ratio(X)	1.69	1.13	1.52		0.83	
Avail Cap(c_a), veh/h	479	1501	1115		1083	
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	0.00
Uniform Delay (d), s/veh	55.2	13.7	25.7	0.0	55.2	0.0
Incr Delay (d2), s/veh	320.9	67.1	239.3	0.0	1.5	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	28.9	56.4	103.9	0.0	5.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	376.0	80.8	264.9	0.0	56.8	0.0
LnGrp LOS	F	F	F		E	
Approach Vol, veh/h		2505	1697		360	
Approach Delay, s/veh		176.4	264.9		56.8	
Approach LOS		F	F		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		107.0		20.9	24.0	83.0
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		100.5		37.0	17.5	76.5
Max Q Clear Time (g_c+I1), s		102.5		14.0	19.5	0.0
Green Ext Time (p_c), s		0.0		0.9	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	199.9
HCM 7th LOS	F

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary

2050 Build SAT Peak Hour (5 Lane)

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	54	129	112	51	75	127	865	76	68	729	60
Future Volume (veh/h)	55	54	129	112	51	75	127	865	76	68	729	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1876	1876	1832	1894	1939	1939	1894	1894	1835	1979	1979	1979
Adj Flow Rate, veh/h	59	57	137	119	54	80	135	920	81	72	776	64
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, %	0	0	3	3	0	0	0	0	4	0	0	0
Cap, veh/h	364	224	301	371	280	334	363	1262	666	307	1256	648
Arrive On Green	0.05	0.12	0.12	0.08	0.14	0.14	0.07	0.35	0.35	0.06	0.33	0.33
Sat Flow, veh/h	1787	1876	1553	1804	1939	1644	1804	3599	1555	1884	3759	1677
Grp Volume(v), veh/h	59	57	137	119	54	80	135	920	81	72	776	64
Grp Sat Flow(s),veh/h/ln	1787	1876	1553	1804	1939	1644	1804	1799	1555	1884	1880	1677
Q Serve(g_s), s	1.7	1.6	4.7	3.4	1.5	2.4	2.9	13.3	1.9	1.4	10.3	1.5
Cycle Q Clear(g_c), s	1.7	1.6	4.7	3.4	1.5	2.4	2.9	13.3	1.9	1.4	10.3	1.5
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	364	224	301	371	280	334	363	1262	666	307	1256	648
V/C Ratio(X)	0.16	0.25	0.45	0.32	0.19	0.24	0.37	0.73	0.12	0.23	0.62	0.10
Avail Cap(c_a), veh/h	421	661	663	382	683	675	424	1539	786	355	1513	763
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	21.2	23.9	21.2	20.6	22.4	19.9	12.4	16.9	10.3	12.9	16.7	11.7
Incr Delay (d2), s/veh	0.2	0.6	1.1	0.5	0.3	0.4	0.6	2.1	0.2	0.4	1.1	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	0.6	0.7	1.6	1.3	0.6	0.9	1.0	5.0	0.6	0.5	4.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.4	24.5	22.3	21.1	22.8	20.3	13.0	19.0	10.5	13.3	17.8	11.8
LnGrp LOS	C	C	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h	253		253			1136			912			
Approach Delay, s/veh	22.6		21.2			17.7			17.0			
Approach LOS	C		C			B			B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	27.9	9.1	14.6	9.0	26.9	7.6	16.1				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.5	4.5	7.0	4.5	7.5				
Max Green Setting (Gmax), s	5.0	25.5	5.0	21.0	6.5	24.0	5.0	21.0				
Max Q Clear Time (g_c+I1), s	3.4	15.3	5.4	6.7	4.9	12.3	3.7	4.4				
Green Ext Time (p_c), s	0.0	5.6	0.0	0.5	0.1	5.2	0.0	0.3				
Intersection Summary												
HCM 7th Control Delay, s/veh	18.3											
HCM 7th LOS	B											

2050 Build SAT Peak Hour (5 Lane)

Synchro 12 Report

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HCM 7th Signalized Intersection Summary
2: PA 611 & Stadden Rd./Learn Rd.

2050 Build SAT Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	2	55	12	5	4	68	958	43	1	962	55
Future Volume (veh/h)	40	2	55	12	5	4	68	958	43	1	962	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1781	1900	1885	1900
Adj Flow Rate, veh/h	42	2	57	12	5	4	71	998	45	1	1002	57
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, %	0	0	0	0	0	0	0	0	8	0	1	0
Cap, veh/h	310	5	149	253	65	52	399	1877	85	337	1693	832
Arrive On Green	0.04	0.10	0.10	0.02	0.07	0.07	0.06	0.53	0.53	0.00	0.47	0.47
Sat Flow, veh/h	1810	55	1564	1810	977	782	1810	3518	159	1810	3582	1610
Grp Volume(v), veh/h	42	0	59	12	0	9	71	512	531	1	1002	57
Grp Sat Flow(s),veh/h/ln	1810	0	1619	1810	0	1759	1810	1805	1871	1810	1791	1610
Q Serve(g_s), s	1.1	0.0	1.7	0.3	0.0	0.2	0.9	9.4	9.4	0.0	10.4	0.9
Cycle Q Clear(g_c), s	1.1	0.0	1.7	0.3	0.0	0.2	0.9	9.4	9.4	0.0	10.4	0.9
Prop In Lane	1.00		0.97	1.00		0.44	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	310	0	154	253	0	117	399	963	998	337	1693	832
V/C Ratio(X)	0.14	0.00	0.38	0.05	0.00	0.08	0.18	0.53	0.53	0.00	0.59	0.07
Avail Cap(c_a), veh/h	408	0	574	403	0	624	465	963	998	512	1693	832
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	20.6	0.0	21.6	21.5	0.0	22.2	6.8	7.7	7.7	7.4	9.8	6.1
Incr Delay (d2), s/veh	0.2	0.0	1.6	0.1	0.0	0.3	0.2	2.1	2.0	0.0	1.5	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	0.4	0.0	0.7	0.1	0.0	0.1	0.2	2.9	3.0	0.0	3.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.8	0.0	23.1	21.6	0.0	22.5	7.0	9.8	9.7	7.4	11.3	6.3
LnGrp LOS	C		C	C		C	A	A	A	A	B	A
Approach Vol, veh/h	101			21			1114			1060		
Approach Delay, s/veh	22.1			22.0			9.6			11.1		
Approach LOS	C			C			A			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.6	31.6	5.3	9.3	7.7	28.5	6.7	7.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	24.0	5.0	18.0	5.0	24.0	5.0	18.0				
Max Q Clear Time (g_c+l1), s	2.0	11.4	2.3	3.7	2.9	12.4	3.1	2.2				
Green Ext Time (p_c), s	0.0	5.1	0.0	0.2	0.0	5.2	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	10.9											
HCM 7th LOS	B											

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2050 Build SAT Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1095	113	200	1165	117	104	23	205	104	24	23
Future Volume (veh/h)	21	1095	113	200	1165	117	104	23	205	104	24	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1939	1939	1939	1894	1894	1894	1894	1894	1894	1939	1939	1639
Adj Flow Rate, veh/h	22	1141	118	208	1214	122	108	24	214	108	25	24
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, %	0	0	0	0	0	0	0	0	0	0	0	20
Cap, veh/h	210	1318	705	308	1539	799	340	196	319	344	93	89
Arrive On Green	0.02	0.36	0.36	0.09	0.43	0.43	0.07	0.10	0.10	0.07	0.10	0.10
Sat Flow, veh/h	1847	3685	1644	1804	3599	1605	1804	1894	1605	1847	909	873
Grp Volume(v), veh/h	22	1141	118	208	1214	122	108	24	214	108	0	49
Grp Sat Flow(s),veh/h/ln	1847	1842	1644	1804	1799	1605	1804	1894	1605	1847	0	1782
Q Serve(g_s), s	0.5	19.7	3.0	4.6	19.9	2.8	3.6	0.8	7.1	3.5	0.0	1.7
Cycle Q Clear(g_c), s	0.5	19.7	3.0	4.6	19.9	2.8	3.6	0.8	7.1	3.5	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	210	1318	705	308	1539	799	340	196	319	344	0	183
V/C Ratio(X)	0.11	0.87	0.17	0.68	0.79	0.15	0.32	0.12	0.67	0.31	0.00	0.27
Avail Cap(c_a), veh/h	299	1403	743	308	1539	799	343	196	319	350	0	183
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	14.9	20.4	12.0	15.1	16.9	9.3	24.8	27.8	25.3	24.8	0.0	28.3
Incr Delay (d2), s/veh	0.2	5.9	0.2	5.7	3.0	0.1	0.5	0.3	5.4	0.5	0.0	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.8	1.0	2.0	7.3	0.9	1.4	0.3	3.5	1.5	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.1	26.3	12.1	20.9	19.9	9.4	25.3	28.1	30.7	25.3	0.0	29.1
LnGrp LOS	B	C	B	C	B	A	C	C	C	C		C
Approach Vol, veh/h	1281			1544			346			157		
Approach Delay, s/veh	24.8			19.2			28.9			26.5		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	32.9	9.3	15.1	6.2	37.7	9.4	15.0				
Change Period (Y+Rc), s	4.5	8.5	4.5	8.0	4.5	8.5	4.5	8.0				
Max Green Setting (Gmax), s	6.5	26.0	5.0	7.0	5.0	27.5	5.0	7.0				
Max Q Clear Time (g_c+I1), s	6.6	21.7	5.5	9.1	2.5	21.9	5.6	3.7				
Green Ext Time (p_c), s	0.0	2.8	0.0	0.0	0.0	3.7	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	22.7											
HCM 7th LOS	C											

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2050 Build SAT Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1260	186	279	1275	18	236	20	124	18	13	20
Future Volume (veh/h)	19	1260	186	279	1275	18	236	20	124	18	13	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1894	1879	1894	1894	1894	1847	1921	1921	2057	2057	2057
Adj Flow Rate, veh/h	20	1312	0	291	1328	19	246	21	0	19	14	21
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, %	0	0	1	0	0	0	0	0	0	0	0	0
Cap, veh/h	285	1803		370	2161	999	235	156		192	27	41
Arrive On Green	0.02	0.50	0.00	0.10	0.60	0.60	0.07	0.08	0.00	0.02	0.04	0.04
Sat Flow, veh/h	1804	3599	1593	1804	3599	1605	1759	1921	1628	1959	743	1114
Grp Volume(v), veh/h	20	1312	0	291	1328	19	246	21	0	19	0	35
Grp Sat Flow(s),veh/h/ln	1804	1799	1593	1804	1799	1605	1759	1921	1628	1959	0	1857
Q Serve(g_s), s	0.4	21.9	0.0	5.5	17.9	0.3	5.1	0.8	0.0	0.7	0.0	1.4
Cycle Q Clear(g_c), s	0.4	21.9	0.0	5.5	17.9	0.3	5.1	0.8	0.0	0.7	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	285	1803		370	2161	999	235	156		192	0	68
V/C Ratio(X)	0.07	0.73		0.79	0.61	0.02	1.05	0.13		0.10	0.00	0.52
Avail Cap(c_a), veh/h	362	1803		468	2203	1017	235	805		277	0	775
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.5	15.0	0.0	14.3	9.7	5.5	35.1	32.7	0.0	34.3	0.0	36.3
Incr Delay (d2), s/veh	0.1	2.6	0.0	6.8	0.8	0.0	71.1	0.4	0.0	0.2	0.0	6.0
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	7.9	0.0	2.9	5.4	0.1	9.0	0.4	0.0	0.3	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.6	17.6	0.0	21.2	10.5	5.6	106.2	33.1	0.0	34.5	0.0	42.3
LnGrp LOS	A	B		C	B	A	F	C		C		D
Approach Vol, veh/h	1332			1638			267			54		
Approach Delay, s/veh	17.5			12.3			100.5			39.6		
Approach LOS	B			B			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	44.4	6.2	12.2	6.2	52.0	9.6	8.8				
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	4.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	12.0	38.4	5.0	32.1	5.0	46.9	5.1	32.0				
Max Q Clear Time (g_c+l1), s	7.5	23.9	2.7	2.8	2.4	19.9	7.1	3.4				
Green Ext Time (p_c), s	0.4	9.3	0.0	0.0	0.0	14.4	0.0	0.1				

Intersection Summary

HCM 7th Control Delay, s/veh 22.0
HCM 7th LOS C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2050 Build SAT Peak Hour (5 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 					
Traffic Volume (veh/h)	245	1093	145	68	1175	177	154	15	94	197	18	206
Future Volume (veh/h)	245	1093	145	68	1175	177	154	15	94	197	18	206
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2042	2057	2057	1761	1806	1863	1900	1678	1976	2136	2018	2206
Adj Flow Rate, veh/h	247	1104	0	69	1187	0	156	15	0	199	18	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	0	0	3	0	1	0	15	0	0	13	1
Cap, veh/h	316	1729		294	1410		267	129		241	241	
Arrive On Green	0.10	0.44	0.00	0.06	0.41	0.00	0.08	0.08	0.00	0.12	0.12	0.00
Sat Flow, veh/h	1945	3909	1743	1677	3431	1578	3510	1678	1675	2034	2018	1869
Grp Volume(v), veh/h	247	1104	0	69	1187	0	156	15	0	199	18	0
Grp Sat Flow(s),veh/h/ln	1945	1954	1743	1677	1715	1578	1755	1678	1675	2034	2018	1869
Q Serve(g_s), s	6.5	19.8	0.0	2.0	28.2	0.0	3.9	0.8	0.0	8.6	0.7	0.0
Cycle Q Clear(g_c), s	6.5	19.8	0.0	2.0	28.2	0.0	3.9	0.8	0.0	8.6	0.7	0.0
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	316	1729		294	1410		267	129		241	241	
V/C Ratio(X)	0.78	0.64		0.23	0.84		0.59	0.12		0.83	0.07	
Avail Cap(c_a), veh/h	346	1912		317	1564		377	446		288	605	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.3	19.6	0.0	14.9	24.0	0.0	40.4	38.9	0.0	38.9	35.4	0.0
Incr Delay (d2), s/veh	10.2	1.0	0.0	0.4	4.7	0.0	2.0	0.4	0.0	15.3	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	3.4	8.2	0.0	0.7	11.1	0.0	1.7	0.3	0.0	5.3	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.5	20.6	0.0	15.3	28.7	0.0	42.4	39.3	0.0	54.2	35.5	0.0
LnGrp LOS	C	C		B	C		D	D		D	D	
Approach Vol, veh/h	1351			1256			171			217		
Approach Delay, s/veh	22.2			28.0			42.1			52.7		
Approach LOS	C			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	47.0	17.2	13.4	15.6	44.1	13.4	17.3				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	7.0	44.2	12.8	24.0	10.0	41.2	9.7	27.1				
Max Q Clear Time (g_c+I1), s	4.0	21.8	10.6	2.8	8.5	30.2	5.9	2.7				
Green Ext Time (p_c), s	0.0	10.3	0.1	0.0	0.1	7.0	0.2	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				28.0								
HCM 7th LOS				C								
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

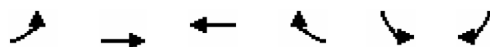
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2050 Build SAT Peak Hour (5 Lane)
06/16/2026

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	1156	74	56	1237	67	58
Future Volume (veh/h)	1156	74	56	1237	67	58
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1876	1847	1939	1939	1761	1878
Adj Flow Rate, veh/h	1180	76	57	1262	68	59
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	2	0	0	3	0
Cap, veh/h	965	1057	200	997	270	63
Arrive On Green	0.51	0.51	0.00	0.51	0.16	0.16
Sat Flow, veh/h	1876	1565	1847	1939	1677	1592
Grp Volume(v), veh/h	1180	76	57	1262	68	59
Grp Sat Flow(s), veh/h/ln	1876	1565	1847	1939	1677	1592
Q Serve(g_s), s	19.0	0.6	0.1	19.0	1.3	5.9
Cycle Q Clear(g_c), s	19.0	0.6	0.1	19.0	1.3	5.9
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	965	1057	200	997	270	63
V/C Ratio(X)	1.22	0.07	0.29	1.27	0.25	0.94
Avail Cap(c_a), veh/h	3885	3492	445	4513	999	754
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	9.0	2.0	16.6	9.0	13.6	141.4
Incr Delay (d2), s/veh	106.1	0.1	0.8	124.4	0.5	40.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.3	0.1	0.4	37.4	0.4	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	115.1	2.1	17.4	133.4	14.0	181.6
LnGrp LOS	F	A	B	F	B	F
Approach Vol, veh/h	1256			1319	127	
Approach Delay, s/veh	108.3			128.4	91.9	
Approach LOS	F			F	F	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	0.0	25.0			25.0	12.0
Change Period (Y+Rc), s	4.5	6.0			6.0	6.0
Max Green Setting (Gmax), s	5.0	76.5			86.0	22.0
Max Q Clear Time (g_c+I1), s	0.0	2.6			0.0	7.9
Green Ext Time (p_c), s	0.0	0.3			0.0	0.3
Intersection Summary						
HCM 7th Control Delay, s/veh			117.3			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2050 Build SAT Peak Hour (5 Lane)
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰↱	↑	↑	↰	↰↱	↰
Traffic Volume (veh/h)	398	735	714	266	220	474
Future Volume (veh/h)	398	735	714	266	220	474
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1909	1894	1850	1924	2042	1980
Adj Flow Rate, veh/h	410	758	736	0	227	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	3	3	1	5
Cap, veh/h	592	1098	470		441	
Arrive On Green	0.17	0.58	0.25	0.00	0.12	0.00
Sat Flow, veh/h	3528	1894	1850	1630	3773	1678
Grp Volume(v), veh/h	410	758	736	0	227	0
Grp Sat Flow(s), veh/h/ln	1764	1894	1850	1630	1887	1678
Q Serve(g_s), s	4.5	11.5	10.5	0.0	2.3	0.0
Cycle Q Clear(g_c), s	4.5	11.5	10.5	0.0	2.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	592	1098	470		441	
V/C Ratio(X)	0.69	0.69	1.57		0.52	
Avail Cap(c_a), veh/h	985	2507	1639		2107	
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	0.00
Uniform Delay (d), s/veh	16.1	6.1	15.4	0.0	17.1	0.0
Incr Delay (d2), s/veh	0.5	2.1	260.5	0.0	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	1.4	2.3	37.2	0.0	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	16.7	8.2	275.9	0.0	17.4	0.0
LnGrp LOS	B	A	F		B	
Approach Vol, veh/h		1168	736		227	
Approach Delay, s/veh		11.2	275.9		17.4	
Approach LOS		B	F		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.4		10.8	13.4	17.0
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		54.5		23.0	11.5	36.5
Max Q Clear Time (g_c+I1), s		13.5		4.3	6.5	0.0
Green Ext Time (p_c), s		10.3		0.5	0.5	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	103.3
HCM 7th LOS	F

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary

2050 Build AM Peak Hour (6 Lane)

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	56	320	239	67	105	318	1093	186	61	938	86
Future Volume (veh/h)	89	56	320	239	67	105	318	1093	186	61	938	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1817	1876	1876	1894	1939	1894	1776	1790	1790	1979	1919	1979
Adj Flow Rate, veh/h	94	59	337	252	71	111	335	1151	196	64	987	91
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, %	4	0	0	3	0	3	8	7	7	0	4	0
Cap, veh/h	391	381	571	372	397	403	370	1399	716	220	1099	604
Arrive On Green	0.06	0.20	0.20	0.06	0.20	0.20	0.16	0.41	0.41	0.05	0.30	0.30
Sat Flow, veh/h	1731	1876	1590	1804	1939	1605	1691	3402	1517	1884	3645	1677
Grp Volume(v), veh/h	94	59	337	252	71	111	335	1151	196	64	987	91
Grp Sat Flow(s),veh/h/ln	1731	1876	1590	1804	1939	1605	1691	1701	1517	1884	1823	1677
Q Serve(g_s), s	3.6	2.2	14.5	5.1	2.5	4.7	11.0	25.4	6.6	1.9	21.8	3.1
Cycle Q Clear(g_c), s	3.6	2.2	14.5	5.1	2.5	4.7	11.0	25.4	6.6	1.9	21.8	3.1
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	391	381	571	372	397	403	370	1399	716	220	1099	604
V/C Ratio(X)	0.24	0.15	0.59	0.68	0.18	0.28	0.91	0.82	0.27	0.29	0.90	0.15
Avail Cap(c_a), veh/h	394	470	646	372	486	476	393	1425	728	245	1125	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(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	24.3	27.6	22.0	28.6	27.6	25.4	18.9	22.1	13.5	20.4	28.2	18.2
Incr Delay (d2), s/veh	0.3	0.2	1.1	4.8	0.2	0.4	23.2	4.5	0.4	0.7	10.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.9	5.2	2.4	1.1	1.7	6.1	9.9	2.1	0.8	10.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.6	27.8	23.1	33.5	27.9	25.8	42.1	26.5	13.9	21.1	38.4	18.5
LnGrp LOS	C	C	C	C	C	C	D	C	B	C	D	B
Approach Vol, veh/h	490			434			1682			1142		
Approach Delay, s/veh	23.9			30.6			28.2			35.9		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	41.6	9.6	24.6	17.6	32.4	9.5	24.8				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.5	4.5	7.0	4.5	7.5				
Max Green Setting (Gmax), s	5.0	35.3	5.1	21.1	14.3	26.0	5.1	21.1				
Max Q Clear Time (g_c+I1), s	3.9	27.4	7.1	16.5	13.0	23.8	5.6	6.7				
Green Ext Time (p_c), s	0.0	5.8	0.0	0.6	0.2	1.6	0.0	0.4				
Intersection Summary												
HCM 7th Control Delay, s/veh	30.2											
HCM 7th LOS	C											

2050 Build AM Peak Hour (6 Lane)

Synchro 12 Report

Page 1

HCM 7th Signalized Intersection Summary
2: PA 611 & Stadden Rd./Learn Rd.

2050 Build AM Peak Hour (6 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	2	194	12	0	4	227	1486	28	8	1322	118
Future Volume (veh/h)	77	2	194	12	0	4	227	1486	28	8	1322	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1752	1900	1900	1900	1841	1900	1900	1841	1900
Adj Flow Rate, veh/h	78	2	196	12	0	4	229	1501	28	8	1335	119
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	10	0	0	0	4	0	0	4	0
Cap, veh/h	369	3	250	172	0	185	324	1952	36	201	1666	858
Arrive On Green	0.06	0.16	0.16	0.01	0.00	0.11	0.09	0.56	0.56	0.01	0.48	0.48
Sat Flow, veh/h	1810	16	1596	1668	0	1610	1810	3512	65	1810	3497	1610
Grp Volume(v), veh/h	78	0	198	12	0	4	229	747	782	8	1335	119
Grp Sat Flow(s),veh/h/ln	1810	0	1613	1668	0	1610	1810	1749	1829	1810	1749	1610
Q Serve(g_s), s	2.5	0.0	8.1	0.4	0.0	0.2	4.0	22.7	22.8	0.2	22.1	2.6
Cycle Q Clear(g_c), s	2.5	0.0	8.1	0.4	0.0	0.2	4.0	22.7	22.8	0.2	22.1	2.6
Prop In Lane	1.00		0.99	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	369	0	252	172	0	185	324	972	1016	201	1666	858
V/C Ratio(X)	0.21	0.00	0.79	0.07	0.00	0.02	0.71	0.77	0.77	0.04	0.80	0.14
Avail Cap(c_a), veh/h	401	0	426	269	0	423	413	1120	1172	314	2011	1017
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	24.3	0.0	27.8	26.3	0.0	26.9	13.9	11.8	11.8	11.3	15.2	8.1
Incr Delay (d2), s/veh	0.3	0.0	5.4	0.2	0.0	0.0	3.9	2.8	2.8	0.1	2.0	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	1.1	0.0	3.4	0.2	0.0	0.1	1.8	7.4	7.8	0.1	7.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.6	0.0	33.2	26.5	0.0	27.0	17.8	14.6	14.6	11.4	17.2	8.1
LnGrp LOS	C		C	C		C	B	B	B	B	B	A
Approach Vol, veh/h	276		16			1758			1462			
Approach Delay, s/veh	30.7		26.6			15.0			16.4			
Approach LOS	C		C			B			B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.2	42.6	5.5	15.2	10.6	37.1	8.4	12.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	43.9	5.0	18.1	9.5	39.4	5.1	18.0				
Max Q Clear Time (g_c+l1), s	2.2	24.8	2.4	10.1	6.0	24.1	4.5	2.2				
Green Ext Time (p_c), s	0.0	10.3	0.0	0.7	0.2	8.5	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			16.9									
HCM 7th LOS			B									

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2050 Build AM Peak Hour (6 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	1369	187	243	1562	178	223	8	298	198	17	108
Future Volume (veh/h)	110	1369	187	243	1562	178	223	8	298	198	17	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1939	1879	1894	1805	1835	1598	1864	1894	1850	1894	1939	1939
Adj Flow Rate, veh/h	122	1521	208	270	1736	198	248	9	331	220	19	120
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	4	3	6	4	20	2	0	3	3	0	0
Cap, veh/h	184	1655	882	300	1864	834	225	144	310	293	16	103
Arrive On Green	0.05	0.46	0.46	0.12	0.53	0.53	0.09	0.08	0.08	0.08	0.07	0.07
Sat Flow, veh/h	1847	3571	1605	1719	3486	1354	1776	1894	1568	1804	229	1449
Grp Volume(v), veh/h	122	1521	208	270	1736	198	248	9	331	220	0	139
Grp Sat Flow(s),veh/h/ln	1847	1785	1605	1719	1743	1354	1776	1894	1568	1804	0	1678
Q Serve(g_s), s	3.4	39.4	6.6	10.0	45.6	6.5	8.5	0.4	7.5	8.0	0.0	7.0
Cycle Q Clear(g_c), s	3.4	39.4	6.6	10.0	45.6	6.5	8.5	0.4	7.5	8.0	0.0	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	184	1655	882	300	1864	834	225	144	310	293	0	119
V/C Ratio(X)	0.66	0.92	0.24	0.90	0.93	0.24	1.10	0.06	1.07	0.75	0.00	1.17
Avail Cap(c_a), veh/h	184	1679	893	308	1904	849	225	144	310	293	0	119
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	22.6	24.8	11.5	27.6	21.3	8.6	41.8	42.4	39.7	40.9	0.0	45.9
Incr Delay (d2), s/veh	8.7	8.7	0.2	27.2	8.9	0.2	89.2	0.2	70.4	10.2	0.0	135.3
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	1.7	16.2	2.3	8.4	18.2	1.8	6.8	0.2	13.4	6.1	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.3	33.5	11.7	54.8	30.2	8.8	131.0	42.6	110.1	51.2	0.0	181.2
LnGrp LOS	C	C	B	D	C	A	F	D	F	D		F
Approach Vol, veh/h	1851			2204			588			359		
Approach Delay, s/veh	30.9			31.3			117.9			101.5		
Approach LOS	C			C			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.5	54.3	12.5	15.5	9.5	61.4	13.0	15.0				
Change Period (Y+Rc), s	4.5	8.5	4.5	8.0	4.5	8.5	4.5	8.0				
Max Green Setting (Gmax), s	12.5	46.5	8.0	7.5	5.0	54.0	8.5	7.0				
Max Q Clear Time (g_c+l1), s	12.0	41.4	10.0	9.5	5.4	47.6	10.5	9.0				
Green Ext Time (p_c), s	0.0	4.0	0.0	0.0	0.0	5.2	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	46.4											
HCM 7th LOS	D											

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2050 Build AM Peak Hour (6 Lane)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1561	206	211	1688	118	198	2	130	118	7	113
Future Volume (veh/h)	117	1561	206	211	1688	118	198	2	130	118	7	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1850	1850	1820	1805	1894	1743	1921	1875	2057	2057	2057
Adj Flow Rate, veh/h	123	1643	0	222	1777	124	208	2	0	124	7	119
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, %	0	3	3	5	6	0	7	0	3	0	0	0
Cap, veh/h	198	1989		254	2089	1056	180	182		309	9	155
Arrive On Green	0.05	0.57	0.00	0.08	0.61	0.61	0.05	0.09	0.00	0.05	0.09	0.09
Sat Flow, veh/h	1804	3514	1568	1733	3430	1605	1660	1921	1589	1959	98	1661
Grp Volume(v), veh/h	123	1643	0	222	1777	124	208	2	0	124	0	126
Grp Sat Flow(s),veh/h/ln	1804	1757	1568	1733	1715	1605	1660	1921	1589	1959	0	1758
Q Serve(g_s), s	3.0	39.8	0.0	5.6	44.0	3.0	5.3	0.1	0.0	5.1	0.0	7.3
Cycle Q Clear(g_c), s	3.0	39.8	0.0	5.6	44.0	3.0	5.3	0.1	0.0	5.1	0.0	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Lane Grp Cap(c), veh/h	198	1989		254	2089	1056	180	182		309	0	164
V/C Ratio(X)	0.62	0.83		0.87	0.85	0.12	1.15	0.01		0.40	0.00	0.77
Avail Cap(c_a), veh/h	209	1989		306	2171	1094	180	591		309	0	538
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	18.5	0.0	22.7	16.6	6.6	46.3	42.9	0.0	41.1	0.0	46.3
Incr Delay (d2), s/veh	5.1	4.1	0.0	20.6	3.7	0.1	114.8	0.0	0.0	0.8	0.0	7.4
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	1.9	15.1	0.0	4.3	15.5	1.0	8.0	0.0	0.0	3.0	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.7	22.6	0.0	43.4	20.3	6.7	161.1	42.9	0.0	42.0	0.0	53.8
LnGrp LOS	C	C		D	C	A	F	D		D		D
Approach Vol, veh/h	1766			2123			210			250		
Approach Delay, s/veh	22.9			21.9			160.0			47.9		
Approach LOS	C			C			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	65.2	9.6	15.9	9.4	69.7	9.8	15.7				
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	4.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	11.0	59.2	5.1	32.2	5.5	66.2	5.3	32.0				
Max Q Clear Time (g_c+l1), s	7.6	41.8	7.1	2.1	5.0	46.0	7.3	9.3				
Green Ext Time (p_c), s	0.2	13.0	0.0	0.0	0.0	16.2	0.0	0.4				

Intersection Summary

HCM 7th Control Delay, s/veh 30.5
HCM 7th LOS C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2050 Build AM Peak Hour (6 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 					
Traffic Volume (veh/h)	239	1413	280	133	1352	192	228	11	138	186	13	54
Future Volume (veh/h)	239	1413	280	133	1352	192	228	11	138	186	13	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2057	2027	1997	1717	1717	1878	1856	1737	1930	2136	2081	2221
Adj Flow Rate, veh/h	257	1519	0	143	1454	0	245	12	0	200	14	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	4	6	6	0	3	11	3	0	9	0
Cap, veh/h	289	2079		233	1643		306	103		233	175	
Arrive On Green	0.10	0.54	0.00	0.06	0.50	0.00	0.09	0.06	0.00	0.11	0.08	0.00
Sat Flow, veh/h	1959	3852	1693	1635	3262	1592	3428	1737	1635	2034	2081	1883
Grp Volume(v), veh/h	257	1519	0	143	1454	0	245	12	0	200	14	0
Grp Sat Flow(s),veh/h/ln	1959	1926	1693	1635	1631	1592	1714	1737	1635	2034	2081	1883
Q Serve(g_s), s	9.0	35.5	0.0	5.0	47.3	0.0	8.3	0.8	0.0	11.4	0.7	0.0
Cycle Q Clear(g_c), s	9.0	35.5	0.0	5.0	47.3	0.0	8.3	0.8	0.0	11.4	0.7	0.0
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	289	2079		233	1643		306	103		233	175	
V/C Ratio(X)	0.89	0.73		0.61	0.89		0.80	0.12		0.86	0.08	
Avail Cap(c_a), veh/h	334	2245		261	1764		390	352		273	463	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.8	20.7	0.0	20.0	26.4	0.0	52.9	52.8	0.0	51.5	50.0	0.0
Incr Delay (d2), s/veh	22.1	1.5	0.0	3.5	6.1	0.0	8.9	0.5	0.0	20.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	15.0	0.0	1.9	18.2	0.0	4.0	0.4	0.0	7.2	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.9	22.2	0.0	23.5	32.5	0.0	61.8	53.4	0.0	72.1	50.2	0.0
LnGrp LOS	D	C		C	C		E	D		E	D	
Approach Vol, veh/h	1776			1597			257			214		
Approach Delay, s/veh	26.7			31.7			61.5			70.7		
Approach LOS	C			C			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	71.0	20.1	13.5	18.3	66.7	17.1	16.5				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	9.0	69.1	15.9	24.0	14.0	64.1	13.5	26.4				
Max Q Clear Time (g_c+l1), s	7.0	37.5	13.4	2.8	11.0	49.3	10.3	2.7				
Green Ext Time (p_c), s	0.1	18.3	0.1	0.0	0.2	10.4	0.3	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	33.5											
HCM 7th LOS	C											
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

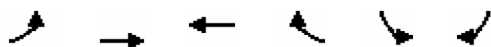
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2050 Build AM Peak Hour (6 Lane)
06/16/2026

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	1424	190	95	1352	196	121
Future Volume (veh/h)	1424	190	95	1352	196	121
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1832	1876	1864	1864	1761	1878
Adj Flow Rate, veh/h	1531	204	102	1454	211	130
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	0	5	5	3	0
Cap, veh/h	836	1132	177	851	429	235
Arrive On Green	0.46	0.46	0.00	0.46	0.26	0.26
Sat Flow, veh/h	1832	1590	1776	1864	1677	1592
Grp Volume(v), veh/h	1531	204	102	1454	211	130
Grp Sat Flow(s), veh/h/ln	1832	1590	1776	1864	1677	1592
Q Serve(g_s), s	19.0	1.8	0.1	19.0	4.5	7.7
Cycle Q Clear(g_c), s	19.0	1.8	0.1	19.0	4.5	7.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	836	1132	177	851	429	235
V/C Ratio(X)	1.83	0.18	0.58	1.71	0.49	0.55
Avail Cap(c_a), veh/h	4685	4473	386	5193	886	669
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	11.3	2.0	19.9	11.3	13.2	66.2
Incr Delay (d2), s/veh	377.0	0.2	2.9	322.2	0.9	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	91.7	0.7	0.9	80.4	1.5	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	388.4	2.2	22.9	333.5	14.1	68.2
LnGrp LOS	F	A	C	F	B	E
Approach Vol, veh/h	1735			1556	341	
Approach Delay, s/veh	343.0			313.2	34.7	
Approach LOS	F			F	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	0.0	25.0			25.0	16.6
Change Period (Y+Rc), s	4.5	6.0			6.0	6.0
Max Green Setting (Gmax), s	5.0	106.5			116.0	22.0
Max Q Clear Time (g_c+I1), s	0.0	3.8			0.0	9.7
Green Ext Time (p_c), s	0.0	0.4			0.0	1.0
Intersection Summary						
HCM 7th Control Delay, s/veh			301.3			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2050 Build AM Peak Hour (6 Lane)
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑	↑	↑	←←	↑
Traffic Volume (veh/h)	475	1069	1049	251	207	516
Future Volume (veh/h)	475	1069	1049	251	207	516
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1909	1894	1850	1924	2042	1980
Adj Flow Rate, veh/h	490	1102	1081	0	213	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	3	3	1	5
Cap, veh/h	605	1402	887		332	
Arrive On Green	0.17	0.74	0.48	0.00	0.09	0.00
Sat Flow, veh/h	3528	1894	1850	1630	3773	1678
Grp Volume(v), veh/h	490	1102	1081	0	213	0
Grp Sat Flow(s), veh/h/ln	1764	1894	1850	1630	1887	1678
Q Serve(g_s), s	9.7	26.3	34.9	0.0	4.0	0.0
Cycle Q Clear(g_c), s	9.7	26.3	34.9	0.0	4.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	605	1402	887		332	
V/C Ratio(X)	0.81	0.79	1.22		0.64	
Avail Cap(c_a), veh/h	945	2720	1995		1192	
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	0.00
Uniform Delay (d), s/veh	29.0	5.9	18.9	0.0	32.1	0.0
Incr Delay (d2), s/veh	1.4	2.7	105.2	0.0	0.8	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	3.9	5.6	37.8	0.0	1.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.4	8.6	124.1	0.0	32.9	0.0
LnGrp LOS	C	A	F		C	
Approach Vol, veh/h		1592	1081		213	
Approach Delay, s/veh		15.3	124.1		32.9	
Approach LOS		B	F		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.4		12.4	19.0	41.4
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		104.5		23.0	19.5	78.5
Max Q Clear Time (g_c+l1), s		28.3		6.0	11.7	0.0
Green Ext Time (p_c), s		25.6		0.4	0.8	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	57.4
HCM 7th LOS	E

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary

2050 Build PM Peak Hour (6 Lane)

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	68	465	252	87	104	463	1639	221	118	1733	132
Future Volume (veh/h)	118	68	465	252	87	104	463	1639	221	118	1733	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1876	1847	1847	1939	1939	1879	1864	1864	1894	1949	1964	1979
Adj Flow Rate, veh/h	120	69	474	257	89	106	472	1672	226	120	1768	135
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	2	2	0	0	4	2	2	0	2	1	0
Cap, veh/h	235	265	543	214	278	304	409	2182	1047	204	1716	833
Arrive On Green	0.04	0.14	0.14	0.04	0.14	0.14	0.20	0.62	0.62	0.05	0.46	0.46
Sat Flow, veh/h	1787	1847	1565	1847	1939	1593	1776	3542	1605	1856	3731	1677
Grp Volume(v), veh/h	120	69	474	257	89	106	472	1672	226	120	1768	135
Grp Sat Flow(s),veh/h/ln	1787	1847	1565	1847	1939	1593	1776	1771	1605	1856	1865	1677
Q Serve(g_s), s	5.5	5.0	21.5	5.5	6.2	8.7	30.5	51.5	8.5	5.1	69.0	6.6
Cycle Q Clear(g_c), s	5.5	5.0	21.5	5.5	6.2	8.7	30.5	51.5	8.5	5.1	69.0	6.6
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	235	265	543	214	278	304	409	2182	1047	204	1716	833
V/C Ratio(X)	0.51	0.26	0.87	1.20	0.32	0.35	1.15	0.77	0.22	0.59	1.03	0.16
Avail Cap(c_a), veh/h	235	265	543	214	278	304	409	2182	1047	236	1716	833
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	56.6	57.2	45.9	63.5	57.7	52.6	52.3	21.0	10.5	24.6	40.5	20.7
Incr Delay (d2), s/veh	1.8	0.5	14.6	125.8	0.7	0.7	93.6	2.0	0.2	2.9	29.9	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	1.6	2.3	18.4	12.9	3.1	3.5	25.3	20.7	3.0	2.4	37.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.5	57.7	60.5	189.4	58.3	53.3	145.9	23.0	10.8	27.4	70.4	20.9
LnGrp LOS	E	E	E	F	E	D	F	C	B	C	F	C
Approach Vol, veh/h	663			452			2370			2023		
Approach Delay, s/veh	59.9			131.7			46.3			64.5		
Approach LOS	E			F			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.6	99.4	10.0	29.0	35.0	76.0	10.0	29.0				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.5	4.5	7.0	4.5	7.5				
Max Green Setting (Gmax), s	9.7	89.8	5.5	21.5	30.5	69.0	5.5	21.5				
Max Q Clear Time (g_c+l1), s	7.1	53.5	7.5	23.5	32.5	71.0	7.5	10.7				
Green Ext Time (p_c), s	0.1	25.1	0.0	0.0	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 7th Control Delay, s/veh	61.6											
HCM 7th LOS	E											

HCM 7th Signalized Intersection Summary
2: PA 611 & Stadden Rd./Learn Rd.

2050 Build PM Peak Hour (6 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	0	284	15	5	4	298	2007	33	6	2207	150
Future Volume (veh/h)	103	0	284	15	5	4	298	2007	33	6	2207	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1870	1796	1604	1885	1900
Adj Flow Rate, veh/h	105	0	290	15	5	4	304	2048	34	6	2252	153
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	2	7	20	1	0
Cap, veh/h	253	0	198	77	101	81	282	2618	43	123	2186	1039
Arrive On Green	0.03	0.00	0.12	0.02	0.10	0.10	0.13	0.73	0.73	0.01	0.61	0.61
Sat Flow, veh/h	1810	0	1610	1810	977	782	1810	3577	59	1527	3582	1610
Grp Volume(v), veh/h	105	0	290	15	0	9	304	1014	1068	6	2252	153
Grp Sat Flow(s),veh/h/ln	1810	0	1610	1810	0	1759	1810	1777	1860	1527	1791	1610
Q Serve(g_s), s	5.1	0.0	18.1	1.1	0.0	0.7	19.0	52.5	53.2	0.2	89.9	5.5
Cycle Q Clear(g_c), s	5.1	0.0	18.1	1.1	0.0	0.7	19.0	52.5	53.2	0.2	89.9	5.5
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	253	0	198	77	0	183	282	1301	1361	123	2186	1039
V/C Ratio(X)	0.41	0.00	1.47	0.19	0.00	0.05	1.08	0.78	0.78	0.05	1.03	0.15
Avail Cap(c_a), veh/h	253	0	198	110	0	215	282	1301	1361	164	2186	1039
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	58.2	0.0	64.6	58.4	0.0	59.5	56.2	12.3	12.4	15.2	28.7	10.3
Incr Delay (d2), s/veh	1.1	0.0	235.1	1.2	0.0	0.1	75.5	3.1	3.1	0.2	27.5	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	0.0	20.4	0.5	0.0	0.3	16.0	19.2	20.3	0.1	43.7	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.3	0.0	299.7	59.6	0.0	59.6	131.7	15.4	15.5	15.4	56.2	10.3
LnGrp LOS	E		F	E		E	F	B	B	B	F	B
Approach Vol, veh/h	395			24			2386			2411		
Approach Delay, s/veh	235.8			59.6			30.3			53.1		
Approach LOS	F			E			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.6	112.3	6.8	22.6	23.5	94.4	9.6	19.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	103.9	5.0	18.1	19.0	89.9	5.1	18.0				
Max Q Clear Time (g_c+l1), s	2.2	55.2	3.1	20.1	21.0	91.9	7.1	2.7				
Green Ext Time (p_c), s	0.0	28.2	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	56.5											
HCM 7th LOS	E											

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2050 Build PM Peak Hour (6 Lane)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (veh/h)	124	2444	292	373	2340	291	256	43	339	220	14	113
Future Volume (veh/h)	124	2444	292	373	2340	291	256	43	339	220	14	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1834	1924	1894	1894	1879	1879	1805	1894	1850	1939	1939	1939
Adj Flow Rate, veh/h	133	2628	314	401	2516	313	275	46	365	237	15	122
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	7	1	3	0	1	1	6	0	3	0	0	0
Cap, veh/h	112	2060	1038	295	2369	1189	191	88	287	225	9	69
Arrive On Green	0.04	0.56	0.56	0.14	0.66	0.66	0.08	0.05	0.05	0.08	0.05	0.05
Sat Flow, veh/h	1747	3656	1605	1804	3571	1593	1719	1894	1568	1847	183	1488
Grp Volume(v), veh/h	133	2628	314	401	2516	313	275	46	365	237	0	137
Grp Sat Flow(s),veh/h/ln	1747	1828	1605	1804	1785	1593	1719	1894	1568	1847	0	1671
Q Serve(g_s), s	5.5	84.5	12.9	20.5	99.5	9.3	12.5	3.6	7.0	12.5	0.0	7.0
Cycle Q Clear(g_c), s	5.5	84.5	12.9	20.5	99.5	9.3	12.5	3.6	7.0	12.5	0.0	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.89
Lane Grp Cap(c), veh/h	112	2060	1038	295	2369	1189	191	88	287	225	0	78
V/C Ratio(X)	1.19	1.28	0.30	1.36	1.06	0.26	1.44	0.52	1.27	1.05	0.00	1.76
Avail Cap(c_a), veh/h	112	2060	1038	295	2369	1189	191	88	287	225	0	78
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	45.4	32.7	11.6	56.1	25.2	6.0	65.1	69.9	61.3	65.8	0.0	71.5
Incr Delay (d2), s/veh	143.8	128.1	0.2	183.1	37.7	0.2	224.2	5.3	146.1	74.6	0.0	387.5
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	6.7	70.1	4.7	25.6	49.2	3.0	13.2	1.8	22.6	7.0	0.0	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	189.2	160.8	11.9	239.2	62.9	6.2	289.2	75.2	207.3	140.3	0.0	459.0
LnGrp LOS	F	F	B	F	F	A	F	E	F	F		F
Approach Vol, veh/h	3075			3230			686			374		
Approach Delay, s/veh	146.9			79.3			231.3			257.1		
Approach LOS	F			E			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	93.0	17.0	15.0	10.0	108.0	17.0	15.0				
Change Period (Y+Rc), s	4.5	8.5	4.5	8.0	4.5	8.5	4.5	8.0				
Max Green Setting (Gmax), s	20.5	84.5	12.5	7.0	5.5	99.5	12.5	7.0				
Max Q Clear Time (g_c+I1), s	22.5	86.5	14.5	9.0	7.5	101.5	14.5	9.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	130.7											
HCM 7th LOS	F											

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2050 Build PM Peak Hour (6 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	2601	306	386	2631	107	354	24	193	129	23	116
Future Volume (veh/h)	107	2601	306	386	2631	107	354	24	193	129	23	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1879	1879	1879	1879	1894	1832	1921	1921	2057	2057	2057
Adj Flow Rate, veh/h	115	2797	0	415	2829	115	381	26	0	139	25	125
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	1	1	0	1	0	0	0	0	0
Cap, veh/h	124	2013		259	2326	1124	164	196		287	30	151
Arrive On Green	0.04	0.56	0.00	0.11	0.65	0.65	0.05	0.10	0.00	0.05	0.10	0.10
Sat Flow, veh/h	1804	3571	1593	1790	3571	1605	1745	1921	1628	1959	298	1491
Grp Volume(v), veh/h	115	2797	0	415	2829	115	381	26	0	139	0	150
Grp Sat Flow(s),veh/h/ln	1804	1785	1593	1790	1785	1605	1745	1921	1628	1959	0	1789
Q Serve(g_s), s	4.3	74.0	0.0	15.0	85.5	3.0	6.5	1.6	0.0	6.4	0.0	10.8
Cycle Q Clear(g_c), s	4.3	74.0	0.0	15.0	85.5	3.0	6.5	1.6	0.0	6.4	0.0	10.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.83
Lane Grp Cap(c), veh/h	124	2013		259	2326	1124	164	196		287	0	181
V/C Ratio(X)	0.93	1.39		1.60	1.22	0.10	2.32	0.13		0.48	0.00	0.83
Avail Cap(c_a), veh/h	124	2013		259	2326	1124	164	470		287	0	436
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.9	28.6	0.0	48.0	22.9	6.4	56.8	53.7	0.0	51.5	0.0	57.9
Incr Delay (d2), s/veh	59.8	178.5	0.0	287.4	101.6	0.1	613.4	0.3	0.0	1.3	0.0	9.3
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	4.0	78.4	0.0	28.7	63.4	1.0	30.3	0.8	0.0	4.4	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	96.7	207.1	0.0	335.5	124.5	6.4	670.1	54.0	0.0	52.8	0.0	67.2
LnGrp LOS	F	F		F	F	A	F	D		D		E
Approach Vol, veh/h	2912			3359			407			289		
Approach Delay, s/veh	202.7			146.5			630.8			60.2		
Approach LOS	F			F			F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	80.0	10.9	19.4	9.5	91.5	11.0	19.3				
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	4.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	15.0	74.0	6.4	32.1	5.0	85.5	6.5	32.0				
Max Q Clear Time (g_c+I1), s	17.0	76.0	8.4	3.6	6.3	87.5	8.5	12.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5				

Intersection Summary

HCM 7th Control Delay, s/veh 194.7
HCM 7th LOS F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2050 Build PM Peak Hour (6 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 					
Traffic Volume (veh/h)	363	2108	309	169	2235	270	385	21	223	268	15	348
Future Volume (veh/h)	363	2108	309	169	2235	270	385	21	223	268	15	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2057	2027	2012	1761	1776	1878	1870	1900	1961	2136	2221	2221
Adj Flow Rate, veh/h	378	2196	0	176	2328	0	401	22	0	279	16	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, %	0	2	3	3	2	0	2	0	1	0	0	0
Cap, veh/h	271	2152		148	1700		337	104		246	174	
Arrive On Green	0.11	0.56	0.00	0.05	0.50	0.00	0.10	0.05	0.00	0.12	0.08	0.00
Sat Flow, veh/h	1959	3852	1705	1677	3375	1592	3456	1900	1662	2034	2221	1883
Grp Volume(v), veh/h	378	2196	0	176	2328	0	401	22	0	279	16	0
Grp Sat Flow(s),veh/h/ln	1959	1926	1705	1677	1687	1592	1728	1900	1662	2034	2221	1883
Q Serve(g_s), s	14.0	71.5	0.0	7.0	64.5	0.0	12.5	1.4	0.0	15.5	0.9	0.0
Cycle Q Clear(g_c), s	14.0	71.5	0.0	7.0	64.5	0.0	12.5	1.4	0.0	15.5	0.9	0.0
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	271	2152		148	1700		337	104		246	174	
V/C Ratio(X)	1.40	1.02		1.19	1.37		1.19	0.21		1.13	0.09	
Avail Cap(c_a), veh/h	271	2152		148	1700		337	356		246	469	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.7	28.3	0.0	37.7	31.8	0.0	57.8	57.9	0.0	56.3	54.8	0.0
Incr Delay (d2), s/veh	199.7	24.8	0.0	133.8	169.9	0.0	110.5	1.0	0.0	97.8	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.2	37.0	0.0	7.6	64.2	0.0	10.6	0.7	0.0	14.6	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	245.3	53.0	0.0	171.5	201.6	0.0	168.3	58.9	0.0	154.0	55.0	0.0
LnGrp LOS	F	F		F	F		F	E		F	E	
Approach Vol, veh/h	2574				2504		423				295	
Approach Delay, s/veh	81.3				199.5		162.6				148.6	
Approach LOS	F				F		F				F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	78.5	22.0	13.5	21.0	71.5	19.0	16.5				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	7.0	71.5	15.5	24.0	14.0	64.5	12.5	27.0				
Max Q Clear Time (g_c+I1), s	9.0	73.5	17.5	3.4	16.0	66.5	14.5	2.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	141.7											
HCM 7th LOS	F											
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

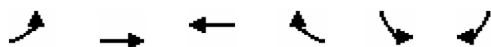
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2050 Build PM Peak Hour (6 Lane)
06/16/2026

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↘	↑	↘	↗
Traffic Volume (veh/h)	2174	231	158	2286	230	118
Future Volume (veh/h)	2174	231	158	2286	230	118
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1847	1876	1894	1894	1776	1801
Adj Flow Rate, veh/h	2218	236	161	2333	235	120
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	0	3	3	2	5
Cap, veh/h	897	1102	189	920	351	317
Arrive On Green	0.49	0.49	0.00	0.49	0.21	0.21
Sat Flow, veh/h	1847	1590	1804	1894	1692	1526
Grp Volume(v), veh/h	2218	236	161	2333	235	120
Grp Sat Flow(s), veh/h/ln	1847	1590	1804	1894	1692	1526
Q Serve(g_s), s	19.0	2.1	0.1	19.0	5.0	2.6
Cycle Q Clear(g_c), s	19.0	2.1	0.1	19.0	5.0	2.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	897	1102	189	920	351	317
V/C Ratio(X)	2.47	0.21	0.85	2.54	0.67	0.38
Avail Cap(c_a), veh/h	4957	4598	484	5617	951	858
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	10.1	2.2	19.0	10.1	14.3	13.3
Incr Delay (d2), s/veh	664.7	0.3	10.4	693.0	2.2	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	169.2	0.6	1.7	180.7	1.8	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	674.8	2.4	29.3	703.1	16.5	14.1
LnGrp LOS	F	A	C	F	B	B
Approach Vol, veh/h	2454			2494	355	
Approach Delay, s/veh	610.1			659.6	15.7	
Approach LOS	F			F	B	
Timer - Assigned Phs	1	2		6	8	
Phs Duration (G+Y+Rc), s	0.0	25.0		25.0	14.1	
Change Period (Y+Rc), s	4.5	6.0		6.0	6.0	
Max Green Setting (Gmax), s	6.5	105.0		116.0	22.0	
Max Q Clear Time (g_c+I1), s	0.0	4.1		0.0	7.0	
Green Ext Time (p_c), s	0.0	0.6		0.0	1.1	
Intersection Summary						
HCM 7th Control Delay, s/veh			593.6			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2050 Build PM Peak Hour (6 Lane)
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑	↑	↑	←←	↑
Traffic Volume (veh/h)	762	1592	1595	386	338	882
Future Volume (veh/h)	762	1592	1595	386	338	882
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1894	1909	1864	1924	2027	2011
Adj Flow Rate, veh/h	811	1694	1697	0	360	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	2	2	3	2	3
Cap, veh/h	479	1501	1115		436	
Arrive On Green	0.14	0.79	0.60	0.00	0.12	0.00
Sat Flow, veh/h	3500	1909	1864	1630	3744	1704
Grp Volume(v), veh/h	811	1694	1697	0	360	0
Grp Sat Flow(s), veh/h/ln	1750	1909	1864	1630	1872	1704
Q Serve(g_s), s	17.5	100.5	76.5	0.0	12.0	0.0
Cycle Q Clear(g_c), s	17.5	100.5	76.5	0.0	12.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	479	1501	1115		436	
V/C Ratio(X)	1.69	1.13	1.52		0.83	
Avail Cap(c_a), veh/h	479	1501	1115		1083	
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	0.00
Uniform Delay (d), s/veh	55.2	13.7	25.7	0.0	55.2	0.0
Incr Delay (d2), s/veh	320.9	67.1	239.3	0.0	1.5	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	28.9	56.4	103.9	0.0	5.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	376.0	80.8	264.9	0.0	56.8	0.0
LnGrp LOS	F	F	F		E	
Approach Vol, veh/h		2505	1697		360	
Approach Delay, s/veh		176.4	264.9		56.8	
Approach LOS		F	F		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		107.0		20.9	24.0	83.0
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		100.5		37.0	17.5	76.5
Max Q Clear Time (g_c+I1), s		102.5		14.0	19.5	0.0
Green Ext Time (p_c), s		0.0		0.9	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	199.9
HCM 7th LOS	F

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary

2050 Build SAT Peak Hour (6 Lane)

1: PA 611 & Warner Rd. (SR 4012)/Cherry Lane Rd. (SR 1001)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	54	129	112	51	75	127	865	76	68	729	60
Future Volume (veh/h)	55	54	129	112	51	75	127	865	76	68	729	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1876	1876	1832	1894	1939	1939	1894	1894	1835	1979	1979	1979
Adj Flow Rate, veh/h	59	57	137	119	54	80	135	920	81	72	776	64
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, %	0	0	3	3	0	0	0	0	4	0	0	0
Cap, veh/h	364	224	301	371	280	334	363	1262	666	307	1256	648
Arrive On Green	0.05	0.12	0.12	0.08	0.14	0.14	0.07	0.35	0.35	0.06	0.33	0.33
Sat Flow, veh/h	1787	1876	1553	1804	1939	1644	1804	3599	1555	1884	3759	1677
Grp Volume(v), veh/h	59	57	137	119	54	80	135	920	81	72	776	64
Grp Sat Flow(s),veh/h/ln	1787	1876	1553	1804	1939	1644	1804	1799	1555	1884	1880	1677
Q Serve(g_s), s	1.7	1.6	4.7	3.4	1.5	2.4	2.9	13.3	1.9	1.4	10.3	1.5
Cycle Q Clear(g_c), s	1.7	1.6	4.7	3.4	1.5	2.4	2.9	13.3	1.9	1.4	10.3	1.5
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	364	224	301	371	280	334	363	1262	666	307	1256	648
V/C Ratio(X)	0.16	0.25	0.45	0.32	0.19	0.24	0.37	0.73	0.12	0.23	0.62	0.10
Avail Cap(c_a), veh/h	421	661	663	382	683	675	424	1539	786	355	1513	763
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	21.2	23.9	21.2	20.6	22.4	19.9	12.4	16.9	10.3	12.9	16.7	11.7
Incr Delay (d2), s/veh	0.2	0.6	1.1	0.5	0.3	0.4	0.6	2.1	0.2	0.4	1.1	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	0.6	0.7	1.6	1.3	0.6	0.9	1.0	5.0	0.6	0.5	4.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.4	24.5	22.3	21.1	22.8	20.3	13.0	19.0	10.5	13.3	17.8	11.8
LnGrp LOS	C	C	C	C	C	C	B	B	B	B	B	B
Approach Vol, veh/h	253		253			1136			912			
Approach Delay, s/veh	22.6		21.2			17.7			17.0			
Approach LOS	C		C			B			B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	27.9	9.1	14.6	9.0	26.9	7.6	16.1				
Change Period (Y+Rc), s	4.5	7.0	4.5	7.5	4.5	7.0	4.5	7.5				
Max Green Setting (Gmax), s	5.0	25.5	5.0	21.0	6.5	24.0	5.0	21.0				
Max Q Clear Time (g_c+l1), s	3.4	15.3	5.4	6.7	4.9	12.3	3.7	4.4				
Green Ext Time (p_c), s	0.0	5.6	0.0	0.5	0.1	5.2	0.0	0.3				
Intersection Summary												
HCM 7th Control Delay, s/veh	18.3											
HCM 7th LOS	B											

2050 Build SAT Peak Hour (6 Lane)

Synchro 12 Report

Page 1

HCM 7th Signalized Intersection Summary
2: PA 611 & Stadden Rd./Learn Rd.

2050 Build SAT Peak Hour (6 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	2	55	12	5	4	68	958	43	1	962	55
Future Volume (veh/h)	40	2	55	12	5	4	68	958	43	1	962	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1781	1900	1885	1900
Adj Flow Rate, veh/h	42	2	57	12	5	4	71	998	45	1	1002	57
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, %	0	0	0	0	0	0	0	0	8	0	1	0
Cap, veh/h	310	5	149	253	65	52	399	1877	85	337	1693	832
Arrive On Green	0.04	0.10	0.10	0.02	0.07	0.07	0.06	0.53	0.53	0.00	0.47	0.47
Sat Flow, veh/h	1810	55	1564	1810	977	782	1810	3518	159	1810	3582	1610
Grp Volume(v), veh/h	42	0	59	12	0	9	71	512	531	1	1002	57
Grp Sat Flow(s),veh/h/ln	1810	0	1619	1810	0	1759	1810	1805	1871	1810	1791	1610
Q Serve(g_s), s	1.1	0.0	1.7	0.3	0.0	0.2	0.9	9.4	9.4	0.0	10.4	0.9
Cycle Q Clear(g_c), s	1.1	0.0	1.7	0.3	0.0	0.2	0.9	9.4	9.4	0.0	10.4	0.9
Prop In Lane	1.00		0.97	1.00		0.44	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	310	0	154	253	0	117	399	963	998	337	1693	832
V/C Ratio(X)	0.14	0.00	0.38	0.05	0.00	0.08	0.18	0.53	0.53	0.00	0.59	0.07
Avail Cap(c_a), veh/h	408	0	574	403	0	624	465	963	998	512	1693	832
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	20.6	0.0	21.6	21.5	0.0	22.2	6.8	7.7	7.7	7.4	9.8	6.1
Incr Delay (d2), s/veh	0.2	0.0	1.6	0.1	0.0	0.3	0.2	2.1	2.0	0.0	1.5	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	0.4	0.0	0.7	0.1	0.0	0.1	0.2	2.9	3.0	0.0	3.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.8	0.0	23.1	21.6	0.0	22.5	7.0	9.8	9.7	7.4	11.3	6.3
LnGrp LOS	C		C	C		C	A	A	A	A	B	A
Approach Vol, veh/h	101			21			1114			1060		
Approach Delay, s/veh	22.1			22.0			9.6			11.1		
Approach LOS	C			C			A			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.6	31.6	5.3	9.3	7.7	28.5	6.7	7.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	24.0	5.0	18.0	5.0	24.0	5.0	18.0				
Max Q Clear Time (g_c+l1), s	2.0	11.4	2.3	3.7	2.9	12.4	3.1	2.2				
Green Ext Time (p_c), s	0.0	5.1	0.0	0.2	0.0	5.2	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	10.9											
HCM 7th LOS	B											

HCM 7th Signalized Intersection Summary
3: Rimrock Dr. (SR 3023)/Bartonsville Ave. & PA 611

2050 Build SAT Peak Hour (6 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	1095	113	200	1165	117	104	23	205	104	24	23
Future Volume (veh/h)	21	1095	113	200	1165	117	104	23	205	104	24	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1939	1939	1939	1894	1894	1894	1894	1894	1894	1939	1939	1639
Adj Flow Rate, veh/h	22	1141	118	208	1214	122	108	24	214	108	25	24
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, %	0	0	0	0	0	0	0	0	0	0	0	20
Cap, veh/h	210	1318	705	308	1539	799	340	196	319	344	93	89
Arrive On Green	0.02	0.36	0.36	0.09	0.43	0.43	0.07	0.10	0.10	0.07	0.10	0.10
Sat Flow, veh/h	1847	3685	1644	1804	3599	1605	1804	1894	1605	1847	909	873
Grp Volume(v), veh/h	22	1141	118	208	1214	122	108	24	214	108	0	49
Grp Sat Flow(s),veh/h/ln	1847	1842	1644	1804	1799	1605	1804	1894	1605	1847	0	1782
Q Serve(g_s), s	0.5	19.7	3.0	4.6	19.9	2.8	3.6	0.8	7.1	3.5	0.0	1.7
Cycle Q Clear(g_c), s	0.5	19.7	3.0	4.6	19.9	2.8	3.6	0.8	7.1	3.5	0.0	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	210	1318	705	308	1539	799	340	196	319	344	0	183
V/C Ratio(X)	0.11	0.87	0.17	0.68	0.79	0.15	0.32	0.12	0.67	0.31	0.00	0.27
Avail Cap(c_a), veh/h	299	1403	743	308	1539	799	343	196	319	350	0	183
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	14.9	20.4	12.0	15.1	16.9	9.3	24.8	27.8	25.3	24.8	0.0	28.3
Incr Delay (d2), s/veh	0.2	5.9	0.2	5.7	3.0	0.1	0.5	0.3	5.4	0.5	0.0	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	7.8	1.0	2.0	7.3	0.9	1.4	0.3	3.5	1.5	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.1	26.3	12.1	20.9	19.9	9.4	25.3	28.1	30.7	25.3	0.0	29.1
LnGrp LOS	B	C	B	C	B	A	C	C	C	C		C
Approach Vol, veh/h	1281			1544			346			157		
Approach Delay, s/veh	24.8			19.2			28.9			26.5		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	32.9	9.3	15.1	6.2	37.7	9.4	15.0				
Change Period (Y+Rc), s	4.5	8.5	4.5	8.0	4.5	8.5	4.5	8.0				
Max Green Setting (Gmax), s	6.5	26.0	5.0	7.0	5.0	27.5	5.0	7.0				
Max Q Clear Time (g_c+I1), s	6.6	21.7	5.5	9.1	2.5	21.9	5.6	3.7				
Green Ext Time (p_c), s	0.0	2.8	0.0	0.0	0.0	3.7	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	22.7											
HCM 7th LOS	C											

HCM 7th Signalized Intersection Summary
4: Giant Driveway/Driveway & PA 611

2050 Build SAT Peak Hour (6 Lane)

06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1260	186	279	1275	18	236	20	124	18	13	20
Future Volume (veh/h)	19	1260	186	279	1275	18	236	20	124	18	13	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1894	1894	1879	1894	1894	1894	1847	1921	1921	2057	2057	2057
Adj Flow Rate, veh/h	20	1312	0	291	1328	19	246	21	0	19	14	21
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, %	0	0	1	0	0	0	0	0	0	0	0	0
Cap, veh/h	285	1803		370	2161	999	235	156		192	27	41
Arrive On Green	0.02	0.50	0.00	0.10	0.60	0.60	0.07	0.08	0.00	0.02	0.04	0.04
Sat Flow, veh/h	1804	3599	1593	1804	3599	1605	1759	1921	1628	1959	743	1114
Grp Volume(v), veh/h	20	1312	0	291	1328	19	246	21	0	19	0	35
Grp Sat Flow(s),veh/h/ln	1804	1799	1593	1804	1799	1605	1759	1921	1628	1959	0	1857
Q Serve(g_s), s	0.4	21.9	0.0	5.5	17.9	0.3	5.1	0.8	0.0	0.7	0.0	1.4
Cycle Q Clear(g_c), s	0.4	21.9	0.0	5.5	17.9	0.3	5.1	0.8	0.0	0.7	0.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	285	1803		370	2161	999	235	156		192	0	68
V/C Ratio(X)	0.07	0.73		0.79	0.61	0.02	1.05	0.13		0.10	0.00	0.52
Avail Cap(c_a), veh/h	362	1803		468	2203	1017	235	805		277	0	775
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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.5	15.0	0.0	14.3	9.7	5.5	35.1	32.7	0.0	34.3	0.0	36.3
Incr Delay (d2), s/veh	0.1	2.6	0.0	6.8	0.8	0.0	71.1	0.4	0.0	0.2	0.0	6.0
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	7.9	0.0	2.9	5.4	0.1	9.0	0.4	0.0	0.3	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.6	17.6	0.0	21.2	10.5	5.6	106.2	33.1	0.0	34.5	0.0	42.3
LnGrp LOS	A	B		C	B	A	F	C		C		D
Approach Vol, veh/h	1332				1638		267				54	
Approach Delay, s/veh	17.5				12.3		100.5				39.6	
Approach LOS	B				B		F				D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	44.4	6.2	12.2	6.2	52.0	9.6	8.8				
Change Period (Y+Rc), s	6.0	6.0	4.5	6.0	4.5	6.0	4.5	6.0				
Max Green Setting (Gmax), s	12.0	38.4	5.0	32.1	5.0	46.9	5.1	32.0				
Max Q Clear Time (g_c+I1), s	7.5	23.9	2.7	2.8	2.4	19.9	7.1	3.4				
Green Ext Time (p_c), s	0.4	9.3	0.0	0.0	0.0	14.4	0.0	0.1				
Intersection Summary												
HCM 7th Control Delay, s/veh			22.0									
HCM 7th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.												

2050 Build SAT Peak Hour (6 Lane)

Synchro 12 Report
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HCM 7th Signalized Intersection Summary
5: Commerce Blvd./Frantz Rd. & PA 611

2050 Build SAT Peak Hour (6 Lane)
06/16/2026

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 					
Traffic Volume (veh/h)	245	1093	145	68	1175	177	154	15	94	197	18	206
Future Volume (veh/h)	245	1093	145	68	1175	177	154	15	94	197	18	206
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.04	1.00	1.04	1.04
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	2042	2057	2057	1761	1806	1863	1900	1678	1976	2136	2018	2206
Adj Flow Rate, veh/h	247	1104	0	69	1187	0	156	15	0	199	18	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	0	0	3	0	1	0	15	0	0	13	1
Cap, veh/h	316	1729		294	1410		267	129		241	241	
Arrive On Green	0.10	0.44	0.00	0.06	0.41	0.00	0.08	0.08	0.00	0.12	0.12	0.00
Sat Flow, veh/h	1945	3909	1743	1677	3431	1578	3510	1678	1675	2034	2018	1869
Grp Volume(v), veh/h	247	1104	0	69	1187	0	156	15	0	199	18	0
Grp Sat Flow(s),veh/h/ln	1945	1954	1743	1677	1715	1578	1755	1678	1675	2034	2018	1869
Q Serve(g_s), s	6.5	19.8	0.0	2.0	28.2	0.0	3.9	0.8	0.0	8.6	0.7	0.0
Cycle Q Clear(g_c), s	6.5	19.8	0.0	2.0	28.2	0.0	3.9	0.8	0.0	8.6	0.7	0.0
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	316	1729		294	1410		267	129		241	241	
V/C Ratio(X)	0.78	0.64		0.23	0.84		0.59	0.12		0.83	0.07	
Avail Cap(c_a), veh/h	346	1912		317	1564		377	446		288	605	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.3	19.6	0.0	14.9	24.0	0.0	40.4	38.9	0.0	38.9	35.4	0.0
Incr Delay (d2), s/veh	10.2	1.0	0.0	0.4	4.7	0.0	2.0	0.4	0.0	15.3	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	3.4	8.2	0.0	0.7	11.1	0.0	1.7	0.3	0.0	5.3	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.5	20.6	0.0	15.3	28.7	0.0	42.4	39.3	0.0	54.2	35.5	0.0
LnGrp LOS	C	C		B	C		D	D		D	D	
Approach Vol, veh/h	1351		1256			171			217			
Approach Delay, s/veh	22.2		28.0			42.1			52.7			
Approach LOS	C		C			D			D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.8	47.0	17.2	13.4	15.6	44.1	13.4	17.3				
Change Period (Y+Rc), s	7.0	7.0	6.5	6.5	7.0	7.0	6.5	6.5				
Max Green Setting (Gmax), s	7.0	44.2	12.8	24.0	10.0	41.2	9.7	27.1				
Max Q Clear Time (g_c+I1), s	4.0	21.8	10.6	2.8	8.5	30.2	5.9	2.7				
Green Ext Time (p_c), s	0.0	10.3	0.1	0.0	0.1	7.0	0.2	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			28.0									
HCM 7th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

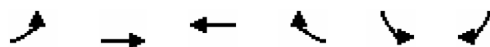
HCM 7th Signalized Intersection Summary
6: Shafers School House Rd. (SR 2005) & PA 611

2050 Build SAT Peak Hour (6 Lane)
06/16/2026

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	1156	74	56	1237	67	58
Future Volume (veh/h)	1156	74	56	1237	67	58
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.04
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
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1876	1847	1939	1939	1761	1878
Adj Flow Rate, veh/h	1180	76	57	1262	68	59
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	2	0	0	3	0
Cap, veh/h	965	1057	200	997	270	63
Arrive On Green	0.51	0.51	0.00	0.51	0.16	0.16
Sat Flow, veh/h	1876	1565	1847	1939	1677	1592
Grp Volume(v), veh/h	1180	76	57	1262	68	59
Grp Sat Flow(s), veh/h/ln	1876	1565	1847	1939	1677	1592
Q Serve(g_s), s	19.0	0.6	0.1	19.0	1.3	5.9
Cycle Q Clear(g_c), s	19.0	0.6	0.1	19.0	1.3	5.9
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	965	1057	200	997	270	63
V/C Ratio(X)	1.22	0.07	0.29	1.27	0.25	0.94
Avail Cap(c_a), veh/h	3885	3492	445	4513	999	754
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	9.0	2.0	16.6	9.0	13.6	141.4
Incr Delay (d2), s/veh	106.1	0.1	0.8	124.4	0.5	40.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.3	0.1	0.4	37.4	0.4	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	115.1	2.1	17.4	133.4	14.0	181.6
LnGrp LOS	F	A	B	F	B	F
Approach Vol, veh/h	1256			1319	127	
Approach Delay, s/veh	108.3			128.4	91.9	
Approach LOS	F			F	F	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	0.0	25.0			25.0	12.0
Change Period (Y+Rc), s	4.5	6.0			6.0	6.0
Max Green Setting (Gmax), s	5.0	76.5			86.0	22.0
Max Q Clear Time (g_c+I1), s	0.0	2.6			0.0	7.9
Green Ext Time (p_c), s	0.0	0.3			0.0	0.3
Intersection Summary						
HCM 7th Control Delay, s/veh			117.3			
HCM 7th LOS			F			

HCM 7th Signalized Intersection Summary
7: PA 611 & Pocono Commons Driveway

2050 Build SAT Peak Hour (6 Lane)
06/16/2026



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑	↑	↑	←←	↑
Traffic Volume (veh/h)	398	735	714	266	220	474
Future Volume (veh/h)	398	735	714	266	220	474
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.04	1.04	1.04
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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1909	1894	1850	1924	2042	1980
Adj Flow Rate, veh/h	410	758	736	0	227	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	3	3	3	1	5
Cap, veh/h	592	1098	470		441	
Arrive On Green	0.17	0.58	0.25	0.00	0.12	0.00
Sat Flow, veh/h	3528	1894	1850	1630	3773	1678
Grp Volume(v), veh/h	410	758	736	0	227	0
Grp Sat Flow(s), veh/h/ln	1764	1894	1850	1630	1887	1678
Q Serve(g_s), s	4.5	11.5	10.5	0.0	2.3	0.0
Cycle Q Clear(g_c), s	4.5	11.5	10.5	0.0	2.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	592	1098	470		441	
V/C Ratio(X)	0.69	0.69	1.57		0.52	
Avail Cap(c_a), veh/h	985	2507	1639		2107	
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	0.00
Uniform Delay (d), s/veh	16.1	6.1	15.4	0.0	17.1	0.0
Incr Delay (d2), s/veh	0.5	2.1	260.5	0.0	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	1.4	2.3	37.2	0.0	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	16.7	8.2	275.9	0.0	17.4	0.0
LnGrp LOS	B	A	F		B	
Approach Vol, veh/h		1168	736		227	
Approach Delay, s/veh		11.2	275.9		17.4	
Approach LOS		B	F		B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.4		10.8	13.4	17.0
Change Period (Y+Rc), s		6.5		6.0	6.5	6.5
Max Green Setting (Gmax), s		54.5		23.0	11.5	36.5
Max Q Clear Time (g_c+I1), s		13.5		4.3	6.5	0.0
Green Ext Time (p_c), s		10.3		0.5	0.5	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	103.3
HCM 7th LOS	F

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.